4. Agriculture

BACKGROUND

Agriculture is San Joaquin County's number one industry accounting for between 30 and 35% of the region's total economy[1]. San Joaquin County is ranked 6th overall in agricultural production for California counties placing it among the top ten agricultural-producing counties in the nation[2].

According to the *2000 Agricultural Report-San Joaquin County* (San Joaquin County Agricultural Commissioner's Office) the gross value of agricultural products in all of San Joaquin County is estimated at $1,348,628,000. Approximately 90% (808,838 acres) of San Joaquin County's 895,640 acres is farmland. There are approximately 3,862 farms in San Joaquin County averaging 209 acres in size and employing more than 15,700 persons (8.5% of the county's total employment).[3]

San Joaquin County is a leader in producing many agricultural products. Many of these products are grown within the LMR watershed. In summary, the county[4]:

San Joaquin County Agricultural Ranking in California

Ranks #1 in the state in the production of cherries, asparagus, grain corn, apples, English walnuts, and dry beans;

Ranks #2 in the state in the production of fresh tomatoes, safflower, potatoes and cucumbers; and

Ranks #3 in the state in the production of sugarbeets and processing tomatoes

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1 Outlook 2001, The Record, Sunday March 7, 2001, "Agriculture and the Future"

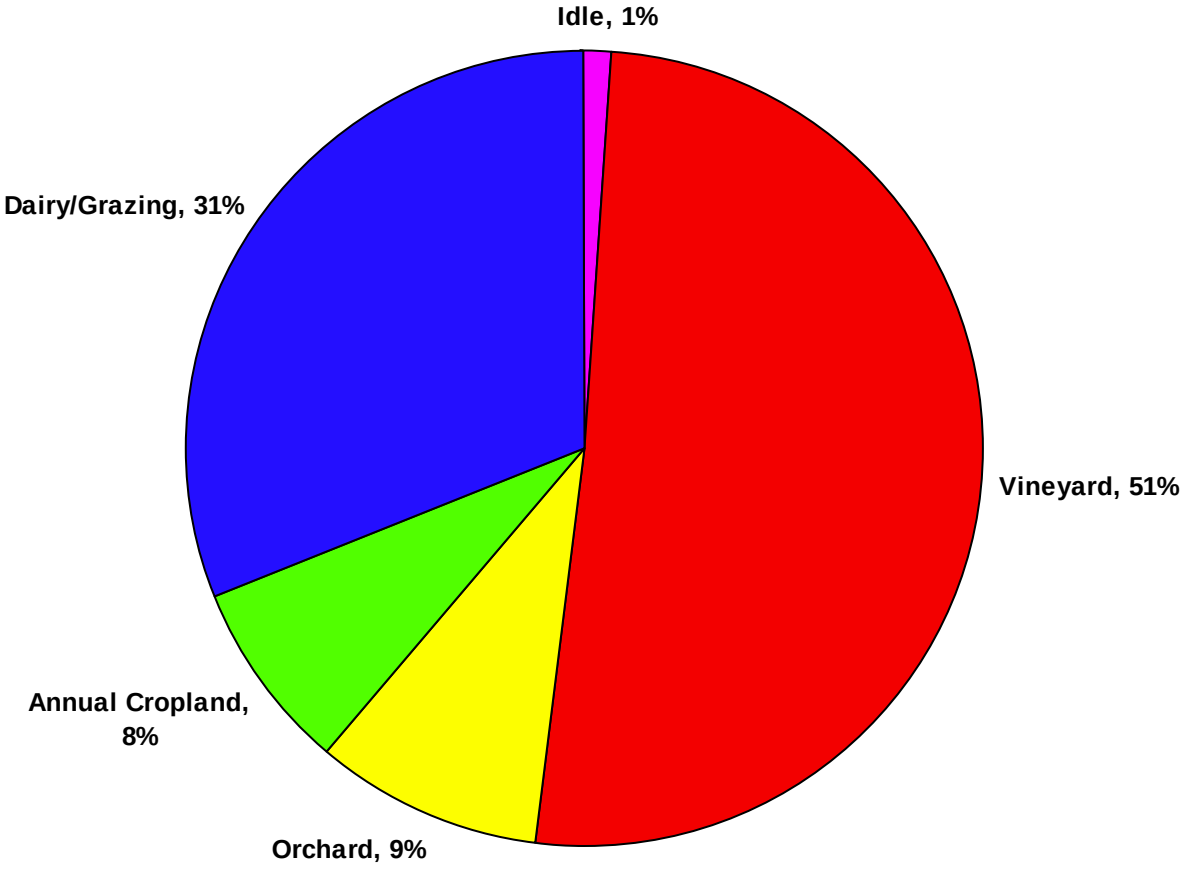
2 Labor Market Information Division, CA Employment Development Department, www.calmis.ca.gov, 2000

3 Percent of total labor force: Labor Market Information Division, CA Employment Development Department, www.calmis.ca.gov, 2000. Individuals employed: The San Joaquin County Agricultural Commissioner's Office, 2000 Agricultural Report.

4 Dairy production: Labor Market Information Division, CA Employment Development Department, www.calmis.ca.gov, 2000. Crop ranking in state based on gross value (1999 crop year): The San Joaquin County Agricultural Commissioner's Office, 2000 Agricultural Report

Grapes are the county's number one commodity with a year 2000 value of $296,888,000. Within the Lower Mokelumne River watershed, agricultural use trends may be summarized as follows:

Figure 4-1
Estimated Agricultural Land Uses of the Lower Mokelumne River Watershed 2001



As the preceding graph indicates, wine grapes are the primary agricultural product grown in the watershed. Within that portion of the Lodi wine grape region encompassed by the Lower Mokelumne River Watershed, vineyards range in size from a few to several hundred acres.

Agricultural products raised in the watershed also include livestock and poultry. Cattle, both beef and dairy; turkeys; chickens; sheep and other livestock are found in the watershed.

Cattle are raised primarily for beef within the watershed. Rangeland operations are found primarily north of the Mokelumne River in the eastern portion of the watershed. However, cattle operations can be found throughout the watershed with ranches of several hundred heads of cattle. Fewer than ten dairies are located within the watershed ranging in size from less than 150 and up to 2,100 cows. Turkeys are also raised within the watershed, primarily north of the Mokelumne River. An estimated six turkey ranches are located in the watershed.

EXISTING AGRICULTURAL EDUCATION/STEWARDSHIP PROGRAMS

San Joaquin Farm Bureau Federation Water Quality Program: This is a voluntary program for farmers to participate in improving water quality overseen by the San Joaquin Farm Bureau Federation.

San Joaquin County Resource Conservation District (RCD) – Vernal Pool/Agriculture Education & Demonstration Program: The RCD is working with the Central Valley Project Improvement Act (CVPIA) and others to acquire vernal pool grasslands for the purposes of demonstrating economically viable agriculture in a vernal pool environment.

Lodi-Woodbridge Winegrape Commission (LWWC): LWWC has produced the *Lodi Winegrowers Workbook* (see the Education Element for a more detailed description). This self-assessment guide to integrated farming practices addresses viticulture, soil management, water management, pest management, habitat management, management of human resources and evaluation of wine quality.

CA Dairy Quality Assurance Program (CDQAP): The San Joaquin County U.C. Cooperative Extension office assists in implementation of this voluntary program to encourage management practices promoting resource conservation in dairy operations. Additional program details may be found at CDQA.org.

California Cattleman's Association (CCA) CA Rangeland Water Quality Management Plan Riparian Grazing Project, Beef Quality Assurance Program: The California Rangeland Water Quality Management Program (CRWQMP) was developed by the CCA, U.S. Cooperative Extension, environmental agencies and interest groups to improve water quality on private rangeland under a voluntary program

officially adopted in 1995 and including rangeland water quality management strategies, policies and coordination mechanisms as well as sample plants and sources of assistance.

The Riparian Grazing Projects is a joint effort of the CCA and U.S. Cooperative Extension to determine correct and incorrect methods for grazing to ensure riparian success. The project is a statewide study of rangeland riparian areas in which riparian area health, specific site watershed conditions and site specific management are simultaneously examined and address both past and present grazing methods. Program assistance is being provided by the CA Department of Forestry and fire Protection, the U.S. EPA, the CA Department of Fish and Game, the U.S. Department of Forestry, the U.S. Bureau of Land Management, UC Davis and others. The LMSP is currently working with the voluntary Murphy Creek Restoration Group has used some of the evaluation methods included in this project as part of its overall restoration program.

Much like the CA Diary Quality Assurance Program, this program was begun in 1986 as an industry effort to encourage cattlemen to follow certain quality control measures exceeding those of the U.S. Department of Agriculture and the Food and Drug Administration. The California Cattleman's Association Quality Assurance Program grew from this effort in 1992 and emphasizes a partnership with the U.C. Cooperative Extension. Surveys and workshops are used to evaluate multiple activities, including animal handling and sanitation activities that may affect the watershed.

Biologically Integrated Orchard Systems (BIOS): Founded in 1993 by the Community Alliance with Family Farmers (CAFF), BIOS is a technical assistance program whose primary purpose is to "build a community of farmers, other agricultural professionals, and public institutions dedicated to the voluntary adoption of whole-systems approaches to farm management that are flexible, maintain long-term profitability, and rely less on chemical inputs."

The BIOS program for almonds and walnuts has been underway for nearly seven years in the Central Valley where a small, but growing number of farmers have successfully reduced their insecticide, herbicide and fertilizer inputs without affecting yield or quality. Between 1999and 2001, walnut growers within the LMR watershed participated in this program. The BIOS program is actively working to refine these techniques and extend them to other nut growers using the experiences of the participating growers, their independent pest control advisors and UC researchers.

BIOS programs are active in Merced, Stanislaus, Madera, San Joaquin Colusa, Yolo, Solano and Merced counties. Program cooperators include the University of California Sustainable Agriculture Research and Education Program, UC Statewide Integrated Pest Management Program, UC Cooperative Extension, the USDA's Farm Service Agency, and the USDA's Natural Resources Conservation Service (NRCS).

Biologically Integrated Farming Systems (BIFS): As a result of the success of the BIOS program (see above), the California Legislature created BIFS to extend the BIOS

project to include crops and other farming systems. The University of California Sustainable Agriculture Research and Education Program (SAREP), and the U.S. Environmental Protection Agency support this competitive grant program. The goal of BIFS is to demonstrate and expand the use of integrated farming systems that have been proven to economically reduce the use of farm chemicals. Farmers involved in the BIFS project are:

- ✓ Integrating biological and cultural control of pests into their production systems;
- ✓ Using pest monitoring and economic action thresholds to advise the timing of chemical applications;
- ✓ Emphasizing soil-building practices such as the use of cover crops to provide all or part of the nitrogen needed by crops, increase water infiltration of the soil and decrease erosion and flooding;
- ✓ Using manure to provide nutrients for cover crops;
- ✓ Creating an on-farm habitat and restoring riparian areas to encourage beneficial insect populations and improve habitat for fish, migrant birds and game species; and
- ✓ Improving livestock management while protecting natural resources.

Tri-County Weed Management Area Committee: This committee, overseen by the San Joaquin County Agricultural Commissioner's Office facilitates activities to control non-native invasive species in San Joaquin, Stanislaus and Merced counties**.**

Agricultural Education Programs: Please refer also to the Education Element of this watershed plan for a description of agricultural education programs ongoing in San Joaquin County.

GOALS

- ✓ **Increase understanding and awareness of agricultural water quality within the Mokelumne Watershed;**
- ✓ **Enhance water quality protection by implementing a "Tier One[5]" (i.e., non-regulatory, self-derived) water quality program for agricultural producers in the Mokelumne River Watershed;**
- ✓ **Encourage voluntary, self-directed and economically feasible practices to promote resource conservation within the Mokelumne Watershed; and**
- ✓ **Retain and enhance the economic viability of agriculture within the watershed.**

IMPLEMENTATION PROGRAMS

1. Expand Self-Evaluation and Self-Assistance Educational Programs to Other Land Uses to Promote Management Practices Promoting Resource Conservation

Facilitate the expansion of self-evaluation and self-assistance educational programs (e.g., Farm*A*Syst, Home*A*Syst, and the California Dairy Quality Assurance Program-CDQAP) throughout the watershed to encourage the implementation of management practices promoting resource conservation for agricultural operations. Using the *Lodi Winegrower's Workbook* (Ohmart, Matthiasson, 2000) as a model, expand the program to address rangeland operations, orchard farming, and other agricultural operations. Facilitate the expansion of the California Dairy Quality Assurance Program to encourage implementation of management practices promoting resource conservation on dairies. Facilitate implementation of the California Cattleman's Association statewide resource conservation program and the Community Alliance with Family Farmers' Biologically Integrated Orchard System (BIOS) programs and its offshoot, the Biologically Integrated Farming Practices (BIFS).

Time Frame for Implementation: Ongoing.

[5] The Non-Point Source Management Plan (NPS) being implemented by the California Water Quality Control Board promotes a three-tiered approach to reducing non-point source pollution. "Tier One" is the self-determined implementation of management practices where landowner and resource managers develop and implement workable solutions to non-point source pollution. This affords them the opportunity to solve their own problems before more stringent regulatory actions are taken. The California Farm Bureau Federation and the California Cattleman's Association have both developed programs intended to implement this tier One approach.

2. Recognize and Support Agricultural Operations Implementing Management Practices in the Watershed Promoting Resource Conservation

Work with agencies, individuals and groups (e.g., the San Joaquin Farm Bureau Federation, the Lodi-Woodbridge Winegrape Commission, the Lodi Chamber of Commerce and others) to advertise and support those agricultural operations which are implementing management practices on their farms which promote resource conservation. Support media coverage of these agricultural programs and practices. Use the San Joaquin County Resource Conservation District's (RCD's) website to report "success stories."

Time Frame for Implementation: Ongoing.

3. Facilitate Establishment of Voluntary Watershed Working Groups

Provide assistance to agricultural leaders within the watershed to establish voluntary watershed working groups of and for agricultural producers.

Time Frame for Implementation: Ongoing.

4. Facilitate Public Education About the Importance of Agriculture's Role in Supporting and Protecting the Environment

Work through existing educational programs (e.g., *Lodi Winegrower's Workbook*, Agriculture in the Classroom and other programs—see the Education Element of this Plan for additional programs) to educate the public about the importance of agriculture's role in supporting and protecting the environment.

Time Frame for Implementation: Ongoing.

5. Provide Representation from the LMSP to the Tri-County Weed Management Area (WMA) Committee to Foster Control of Non-Native Invasive Species

Provide representation from the LMSP to the Tri-County Weed Management Area Committee to foster control of non-native invasive species which can reduce agricultural productivity. Work in cooperation with the County Agricultural Commissioner's Office and the USDA Natural Resources Conservation Service.

WMA's require:

- ✓ The definition of a management area (which may be a watershed);
- ✓ Involvement of stakeholders;
- ✓ Organization of a steering committee;
- ✓ Development of a Memorandum of Understanding;

- ✓ Identification of problems related to non-native invasive species; and
- ✓ Development of weed control projects (e.g., mapping, eradication)

Time Frame for Implementation: Identify representatives to serve on the WMA Committee within two years of Plan adoption.

6. **Promote Weed Management, Integrated Pest Management, and Other Vegetation Management Practices which Promote Resource Conservation – *"Bringing Farm Edges Back to Life!"***

Facilitate and promote the voluntary implementation of the conservation practices found in "Bringing Farm Edges Back to Life!" (Yolo County Resource Conservation District, 1999) including installation of hedgerows, establishment of native perennial grasses, guidelines for installing and designing tail water ponds to manage runoff, construction of hill ponds, riparian enhancements, selected irrigation canal vegetation for Seasonal Summer Systems, and levee revegetation with native grasses. Where feasible, use these techniques to replace non-native invasive species through (re)establishing native plants along the river, tributaries and uplands of the watershed.

Time Frame for Implementation: Ongoing.

7. **Encourage Establishment of a Voluntary "River-Adjoining-Land Use" Transition Zone Program**

See Biological Resources Element (Chapter 5), Program 8.

Time Frame for Implementation: Ongoing.

8. **Support the San Joaquin County Resource Conservation Districts (RCD's) Vernal Pool/Agriculture Education & Demonstration Program**

Support the RCD's planned vernal pool/agriculture education & demonstration program intended to test alternative methods of maintaining economically viable agriculture in a vernal pool setting.

Timeframe for Implementation: Ongoing after commencement of the demonstration program anticipated to being in late 2004.

9. **Facilitate Implementation of the San Joaquin Farm Bureau Federation's Water Quality Program**

Create a working relationship with the San Joaquin Farm Bureau Federation's Water Quality Program. Assist in public outreach efforts within the watershed by providing information from the Water Quality Program addressing potential

agricultural water quality issues, laws and regulations, and water quality research. Work with the San Joaquin Farm Bureau Federation's water quality watershed working groups to facilitate coordination and cooperation with other water quality groups within the watershed.

Time Frame for Implementation: Ongoing.

10. <u>Identify Opportunities for Coordination with the San Joaquin County Multi-Species Habitat Conservation and Open Space Plan (SJMSCP)</u>

See Biological Resources Element (Chapter 5), Program #5.

Time Frame for Implementation: Ongoing.