SACRAMENTO - SAN JOAQUIN DELTA CONSERVANCY
A California State Agency

Outcomes and Lessons Learned through Implementation of the Fish Friendly Farming Program in the Delta
Staff Report

BACKGROUND

The Conservancy funded California Land Stewardship Institute (CLSI) to develop a Fish Friendly Farming certification program for the Sacramento-San Joaquin Delta through a Proposition 1 (1505) grant, which was executed in January 2017. In August of 2020, the Conservancy, supported through a grant from the California State Water Resources Control Board (SWRCB), contracted CLSI to implement the Fish Friendly Farming (FFF) Program in the Delta. The contract and grant will close on March 31, 2024. This report summarizes Delta FFF Program outcomes and lessons learned. The Conservancy was awarded a competitive grant to implement the Delta FFF Program and has not currently sought additional funding to continue supporting enrollment into the Program, though both CLSI and the Conservancy are open to collaborating again in the future. The final reports for the contract and grant are available upon request.

The Fish Friendly Farming Program (Program) started in 1997 in Mendocino and Sonoma counties; the FFF Program has certified over 250,000 acres on 1,800 individual farms and ranches in 10 counties in California. The Delta FFF Program documents and implements a series of best management practices on each farm enrolled in the program. Best management practices were developed with the input of a technical advisory committee composed of staff from county Farm Bureaus, county Agricultural Commissioner's offices, local water quality coalitions, county cooperative extension offices, the Natural Resource Conservation Service, local water agencies and districts, the National Marine Fisheries Service, and grower representatives. The technical advisory committee also provided feedback and approved water quality improvement projects implemented under this grant. Taken together, the best management practices and water quality improvement projects make up the Farm Conservation Plan (farm plan) for each site, which intends to decrease off-site transport of agricultural chemicals and sediments and improve Delta water quality. Each farm plan is certified as expected to improve water quality with a site visit from Program administrators and one of several third-party certifiers. Enrolled sites then complete an annual online audit to document the implementation of their farm plans. Recertification takes place after five years of farm plan implementation. The FFF Program certification can be used by the farmer in marketing and is widely recognized as an exceptional sustainability program. Additionally, the Central Valley Regional Water Quality Control Board approved the FFF Program as an alternative to the Irrigated Lands Regulatory Program in the Delta, meaning enrollment in the Program helps streamline growers' regulatory burden.

PROGRAM OUTCOMES

A total of 10,742 acres of farmland were enrolled in the Delta FFF Program. CLSI performed significant outreach to attain this level of enrollment, including coordination with the five Delta farm bureaus, the San Joaquin County and Delta Water Quality Coalitions, the Sacramento Valley Water Quality Coalition, the Sacramento County and San Joaquin County Agricultural Commissioners, and University of California Cooperative Extension to distribute information on the Program. CLSI and their contractor contacted approximately 50 farmers individually to increase enrollment. CLSI also produced a video that included a series of interviews with growers already in the FFF Program. By June 2022, six sites were enrolled in the Fish Friendly Farming Program for a total of 10,752 acres. One 10-acre site did not continue in the Program, but the other five completed farm plans.

The location of each site with a completed farm plan can be seen in Figure 9.1. Site 1 is 9,200 acres on Staten Island, south of Walnut Grove, California. The farm grows corn, rice, alfalfa, triticale, potatoes, and irrigated pasture. The site drains into the North and South Forks of the Mokelumne River. Site 2 is 203 acres and is west of the city of Stockton, California. The farm grows tomatoes, cucumbers, and alfalfa and will be converting to almonds. The site drains into the San Joaquin River. Site 3 is 509 acres and is west of Lathrop, California. The farm grows tomatoes, alfalfa, corn, wheat, and irrigated pasture. The site drains into Middle River. Site 4 is 70 acres and is west of Lathrop, California. The farm grows almonds and drains into the San Joaquin River. Site 5 is 760 acres and is south of the city of Davis, California. The farm cultivates irrigated pasture and drains into the Yolo Bypass.

This grant included funds to implement water quality improvement projects, which were reviewed and approved by the technical advisory committee. At Site 1 a water recirculation pump was installed to improve water quality by reducing transport of chemicals off-site and into nearby waterways. Recirculated water experiences longer exposure to light allowing for the breakdown of chemicals, and recirculation give sediments longer to settle out of the water column. A short video highlighting the recirculation pump can be found on the Conservancy's YouTube channel. An image of the installed recirculation pump can be seen in Figure 9.2. A hedgerow and water saving irrigation were installed at Site 2. The native hedgerow, once it matures, will help to block the drift of pesticides off site. The microsprinkler system will be more water efficient and result in less flushing of agricultural chemicals into nearby waterways. An image of the installed native hedgerow can be seen in Figure 9.3.

In addition to the two water quality improvement projects on sites 1 and 2, all farm plans included best management practices to improve water quality. These practices were developed with the input of the technical advisory committee. Delta FFF best management practices include soil conservation and sediment retention management actions (e.g. keeping ditches vegetated to retain sediment), managing water and drainage (e.g. surface drainage systems are inspected and maintained), managing irrigation (e.g. irrigation not completed directly after pesticide applications), managing pesticide use (e.g. insects are monitored prior to use of chemical controls), nutrient management actions (e.g. crop and soil needs are measured prior to nutrient application), road management action (e.g. winterization of roads to minimize sediment generation), creek system management actions (e.g. invasive species are removed to the extent possible), and photo monitoring (e.g. complete photo monitoring on an annual basis).

Estimates of potential water quality improvements through the implementation of water quality improvement project and best management practices were developed by CLSI and reported to SWRCB as part of the process of developing each farm plan. CLSI collected and reviewed the Pesticide Use Reports from the County Agricultural Commissioner for each site and analyzed the chemicals used for each different crop on each farm. The toxicity and runoff risk of each chemical was documented. CLSI staff documented the best management practices already being used on the site and the best management practices needed for certification. Finally, CLSI completed a best management practice implementation timeline listing the needed best management practices, where each should be implemented, and the timing required for implementation.

Certification visits took place from December 2023 through February 2024 to review each site's farm plan and water quality improvement project (if applicable). CLSI will continue to follow up with Sites 1-5 and will recertify farms after five years. Growers complete an annual online audit to document the implementation of their farm plans.

LESSONS LEARNED

For the FFF Program in the Delta, the main lesson learned was that it takes significant time and effort to convince farmers to adopt new practices, even when other farmers recommend the program. It is challenging to encourage growers to enroll and complete a program that is voluntary and does not have a clear monetary reward. CLSI completed many one-to-one conversations with farmers, and this seemed to be the best approach, enabling them to meet the enrollment goal of 10,000 acres. If in the future funding is available and more growers complete the program, word will get out in the community and the FFF certification will likely become more desirable.

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FIGURE 9.1. MAP OF LOCATIONS OF FIELDS ENROLLED IN THE DELTA FISH FRIENDLY FARMING PROGRAM

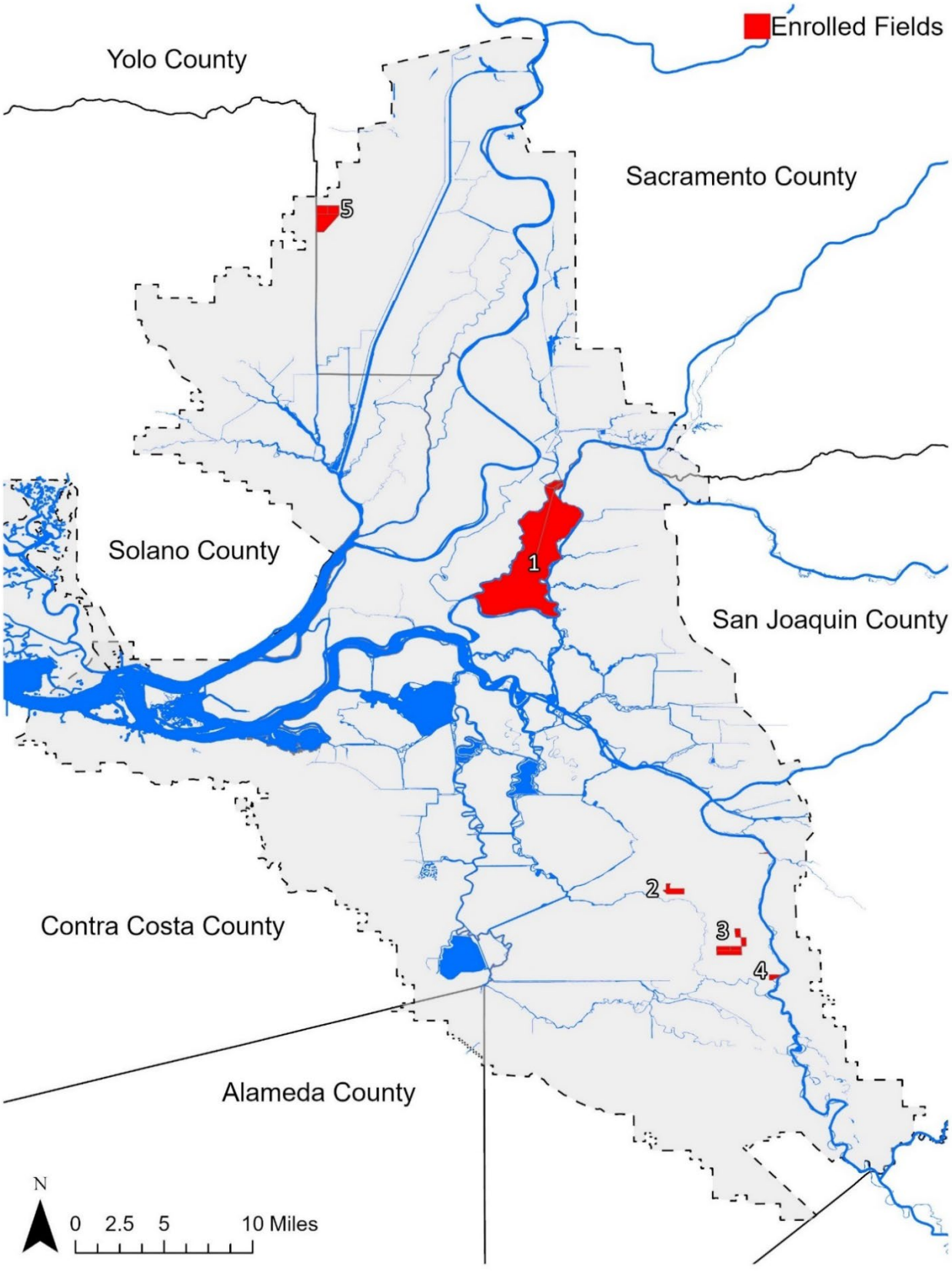

Figure 9.2. Completed Water Quality Improvement Project at Staten Island (Site 1), Water Recirculation Pump.

Figure 9.3. Completed Water Quality Improvement Project at Tirupathi Farms (Site 3), Native Plant Hedgerow with Irrigation and Weed Control Discs.