

SECTION 319 NONPOINT SOURCE POLLUTION CONTROL PROGRAM  
INFORMATION/EDUCATION PROJECT FINAL REPORT

Agricultural Water Quality Improvement Project

FY-2007

By

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This project was conducted in cooperation with the State of Utah and the United States Environmental Protection Agency, Region 8.

Grant #: 081122

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## EXECUTIVE SUMMARY

PROJECT TITLE: AGRICULTURAL WATER QUALITY IMPROVEMENT PROJECT

PROJECT START DATE: OCTOBER 30, 2007

PROJECT COMPLETION DATE: September 30, 2010

FUNDING	TOTAL BUDGET	\$40,000
	TOTAL EPA GRANT	\$24,000
	TOTAL EXPENDITURES	
	OF EPA FUNDS	\$24,000
	TOTAL MATCH ACCURUED	\$16,000
	TOTAL EXPENDITURES	\$40,000

### SUMMARY ACCOMPLISHMENTS

#### Task 1 – Maintain the Utah AFO/CAFO Database

The Utah AFO/CAFO database is maintained by Utah Farm Bureau. The database contains inventory and assessment data for 2935 animal feeding operations in Utah. Utah Farm Bureau also maintains a [Utah Animal Feedlot Runoff Risk Index \(UAFRRI\)](#) database which contains data from the UAFRRI model showing reductions in nitrogen, phosphorus and BOD loading resulting from BMP implementation.

The project inventoried and assessed 2935 animal feeding operations which included 399 dairies operations, 1358 feedlots operations, 64 turkey operations, 11 chicken operations, 24 swine operations, 69 sheep operations, 378 horse operations, 558 mixed operations, 52 mink operations and 22 other types of animal feeding operations including auctions, goats, bison, elk, llamas, and ostrich.

The inventory categorizes AFOs into three types: AFO (those in the Small and Medium size categories without unacceptable conditions), CAFO (a “Large AFO” with over 1000 animal units), and Potential CAFO (a “Medium” or “Small” sized AFO (less than 1000 animal units) that potentially discharge pollutants to waters of the state. The inventory also includes a category called “Neither” for those facilities that that were found to not meet the regulatory definition of an AFO.

Of the animal feeding operations inventoried during Phase 1 of the project,

- 2076 were just AFOs,
- 55 were CAFOs
- 393 were Potential CAFOs, and
- 411 were found to be “neither”. These were inventoried and assessed and found not to meet the regulatory definition of and AFO.

#### Task 2 – Track and Report Progress

Utah Farm Bureau has prepared and submitted an annual progress report each year of the project. Copies of these reports were submitted to the Utah Division of Water Quality, Utah Department of Agriculture, Utah Association of Conservation Districts, Utah State Extension Service, and Natural Resources Conservation Service. Other agencies and organization were given copies of the annual progress reports as requested.

Special reports were generated from the database as requested by agencies and organizations. These reports were used for TMDL planning, workload analysis, 319 project reports, and agency progress reporting and other purposes.

#### Task 3 – Follow up with Individual Landowners

Utah Farm Bureau used the Utah AFO/CAFO database to coordinate annual follow up visits to all 393 potential CAFOs each year of the project. Utah Farm Bureau placed special priority and emphasis on following up with those operations that were not showing satisfactory progress toward implementing their [Certified Nutrient Management Plans \(CNMP\)s](#) or [Nutrient Management Plans \(NMPs\)](#). A high rate of cooperation and progress resulted from these follow up visits.

As of December 31, 2009, of the 393 potential CAFOs identified in Phase 1 of the project, 95 percent have corrected their problems and are in compliance, and another 4 percent are working toward compliance.

As of September 30 2010, UAFRRI model runs on operations that have fully implemented their NMPs show load reductions of 95,000 lbs. phosphorus, 257,000 lbs. nitrogen, and 1,035,000 lbs. BOD from 274 operations.

## INTRODUCTION

The Utah Division of Water Quality published [A Utah Strategy to Address Water Pollution from Animal Feeding Operation](#)<sup>[j1]</sup> in March 16, 2001. The Strategy was prepared by the Utah AFO/CAFO Committee, consisting of representatives from all of Utah's farm organizations and commodity groups, state and federal agencies, and other interested parties. A key element in the Strategy was an inventory and assessment of AFO's (animal feeding operations) and CAFO's (concentrated animal feeding operations) to determine which AFOs may be a source of pollution and identified as "Potential CAFOs" ( Medium and small AFOs that potentially discharge pollutants to waters of the state.).

The Utah Farm Bureau Federation (UFBF), Utah Association of Conservation Districts (UACD), various livestock, dairy, swine, poultry, and other commodity groups [completed the inventory](#)<sup>[j2]</sup> and assessment. Inventory and assessment data was input into a database at the Utah Farm Bureau. The database is used to follow up with those operations identified as Potential CAFOs and to prepare annual progress and other reports.

A major emphasis of the project has been focused on following up with the 392 Potential CAFOs to correct unacceptable conditions<sup>2</sup> and avoid the need for a regulatory permit. The Utah Farm Bureau uses the inventory and assessment database to help coordinate this effort. Farm Bureau water quality specialists are also tracking and reporting progress of Potential CAFOs in correcting unacceptable conditions. Potential CAFOs that are not showing progress or determined to be "[uncooperative](#)<sup>[j3]</sup>" are referred to Utah Farm Bureau water quality specialists to work with. Farm Bureau is having much success in getting these referrals to become cooperative.

Utah Farm Bureau also maintains a UAFRRRI database which contains data from the UAFRRRI model showing reductions in nitrogen, phosphorus and BOD loading resulting from BMP implementation.

There is a critical need for Utah Farm Bureau to continue participation in this project to insure continued landowner participation and final project success, and to continue maintenance of the database at Utah Farm Bureau and progress reporting.

## PROJECT GOALS, OBJECTIVES, AND ACTIVITIES

The goal of the Agricultural Water Quality Improvement Project is to enhance and assure implementation of the [Utah Strategy to Address Pollution from Animal Feeding Operations](#) (Utah AFO/CAFO Strategy). [This is being accomplished](#) by working with identified Potential CAFOs, [through voluntary incentive-based programs](#), to reduce, ~~through voluntary, incentive-based programs~~, the amount of animal manure and related pollutants entering Utah's waters and avoid being brought into costly regulatory programs.

Three different, simultaneous activities are being undertaken to implement the Agricultural Water Quality Improvement Project. These include: (1) maintaining the AFO/CAFO database at

Utah Farm Bureau for use in following up with identified Potential CAFOs, following up on complaints, and to provide data for TMDL development and watershed plans; (2) tracking and reporting progress of Potential CAFOs toward correcting unacceptable conditions that could potentially result in [the](#) discharge of pollutant to waters of the State, and (3) dealing with complaints and working with individual landowners who are not showing progress.

#### Task 1 – Maintain the Utah AFO/CAFO Database

The Utah AFO/CAFO database is maintained by Utah Farm Bureau. The database contains inventory and assessment data for 2935 animal feeding operations in Utah. Utah Farm Bureau also maintains a UAFRRRI database which contains data from the UAFRRRI model showing reductions in nutrient and BOD loading resulting from BMP implementation.

The project inventoried and assessed 2935 animal feeding operations which include 399 dairies operations, 1358 feedlots operations, 64 turkey operations, 11 chicken operations, 24 swine operations, 69 sheep operations, 378 horse operations, 558 mixed operations, 52 mink operations and 22 other types of animal feeding operations including auctions, goats, bison, elk, llamas, and ostrich.

The inventory categorizes AFOs into three types: AFO (those in the Small and Medium size categories without unacceptable conditions), CAFO (a “Large AFO” with over 1000 animal units), and Potential CAFO (a “Medium” or “Small” sized AFO (less than 1000 animal units) that could potentially discharge pollutants to waters of the state. The inventory also includes a category called “Neither” for those facilities that that were found to not meet the regulatory definition of an AFO.

Of the animal feeding operations inventoried during Phase 1 of the project,

- 2076 were just AFOs,
- 55 were CAFOs
- 393 were Potential CAFOs, and
- 411 were found to be “neither”. These were inventoried and assessed and found not to meet the regulatory definition of and AFO.

#### Task 2 – Track and Report Progress

Utah Farm Bureau has prepared and submitted a [project](#) annual progress report each year ~~of the project~~. Copies of these reports were submitted to the Utah Division of Water Quality, Utah Department of Agriculture, Utah Association of Conservation Districts, Utah State Extension Service, and Natural Resources Conservation Service. Other agencies and organization were given copies of the annual progress reports as requested.

Special reports were generated from the database as requested by agencies and organizations. These reports were used for TMDL planning, workload analysis, 319 project reports, and agency progress reporting and other purposes.

### Task 3 – Follow up with Individual Landowners

Utah Farm Bureau used the Utah AFO/CAFO database to coordinate annual follow up visits to all 393 potential CAFOs each year of the project. Utah Farm Bureau placed special priority and emphasis on following up with those operations that were not showing satisfactory progress toward implementing their CNMPs or NMPs. A high rate of cooperation and progress resulted from these follow up visits.

### **LONG TERM RESULTS IN TERMS OF BEHAVIOR MODIFICATION, STREAM/LAKE QUALITY, GROUND WATER, AND/OR WATERSHED PROTECTION CHANGES**

Of the 2935 animal feeding operations assessed, 393 were found to either be discharges had potential to discharge pollution to waters of the State. The database was used to coordinate a concerted effort to focus follow-up, encouragement, technical and financial assistance on these 393 “potential CAFOs”.

As of December 31, 2009, of the 393 potential CAFOs identified in Phase 1 of the project, 95 percent have corrected their problems and are in compliance, and another 4 percent are working toward compliance.

Utah Farm Bureau also maintains a database of UAFRRI model results which models load reductions of phosphorus, nitrogen, and BOD from implementation of NMP practices. As of September 30 2010, UAFRRI model runs on operations that have fully implemented their NMPs show load reductions of 95,000 lbs. phosphorus, 257,000 lbs. nitrogen, and 1,035,000 lbs. BOD from 274 operations.

### **PUBLIC INVOLVEMENT AND COORDINATION**

In order to accomplish the goals and objectives of the Project, there is close coordination with the Utah Agricultural Environmental Team that is funded by a special congressional earmark in the NRCS’s budget to implement the Utah AFO/CAFO Strategy. This team consists of Farm Bureau water quality field specialists; a Utah Association of Conservation Districts water quality planning specialist; and a Utah State University Extension water quality information specialist.

One tremendous advantage that the Team specialists have over agency employees is that landowners are generally much more willing to share detailed information about the actual practices implemented on the land with team specialists.<sup>[4]</sup> This is because the Team specialists are not charged with the responsibility to penalize or fine if an illegal or polluting practice is discovered. Team specialists can immediately work with the landowner to resolve identified polluting practices.

Team specialists have worked closely with the Utah Division of Water Quality, Utah

Department of Agriculture and Food, USDA Natural Resources Conservation Service, and USEPA Region 8, and producer groups from each sector. The success of the program has been because of the strong partnership that has been developed.

### **ASPECTS OF THE PROJECT THAT DID NOT WORK WELL**

The database contains the mailing address of the animal feeding operation owner or operator, but not the physical address of the facility. This made it difficult for the person following up with a potential CAFO when the owner/operator changed or moved.

### **FUTURE ACTIVITY RECOMMENDATIONS**

It is important to continue maintaining the Utah AFO Database through the next phase of the project in which all AFOs within 2000 feet of water and all dairies. The Team will also continue to follow up with potential CAFOs to encourage continued implementation of their NMPs.

### **INFORMATION AND EDUCATION OUTPUT**

The Utah AFO Database has been used effectively to identify target producers for outreach workshops, tours and individual follow up. The database is also used to coordinate the next phase of the project.