

DEMONSTRATING SYSTEM BASED APPROACHES TO MANAGING AND REDUCING NUTRIENTS IN SUPPORT OF THE MISSISSIPPI RIVER BASIN HEALTHY WATERSHEDS INITIATIVE – FINAL PROJECT REPORT

Executive Summary

The purpose of this CIG award is for Delta F.A.R.M. to: develop two Mississippi River Basin Initiative demonstration sites and an outreach program that will stimulate the adoption of system based approaches to managing nutrients and reducing nutrient loads. During the project period, Delta F.A.R.M. leveraged multiple funding sources to develop a total of five demonstration sites. An outreach program was developed and implemented to include forty two site tours, numerous information sheets and publications, and video shorts illustrating the MRBI program and practices. One measure of producer adoption is the number of NRCS program applications for conservation practice implementation. In 2013, un-funded MRBI, AWEP, and EQIP applications exceed \$108 million for the Mississippi Delta. This in itself is a testament to the success of both the MRBI program and this CIG demonstration project.

Project Activities

The first step in demonstration site development was to implement conservation practices on select farms (Attachment A – Maps) in MRBI watersheds. A diverse suite of partners and funding sources were engaged to provide financial and technical assistance as Delta F.A.R.M. coordinated conservation practice implementation. These sources and programs include:

1. USDA-NRCS
 - a. Mississippi River Basin Initiative
 - b. Cooperative Conservation Partnership Initiative
 - c. Environmental Quality Incentives Program
 - d. Strategic Watershed Action Team
2. US EPA and MS DEQ 319h Program
3. US EPA Gulf of Mexico Program Grant
4. MS/AL Sea Grant Program
5. MS Department of Marine Resources
6. Monsanto Company
7. Producer Support

Below, conservation practices are listed that have been implemented on demonstration site within MRBI watersheds:

Harris Bayou (HUC# 080302070300)

- 18 acre on-farm storage reservoir (436)
- 5 acre tail-water recovery system (447)
- 210 acres land-formed (464)
- 20,300 feet of pad (356)
- 16 water control structures (410)
- 1,000 feet grass waterway (412)
- 9,600 feet two-stage ditch (607A)
- Soil sampling and variable rate fertilizer application (590)

Whittington Canal (HUC#090302060900)

- 8 acre on farm storage reservoir (436)
- 2 acre tail-water recovery system (447)
- 65 acres land-formed (464)
- 4,020 feet of pad (356)
- 6 water control structures (410)
- Soil sampling and variable rate fertilizer application (590)
- Cover crops, reduced tillage, managing for soil health

Porter Bayou (HUC# 080302070500)

- 8 acre on farm storage reservoir (436)
- 2 acre tail-water recovery system (447)
- 5,300 feet of pad (356)
- 7 water control structures (410)
- Soil sampling and variable rate fertilizer application (590)

Indian Bayou (HUC# 080302090400)

- 18 acre on farm storage reservoir (436)
- 4.5 acre tail-water recovery system (447)
- 20 acres land formed and devoted to waterfowl food production (464)
- Soil sampling and variable rate fertilizer application (590)

Tchula Lake (HUC#080302060407)

- 15 low grade weirs (410)
- 50 water control structures (410)
- 34,000 ft pad (356)
- 17,000 ft two-stage ditch (607A)
- Soil sampling and variable rate fertilizer application (590)

As conservation practices have been implemented, outreach efforts have been implemented to advance the MRBI in Mississippi. The core of these activities center around demonstration site tours which allow producers and other interested parties to see firsthand how the conservation practices function in a working landscape. The following tours have been conducted during the project period on CIG Demonstration Sites:

1. 2010 Iowa/Mississippi Farmer to Farmer Exchange
2. 2010 Southwest U.S. Producer Information Exchange Tour
3. 2010 Hypoxia Task Force
4. 2012 Hypoxia Task Force
5. 2012 Conservation in Action Tour co-hosted by Delta F.A.R.M. and CTIC. Speakers included NRCS Chief Dave White.
6. 2012 EPA Gulf of Mexico Program Staff
7. 2012 Kentucky Producer Information Exchange
8. 2012 Jason Weller and NRCS staff
9. 2013 Monsanto Company

10. 2013 MS Department of Environmental Quality staff
11. 2013 Congressional Staff
12. 2013 U.S. Senator Debbie Stabenow
13. Thirty small group tours with local producers and cooperators

These tours have introduced hundreds of producers to new and innovative conservation approaches that are being implemented to improve water resources and to advance agriculture that is profitable and sustainable. Additionally, a diverse suite of industry, agency, and organizational staff have seen firsthand how conservation is successfully implemented through cooperative partnerships.

Electronic media is another way the MRBI message has been promoted at various venues to numerous audiences. Three video segments have been produced that can be viewed individually or collectively and include: 1) The Mississippi MRBI Success Story; 2) Conservation Practice Highlight – Land Leveling with Pads & Pipes; and 3) Conservation Practice Highlight – Tail-Water Recovery and On-Farm Storage. Digital copies of this production are included with this final report and available for viewing at www.deltafarm.org.

Print media can serve as an effective means of outreach by providing tangible material that can read and reflected on. To provide factual information in the development of these documents, conservation practices and approaches must first be implemented, monitored and evaluated. Due to the time required for these activities to occur, the first CIG conservation practice brochures were developed in 2012 and provide details about specific conservation practices and their effectiveness. In 2013, information regarding several water conservation practices were summarized and published in the Delta F.A.R.M. Steward. A one page innovative approach fact sheet was also developed for distribution. This information was used to directly target over 440 producers in the MS Delta region alone. Several hundred other producers from around the country also received components of this information through the various demonstration site tours as previously discussed.

Funding Received and Expended

Upon receipt of payment from the attached final invoice, this CIG project will have received and expended \$434,575 in federal funds that were matched by \$520,859.39 in non-federal funds. Non-federal match exceeds the budgeted amount by \$29,359.39. Collectively, the five demonstration sites leveraged additional private, state, and federal efforts where total project funding exceeded \$12.2 million dollars.

Results

The purpose of this project was to promote the adoption of suites of conservation practices that were new and innovative to Mississippi producers in 2010. Many farmers viewed these practices as being unnecessary, expensive, and resource consuming. This project demonstrated and promoted these practices on working farms where cooperating producers were utilized to showcase their successes. One definite measure of producer adoption can be captured in the number and amount of applications filed at NRCS County Offices for conservation practice assistance. The Mississippi River Basin Initiative has brought an additional \$27,940,929 to Mississippi for conservation practice funding since 2010. Currently in 2013, unfunded MRBI applications total \$16,316,071. When unfunded EQIP and AWEP applications are added the total

reaches \$108,733,949. The producer demand for conservation practice assistance, both technical and financial, has increased exponentially since the inception of this project and the MRBI. This need for assistance is a clear indicator that producers have embraced and adopted conservation practices promoted by the Mississippi River Basin Initiative.

Aside from results associated with producer adoption, this project facilitated the development of demonstration sites that are a result in themselves. Significant resources were leveraged to plan and implement conservation practices as documented within project activities. While two demonstration sites were initially proposed, a total of five demonstration sites were developed and utilized through the project. With other partners and projects funding monitoring efforts on these sites, additional results pertaining to water quality and agricultural improvements will continue to be documented and showcased.

Transferability of Results

While producer adoption rates of conservation practices cannot be directly transferred, the tools used to promote producer adoption have and can be transferred to other regions and states. As referenced in the project activities section, demonstration site tours resulted in the transfer of project information to a very diverse audience from across the United States. Specific conservation practice information is directly applicable and transferable to producers in adjacent states within the Lower Mississippi River Alluvial Valley. However, the model for demonstrating successful implementation of NRCS initiatives through cooperative partnership efforts can be transferred and applied throughout the U.S.

Conclusion

As expressed above, this CIG project was very successful in achieving its intended purpose of promoting producer adoption of conservation practices that manage nutrients and reduce nutrient loads to downstream systems. As this project was implemented, all metrics set forth in the project proposal were met and/or exceeded. While the official project period is now coming to a close, project benefits will continue to be realized as conservation practices mature and become more effective. These additional improvements will be documented and showcased through on-going monitoring efforts by project partners. In conclusion, Delta F.A.R.M. extends its gratitude to NRCS for its willingness to partner on this project that has and will continue to advance conservation on working lands in the Delta region of Mississippi.