

Review of Eleven U.S. Voluntary State Agricultural Stewardship Programs

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Executive Summary

U.S. inland and coastal waters are invaluable natural resources providing drinking water, food, natural habitat and recreational opportunity. In the last century, U.S. water basins have been under the pressure of intensified population growth and industrial and agricultural development which has resulted in the oversight of environmental stewardship in numerous watersheds across the country. Nonpoint source nitrogen and phosphorus pollution from agricultural lands has been identified as a main contributor to water quality degradation, especially toxic Harmful Algal Blooms (HABs). The Gulf of Mexico, Great Lakes, Chesapeake Bay, and Puget Sound are all major water basins that have suffered from harmful nutrient pollution, HABs and associated environmental, health and economic consequences because of agricultural runoff. Voluntary state agricultural stewardship programs are one strategy aimed at addressing nonpoint source agricultural pollution. These programs provide agricultural operators incentives in exchange for installing best management practices (BMPs) that improve local water quality and meet or surpass state water quality goals. Agricultural stewardship programs rely on scientifically sound practices to achieve demonstrable water quality improvements and work closely with state, federal, and cooperative extensions to implement and monitor best practices. While there are various voluntary state agricultural stewardship programs in the U.S., attempts to compare their structure, participation and efficacy have been limited. This report aims to add to the collective knowledge about voluntary state agricultural stewardship programs by examining the structure and impact of 11 existing programs in the U.S. and synthesizing program materials, interviews with program staff, and peer-reviewed literature on voluntary state agricultural initiatives.

The voluntary state agricultural stewardship programs included in this report varied in program structure, program length and inspections, which parties were eligible for enrollment, available incentives, and cost share opportunities. Operational program costs were derived from a variety of sources such as general fund allocations, RCPP awards, sales tax dollars, and state environment and water quality funds. Financial incentives like program-specific cost share were cited as a significant plus, and programs felt long-term financial support from the state legislature was important in reducing the economic burdens of BMP implementation on farmers and the programs themselves. Program partnerships typically included state and federal departments as well as university cooperative extensions. Partnerships, whether they were with governmental, non-governmental, private or academic partners, were considered valuable by most programs. All programs cite farmer-to-farmer peer networks and communication as a key factor in encouraging participation. In addition to farmer-to-farmer networks, Soil and Water Conservation Districts and private advisors were cited as successful conduits for generating interest in voluntary state agricultural stewardship programs. All programs viewed incorporating farmers and other players in the agricultural community as critical to program success. Future considerations of programs included--but were not limited to--how to

effectively evaluate farmer participation and environmental outcomes of program implementation and how to navigate emergent issues in agriculture like economic decline and climate change.

The literature demonstrates that there is no silver bullet or consistent predictive model of farmer participation in voluntary state agricultural stewardship programs. Though they are important, economic incentives are accompanied by many other factors that influence farmer participation in voluntary state agricultural stewardship programs. Age, education, income, gender socio-cultural norms, worldviews, personal goals, commodity prices, environmental policies and social networks have all been shown to influence farmer participation. The literature also highlights that while BMPs for water quality are at the center of various voluntary state agricultural stewardship programs, the efficacy of these practices has been mixed with variable adoption rates among farmers and little improvement—and even declines—in water quality in some critical watersheds. Though there is robust evidence for the efficacy of individual BMPs in protecting and improving water quality from excess discharges, there is a need to determine the efficacy of many, simultaneously implemented BMPs at the watershed scale.

These findings reinforce the notion that working towards successful balance of agricultural livelihoods and water quality protection is largely “a quest for meaningful and effective institutional integration and actor interaction across various ecological, social and political levels and scales.” These results influence a series of recommendations for state programs and environmental philanthropy. State programs should consider a) improving communication among existing programs, b) acknowledge heterogeneous farmer motivations, c) developing clear and consistent messaging, d) prioritizing water quality monitoring, e) adopting consistent standards for reporting results and f) increasing program flexibility—among other recommendations. The philanthropic sector should consider a) supporting improved communication of agriculture and water quality issues, b) assisting farmer-led or farmer-serving organizations in environmental stewardship efforts, c) supporting water quality monitoring efforts, d) supporting relevant social and ecological research, e) supporting relevant and effective policy and f) increasing the accessibility of relevant resources—among other recommendations.

| | California (Central Valley) | Florida | Iowa | Maryland | Michigan | Minnesota | Missouri | New York | Vermont | Virginia | Washington |
|-----------------------------|-------------------------------------------|-----------------------------------------|------------------------------------------------------------------------------|-----------------------------------------|--------------------------------------------------------------|---------------------------------------------------------------------|------------------------------------------------------------|------------------------------------------------------|--------------------------------------------------|--------------------------------------------|-----------------------------------------------|
| Name | Irrigated Lands Regulatory Program (ILRP) | Best Management Practices Program | Soil and Water Conservation Program (SWCCP) / Water Quality Initiative (WQI) | Maryland Agricultural Certainty Program | Michigan Agriculture Environmental Assurance Program (MAEAP) | Minnesota Agricultural Water Quality Certification Program (MAWQCP) | Missouri Agricultural Stewardship Assurance Program (ASAP) | Agricultural Environmental Management (AEM) | Vermont Environmental Stewardship Program (VESP) | Resource Management Planning Program (RMP) | Voluntary Stewardship Program (VSP) |
| Year | 2003 | 2000 | 1973, 2013 | 2013 | 1997 | 2013 | 2015 | 1993 | 2016 (Pilot Phase) | 2014 | 2011 |
| Funding | Annual Fees to Farmers | Excise Tax on Documentary Stamps | Gaming Taxes, Specialty License Plates | USDA Conservation Innovation Grant | Fertilizer and Pesticide Fees | State Sales Tax | Missouri Department of Agriculture | Real estate transfer taxes | USDA Conservation Innovation Grant | Federal Grants, State General Funds | - |
| Regulatory Certainty | No | Yes | No | Yes | Yes | Yes | No | Yes | No | Yes | Yes |
| Structure | Regional Level, Coalition Based | Statewide | Statewide | Statewide | Statewide | Statewide | Statewide | Statewide | Statewide | Statewide | County Level |
| Enrollment Period | Indefinite, annual check-ups | Indefinite, annual check-ups | Varied by BMP | 10 years, check-ups every 3 years | 5 years, check-ups every 3 years | 10 years, 1 check-up after certification | Indefinite, 1 check-up after certification | Indefinite, check-ups every 3 years | 5 years, annual check-ups | 9 years, check-ups every 3 years | Indefinite, check-ups every 2 and 5 years |
| Financial Assistance | No | Yes | Yes | No | No | Yes | No | Yes | Yes | Yes | No |
| Technical Assistance | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes |
| Other Incentives | Monitoring Waiver | Monitoring Waiver | N/A | Field Signage, Nutrient Trading | Field Signage, RUP Credits | Field Signage, Market Access | Farm Signage, Market Access | Protection from Unexpected Discharges, Market Access | Field Signage, Free Soil Health Tests | Field Signage, Award Eligibility | Monitoring Waiver |
| Participation | ≈ 90% of acres, % of operations unknown | ≈ 42% of acres, % of operations unknown | % of operations unknown | < 1% of operations | 4,673 verifications % of operations unknown | 2% of operations | < 1% of operations | ≈ 25 % of operations | < 1 % of operations | < 1% of operations | 27 counties enrolled, % of operations unknown |