



Photo source: NOAA



PRESSURE ON FARMING

- 26,000 farms in WLEB counties provide food and contribute to multi-billion dollar economy

(Source: USDA Census of Agriculture)

- Sustainable location:
 - Highly productive soils
 - Water supply
 - Close to urban centers and transportation
- Nonpoint source pollution is hard to identify, and there is no silver bullet



RESULTS: USDA LAKE ERIE SPECIAL STUDY

- Delivery to Lake Erie compared to no USDA conservation practices:
 - Decreased Nitrogen 17%
 - Decreased sediment 40%
 - Decreased Phosphorus 41%
- Most effective P reduction practices: Structural Erosion control, Nutrient Management, Cover Crops
- 2012 ag land coverage:
 - Structural Erosion control: 55%
 - Nutrient Management: 71% soil testing, 34% 4R Phosphorus management
 - Cover Crops: 6%
- Challenge: for 100% coverage, total cost = \$439.5 million

Source: NRCS CEAP Cropland Special Report, 2017



MICHIGAN'S SOLUTIONS



MAEAP – Michigan Agriculture Environmental Assurance Program

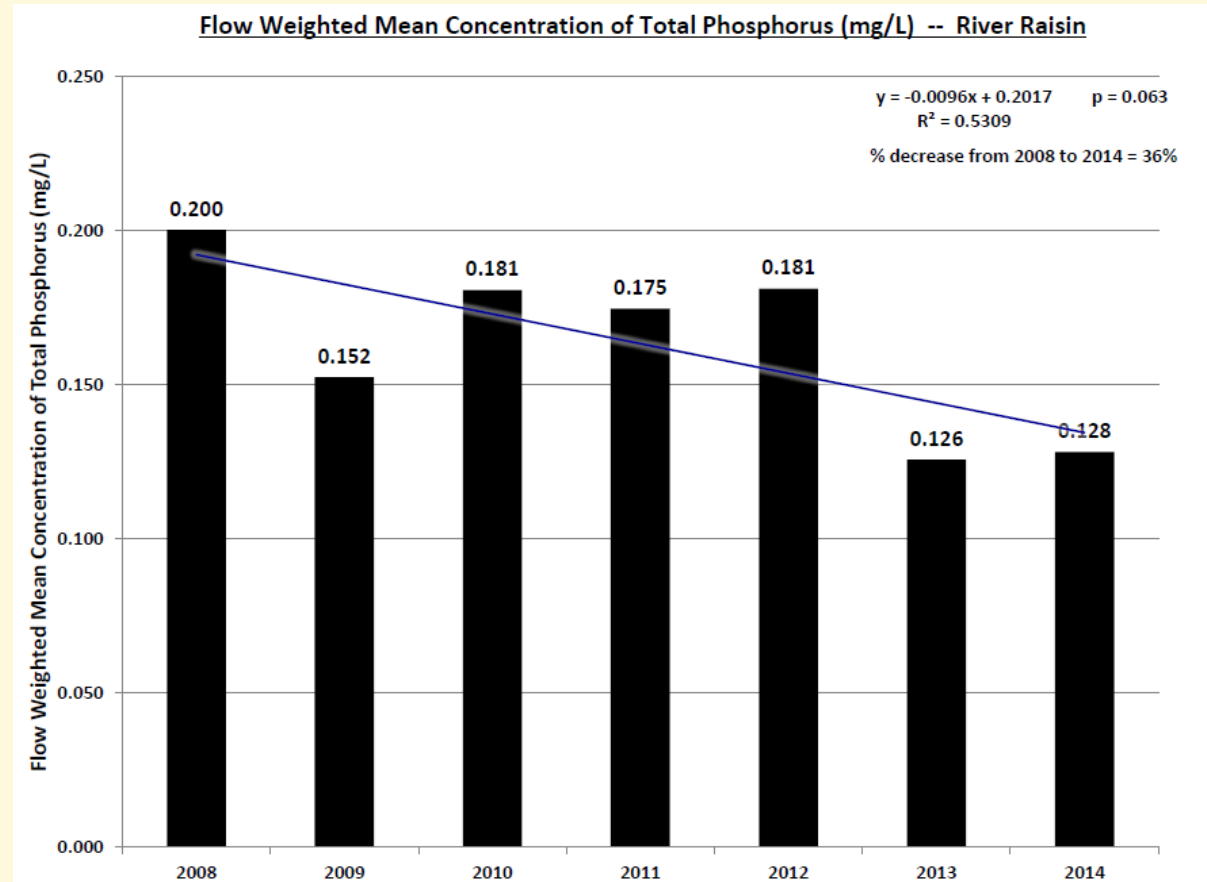
- 495 verifications on 286 farms in WLEB Counties - so far!
- Thousands more have started

(Source: MAEAP office, MDARD)

- Started by farmers
- Voluntary, confidential
- Personalized planning
- 3rd party verification
- Addresses whole farm
- Focus on nutrient and water management
- Matches NRCS practice standards
- Database to track practices by watershed

Results: 25-35% P reduction in River Raisin:

- Nutrient and soil testing
- Timing/Rate of Application
- Drainage management
- Buffers/Filters
- Conservation tillage
- Cover crops



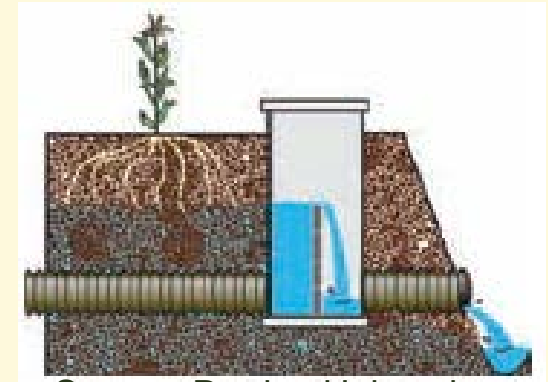
Source: Michigan DEQ, from Heidelberg University Monitoring



NEXT STEPS

2017 Edge of Field Studies:

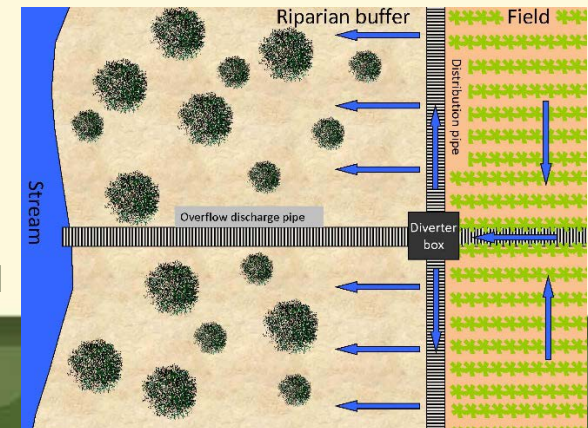
- Partnership between State and MSU
- Total and Dissolved P management
- Side-by-side comparisons over 3 years
- 3 drainage management practices
- Testing both fertilizer and manure



Source: Purdue University



Source: Ohio NRCS



Source: USDA Practice Standard

NEXT STEPS

- MI CLEAR – Michigan Cleaner Lake Erie through Action and Research
- Partnership between agriculture, universities, state government, utilities, businesses, conservation groups
- Consistent goals, messaging, communication to maximize efforts



PUTTING IT ALL TOGETHER

- Farming is a vital part of economy and culture of WLEB
- Farmers recognize they are part of the solution
- Conservation programs have proven results – but more research is needed
- Practices are expensive
- Voluntary, personalized management is key
- Partnerships are vital!!!



THANK YOU!

Questions?

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