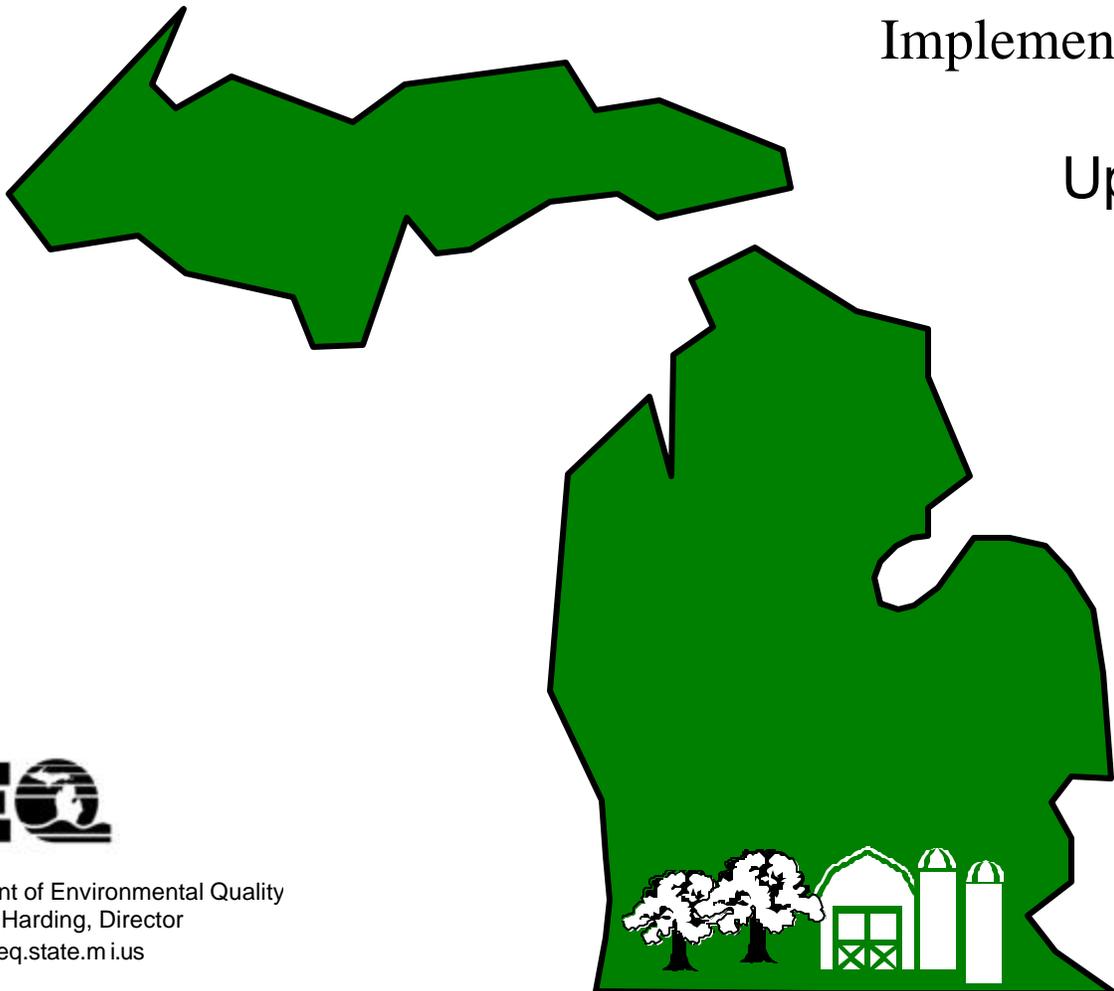


Pollution Prevention Strategy for Michigan Agriculture

Contributors:

Michigan Department of Agriculture
Michigan Farm Bureau
Michigan Potato Industry Commission
Michigan Pork Producers Association
Michigan Dairy Market Program
Michigan Corn Growers Association
Michigan Cattlemen's Association
Michigan State University Extension
Michigan Association of Conservation Districts
Michigan Department of Agriculture
Michigan Department of Environmental Quality
USDA Natural Resources Conservation Service

Agricultural Pollution Prevention Implementation Plan Update



Michigan Department of Environmental Quality
Russell J. Harding, Director
www.deq.state.mi.us

John Engler, Governor

Pollution Prevention Strategy and Implementation Plan for Michigan Agriculture Glossary of Acronyms

(Extensive use of acronyms have been used throughout this document.
Please refer to this glossary.)

AgP2	Agricultural Pollution Prevention
AgriTAP	Agricultural Technical Assistance Program
AoE	Area of Expertise
APE	Agriculture Pollution Emergency
BMP	Best Management Practice
CD	Conservation District
CMI	Clean Michigan Initiative
CNMP	Comprehensive Nutrient Management Plan
CREP	Conservation Reserve Enhancement Program
CRMI	Cooperative Resource Management Initiative
EAD	Environmental Assistance Division
EQIP	Environmental Quality Incentive Program
ESD	Environmental Stewardship Division
FAS	Farm*A*Syst
FSA	Farm Services Agency
FTE	Full-time Employee
FY	Fiscal Year
GAAMPs	Generally Accepted Agricultural and Management Practices
IPM	Integrated Pest Management
LEPC	Local Emergency Planning Committee
MAEAP	Michigan Agricultural Environmental Assurance Program
MCC	Michigan Composting Council
MDA	Michigan Department of Agriculture
MDEQ	Michigan Department of Environmental Quality
MDNR	Michigan Department of Natural Resources
MGSP	Michigan Groundwater Stewardship Program
MSP	Michigan State Police
MSU	Michigan State University
MSU-E	Michigan State University Extension
MUCC	Michigan United Conservation Program
NOAA	National Oceanic & Atmospheric Association
NPDES	National Pollutant Discharge Elimination System
NPS	Nonpoint source
NRCS	Natural Resources Conservation Service
P2	Pollution Prevention
PA	Public Act
RMS	Resource Management System
RTF	Right To Farm
SWQD	Surface Water Quality Division
USDA	United States Department of Agriculture
USEPA	United States Environmental Protection Agency
USGS	United States Geological Survey

Implementation Plan and Action Items

Introduction. This report is being written to provide a progress overview of the Pollution Prevention (P2) Strategy and Implementation Plan for Michigan Agriculture, as of July 2001. Michigan's production agriculture sector has a long history of protecting our natural resources. Farmers and their families are directly affected by the quality of the water, soil, air, and other natural resources on their farms. To sustain a growing and vibrant agricultural economy in Michigan, while continuing to effectively protect the environment and human health, future agricultural/environmental programs must embrace the philosophy that pollutants should be reduced through a multi-media systems approach that emphasizes P2.

The P2 Implementation Plan for Michigan Agriculture (Implementation Plan), as amended October 29, 1997, provides a clear overall approach to eliminate or minimize the release of agricultural pollutants in Michigan. Emphasis is placed on agricultural P2, defined as: *source reduction, reuse or environmentally sound recycling, and other prevention activities including nonpoint source approaches.* P2 aims to eliminate and/or reduce the generation of pollutants at their source when practicable, environmentally acceptable, and economically feasible. Emphasis is also placed on strengthening existing activities and programs that are effective and direct remaining and additional resources to promising new activities and program areas.

Remaining and additional resources have concentrated on the creation of an industry-led agriculture environmental assurance program. This program has become the primary focus of the Implementation Plan, as it combines the ensuing principles and directives into one program. (See attachment one for more details.)

The Implementation Plan was adopted by the Michigan Department of Agriculture (MDA) and the Michigan Department of Environmental Quality (MDEQ). The plan calls for P2 programs to apply the following principles and directives:

- Recognize that achieving environmental goals must be accomplished in an economically sustainable manner.
- Enhance public perception and recognition of existing agricultural P2 efforts.
- Endorse approaches that emphasize partnerships and voluntary educational efforts.
- Create incentives to encourage the adoption of voluntary agricultural P2 principles, including the identification and removal of regulatory barriers.
- Allow flexibility, recognizing that Michigan agriculture is diverse and conducted under enormously varying conditions across the state, with vastly different potentials for pollution and P2.
- Recognize and enhance producers' innovative abilities to solve/prevent pollution problems.
- Strive to enhance the cooperative relationship between regulators and producers in accomplishing environmental protection.

- Consider producers following Generally Accepted Agricultural and Management Practices (GAAMPs) as making a good faith effort to comply with state environmental regulations.

I. Building on Programs that Work

Michigan agriculture is a leader with a progressive attitude toward stewardship and a collective responsibility to the environment. Several existing programs that address environmental issues are widely accepted by the agricultural community. An effective approach to further progress in P2 is to build on the strengths of proven and accepted programs and explore additional areas to develop.

A. The Michigan Right-to-Farm Act

The Michigan Right-to-Farm (RTF) Program and associated GAAMPs are identified in the Implementation Plan as a potential model for agricultural P2. The key aspects of the RTF Program are: producer participation in program design, workable, economically feasible, practical steps, voluntary actions, positive incentives rather than mandatory regulation, and use of the Environmental Code as a basis for action against those who choose not to voluntarily address identified pollution problems. Emphasizing the economical and environmental benefits achieved by following GAAMPs provides an effective vehicle for implementing widespread P2 measures. Coordination and education enhances the effectiveness of the GAAMPs.

Action Items:

1. *Review and modify GAAMPs to address key environmental issues including: water quality, erosion and sediment control practices, and others, and to facilitate adoption of P2 measures. Lead: MDA*

Status: 1998 Manure Utilization GAAMPs – Section 1, planning process was modified to adopt additional P2 measures. November 1999 Manure Utilization GAAMPs Introduction expanded the planning process. Fiscal Year 2000 (FY00) Site Selection developed and Manure and Nutrient GAAMPs updated.

2. *Explore an industry-led environmental assurance option as a means to augment the RTF Program with a proactive approach (see Environmental Assurance Section on page 16). Lead: MDA/MDEQ*

Status: The Michigan Agricultural Environmental Assurance Program (MAEAP) has been officially established through a signed partnership agreement in FY01. (See Section F, creation of an industry-led Agriculture Environmental Assurance Program.)

3. *Continue to work with Michigan State University-Extension (MSU-E) and the agricultural industry to improve distribution of the GAAMPs. Lead: MDA*

Status: Ongoing - Participation in MSU-E educational programs, such as on-farm environmental assessment by livestock Area of Expertise (AoE)

agents.

B. Section 319, Clean Water Act Grants Program

This program will continue to operate with local level involvement emphasizing: voluntary participation, an understanding that changing practices affects farm economics, the use of established delivery systems familiar to agriculture, and support with technical and financial assistance.

Action Items:

1. *Consider P2 issues when reviewing 319 proposals. Lead: MDEQ*

Status: P2 practices are fundable with 319 funds and are considered during proposal review.

2. *Continue administering the program on a watershed basis. Lead: MDEQ*

Status: The program is administered on a watershed basis. During FY99, 23 projects, and FY00, 28 new projects were funded by the MDEQ Surface Water Quality Division (SWQD) on a watershed basis.

3. *Initiate discussions on the potential of coordinating 319 grants with the Michigan Groundwater Stewardship Program (MGSP). Lead: MDEQ/MDA*

Status: The SWQD has established an advisory committee to receive input on 319 and the Clean Michigan Initiative (CMI) funding. The MDA participates on this committee. The MDA receives copies of all 319 proposals for comments. In addition, the SWQD and the MDA have established four work groups to address broader inter-program issues.

4. *Base the Best Management Practices (BMP) funded by 319 grants on the United States Department of Agriculture (USDA), Natural Resources Conservation Service (NRCS), Field Office Technical Guide to ensure consistency with RTF GAAMPs. In addition, the 319 Practices should take into consideration the Midwest Plan Service. Lead: MDEQ*

Status: The nonpoint source (NPS) program continues to utilize and promote the NRCS standards and specifications in order to ensure environmental protection. Practices outside of those standards and specifications are eligible for 319 funds, if approved by a SWQD engineer.

C. Natural Resources and Environmental Protection Act

The Michigan Natural Resources and Environmental Protection Code, PA 451 of 1994, protects environmental quality and provides recourse against individuals who contribute to serious pollution problems. Through an

interagency Memorandum of Understanding between the MDEQ and the MDA, producers are given an opportunity to achieve compliance. Enforcement orders are geared toward those who cause pollution and are unwilling to comply with voluntary corrective measures. The code also addresses procedures for dealing with environmental emergencies.

Action Items:

1. *Implement a policy of enforcement discretion whereby compliance with the GAAMPs*

*is considered a good faith effort to comply with environmental regulations.
Lead: MDEQ*

Status: While no formal policy has been established, the MDEQ-SWQD enforcement of environmental regulations on agricultural operations allows enforcement discretion based on the specific details of each case. If a producer is following the NRCS standards and specifications and is making a good faith effort to protect the environment, the MDEQ-SWQD level and extent of enforcement action will reflect that effort.

The MDEQ-SWQD and the MDA are reviewing enforcement policies and priorities. During 2000, the MDEQ-SWQD took enforcement action on 15 agricultural operations. Three of the 15 operations were assessed fines and penalties. Most of the cases involved discharges of pollutants to surface waters from livestock operations. Where discharges occur related to livestock production, the MDEQ-SWQD works with the producer to develop and implement a Comprehensive Nutrient Management Plan (CNMP).

2. *Develop an educational program to inform producers about procedures to follow in an environmental emergency including:*

- *Work with MSU-E in the development and distribution of a Farm*A*Syst (FAS) tool to cover Emergency Preparedness Planning. Lead: MDA*

Status: FAS assessment tools have been updated to contain the new and enhanced Emergency Planning for the Farm bulletin (MSU-E Bulletin 2575), which now serves as the fact sheet with information on planning, spills, and reportable quantities. The worksheet, which provides for ranking groundwater impact potential, has also been updated. The Michigan Emergency Tube is used for emergency planning; these completed plans are mounted at the farmstead, outside, for 24-hour availability.

- *Utilize supporting materials developed by MSU-E, such as the SARA Title III bulletin (5/95). Lead: MDA*

Status: Existing SARA Title III Bulletin (2575) has been revised (July 1998) and now includes more information on spill response and planning, including development of a simple and easy six-page plan for the farm. Product tables have been updated. The new title is, “Emergency Planning for the Farm.”

- *Participate, as invited, in producer field days, seminars, and training sessions highlighting the MDA Agriculture Pollution Emergency (APE) hotline for reporting pesticide, fertilizer, and manure spills. Lead: MDA/MDEQ*

Status: Training sessions that include presentations on the spill response and emergency planning programs, including the Michigan Emergency Tube, are offered during seminars and field days. Presentations have been conducted by the MDA, MGSP technicians, AmeriCorps, MSU-E, and conservation districts (CDs). Participants have included farmers, agri-business, commercial applicators, emergency responders, and the general public. The Michigan Farmer magazine, along with other group newsletters, has continued to regularly promote the MGSP, spill response and emergency planning programs.

- *Develop and distribute FAS and spill response program fliers and Agricultural Technical Assistance Program (AGRITAP) brochures to county offices of MSU-E, USDA-NRCS, and CDs. Spill response program literature and emergency contact information will be distributed to all certified pesticide applicators in the state, and spill response issues will be incorporated into certified applicator training and testing protocols. Lead: MDA*

Status: FAS spill response program fliers and AGRITAP brochures have been distributed to nearly all county offices of MSU-E, NRCS, and CDs. Specific agency training sessions have been conducted for both MSU-E and NRCS, also including Farm Services Agency (FSA) and Michigan State Police (MSP) Emergency Management. Additionally, all private and commercial pesticide applicators that are up for renewal receive information on the Spill Response Program in their renewal packets.

Future Need: A survey of producer P2 needs identified a lack of knowledge of on-farm petroleum storage regulations and opportunities. A revision of Wisconsin's On-Farm Petroleum Storage Educational Program should be developed for Michigan producers.

- *Promote and maintain cooperative working relationships with other agencies responsible for emergency response, including Michigan State Police Emergency Management and Fire Marshal divisions, and Local Emergency Planning Committees (LEPCs). Lead: MDA/MDEQ*

Status: Primarily through the Spill Response and Michigan Emergency Tube programs, the MDA has continued to foster and enhance working relationships with these agencies and groups. MGSP personnel are becoming involved with many local emergency response teams/agencies through participation with local LEPCs, fire departments, and planning officials. At the state level, the MDA works closely with agency representatives to develop and enhance planning and response educational materials, targeting the general public and responders. Revisions were made to the Emergency Planning Farm Bulletin (including SARA Title III Emergency Planning Requirements, E-2575), and it is online at www.deq.state.mi.us/ead/sara. A state Emergency Response Commission Notification database of farms subject to SARA Title III (Section 302) has been developed.

Future need: To follow up on the above-mentioned database for additional site preparation and Emergency Tube placement.

- *Incorporate spill response program and contact information in RTF GAAMPs. Lead: MDA*

Status: Information on the Spill Response Program has been incorporated into all RTF GAAMPs as they go through their annual reviews. Spill Response Program overview on RTF brochures; APE Hotline on inside cover of GAAMPs.

D. Soil Conservation District Act

CDs, as authorized by the Soil Conservation District Act (PA 451 of 1994, as amended, Part 93), have made major contributions to preventing both surface and groundwater pollution. The districts have assisted local producers in adopting voluntary programs focusing on such issues as erosion control and prevention, pesticide and fertilizer management, irrigation management, energy conservation, and others.

Action Items:

1. *Encourage and partner with CDs to more actively lead a newly invigorated and coordinated P2 effort with the following components:*
- *Work with CDs to organize local citizen workgroups to develop resource issues and solution. Lead: MDA/MDEQ*

Status: All CDs have developed local work groups, which have identified local resource concerns.

Future need: To encourage local work groups to develop ongoing strategies to deal with the resource issues identified.

- *Direct conservation district training funds towards educating directors and staff in delivering P2 programs. Lead: MDA/MDEQ*

Status: Gateway Funding includes requirements to develop local strategic plans and have them in place by September 2001. The training program has focused on developing and using local work groups and building leadership skills at district board and staff level. Annual New Director and Staff Training, Regional Training, and Advanced Director Training sessions are the current means of conducting training. A technical training guide is being developed in conjunction with the MDEQ, Michigan Department of Natural Resources (MDNR), MSU-E, NRCS, MDA and CDs.

Future need: Monitor implementation of training plans.

- *Coordinate 319 watershed projects with P2 programs available through USDA programs and other state and private funding sources on a regional watershed basis. Lead: MDEQ*

Status: This coordination occurs at the state level, as well as at the SWQD district level. The SWQD district staff work with local agencies, organizations, USDA staff, and the public to coordinate watershed activities. At the state level, the SWQD participates on the NRCS Michigan Technical Committee and the NRCS Environmental Quality Incentives Program Committee, which allows for good coordination between the 319 program and USDA programs. The SWQD funded 20 (FY99) and 28 (FY00) watershed projects in CDs.

- *Work with CDs to provide local on-site inspections and practice implementation assistance for soil erosion and sedimentation control activities. Lead: MDEQ/MDA*

Status: Nine CDs provide local Soil Erosion and Sedimentation Control enforcement and two additional CDs provide on-site inspections. Training sessions for district staff on soil erosion and sedimentation control practices have been given the last two years.

Future need: Continue to provide training to district staff and work with partners to identify additional opportunities for district staff to serve as inspectors and/or enforcing agents.

- *Encourage CDs and MSU-E to provide guidance and local support for Clean-Sweeps and Container Recycling efforts. Lead: MDA*

Status: Several local conservation district technicians and MSU-E agents are involved with local container recycling and clean-sweep efforts. The container-recycling brochure has been updated and a PowerPoint presentation on container recycling has been developed. Approximately 50,000 pounds were collected in FY00, which is a 30 percent increase over last year.

Future need: Provide CDs with a brochure promoting plastics recycling.

- *Promote and implement soil protection and erosion control, wildlife habitat improvement, wetland protection and restoration, forest management, tree planting, and reforestation activities on private and local government lands. Lead: MDA/MDEQ*

Status: In FY00, the MDA and the MDNR combined forestry and wildlife management assistance programs administered through CDs into the new Cooperative Resource Management Initiative (CRMI).

Thirty-one resource professionals provide information and technical assistance to landowners and local governments to plan, manage, protect, and utilize natural resources.

Assistance was provided to 27,146 landowners and 748 local units of government to manage nearly 300,000 acres of land; including 54 wetland restoration projects impacting 279 acres, 148 grassland conversions on 1,222 acres, facilitating the preparation of 1,055 resource management plans for 61,478 acres, and assisting private landowners in woodland harvests bringing over \$5.4 million in timber products to market. Approximately 10 million trees and shrubs were planted through CDs.

2. *Allocate resources on a coordinated, statewide, prioritized basis.*

Lead: MDA/MDEQ

Status: Staff and financial resources have been allocated to the MAEAP, as it currently has the broad-based representation of all stakeholders. The MAEAP is initially targeting the livestock industry, with the rest of the agriculture sector to follow. (See: Creation of an Industry-Led Agriculture Environmental Assurance Program, 1.F.)

3. *Base grant awards on the following factors to maximize efficiency:*

- *Uniform criteria, which take into consideration the ability of the grant recipient to deliver a high quality product to landowners. Lead: MDA*

Status: The MGSP incorporates this criteria into its grant proposal review process, which ensures that the entity best suited to deliver a program in a local area is awarded the grant. The Michigan Energy Conservation Program and the CRMI Program included this criteria in the FY00 program year.

- *The relative risk to the specific resources addressed by each grant program and/or the needs of the community relative to the rest of the state. Lead: MDA*

Status: The MGSP has this criteria built into its grant proposal review process, which ensures that limited program resources are targeted to areas with the greatest risk (aquifer vulnerability x agricultural use). The Michigan Energy Conservation Program will include these criteria in the FY00 program year.

4. *Work with the Michigan Association of Conservation Districts to develop and implement a strategy for funding CDs as an important delivery system for statewide agricultural P2 programs. Lead: MDA*

Status: A stakeholder group has been established to outline a strategy to provide base funding support to districts. As a result of this effort,

conservation districts' funding has increased for FY01 to 8.2 million. The CRMI, with an increase in funding through the MDNR, will provide statewide coverage for conservation district resource specialists. The Conservation Reserve Enhancement Program (CREP) is in place. Funding is underway for eight conservation district technicians to implement up to 80,000 acres in wetlands, buffer strips, and cattle exclusions.

E. The Michigan Groundwater and Freshwater Protection Act

The Michigan Groundwater and Freshwater Protection Act assists producers in developing groundwater protection plans and provides educational resources, technical assistance, and cost-sharing. This assistance includes groundwater stewardship practices and local stewardship teams which aid assessment and problem solving. An important provision of this act is that by adhering to groundwater stewardship practices, the farmer gains liability protection from groundwater contamination. By following groundwater stewardship practices, the producer has access to technical assistance, funding, and possible reduced insurance premiums. Producers, through pesticide and fertilizer registration fees, fund groundwater and freshwater protection programs.

Action Items:

1. *Explore the possibility of coordinating 319 grants and other related programs with the MGSP. Lead: MDA/MDEQ*

Status: Coordination on this Action Item has been taken.

2. *Encourage local groundwater stewardship teams to expand beyond groundwater to address all water quality and P2 concerns while retaining farm-based decision making:*
 - *Work with the CDs to encourage local groundwater stewardship teams, the groundwater technicians, or, at a minimum, a subgroup of the groundwater stewardship team, to be active participants on the local work groups that are convened per the 1996 Farm Bill. Lead: MDA*

Status: Most Groundwater Stewardship Teams have members who also participate on workgroups that address aspects of the 1996 Farm Bill, i.e., Environmental Quality Incentive Program (EQIP).

The Groundwater and Freshwater Protection Act limits the focus of program activities to those that relate to groundwater affected by pesticides and nitrogen fertilizer. The risk assessment exercise heightens landowner awareness of other impacts and encourages minimizing those risks. These additional activities, however, cannot be cost shared with MGSP dollars.

- *Develop a strategy to address locally identified resource concerns through federal, state, local, and private sources. Lead: MDA*

Status: Local MGSP teams identify local resource concerns.

3. *Ensure consistency between Groundwater Stewardship Practices and RTF GAAMPs. Lead: MDA*

Status: Nutrient, Pesticide, Site Selection, Manure Management, and Cranberry GAAMPs were all reviewed for consistency in FY00.

4. *Work towards reauthorization of the Groundwater Stewardship Program. Lead: MDA*

Status: Reauthorization was passed in FY00.

5. *Provide guidance to producers on how to effectively utilize self-audits to improve performance and qualify for penalty immunity under the Environmental Audit Privilege and Immunity Act, PA 451 of 1994, as amended, Part 148. Lead: MDA/MDEQ*

Status: Language of Act 451 is being reviewed for its applicability to the MGSP and the Environmental Assurance Program.

F. Additional Areas to Build On

Creation of an Industry-Led Agriculture Environmental Assurance Program

An industry-led environmental assurance option needs to be explored as a means to augment the existing RTF Program. The purpose is to create a proactive movement by agriculture to become more involved in adopting environmental stewardship practices on their farm. Program benefits include: a preventive approach, rather than remediation; a potential alternative to federal permit requirements; it will induce search for low-cost solutions; and be good public relations for all of agriculture.

Action Items:

1. *Partner with the agricultural industry to design and implement a voluntary proactive environmental assurance option, perhaps similar to the one currently in use by the National Pork Producers Association. Lead: MDA/MDEQ*

Status: The MAEAP, consisting of representatives from the MDA, MDEQ, MSU, NRCS, Farm Bureau, MUCC, and livestock industry representatives, has been created; initially targeting the livestock industry. (See attachment 1.)

2. *Design the program objectives to be voluntary, adaptable, practical, and be collaborative with commodity groups, the academic community, and government agencies. The program must have a review process and meet credible requirements by government agencies. An education program/seminar and FAS participation would be an example of credible requirements. Within the program, the following goals need to be identified:*

- solve environmental pollution problems;
- prevent pollution at its source;
- conserve natural resources;
- monitor or record activities;
- mechanism for commitment (incentives);
- technology transfer;
- recognition (status symbol); and
- review process for credibility.

Status: See attachment 1.

Voluntary Whole-Farm Planning

Whole-farm planning uses science-based information to provide management options for on-farm decision making and is recognized by the MDA and the MDEQ as a potentially important tool for future P2 efforts. A whole-farm plan inventories all natural resources and environmental indicators affecting farm operations. It links these indicators to economic and production information to facilitate farm-level decision making while simultaneously addressing economic, resource, and/or environmental needs. Whole-farm planning may be included as a component of an environmental assurance program (see Environmental Assurance option above).

Action Items:

1. *Work with MSU-E and the USDA-NRCS to continue to expand FAS from a farmstead to a whole-farm basis, with the incorporation of modules addressing field activities. Lead: MDA*

Status: Field*A*Syst (a component of FAS) has been completed in the fall of 1998. This assessment looks at fertilizer and pesticide management in the field, and will be incorporated into the MAEAP System in 2004.

2. *Encourage whole-farm planning efforts in concert with conservation planning as required for federal program participation by the 1996 Farm Bill, and work with the NRCS to create a decision making tool to assist in that effort. Lead: MDA/MDEQ*

Status: The MGSP has been encouraging, but not requiring, technicians to become “certified conservation planners.” Three technicians and the MGSP liaison have successfully completed this task. There is now cost-share for structural practices with the EQIP. Farmers are eligible for two recertification credits for completing the worksheets with a trained technician. Efforts are underway to provide an information system for the districts to report accomplishments.

I. Coordinating P2 Programs

Increased coordination is a critical factor in maximizing the impact of available resources and efforts involved in agricultural P2 in Michigan. Given the cooperation that exists in all sectors of Michigan agriculture, there is an opportunity to develop a more coordinated statewide approach.

Action Items:

1. *Coordinate a statewide approach for addressing agricultural P2. The MDA and the MDEQ will seek additional input from the Michigan Commission of Agriculture, Michigan State University (MSU), the USDA-NRCS, the Michigan Association of Conservation Districts, and others. Agricultural producers and*

agri-business will be well represented in any such advisory endeavors. Lead: MDA/MDEQ

Status: The MAEAP Steering Committee is a test model (representing the above mentioned organizations) to interagency cooperation towards a statewide approach to P2.

- 2. Initiate a coordinated program to encourage and support development of markets for agricultural recycled/reused goods. Lead: MDEQ*

Status: The Michigan Composting Council (MCC) participated in mailing out and compiling state compost production information; evaluated in-vessel compost technology with MSU, private sector, and MDA Animal Industry Division. The MDEQ's Small Business P2 Loan Program provided financing for an on-farm in-vessel-composting loan in FY00. The Office of Agriculture Development is working with the MCC and the MDEQ on draft compost regulations. The MDA-Environmental Stewardship Division (ESD) and the DEQ-Environmental Assistance Division (EAD) surveyed the MGSP technicians to gauge the need for recycling on farms. This provided an initial ranking on items that could potentially be marketed.

Future need: Follow up the survey results to check the marketability for possible demonstration sites, and/or coordination with the Michigan Materials Exchange Service.

- 3. Work with MSU-E to support the creation of an Office of Pollution Prevention Alternatives, to act as a clearinghouse for agricultural P2 information. Lead: MDEQ/MDA*

Status: A grant was submitted, but was not selected for funding this effort. The Agricultural Pollution Prevention (AgP2) Task Force has put this action item on hold.

- 4. Encourage chemical manufacturers to package as many agricultural chemicals as possible in returnable, water soluble, recyclable and/or reusable containers; provide a means for recycling containers and explore color coding for chemical containers. Lead: MDEQ*

Status: The Pesticide Container Recycling program is up and running. The program is highlighted in MGSP and the AgP2 directory.

Future need: Contact the Michigan Chemical Manufacturers Association for potential partnering.

- 5. Work with MSU-E to educate producers on the most efficient crop protection management by using the best pesticide application techniques, pest monitoring, integrated pest management (IPM), and cultural and biological controls. Lead: MDA/MDEQ*

Status: IPM and other pesticide alternative techniques are included in the pesticide applicator certification education materials. MSU-E publishes the “Weed Control Guide” that charts the environmental concerns with each pesticide, i.e., leachability, toxicity, etc. MSU developed a “Who’s Who in IPM” resource book. The MDEQ supported an MSU Apple IPM grant through the P2 Regional Grant program in FY01.

Future need: Work closer with MSU to develop additional ways to partner.

6. *Coordinate existing local, state, and federal monitoring programs.*
Lead: MDA/MDEQ

Status:

- **A Pesticide Residue Management task force is looking at pesticide use techniques that minimize residue.**
- **The SWQD is working with several federal, state, and local agencies to coordinate water quality monitoring activities in Michigan. The Lake Michigan Monitoring Coordinating Council recently was formed to explore opportunities to develop a regional monitoring approach for the Lake Michigan basin.**
- **The SWQD also has conducted a side-by-side assessment with the United States Geological Survey (USGS) to compare results from SWQD procedures with those used by the USGS in their National Water Quality Assessment studies.**
- **The SWQD and the MDNR to coordinate the collection of fish and aquatic life data.**
- **Ninety million CMI dollars have been allocated specifically for monitoring.**
- **The legislature appropriated \$1.5 million in FY00 CMI funds for water quality monitoring, in addition to a separate \$500,000 general fund appropriation for monitoring.**

7. *Encourage MSU to create a statewide research and education agenda for agricultural P2.* *Lead: MDA/MDEQ*

Status: MSU has created a MSU Natural Resources Coalition. The MDA and the MDEQ are participants in the coalition. The coalition serves as a mechanism to identify research needs, identify support sources, and communicate research results to the populace. In addition to exploring research needs, the coalition interacts with researchers and looks at options for funding studies.

II. Maximizing Participation through Incentives

Voluntary approaches and significant incentives must be identified to encourage producers to invest in appropriate P2 practices, plans, or management systems that emphasize economics. Providing technical assistance, education, and cost-share should continue where appropriate. Creative incentives and enhanced educational programs have been shown to be more effective in addressing nonpoint source P2 than “command and control” regulations.

Action Items:

1. *Implement a policy of enforcement discretion whereby compliance with the GAAMPs will be considered a good faith effort to comply with environmental regulations, under which regulatory agencies will not seek punitive measures against farmers who follow GAAMPs. Lead: MDEQ*

Status: While no formal policy has been established, the SWQD enforcement of environmental regulations on agricultural operations allows enforcement discretion based on the specific details of each case. If a producer is following the NRCS standards and specifications, and is making a good faith effort to protect the environment, the SWQD level and extent of enforcement action will reflect that effort.

The SWQD is working with the MDA to review SWQD enforcement policies and priorities.

2. *Continue to explore other creative incentives including:*

- *Secure the provision of recertification credits for pesticide applicators participating in P2 initiatives. Lead: MDA*

Status: Recertification credits are now being offered for completion of a FAS (on-farm assessment).

- *Support financial assistance opportunities to ensure proper remediation of farm agri-chemical spills. Lead: MDA*

Status: To date, the MGSP has provided funding for the cleanup of eight agri-chemical releases, for a total cost of \$25,090.63. By land applying recovered materials, costs are kept minimal and remediation activities are usually completed in a short period of time.

- *Provide leadership in the promotion of the State Tax Commissions program offering property tax exemptions for water pollution control facilities and work with the Commission to improve the quality and user-friendliness of the property tax exemption application packet. Lead: MDA/MDEQ*

Status: A news release was issued in March 1999, to remind farmers of state tax credit eligibility for some environmental farm practices. This information is also inserted into the MAEAP Resource Notebook for producer participants.

- *Ensure understanding and inclusion of ag-based projects in water pollution control facility property tax exemption programs. Lead: MDA/MDEQ*

- *Initiate a program to make low-interest loans available from the State Revolving Loan Fund for producers implementing qualified P2 practices.*
Lead: MDEQ

Status: The CMI Small Business P2 Loan Program utilizes Michigan lending institutions to provide low-interest loans at a rate of five percent or less to small businesses that wish to finance P2 projects.

3. *Promote farm-specific technical consultation in conjunction with the USDA-NRCS, MSU-E, and the soil CDs to help producers develop whole-farm management options which improve farm profitability and protect water quality.*

Status: The Kalamazoo Water Quality Trading Project promotes a market-based approach to water quality protection. The United States Environmental Protection Agency (USEPA) and Water Environment Research Foundation grants pay for the engineering services of the NRCS to identify farm practices that could reduce phosphorus loading to the Kalamazoo River.

- *Encourage the NRCS and other resource planners to meet one-on-one with producers to assist them in developing conservation or whole-farm plans that meet all their objectives while maintaining the sustainability of the resource base.*
Lead: MDA/MDEQ

Status: The NRCS uses a Resource Management System (RMS) planning protocol which includes an inventory and assessment of the five major resources (soil, water, air, plants, animals) and the human considerations (economic and social concerns). This is a comprehensive approach to on-farm planning. Individuals are encouraged to adopt a management system that treats all of their natural resources to a sustainable level. The planning process used by the NRCS is based on the premise that individuals will make sound decisions if they understand their resources, natural resource problems and opportunities, and the effects of their decisions. All NRCS, and an increasing number of CDs have been trained to Certified Conservation Planners and have the authority to develop plans eligible for cost share under USDA programs. Planning efforts across the state have resulted in the development of 1,126 RMS conservation plans.

- *Encourage the NRCS to provide sound technical environmental options through the planning process that offer producers a system of practices that meet their goals, at the same time protecting or enhancing the environment.*
Lead: MDA/MDEQ

Status: See RMS planning described above. In addition, a multi-agency advisory committee called the Michigan Technical Committee has been established. This group meets monthly to discuss technical needs and

to recommend changes or additions to USDA programs, planning protocol, engineering practices, and the standards and specifications of conservation practices.

- 4. Assess the need for legislation, rules, policies, and incentives to encourage voluntary agricultural P2. Lead: MDA/MDEQ*

Status:

- **The MDA will research legislation to possibly authorize the MAEAP as a vehicle that encourages voluntary agricultural p2.**
 - **A MAEAP producer survey stated the need for producer incentives to encourage agricultural P2.**
 - **The MAEAP Incentives Committee is developing incentives to encourage voluntary P2 through participation in the MAEAP.**
- *Identify and remove, to the extent possible, regulatory barriers that impede the adoption of P2 practices. Lead: MDEQ/MDA*

Status: Highlighted in the Farmer Survey was the emphasis on what regulations impacted production agriculture and who has the enforcing control. The MAEAP has developed a Resource Notebook for farmers to take home after attending the first MAEAP educational session. This resource notebook contains a regulation section, answering the above question.

- *Incorporate, where appropriate, P2 activities in Supplemental Environmental Projects negotiated as part of enforcement settlements. Lead: MDEQ/MDA*

Status: Meetings have been held with the MDA's Pesticide Enforcement and the SWQD, Supplemental Environmental Projects to address this issue.

Future need: A fact sheet to assist CDs and other agricultural service providers about P2 options when settling enforcement cases.

5. *Continue to provide input to the USDA Technical Advisory Committee to incorporate incentives for agricultural P2 in the 1996 Farm Bill programs. Lead: MDA/MDEQ*

Status: The MDA and the MDEQ continue to be active participants in the monthly USDA Technical Advisory Committee meetings. AgP2 issues are routinely discussed and incentives are incorporated as allowed by the Farm Bill Provisions.

III. Targeting Incentives: Priority Concerns, Areas, and Farms

Promote educational P2 programs to all producers in Michigan. Target limited resources, which may include cost share and technical assistance on those areas that will yield the greatest environmental benefit. In addition to statewide priority areas and concerns, local conservation/stewardship teams will be utilized to target and prioritize resource allocation locally.

Action Items:

1. *Target voluntary P2 resources at priority concerns, areas, and farms:*

- *Expand the current federal, state, and local voluntary technical assistance, education assistance, and cost share programs available to Michigan producers. Lead: MDA/MDEQ*

Status: The agencies have worked on increasing federal and state assistance primarily through the development of a CREP for Michigan. The program outlines \$162 million for incentives and cost share to producers to implement conservation practices and take riparian lands out of production.

- *Focus these assistance programs to support the locally led conservation process, which identifies and prioritizes local concerns. Lead: MDA/MDEQ*

Status: The CREP program works cooperatively with the locally led conservation process.

- *Evaluate program outcomes to determine future priorities. Lead: MDA/MDEQ*

Status: The CREP assistance program has a monitoring component to assist in the evaluation of program effectiveness, which will facilitate future priority setting.

- *Work with MSU-E and the NRCS to tailor education and technical assistance to meet farm-specific situations. Lead: MDA/MDEQ*

Status: This continues to be an ongoing effort for both the MDA and the MDEQ. The MAEAP is an example of tailoring education and technical assistance needs towards animal agriculture.

- *Promote and implement the educational/outreach campaign for the on-farm Dairy Mercury Manometer Collection and Trade-in Program. Lead: MDA/DEQ*

Status: A successful two-county pilot program was completed in Gratiot and Clinton counties. The USEPA allocated additional funding for partial statewide funding. Over 100 pounds of mercury was collected.

2. *Improve the tracking and monitoring of nonpoint source pollution to help identify the most impaired, threatened watersheds or significant sources and establish baseline conditions. Lead: MDEQ/MDA*

Status: The SWQD monitors NPS pollution through watershed surveys, once in a five-year cycle, consistent with the National Pollutant Discharge Elimination System (NPDES) permit program. Locations are identified within watersheds that may be impacted by NPS pollution. Data collection can include fish and benthic invertebrate communities, physical habitat, water and sediment chemistry, and fish contaminants.

If a site is impaired, identification and correction is attempted.

A volunteer monitoring program has been implemented and, if a problem exists, the SWQD conducts a detailed evaluation during the five-year watershed cycle. Monitoring efforts are reported biennially in the SWQD report, “Water Quality and Pollution Control in Michigan.” Additional monitoring of NPS pollution will be undertaken through the CMI.

- 3. Analyze SARA Title III data to identify progress and prioritize agricultural P2 opportunities. Lead: MDEQ/MDA*

Status: State Emergency Response Commission notification postcards tracked the farms subject to Sara Title III planning and reporting requirements. A database has been initiated.

Future need: Review data to generate potential P2 opportunities.

IV. Increasing Public Awareness

Existing delivery systems provide Michigan farmers technical information and support through a number of organizations.

Action Items:

- 1. Coordinate information delivery efforts between public agencies and the private sector with a goal of more effective programming and tailored and targeted information that is adjusted to meet individual farm needs. Discussion will be initiated between the MDA, the MDEQ, MSU-E, USDA-NRCS, and CDs to:
Lead: MDA/MDEQ*
- Clearly define agency role and responsibilities.*
 - Identify appropriate producer groups and agri-business representatives to assist in information delivery.*
 - Promote local agency collaboration to meet individual farmer needs.*

Status: The MAEAP is a coordinated effort between the public and private sectors. A work plan for implementation of the MAEAP has been approved by the steering committee, which identifies a lead agency for each task to be completed. Each government agency and private sector partner has clearly defined responsibilities for implementation of the MAEAP. Delivery of information and encouragement to producers will be done through all program partners.

2. *Work with MSU-E to develop efforts to include producer and agri-business groups in developing a more comprehensive educational effort on RTF.*

Lead: MDA

Status: The MDA participates on the Pork Alliance; presents at the Dairy Section meeting; and participates with MSU-E at on-farm environmental assessment training for producers.

3. *Continue to work toward eliminating overlap and conflicting requirements, laws, and messages. Lead: MDA/MDEQ*

Status: The MDA and the MDEQ convened a meeting in early 1999, to better coordinate agricultural/environmental services to producers. Discussions have continued to address agricultural conflicts in a more cooperative and effective manner.

4. *Encourage MSU-E to provide expertise to local stewardship teams using the MSU-E Emergency Management Assistance Teams as a model. Lead: MDA/MDEQ*

Status: The MGSP works to develop relationships between local teams, regional extension, and MDA staff. The MGSP has also been shifting focus away from campus oriented research to applied on-farm research that is coordinated between MSU-E specialists and the Local Groundwater Stewardship Teams.

5. *Encourage the private sector to continue to play an active role in contributing to agricultural P2 efforts with an emphasis on serving those who have not been reached using existing delivery systems. Lead: MDA/MDEQ*

Status: The MDA Groundwater Stewardship Program is currently working with local groundwater stewardship teams to incorporate agribusiness into the local groundwater program activities. The emphasis on agribusiness involvement is as a source of information dissemination for producers. The MGSP has surveyed Michigan Agri-Business Association members about their level of participation in the local programs. Local stewardship teams have also been surveyed to identify the level of agri-business participation in their programming.

6. *Continue to identify and encourage development of local agricultural P2 and recycling networks throughout Michigan. Lead: MDEQ/MDA*

Status: The MDA sent out a survey to MGSP technicians and they, in turn, identified and ranked on-farm wastes that could be recycled. Those items are currently being researched for potential opportunities.

7. *Encourage MSU to coordinate available information between MSU's Resource Center Library, the MDA, and the MDEQ to serve as an agricultural P2 clearinghouse. Lead: MDEQ/MDA*

Status: Discussions have been held; however, at this time, the library has only the capacity to lend videos and slide presentations.

8. *Identify opportunities to further agricultural P2 principles in the finance, insurance, and other business service industries. Lead: MDEQ/MDA*

Status: Currently, North Pointe Insurance and Auto Owners Insurance offer a premium break for farms that have completed FAS. Antrim Conservation District has developed this initial program. Michigan Farm Bureau Insurance has agreed to a five percent premium reduction for MAEAP completion. Discussions are underway with other insurance companies to support MAEAP incentives.

9. *Initiate dialogue with environmental public interest groups to build awareness of agricultural P2 progress for all stakeholders. Lead: MDEQ/MDA*

Status: Meetings have taken place with the Land Use Institute, Michigan Environmental Council, Sierra Club, Michigan United Conservation Clubs (MUCC), and others to discuss the MAEAP and the MDA's Complaint Response Program. Representatives from these groups serve on the MAEAP Steering Committee. Dialogue will continue as the MAEAP is implemented.

10. *Continue to develop and update the Directory of Agricultural P2 Resource Information. Lead: MDEQ/MDA*

Status: Development and printing of the first year directory was completed in March 1999; an update is currently being distributed in FY01.

11. *Support outreach and public educational efforts for schools, communities, and special interest groups, which focus on providing agricultural P2 development tools, and presentation materials and displays for loan. Lead: MDA/MDEQ*

Status: Through the MGSP, the AmeriCorps program provides public information programs including 7,570 FAS, 43 Field*A*Syst, 19,134 Home*A*Syst, 179 Lake*A*Syst, and 38 Lawn*A*Syst. Forty-two hundred (4,200) individuals participated in field days and demonstration projects as part of the energy conservation program, learning innovative ways to deal with conservation tillage and nutrient and pest management practices.

Agricultural Connections is a multi-organizational effort to provide basic agricultural education to grade school students. Over 700 students have participated in this program.

Envirothon, an Environmental Education program for high school students, has involved over 7,700 high school students. Sustainable agriculture is part of the curriculum.

12. *Support existing recognition programs, i.e., DuPont's and the National Cattlemen's Environmental Stewardship Award programs, and expand the promotion. Lead: MDA/MDEQ*

Status: Promotion of these and other AgP2 programs have been incorporated into the AgP2 Directory.

13. *Sponsor targeted conferences and workshops, and promote technology demonstrations. Lead: MDEQ/MDA*

Status: The MDA, the MDEQ, MSU, and the Agricultural Experiment Station have partnered to sponsor the multi-year Innovative Farmers of South Central Michigan Precision Agriculture Demonstration project. MSU-E and the MDEQ-EAD have co-sponsored and currently advise the newly created Michigan Manure Applicators Association.

14. *Develop voluntary successful experience fact sheets and case studies. Lead: MDEQ/MDA*

Status: Nine AgP2 case studies have been developed by the DEQ-EAD in conjunction with commodity organizations. The MGSP has been conducting focus groups and personal interviews in order to identify why farmers implement specific stewardship practices. The MGSP has also been developing an information system to track the accomplishments of MDA voluntary programs. Summary information is available through the MDA.

15. *Produce articles for electronic media, bulletins, calendars, newsletters, and publications on agricultural P2 concerns. Lead: MDEQ/MDA*

Status: Ongoing.

16. *Identify initiatives that have the potential for incorporating agricultural P2 principles and services. Lead: MDEQ/MDA*

Status: Ongoing. (1) Mercury used in milking parlor vacuum gauges. A Minnesota program was modified, for use in Michigan, to promote a Mercury-Free vacuum gauge replacement program. (Over 100 pounds of mercury is now removed from Michigan farms.) (2) An On-Farm Petroleum P2 Initiative has been initiated in response to the number one high-risk area from identified FAS modules. (3) The Michigan Manure Applicators Association has been created to promote P2 within manure application. (4) The Saginaw Bay Watershed Initiative Network (WIN) has created an AgP2 Task Group to promote and oversee

implementation of P2 projects.

17. *Support the adoption of agricultural P2 principles into grade school, high school, and college curricula. Lead: MDEQ/MDA*

Status: The MDA and the MDEQ participated in the development of the Michigan Envirothon agriculture component; where 7,700 high school students have been involved to date.

18. *Maintain agricultural P2 programs within the MDEQ and the MDA to work with the agricultural agencies, organizations, and industry. Lead: MDEQ/MDA*

Status: For four years, the MDEQ secured federal P2 funding for the AgP2 program. The MDEQ is a supportive MAEAP partner and has allocated a full-time employee (FTE) to continue the P2 focus. The MDA has created a new unit devoted to the MAEAP, Phase III for On-farm Verification.

19. *Promote, support, explore, and demonstrate creative solutions and new technologies for alternative uses in the agricultural industry, such as manure brokering, biotechnology, and precision farming. Lead: MDEQ/MDA*

Status: The MDA, the MDEQ, and MSU offer project support in the areas of Precision Ag and manure brokering, composting, and other P2 efforts through funding, homepage linkages, and bulletin materials.

V. Measures of Progress

P2 in agriculture is widely recognized as one of the most effective approaches undertaken to reduce the amount of waste generated, stored, transported, treated, or released to the environment. It is, however, frequently difficult to establish a direct cause and effect relationship between the implementation of agricultural P2 activities and measures of improved environmental health. Surrogate environmental information and trends, such as those identified through the analysis of chemical loadings to the environment, may be used as indicators of environmental protection progress made from the implementation of agricultural P2 activities and programs. Additionally, the amount of participation in agricultural P2 activities and programs can be quantified to provide an indirect measure on environmental quality improvements. Where such quantitative analyses can be made, they will be useful in assessing whether resources are being allocated effectively, in identifying other areas that may need attention, and in evaluating the overall success of this implementation plan.

Action Items:

1. *Strengthen existing, and develop new measuring tools and capabilities to generate, collect, and analyze agricultural P2 information. Lead: MDEQ/MDA*

Status: The MGSP has been working to utilize on-farm research, coordinated with MSU-E specialists, to develop the information needed to extrapolate environmental benefits from practice implementation information.

2. *Benchmark existing activities, identify possible agricultural P2 opportunities for technology transfer, and measure progress through current environmental reporting requirements, survey results, literature reviews, conferences, and other sources. Lead: MDEQ/MDA*

Status: Review of current surveys and environmental reporting requirements are currently being evaluated for potential opportunities.

Evaluation

Over the next five years, members of the Task Force core committee will reconvene annually to evaluate and report to the directors of the MDA and the MDEQ on the status of achieving the objectives, to strengthen those existing activities and programs that are effective, and direct remaining and additional resources to promising new activities and programs. The MDA and the MDEQ will be responsible to document their individual charges and report back to the committee.

Status: The Task Force has reconvened once within the last two years. This report will be given to the directors with the recommendation to support the MAEAP as the main vehicle for the Strategy.

Evaluation of the MDEQ/MDA's agricultural P2 activities and products provides an indirect measure of the effectiveness of certain agricultural P2 activities in meeting the identified Strategy objectives. Possible examples of information to be evaluated include:

- *Number of agricultural P2 requests received (from the MDEQ-EAD).*
FY97- 336 FY98 - 340 FY99 - 304 FY00 - 319
- *Number of case studies and fact sheets produced and reproduced annually.*
(17-total from the MDEQ-EAD)
- *Number of conference or workshop attendees and conference content evaluation.*
(28-total from the MDEQ-EAD)
- *Number of Agricultural Technical Assistance Program (AGRITAP) waste assessments and FASs performed.*
AgriTAP - 3
FAS – 7,570
Number of P2 Demonstrations - 68
- *Number or magnitude of barriers to agricultural P2 identified.*

Funding for program implementation and incentives
Staffing for program implementation and consistency
Regulatory barriers
 Regulatory vs. voluntary approach
 Consistencies with petroleum storage tank requirements
 Education of regulations
Comprehensive Manure Management Plans
Applying P2 definition to producer needs

- Number of stakeholders/industries participating in a defined, goal-directed agricultural P2 program with reportable results.

NEW PROGRAM INITIATIVES (5)

- 1. Michigan Agricultural Environmental Assurance Program (MAEAP)**
- 2. Dairy Mercury Manometer**
- 3. Saginaw Bay WIN AgP2 Task Group, Co-Chair, setting priorities and selecting related projects for potential funding.**
 - Saginaw County Clean Sweep Facility**
 - Earth Tunnel**
 - Manure Management Tour**
 - Soy-based two-cycle engine oil project**
 - Filter Strip Education Tour**
- 4. Custom Manure Applicators Association**
- 5. On-Farm Petroleum P2 Initiative**