



Michigan Department of Agriculture

Environmental Stewardship Division

Annual Report 2008

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The Environmental Stewardship Division (ESD) administers the Michigan Department of Agriculture’s (MDA) many programs that encourage environmentally sound agricultural practices and prevent agriculture-related pollution. ESD seeks to enhance commercial agriculture activities in Michigan, while protecting the environment and public health.



James Johnson
Director

Aquifer Conflict Resolution Program

The Aquifer Conflict Resolution Program works to resolve disputes between “high capacity” agricultural well owners and neighboring residential well owners who believe their water supply has been compromised by high capacity well use. The Michigan Department of Environmental Quality (MDEQ) fields initial complaints of which agricultural complaints are forwarded to the Michigan Department of Agriculture (MDA) for response. Private well drillers must evaluate low capacity well construction and function. MDA staff evaluates use of generally accepted agricultural and management practices by high capacity well owners. If a complaint is verified, MDA staff work to negotiate an outcome that is satisfactory to the parties concerned. Frequently, farmers will cover all or part of the cost of improving or replacing their neighbor’s low capacity wells.

The year 2008 saw a complete reduction of funding to cover response to these types of complaints. As a result, MDEQ disbanded its program as it relates to non-agricultural related complaints, but has agreed to forward agricultural complaints to MDA.

2008 Accomplishments:

- Two high capacity well complaints.
- One case not verified – inadequate information supplied by well driller.
- One case not verified, but farmer agreed to cover \$1,500 of complainant’s costs (~40 percent of cost).

Biosolids Land Application Program

The MDA provides education and technical assistance to individuals involved with, or affected by, the land application of biosolids. The law allows 161 wastewater treatment facilities in Michigan the option to safely recycle biosolids to cropland as a nutrient source. MDA delivers education and technical assistance in a number of ways, including a quarterly newsletter, a “Commonly Asked Questions” brochure, and a weekly information page to conservation districts. MDA also partners with the MDEQ, Michigan State University Extension, and the Michigan Water Environment Association to provide education to farmers, wastewater technicians, and township officials.

2008 Accomplishments:

- 104,000 dry tons of biosolids were applied to over 35,000 acres of Michigan cropland, which equates to more than \$15 million saved by farmers using biosolids in place of commercial fertilizers.



Application of dewatered biosolids to field in Washtenaw County

Bovine Tuberculosis

Working with northern Michigan livestock producers, the Environmental Stewardship Division (ESD) created a risk assessment tool for use by livestock producers and was delivered to 25 livestock farms to date. In 2009, all bovine breeders in the tuberculosis (TB) zone will complete the assessment and begin to implement needed management practices to reduce risk for the transmission of the disease from wildlife to livestock with technical assistance coordinated through the Alpena Conservation District.

Baiting and Feeding Complaint Response

The complaint response program is an integral part of Michigan's bovine TB eradication effort. ESD conducts on-site inspections on farms suspected of violating the Wildlife Conservation Act, Normal Agricultural Practices. The Normal Agricultural Practices cover three broad areas: feed storage security, hayrack and feed bunk management, and agricultural by-product, culled and unmarketable commodity management. Inspections determine the presence or absence of wild, free-ranging white-tailed deer or elk to agricultural feed, culled or unmarketable commodities. If it is determined deer and elk are feeding, a compliance schedule for abatement of the problem is established.



Conservation Reserve Enhancement Program



Another successful agriculture partner and landowner joins CREP in Tuscola County.

The Conservation Reserve Enhancement Program (CREP) has helped protect Michigan's environment and enhance wildlife since 2000. The State of Michigan partners with federal government, private and public conservation organizations, universities, and farm landowners to implement conservation practices relative to soil erosion, water quality, and wildlife habitat. CREP includes agricultural-related acreage in Saginaw Bay, River Raisin, Lake Macatawa, and the Western Lake Erie Basin Watersheds covering all or parts of 29 counties in Michigan. CREP targets nonpoint source pollution resulting from crop production; reduces transport of phosphorus, nitrates, and pesticides into soil and ground and surface water; improves stream habitat quality, channel morphology, and biological communities; and reduces flood peaks. The overall goal of

the program is to enroll 80,000 acres in conservation, promoting use of native species, improving habitat and wildlife diversity by leveraging federal match dollars.

2008 Accomplishments:

- Farmers and landowners have enrolled almost 70,000 total acres in the program, including over 37,000 acres of corridor practices or approximately 3,000 miles of 100-foot wide vegetative filters, over 17,000 acres of wetland restoration practices, 2,000 acres of field windbreaks, and nearly 14,000 acres of conservation on highly erodible cropland.

Farmland and Open Space Preservation

This program preserves agricultural and open space supporting economic diversity and quality of life for current and future needs of citizens of the State of Michigan. In an agreement with the state, landowners choose to keep their land in agricultural production. In exchange, the state offers the landowner the opportunity to claim a tax credit. In 2008, tax credits totaling more the \$36 million were issued under the program. Farmers are offered exemption from special assessments for sewer, water, lights, and non-farm drainage.



2008 Accomplishments:

- 41,000 agreements covering 3,100,000 acres in P.A. 116 (P.A. 451 of 1994, as amended).
- 90 agreements covering 19,600 acres in the State Permanent Program.
- 45 agreements covering 6,000 acres in the Local Open Space Program.
- 17 agreements covering 4,000 acres in the Designated Open Space Program.
- 11 local conservation easements (976 acres) completed under grants issued by the Michigan Agricultural Preservation Fund in two grant cycles (2005 and 2007).

Forestry Assistance Program

Emerald Ash Borer

The Emerald Ash Borer (EAB) Forestry Assistance Program began in 2004 with MDA's Pesticide & Plant Pest Management Division, Environmental Stewardship Division and federal partners setting EAB tree traps in both the lower peninsula and upper peninsula. In 2008, eight conservation districts (CDs) in the upper peninsula and lower peninsula received EAB federal funds totaling \$404,000. Over the past five years, CDs were granted a total of \$1,375,000 to set and pick up EAB traps in partnership with federal and state agencies.

In addition, the Chippewa East Mackinac CD has played an integral part in a project called SL.A.M. (Slowing Ash Mortality) near the town of Moran. This is a multi-agency, multi-year, multi-faceted effort to slow the rate that ash trees succumb to the borer. SL.A.M. has national significance as outcomes of the pilot project in Mackinac County will be evaluated for possible implementation in other areas of the country.

Intercounty Drains Program

Staff provides oversight for 1,100 intercounty drainage districts that are established in Michigan, which are served by drains with a combined length of approximately 6,000 miles. The Drain Code (P.A. 40 of 1956, as amended) requires the MDA to serve as the chair of a drainage board whose members are the drain commissioner of each affected county established for each drainage district. Budget cuts have resulted in partial funding for the FY 07-08 budget allowing for only 50 percent restoration of staff compared to previous year levels.

The program administered petitioned projects with an estimated combined project cost of \$13.2 million. A total of 398,000 acres were served by these projects affecting 102 miles of drains. Program staff also responded to 96 drain maintenance requests involving 33 counties improving approximately 206 miles of drains serving an estimated 627,000 acres with an approximate cost of \$790,000. All project costs are paid from special assessments on private property and public corporations with the assistance of Clean Michigan Initiative, Great Lakes Soil Erosion, and Sedimentation Control and Federal Emergency Management Agency grant monies.

Michigan Agriculture Environmental Assurance Program



Eisenga Potato Farms

The Michigan Agriculture Environmental Assurance Program (MAEAP) develops and promotes a recognized, voluntary, and proactive environmental assurance program targeted at Michigan's agriculture industry. MAEAP ensures producers are using cost-effective pollution prevention practices that assist producers to be in compliance with applicable environmental regulations and in conformance with Michigan Right to Farm guidelines and U.S. Department of Agriculture Natural Resources Conservation Service standards. The program has three systems (Livestock, Farmstead, and Cropping) and incorporates farmer education, on-site risk assessments, and third party verification.

MAEAP assures farmers have used effective tools for assessing and correcting environmental risks, and can help minimize enforcement penalties.

2008 Accomplishments:

- Over 2,000 participants in 50 local education sessions.
- First greenhouse was verified and risk assessment tools are now in place for all Michigan commodities.
- More than 1,400 conservation practice changes made on small- and medium-sized livestock farms.
- Soil loss reduced by almost 650,000 tons resulting in over 1 million pounds of reduced phosphorous loading.
- Almost 3.5 million tons of manure safely stored and used properly as fertilizer, saving farmers over \$102.5 million in commercial fertilizer costs.
- Nearly 1,400 acres of filter strips installed, 10,000 acres of cover crops planted, and over 400 gullies stabilized.
- Over 600 farm verifications.
- 57 Farmstead System verifications in 2008.
- 52 Cropping System verifications in 2008.
- 15 Livestock System verifications in 2008.

Michigan Conservation and Climate Initiative

The Michigan Conservation and Climate Initiative (MCCI), a joint project between the Delta Institute, the Michigan Association of Conservation Districts, and ESD offers farmers and landowners an opportunity to earn greenhouse gas emissions credits when they implement conservation tillage, plant grasses or trees, or capture methane with manure digesters. Conservation practices store carbon in the soil and plants that would otherwise form carbon dioxide in the atmosphere. Anaerobic digesters produce energy and prevent methane from being released into the atmosphere. Both carbon dioxide and methane are greenhouse gases that contribute to global climate change.

MCCI provides a financial incentive for farmers and landowners who have installed and maintain conservation practices. While the primary purpose of these conservation practices is to sequester carbon dioxide, the practices have secondary benefits, such as establishing or enhancing wildlife habitat, reducing soil and nutrient run-off, and deposition into streams and lakes.

2008 Accomplishments:

- Almost 50,000 acres are enrolled by farmers and farm landowners.
- 50,000 metric tons of carbon credits sold.
- \$200,000 of revenue generated for landowners.

Michigan Conservation District Program

Created during the “dust bowl” days to deal with catastrophic soil erosion, Michigan’s conservation districts now take an ecosystem approach toward the stewardship of the state’s natural resources. In partnership with the MDA Environmental Stewardship Division and USDA Natural Resource Conservation Service, local conservation districts throughout the state serve as “gateways,” providing links between land managers and providers of conservation services. Conservation districts continually assess local needs and work cooperatively with the conservation community to prioritize and solve natural resource problems.

Districts provide the public point of access in their communities to practical, everyday aspects of resource management and help Michigan citizens conserve land and protect our environment for a cleaner, healthier, and more productive Michigan.

2008 Accomplishments:

- Nearly 175,000 Michigan citizens visited a conservation district for natural resource assistance and education.
- Each district utilized \$11,605 provided by an MDA grant to provide the basis to secure additional funding from local, state, and federal grants, donations, as well as plant sales.
- Contributed \$7.29 million of local, state, and federal grant to the state’s economy.
- 24,000 volunteer hours contributed to assist conservation districts in many resource areas, including native plant rescue, stream bank cleanup and stabilization, recycling, and tree and shrub sales.
- Over 6 million trees and shrubs planted through the efforts of the conservation districts.



In Kent County, this successful native grassland restoration adjacent to wetland, was designed by conservation program staff and installed by landowner with some federal funds.

Michigan Envirothon

The Michigan Envirothon is a team-based environmental education competition for high school students that provides hands-on educational opportunities in seven natural resource subjects: aquatic ecology, energy, forestry, soils/geology, sustainable agriculture, wildlife, and an environmental issue that varies each year. These opportunities are provided by partners, including Michigan's conservation districts, USDA Natural Resources Conservation Service, Michigan State University, Olivet College, MDEQ, MDNR, and others. Partners provide resource materials for the Envirothon teams and resource professionals to conduct review sessions with the students.

In addition to the environmental education/training component, the Michigan Envirothon requires competing teams to conduct a community outreach project. Through these projects, students address an environmental issue that is impacting their community through hands-on problem solving and community education. The Michigan Envirothon participates in the Canon Envirothon, North America's largest high school environmental education competition.

2008 Accomplishments:

- Regional competitions held across the state with approximately 170 high schools students participating.
- 120 high school students participated with 45 adult volunteers at the Michigan Envirothon State Competition held in Lexington.
- The Glen Lake High School Envirothon Team (first place team at the Michigan Envirothon State Competition) participated in the Canon Envirothon held in Flagstaff, Arizona at Northern Arizona University with 44 states and eight Canadian provinces participating.

Michigan Groundwater Stewardship Program

The Michigan Groundwater Stewardship Program (MGSP) is a legislatively enabled partnership designed to help individuals reduce the risks of groundwater contamination associated with pesticide and nitrogen fertilizer use. The program is funded through fees assessed on the sale of pesticides and nitrogen fertilizers.

MGSP addresses groundwater risks through a variety of distinct programs:

- Agricultural
- Clean Sweep
- Engineering Assistance
- Groundwater Monitoring
- Pesticide Container Recycling
- Residential
- Spill Response
- Golf Courses (Michigan Turfgrass Environmental Stewardship)



MGSP - Agricultural

The MGSP Agricultural Program is available locally through conservation district groundwater technicians. Groundwater stewardship practices are in conformance with the Right to Farm Generally Accepted Agricultural Management Practices (GAAMPs) and U.S. Department of Agriculture, Natural Resources Conservation Service standards, and address state and federal environmental regulations. The primary means for identifying on-farm environmental risks are with the assessment tools - Farm*A*Syst and Crop*A*Syst.

The A*Syst evaluation is conducted by conservation district groundwater technicians who work one-on-one with farmers to identify environmental risks, create a plan to eliminate the risks, and provide the technical assistance needed to implement the plan.

Over the past 13 years, more than 11,000 Farm*A*Syst evaluations have been completed, which reassure the public that producers are using environmentally sound practices, and are helping to foster positive community and neighbor relations.

When identified environmental risks have been eliminated, farmers are eligible for MAEAP verification in the Farmstead and Cropping systems; 259 farms have been verified in the Farmstead system, and 170 farms have been verified in the Cropping system.

In addition, groundwater technicians offer technical assistance to develop Farm Emergency Plans that provide farmers a plan to mitigate on-farm emergencies, and emergency first-responders information on the location of on-farm hazardous materials. Groundwater technicians also work with farmers to create emergency spill kits that provide a quick way to contain and clean-up spills of pesticides and fertilizers.

2008 Accomplishments:

- 2,649 on-farm risk reductions (pesticide storage security, anti-backflow device installation, drift management plans, triennial water testing, pesticide container triple-rinsing, etc.).
- 347 Farm*A*Systs and 231 Crop*A*Systs completed.
- 120 Farm Emergency Plans implemented.
- 116 Emergency Spill Kits created.
- 121 abandoned wells decommissioned.

MGSP - Clean Sweep

The goal of the Clean Sweep Program in Michigan is proper disposal of unused and unwanted pesticides. The MGSP in cooperation with federal, county, and local government has established 15 permanent Clean Sweep sites located throughout the state and has collected more than 1.4 million pounds of pesticides since 1996. Michigan residents may dispose of pesticides at any Clean Sweep site, which will collect packages for shipping and properly dispose of free of charge.



Clean Sweep program accepts unwanted or unused pesticides from Michigan residents to ensure their proper disposal in Shiawassee County.

2008 Accomplishments:

- 107,422 pounds of unwanted or unusable pesticides collected, including the following active ingredient weights:
 - Over 770 pounds of pesticides recently withdrawn from the market by Environmental Protection Agency (chlorpyrifos, diazinon).
 - Over 1,400 pounds of triazine herbicides.
 - 843 pounds of persistent, bioaccumulative toxic pesticides (DDT, Chlordane).
 - Over 200 pounds of pesticides containing arsenic.

MGSP - Engineering Assistance

The MDA and the USDA, Natural Resources Conservation Service collaborate on an agreement that funds a program involving five engineering positions that provide service through local conservation districts, including design, inventory and evaluation, surveying, pre-construction meetings, construction inspections, and plan review. The program also provides assistance to the NRCS for services under the Farm Bill that require engineering.



Installation of engineered containment system with impermeable mix and load pad greatly reduced environmental pollution risks Jackson County

2008 Accomplishments:

- 646 practices have been designed and installed, including agrichemical containment facilities, waste storage facilities, and watering facilities.
- The contribution made through this program assisted in over \$8 million of federal cost share being spent in Michigan.

MGSP - Groundwater Monitoring

The Groundwater Monitoring Program samples private wells across the state for general chemistry, pesticides, and volatile organic compounds. Monitoring is also conducted to help the MDA and its stakeholders develop and share information on risks posed by various pesticide and nitrogen fertilizer use practices.

The program supports the State Groundwater Management Plan by providing data on private drinking water well quality to retain pesticide product registrations, where those products can be used without negative impacts on groundwater quality.

The program provides data on nitrate and pesticide concentrations to well users, investigates the nature and extent of pesticide contamination at contaminated sites, coordinates information on potential health impacts from the use of contaminated water supplies, and provides alternate water supplies, including well replacement for private well owners with pesticide levels above public drinking water standards. The monitoring program has screened over 26,000 wells for atrazine and nitrate contamination since 1997. The data has allowed the program to identify several factors in Michigan associated with nitrate contamination, and alert residents using contaminated water of possible risks.

2008 Accomplishments:

- 107 baseline sample sets collected. This includes confirmation samples, periodic monitoring on wells known to be contaminated, and envelope monitoring.
- Over 1,900 water samples screened for atrazine and nitrates. The results are mailed to all participants and include recommendations on dealing with contaminated wells and additional sources of information.

MGSP - Michigan Turfgrass Environmental Stewardship

The Michigan Turfgrass Environmental Stewardship Program (MTESP) is dedicated to protecting groundwater and surface water resources by advancing turfgrass management practices, preventing pollution, and increasing regulatory compliance within the golf industry. The program represents a partnership between MDA, Michigan State University, and the Michigan Turfgrass Foundation.

MTESP staff work with golf course superintendents to conduct golf course site visits that identify environmental risks on the property and develop Environmental Action Plans to address those risks. Golf courses that have identified and abated all environmental risks on the property become “certified” courses in the MTESP.



At this golf course in Dickinson County vegetation buffer rings were designed and installed on downgrade slope away from tee to prevent movement of possible contaminants, such as fertilizers during large rain events.

MGSP - Pesticide Container Recycling

The Pesticide Container Recycling Program provides a way for agricultural producers and agri-businesses to collect and recycle plastic HDPE pesticide containers. Proper rinsing and cleaning of the containers insures that excess pesticides are not introduced into the groundwater. Collecting and recycling properly cleaned pesticide containers conserves valuable landfill space and reduces the need for new raw material. The plastics collected are recycled and utilized for drain tiles, shipping pallets, fence posts and other non-consumable, low human contact products. Since the inception of the program in 1993, Michigan has recycled more than 820,000 pounds of pesticide containers.

2008 Accomplishments:

- 30 commercial agri-businesses and turf chemical distributors served as collection sites.
- Over 65,000 pounds of plastic pesticide containers were collected and sent to a regional center for grinding and recycled.



Pesticide containers in Huron County are cleaned and recycled.

MGSP- Residential Programming

AmeriCorps is a national program in which participants provide community service to strengthen America. AmeriCorps is often referred to as the “domestic Peace Corps” because its members are national volunteers and perform service within the United States. AmeriCorps members serve by providing MGSP programming to Michigan residential homeowners and renters, community

organizations, and students. The primary means for identifying residential environmental risks include Home*A*Syst, Lake*A*Syst, and Lawn*A*Syst.



AmeriCorp member, Rachel Hackett, teaching at an elementary school.

With a Home*A*Syst, AmeriCorps members work side-by-side with homeowners and renters to identify environmental risks around the home, and create a plan to eliminate the risks. More than 20,000 Home*A*Syst evaluations have been completed since the program began in 1997. Similarly, more than 8,000 lakeshore property owners have worked with AmeriCorps members to identify environmental risks and develop risk abatement plans.

Members also provide groundwater protection education programs to homeowner groups, realtor associations, volunteers, and K-12 students providing environmental awareness across a broad spectrum of Michigan citizens.

2008 Accomplishments:

- 47,651 households were told about the MGSP.
- 850 one-on-one Home, Lawn, or Lake*A*Syst risk assessments were conducted at residential homes.
- 19,400 students received in-class educational programming.
- 905 community volunteers were recruited and trained performing 4,050 hours of service equivalent to approximately \$72,900 of work performed “free” in our communities.

MGSP - Spill Response

The Michigan Groundwater Spill Response Program provides for the rapid, cost-effective clean up and proper use or disposal of manure, pesticides, and fertilizer.

MDA staff respond to incidents reported to the MDA Spill Hotline by emergency first responders, responsible parties, or other persons that observe an uncontrolled release. Staff work with the responsible party to contain the spill. Once any immediate environmental concerns are abated, the responsible party is provided with advice how to best clean up the spilled material. In nearly all situations, the spilled material is land applied at agronomic rates, avoiding costly landfill expenses.

2008 Accomplishments:

- 18 spills were successfully resolved including five commercial turf companies, seven private applicators, and six commercial agri-businesses.



Agriculture Pesticide Emergency Spill Response Hotline works around the clock so field staff may be mobilized immediately to assist in contamination containment and monitoring.

Migrant Labor Housing Program

Michigan's unique environment makes it possible to grow a variety of specialty crops. Thirty-seven commodities ranging from fruits and vegetables to bedding plants and Christmas trees are labor intensive, hand-harvest dependent, and could not be produced without migrant farm laborers. These agricultural products contribute an estimated \$2.1 billion to Michigan's economy each year.

Properly constructed and maintained, migrant labor housing is essential to attracting workers needed to keep Michigan agriculture viable. The Migrant Labor Housing Program is intended to assure housing provided to migrant workers and their families is safe and healthy.

MLH 08 Accomplishments

Deliverable	Amount
Applications	827
Inspections	973
Licenses	849
Housing Sites	807
Living Units	3,862
Housing Capacity	22,385
H-2A Inspections	55
U.S. DOL Grants	\$382,352

2008 Accomplishments:

- Program staff conducted 973 inspections.
- Licensed 807 housing sites in Michigan.
- A total of 3,862 living units were approved for occupancy, providing a capacity to house 22,385 people.
- U.S. Department of Labor housing construction grants of \$325,000 were awarded to 22 farmers who invested over \$1,425,010 in construction of 44 new housing units.
- A total of 44 housing sites were certified for seasonal H2A – Foreign Agricultural Worker use.

Right to Farm

The Right to Farm (RTF) Program is comprised of two parts - environmental complaint response and site selection and odor control for new and expanding livestock production facilities. Both components of this program contribute to Michigan's pollution prevention strategy.

The Right to Farm Act provides farmers with nuisance protection if the farm conforms to GAAMPs that apply to their farm operation. The environmental complaint response program began in 1986 and investigations include on-site inspections within seven business days of complaint receipt. Individuals can have their environmental concerns about farms addressed by filing a formal complaint for investigation. The actual management of activities, conditions, and/or materials of concern associated with on-farm production practices are compared to applicable GAAMPs (standards) by MDA field inspectors.

2008 Accomplishments:

- Responded to 132 new environmental complaints.
- Conducted 105 follow up inspections.
- 17 farms developed and implemented Manure Management System Plans or Nutrient Management Plans covering 3,885 animal units on 9,819 acres of crop land.

Site Selection

The Right to Farm site selection process for new and expanding livestock production facilities provides farmers and their neighbors in the surrounding communities with environmental assurance, social compatibility, and sustainable farm operations. Approximately \$50 million was spent on the construction of new and expanding facilities under the site selection verification process.

2008 Accomplishments:

- 51 farms requested site verification for 17 new facilities and 34 expansions.
- 25 dairy farm expansions and four new facilities were verified.
- Seven swine facilities expanded their operations while 11 new operations were sited.
- Two poultry facilities expanded and one new beef farm operation was built using the site selection verification process.

