



Michigan Department of
Environmental Quality
www.michigan.gov/deq

Rick Snyder, Governor
Dan Wyant, Director

ANNUAL REPORT ON ENVIRONMENTAL ASSISTANCE

Sustainable, long-term protection of Michigan's environment is best achieved by providing environmental compliance and pollution prevention (P2) assistance to businesses and individuals in addition to performing traditional inspections and monitoring. The Michigan Department of Environmental Quality (DEQ), Office of Environmental Assistance (OEA), offers this assistance through methods geared toward providing people the information they need to meet and surpass Michigan's environmental regulations. The following report summarizes the OEA accomplishments for fiscal year 2011 (FY11).

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Environmental Assistance Center

One of the principle services offered by the OEA is delivered through the DEQ, Environmental Assistance Center (EAC). The EAC is a call center that provides businesses, individuals, and communities with a single point of access to all DEQ programs. Callers may contact the EAC toll free at 1-800-662-9278 (1-800-NO2-WASTE) during business hours to receive fast, direct, one-on-one assistance from OEA assistance staff. If assistance staff cannot answer the question, the inquiry is routed to the DEQ regulatory staff or sister agencies like the Department of Natural Resources or United States Environmental Protection Agency (U.S. EPA).



In FY11 the EAC handled 15,244 inquiries, of which 97% were resolved within one business day. The majority (57%) of the inquiries were from the general public, 19% were from service industries, 9% from government, 7% from consultants or attorneys, 4% from manufacturing industries, and 4% from associations or organizations. Approximately half of the incoming inquiries were resolved by OEA staff, while the other half were routed to the DEQ regulatory staff or sister agencies.

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*For additional details on these activities, visit
www.michigan.gov/environmentalassistance
and
www.michigan.gov/p2*

POLLUTION PREVENTION - 2

Protecting Michigan's environment through P2 is a key element in preserving Michigan's natural resources for future generations. The state's P2 programs are administered by the DEQ in accordance with the Natural Resources and Environmental Protection Act, 1994 PA 451, as amended (NREPA).

This legislation entrusts the DEQ with the responsibility for:

- Educating and serving as a catalyst for change within the business community to bring about reductions in the generation of environmental wastes; and
- Providing technical and financial assistance to small businesses and institutions to facilitate in-plant P2.

This annual report fulfills the reporting requirements to the Legislature and showcases Michigan's P2 and compliance assistance programs and the importance of taking care of Michigan's resources.

OEA P2 Results for FY11

Pollution Type	Amount Reduced/Prevented
Energy Use (Greenhouse Gas)	2,068,235 metric tons of CO2 equivalents (MTCO2Eq)
Water Use	2,718,796,457 gallons
Solid Waste	16,091 tons
Hazardous Waste	686.5 tons

Green Chemistry

The Michigan Green Chemistry Program is a state effort led by the DEQ with the objective to advance the use of the green chemistry principles in Michigan. The Program is supported by the Michigan Green Chemistry Roundtable, a multi-sector advisory group, which continues to successfully advise and contribute on a number of initiatives.



The Michigan Green Chemistry Program continued to offer opportunities through its grant program, including the following accomplishments in FY11:

- Grants totaling \$300,000 were issued to accelerate the deployment of green chemistry technologies in the state by expediting and expanding the availability as well as the diversity of green chemistry component products. Successful grantees included: KTM Industries for their Green Cell Foam project and Working Bugs, LLC, for their Bio-Based n-Butanol: Capacity Upgrade for Large-Scale Production project.
- A one-day workshop was held in Detroit, co-hosted with the Washington Department of Ecology and Clean Production Action, to train participants to use safer chemical alternative analysis tools. The workshop was well attended by an audience from many sectors, including chemical and other manufacturing companies.
 - The Michigan Green Chemistry Clearinghouse, created by a diverse team of organizations, launched its first phase and will officially launch to the public this year.



The Green Chemistry Program hosted the second annual Green Up: Michigan Green Chemistry Conference. The theme of the conference, "Green Chemistry: A Catalyst for the Economy," allowed attendees to explore economic development examples, opportunities, and implications of greening chemical products and processes in Michigan. The second annual Michigan Green Chemistry Governor's Awards were given to promote excellence in innovation, economic development, and public health risk reduction by businesses and institutions, with a focus on the benefit to Michigan. Winners of the 2010 Michigan Green Chemistry Governor's Award were:

- pHurity, Inc. – Small Business
- Biosolutions LLC – Small Business
- Great Lakes Green Chemistry Network (GLGCN) – Public

Community P2 Grants

The Community P2 Grant Program seeks to bring local governments, businesses, planning agencies, and residents together to achieve measurable pollution reductions using innovative, sustainable P2 practices. In FY11 the DEQ awarded \$249,960 in community P2 grant funds to five organizations for projects that focus on community sustainability and product stewardship. These grants were designed to help communities re-examine their processes, pioneer new ways to deal with waste products, and drive improvements and efficiency in day-to-day operations,

recognizing that increases in efficiency, reductions in energy, as well as waste generation, can lead to lower emissions and significant cost savings. Grant recipients in this program are required to match state funds by at least 25%.

Organizations that received funding in FY11 are:

- City of Ann Arbor, \$50,000
- Muskegon County, \$50,000
- Oakland County, \$50,000
- West Michigan Sustainable Business Forum, \$34,900
- Michigan Recycling Coalition, \$50,000

Economy, Energy, and Environment

The Economy, Energy, and Environment (E3) Michigan Project is the third pilot location in the country to engage in the U.S. EPA Economy, Energy, and Environment Initiative. This program is a collective of federal, regional, state, and local resources designed to strategically provide service to the manufacturing industry in Michigan to enhance competitive economic advantage, improve environmental performance, and provide leadership foundation and capacity for sustainable manufacturing in the state.

The DEQ is working with key partners to implement the program in southeast and west Michigan. A pilot demonstration is located in southeast Michigan with E3 assessment services to manufacturers being led by the Michigan Manufacturing Technology Center-Plymouth (MMTC) and the University of Michigan Industrial Assessment Center (IAC). Other partners include DTE Energy, Consumers Energy, Michigan Small Business Administration (SBA), New Economy Initiative of Detroit, and partnering companies that are all volunteering to participate in the pilot project.

As of September 2011, ten manufacturers in southeast and west Michigan have committed to voluntarily participate in the project. The IAC and energy utilities are providing expert assessment and energy optimization opportunities to the companies with follow-up recommendations to implement. The MMTC is also providing expert lean and clean assessment to identify and prioritize cost recovery opportunity through resource conservation, improved efficiencies, process changes to conserve water and materials, and implementing P2. Four of the manufacturers have completed both assessments and are in the process of implementing recommendations. The SBA, DTE Energy, and Consumers Energy are providing incentive funding or loans to install equipment to optimize energy use and reduce costs.

Three southeast Michigan manufacturing plants are currently hosting engineering student interns as part of the E3 Student Internship Program. A mechanical engineering student from Lawrence Technological University was placed at Buckard Industries, Clinton Township, to implement water reduction and energy conservation measures within their electrocoating operations. A chemical engineering student from Wayne State University was placed at Aevitas Specialty Services, Redford, to implement energy efficiency enhancements within their pumping, boiler, and air compressor systems. A mechanical engineering student from Michigan State University was placed at RheTech, Inc., Whitmore Lake, to implement a broad range of P2 and energy conservation projects throughout the facility. The anticipated savings to the three companies will total over \$150,000 per year upon completion of the intern projects.

Healthcare P2 Partnership

The Michigan Healthcare P2 Partnership seeks to work together with healthcare organizations and providers to promote sustainable waste reduction solutions for the healthcare industry in Michigan. Notable accomplishments in FY11 include:

- The DEQ, in partnership with Michigan Health and Hospital Association (MHA) and several Michigan hospitals, formed the Michigan Green Healthcare Committee (MGHC). The MGHC was created to encourage and support sustainability initiatives that improve public and environmental health in Michigan. The MGHC meets monthly with healthcare providers.
- The DEQ and MGHC are currently working on guidance documents and best management practices for the proper handling of pharmaceutical waste at hospitals.
- The DEQ, in partnership with the MGHC, organized a one-day conference focusing on waste reduction and energy efficient initiatives in healthcare. Over 80 healthcare providers participated in the one-day conference held October 22, 2010, at Spectrum Health located in Grand Rapids, Michigan.
- The DEQ, in partnership with the U.S. EPA, MHA, and MGHC, participated in the planning of the National Pollution Prevention Roundtable's Environmental Sustainability Summit, Healthcare Track, held June 8, 2011, in Detroit, Michigan. The Environmental Sustainability Summit's Healthcare Track focused on sustainability issues for the healthcare sector.

Michigan Green Communities Challenge

The Michigan Green Communities Challenge (Challenge) promotes and creates opportunities for Michigan's cities, towns, villages, townships, and counties to become more sustainable. The Challenge is currently composed of the DEQ, Michigan Energy Office, Michigan Municipal League, Michigan Association of Counties, and Michigan Townships Association along with 93 local units of government that have committed to the program by passing a resolution of support. The majority of these local units have developed strategies dealing with sustainable and energy related targets. The main advantage of this collaboration is its ability to network and share ideas and projects and work on local government issues at regional and state levels, especially through a unique Web-based application, Michigan Energy Efficiency Network (MichEEN). This application functions similar to a social media platform offering blogging, forums, specialized groupings, and instant access to participating members within the Challenge. Highlights include increased capacity and enhancement of local government networking through MichEEN and an annual conference.

Michigan Business P2 Partnership



The Michigan Business Pollution Prevention Partnership (MBP3) is a voluntary program open to all Michigan organizations interested in initiating or expanding P2 practices and receiving recognition for these efforts.

- The estimated combined cost savings gained via the P2 results reported by MBP3 partners during calendar year 2010 was \$62,268,179 (Cost factor source: National P2 Results Data System).
- Ten new facilities joined the MBP3 committing to develop P2 goals and report results each calendar year. There are currently 345 partners.
- Newsletters and electronic mailings disseminated P2 news and opportunities to partners, and presentations were given at workshops to inform and engage potential new partners.

P2 Results Reported By Partners In Terms of Green House Gas Reductions: (Metric Tons of CO2 Equivalents (MTCO2Eq) Reduced)

Reduction	MTCO2Eq Reduced	Equivalency
Energy Use 36,553,902 Kilowatt hours	31,262	The annual green house gas emissions from 6,130 passenger vehicles.
Water Use 2,663,132,932 Gallons	7,544	The CO2 emissions from 845,740 gallons of gasoline consumed.
Solid Waste Diverted from the Landfill 1,382,328,820 Pounds	1,983,642	The CO2 emissions from burning 10,801 railcars worth of coal.

(Source: U.S. EPA GHG Equivalencies Conversion Tool)

*"MBP3 continues to keep our employees aware of pollution prevention issues and continues to save the company money."
– Skilled Manufacturing, Inc.*

Small Business P2 Loan Program

All across Michigan, small businesses are taking advantage of the DEQ's Small Business P2 Loan (P2 Loan) Program to assist them in deploying preferred technologies and practices. Established under the 1998 Clean Michigan Initiative (CMI) Bond approved by voters, the P2 Loan Program has dispersed over \$6.1 million in 58 loans to small businesses. Any business that employs 500 or fewer people, is independently owned or operated, and not dominant in its field is eligible to apply for a low-interest loan.

In FY11 over \$868,000 was awarded in loans to the following P2 Loan Program participants:

- Macomb Medical Clinic, P.C., and their local lender, Comerica Bank
- Michigan OMS, P.C., and their local lender, Comerica Bank
- Internal Medicine Associates of Mt. Clemens, P.C., and their local lender, Comerica Bank
- Schoenherr Medical Associates, P.C., and their local lender, Comerica Bank
- Sports Medicine Center of Metro Detroit, P.C., and their local lender, Citizens Bank
- DiMartino Chiropractic Center, P.C., and their local lender, Chiropractic Federal Credit Union
- Birmingham Chiropractic Clinic, P.C., and their local lender, Citizens Bank
- Auburn Hills Medical Clinic and their local lender, Citizens Bank
- Anchor Bay Clinic Family Medical Center and their local lender, Citizens Bank
- Van Dyke Collision of Port Austin and their local lender, Signature Bank
- Michael J. Novello, DDS, PLC, and their local lender, Dart Bank
- Advanced Spine & Headache Center and their local lender, Chiropractic Federal Credit Union

"Environmental compliance is important to us," said David Strozeski, owner of Van Dyke Collision of Port Austin. "Innovative programs like the P2 Loan Program really help us deploy the best technologies. Providing low-interest loans that can offset the price premium on preferred technologies is truly beneficial for the small business owner."

Neighborhood Environmental Partners Awards Program

The Neighborhood Environmental Partners (NEP) Awards Program was developed by the DEQ to recognize facilities and their community partners who have worked together on environmental and natural resource projects to improve the local environment in their communities.

In FY11 DEQ Director Dan Wyant awarded seven facilities in Michigan the NEP Program Award for their outstanding

commitment to environmental community outreach. The seven companies that received an award were:

- Consumers Energy - J.R. Whiting Plant
- Detroit Edison - River Rouge Power Plant
- Dow Corning - Midland Site
- General Motors LLC
- Ford Motor Company
- Pilgrim Manor Retirement Community - Grand Rapids
- U.S. Army Garrison - Detroit Arsenal



Mercury P2

The DEQ has several programs that reduce mercury discharges and emissions in order to protect the health of the state residents and children as well as the fisheries and tourism industries. The significant P2 efforts to reduce mercury impacts include the following:

- A grant was awarded to Michigan Energy Options to recycle mercury thermostats removed during energy efficiency improvements and community demolition efforts. The state, with over 107 collection sites, has nearly ten times the number it had just a year ago. The number of thermostats recycled has increased from about 3,000 per year in 2009 to 12,029 thermostats recycled in 2010, an increase of 400%.
- A grant was awarded to the Department of Agriculture's Clean Sweep Program. During 2010, 3,277 mercury items and 405 pounds of pure mercury were collected from local residents, schools, and businesses.
- Through a Great Lakes Restoration Initiative Grant, Michigan expanded efforts to remove mercury and reduce its impact from the state fisheries and water supply. This provided \$300 incentives to dentists installing amalgam separators to reduce mercury discharges. Between January 1, 2011, and September 30, 2011, 566 amalgam separators were installed under the program.
- Rules are being developed under 2008 PA 503, which regulates mercury amalgam discharges from dental offices.
- Over 34,830 mercury auto switches were recycled during 2010. This is an increase of 12% from 2009.

Michigan Clean Diesel Initiative

The Michigan Clean Diesel Initiative (MiCDI) is a group of government, industry, and nonprofit organizations working together to reduce diesel engine pollution in Michigan.

The objectives of the MiCDI are to help the state of Michigan achieve improvements in the federal air quality standards for particulate matter and ozone. The MiCDI is a part of the Midwest clean diesel coalition and the U.S. EPA's National Clean Diesel Campaign. The National Clean Diesel Campaign offers innovative programs and financing to address in-use diesel engines by promoting a variety of cost-effective emission reduction strategies, including: switching to cleaner fuels; retrofitting, repairing, repowering, and replacing vehicles/equipment; and reducing idling.

Nitrous oxides (NOx) and particulate matter (PM or soot) are two pollutants produced from diesel engines. NOx is a contributor to the formation of ozone in the air; and particulate matter can contribute to the development of health conditions such as asthma, heart disease, and cancer. Since 2008, Michigan has received more than \$3 million in federal clean diesel grant funds under the Diesel Emissions Reduction Act (DERA), which has been used to clean up 370 diesel engines from 28 different diesel engine fleets in Michigan. As of FY11, clean diesel grant funding has contributed to reducing more than 700 tons of NOx and more than 60,000 tons of PM over the lifetime of these diesel engines.

RETAP Engineers



Retired Engineer Technical Assistance Program



The Retired Engineer Technical Assistance Program (RETAP) provides on-site P2 assessments to Michigan businesses and institutions. Assessments are performed by teams of retired engineers and are always free, confidential, non-regulatory, and objective.

In FY11 the RETAP completed 90 assessments encompassing 192 buildings and identifying over \$4.2 million in potential cost savings or an average of \$48,000 saved per RETAP assessment. The RETAP engineers provided 186 hours of additional P2 assistance for small businesses and government facilities, which identified over \$41,000 in potential savings.

The total number of retired engineers active in the program increased to 60, giving the RETAP the unique ability to offer over 2,200 years of combined professional experience to help businesses become more profitable through reduced waste generation and increased operational efficiencies.

RETAP Completed 90 P2 Assessments in FY11

Reductions	Amount
Operating Costs	4.3 million Dollars
Waste Disposal	2.7 million Pounds
Water Usage	32.6 million Gallons
Electricity Usage	24.2 million kWh
Natural Gas Usage	1.3 million CCF
CO2 Emissions (equivalents)	53.0 million Pounds

.....
 "We really got rolling in the right direction after the site evaluation and follow-up from RETAP. It was then that pursuit of environmental gold for business operations – ISO 14001 certification – suddenly seemed to make sense." Jim Chevrette, EH&S Officer, Siemens Metallurgical Services

ENVIRONMENTAL COMPLIANCE - 6

The Compliance Assistance Program offers multi-media environmental assistance to businesses, industry, governmental officials, and the general public on all major DEQ programs.

Clean Corporate Citizen Program

The Clean Corporate Citizen (C3) Program is a program for businesses, municipalities, and non-profit organizations demonstrating environmental stewardship and a strong environmental ethic. The C3 Program is built on the concept that these Michigan facilities can be relied upon to carry out their environmental protection responsibilities without rigorous oversight and should enjoy greater permitting flexibility than those that have not demonstrated environmental leadership. C3s must establish an Environmental Management System (EMS), implement P2 activities, and demonstrate compliance with their environmental requirements. Participants awarded a C3 designation receive public recognition and are entitled to certain regulatory benefits, including expedited permits. There are currently 108 active C3 participants in the program. Highlights over the past fiscal year include welcoming the following new members:



- General Motors, LLC - Detroit Hamtramck Assembly Center, Hamtramck
- Wyoming Clean Water Plant, Wyoming
- Viking Energy of McBain, Inc., McBain
- Detroit Edison MichCon Cadillac Service Center, Cadillac
- Detroit Edison MichCon Grayling Service Center, Grayling
- Detroit Edison MichCon Mt. Pleasant Service Center, Mt. Pleasant
- Detroit Edison MichCon Tawas Service Center, Tawas
- Detroit Edison MichCon Traverse City Service Center, Traverse City

In FY11 C3 participants reported savings of \$23.5 million as a result of P2 activities they implemented.

Environmental Audit Privilege and Immunity

The Environmental Audit Privilege and Immunity Law reduces the fear of disclosure of information regarding violations by businesses and municipalities to state agencies that would lead to enforcement and penalties. It also provides incentives for businesses to perform environmental audits and promptly report and correct violations, leading to increased compliance. Obtaining privilege involves filing a document called a Notice of Intent to Perform an Environmental Audit prior to performing the audit. Immunity provisions can be sought later by promptly filing a document

called a Voluntary Disclosure and correcting the observed violations. For FY11, 134 Notices of Intent to perform an audit and 13 Voluntary Disclosures were filed indicating increased compliance with environmental regulations.

Environmental Management Systems

The EMSs are based on the International Organization for Standardization's environmental framework called ISO 14001: 2004. The EMS creates an overall site specific management system that addresses environmental concerns through the allocation of resources, assignment of responsibilities, and ongoing evaluation of practices, procedures, and processes to achieve sound environmental performance. The use of facility specific EMSs has proven to be a very effective management tool for both small and large businesses alike and has spread to a wide variety of sectors including manufacturing, health care, agricultural, and educational institutions.

The OEA has developed an easy to use online manual based on the ISO 14001 standard to assist businesses, municipalities, and non-profit organizations with development of an EMS. The OEA staff answers questions concerning EMS development and implementation; the ISO 14001:2004 standard; and EMS auditing, etc., and can meet with individuals to discuss the merits of creating an EMS for a facility.

Permit Coordination

When a person or a business comes to the DEQ to get an environmental license or permit, the task can be confusing, especially if they need more than one of the 65 permits, licenses, and professional certification services that the DEQ offers. New or expanding businesses especially need help because of the large number of regulations that they may need to learn about for the first time. The OEA is here to make the process simpler, by guiding the new user through the "Michigan Business One Stop" (One Stop). Just like the name sounds, One Stop is a single location where a new user can go to find out about all of the permits, licenses, and certifications that a business or an individual person needs in order to conduct business within the state of Michigan. The OEA has been available through FY11 to help all users through the environmental regulations for which the DEQ has authority, but the One Stop system helps with so much more than just environmental regulations. It also provides a one-stop location for permits, licenses, and certifications for other programs in the State, such as health, safety, and financial regulations.

ENVIRONMENTAL COMPLIANCE - 7

Publications & On-line Videos

The OEA publishes regulatory guidance materials, both on-line and hard copy, in coordination with expert program staff. These products provide independent, immediate access to compliance assistance resources. The OEA publications range from Frequently Asked Questions (FAQs) and brochures to more extensive fact sheets, subject area guidance documents, and comprehensive guidebooks like the Michigan Guide to Environmental Health and Safety Regulations. OEA staff published 26 new or updated plain English compliance assistance publications in FY11 on a variety of topics, some of which included:

- The Point Is Needles Hurt;
- Remedy for Residential Drug Disposal;
- Prescription for Clean Water: The Safe Disposal of Unused Medications;
- EZ Guides for obtaining permits for development of inland lakes and streams and wetlands covering Boardwalks and Platforms;
- Bioengineering Projects on Inland Lakes;
- Driveways in Wetland;
- Ponds Constructed in Wetland, and Ponds Constructed in Upland; and
- Michigan Air Emissions Reporting System (MAERS) FAQs.

The OEA also posted four new on-demand on-line training videos to its on-line learning Web site in FY11. These free videos provided Michigan businesses with around the clock access to accurate regulatory information. The videos included a Renewable Operating Permit (ROP) Renewal Application Tutorial; Certified Storm Water Operator and Soil Erosion and Sedimentation Control Inspector Training; MAERS – Adding Users to Your MAERS Tutorials; and tutorials pertaining to the new EPA Auto Body Rule Checklist Tutorial. More on-demand videos are expected to be created and posted as the DEQ seeks to expand its on-line offerings.

OEA staff also published a biweekly DEQ Environmental Calendar and quarterly Environmental Assistance Bulletin highlighting decisions and actions before the DEQ as well as training events and outreach materials. Each edition of the Environmental Assistance Bulletin included a Compliance Assistance Corner article providing regulatory guidance on a current topic of interest to the regulated community.

SARA Title III

The Michigan SARA Title III Program implements the reporting requirements of the federal Emergency Planning and Community Right-to-Know Act, also known as Title III of the Superfund Amendments and Reauthorization Act. At the end of FY11, there were 7,538 facilities in Michigan's on-line database for which 6,052 hazardous chemical inventory

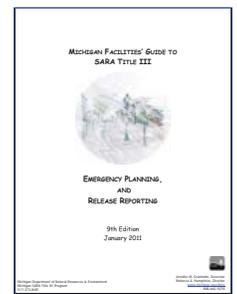


Workshops & Webinar Training

The OEA oversees scheduling, logistics, registration, and speaker coordination to deliver training events that educate customers on environmental requirements, P2 practices, and other topics related to the DEQ's mission. In FY11 the OEA hosted 42 training events, including 27 workshops and 15 webinars, for a total of 2,184 participants. The OEA began offering webinars as a free training option to its customers in FY11. Registration and attendance at these webinars were exceptional, and customer response was extremely positive. Due to this success, the OEA plans to substantially increase its free webinar offerings in FY12.

The OEA has collaborated with hundreds of organizations on past events, with our primary event sponsors including: Michigan Air and Waste Management Association, Michigan Health and Hospital Association, Michigan Manufacturers Association, Michigan Wetlands Association, and the U.S. EPA. Examples of training topics in FY11 include Michigan Green Healthcare; Michigan Green Chemistry; SARA Title III Emergency Planning and Community Right-to-Know; MAERS; No Child Left Inside; Amendments to Part 201, Environmental Remediation, of the NREPA; Introduction to Hazardous Waste; and Wetlands Science, Management, and Policy. The OEA also rolled out an on-line training library that hosts a multitude of videos for on-demand viewing that generates thousands of hits quarterly.

Sample of workshops held and publications published in FY11.



reports and 502 emergency planning notifications were submitted. SARA Program staff processed 29 written follow-up hazardous chemical release reports and received 730 facility Toxic Chemical Release Inventories on-line. In addition to responding to numerous SARA Program inquiries, SARA Program staff provided training at ten workshops and conferences during the year, published an updated SARA guidebook, and maintained current information on the Web pages specific to SARA Title III, Release Reporting, and Emergency Planning.

ENVIRONMENTAL EDUCATION - 8

Environmental Education helps Michigan citizens understand the natural environment, including basic and ecological science, and the connection of people and living things to the air, land, and water, and how these systems relate to the global environment. These connections lead to informed decisions on protection and conservation of the environment and the use of natural resources. The Environmental Education strategy is as follows:

- Integrate environmental education curriculum support into Michigan schools at about the middle school level to ensure students have early training and exposure to environmental concepts.
- Build and maintain a strong network of partnerships to leverage and support environmental education at the high school level and at all other levels.
- Coordinate a vibrant internship program to provide college level exposures to environmental work.

FY11 highlights:

- The Michigan Environmental Education Curriculum Support (MEECS), a science-based curriculum impacting grades 4-9, includes units on ecosystems and biodiversity, land use, water quality, air quality, and energy resources. Five units are currently being updated, as well as expanding units on climate change education and outdoor education. This year, 196 educators attended a MEECS workshop. Over 3,500 educators have attended workshops since MEECS was published in 2006.
- The DEQ has maintained active partnerships with the Department of Natural Resources, the Department of Education, the Michigan Alliance for Environmental and Outdoor Education, the Michigan Association of Conservation Districts, the Great Lakes Stewardship Initiative, the Michigan No Child Left Inside Coalition, Central Michigan University, Eastern Michigan University, Wayne State University, Michigan Envirothon, Great Lakes Young Writers' Initiative, and the Great Lakes Education Collaborative.
- Working with a myriad of colleges and programs, the DEQ facilitated 71 internships during FY11.
- As part of an environmental education of youth program, the DEQ celebrated Earth Day with more than 1,900 children and over 300 teachers and assistants. The event included 53 environmental exhibits and displays.



The DEQ will not discriminate against any individual or group on the basis of race, sex, religion, age, national origin, color, marital status, disability, or political beliefs. Questions or concerns should be directed to the Quality of Life Human Resources, P.O. Box 30473, Lansing, MI 48909.

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