



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

Rick Snyder, Governor
Keith Creagh, Director

ANNUAL REPORT ON ENVIRONMENTAL ASSISTANCE

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The Michigan Department of Environmental Quality (DEQ) strives for sustainable, long-term protection of the environment. The DEQ is committed to offer businesses, schools, and individuals the information they need to meet and surpass Michigan's environmental regulations. The following report summarizes the DEQ, Office of Environmental Assistance (OEA), accomplishments for fiscal year 2015 (FY 2015), October 1, 2014 through September 30, 2015.

This annual report fulfills the reporting requirements to the Governor and Legislature, showcases Michigan's pollution prevention (P2) and compliance assistance programs, and highlights the importance of taking care of Michigan's resources.

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POLLUTION PREVENTION

POLLUTION PREVENTION

Protecting Michigan's environment through pollution prevention (P2) is a key element in stewardship of 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.

This legislation entrusts the DEQ with key responsibilities:

- 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 P2.

Clean Corporate Citizen Program



The Clean Corporate Citizen (C3) Program is for businesses, municipalities, and nonprofit organizations demonstrating environmental stewardship and a strong environmental ethic. The C3 Program is built on the concept that C3-designated facilities carry out their environmental protection responsibilities without rigorous oversight and should enjoy greater recognition than those who have not demonstrated environmental leadership. The C3s must have established

a dynamic Environmental Management System, implemented P2/sustainable activities, and demonstrated a strong compliance history with their environmental requirements. Participants awarded a C3 designation receive public recognition and increased networking opportunities and may be entitled to certain regulatory benefits. There are currently 144 active C3 participants in the program. Partners engage in a variety of activities including energy efficiency and conservation, waste reduction/elimination, wildlife habitat projects, and community partnering/mentoring.



Renewable Energy

The C3 Program recognized the following new members along with their accomplishments for the year:

Axalta Coating Systems

- On-site solvent recovery system processed 4.5 million pounds in 2014.
- Still bottoms (from solvent recovery unit) and off-spec paint being sold as usable product totaling 1 million pounds in 2014.
- Recycling of paper, plastic, and cardboard totaled 97,000 pounds.

Ford Motor Company - Michigan Assembly

- Reuse of reverse osmosis reject water into the paint wet scrubber control system with projected annual water savings of 7.0 million gallons.
- Reuse of water within the phosphate re-treatment system with projected annual water savings of 2.0 million gallons.
- Less than 10 percent of waste generated is sent to landfill.

Ford Motor Company - Rawsonville Components

- Monthly zero waste to landfill per unit of production maintained.
- Reduction in water usage per unit of production.
- Ongoing reductions in hydrocarbon used per unit of production.

General Motors, LLC Pontiac Metal Center

- Chemical reduction programs focusing on reducing the types of cleaners and soaps on-site and implementation of a procedure for proper dilution of floor cleaning soap.
- Ongoing waste reduction efforts that include implementing a vendor return program for plastic coil rings, reducing cardboard and plastic collection from other facilities, and maintaining trash below seven pounds per ton.
- Normalized water and energy savings of at least 3 percent.



Green Buildings



Sustainable Workplace

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POLLUTION PREVENTION

Holland Board of Public Works

- Overall greenhouse gas emissions decreasing 10.2 percent from both electric generating facilities operated by the HBPW (James De Young coal-fired Generating Facility and 48th Street gas/oil-fired Peaking Station).
- HBPW joining the American Public Power Association's "Tree Power Program," an ongoing, sustained tree planting program for public power customers. During Tulip Time Festival, as the official conservation sponsor, the HBPW gave away more than 700 tulip tree and crabapple seedlings to promote environmental responsibility, proper planting for utility line safety, and energy efficiency.

University of Michigan Golf Course

- Clubhouse operations earning Planet Blue's Platinum level for Sustainable Workplace at the University of Michigan.
- An increase in naturalized areas by 20 acres, approximately the size of 15 football fields.
- Alignment with Michigan Athletics' waste reduction and recycling initiatives; the golf course composted all organic matter from the golf course and soccer grounds.
- The use of moisture meters and a variable frequency drive pump station for more precise water application.

Viking Energy of Lincoln

- Replacement and recycling of all fourteen unit heaters' mercury-controlled thermostats with digital.
- Addition of motion sensing technology within five working areas in the plant. It is estimated that energy consumption should be reduced by 80 percent for these areas.
- A significant metal recycling effort with regard to bottom ash. Historically, approximately 2,550 tons/year of bottom ash was landfilled. Now, 1,800 tons of metal is recycled out of the bottom ash, with the remaining amount used for road base material.

Clean Diesel Grant Program

Since 2008, Michigan has received more than \$3 million in federal clean diesel grant funds under the federal Diesel Emissions Reduction Act (DERA) and the American Recovery and Reinvestment Act, to clean up diesel engines in fleets throughout Michigan. This is particularly important, as diesel exhaust has been linked to health problems, including increased risk of premature mortality, cancer, cardiovascular disease, and asthma, especially in vulnerable populations. The Michigan Clean Diesel Grant Program, with DERA and partner matching funds, has worked to address this problem by improving or replacing over 600 vehicles ranging from school buses to long-haul trucks. Activities have included replacing old diesel engines with newer, cleaner burning diesel engines and installing technologies that control diesel emissions. Through these actions, more than 446 tons of nitrogen oxide, 48 tons of particulate matter, 104 tons of hydrocarbons, 415 tons of carbon monoxide, and 4,068 tons of carbon dioxide will not be released to the environment over the lifetime of the affected vehicles. This results in cleaner air for Michigan residents.



New clean diesel trucks to replace old trucks

In FY 2015 Michigan Clean Diesel grantee Southwest Detroit Environmental Vision (SDEV) successfully replaced five old high-polluting trucks with five new clean diesel trucks that meet or exceed the current highest U.S. Environmental Protection Agency (U.S. EPA) emission standards. To complete the project, SDEV received \$124,550 in federal funds from the 2015 Michigan Clean Diesel Grant Program and \$506,820 in matching funds from four project partners: Causley Trucking, Foreman Brothers, Gemini Transport, and Forgotten Harvest. Collectively, these new vehicles will decrease diesel emissions by over 6.5 tons annually and contribute to a total reduction of 105.7 tons of lifetime emissions.



Forgotten Harvest SDEV and DEQ staff

For more information on the Michigan Clean Diesel Grant Program go to www.michigan.gov/deqp2, select For Communities, then Michigan Clean Diesel Initiative.

POLLUTION PREVENTION

Community P2 Grants

The Community P2 Grant Program assists local governments, non-profit organizations, planning agencies, and residents in the process of measurable and innovative waste reduction activities. For the past two years, grants have focused on projects that support Governor Rick Snyder's objective to increase residential recycling throughout Michigan.

In FY 2014 three projects totaling \$250,000 were awarded to collect data on Michigan's recycling rate, the percentage of population with convenient access to recycling, high performing recycling programs, composition of municipal solid waste currently landfilled and incinerated, and the economic value of this material.

To build on that work, in 2015 fourteen grants totaling \$635,500 were awarded for recycling projects that support infrastructure development, program start-up, program enhancement, and education/outreach. Collectively these projects will help to enhance local or regional recycling programs that lead to increases in the statewide recycling rate.

FY 2015 grant recipients include:

- Bay Area Recycling for Charities, \$65,000
- City of Detroit Department of Public Works, \$95,000
- Comprenew, \$67,500
- Eagle Harbor Township, \$6,000
- Emmet County Department of Public Works, \$82,000
- Houghton County, \$92,000
- Muskegon River Watershed Assembly, \$92,000
- Northeast Michigan Council of Governments, \$50,000
- Oceana Conservation District, \$1,300
- Recycle Ann Arbor, \$19,500
- Resource Recovery and Recycling Authority of Southwest Oakland County, \$8,200
- Tuscola County Recycling Material Recovery Facility, \$22,000
- Village of Constantine, \$3,000
- Washtenaw Intermediate School District, \$32,000

To learn about the goals and objectives of these grants or to find additional information on the Community P2 Grant Program, visit www.michigan.gov/deqp2grants.

Green Chemistry

The Michigan Green Chemistry Program is a state effort led by the DEQ 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 advise and contribute on a number of initiatives.

The Green Chemistry Program hosted the sixth annual "GreenUp: Michigan Green Chemistry and Engineering Conference" on the campus of Michigan State University in East Lansing. The theme of the conference was "Cultivating Next Generation Solutions," providing attendees a chance to explore research and application examples and look for opportunities to incorporate green chemistry into education. The sixth 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. Honored at the GreenUp conference were the 2014 Michigan Green Chemistry Governor's Award winners:

- Peter J. H. Scott, Ph.D., University of Michigan Medical School
- Kathe Blue Hetter, Skyline High School



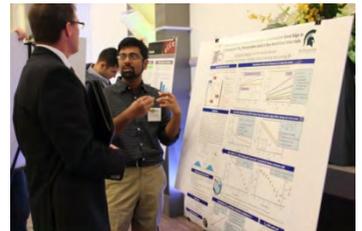
FY 2015 Green Chemistry Award Winner

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POLLUTION PREVENTION

In addition to the GreenUp Conference and Michigan Green Chemistry Governor's Awards, the Green Chemistry Program had the following accomplishments in FY 2015:

- The Michigan Green Chemistry Clearinghouse continued to provide information with notable initiatives, including monthly webinars and significant education efforts to develop toxicology training for chemistry students and train K-12 teachers to incorporate green chemistry in the classroom.
- Michigan Green Chemistry Roundtable members provided support to the national Green Chemistry Commitment, developed and piloted the Green Chemistry Guide for Business, and held a collaborative webinar "Greener Products and Processes in the Auto Industry."
- More than 50 attendees shared information on best practices and approaches for greener laboratories at the second Michigan Green Labs Initiative workshop.



FY 2015 Green Chemistry Poster Competition

Mercury P2

For decades, mercury has been a pollutant of concern due to its toxic and bioaccumulative properties. The DEQ has several programs that reduce mercury discharges and emissions in order to protect the health of residents as well as the fisheries and tourism industries. The significant P2 efforts to reduce mercury impacts in FY 2015 include the following:

- Through a grant funded by the Great Lakes Restoration Initiative, US Ecology has conducted a mercury bucket collection program, which ended on September 30, 2015. This collection program was responsible for recycling nearly 5,600 mercury-containing devices containing over 1,200 pounds of mercury.
- Michigan Energy Options continues to recycle mercury thermostats removed during energy efficiency improvements and community demolition efforts. The state, with nearly 220 collection sites, has an opportunity to offer free collections throughout Michigan. The total number of thermostats recycled through September 2015 was 59,098, which equates to approximately 370 pounds of elemental mercury.
- A completed grant award with the Michigan Department of Agriculture and Rural Development's (MDARD) Clean Sweep Program resulted in nearly 1,000 pounds of mercury-containing devices collected in FY 2015. In addition, this grant project has been responsible for the proper collection and storage (recycling) of several hundred pounds of elemental mercury from local residential, school, and business waste streams.
- A total of nearly 13,500 mercury auto switches, equating to approximately 30 pounds of mercury, were recycled in FY 2015. There are currently over 300 mercury auto switch collection sites located throughout Michigan.

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.

- Estimated combined cost savings gained via the P2 Stewardship Program Annual Report Results during calendar year 2014 were \$2,075,285,987.46 (Cost factor source: U.S. EPA P2 Cost Calculator and guidelines).
- MBP3 added 36 new facilities to its membership in FY 2015 who committed to developing P2 goals and reporting the results annually.
- P2 news and opportunities were disseminated to partners via email and listserv, and presentations were given at workshops to inform and engage potential new partners.

"Our membership in MBP3 has been very beneficial. MBP3 has enabled our personnel to network and become familiar with members of our regulatory agencies as well as representatives from other business sectors; has raised P2 awareness not only at the site, but throughout the entire company; and since joining, our site has avoided sending several thousand tons of material to landfills by exploring alternative options to disposal."
-Consumers Energy J.R. Whiting Plant

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POLLUTION PREVENTION

P2 Results Reported by MBP3 Partners in Terms of Greenhouse Gas Reductions: Metric Tons of CO₂ Equivalents (MTCO₂Eq) Reduced (FY 2014)

Reduction	MTCO ₂ Eq Reduced	Equivalency
Energy Use 68,168,716 Kilowatt hours	47,006	The CO ₂ emissions from 50,489,588 pounds of coal burned.
Water Use 1,242,752,410 Gallons	3,471	The annual greenhouse gas emissions from 8,264,286 miles driven in an average passenger vehicle.
Solid Waste Diverted from the Landfill 1,454,289,323 Pounds	2,055,085	The CO ₂ emissions from the energy use of 187,508 homes for one year.

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

Neighborhood Environmental Partners Awards Program

The Neighborhood Environmental Partners program recognizes community-based projects and the participating partners who make them possible. Partners include facilities, local units of government, nonprofits, and others who work together to implement ongoing environmental and social projects. Their efforts lead to improvements in the quality of life for many Michigan residents.

For 2015, the DEQ recognized 38 community projects and the 103 community partners involved for their role in bettering the environment.

Among the projects recognized were community cleanups, river cleanups, recycling events, workshops, and educational and mentoring opportunities performed in communities statewide, including Flint, Holland, Muskegon, Grand Rapids, Detroit, and many more. To learn more about these community projects, visit www.michigan.gov/deqnep.



River Sampling



Winning Futures Mentoring Program



Park Cleanup

Retired Engineer Technical Assistance Program

The Retired Engineer Technical Assistance Program (RETAP) provides on-site P2 assessments to small businesses in Michigan. Assessments are performed by teams of retired engineers and are always free, voluntary, confidential, and non-regulatory. Each assessment includes a written report containing specific recommendations to save money, eliminate waste, conserve water, reduce costly waste disposal and treatment, and improve process and energy efficiencies.

In FY 2015 the RETAP completed 78 assessments encompassing 118 buildings and identifying nearly \$5.5 million in potential cost savings or an average of \$70,000 saved per RETAP assessment (see table below). The RETAP engineers provided 220 hours of focused P2 technical assistance to nine small businesses during the year, which identified nearly \$330,000 in potential cost savings.

In FY 2015 the RETAP achieved a notable milestone in completing its 1,000th P2 assessment for small Michigan manufacturers, a priority sector under the program's legal mandate. In May 2015 the RETAP was

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ENVIRONMENTAL COMPLIANCE ASSISTANCE

Environmental Assistance Center

The Environmental Assistance Center (EAC) is a call center that provides businesses, individuals, and communities a single point of access to all DEQ programs. Callers may contact the EAC toll free at 800-662-9278 during business hours to receive fast, direct, one-on-one assistance. Approximately half of the incoming inquiries are resolved by OEA staff, while the other half is routed to the DEQ regulatory staff or agencies, such as the Michigan Department of Natural Resources (DNR) or U.S. EPA. In FY 2015 the EAC handled 15,653 inquiries, 99 percent of which were responded to within one business day. The customers assisted by the EAC routinely return satisfaction surveys with complimentary comments.

Green Infrastructure

The OEA coordinated and co-hosted two successful Green Infrastructure Conferences in 2015, one in Traverse City (June 3-4) and one in Grand Rapids (August 4-5). Approximately 270 people attended the two conferences. These conferences were accomplished through partnerships with local governments, regional planning organizations, and other non-governmental organizations.

The idea for the Green Infrastructure Conferences grew out of the Governor's Special Message on Energy and the Environment in November 2012. We have now completed three conferences serving over 600 attendees.



Conference attendees on a green infrastructure tour

Also in 2015 the OEA set in motion the workings for a major Green Infrastructure Conference to be held in Detroit in 2016 or 2017, with a focus on protection of the Great Lakes. This conference is expected to draw more than 800 people from all eight Great Lakes' states and two Canadian provinces. To accomplish this conference, the OEA has partnered with the DEQ's Office of the Great Lakes, the Great Lakes Commission, the Great Lakes and St. Lawrence Cities Initiative, the U.S. EPA, and key cities and universities throughout the Great Lakes Region and Canada.

Harmful Algae Blooms

Harmful Algae Blooms (HAB) can be toxic to people and pets. Because incident tracking of HAB occurrences in the Great Lakes region only began in 2013, it is difficult to accurately assess an increase or decrease. However, the existing data implies the occurrences seem to be rising. This past year, the DEQ began to collaborate with the Michigan Department of Health and Human Services to jointly track the reported incidents received by the DEQ through the Pollution Emergency Alerting System and Environmental Assistance Center hotlines. This collaboration between the departments will help better document the actual reported distribution and number of blooms in Michigan's waters and allow for a more complete assessment of risk to the public.



An example of harmful algae blooms

Industrial Storm Water Permit Compliance Initiative Pilot

During the summer of FY 2015, a pilot project was initiated by the DEQ's Water Resources Division and the OEA focused on discovering compliance rates with industrial storm water regulations and helping businesses return to compliance. Research was conducted to identify a list of regulated facilities that had not provided documentation to the state, which would indicate compliance. The DEQ contacted each facility in writing and followed up with phone calls. This project helped us learn that about half of the facilities contacted (roughly 100/200) were not in compliance with the storm water regulations and were assisted to gain in-compliance

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ENVIRONMENTAL COMPLIANCE ASSISTANCE

status. It is expected this pilot will be implemented in different communities to improve compliance with the Industrial Storm Water Program.

Permit Coordination

The DEQ administers more than 65 permits, licenses, and professional certifications. Determining which of these is required for a project or activity can be challenging, especially for a new or expanding business. During FY 2015 the DEQ helped numerous businesses determine the environmental regulations that applied to their prospective business operations.

The DEQ made the process simpler, by collaborating with the Michigan Economic Development Corporation and other state agencies in creating a new way to guide businesses through the state agency requirements - "Michigan Business Portal" (www.michigan.gov/business).

The DEQ continues to pursue ongoing improvements, in order to increase efficiencies and convenience for new, existing, and expanding businesses in Michigan. The DEQ also makes the process easier to understand by creating DEQ permit information checklists available at www.michigan.gov/deqpermits.

Superfund Amendments and Reauthorization Act (SARA) Title III

The DEQ implements the Superfund Amendments and Reauthorization Act (SARA) Title III Program reporting requirements of the federal Emergency Planning and Community Right-to-Know Act. The SARA Program identifies hazardous chemical storage at facilities across Michigan and shares this information with Local Emergency Planning Committees and fire departments. The information is used to develop community emergency management plans that are utilized in an emergency in the community or at an individual facility. At the end of FY 2015, there were 7,517 facilities in Michigan's online database for which 6,292 annual hazardous chemical inventory reports and 360 revisions were submitted and 944 current year updated reports were submitted.

Publications

The DEQ publishes regulatory guidance materials, both online and hard copy, in coordination with expert program staff. These products provide immediate access to resources. The publications range from Frequently Asked Questions and brochures to more extensive fact sheets, subject area guidance documents, and comprehensive guidebooks. In FY 2015 OEA published several new or updated publications on a variety of topics, some of which included:

- Michigan Air Emissions Reporting System (MAERS) Workbook
- Anhydrous Ammonia Fertilizer Brochure
- Epinephrine Auto-Injector Disposal Guide
- Remedy for Residential Drug Disposal Card and Flyer
- Waste Characterization Workshop Reference Book and supplemental materials
- Water Conservation Tips
- Used Oil Checklist, Emergency Posting and Labels
- Heating Oil Tank Brochure
- Geothermal Heat Pump Regulations
- Visual Assessments of Industrial Storm Water Guide
- Green Infrastructure and Volume-Based Storm Water Management Pamphlet



Water Conservation Tips Publication

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ENVIRONMENTAL COMPLIANCE ASSISTANCE

- Green Infrastructure, The Environmental Alternative to Grey Pamphlet
- P2 Loan Brochure

The DEQ also published a biweekly Environmental Calendar (5,500 subscribers) highlighting decisions and actions before the DEQ as well as training events and outreach materials.

Conferences, Workshops, and Webinars

The DEQ delivers training events that educate businesses, municipalities, institutions, and the general public on environmental requirements, P2 practices, and other topics related to the DEQ's mission. These training events include live workshops, conferences, and webinars, as well as recorded videos and tutorials that can be accessed by users at any time.

In FY 2015 the OEA hosted 34 workshop and conference events held throughout the state. Over 2,600 businesses, municipalities, institutions, and environmental professionals participated at these events. Below is a listing of those events.



Workshop attendees

FY 2015 Workshops, Conferences, and Seminars

DATE	EVENT	DATE	EVENT
10/9/2014	Michigan Green Healthcare Conference, Detroit	3/5/2015	Introduction to MAERS 2015 Workshop Series, Lansing
11/6/2014	Air Permit to Install Workshop, Lansing	3/24/2015	Compost Operations: Regulations and Best Management Practices Workshop, Mt. Pleasant
11/12/2014	Green Chemistry Conference, East Lansing	3/25/2015	Air Permit to Install Workshop, Lansing
11/13/2014	Brownfields Conference, Grand Rapids	4/27/2015	Drinking Water Local Health Department Conference, Bay City
11/14/2014	Brownfields Conference, Troy	5/19/2015	Air Permit to Install Workshop, Lansing
11/20/2014	Waste Characterization Workshop, Mt. Pleasant	6/4/2015	Northern Michigan Green Infrastructure Conference, Traverse City
12/2/2014	Emergency Planning and Release Reporting Workshops, Mt. Pleasant	6/18/2015	Michigan Radon Stakeholder Conference, Lansing
12/4/2014	Compost Operations: Regulations and Best Management Practices Workshop, Detroit	7/27/2015	MIWaters Workshop, Lansing
12/8/2014	MS4 Individual Permit Application Workshop for FY 2016 Permittees, Troy	8/5/2015	West Michigan Green Infrastructure Conference, Grand Rapids
12/9/2014	MS4 Individual Permit Application Workshop for FY 2016 Permittees, Grand Rapids	8/17/2015	MIWaters Workshop, Lansing
12/11/2014	Emergency Planning and Release Reporting Workshop, Troy	9/1/2015	Air Permit to Install Workshop, Lansing
1/28/2015	Air Permit to Install Workshop, Lansing	9/10/2015	Waste Characterization Workshop, Livonia
2/10/2015	Introduction to MAERS 2015 Workshop, Gaylord	9/14/2015	Coastal Management Program Regional Meeting, Muskegon
2/24/2015	Introduction to MAERS 2015 Workshop, Grand Rapids	9/22/2015	Sustainable Manufacturing Seminar, Livonia
2/26/2015	Introduction to MAERS 2015 Workshop, Troy	9/23/2015	Waste Characterization Workshop, Mt. Pleasant
2/26/2015	Upper Peninsula Solid Waste Forum, Marquette	9/24/2015	Sustainable Manufacturing Seminar, Mt. Pleasant

The DEQ hosted 41 webinars in FY 2015. The webinars ranged in scope from industrial storm water visual assessment to hazardous waste management. The 41 live webinar broadcasts educated 6,078 people throughout Michigan and the United States. Recordings of these webinars have been viewed by 2,022 people and are posted at www.michigan.gov/deqworkshops. On page 11 is a listing of the external webinars.

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ENVIRONMENTAL COMPLIANCE ASSISTANCE

FY 2015 Webinars

DATE	WEBINAR TITLE	DATE	WEBINAR TITLE
10/9/2014	Changes in the DEQ Aquatic Nuisance Control Program Permitting Process Resulting from Changes to Part 33	4/14/2015	Revised Total Coliform Rule
10/21/2014	Coastal Zone Management Program– Request for Proposal	4/15/2015	Revised Total Coliform Rule
10/22/2014	Understanding the National Flood Insurance Program and Local Floodplain Building Code Requirements	4/23/2015	DEQ Wastewater Treatment Technology Webinar
10/27/2014	2014 Michigan Invasive Species Grant Program	6/11/2015	The State of Recycling in Michigan
10/28/2014	Storm Water - Visual Assessment	7/23/2015	Introduction to the AQD: Protecting Michigan's Air Since 1965
11/10/2014	DEQ's Updated NPDES Multiple Discharger Variance for Mercury	7/29/2015	Revised Total Coliform Rule Webinar for Local Health Departments
11/17/2014	Michigan Invasive Species Grant Program	7/30/2015	Nonpoint Source Grants Webinar
11/19/2014	Coastal Zone Management Program - Grants Administration Training	7/30/2015	Revised Total Coliform Rule Webinar for Local Health Departments
11/19/2014	An Overview of the Water Treatment Additive (WTA) Approval Process for National Pollutant Discharge Elimination System (NPDES) Permitted Facilities	8/11/2015	Nonpoint Source Watershed Planning Grants webinar
11/25/2014	Low-Level Mercury Sampling	8/17/2015	Informational Webinar on Draft Michigan Water Strategy
1/23/2015	DEQ Recycling Awards Application	8/21/2015	Introduction to MiWaters for Facilities with DEQ Concentrated Animal Feeding Operation Permit
1/27/2015	High Risk Erosion Area Update for Chippewa County Webinar	8/26/2015	What to Expect from an Air Inspection
1/29/2015	MAERS Review Webinar	9/9/2015	2015 P2 Community P2 Grant Grantee
2/11/2015	Community Pollution Prevention Grant Recycling Webinar	9/15/2015	Nonpoint Source Grants Proposal
2/12/2015	Beneficial Reuse of Non-Hazardous Industrial By-Products	9/16/2015	DEQ and The Recycling Partnership: Tools, Techniques, and Resources for Improving Curbside Recycling Collection
3/4/2015	Hazardous Waste Characterization and Generator Status	9/17/2015	Introduction to MiWaters for Aquatic Nuisance Control Permitting
3/11/2015	Hazardous Waste Generator Accumulation, Storage, and Labeling Requirements	9/21/2015	Introduction to MiWaters for Facilities with an Industrial Storm Water Permit
3/12/2015	DEQ Revolving Loan Fund Opportunities and Recent Program Changes	9/23/2015	Potential to Emit: What is it and why are all Air Quality Rules based on it?
3/19/2015	Hazardous Waste Generator Recordkeeping & Inspections		

On-Demand Training

The DEQ produced the following on-demand videos and training tutorials. These on-demand training videos have accumulated over 6,500 views so far.

- Michigan's Air Quality Division - A Partner in Clean Air Since 1965
<https://youtu.be/6FNoqnW3UgE>
- MiWaters Tutorial series (6 videos)
www.michigan.gov/miwaters
- The Importance of Green Infrastructure in Michigan
<https://youtu.be/8l4Z8gwZ7sw>
- Revised Total Coliform Rule - Seasonal System Requirements
<https://youtu.be/xTc9uBfZ8g>
- Michigan Green Communities – Leaders in Sustainability
<https://youtu.be/SWZyXBtFGpl>



MiWaters Tutorial Overview Video Image

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ENVIRONMENTAL EDUCATION

- 2014 SARA Title III Tier II Reporting Tutorial
<https://www.youtube.com/watch?v=6HKmKxnIsOQ>
- Industrial Storm Water – Visual Assessment Tutorial series (3 videos)
https://youtu.be/rhXbA1R_VZk



Michigan Green Communities
YouTube Video

ENVIRONMENTAL EDUCATION

Environmental Education helps Michigan citizens understand 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 environmental protection and natural resource conservation. The DEQ Environmental Education strategy is as follows:

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

Environmental Education FY 2015 highlights include the following:

- The Michigan Environmental Education Curriculum Support (MEECS), a science-based curriculum impacting grades 3-9, includes units on ecosystems and biodiversity, land and environment, land use, water quality, air quality, energy resources, climate change, and outdoor education supplement. Workshops have been conducted for nearly 4,750 educators since MEECS was first published, with 148 of those educators having attended workshops during FY 2015. Currently, work is being done to develop MEECS courses into online units, enhancing access for educators.
- Working with a myriad of colleges and programs, the DEQ facilitated 87 internships during FY 2015. In April 2015 Grand Valley State University named the DEQ internship employer of the year.
- As part of our environmental education of youth, the DEQ celebrated Earth Day with over 2,300 students, teachers, and guests. With the DNR and the MDARD, we co-produced Earth Day greeting cards from the posters of the 12 Earth Day poster contest winners.
- The DEQ actively participated with fourteen of its partners to promote and produce a variety of environmental education programs. One noteworthy partnership with BaySail (Bay City, Michigan) included DEQ interns teaching environmental education to school groups aboard the Appledore schooner as it set sail on Saginaw Bay.



MEECS curriculum being reviewed.



Visiting students experiencing the 2015
Earth Day event in Lansing.



Summer 2015 Interns with former
DEQ Director Dan Wyant and Tom
Occhipinti

The DEQ will not discriminate against any individual or group on the basis of race, sex, religion, age, national origin, color, marital status, disability, political beliefs, height, weight, genetic information, or sexual orientation. Questions or concerns should be directed to the Quality of Life Human Resources, P.O. Box 30473, Lansing, MI 48909-7973.