



Macomb County

2017 ANNUAL REPORT

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MESSAGE FROM THE DISTRICT COORDINATOR

In 2017 Michigan State University and Macomb County continued their proud tradition of working together to serve Macomb residents. This year, county residents experienced over 32,473 points of contact where they received resources to help improve and enrich their lives. Michigan State University Extension strives to develop youth, help people live healthier lifestyles, improve their environments and much more. We thank you again for the continued partnership and look forward to servicing Macomb residents in the future.



Sincerely,
Edward Scott

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www.msue.msu.edu/macomb

Macomb County Extension

Leadership Council

- | | |
|-------------------|-----------------|
| Anthony Birkmeier | Ralph Lang |
| Karen Burke | Charles Lumpkin |
| Edna Clark | Jean Persely |
| Kay Cylkowski | Hannah Stevens |
| Jerry DeMaire | Linda Stout |
| Stephen Hulbert | Brian Walmsley |
| Lisa Lane | Joie West |

MEASURING IMPACT

4-H Youth Development.....	7,661
Volunteers.....	564
Natural Resources & Sea Grant.....	5,406
Volunteers.....	47
Health, Nutrition & Wellness.....	3,424
Community Food Systems and Safety.....	1,840
Financial Literacy.....	1,206
Product Center.....	69
Consumer Horticulture.....	10,976
Master Gardener Volunteers.....	365
Garden Hotline & Diagnostics.....	1,915
TOTAL IMPACT.....	33,473

EXPANDING OUR DIGITAL REACH



In 2017, the MSU Extension website received 66,003 visits from Macomb County. This is almost double the number of web v visits in 2016.



82% of those visits were first time visitors to the MSU Extension website. This represents a shift in the ways that Macomb residents access MSU Extension resources.



The majority of the increased web traffic was accessed through a mobile device and referred through links that were posted on social media.

Developing Youth and Communities



City Slickers 4-H Club members Aubrey and Brooke Richards help tend the Community Garden at the Max Thompson Family Resource Center in Warren, MI.

From once-a-month family workshops to after-school technology training and classroom gardening, MSU Extension supplies schools and the families they serve with the support they need to be successful.

When you support MSU Extension 4-H programs, youth participants learn life skills that prepare them for the workforce – especially for highly sought after jobs in science, technology, engineering and mathematics (STEM). Extension programs help children develop early literacy skills that support school readiness. They learn leadership and decision-making skills in 4-H that increase their likelihood of becoming civically active.

4-H'ers also demonstrate reduced high-risk behaviors such as drug use, and learn to complete tasks, solve problems and seek any help they might need from peers and adults. 4-H involvement also helps participants avoid or reduce involvement with the court system. This helps ensure more young people succeed in school, attend college and contribute to their communities. More successful young people in communities results in greater tax revenues and consumer spending and increases the likelihood that young people will stay in, or return to, their communities.

Michigan State University Extension's staff and volunteers worked with 10,727 Macomb County youth during 2017 with specialized programs in 4-H Youth Development, Animal Science, Shooting Sports, Outdoor Adventure Challenge, Art, Mentoring and Natural Resource education. Youth involved in 4-H programs totaled 7,661. The other 2,424 were involved in nutrition programs.

4-H Youth Programming

During 2017, MSU Extension staff along with 564 screened and trained volunteers delivered a number of quality educational programming opportunities throughout Macomb County. The area of focus for programming in 2017 was Outdoor Education, Agricultural Science and Healthy Living (nutrition, fitness and social emotional). At an average of 40 hours per week, Macomb volunteers provided over 300,000 hours of community service to 4-H youth and the Macomb County community.

There are 24 traditional 4-H clubs active in Macomb County. An interesting variety of project areas are available to challenge Macomb youth. MSU Extension staff strive to support project areas and ideas that develop youth financial and science literacy, entrepreneurship, leadership and civic engagement. These areas of focus will give 4-H members life skills that will assist them to identify career choices and successfully enter the workforce.

Michigan State University Extension's staff and volunteers worked with 10,727 Macomb County youth during 2017

Developing Youth and Communities, continued

School Programs



Macomb 4-H Program Coordinators Seth Martin and Lizz Duran teach 4-H youth how to safely use a bow and arrow during a Shooting Sports program at the Max Thompson Family Resource Center located in Warren.

In-school programming increased in 2017. The Michigan 4-H China Art Project, conducted in cooperation with the People's Republic of China, is a global education program that uses art for in-school learning experiences. This is a global cultural experience where youth K- 6 exchange art as a means of communication despite language barriers. Every fall a signup sheet is distributed to past participants as well as new potential participants to check out the educational kit. Last year, schools from the Utica, Van Dyke and Fraser school districts had over 1,700 youth participate.



Macomb 4-H Program Coordinator Seth Martin and 4-H volunteer Kris Wright help two youth from Mt. Clemens High School with a wood working project during a Tech Wizards event.

Macomb County also participated in an in-school program sponsored through a grant from Monsanto entitled CSI Soil Sleuths. MSU Extension staff, along with 15 teen counselors provided the educational program along with hands-on activities to 330 elementary students in 12 classrooms focusing on soil health.

An embryology program was also offered to Macomb County schoolchildren in 2017. Program Coordinator, Seth Martin introduced the program by running an incubator in the classroom. Each incubator had a dozen eggs in it. Seth gave a presentation on the first day of incubation and visited the school for a second time on the day the eggs were expected to hatch. The children had no way of knowing if the eggs were fertilized when the project began. Seth was able to relate this project to incubating birds in nature when they are incubating eggs. He touched on a variety of scientific topics and the program was adjusted to different age groups. This program introduced the children to life cycles and animal needs. They learned how to care for the chicks when they were born and were able to have them in their classroom for a few days after they hatched. The older children learned about fertilization, which included the difference between eggs we eat and eggs that are hatched.



Macomb County 4-H Program Coordinator Seth Martin teaches embryology to students at L'Anse Creuse Higgins Elementary.

Developing Youth and Communities, continued



Macomb County Tech Wizards Mentoring Program

National 4-H and the Office of Juvenile and Delinquency Prevention (OJJDP) provided funding to Michigan State University to coordinate the 4-H Tech Wizard program with Mount Clemens Middle School in Macomb County. This funding allowed for a fifth year of mentoring. 4-H staff partnered with Axalta Coating Systems, partnering with three long-term adult mentors to meet with seven youth on a weekly basis. Each two-hour site meeting allowed for the mentors and their mentees to develop strong relationships. Matches were exploring STEAM (Science, Technology, Engineering, Art and Math) activities while strengthening their relationships.

One-Day Events and Special Programs

The number of one-day events and special programs increased during the 2017 program year. In all, there were 12 events held with topics ranging from Mexican cooking class, Health and Fitness, and Gardening and Crafts.

There were three week-long day camps held in the 2017 program year. Over 175 participants K-12 enjoyed a variety of themed activities. Breakfast, lunch and a nutritious snack were provided.

Macomb County Extension staff have a valuable partner in the Armada Agricultural Society. With their cooperation, 4-H members are able to showcase their projects in a fun and safe venue. The Armada Fair is important to the Macomb 4-H community. Many of the members camp on-site for the weeklong event to better care for their livestock.

Information regarding 4-H is always so much more impactful when it comes from club members and 4-H youth are always happy to answer questions and share experiences with fair participants. The 4-H community gives over 2,000 hours of community service towards facilitating the fair. This includes two scheduled clean-up dates as well as the weeklong event.



Developing Youth and Communities, continued

4-H Healthy Living

4-H embodies Head, Hands, Heart and Health. Macomb County 4-H has a variety of healthy living programs focusing on physical fitness, nutrition and gardening.

In 2017, MSU Extension's 4-H Youth Development program built and maintained a second community garden.



These gardens have multiple raised and low beds. The original garden is located at the Max Thompson Family Resource Center (Warren, MI) and this newest garden can be found at the Macomb Family Resource Center (Mt. Clemens, MI). 4-H youth were engaged in hands-on lessons around the growing cycle, soil, weeding and

harvesting of vegetables and flowers. Produce included eggplant, tomatoes, peppers, squash, cucumbers, corn, green beans, lettuce, pumpkins and a variety of herbs. Harvested items were donated to youth, volunteers and the Macomb Food Pantry.

Macomb County 4-H hosted two 4-H Family Fun and Fitness events; one in the spring of 2017 and the other in the winter. The spring event was an outdoor field day in which families in the Thompson Center neighborhood came together to participate in a host of fun physical fitness activities. 4-H Healthy Living Teen Ambassadors assisted in facilitating activities such as volley ball, archery, soccer and a hula hoop contest. The second event was entitled "Youth Chopped" and was a teen cooking competition. Macomb County teens gathered at the Max Thompson Family Resource Center and were divided into five teams of three to prepare a pasta entrée. Prior to cooking, all of the participants were engaged in lessons on food safety and nutrition. All participants received a teen cook book, cooking utensils and a 4-H apron to use at home. The youth had so much fun that they



Macomb County 4-H Youth Chopped Event



Understanding Community Food Systems



MSU

Extension's efforts in ensuring safe and secure food lead to a healthy population, which in turn helps keep health care costs in check and our communities viable.

Tour participants observe a retro fitted carrot harvester during a carrot tour in Central Lake, MI

When you support MSU Extension's efforts to enhance residents' access to an adequate supply of safe, affordable food, program participants will focus on food safety measures in the field and at harvest, learn proper food preparation and food preservation techniques, and bring community partners together to strengthen access to healthy food supplies. This leads to a healthy population, which in turn helps keep health care costs in check and our communities viable.

Macomb Food Collaborative

Hosted by the Macomb Food Collaborative, the All About Food: From Farm to Fork Conference was held in June of 2017. The conference was supported by MSU Extension, a member in the Collaborative, and convened food system stakeholders from around Macomb County, with additional participants from surrounding counties, including Lapeer, Oakland, St. Clair and Wayne. Educators, farmers, farmers market vendors, consumers and food business owners were represented in the 120 attendees. The conference evaluation demonstrated that respondents made new connections, learned new skills, and gained knowledge about local food systems as a result of this conference. Sessions were offered on a wide range of topics, including the impact of the Flint water crisis, farmland preservation, gardening, and food preservation.



Understanding Community Food Systems, continued

Farm to Institution

Farm to Institution is a comprehensive approach to building the regional food system by providing foods that are nutrient dense to students and patients, creating more economic opportunity for local growers, and a more connected food community. To foster Farm to Institution programs in 2017, the Community Food Systems work team hosted tours focused on dry beans, a small scale carrot producer, peach and apple orchard and a food rescue organization. The team also hosted educational workshops, including Starting and Sustaining a School Garden, where participants learn how to begin or expand their school garden through facilitated goal setting and hands-on activities. Technical support, one-on-one counseling, presentations and resource development were all used to assist practitioners in sourcing more local food through their meal programs.

In total, the Community Food Systems program based in Macomb County reached 840 participants through educational opportunities within southeastern Michigan and the state.



School food service directors that attended the dry bean tour learn about dry bean planting and processing equipment while visiting an operational bean farm near Frankenmuth, MI.

Ensuring Strong Communities



MSU

Extension's partnership with the Macomb County Treasurer's office successfully helped 43 homeowners receive Step Forward funds providing financial assistance to catch up on property taxes, enabling them to stay in their homes.



When you support MSU Extension, participants learn how to implement best practices in good governance that keeps communities solvent, productive and engaged; learn effective conflict management skills that help leaders and residents work collaboratively on complex issues; and engage youth leaders in decision-making. In the personal finance area, MSU Extension helps youth and adults alike learn the skills they need to increase their savings, manage their spending, avoid predatory lending and reduce mortgage defaults. All of these outcomes help lower the cost of governmental services and lead to personal and community stability, strong neighborhoods and safe communities.

Homeownership Counseling and Education

Homeownership Education workshops helps participants understand the home buying process. Topics include: advantages of homeownership, steps in the home buying process, understanding the cost of homeownership, understanding credit and debt management, and shopping for a home and obtaining a mortgage loan. In 2017, MSU Extension reached 213 Macomb residents through their workshops.

Foreclosure Prevention

MSU Extension's Foreclosure Prevention program has had an important partnership with the Macomb County Treasurer's Office for several years and in 2017 continued their work of helping homeowners save their home and become more financially stable. Through one-on-one counseling appointments, MSU extension educators met with 152 homeowners who were either three years behind on their property taxes or experiencing mortgage default. As a result, homeowners entered repayment plan agreements with the Treasurer, were approved for modifications with their mortgage lender, and learned how to budget during a financial crisis.

One of the Foreclosure Prevention programs biggest achievements over the last five years has been helping homeowners apply for the Step Forward Michigan program which offers a forgivable loan to homeowners that qualify. In 2017 alone, MSU Extension helped 43 homeowners successfully receive the financial assistance that caught them up on all three years of property taxes. This totaled \$322,065 in tax dollars returning to Macomb County (\$1.6M since the program started in 2013).

MSU Extension's foreclosure hotline is also an important resource for distressed homeowners in Macomb County who aren't sure what help is available. In 2017, MSU Extension talked with 282 people via phone and provided education on foreclosure prevention options and what steps they can take. Often, a homeowner needs to speak with someone urgently about their housing situation, so having a person just a phone call away is an important service.

Ensuring Strong Communities, continued

Money Management

MSU Extension provided several money management seminars in Macomb County during 2017. These three-week sessions focused on helping consumers gain confidence and skills related to their personal finances. Participants attend these classes to understand their money values and how to communicate about money, write SMART (Specific, Measurable, Achievable, Relevant, Timely) goals, manage debt and improve credit, and create savings plans. Since 2015, MSU Extension has partnered with Macomb Community Action to provide financial coaching to their clients in the emergency assistance program. The goal is to help clients learn to budget their money so that they can avoid the inability to make rent and/or utility payments in the future. In addition to the aforementioned partnership with Macomb Community Action, MSU Extension also partnered with the City of Warren to provide pre-purchase and pre-closing counseling to their clients participating in the Neighborhood Stabilization Program (NSP). The goal was to help clients understand all costs associated with homeownership and how to budget for those expenses. This partnership also included working with the City of Warren's Drug Court to provide workshops for the participants in The Treatment Court program. Participation figures for money management programs included, but were not limited to:

- Money Management workshop participants – 33
- Macomb Community Action Financial Coaching participants – 4
- City of Warren's Drug Court participants – 26
- One-time Money Management participants - 152

Career Education, Workforce Preparation, Financial Literacy and Entrepreneurship

In 2017, approximately 700 participants were involved in workforce preparation, in-depth career education, and financial skill-building in Macomb County. Programming took place in partnership with many schools and organizations including Junior Leadership Macomb, Military After School Program, Mt. Clemens Community Coalition, Arts Academy in the Woods, Academy 21 of Center Line, TCB Mentoring, Roseville High School Mentoring Program, Max Thompson Family Resource Center, and 4-H Counselor In Training program. With funding from Chemical Bank, there was a strong focus on financial literacy education.

Programming for 4-H in the area of career education and workforce preparation is focused to achieve the following outcomes:

- Young people will have the knowledge needed to choose appropriate post-secondary workforce training, entrepreneurial or career endeavors.
- Youth will be better prepared to make wise economic choices in their personal and work lives.

Youth practiced their interview skills, created resumes, and discussed professionalism in the workplace. Financial literacy looked at savings, needs and wants, credit and debt, investing, and budgeting.

Ensuring Strong Communities, continued

- 84% of Macomb County youth participants surveyed said they plan to practice self-control when making purchases.
- 94% of Macomb County youth participants surveyed said they now have skills to successfully manage their money.
- 77% of Macomb County youth participants surveyed said they plan to track the money they earn and the money they spend.
- 52% of Macomb County youth participants surveyed ALWAYS plan to save a portion of the money they earn and are given ("pay myself first").

Participants say:

"I have learned how to carry myself as a professional and the steps to get a job."

"This program was beneficial for the future because it will help me write a good resume and how to present myself in an interview."

"It taught me to invest and to put money in a savings account and track the money I happen to get."

"It will help me manage my money better. Also I will start saving my money more than actually spending it."

"I learned to manage money and take care of priorities before wants."



MSU Extension's Mad City Money program held for Junior Leadership Macomb at the Extra Credit Union in Warren.

Ensuring Strong Communities, continued

New Citizen Planner Program Partnership

MSU Extension held the first partnership program with County Planning & Economic Development Department (PED). PED requested funding in their county budget to provide one scholarship per Macomb County community to assist in educating local officials and staff on basic land use issues and techniques.



Twenty-eight participants from thirteen Macomb communities participated in the scholarship program with three sending more than one local official to the training. In addition, one county staff person attended the program, three Extension Council members and the entire planning commission from a Wayne County community attended.

In addition to the seven core sessions, MSU Extension offered an eighth session covering the resources counties have available to assist communities with planning and zoning efforts.

Form Based Codes: Building Character by Design

Based on requests from Citizen Planner participants, MSU Extension organized *Form-Based Codes: Building Character by Design*, a two-part program on form-based codes (FBC) to provide more in-depth information on this topic. A form-based code is a land development regulation that fosters predictable built results and a high-quality public realm by using physical form (rather than separation of uses) as the organizing principle for the code. A form-based code is a regulation, not a mere guideline, adopted into city, town, or county law.

Form-Based Codes: Building Character by Design provided more in depth information. The first session was a presentation and discussion of principles, examples and outcomes of using FBCs in communities. The second session focused on an in- depth group activity to allow participants to apply FBC principles to a specific community issue or in a scenario provided.



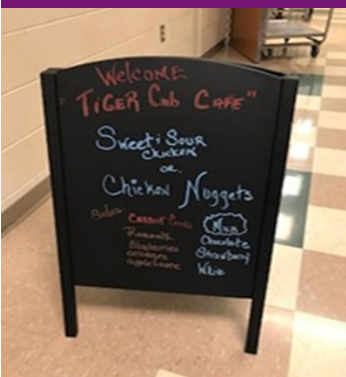
Local officials listen as Glenn Pape, a certified FBC instructor, answers a participant's question during FBC program.

Keeping People Healthy

MSU Extension's efforts in ensuring safe and secure food lead to a healthy population, which in turn helps keep health care costs in check and our communities viable.



Armada Elementary School "Tiger Club Café" displays colorful healthy sliced fruit and vegetables and creative signage each day after participating in the Smarter Lunchroom Program.



When you support MSU Extension, you help participants learn safe food handling practices, increase their physical activity and improve the quality of their diets. Extension programming also helps decrease incidents of violence and bullying. Encouraging these healthy behaviors helps reduce food and health care costs by helping prevent chronic health conditions and providing safe environments throughout a person's life span.

Policy, System and Environmental Interventions- Smarter Lunchroom Movement

In 2016, MSU Extension's Nutrition and Physical Activity (NPA) work team launched Policy, System and Environmental (PSE) Interventions. During 2017 this team was able to expand on prior work from 2016. PSE uses comprehensive interventions that address multiple levels of the socioeconomic model (SEM) to reach the Supplemental Nutrition Assistance Program (SNAP) target population in ways that are relevant and motivational to them, while addressing constraining environmental and/or social factors. The approaches complement the direct education. The organization that receives the consultation and technical assistance is ultimately responsible for adopting, maintaining, and enforcing the PSE change.

Capitalizing on MSU Extension's network of school partnerships in Macomb County, during the 2016-2017 school year, twenty-area school lunchrooms participated in the Smarter Lunchroom Program funded through a United States Department of Agriculture (USDA) Team Nutrition Training grant coordinated by the Michigan Department of Education. The Macomb Intermediate School District Food Service Consultant, Carolyn Thomas, was a valuable resource to the MSU Extension-trained Smarter Lunchroom coach to launch the Smarter Lunchroom Program in Warren Consolidated Schools, Armada Area Schools, Richmond Community Schools, Roseville Community Schools and the Academy of Warren.

The MSU Extension Smarter Lunchroom coach worked directly with the school food service directors and kitchen staff to complete the lunchroom pre-and-post assessments designed to increase Smarter Lunchroom scorecard results and increase the selection and consumption of fruits and vegetables offered through the National School Lunch Program. Based on proven low-cost or no-cost Smarter Lunchroom strategies each food service director implemented improvements to nudge students to eat healthier during their school lunch.

In 2017, the MSU Extension-Oakland and Macomb Nutrition and Physical Activity team reached the following numbers in our nutrition and physical activity programs in Wayne, Oakland and Macomb Counties:

- 1,385 SNAP-Ed and EFNEP adult series participants
- 5,106 SNAP-Ed adult presentation participants
- 2,522 SNAP-Ed and EFNEP youth series participants.
- 3,119 SNAP-Ed youth presentation participants

Roseville Plate Waste Study

In January 2017, a partnership with Michigan Team Nutrition, MSU Extension, Roseville Public Schools and Michigan State University Food Science and Human Nutrition Department provided the structure for a plate waste study to evaluate any changes in the selection and consumption of fruits and vegetables through the school nutrition program.

Six Roseville elementary schools participated; three schools were intervention schools and three were control schools. Study results identified the following challenge areas: collecting and sorting food waste during multiple fast-paced lunchroom periods, needing motivated kitchen staff to implement all fruit and vegetable strategies to more accurately assess level of change,

and needing systems to alleviate extra data collection burden to food service staff. Overall adding fruit and vegetable options, adding creative signage, improving the lunchroom atmosphere and training lunchroom staff to encourage positive lunchtime behaviors are beneficial strategies to improving a student's lunchroom experience.



Weighing fruit as part of the Roseville Elementary plate waste study data collection.



This pictures shows how food waste was sorted during lunchtime for data collection.



Making the Most of Our Natural Assets



The Water School Policy Toolbox provides general information about how federal, state, tribal and local laws and rules provide the basis for water policy in Michigan and is organized into three sections:

- **Water-related issues for which some type of water policy already exists.**
- **Summaries of key pieces of federal, state and/or local law are summarized.**
- **Additional sources of information about federal, state and/or local laws.**

When you support MSU Extension's natural resources education programs, participants learn about income-generating opportunities, ecological principles, natural resource issues and the role of natural resource professionals. They also explore public policy issues related to environmental stewardship. Our programs can lead to increased income for families that retain their natural resource assets, help landowners become better stewards of their land, and protect land management opportunities for future generations. Better land stewardship benefits communities by protecting and enhancing Michigan's natural resource assets.

Michigan Water School: Essential Resources for Local Officials

While the Great Lakes State is endowed with abundant ground and surface water resources, local water issues from diverse land uses, changing climate patterns and nonpoint source pollution has shown a need for stronger governance to protect these resources. Lack of available information, public support and resources have been identified as barriers to implementing community water management improvements.

MSU Extension and Michigan Sea Grant (MSG) are addressing these challenges through its new program, Michigan Water School, a policy-neutral, fact-based water education program designed to assist local communities to improve water quality and quality of life.

The objective of the two-day program was to provide local decision makers at all levels with critical, relevant information needed to understand Michigan's water resources, including the fundamentals of water science, in order to support sound water management decisions and increase awareness of current and future local and state water issues.

This interactive program, piloted in May, 2017 in partnership with Lawrence Technological University (LTU) featured both in-class presentations and interactive learning demonstrations along with a field experience. The program included sessions on water quantity, water quality, economics, finance, planning, and water policy issues.

Participants received a flash drive with the updateable and downloadable Toolbox file.

The field experience portion enhanced the classroom content by highlighting innovative green infrastructure and low impact development practices implemented at the LTU campus in Southfield and around Southeast Michigan. Tour stops included rain gardens/bioswales, aquatic ecosystem restoration, and wastewater treatment innovations.

The pilot program drew 28 participants from seven counties, with a mix of local elected and appointed officials, municipal staff and environmental organization staff.

Making the Most of Our Natural Assets, continued

Based on the pre-and post-surveys, participants gained new attitudes, knowledge, and confidence in their ability to make decisions. They expressed more focused understanding of the role of local government in providing leadership in water management. Survey results showed that:

Before	After
Before the workshop, 50% of participants agreed with the statement "I am confident that I can make a sound decision regarding hydrology issues."	After the workshop, all participants expressed agreement.
Before the workshop, 50% of respondents agreed that their individual actions have an impact on water quality.	After the workshop all participants expressed this belief.
Before the workshop, 20% of participants disagreed that "the economic stability of their community depends on water quality"	After the workshop, none of the respondents disagreed with the statement.
Before the workshop, 20% of respondents expressed disagreement about wanting to implement low impact development plans in their community.	After the workshop, none expressed disagreement with this approach.

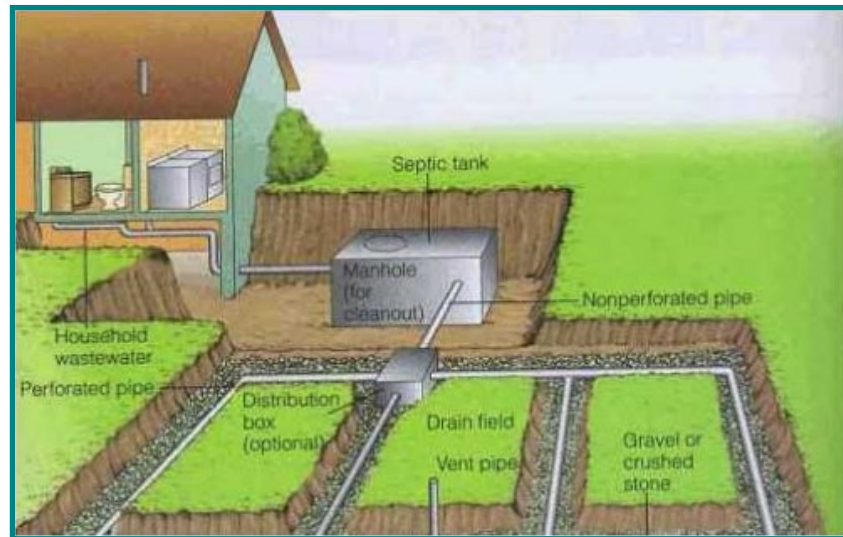
One Water School participant said ***"I would love to attend another class if possible. I learned a lot and I'm ready to inform my community."***



MSU Professor Emeritus Ted Loudon discusses planting over a drain field.

Septic System Program Participants were surveyed:

- 67% of survey respondents were homeowners with the majority attending for their primary residence
- 64% made changes after workshop/webinar
- 38% had tank pumped
- 31% stopped putting grease, fats, oils into the system
- 29% reduced water use in home
- 51% spaced out laundry throughout the week
- 73% shared program information with family, neighbors, and co-workers



Homeowner Septic System Education

Point-of-sale follow-up data estimates that at least 10% of septic systems checked through these programs are in some level of malfunction or failure. With nearly 1.4 million septic systems in Michigan, that can have a significant negative impact on both surface and ground water.

Started in Macomb County, homeowner septic system education programs were developed and have been offered since 2012 in partnership with local health departments, local municipalities and other organizations and consultants. In 2017, MSU Extension offered five in-person workshops, including two in Washington Township and one in Richmond Township. Over 100 residents participated in these programs

In addition the 2016 statewide webinar was edited and closed captioned to add to the MSUE Septic Education web page (<http://bit.ly/MSUESepticEducation>) as another education resource for residents. As of December 2017, 371 visits were made to the webinar on this page.

A short public service announcement (PSA) was created in a partnership between MOWEA and MSU Extension to educate about septic systems. Copies of this PSA were distributed to organizations and municipalities and aired on WKAR. This video can be viewed at the MSU Septic Education webpage (above) or YouTube.

Managing Your Septic System (bulletin E3350) was updated from 2009 and new issues that can impact systems were added, including "flushable" wipes, medications and antibacterial cleaners. Copies are available through the MSU Bookstore or local Extension offices: (<http://bit.ly/ManagingSepticSystem>)

An annual follow-up survey was sent out to all 2016 in person and webinar participants to assess behavior changes as a result of their program participation. 2016 survey results mirrored 2014 and 2015 data. (see sidebar)

Making the Most of Our Natural Assets, continued

Michigan Sea Grant Education Programs

MSU Extension has a mission to raise awareness and increase the understanding of our natural resources. Serving a total of 5,406 Macomb residents, MSU Extension provided a number of programs, including Michigan Sea Grant programs, throughout southeastern Michigan, encouraging good stewardship among youth and adults, of our valuable natural resources.

Michigan Sea Grant, a program of MSU Extension and the University of Michigan, fosters economic growth and protection of Michigan's coastal great lakes resources with support from the National Oceanic and Atmospheric Association (NOAA). Throughout 2017, Michigan Sea Grant held a wide variety of programs or assisted with numerous projects in Macomb County including the following:



Great Lakes Education Program

For the 27th year, MSU Extension and the Clinton River Cruise Company partnered with the Metroparks to provide both an educational Great Lakes Education Program (GLEP) cruise as well as a shore-based education program focusing on wetlands and conducted by Metropark interpretive staff.

Staff Supervision – Justin Selden supervised 19 volunteer GLEP educators, and Huron Pines Americorps Member, Katelyn Burns, which involved training, scheduling and direct programming supervision. These invaluable volunteers donated a total of 476 hours of their time to program delivery, valued at \$11,492.

Spring 2017 GLEP Season

The Spring 2017 GLEP season on Lake St. Clair involved 38 classes during the period April 26th – June 13th. All classes were involved in both the vessel-based education offered through MSU Extension as well as complementary shoreside education offered by Metropark interpretive educators. This provided each class with a full day experience.

A total of 1,033 students participated, of which 506 (49%) were female and 527 (51%) were male. Twenty-two percent (22%) of all student participants were from minority populations compared with a county-wide minority population



of 20.3%. Thirty-eight teachers participated, including eight new to the program who received new teacher training. There were 163 adult chaperones. Elementary schools from six (6) districts participated, including: Chippewa Valley, L'Anse Creuse, Roseville, South Lake, Utica, and Warren Woods as well as an Oakland home school and the Archdiocese of Detroit.

Instruction - A total of 152 hours of instruction were provided to the 1,234 participants (four hours per person), which equals 4,936 educational contact hours.

Making the Most of Our Natural Assets, continued

Fall 2017 GLEP Season



Nine classes participated during the period September 28th – October 27th. All classes were involved in both the vessel-based education offered through MSU Extension, as well as complementary shoreside education offered by Metropark interpretive educators.

A total of 267 students participated this fall, of which 139 (52%) were female and 128 (48%) were male. Forty-eight percent (129) of all student participants were from minority populations compared with a county-wide minority population of 20.3%. Nine teachers participated, all of which had previous GLEP experience. There were 36 adult chaperones. Katelyn Burns, Huron Pines AmeriCorps representative, also spent 40 hours on the boat doing program delivery and another 150 hours assisting with other program needs. Elementary schools from the Grosse Pointe Woods, Romeo, Utica, and Warren districts participated. High schools from the Hazel Park district also participated.

Instruction - A total of 36 hours of instruction were provided to the 312 participants (4 hours per person) which equals 1,248 educational contact hours.

Formative/Summative Evaluations - Evaluations were conducted with teachers and adult chaperones. Adult participants were asked to rate individual learning activities on a 1 (poor) to 4 (excellent) scale with respect to how well they help achieve curriculum goals. Teacher ratings ranged from a low of 3.60 to a high of 3.78 (3.3 to 3.9 for chaperones), with a mean of 3.65 (3.6 chaperones). When asked to rate the overall GLEP experience, the mean teacher response was 3.9 (3.7 chaperones). Teachers were asked to rate GLEP compared with other “field trip” experiences they have had on a 1 (much worse) to 5 (much better) scale, with the mean response being 4.61 (4.5 chaperones). Teachers were asked how well GLEP helps them meet Michigan educational benchmarks on a 1 (poor) to 4 (excellent) scale, with the mean response being 3.53. Of the 70% of teachers who reported using the GLEP curriculum, they completed an average of 3.19 learning activities prior to their field day, and an additional 1.54 following.

Teacher Behavior Change - Of those teachers with previous GLEP experience, 100% shared GLEP information with other teachers and/or school administrators; 60% sought more information on Great Lakes and/or ocean science; 64% included more Great Lakes and/or ocean science content in their classroom in addition to that provided in the GLEP curriculum; 94% encouraged other teachers to participate; 45% visited the Great Lakes more often; 58% visited the Metroparks more often; and 100% felt a greater responsibility for the Great Lakes.



Making the Most of Our Natural Assets, continued



Summer Discovery Cruises

Again in 2017, informal learners were able to “learn about the Great Lakes by being on the Great Lakes” through our Summer Discovery Cruises, (SDC), which represent a unique opportunity to advance Coastal Urban Ecotourism throughout SE Michigan. The 2017 season was the 15th completed on Lake St. Clair and Lake Erie in partnership with the Huron-Clinton Metropolitan Authority (HCMA). Stewart and Selden collaborated in providing program development and implementation, coordinating with Michigan Sea Grant staff in Ann Arbor on the website (www.discoverycruises.org) and online registration management.

Program promotion included use of the QR code developed in 2012 to facilitate easier mobile access to the website. The SDC website was critical to our success in 2017, providing information on every cruise and the ability to easily register online. Website statistics showed 17,664 unique page views for the year. Approximately 54% of the website activity related to the Lake St. Clair location and 46% relating to the Lake Erie location. As expected, most activity occurred during May – August.

Online program promotion was also facilitated via the Huron-Clinton Metropolitan Authority, Lake St. Clair Tourism Initiative, and Great Lakes Fisherman websites. The program Facebook page, which had 761 “Likes” at the start of the year and grew to 829 (a 9% increase) by year’s end.

Vessel dockage and on-site participant registration was provided by Lake Erie and Lake St. Clair Metroparks. The 2017 Summer Discovery Cruise season began on June 25, with the final cruise conducted on September 15. Designed to provide vessel-based Great Lakes educational opportunities for individuals of all ages, as well as groups, a total of 35 cruises were conducted involving 750 learners, of which 95% were adults and 5% were under 21. Participant demographics by race/ethnic group were: Caucasian (91%), Multiracial (1%), Black (2%), Asian (4%), American Indian (1%), and Hispanic (1%). Of these 35 Summer Discovery Cruises, 19 cruises involved 377 people at Lake Erie Metropark, and another 16 cruises involved 349 people at Lake St. Clair Metropark. Participants came from 18 Michigan counties, Florida, Indiana, New York, Ohio, South Carolina, and Virginia. MSU Extension personnel were aboard for all cruises, and Metropark interpretive staff for most. Additional guest instructors were engaged for a number of the limited cruises.

Instruction - A total of 113 hours of instruction were provided to the 750 Summer Discovery Cruises participating learners across 35 cruises, providing a total of 2,455 education contact hours.



On-Line Registration - This was the eighth year we offered online registration through the SDC website. The two Metroparks will continue to coordinate in-person and phone registrations, with registration information held on the Michigan Sea Grant server to allow for easy program recordkeeping and financial management. All financial transactions through the website are overseen by the Michigan Sea Grant fiscal officer. The Metroparks continue to be very supportive of this registration approach.

Making the Most of Our Natural Assets, continued

Supplemental Funding Support –The value of HCMA staff time devoted to Summer Discovery Cruises education in 2017 was estimated to be \$5,629.

Lake St. Clair Metropark – The 2017 SDC season began on Lake St. Clair shortly after the conclusion of the Great Lakes Education Program. Ten cruise types were offered this summer including: The Nature of Lake St. Clair; Wetlands & Wildlife (with MDNR partners); Lighthouses of Lake St. Clair; Lake St. Clair Fisheries (with MDNR partners); Shipwrecks! (with DTE Energy partners); Night Watch; Birds, Boats & Booze; Fireworks!; Channels, Islands, Bays & Reefs; Birds of the Wetlands; and Journey Through the Straits (a transit of the Detroit River from Lake St. Clair to Lake Erie).



Program Evaluation – Each adult participant was asked to complete a two-page assessment survey at the end of each cruise. Participants were asked to rate their overall Summer Discovery Cruise experience, as well as a number of SDC elements. Participants were also asked to provide open-ended suggestions regarding Summer Discovery Cruise improvement. Those who had gone on Summer Discovery Cruises in previous years were asked about the impact those cruises had had on their behavior. The evaluation results that follow are for each of the two operational locations – Lake Erie Metropark (Lake Erie) and Lake St. Clair Metropark (Lake St. Clair).

Lake St. Clair – Of the total 373 participants at Lake St. Clair Metropark, 196 (53%) returned completed surveys. Using a scale of 1 (poor) to 4 (excellent), the average ratings of all respondents participating at Lake St. Clair Metropark were as follows:

- Ease of Locating (3.81)
- Shoreside Accommodations (3.52)
- Instructor Knowledge (3.97)
- Cruise Format (3.82)
- Relevance of New Information (3.86)
- Vessel Accommodations (3.49)
- Cruise Cost (3.72)
- Instructor Effectiveness (3.93)
- Amount of New Information (3.88)
- Overall SDC Experience (3.84)

Participants were asked if they had previously been aware of education offered by the Metroparks, MSU Extension, and Michigan Sea Grant, with positive responses of 53%, 42% and 35% respectively. For 81% of participants, Summer Discovery Cruises were the primary reason for visiting Macomb County. Of those completing the program assessment at Lake St. Clair Metropark, 39% had participated in previous Summer Discovery Cruises. These returning participants reported the following changes in behavior as a result of their previous participation (reported as a percentage of returning participants): 97% told others about Summer Discovery Cruises, 94% shared SDC information with an average of 9.03 others (providing an additional indirect reach of 3,368 persons for Lake St. Clair), 91% felt a greater responsibility for the Great Lakes, 70% sought more information following their participation, 68% visited the Metroparks more often than before, 55% visited Lake St. Clair more often than before, and 35% engaged in new Great Lakes stewardship activities following participation. Examples of new Great Lakes stewardship activities included: participating in Lake St. Clair beach cleanup, attending informational lectures, using more environmentally friendly fertilizer on their grass, increasing recycling efforts, and being careful of pesticide use near the water.

Making the Most of Our Natural Assets, continued

Lake St. Clair Fisheries Workshop

On April 13th, 2017 Sea Grant Extension conducted a Lake St. Clair Fisheries workshop at Sportsmen's Direct. There were several fisheries workshops held annually throughout the state by Sea Grant Extension, and this workshop added a much-needed focus on Lake St. Clair. Thirty-two attendees learned about the following topics:

- Harmful Algal Blooms, (Timothy Davis, Ph.D. Research Scientist NOAA Great Lakes Environmental Research Lab)
- Fish Response to Habitat Restoration in the St. Clair and Detroit Rivers, (Robin DeBruyn Ph.D. Fisheries Researcher USGS Great Lakes Science Center and University of Toledo)
- Lake St. Clair Fishery Status Update, (Todd Wills and Jan-Michael Hessenauer Fisheries Research Biologists MIDNR Lake St. Clair Fisheries Research Station)

Positive feedback from the attendees included many statements about the need for such an educational workshop annually. The workshop was also video recorded and made public through Sportsmen's Direct. Advertising for the workshop was done through local community partners, businesses and social media. Paid advertising through Facebook reached 2,006 people and had 47 interactions. The crowd was reduced, ironically, due to the good weather! The walleye were biting, and many anglers decided to go fishing instead of attending the meeting, with many stopping in to Sportsman's Direct to get minnows on their way out. Of the 32 attendees 30 were male and 2 were female, and represented charter boat captains, anglers, and non-anglers.

Water Conservation Education Program

In 2017, Justin Selden coordinated Water Conservation Program scheduling, volunteer recruitment and training and program implementation in Macomb County, and Steve Stewart arranged a pilot effort in Wayne County. In the first quarter of 2017 MSU Extension and MI Sea Grant representatives conducted 154 water conservation programs in Macomb and Wayne Counties. The programs took place in 54 schools representing 22 different school districts throughout Macomb and Wayne Counties. A total of 3,911 (including 3,662 Macomb students) 1st-4th grade students and 154 teachers were involved in the hour long hands-on science program. Student demographics showed that 72% were Caucasian (including 10% Middle Eastern), 15% African-American, and 13% other minority populations. Macomb County published demographics showing that 81% are Caucasian (including Middle Eastern), 11% African-American, and 8% other minority populations. The program falls under the MSU Extension definition of being in parity. There were 24 hours (valued at \$579) in classroom instruction time given by four MSU Extension volunteers. Program delivery accounted for 3,911 contact hours with students. In 2017, the addition of Katelyn Burns (Americorp) doubled our capacity over 2016 and allowed us to pilot Water Conservation education in elementary classrooms in selected Wayne County schools with which we work. Wayne County District Coordinator Richard Wooten secured the \$8,000 host site fee. This commitment of support is a reflection of the value placed in the planned education and recognition of the quality of education provided to date.

Program evaluation surveys were returned by 55 teachers and 17 of them had no prior experience with MSU Extension. More than 90% of responding teachers placed a high value on the program's effectiveness in addressing state standards and benchmarks, and 93% placed a high value on its educational value and ability to enhance existing curricula. Of the 38 teachers that have previously participated in the program the average teacher has participated for over 5 years with one teacher reporting that this was their 15th year having the Water Conservation Program in their classroom.

Macomb County VerKuilen Building

Youth Development

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Kathy Jamieson	Extension Educator	586-469-6093
Diane Wisnewski	Supervising Educator	248-858-0529

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Connie Kurple	Program Instructor	586-469-6020
Crystal White	Program Instructor	586-469-4105

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Kristen Getter	Extension Educator, Floriculture & Nursery	269-383-8830
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Ashley Kuschel	Breakfast on the Farm Coordinator	586-469-7616

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Rob Weber	Extension Educator	586-469-7610
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Justin Selden	Extension Educator	586-469-7139
Steve Stewart	Senior Extension Educator	586-469-7431

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Terry Gibb	Senior Extension Educator	586-469-6053
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Community Food Systems

Kaitlin Wojciak	Extension Educator	586-469-6088
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Macomb County Max Thompson Family Resource Center

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Saneya Moore	Extension Educator, Nutrition	586-469-6082
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