MESSAGE FROM THE DISTRICT COORDINATOR

It is my pleasure to compile the 2016-17 Annual Report for the Berrien County Board of Commissioners. It has been another great programming year with impactful work taking place in the county, throughout my district and in the state. As always, I want to thank the commissioners and county administration for your continued support of our educational programs. We have a strong team assembled in Berrien County, and a strong network of educators throughout the state that are also offering educational programs to Berrien residents and businesses. You will see examples of that work highlighted in this report. MSUE continues to reach people not only in face-to-face programs, but also through our web-based classes and through timely articles on the MSUE website. Please feel free to contact me at any time, especially if you want to talk about expanding our educational impact in Berrien County. Cheers to another successful year!

Julie Pioch, District 13 Coordinator

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FUNDING

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Staff Located in Berrien County:

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To locate other Extension Educators Serving Berrien County go to www.msue.msu.edu/experts
Developing Youth and Communities

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 result in greater tax revenues and consumer spending and increases the likelihood that young people will stay in, or return to, their communities.

Berrien 4-H Overview

- Two new clubs were started in the 2016-2017 program year. First, The High Spirits 4-H Club meeting in the Baroda area, concentrates on the 4-H Horse and Pony project. This club has grown in membership and was relaunched by 4-H Alumni providing leadership. The second group is a brand new club located in the Benton Harbor area called the Backyard Renegades. This club was chartered in the 2016-17 year and is focusing on a variety of projects such as expressive arts, rabbits and poultry.
- Twenty-seven NEW volunteers were screened and enrolled as leaders this year.
- In total we have 551 youth in clubs or groups
- 1591 youth outside of traditional clubs were reached through community youth programming
- There is a total of 126 adult volunteers working with our 4-H youth clubs.

Youth Business Guide to Success – Make the Most of Your 4-H Market Animal Project

Two educators, Deb Barrett and Janice Zerbe youth development educators in MSUE District 13 were involved in the writing, editing, launch and training of this new curriculum that was released August of 2016. Affectionately called YBGS, it was made possible with funding from the MSU Extension Career Exploration and Workforce Preparation Team and two Michigan 4-H Participation Fee grants. Across the state, 64 staff and volunteers have received curriculum training; nine from District 13 and three from Berrien County.
Michigan 4-H Participation Fee grant provided EV3 robotics training

With grant partner Berrien RESA, 11 teachers were trained to use EV3 robotics as part of a long-term loan program between the Berrien County 4-H Youth Program and locally trained teachers.

Summer My Way Camp in Niles enhanced through 4-H Science

14 staff members received six hours of 4-H science training to help the camp staff members understand the approach of 4-H Youth Development to be used in teaching K-5th graders. Topics included life skills and the Seven Guiding Principles, teaching science the 4-H way, importance of incorporating career exploration as part of the daily processing, importance of evaluation, Inquiring Minds, nature, environmental and outdoor education, engineering and animal science. Trainers included: Deb Barrett, Kwesi Lee, Melissa Elischer, Tracy Daugustino and Jan Brinn. Nick Baumgart and Darren Bagley previously helped with lesson creation. Evaluations were positive.

In addition, sixteen camp participants experienced the 4-H Honey Bee Challenge through the 4-H Ag Innovators Grant with Betty Jo Krosnicki. The 4-H Ag Innovators Honey Bee Challenge focuses on a critical component—honey bees—to growing food and feeding the world. Approximately one in every three bites we eat is the result of these pollinators at work. The challenge introduces youth to the critical role honey bees play in food production, connects bees to the USDA MyPlate model, provides an opportunity for youth to work in teams, assemble model bot kits, design efficient foraging routes and learn ways they can help bees in their own communities.

Student Intern makes a difference for Berrien County 4-H

4-H youth educators in Berrien supported and supervised one student intern from Southwestern Michigan College who provided more than 160 hours of service to Berrien County 4-H during fall semester (at the current volunteer rate that is an economic value of at least $3,856. $24.14 x 160 hours per the 2016 value from Independent Sector, https://www.independentsector.org/resource/the-value-of-volunteer-time/).

Berrien County 4-H Volunteer Training

With help from the student intern and District 13 4-H colleagues Janice Zerbe and Stephanie Consford, 63 adult volunteers and our two Berrien County support staff received 2.5 hours of financial management training and updates in late 2016. The 4-H program promotes a high standard of financial accountability for our volunteers so the training is a critical step in training volunteers. The bonus of the training and the 4-H financial guidelines documents is that many of the topics and procedures are also applicable to one’s day to day personal financial practices too.
4-H Exploration Days
2017 Impact Report

Exploration Days is a three day campus-based pre-college program that is designed to help youth build the skills they need to successfully transition to college and to life as an adult. Youth participants stay on campus in MSU residence halls and attend action-filled classroom and field trip sessions on a wide variety of topics, including animal science, business & entrepreneurship, international language & culture, performing & visual arts, and science, engineering & technology.

Nearly 2,000 youth attended Exploration Days in 2017 (22 from Berrien County). Post-event evaluations revealed that participating youth gained important life skills like decision making, problem solving, and communication. Youth also reported feeling more prepared to attend college.

- 90% of youth feel more independent
- 91% of youth built time management skills
- 84% of youth feel more prepared for college
- 73% of youth are now interested in attending MSU

“4-H Exploration Days has helped me get the feel of a college life. Being responsible for... being on time to class gave me a huge idea on how college will be like in my future.”

“Coming in here, I was set on another college, but after seeing the gardens, trails, and all the buildings, I can see myself going here in the future. MSU STOLE MY HEART!”

“[Exploration Days] helped me get out of my comfort zone and be more independent.”

**DID YOU KNOW?**

Youth who participate in Michigan 4-H pre-college programs are more likely to go to college: 68% of youth who participated in Exploration Days between 2009 and 2016 enrolled in college within six months of finishing high school. That’s 14% higher than the Michigan average.
Ensuring Strong Communities

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.

Regulating Medical Marijuana Facilities: A Workshop for Local Government

MSU Extension developed and delivered this training in quick response to recent legislation that requires local governments to make significant public policy decisions on barring or accepting and regulating five new types of commercial medical marijuana facilities. Fourteen workshops were held around the state in the spring of 2017 training 864 individuals state-wide, including 47 Berrien county local leaders who attended a workshop held in Van Buren County. Nearly 90% of evaluation respondents reported feeling more confident or much more confident to address this topic in their community as compared to before the workshop.

Since the initial workshop spree, District 13 Educator Wendy Walker has responded to local requests for a repeat of this workshop including a session in September 2017 in Galien where 27 Berrien county community leaders and interested citizens were in attendance.

Walkability Workshop: Design, Function, Maintenance and Liability

Fifty percent of U.S. residents say that walkability is a top priority or a high priority when considering where to live, according to the Urban Land Institute’s America in 2015 report. Local officials have the power to increase opportunities for walking and improve the pedestrian experience by designing and maintaining communities and streets to make them safe and accessible for all ages and abilities. Walkable communities are the foundation of placemaking. A walkability workshop held in Mattawan in November 2016 was attended by 7 local elected/appointed officials and consultants from Berrien County. This workshop goal was to help Michigan communities learn about and implement a strategic economic development initiative for the New Economy focused on the benefits of a walkable community.
New County Commissioners Workshop

Since 1968, MSUE and the Michigan Association of Counties have offered an educational program for new county commissioners following the November election. In late 2016, a team of MSUE educators offered the New County Commissioner Workshop at seven locations around the state. The workshop consists of four hours of training on the fundamentals of county government plus time for networking with other county officials, MAC staff, and MSUE educators and directors. Overall, 92% of the 213 attendees indicated that they found the program valuable for their professional (or personal) growth and development. Four commissioners from Berrien County attended.

Michigan Citizen Planner: Fundamentals of Planning and Zoning Course

Local communities that proactively plan to succeed in the New Economy can improve their quality of life and lead Michigan’s recovery and transformation. The Citizen Planner Classroom Program is delivered locally to provide a convenient way for volunteer community leaders to obtain the latest technical knowledge and skills they need to perform their duties more effectively and responsibly. MSU Extension also offers online and webinar versions of the course along with the Master Citizen Planner webinar series for continuing education. Seven appointed officials from Berrien County participated in the online program in 2016-17. Communities that proactively plan for their futures can improve their quality of life and lead Michigan’s recovery and revitalization.

Training and Updating Local Leaders on Current Issues Affecting Michigan Local Governments

Berrien County leaders participated in sessions taught by MSUE public policy educators in Lansing this year. Topics included energy policy reforms; what happened in Lame Duck in 2016 and local government finance reform. These updates were a series of programs offered in conjunction with the Michigan Association of Counties and MSU Extension Center for Local Government Finance and Policy.

Protecting Lake Shorelines: A program for lakefront property owners and Local Government Officials

Lake front property owners, citizens and communities benefit from healthy lake ecosystems. With over 11,000 inland lakes and more than 1,850 units of government in Michigan, it is evident that all local governments play a role in protecting the state’s waters. Two Berrien County residents joined 77 other participants this summer at a program to teach the benefits of natural shorelines and about the tools and resources to plan and protect natural shorelines.
Keeping Businesses Strong

The MSU Product Center Food-Ag-Bio assists county residents in developing products and businesses in the areas of food, agriculture, natural resources and the bio economy. Extension educators are specially trained as innovation counselors to deliver these services. Joanne Davidhizar is the innovation counselor housed in Berrien County that serves local residents as well as provides statewide leadership for the Michigan MarketMaker program.

Business counseling is conducted on a one-on-one basis and may take place at the MSUE office or the client’s home or business location. The assistance provided is tailored to meet the needs of the client and may include things like developing a business plan, navigating the regulatory maze, accessing the supply chain or seeking funding options. Joanne also assists clients in accessing specialized services they may need that are offered through Michigan State University like feasibility studies, nutritional labeling, food science, and packaging assistance.

- Eighty-three counseling sessions took place in Berrien County that assisted 15 clients. One new venture was launched and two new jobs were created. Several businesses made significant investments in their businesses resulting in $7,297,000 of capital formation.

- One processor of specialty foods is undergoing major expansion and expanding into the retail, food service and hospitality markets. Other businesses that received assistance were value-added agriculture operations and a brewery. The partnership between MSUE and the MSU Product Center is providing support for entrepreneurs in facilitating economic development across southwest Michigan.

- The 2016 Wine Grape Establishment conference reached 24 people at sites at Benton Harbor and Traverse City using video-conferencing technology. Over 86% were researching potential vineyard start-ups and learning technical information on planting grapes. About one third plan to start wineries in Michigan, including Berrien County.
Food Business Development Education

Michigan’s Cottage Food Law permits those with an entrepreneurial spirit the chance to sell certain foods, made in their home kitchens, to the public at local farmers’ markets. Both cottage food and licensed food workshops were offered by Michigan State University Extension combining food safety and business content.

- Two workshops held in the area during the 2016-17 program year on starting a licensed food business were conducted with the Niles Entrepreneurial & Culinary Kitchen with 11 participants.
- Twenty individuals attended a cottage food law classes including one hosted by Cornerstone Alliance.

Telfarm assists Farmers with Business Financials

Telfarm is a Michigan State University Extension accounting software that is specifically designed for farms. It makes it possible for farm managers to closely monitor the financial progress of their operations. MSU Extension educators use this system to teach producers, and others, good financial management concepts.

- Ten Berrien County agricultural operations are a part of MSUE’s Telfarm program.

Group GAP Certification

In partnership with Kalamazoo Valley Community College, MSU Extension has worked with small to mid-sized produce growers to develop farm food safety manuals and become USDA Good Agricultural Practices (USDA GAP) certified through the GroupGAP program. This allows growers to sell into new markets, including wholesale and institutional accounts.

- Five growers have been GAP certified in District 13 with two of those in Berrien County.

FSMA Produce Rule Grower Trainings

The Food Safety Modernization Act (FSMA) regulates growers of fresh produce in the United States for the first time in history. A greater awareness of food safety on the farm will lead to safer food and a decrease in foodborne illnesses.

Produce growers have obtained the required certification to comply with the Food Safety Modernization Act (FSMA) requirement by attending a MSU Extension Produce Safety Alliance Training between November 2016 and August 2017. More trainings are scheduled for fall and winter 2017.

- 77 growers from Berrien County received certification in FSMA.
- One of the first Produce Safety Alliance Grower Training sessions in the nation was held in Berrien County with 30 participants. The Federal Drug Administration-compliant certification training is required of fresh produce growers with more than $25,000 in sales by 2020.
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.

**Improving nutrition and increasing physical activities in Michigan communities**

Limited income and poor nutrition affect quality of life and can increase healthcare costs. The Centers for Disease Control and Prevention reports that more than 30 percent of Michigan adults are considered obese, and one out of every three deaths in Michigan is caused by cardiovascular disease, influencing the quality of life and adding billions of dollars each year in economic burden.

Between October 1, 2016 and August 31, 2017 MSU Extension provided interactive direct nutrition education to a total of 118,466 unduplicated individuals from across Michigan through the SNAP-Ed program. Out of the total number of participants reached with direct nutrition education (YTD) 86% were SNAP eligible participants (n=101,356). Our goal for the year is to reach at least 65,000 SNAP eligible youth and adults with direct nutrition education. As of August 31st we had reached 156% of our outreach goal for the year. The total number of contacts with SNAP-eligible participants (units of service) through direct education YTD is 320,379.

- SNAP-Ed programming has been conducted at 1657 different venues throughout Michigan, including summer SNAP-Ed programming at camps, fair grounds, summer feeding sites, and parks.
- Additionally 1,533,068 individuals have been reached year-to-date with nutrition education through indirect methods, such as written nutrition materials delivered face-to-face and nutrition messages sent through electronic media and radio PSAs.

**SNAP-Ed and EFNEP Impacts in Berrien County**

Nutrition Education is taught throughout Berrien County within schools and working with numerous agencies, teaching health and nutrition to clients.

During the 2016-2017 program year:

- 86 Adults completed a 6 week series
- 751 youth completed a 6 week series
- 929 Adults were present for a one time presentation
- 600 Youth were present for a one time presentation
Keeping People Healthy, continued

After participating in programming, adults demonstrated the following:

**Nutrition Practices**
- 30% more often planned meals in advance.
- 30% more often thought about healthy choices when deciding what to feed their families.
- 28% more often prepared foods without adding salt.
- 32% more often used “Nutrition Facts” on food labels to make food choices.
- 20% reported that their children ate breakfast more often.
- 69% improved in one or more nutrition practices.

**Food Safety**
- 12% more often followed the recommended practice of not allowing meat and dairy foods to sit out for more than two hours. 55% always followed this practice.
- 19% more often followed the recommended practice of not thawing foods at room temperature; 12% always follow this practice.
- 29% improved in one or more food safety practices.

**Physical Activity**
- 11% improved in level of physical activity.

Youth participating in programs also showed improvements. Youth demonstrated improvements in:

**Dietary Quality**
- 77% improved their knowledge or ability to choose foods according to Federal Dietary Recommendations.

**Physical Activity**
- 38% improved their physical activity practices or knowledge.

**Food Safety**
- 43% use safe food handling practices more often or gained knowledge.

**Food Resource Management**
- 45% improved their knowledge or ability to prepare simple, nutritious, affordable food.

Community Partners include Benton Harbor Street Ministry, Berrien County Health Department, Kinexus, Refreshing Fountain, Countryview Apartments, Benton Harbor Area Schools, Intercare, Briarwood Apartments, Disability Network, The Safe Shelter, Berrien County Youth Fair, Boys and Girls Club, Area Agency on Aging, First Congregational Church., International Academy at Hull, Countryside Academy Bethel Christian Restoration Center, Benton Manor, Steam Academy at MLK.
Supporting Child and Family Development in Berrien County

Parents and caregivers are the first to have an influence on a child’s development and future academic success. To help ensure children are ready for school, caring adults can do much to develop their early math, science and pre-literacy skills. Through MSU Extension’s early childhood education programs, parents and caregivers are equipped with the tools and knowledge necessary to enhance children’s skills in these important areas and to become their best resources and advocates. Trainings available for parents, caregivers and childcare professionals in this area enhance math, science and literacy development in early childhood.

- One program held in 2017 in St Joseph taught 40 foster grandparents how to build strong assets in children. 33 of the 40 participants were from Berrien County.

A child’s social and emotional skills, including the regulation of his or her emotions, capacity to solve problems and ability to interact with others have been identified as key factors in long-term academic and life success. With the support of MSU Extension resources and education, parents and caregivers have the opportunity to enhance the social and emotional health of children in a variety of ways. Trainings available for parents, caregivers and childcare professionals cover topics such as positive discipline, mindfulness, play-based learning, and other social and emotional skill development.

- 10 Berrien county caregivers participated in a variety of sessions held around the state to receive professional continuing education credits from August 2016 through September 2017.

ServSafe Managers Certification

Michigan Department of Agriculture and Rural Development and our local health department work hard to make sure safe food is prepared and served in restaurants and other food establishments. MSUE also helps by offering a national food safety certification program called ServSafe Manager training. This training is for those serving food to the public or who want to make themselves more employable by getting this managers certification.

Michigan food establishments that serve food to the public are required to have a certified manager under section 29 of the food law, 2000PA92, MCL 289.2129. Food establishments are to continually employ at least one certified manager per establishment. This certified manager must be a full-time employee of the establishment.

Topics covered in the ServSafe Managers training include food safety, personal hygiene, temperature control, preventing cross-contamination, cleaning and sanitizing, food preparation, storing food, thawing, cooking, cooling and reheating food. These topics are covered in both the 8 hour and the 16 hour classes offered by MSUE food safety educators.
Participants in ServSafe classes take a 90 question exam. They must pass with a 75 percent in order to receive their national ServSafe certificate. Research has shown that those food establishments who have a certified food safety manager have fewer food borne illness outbreaks. Over the last program year:

- Two 16 hour Serv-Safe courses offered in Berrien and Kent Counties were attended by 5 Berrien county food service managers;
- Two 8 hour programs held in Kalamazoo and Kent Counties were attended by two Berrien county residents.

**Making Michigan Recipes Work Training Series**

Michigan-specific culinary skills and menu planning training and supplemental materials for school nutrition professionals. The training was delivered regionally in a pilot round of five sessions between August and November 2016. 89 people attended the five pilot round trainings, representing 23 Michigan counties, including Berrien and Kalamazoo. The top informational items participants indicated learning were:

- How Michigan ingredients could be substituted for non-Michigan ingredients in recipes
- What SOPs are and how they can help your team safely handle Michigan produce
- When Michigan vegetables and fruits are in season
- How to connect to MSU Extension Community Food Systems Resources
- Participants reported learning an average of 3 new skills as a result of the training. The top skills participants indicated learning were:
  - How to properly and safely use kitchen knives
  - How to store locally-grown produce

A train the trainer course was held in 2017 for statewide trainers from the School Nutrition Association of Michigan. The curriculum was adopted by the School Nutrition Association and is now part of their statewide training offerings. Attendees of the Making Michigan Recipes Work training will make changes in their institutional food service practices that will increase purchases of Michigan specialty crops. This will ultimately boost Michigan’s local economy, support Michigan’s specialty crop producers and better connect producers to Michigan’s schools and communities. In schools, serving more specialty crops will provide fresh, healthy products to Michigan students, thereby increasing their overall school nutrition. This has the potential to increase academic performance, focus, and overall long term health outcomes for Michigan students.

**Food Hub Presentation**

MSUE Community Food Systems Educator responded to a request to present a program for the Harbor Country Chamber of Commerce’s 2016-17 Lunch and Learn series in Three Oaks in January 2017. The chamber organizers had identified the topic of food hubs as one of interest to the group. The program included updates on food systems in the nation and in Southwest Michigan. 21 Berrien County residents participated.
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.

**Newsflash! Lake Michigan’s charter fishing industry is…remarkably stable?**

For the past ten years our Sea Grant Extension Educator serving Berrien County has worked to understand the economic impact of Michigan’s charter boat industry. This has big implications for coastal tourism. In 2016, charter fishing generated $23 million in Michigan’s coastal communities, resulting in 476,361 employment hours. Lake Michigan’s charter fishery is the largest, accounting for around 70% of the state’s charter fishing effort according to Michigan DNR. Charter captains in Michigan report their catch and effort to DNR, and Michigan Sea Grant uses this information to calculate economic impacts and investigate trends.

In southwest Michigan alone, charter fishing generated over $2.8 M in 2016. South Haven charter boats logged 804 trips last year, contributing over $1 M to the Van Buren County economy and generating 21,420 employment hours. Farther south, charter boats in the Benton Harbor and St. Joseph area took clients on 1,262 trips and New Buffalo captains logged 64 trips. All told, this generated $1.8 M in economic output and 35,327 employment hours in Berrien County.

**Big salmon are a big draw**

Last year was a tough one for fishing. The Chinook salmon is a prized species on Lake Michigan, and charter harvest rate of Chinook salmon fell to the lowest it has been since 1995, when bacterial kidney disease (BKD) wiped out many of the lake’s salmon. According to Michigan DNR, charter harvest in Michigan waters of Lake Michigan ranged from 1.09 to 1.94 Chinook salmon per trip in the early 1990s, ranged from 2.24 to 7.40/trip 1996-2014, and fell from 2.27/trip in 2015 to 1.94/trip in 2016.

This understandably caused a lot of concern among charter captains last year. Angst was compounded by plans to reduce stocking, although the goal of the stocking cut was to prevent a complete crash in the fishery. Some of the debate centered on which species to cut: lake trout or Chinook salmon.

A recent study funded by Wisconsin Sea Grant found that Wisconsin anglers on Lake
Michigan are willing to pay more to target Chinook salmon ($140/trip) vs. lake trout ($90/trip). An earlier study on the Lake Huron charter fishery found that the decline of Chinook salmon catch rates was linked to a 51% drop in charter fishing effort and resulting economic impacts, although increasing gas prices in the late 2000s were also a factor. During the Lake Huron charter fishing crash of the mid-2000s lake trout catch rates remained high. But what does this all mean for Michigan waters of Lake Michigan?

**Consistent economic impacts are the rule**

Despite low Chinook salmon catch rates in 2015 and 2016, charter trips and resulting economic impacts did not exhibit the same kind of crash that occurred in Lake Huron around 2004. In fact, Lake Michigan charter trips remained above the post-BKD average of 11,577 trips/year in 2015 and 2016 according to Michigan DNR. A 2009 charter economic study found that the economic impact of charter fishing around Lake Michigan averaged $14.0 M; due to economic factors (e.g., rising gas prices, recession) this fell to $11.6 M in 2009. After adjusting for inflation, this means that Lake Michigan charter fishing generated an average of $15.7 M in Michigan and bottomed out at $12.6 M in 2009. In 2016, Michigan Sea Grant found that Lake Michigan charter fishing generated $15.7 M in economic impacts for Michigan coastal communities. Dead on average, despite the low Chinook salmon harvest rate.

**Few fluctuations relative to Huron**

The fact of the matter is that Lake Michigan’s charter fishery has been much less volatile than Lake Huron’s, both in terms of harvest rates and economic impacts. While Lake Michigan harvest rate dropped to just under two Chinook salmon per trip in 2016, Lake Huron crashed to fewer than one Chinook salmon every two trips (Michigan DNR data) and economic impacts of charter fishing fell by over 50%.

In other words, anglers could still expect a good chance that their boat would harvest a Chinook on Lake Michigan last year while this was not the case after the decline of salmon on Lake Huron. Other species (including lake trout, coho salmon, and steelhead) play an important role in the charter fishery, too. Many anglers are thrilled to catch any of our Great Lakes trout and salmon, all of which make good eating and top out at an impressive size.

Given the recent troubles with predator-prey balance in Lake Michigan and the high prey consumption of Chinook salmon, we can expect a more diverse mix of predators in the future along with modest Chinook catch rates. The good news is that the economic impacts of Lake Michigan’s charter fishery appear to be quite stable so long as anglers can still expect a reasonable chance at boating a ‘king.’
Michigan Clean Boats, Clean Waters Program

MSU Extension is the education outreach partner for the Michigan Clean Boats, Clean Waters (MICBCW) program. Operating statewide, several trainings were held throughout the state. The MICBCW program trains volunteer leaders in recruiting and training local volunteers to inspect watercraft at local lakes to help prevent the spread of aquatic invasive species (AIS).

Over the last year (2016-2017) we recently finished online video training hosted at www.micbcw.org and updated curriculum for this program. It is now available free to everyone desiring to promote the “stop aquatic hitchhikers” message. Michigan Clean Boats, Clean Waters Volunteer Heroes actively participate with the Department of Natural Resources Landing Blitz events every July. We continue to work with volunteers to inspect boats at local landings for plants attached to prevent the spread of AIS. This year we have delivered presentations to local lake association groups about the MICBCW program and other programs available to them through MSU Extension.

Statewide programming both in person and online reached over 235 individuals across the state, as well as through participation with the State Landing Blitz Week.

Natural Shorelines Partnership Natural Shoreline Landscaping. Protecting Your Shoreline:

A workshop for inland lakefront property owners

In cooperation with the Michigan Natural Shoreline Partnership, local County Conservation District offices, and local organizations, MSUE provides four hours of intensive instruction in shoreline landscaping and erosion control techniques. Featured workshop topics include healthy lake ecosystems, designing and maintaining natural landscapes on lake shorelines, bioengineering techniques to address high impact shorelines, using native plants in shoreline landscapes, attracting fish and wildlife to your shoreline, shoreline invasive plants to watch for, Michigan rules and regulations, and local examples of natural shoreline projects. This program is a part of a statewide effort with multiple simultaneous sessions held throughout the state annually.

- Four repeat programs were held in 2016-17 in Berrien, Cass, Van Buren & Kalamazoo Counties
- Thirty-eight attendees from District 13 included 9 from Berrien
When you support MSU Extension, you help to provide educational programs that supply participants with the knowledge to develop and sustain a profitable and efficient agricultural business, as well as, safe and effective production practices. Participants also learn how to optimize and reduce the use of pesticides and fertilizers, and how to conserve and protect water resources.

**Fruit Team work in Berrien County**

The MSU Extension Fruit Team works with fruit farmers statewide to solve production issues, promote and educate on new technology, and change production systems to move towards environmental sustainability. Each of the team member specializes in one or a few crops – for example apples in Grand Rapids, cherries in Traverse City, blueberries in Paw Paw, and peaches & grapes in Benton Harbor. Brad Baughman is the member of the fruit team working primarily in Berrien County with a focus on juice grape and wine grape growers. The work with producers includes: one-on-one advising for anyone on a medium to large scale growing grapes. This is done over phone, email, and with site visits. A site visit may include pictures of problem plants, soil samples, reviewing spray records and fertilizer records, and/or sale of educational materials on pest management, soil management, or grape horticulture. Problems are diagnosed and solved; management recommendations are made for more efficient and sustainable production. A biweekly grape “scouting” report is written and emailed to any grape growers who sign up. This report contains: what stage of development pest and diseases are at, how current weather conditions are likely to affect them, and treatment recommendations.

Brad also works with his colleagues on campus and Statewide to put on educational programming and events for grape growers. This education is based on current research on viticulture, insect management, disease management, soil health, vineyard equipment and enology being conducted by MSU, and other Universities and organizations around the country. Some specific impacts and programs of the fruit team working in District 13 and Berrien county include:

- **National Crop Insurance Society in-service at SWMREC**
  Crop Insurance Adjusters know a lot about corn and soybeans and calculating losses but little about perennial specialty crops such as blueberries and grapes. Sixty crop adjusters and others attended this day long workshop.

- **Monday Fruit Updates April 3 to June 26**
  Twelve weekly one to two hour updates for blueberry, grape and tree fruit growers in Berrien and surrounding counties. Attended mainly by smaller and beginning
growers. Attendance varies from 30 to 60 people. Most participants were Berrien County tree fruit, and small fruit growers (strawberries, raspberries and blueberries). Presentations and discussions focus on current and upcoming pests and controls.

Annual programs to inform and educate growers include:
- Viticulture Field Day, Benton Harbor
- Great Lakes Fruit and Vegetable EXPO, Grand Rapids
- Ag Action Day, Kalamazoo
- Southwest Horticulture Days, Benton Harbor
- Special Meeting on Climate Change and Grape Production, Benton Harbor
- Annual Fruit Update, Paw Paw and Benton Harbor
- Fruit Integrated Pest Management series, Coloma

**Southwest Irrigation Network**

For 2017 there were 14 farming operations enrolled in the Southwest Irrigation Network (SWMIN). Sixty-five fruit, vegetable and field crop sites were monitored on a weekly basis across Berrien, Cass and Van Buren Counties. Producers were provided weekly reports as to the status of the moisture at their sites. Weekly irrigation recommendations were given to maximize water use efficiency at each site and for each crop stage. Recommendations were based on current soil moisture, crop stage and rainfall forecasts.

**Protecting Pigs, People and the Public in Berrien County**

During the 2016 fair and exhibition season in Michigan we saw 3 incidences of swine influenza outbreaks at county fairs. Concern for the youth and animals, at the Berrien County Youth Fair, along with the number of visitors to the fair the Berrien County Youth Fair Board worked with the local Michigan State University Extension Pork Educator, Beth Ferry, to prepare educational information, formulate a prevention plan, prepare for a potential outbreak and design communication materials for fair goers and consumers to be displayed at the fair.

Swine influenza, sometimes referred to as swine flu, is a virus that commonly circulates in the pig population. Influenza viruses are classified by the types and further classified by strains. Like people, pigs are susceptible to many strains of flu. Swine influenza is a zoonotic disease and can occasionally be transmitted to humans. Human infection with flu viruses from pigs are most likely to occur
when people are in close proximity to infected pigs, such as in pig barns and livestock exhibits housing pigs at fairs. Exhibitors and caretakers are those at highest risk and should be following proper biosecurity to protect themselves and their animals.

Focused on reducing the risk of an influenza outbreak at the fair, the fair board, swine superintendents, the local health department a Michigan State University Extension worked to implement biosecurity practices to reduce transmission of any virus, created signage to encourage people to use proper hygiene practices and educated the youth exhibitors and parents at the fair. Over 500 fair exhibitors and parents attended an informational meeting that was led by MSU Extension and involved Berrien County Youth Fair officials, and the Center for Disease Control. Focused on protecting health, Beth Ferry hit many key points including, explaining what influenza is, how it is spread and how to protect your health.

Communication between; MSUE, local and state health departments, CDC, Michigan Department of Agriculture & Rural Development, MAFE and local fair boards was evident during the county fair season in 2016. MSU Extension was also involved with helping CDC with their TMI (Text monitoring illness system) and response survey active in Michigan.

**MSUE Field Crops programs**

- **Southwest Michigan Field Crops Pest Control Update Program, February 22, 2017** at the Dowagiac Conservation Club. 67 growers in attendance. MSU Specialists shared research and pest management insights for anticipated challenges during the 2017 growing season.

- **Irrigated Crop Update**-Sponsored by Co-Alliance, held in Niles. Discussion of topics important for irrigated field crop producers, including irrigation water management, scheduling for corn and soybeans, water use during critical growth stages, system management and pest control considerations. Lyndon Kelley, Eric Anderson and Bruce MacKellar- 22 growers were in attendance.

- **MSU/Purdue Irrigated Corn and Soybean Production Program, February 4, 2017.** Joint program with Purdue looking at all aspects of producing top yielding irrigated field crops. 16 growers from Cass County Participated. Lead Educators-Mike Staton, Lyndon Kelley, Bruce MacKellar.

- **Soybean Harvest Field Day, Sept. 27, 2016 near Edwardsburg.** Lead Educator, Mike Staton. Sponsored by the Michigan Soybean Promotion Committee. Growers looked at new harvest equipment in operation. Discussed ways to limit harvest yield losses on soybeans. Around 42 growers were in attendance.
MSU Extension has developed a workshop specifically designed for people who work with agricultural producers and farm families who want to know more about managing farm-related stress and learn ways to approach and communicate with those in need.

Responding to Stress in Farming Communities

The National Institute for Occupational Safety and Health recently examined 130 occupations and found laborers and farm owners had the highest rate of death due to stress-related conditions like heart and artery disease, hypertension, ulcers and nervous disorders. In 2016, the CDC reports that out of every 100,000 farmers, 90 commit suicide. That is six times higher than the National rate of suicide with non-farmers. Michigan has seen an increase in suicides and suicide attempts over the last year since the commodity prices have fell drastically.

Phase one: Mental Health First Aid training is a full-day, hands-on, certification course that can help those people working with farmers and farm families to recognize the signs and symptoms of mental illness and emotional crisis. Two classes were offered during 2016 and 35 MSU Extension and Industry professionals are now certified in Mental Health First Aid.

Phase two: MSU Extension has developed a workshop specifically designed for people who work with agricultural producers and farm families who want to know more about managing farm-related stress and learn ways to approach and communicate with those in need. Educators will be discussing the present agricultural market situation with an overview of how this has affected a farm’s financial situation and cash flow, communication techniques, highlighting impact of stress on our body and state of mind, providing information on how to recognize some warning signs of depression, self harm and mental illness.

Since October 2016, workshops have been offered throughout the state of Michigan and Indiana which included 300 participants. A session held in Lawrence at the Van Buren Conference center was attended by 27 farmers or ag professionals 5 of them from Berrien County. As a result of the program:

- 72% of participants increased their understanding of the current agriculture financial situation;
- 87% increased their understanding of the impact that stress has on their own bodies.
- 91% were now able to recognize warning signs of depression, suicide, and mental illness.
- 95% learned where to send people for help in the community, and of those, over 50% said their awareness of community resources greatly increased.
- 95% of participants will use MSU Extension resources and training in the future.
- 94% of participants were already familiar with MSU Extension prior to this workshop; 68% had previously participated in an MSU Extension workshop on a different topic.
- 89% of participants left the workshop more aware of MSU Extension resources and opportunities.
Berrien County Michigan Migrant Child Task Force Outreach

Mariel Borgman, Educator in Community Food Systems in District 13 participated in the Michigan Migrant Child Task Force Southwest Michigan Outreach Event in 2017. The goal of this event was to visit migrant agricultural labor camps in Berrien County to distribute critical family supplies, connect families with resources and support, and assess the living standards of the camps. Borgman offered this personal reflection: “We visited several camps over the course of the day. I had never visited a migrant labor camp before, and it was an eye-opening snapshot of the experiences of the migrant workers that are a large, and often overlooked, component of Michigan’s community food systems.”

MISSION:

Michigan State University Extension helps people improve their lives through an educational process that applies knowledge to critical issues, needs and opportunities.