Message From the District Coordinator

MSU Extension (MSUE) in Marquette County continues to provide local educational programming and impacts to meet Marquette County and Michigan’s needs. Extension staff members work diligently to maintain programming and reach as many residents as possible each year. Educators and all staff have worked hard to innovate creative and effective ways of providing programming at reduced costs. This report provides highlights of MSU Extension’s work in Marquette County during 2012 within the structure of our four programmatic institutes:

» Agriculture and Agribusiness Institute (AABI)
» Children and Youth Institute (CYI)
» Greening Michigan Institute (GMI)
» Health and Nutrition Institute (HNI)

MSU Extension has changed in many ways since our beginnings in the early 1900s. However, we have not changed our focus of connecting education and research on campus to the people and businesses in the communities we serve. Thank you for your continued support of this critical partnership.

Sincerely,
Doug Brahee, Interim District 1 Coordinator

MSU Extension maintains a vibrant and relevant web presence with hundreds of new informative entries every month. All MSU Extension educators throughout the state contribute to this effective and efficient way of providing on-time educational information to everyone with web access. Find the website at http://msue.anr.msu.edu/. We integrate new technologies into all of our educational programming, workshops and communication streams on a regular basis, from our Facebook presence to our Twitter utilization for producer crop alerts. The website records more than 90,000 hits every month as Michigan residents rely more and more on web-based learning opportunities.
The Marquette County 4-H Program currently has 165 youth enrolled in 15 4-H clubs. The 4-H Club program is just one of the methods of delivery that is utilized to assist youth to build and practice life skills. These clubs and committees are supported by 64 adult and 55 youth volunteers. These 55 youth reported having given 1147 hour of their time to community service last year. Animal and plant sciences, civic engagement, community/volunteer service, leadership, personal development, communications and expressive arts, and food and nutrition are some of the foundational educational disciplines offered. These can take the form of various projects including market livestock, dairy, forestry, field crops, gardening, crafts, food preservation, citizenship, junior leadership, shooting sports and outdoor education along with numerous others.

Ongoing 4-H educational programs will continue to build on the solid base of volunteers and the broad array of youth educational opportunities in Marquette County. Exploration Days, 4-H Capital Experience, National 4-H Congress, and the 4-H International Exchange Programs are state and national events that continue to be available to youth in Marquette County. Youth leaders and teens have a plethora of learning opportunities offered at Kettunen Center and Marquette County adult leaders and youth take advantage of those on an annual basis. Throughout the year, the center offers workshops for volunteers to learn projects and find out about related youth development skills that they can use in their county program. During the 2013 program year Marquette County had representation at two trainings held at Kettunen Center.

### 2012 4-H Program Participation Numbers

<table>
<thead>
<tr>
<th>Category</th>
<th>Number</th>
</tr>
</thead>
<tbody>
<tr>
<td>4-H Program (all delivery methods included)</td>
<td>418</td>
</tr>
<tr>
<td>(non-duplicated)</td>
<td></td>
</tr>
<tr>
<td>4-H Club Membership</td>
<td>165</td>
</tr>
<tr>
<td>4-H Adult Volunteers</td>
<td>64</td>
</tr>
<tr>
<td>4-H Youth Volunteers</td>
<td>55</td>
</tr>
<tr>
<td>Short Term/Special Interest Members</td>
<td>178</td>
</tr>
<tr>
<td>Camping Programs (overnight, quilt, photo camps)</td>
<td>55</td>
</tr>
<tr>
<td>School Enrichment Members</td>
<td>164</td>
</tr>
<tr>
<td>4-H Clubs</td>
<td>15</td>
</tr>
</tbody>
</table>

These Marquette County youth participated in the 2013 4-H Exploration Days on the campus of Michigan State University.
Locally based youth educational events include 4-H teen leader and club officer training, the regional 4-H Leadermete Conference, Proud Equestrian Program (PEP), 4-H camping opportunities, and the Marquette County Fair. These activities provide youth the opportunity to both develop and practice life skills, which will enable them to be academically successful and move on to promising careers. Hundreds of Marquette County youth have the opportunity to experience educational activities and programs each year.

The UP Leadermete has been held in Marquette the past two years, and between 80-100 youth and adult leaders from across the UP attend annually. At the conference, leaders of all ages develop new knowledge and skills which they apply in their communities through leadership, citizenship, and service.

The awards Recognition Banquet is an opportunity for the 4-H community to recognize youth and their achievements along with the volunteers who mentor them. This day is an important recognition component of the county 4-H program. Approximately 100 youth members, adult volunteers, family and friends attended the recognition banquet to witness the presentation of awards and certificates and enjoy a social time together.

4-H Exploration Days at MSU provides youth aged 11 to 19 with the opportunity to experience life on a college campus. The 4-day event held in June each year gives more than 2,400 4-H members a chance to live in the dorms, experience a college setting, and be self-directing and responsible for getting themselves where they need to be. In 2013, 42 youth attended from Marquette County. Participants traveled by charter bus, stayed in the dorms, participated in classes and workshops, attended a statewide awards ceremony and were involved in a community service project. Marquette County had the Horse Project State Awards winner. She submitted a portfolio and was interviewed by a panel of judges. Based on this, she was selected to be the winner. This is a great honor in its own right, but the winner was just 16 when she won this highly competitive project area for State Awards. She and her club leader have dedicated a great deal of time to working with the club. They also have been regional and state Horse Bowl winners in the recent past.

The Marquette County Fair, held in Gwinn, is an opportunity for 4-H clubs and individual members to display 4-H projects as well as their clubs’ community service activities at the facilities south of Marquette. Members involved in animal projects are kept busy participating in horse shows, livestock shows and small animal shows. Other 4-H members are kept busy in the general exhibit area with
exhibits in horticulture, grains, crafts, baking and food preservation, among others. Eighty-four percent of all the 4-H youth in club programming participated during the 2013 4-day fair. There were non-competitive events plan for young members in the 4-H tent. Youth and adult volunteers serve in many supporting capacities at fair time, including show ring personnel, department superintendents, show day clerks, and announcers. The fair is a great opportunity to promote the 4-H program, the volunteer opportunities available for adults and the youth development opportunities available to all youth in the county.

Building the capacity of volunteers and of communities to effectively and successfully work with youth is of top priority. MSU Extension partners with other youth-serving agencies to provide programming and professional development experiences using a research-based curriculum. We make equipping adults to work with youth in engaging, age-appropriate, quality and positive youth development activities a priority. Marquette County has added seven new leaders in the past year that assist with youth programming in a number of capacities. We provide new professionals with current, relevant and up-to-date researched information on program delivery and youth-learning capacities. The program continues to be a strong and stable educational program, meeting the needs of county youth.

Participation in Michigan 4-H State and National programs provides Marquette County youth with the opportunity to develop leadership skills and learn how to apply their efforts towards positive citizenship. Marquette County youth annually participate in the Michigan 4-H Capitol Experience program, which is a 4-day educational experience that takes place in Lansing each spring. During Capitol Experience, 80-100 youth from around the state learn how public policy decisions are made, and how youth can have a voice in the legislative process. At Capitol Experience, youth participants work in small groups to examine a public policy issue and experience the Michigan 4-H Legislative Simulation. The legislative simulation tasks the teams of youth with developing a mock legislative bill for a public policy issue area through visits and interviews with state legislators, legislative aides, state agency staff, lobbyists and community agency staff. Youth also experience state government in action by observing Senate and House sessions and committee meetings. Through their participation in the program, youth meet their state legislators and gain confidence in their ability to create positive change at the local and state level. In 2012, four Marquette County youth participated in the program and in 2013, three Marquette County youth participated.
Programming in the Agriculture and Agribusiness Institute (AABI) focuses on enhancing agriculture production throughout the state as an important component of the state economy and bio economy while protecting natural resources. Programs target all production scales including commercial and consumer agriculture.

**Increasing economic activity by increasing and expanding agricultural operations** is a key focus for the Upper Peninsula AABI staff. Additionally, AABI and GMI (Greening Michigan Institute) staff members have been working together to help facilitate this economic growth through efforts to assist existing farmers in expanding operations and to empower beginning farmers to increase farm start-ups. MSU Extension encourages farmers to increase revenues through efforts to improve production methods with sound environmental stewardship, produce profits through financial management and develop more marketing opportunities with local customers and external markets. Marquette County producers participated in numerous workshops and educational sessions in 2012-13. Over 100 Marquette producers participated in a wide range of workshops including the annual potato field day, malting barley production, forages production, and organic vegetable production.

Thirty two Master Gardeners and others participated in the Smart Gardening workshop held earlier this fall, and more than 40 residents contacted the free gardening hotline and sought specific information from other Michigan Master Gardeners. Since mid 2012 nearly 70 soil samples were analyzed for both home gardeners and commercial producers in the Michigan State University soils lab.

Implemented in the Upper Peninsula by the AABI staff, the **Beginning Farmer series** consists of five consecutive webinars. Participants joined the webinar by computer from the comfort of their own homes or attended one of the three to five local sites where they viewed the webinars in a group setting. Marquette County had 6 participants in the webinar series. The sites varied depending on the date of the delivery. Sessions covered grazing, grass-finished beef, field crops and hay, field-grown vegetables and the utilization of hoop houses. There was a lot of interest in the hoop house seminar by Marquette county beginning farmers.
The Ag for Tomorrow conference takes place annually in Escanaba in early March. In 2013 twenty four Marquette County producers participated in a number of workshops. The conference offers a new set of 20 to 24 workshops to choose from each year, ranging from commercial dairy production to field crop production and from agri-tourism to entrepreneurship in sustainable farming operations. A keynote speaker presents as well.

A survey of people who had attended two or more of the conferences revealed the following:

» 55 percent indicated that they had connected with new stakeholders in the food supply chain.
» 63 percent indicated increased economic activity and 46 percent made new investments in their agricultural businesses.
» 68 percent indicated they have increased income.
» 55 percent applied new methods to decrease production costs on their farms.
» A full 75 percent indicated that they had implemented a new best management practice.

Managing agriculture business focuses on making labor both productive and efficient. The MSU Product Center Food-Ag-Bio provides services such as one-on-one counseling as well as exploring business concepts, working with venture start-ups, including some specialized services such as product testing, market analysis and feasibility studies. An offshoot of this effort is the capacity building of the cottage food industry within Michigan. Developing entrepreneurs and businesses – whether new ventures or business expansion – remains high on the goal list. As stated elsewhere in this report, Marquette County has had residents participate in both the cottage food law as well as food safety.

As many new producers begin to immerse themselves in the direct market/farmers market venues that have sprung up all over the state, more and more people are using the MSU Horticulture Hotline as a source of information for home horticulture and small producer questions. A number of the Marquette County resident calls to the hotline related to production of vegetables for the local market. The MSU website (http://msue.anr.msu.edu) also provides the opportunity to click to the MIgarden site http://migarden.msu.edu/, which provides hundreds of documents to meet the needs of the home gardener in an easy-to-use format.
Protecting natural resources is also fully integrated into production education. Issues on the horizon are increasing the efficiency of water availability, condition, and usage, as well as concerns about nitrogen and the environment. The social responsibility of producers, processors and marketers, as well as consumers are all emerging as issues for the future. Focusing on optimizing nutrient use with plant needs is essential with the goal of addressing soil health and protecting the environment. MSU Extension is addressing reducing sedimentation and runoff with the implementation of cover crop rotations. Here the 70+ samples Marquette County residents have forwarded to the MSU soil lab on numerous occasions in 2012-2013 may have assisted them in determining correct fertilization application rates, which contributed to less excess nutrients being washed into our fresh water streams. MSU Extension supplies a primer on how to get your soil tested located at http://msusoiltest.com/. It also provides a description of how to understand your results.

Increasing world population places more pressure on farmers to increase food production locally as well as around the globe. However, recent research has shown localized changes in climatic conditions over the last three decades, and these changes make food production less reliable than in the past. Notable changes in climate include warmer temperatures, more frequent severe weather events, more precipitation and an earlier onset of spring. These changes in climate have resulted in pest survival over the winter and potentially more pest generations per season, increased erosion due to extreme precipitation events, longer and more variable growing seasons, and periods of excessive wetness and drought. All of these changes pose a threat to producing a crop year in and year out. Michigan farmers are faced with the challenge of meeting the needs of our growing population while maintaining the sustainability of livestock and cropping systems.

To address some of these important issues, an MSU Extension team hosted four meetings around the state targeting four unique segments of Michigan’s agriculture: fruit, crops and livestock, state and federal governmental agency staff, and the agribusiness community. Each of the meetings, a full-day event, included a brief morning overview of the most current research about climate variability and production practices that promote sustainable production of food and fuel around the United States. During the afternoon, we hosted a listening session where participants openly discussed climate-related issues, impacts on Michigan agriculture as a whole and recent weather events on local farms. Questions were designed to establish the needs of each of these segments to prioritize how MSU Extension can assist growers and producers. The MSU Extension team consisted of both field staff and campus specialists who work in disciplines associated with the four above named groups.
Agriculture & Agribusiness Educational Programs

Research from communication experts highlights the importance of dialogue with stakeholder groups when addressing complex topics such as sustainability and climate variability. The MSU Extension interdisciplinary team decided that the optimal strategy for discussing these difficult issues and their impacts on Michigan agriculture is to ask farmers about their current and future challenges in producing sustainable and economical food and fuel. Once the team gains a better understanding of the key challenges impacting Michigan producers, we can tailor Extension programs, research and outreach programs to meet the immediate and future demands of the agricultural community.

We hope these four sessions will begin an open and honest discussion on how to meet production objectives in Michigan with variability in climatic conditions. By determining needs and establishing research and outreach programming priorities, MSU Extension can assist agricultural producers in adapting production operations and minimize on-farm risk if weather-related challenges continue.

Following a difficult 2012 year for most of Michigan agriculture, we hope that this season will bring a bountiful crop for all of the state’s growers. However, if model predictions are correct and we continue to see greater variability in our climate and weather patterns, we hope these meetings will help the Michigan industry and MSU work together to keep farming alive and well in Michigan.

The AABI is interested in educating consumers regarding farm production and all aspects of community food systems. MSU Extension provides numerous opportunities through the Breakfast on the Farm educational event and production, marketing and packaging expertise for producer-to-consumer products. Building producer capacity in supplying local community food systems has sparked the interest of many small producers in a number of locations in the state. In 2012, MSU Extension brought Breakfast on the Farm to the eastern Upper Peninsula, and in 2013, Extension staff provided support to the Farm Bureau-led Breakfast on the Farm event in Menominee County.

U.P. Ag Connections - A monthly newsletter directed toward agricultural issues across the entire U.P and beyond is distributed to a total of 1,136 agribusinesses and individuals monthly. Sixty three Marquette County recipients receive the newsletter. This one newsletter provides a single source of educational information for the entire agricultural community.
Greening Michigan Educational Programs

The GMI has resources and expertise in a number of areas available throughout the state. Sustainable natural resource management and a stable and safe food system are two of the principles upon which GMI is based. Economic vitality for the state of Michigan, fiscally sustainable households, and communities and local governments that are well prepared and ready to face the current and upcoming challenges are an important part of their mission.

MSU Extension addresses the financial health of individuals and families through community-based educational Financial Literacy Programs. The overarching goal of these efforts is for Michigan consumers to become aware of their personal financial profile and to adopt sound financial practices. These practices include managing a spending and savings plan, utilizing financial products and services in a beneficial manner, and identifying the goals and the steps necessary to reach self-sufficiency. Marquette county residents have participated at least 3 different financial literacy programs in the past 14 months. Eighteen attended a seminar on personal finance held in conjunction with the Parenting Awareness Michigan conference, 11 participated in the Personal Investor Series, and 6 took advantage of the personal finance drop in sessions held at Peter White library.

Participants of the MSU Extension financial education programs show significant changes in the frequency of writing spending plans, keeping track of spending and income, saving money regularly, reviewing credit card bills for accuracy, and paying off new credit card charges monthly. Other outcomes shown in the evaluation results include participants reporting the ability to pay down their debts, obtain a housing payment that fits within their budgets, and making choices today that will make retirement a reality.

Housing Education Programs train Michigan residents to be better consumers and help to secure and retain home ownership in the state. Sustainable housing is important to individuals and families. Homeownership education and counseling gets buyers into lower-cost mortgages and helps to improve credit scores, reduce defaults, improve borrowers’ financial standings, and increase the likelihood of troubled borrowers seeking foreclosure prevention assistance. Based on evaluation results, housing education was effective in reaching the goal of helping Michigan residents secure and retain homeownership as well as avoid foreclosure or to proceed with foreclosure as informed consumers. Michigan residents that completed MSU Extension housing education programs reported, as a result of the program, saving money to prepare for homeownership, improving credit scores, setting aside funds for home maintenance and shopping around periodically for the best home insurance coverage.
Other program outcomes show residents were able to identify the best mortgage type for their situations and gained new skills to calculate reasonable monthly housing costs based on household budgets. During 2012, MSU Extension served 4,212 people in Michigan through 416 financial literacy and housing education series and workshops. With the recent legislative special appropriation targeted to financial literacy, the 1st District has recently had one of our educators move into the housing education role for the district.

Natural resources literacy, enterprise development and property protection are topics addressed through signature programs in natural resource leadership development, volunteerism, addressing ecosystem threats, sustaining forestry best practices, natural resource business development, and Firewise training and planning for individuals and communities. MSU Extension strives to explore new opportunities as they emerge in natural resource-based enterprises. More than 100 Marquette County residents participated in educational programming, individual consultations, and information access, learning skills in protecting, preserving and utilizing forest resources in 2012-13. 15 participated in programming that addresses the ecological health of the forests/environment around us. Programs were initiated that dealt with forest tree health, invasive species in our forests and adaptive management of our forests in light of our changing climate.

The Firewise program is delivered by MSU Extension http://firewise.msu.edu/ throughout the UP, the northern Lower Peninsula, and the lakeshore counties of southwest Michigan with the goal of teaching strategies for homeowners and local governments to reduce the risk of property and life loss resulting from wildfire. In the spring of 2013 more than 400 Marquette county residents took advantage of the Firewise program through natural resource display at the home show. Those 400 stopped to get questions answered, participated in a homeowner simulation, and collected recommended procedures for assuring that their yard and home would be less susceptible to wildfire damage. These opportunities provided opportunities for participants/contacts to become more aware of the forest resources around them. They also learned how to protect property and belongings from the threat of wild fires. 20 participated directly in the entire Firewise training session.
This past spring, MSU Extension (Neumann-Marquette) published a new resource for local governments interested in minimizing wildfire risk – sample zoning ordinance language that includes Firewise property access, construction, and landscaping practices. In May, MSU Extension highlighted this new ‘Firewise Zoning’ resource to the Marquette County Townships Association. We also delivered a Firewise presentation highlighting this new resource to 128 people during a Chocolay Township Planning Commission meeting in May (which coincided with a public hearing on a proposed ORV route). MSU Extension has had a Firewise educational display at the Ishpeming Township National Night Out (August 6), and the Marquette County Fair (August 8-11). Later this fall, Brad will be partnering with the Marquette County Resource Development Department to educate county residents on Firewise concepts as part of the County’s Community Wildfire Protection Plan (CWPP).

The Michigan Sea Grant College Program (MI Sea Grant) is a collaboration between MSU and the University of Michigan, with support from the National Oceanic and Atmospheric Administration. MI Sea Grant delivers programs that help foster economic growth and the protection of Michigan’s coastal and Great Lakes resources. MI Sea Grant collaboratively works with communities to provide programming in maintaining and developing productive and efficient use of natural resources around and in our Great Lakes. Programming may include water safety, fish marketing, aquatic plants, invasive plant identification and control as well as a wide range of related issues. Due to record low lake levels on both lakes Michigan and Superior, MI Sea Grant has conducted several lake levels fluctuation educational programs.

Many sectors are impacted with lake level conditions, and regulatory issues with the State of Michigan and the United States Army Corps of Engineers often surface. MI Sea Grant continues to track levels and has been heavily involved in working with the State of Michigan to help meet the needs of coastal communities. MI Sea Grant staff in the Upper Peninsula field numerous questions on aquatic plant control, aquaculture and invasive species from residents throughout the region and the state.

Sea Grant in Michigan—Upper Peninsula Counties

Alger, Baraga, Chippewa, Delta, Dickinson, Gogebic, Houghton, Iron, Keweenaw, Luce, Mackinac, Marquette, Menominee, Ontonagon, Schoolcraft

Extension Educator: Ron Kinnunen
Building and sustaining community food systems featuring public education on understanding local food systems, efforts to make healthy local foods more accessible, development of local food councils, and the Federally Recognized Tribes Extension Program which focuses on local food systems and reaches three tribal communities in the Upper Peninsula. MSU Extension educators assist in the development and support of the Central/Western UP Food Hub, as a part of the UP Food Exchange, supporting development and activities of regional food councils. The context of the exchange is based on production, distribution, and access. The Upper Peninsula is fortunate to have both an educator with a focus on sustainable community food systems, as well as the Upper Peninsula Research and Extension Center located in Chatham which has as part of its mission to both support and create sustainable food systems within the Upper Peninsula of Michigan.

Food, and Resource Economics. The MSU Product Center Food-Ag-Bio helps Michigan residents in developing products and businesses in the areas of food, agriculture, natural resources and the bio economy. With the goal of accelerating innovation and growth for Michigan business, industry and entrepreneurs in food, agriculture and bio-manufacturing, the Product Center stimulates and develops business innovation and economic growth through business counseling, in-depth market analysis and technical assistance for new entrepreneurs and existing businesses. The local MSUE educator has special training as an innovation counselor to deliver these services. 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. Sustaining community prosperity through growing new entrepreneurs, business development, finance and homeowner education, support of tourism through targeted training, and leadership development/civic engagement for the general populations. The use of best practices, knowledge and experience along with collaboration from internal MSU and external partners supports clients in the creation of successful ventures. The educator also assists clients in accessing specialized services they may need that are offered through Michigan State University, like feasibility studies, market research, food safety review, nutritional labeling and packaging assistance. The Product Center educator in the District has provided a number of programs including the cottage food law workshop, how to start a business and entrepreneurship education. Each county has the option of requesting these programs to be offered in their county.
Building capacity in governance/public policy and community leadership is a core program in the Greening Michigan Institute. Staff deliver a variety of educational programs (including new county commissioner training, Citizen Planner, governance training/technical assistance, Building Strong Sovereign Nations, form based code planning, fiscal solvency, and place making among many others) to provide opportunities for capacity building in community decision making for all levels of local government. Since 1968, MSU Extension, in partnership with the Michigan Association of Counties offers introductory programming for newly elected county commissioners. The program offers information and learning opportunities on county structure and process, budgeting and finance, county administration, courts, and more. The Citizen Planner program will be available to the Central UP counties on an annual basis. New Commissioner training is held every other year to coincide with the commissioner election cycles with the next one scheduled for November 2014.

**Michigan Right to Farm Act Training**  In June, MSU Extension conducted training in Marquette for local planning and zoning officials on Michigan’s Right to Farm Act (Public Act 93 of 1981, as amended, MCL 286.471 et seq.). Michigan’s Right to Farm Act (RTFA) was enacted to protect farmers from nuisance lawsuits initiated by non-farm neighbors. The RTFA has been amended three times since first enacted, including an amendment in 1999 that expanded the RTFA to preempt local regulation of certain farm operations. This particular expansion in statutory scope has been the focus of many legal battles over the applicability of local zoning regulations to agricultural operations. The legal ambiguity stems from mixed interpretations of the legislative intent of the RTFA concerning the preemption of local regulations. A case in point is the local 25th Circuit Court ruling in *Forsyth v. Buchler*, which leaves virtually every local unit of government grappling with trying to understand what aspects of their zoning ordinance are enforceable and what aspects are not.

The program offering was met with considerable interest on the part of local officials with 37 individuals participating in the Marquette County training. When responding to the post evaluation, 83% stated they are better prepared to ethically complete the responsibilities of their position with their local units of government, 65% stated they plan to propose amendments to their ordinance based on the training, and 63% reported they are inspired to make changes in their communities.

In late 2012 and the first few months of 2013, nine Marquette County leaders participated in one or more public policy/citizen planner and community leadership activities and placemaking, building our communities.
In the winter of 2013, the City of Marquette was awarded a technical planning assistance grant from MSU to develop a climate adaptation plan. Campus-based MSU faculty and locally based MSUE extension educator Brad Neumann worked with the Great Lakes Integrated Sciences and Assessments climate center, the City Planning Department, and the Superior Watershed Partnership to hold two public engagement workshops on the topic of climate variability in the region and impacts on the community. Over 100 people from Marquette and neighboring townships participated in the events. Additionally, local stakeholders representing different aspects of the community were interviewed to gain further insights into the vulnerabilities and opportunities associated with changing climate in the region. In total, the citizen input helped to develop, tailor, and prioritize strategies that the City can adopt to help adapt to a changing climate. Following the public workshops, urban planning and climate professionals at MSU prepared a final report for the City of Marquette that was presented to the City Planning Commission on September 24, 2013. For a copy of the City of Marquette Climate Adaptation Plan go to: http://mqtcty.org/climate_adaptation_planning.html.
The Health and Nutrition Institute (HNI) provides education for families around several areas: Disease Prevention & Management, Social Emotional Health & Well Being, Improving Nutrition & Physical Activity, and Food Safety.

**Food safety education programs** train participants to prevent incidents of foodborne illness associated with unsafe food handling practices, which may result in fewer medical expenses and potentially less down time for food businesses due to temporary closure by local health departments. Programs in Cooking for Crowds, ServSafe and the cottage food laws and the food prep expectations that go with it are all options. Food preservation for home application from freezing to home canning are always popular with neighborhood and community groups. Marquette residents have participated in both ServSafe (24 participants) and cottage food law education (29 participants) in recent months.

Health and Nutrition staff help residents address **disease prevention and management** through educational opportunities related to Michigan’s most critical chronic diseases including diabetes, heart disease and obesity. Preventing and managing chronic disease is the top health challenge of the current century. With a prevalence of diabetes and obesity among Michiganders, Extension will focus on providing educational programs that will assist with the prevention and management of chronic diseases over an extended period of time. These include PATH (Personal Action Toward Health), Dining with Diabetes, and/or the National Diabetes Prevention program. At the end of the series, PATH participants show decreased symptoms of fatigue, decreased shortness of breath, and decreased self-reported pain. Other program benefits show increased physical activity and improved communication with physicians including preparing a list of questions to ask during a healthcare visit. Participants report higher self-efficacy after attending the program and show improved self-rated health scores. During 2012, there were 27 PATH series held statewide reaching 305 people in 27 counties.

**Emotional health** is also a vital part of a fulfilling and dynamic life. To assist citizens in this area MSU Extension has provided training for teenagers with a “safe dates” series and provided additional training in dealing with anger with the RELAX: Alternatives to Anger series. More than 25 Marquette County residents participated in those two programs.
Food preservation education contributes to safer food sources, especially those produced locally by Michigan residents. As a result of food preservation workshops, 89% of those participating increased their knowledge of how to use proper processing techniques to safely can low- and high-acid foods, 87% learned the correct processing times to can foods safely, and 76% gained knowledge of how to use proper techniques for freezing foods. Participants also reported learning where to locate research based/tested recipes for home food preservation, how to follow research based/tested recipes when canning food at home, and how to select high quality foods for preservation. In the last few months MSU Extension staff have answered numerous questions from consumers on food preservation techniques. The Migarden website, [http://migarden.msu.edu/](http://migarden.msu.edu/), offers tips and techniques for preserving vegetables and fruits, along with production tips and suggestions.

From July 2012 through June 2013, sixty nine adults participated in the six session educational series in Marquette. In addition, there were another eighty one adult participants who received information and built skills through one time connections. Another eighty youth participated in one time presentations gathering information of food preparation and nutrition.

The adults received nutrition education in a variety of venues through collaboration with the WIC program, Marquette County Public Health, Mi Works site, 5 senior centers, elementary schools and individual contacts. Senior Project Fresh was able to utilize 170 sets of coupon books for Marquette County in 2013. All were distributed and we had about an 88% redemption rate for 2012. Each book is worth $20, and using a similar redemption rate for 2013 results in nearly $3000 being spent by seniors on healthy, fresh, local foods at the Marquette County Farmers Markets, and other participating producers.

SNAP-Ed (Supplemental Nutrition Assistance Program-Education) is also actively involved in health fairs and other public activities where they can inform and educate the public about quality nutrition throughout the county.

Partnerships have been built with a large number of Marquette agencies and organizations as we collaborate to support families with the greatest needs. In addition our collaborations are designed to build the capacity of participants to make wise decisions in their food buying and preparation habits. These collaborations indicated above plus the continuing support of the Marquette Food Co-op, Marquette Farmers Market and their vendors are essential to the success of the continuing nutrition education program in Marquette County.
In pre and post test research conducted with adults who participated in the educational programs in Marquette County:

» 47 percent of the participating adults were more likely to plan meals before going shopping

» 69 percent told us they increased their vegetable consumption

» 39 percent were less likely to thaw frozen meat by letting it sit on the counter or another space outside of the refrigerator

» 32 percent of adults completing the series indicated that they use the information on food labels more often to compare the fat content and other nutrients in a variety of foods

» 52 percent of the respondents stated that they improved in budgeting resources for food and food related purchases

» 40 percent of the adults completing the series indicated that they have improved to 30 minutes of physical activity per day, 4 or more days a week

Those who participated in MSUE Nutrition Education classes were more likely to:

» Read the nutrition information on food labels.

» Choose a healthy snack when they have the choice.

» Increase choosing foods from all five food groups.

» Consume more fruits or vegetables.