A MESSAGE FROM THE
DISTRICT COORDINATOR:

We hope you enjoy reading this latest annual report outlining how Michigan State University Extension in Alcona County and throughout the state continue to make Michigan thrive as an excellent place to live, raise a family and conduct business. MSU Extension faculty and staff members translate the scientific information gleaned from MSU AgBio Research and other campus units into real world applications, something we have been doing for 100 years. Throughout the history of the Cooperative Extension Service, founded through the Smith-Lever Act of 1914, MSUE Extension has worked hard to support an environment of collaboration where innovation and creativity can flourish. We continue to extend our reach by connecting with more and more residents each year. This report present the evidence of our successes.

Kelley Hiemstra
District 4 Coordinator
Michigan State University Extension

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

2014 EDUCATIONAL PROGRAMS

Workshops were attended in-person and through live webinars, on-line training, and the toll free hotline. Below are titles in which citizens from Alcona County participated in 2014:
- Master Gardener Recertification
- Corn Variety Field Trial
- Young Savvy & into Dairy (meeting with State Senator John Moolenaar and State Representative Bruce Rendon)
- North Country Beef Producers (presentation on spotted knapweed management and corn hybrid selection)
- Beef Breeding Soundness Exam Clinics
- MSUE Field Crop Management Seminar
- Iosco County Farm Tour
- Breakfast on the Farm
- Toll free Garden Hotline
- Dairy Farm Bill Programs
- Numerous 4-H Youth Programs
- Facilitation of high-speed internet ad hoc committee
- Understanding Tourism, Home Ownership, Beginning Farmers Webinar Series, Northern Michigan Small Farm Conference, Sustainable Fisheries, Numerous Natural Resource 4-H/Sea Grant programs, Serv Safe, Cottage Food law, Food Preservation classes, Health and Nutrition SNAP, and more.

COUNTY OFFICE:

We would like to thank the Alcona citizens and the County Commissioners for your continued support of MSU Extension educational programs.

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4-H CHILDREN & YOUTH INSTITUTE

4-H offers a wealth of opportunities to youth ages 5 to 19 and to teen and adult volunteers. Seven guiding principles steer our work: 1) Youth develop positive relationships with adults and peers. 2) Youth are physically and emotionally safe. 3) Youth are actively engaged in their own development. 4) Youth are considered participants rather than recipients in the learning process. 5) Youth develop skills that help them succeed. 6) Youth recognize, understand and appreciate multiculturalism. 7) Youth grow and contribute as active citizens through service and leadership. “Learn by doing” takes on a deeper meaning when considered in the context of these principles.

So just how does this happen? This report will describe the various delivery methods utilized in 4-H programming in Alcona County in 2014 and early 2015.

Camps Help Youth Develop The Skills Needed To Make Good Decisions

4-H Camps are a summer highlight for youth. They look forward to making new friends and participating in fun hands-on learning activities. Camps also provide youth an opportunity to learn the social skills that are needed to interact well with others, participate in groups, work cooperatively to accomplish goals, and value differences in other people.

- **Camp Fur, Fins and Feathers** engaged 9 to 12 year olds in wildlife, conservation, and careers related to these fields. This overnight camp at Ocqueoc Outdoor Center included archery, canoeing, fishing. 14 campers and 3 teen counselors from Alcona County joined nearly seventy-five other youth from neighboring counties in this four day, three night adventure.

Out-of-school programs like camps help keep youth engaged and develop skills such as teamwork, resiliency, decision making and goal accomplishment that will enhance their chances of future success.
Increasing science literacy across Michigan has long been a goal of MSU Extension as well as a national 4-H goal. As a member of the science team and a long time science educator I see how improving science literacy can impact on everyone whether they plan to be a scientist or not. Science literacy provides youth with the skills used in life every day. It enables them to make a difference in their communities. The hands-on programs use the engineering design and science processes which empower youth and provide them opportunities to grow, learn, develop critical thinking skills and become confident individuals.

**STEM Grant awarded to MSU Extension and the Alcona 4-H Council!**

STEM (Science Technology Engineering and Mathematics) Enrichment in Alcona focuses on enhancing both teacher and youth understanding of STEM in partnership with Alcona Community Schools, The Alcona Health Center, the AMA/Iosco Math Science Center, and the Northeast Michigan Great Lakes Stewardship Initiative (NEMIGLSI). Throughout the 2015-16 school year MSU Extension will work with Alcona teachers to provide sustained professional development focused on an enhanced understanding of STEM and to engaging youth in STEM activities, increasing awareness of STEM career opportunities through a 4-H lunchtime STEM club and afterschool STEM clubs.

"Because Michigan 4-H is part of MSU Extension, the activities kids participate in are all backed by and based on child development research. We use experiential (i.e. hands-on) learning and time spent intentionally thinking about what’s been learned to make it a meaningful experience, with skills and ideas learned that last a lifetime."

4-H Student Stewards testing their underwater ROV.
Increasing Science Literacy across Alcona County!
Youth and adults across Alcona county participated in variety of STEM (Science, Technology, Engineering and Mathematics) programs from identifying aquatic macroinvertebrates, engineering “egg” helmets, designing water rockets and much more.

- **Summer Safari with the Alcona Tiger Clinic** engaged over 60 youth from 1st through 6th grade in activities to increase STEM, healthy eating and safety. This is the first year that 4-H has partnered with the Tiger Clinic adding a STEM component to camp. Youth used the engineering design process; Ask, Imagine, Plan, Create, Improve and Communicate to build a helmet for their egg, a tower from pipe cleaners and to see how high they could make a film canister fly using water and effervescing tablets.
  - Ask—youth consider the challenge and its potential restrictions or limitations.
  - Imagine—youth brainstorm possible solutions and design options.
  - Plan—youth choose the best design and identify appropriate materials.
  - Create—youth build based on their design plan.
  - Improve—youth test their prototype, study results and modify their design
  - Communicate—youth discuss respectfully design plans, restrictions and develop a report for the “funder” or “boss” of their engineering firm.

- **Hines Emerald Dragonfly (HED) Project** engaged over 100 youth and adults from Alcona county in the search for the threatened Hines Emerald Dragonfly burrows in the marshes throughout Negwegon State Park. MSU Extension through the partnership with the Northeast Michigan Great Lakes Stewardship Initiative (NEMIGLSI) worked in partnership with Michigan Natural Features Inventory (MNFI), Michigan Department of Natural Resources and Friends of Negwegon State Park to identify potential HED sites.

Increasing science literacy across Michigan has long been a goal of MSU Extension as well as a national 4-H goal. Science literacy provides youth with the skills used in life every day. It enables them to make a difference in their communities.
Vernal Pool Monitoring Project engaged 5 youth from Alcona county and successfully identified three of the four pools studied as Vernal pools at Negwegon State Park.

Youth studied the pools in the early spring and early fall to confirm the presences of Fairy Shrimp (spring), a species unique to vernal pools and that the pools did dry up, a requirement in order for fairy shrimp eggs to hatch.

- Great Lakes and Natural Resources Camp, held annually at Camp Chickagami, for seven days, six nights provides hands-on learning, engaging youth ages 13-15 in exploring science, leadership, and careers (and of course, recreation) related to Michigan’s Great Lakes and natural resources. Michigan teens participate in science sessions relating to local woodlands and wildlife, Great Lakes invasive species, wetlands, watersheds, fisheries, and more. Campers learn about Michigan’s outdoors in numerous science-based actives, while exploring potential careers by working with professional experts. In 2015, campers from Alcona worked along MSU Researcher Kelly Smith who is tracking the spread of the invasive Rusty Crayfish. Campers collected data on crayfish from 5 different sites learning how to identify them and recording their size and sex.
4-H Clubs are the Key to Youth Developing Life Skills

It’s no secret that 4-H offers a setting for youth that is safe, educational and fun. Learning to raise and care for an animal or learning to grow vegetables are undeniably important to growing up to be a successful adult. 4-H clubs, which use screened, trained adults to deliver information related to projects, offer a positive environment which is safe from physical or emotional harm. This atmosphere allows youth to learn and grow alongside their peers, regardless of the project. Alcona 4-H is especially proud to be able to offer programs that span a variety of projects areas—recently adding home arts as well as numerous recreational sports. But just as important to the success of the child as the project, are all of the life skills that youth are learning— which are in some cases more important than the project. Raising a hog for example, includes learning how to house, feed, when to medicate (and when not to) as well as how to groom, show and market the animal. But this process also teaches members responsibility, record keeping, goal setting, patience, problem solving and many more—all life skills that will help that youth succeed in whatever path they chose when they leave that 4-H club.

Alcona County 4-H Clubs at a glance:

- 21 active 4-H clubs—overseen by 47 adult volunteers
- 126 youth members (many in multiple clubs)
- 32 different project areas

Libraries for Learning gives away 2,000 Children’s Books in 2015

Libraries for Learning, a youth literacy initiative adopted by Alcona 4-H in 2012, was designed to increase reading levels in children by increasing access to books in the home. This program, a partnership between First Book, the Molina Foundation and youth-serving organization across the county, offers the chance for organizations to purchase books for only the cost of shipping.

The initiative, funded locally by the efforts of the 4-H advisory Council, has given away over 5,000 books since 2012 at an estimated retail value of $40,000. In the 2014-15 program year alone, Alcona 4-H has coordinated eight distributions tied to events across the county and given away over 2,000 books.

In addition to the literacy component, this program also allows for 4-H staff and volunteers to promote the 4-H program, helping to grow enrollment in 4-H clubs as well as events like Summer Camp and Exploration Days.

According to the National Assessment of Adult Literacy, 2/3 of students that cannot read proficiently will either end up incarcerated or dependent on the welfare system.

Source: http://begintoread.com/research/literacystatistics.html
When you support MSU Extension, you help producers develop efficient farming practices that optimize the use of inputs to enhance productivity while protecting soil and water resources. Participants in MSU Extension business management programming also learn to improve their use of time, money and human capital, which helps retain and create agricultural jobs. Together, these measures strengthen Michigan’s economy by encouraging growth of a sustainable and prosperous Michigan food and agriculture system.

Examples of programs in which Alcona residents participated include:

**Master Gardener Recertification**

12 Alcona County Master Gardeners completed at least 15 hours of volunteering and 5 hours for educational training. A thank you to the Master Gardeners for beautifying the MSUE office building grounds!

**On-Farm Research and Education**

On-farm research brings locally relevant research-based information directly to producers, who learn more effectively using this participatory approach. During the 2014 season, MSUE Educator James DeDecker collaborated with local growers and industry partners to complete ten on-farm research projects to investigate crop varieties and management practices that may improve productivity and sustainability of crop production on Northeast Michigan farms. In order to share information regarding this work, four outreach events were organized.

Three field days were offered in August and September of 2014 highlighting soybean, dry bean, malting barley, potato and cover crop research. These events attracted a total of 91 participants who spent time touring each trial field to learn about the management practice or crop varieties that each was designed to investigate.

On February 4th, 2015, 28 producers and partners gathered at Alpena Community College for the first biannual MSUE On-Farm Research Review to synthesize the information gained from these research projects and discuss how it might be applied to improve crop production in 2015. Forty-eight percent of participating producers indicated that they intend to change their production practices based on research conducted and shared by MSUE in 2014. Growers estimated that these changes would result in $19.00 of savings or added revenue per acre across 6,900 acres, or $131,100 in total.

SMaRT soybean research found that broadcast gypsum increased soybean yield by 7 bushels per acre, and net revenue by $34 per acre.
Farm Bill Title I Workshops

The 2014 Farm Bill, including new programs designed to help producers better manage risk, represents one of the most significant reforms to U.S. farm policy in decades. Each farm operation is different, and finding a good fit for risk management depends on individual needs. With this in mind, MSU Extension developed numerous Farm Bill resources to assist farmers and landowners.

In collaboration with the USDA Farm Service Agency and agribusiness partners, MSUE offered four Farm Bill Title I Workshops across Northeast MI in January 2015, including locations in Petoskey, Rogers City and Alpena (2). The profit and risk management implications of alternative program choices were explored with 56 participants under a range of assumptions using the Excel based Farm Bill Analyzer Tool developed by MSUE. Educators also met with individual producers after the workshop to run detailed analysis of their operations. Information gained through this technical assistance allowed local producers to carefully select Farm Bill risk management programs and increase projected farm revenue by >$5,000 per year on average.

White-tailed Deer Management

MSU Extension has partnered with agribusiness, wildlife management agencies and sportmen/women to address the complex issue of conflicts between white-tailed deer and agriculture. Previous estimates of dry bean and alfalfa yield loss to wildlife in Northeast MI range from 5%-43%, based on variable habitat quality and population dynamics. In 2014, MSUE held a series of meetings with several partners to discuss the impacts of deer on agriculture and available management tools. Following this discussion, MI DNR initiated their Deer PLAN habitat grant program with a new focus on projects that work to address conflicts with agriculture through deer habitat modification. In 2015, MSU has formed a new cross disciplinary team to address producer needs related to several vertebrate pests including deer, birds, and rodents. MSUE will conduct a deer exclusion study in 2015, funded by the Michigan Soybean Promotion Committee. It will measure soybean yield loss to deer browsing. It will also identify field variables which will drive deer pressure and potential management strategies.
GREENING MICHIGAN INSTITUTE

Lake Huron—the third largest freshwater lake in the world—reflects a unique and valuable asset providing ecological, social, and economic opportunity for communities of Northeast Michigan. Michigan Sea Grant Extension promotes research, education, and outreach to enhance responsible and sustainable use of our diverse Great Lakes resources. Through MSU Extension, Michigan Sea Grant works with Michigan citizens, industries, and coastal communities to encourage their use, benefits, and enjoyment of Great Lakes resources that positively influence our state’s economy, environment and quality of life. Two examples of our work benefiting coastal communities of northeast Michigan include:

Revitalizing community values in an ecologically challenged Lake Huron fishery

Three Lake Huron Fisheries workshops, hosted in 2014, brought together nearly 270 interested anglers, charter captains, and others with fisheries researchers and managers, offering good news up and down the coastline regarding the resilience of the Lake Huron fishery—despite negative impacts of aquatic invasive species. Workshops have helped fishing-dependent businesses adapt to ecological changes, and communities foster more positive attitudes toward an improving Lake Huron Fishery.

Capitalizing on economic values of our fisheries, Michigan Sea Grant provided leadership for:

- **Legends of the Lakes™** whitefish marketing initiative has helped the commercial fishing industry to brand and market premium Great Lakes whitefish at a higher value, benefiting Lake Huron commercial fisherman directly.

- **Michigan Catch & Cook™** program helps charter captains link with local dock-side restaurants, allowing charter fishing customers to have their catch-of-the-day prepared at a local restaurant. Enhancing tourism values, this partnership received the 2013 Governor’s Awards for Innovative Tourism Collaboration.

- **Great Lakes Fisheries Heritage Trail** offers coastal tourism promise, bringing to life today’s Great Lakes fisheries through exploration of the historic fisheries of our past. This statewide trail markets northern Lake Huron communities—museums, events, and experiences—to those interested in learning more about our Great Lakes fisheries.
Northeast Michigan Great Lakes Stewardship Initiatives: Engaging Youth in Coastal Community Development through Place-based Education

Collectively, our Northeast Michigan Great Lakes Stewardship Initiative (NEMIGLSI) network, NOAA B-WET water education partnership, and Center for Great Lakes Literacy trainings have invested in promoting Great Lakes Literacy and supporting a growing place-based education network and culture among our Northeast Michigan schools and communities. This reflects a regional network and partnership investment that has been co-facilitated and supported by Michigan Sea Grant/GMI and 4-H/CYI - close collaboration with our many regional network leadership partners since 2006.

Approximately 154 teachers in 33 school buildings receive direct support and/or professional development opportunities for implementing place-based education with their students. Their communities are both the partners and the beneficiary of their student’s environment stewardship investments. These students are engaged, across the region, in addressing important, relevant Great Lakes issues and community development goals.

During the 2013-2014 school year alone, our NE MI GLSI regional network and partnership across eight counties engaged 3,274 youth (approximately 20% of youth in targeted counties)—through their learning—in on-the-ground environment stewardship projects that make a difference in their communities. Across Michigan, the state GLSI network recently released attached report “GLSI 5 years, 50,000 stewards” - during these same five years, our NE MI GLSI network (one of nine GLSI hubs across Michigan) contributed significantly to this outcome and impact, engaging 12,123 youth in stewardship activities across northern Lake Huron communities. To date, in total, our network programming has now engaged 13,266 youth in place-based stewardship education opportunities.

As the 2014-2015 school year kicked off, another 1,852 students have already hit woods and water of northeast Michigan in service of their communities and local government. Reflecting on this past September, we highlight a few super GREAT weeks of place-based stewardship education programming at its best in Northeast Michigan—and the many schools, teachers, and students who were part of implementing some amazing, ambitious, impactful environment stewardship projects in (and with) their local communities.

Engaging youth as community leaders through place-based education and Great Lakes Stewardship projects in Northeast Michigan
Like most of America, Michigan faces the dual and interrelated challenges of hunger and obesity.

- Michigan has the 10th highest rate of obesity in the United States. Over 30 percent of adults are obese, and an additional 35 percent are considered overweight.
- Nearly 80 percent of both adults and youth do not consume adequate amounts of fruits and vegetables.
- 50 percent of adults and youth report inadequate physical activity.
- Nearly 20 percent of Michigan residents are considered to have low or very low food security.

To help people be healthy at every stage of life, Michigan State University Extension delivers affordable, relevant, evidence-based education to serve the needs of adults, youth and families in urban and rural communities.

Highlights of Health and Nutrition Programming in Alcona County:

In 2014, MSU Extension Nutrition programs were presented to 40 adults and 96 youth in Alcona County. Interactive lessons over time have proven to result in increasing dietary quality and increasing physical activity.

Programming for Alcona County happens with the cooperation of local partners that promote healthy lifestyles, physical activity and good nutrition. Some of those who help make these programs happen are:

- Alcona County Commission on Aging
- Alcona County Library—Harrisville Branch
- Alcona Community High School
- District Health Dept. #2

In 2014, these programs reached more than 84,000 adults and youth across the state. Participants reported the following changes:

**Youth** (preschool through second grade)

- 93 percent of teachers reported that their students demonstrated an increased awareness of the importance of good nutrition.
- 84 percent of teachers reported that their students were willing to try new foods.

**Adults**

- 50 percent of completing participants reported that they increased their daily vegetable consumption.
- 42 percent of completing participants reported that they increased their daily fruit consumption.

**Older adults**

- 51 percent increased their vegetable consumption in a typical day.
What is the BackPack Program?
The Backpack Program is sponsored by the Food Bank of Eastern Michigan. It is
designed to provide extra support during weekends for children who typically receive
free or reduced priced lunches at school. The program began in 2004 with 50
backpacks in 2 elementary schools. Currently the Food Bank of Eastern Michigan
serves 4,300 children in 99 schools from 14 different counties.

MSU Extension is currently piloting a nutritional tip sheet for the Food Bank of East
Michigan’s BackPack program. Each week we publish a health newsletter geared
towards providing low-income families with information about food, nutrition, and
overall wellness. These flyers are currently being distributed in District 4 (Northeast
Michigan), with the goal of expanding state-wide. Over 1900 families received weekly
nutrition education along with food items to encourage healthy behaviors that last a
lifetime.

ServSafe; The ServSafe class is a nationally recognized certificating program that
provides training to citizens who are working, managing or plan to work in the food
service industry. In Alcona County, 12 participants took part in the classes offered
with 100% passing rate. This program is offered in two formats. For those that are
recertifying and wish to maintain their certification, there is a one day (8 hour)
training. For those that are new to the industry or feel they need in-depth
information on food safety there is a two day class(16 hour). Both classes provide
information needed to keep food and prevent disease.

Cottage Food Law; 11 Alcona citizens participate in the Cottage Food Law
workshop. Participants learn proper food labeling for items to sell. They learn which
items can be sold under this law. They are taught safe food handling practices, proper
storage and presentation. Proper labeling is an important part of any cottage food
business. Participants are given a premade sample label and a blank label so they can
practice making a label for their business with all the correct information included on
the label.
Alcona County Staff

www.msue.msu.edu

Staff Support at MSUE is a benefit to the public by providing the following services:

◊ Soil testing for lawn, gardens and field crops. The MSU Diagnostic Lab tests the soil and provides recommendations to keep lawns, gardens and crops growing properly.

◊ Insect and Plant Identification – Specimens are brought in, pictures are taken and electronically submitted to the “Ask An Expert” department on campus and a result is sent back to the customer within 48 hours. [https://ask.extension.org](https://ask.extension.org)

◊ Materials for clients available at [www.migarden.msu.edu](http://www.migarden.msu.edu) and the MSU Gardening Hotline staffed by Advanced Master Gardener Volunteers at 888-678-3464.

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