

V(A). Planned Program (Summary)

Program # 1

1. Name of the Planned Program

Human Health, Environment, Family, Youth, Society and Community

Reporting on this Program

V(B). Program Knowledge Area(s)

1. Program Knowledge Areas and Percentage

KA Code	Knowledge Area	%1862 Extension	%1890 Extension	%1862 Research	%1890 Research
608	Community Resource Planning and Development	10%		8%	
702	Requirements and Function of Nutrients and Other Food Components	0%		4%	
703	Nutrition Education and Behavior	15%		3%	
711	Ensure Food Products Free of Harmful Chemicals, Including Residues from Agricultural and Other Sources	0%		8%	
712	Protect Food from Contamination by Pathogenic Microorganisms, Parasites, and Naturally Occurring Toxins	5%		5%	
721	Insects and Other Pests Affecting Humans	0%		2%	
723	Hazards to Human Health and Safety	0%		12%	
724	Healthy Lifestyle	15%		12%	
801	Individual and Family Resource Management	15%		0%	
802	Human Development and Family Well-Being	10%		10%	
803	Sociological and Technological Change Affecting Individuals, Families, and Communities	0%		10%	
805	Community Institutions, Health, and Social Services	0%		18%	
806	Youth Development	30%		8%	
	Total	100%		100%	

V(C). Planned Program (Inputs)

1. Actual amount of FTE/SYs expended this Program

Year: 2013	Extension		Research	
	1862	1890	1862	1890
Plan	53.0	0.0	10.5	0.0

Actual Paid Professional	121.0	0.0	10.0	0.0
Actual Volunteer	94.5	0.0	0.0	0.0

2. Actual dollars expended in this Program (includes Carryover Funds from previous years)

Extension		Research	
Smith-Lever 3b & 3c	1890 Extension	Hatch	Evans-Allen
4899209	0	856470	0
1862 Matching	1890 Matching	1862 Matching	1890 Matching
4899209	0	889431	0
1862 All Other	1890 All Other	1862 All Other	1890 All Other
0	0	4043619	0

V(D). Planned Program (Activity)

1. Brief description of the Activity

Research programs to:

- Assess the impact of school tobacco policy on preventing and reducing Michigan youth smoking.
- Develop a better understanding of public benefits for policy development in recreation and tourism resource management.
 - Increase understanding about how environmental pollutants, especially ozone and endocrine disruptors affect human health.
 - Establish new programs and policies to help young people move successfully from foster care to independent living after they are too old for foster care.
 - Analyze the relationships among social support, public policy and family characteristics and how they affect the function and well-being of rural low-income families.
 - Increase understanding and develop more effective environmental management systems.
 - Develop better models for the human health and human services sectors.
 - Identify the nutritional determinants of allergic immune disorders.
 - Develop an understanding of how n-3 polyunsaturated fatty acids affect human health and disease, especially cardiovascular disease and inflammation.

Educational programs to:

- Teach how to choose healthful food, physically active lifestyles and behaviors consistent with dietary guidelines.
 - Teach consumers to keep their food safe by offering programs on food safety, home food preservation and healthy, hygienic food-handling practices.
 - Teach people living with chronic medical conditions to manage their condition effectively.
 - Teach financial literacy and prepare individuals to manage their finances in anticipation of retirement.
 - Teach caregivers and parents how to prepare children for school.
 - Increase access to affordable, high-quality childcare.
 - Prepare communities for the health care, housing and transportation needs of seniors.
 - Educate citizens and public officials about funding methods, service provision and intergovernmental cooperation.

- Provide counties and municipalities with technical assistance related to intergovernmental contracting, consolidating services and financial and strategic planning.
- Assist government officials in leadership, conflict management, communication and engaging the public in policy development.
- Prepare youth with knowledge and skills needed for life and employment.
- Enhance the physical, social, emotional and cognitive health and well-being of youth.

2. Brief description of the target audience

Michigan private citizens, state agencies, farmers, food processors, commodity groups and agricultural industry representatives are targets of research programs. Individuals of all ages and life stages are targeted for healthy lifestyle and food-safety education programs. Human development and family well-being programs target parents and caregivers of preschool children, people living with chronic medical conditions and senior citizens. Community institutions, health and social services programs target citizens and public/government officials. Youth age 9 to 18 are targets of youth development programs.

3. How was eXtension used?

eXtension was a major part of our multi-state effort (along with work with the North Central Region). In this area, 47 educators responded to Ask an Expert on 340 issues.

Members were actively involved the following Communities of Practice (CoP) for this area:

Community Nutrition Education
Creating Healthy Communities
Diabetes
Diversity, Equity and Inclusion
Drinking Water and Human Health
eXtension Alliance for Better Child Care
Families and Child Well-Being Learning Network
Families, Food and Fitness
Family Caregiving
Financial Security for All
For Youth, For Life
Healthy Food Choices in Schools
Home Energy
Just In Time Parenting
Military Families
Public Deliberation
Teen Leadership
Volunteerism

A example is:

Canning Green Beans

I recently canned pints of green beans using the water-bath method. After several days, I noticed the water in the beans cloudy and slimy. I was informed by a MSU extension staffer that I should immediately through the beans away as they were not safe to eat at all because they cannot be processed with a water-bath and I should have used a pressure cooker. My question is after throwing the beans out, can I

reuse the canning jars since I rewashed them in the dishwasher? I want to can more beans but want to know if the jars are safe to use now that they have been exposed to botulism since I canned them wrong or should I throw those jars out also? Thank you for a prompt reply.

Reply

Happily, I can tell you that it is A-OK to re-use your jars. You did the correct thing by running them through a dishwasher. You can also reuse the rings that you used, but you need to use new lids (the round disc-type piece that fits directly on top of the jar).

You received the correct information that a pressure canner must be used because beans are a low-acid product. Here is a link to a University of Wisconsin Extension canning bulletin that people find especially helpful: <http://learningstore.uwex.edu/Canning-Vegetables-Safely-P942.aspx> When you click <view PDF> at the bottom the bulletin will come up on your screen and can be downloaded or read at no charge.'

The Michigan State University Extension fact sheet produced especially for snap beans may be found at: <http://web2.msue.msu.edu/bulletins2/product/using-storing-and-preserving-snap-beans-1304.cfm> Again, this can be read from your computer screen, downloaded or printed for personal use at no charge.

As a side note, you could also make "Dilly Beans", a pickled product, from your beans. Since acid is added in the form of vinegar these can be processed using a hot water bath instead of a pressure canner. Learn more at: <http://learningstore.uwex.edu/Homemade-Pickles-and-Relishes-P943.aspx>

Best wishes in your canning endeavors. If you have any questions please e-mail me or call my local office (information below) - I'll be glad to help!

V(E). Planned Program (Outputs)

1. Standard output measures

2013	Direct Contacts Adults	Indirect Contacts Adults	Direct Contacts Youth	Indirect Contacts Youth
Actual	18264	54792	20997	62991

2. Number of Patent Applications Submitted (Standard Research Output)

Patent Applications Submitted

Year: 2013

Actual: 1

Patents listed

MICL01680: Value added products for improving human, animal and plant health - 8,337,914 (12/25/12)

3. Publications (Standard General Output Measure)

Number of Peer Reviewed Publications

2013	Extension	Research	Total

Actual	2	44	0
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V(F). State Defined Outputs

Output Target

Output #1

Output Measure

- Number of research programs on human health, environment, family, youth, society and community.

Year	Actual
2013	43

Output #2

Output Measure

- Number of adult participants trained in healthy lifestyles.

Year	Actual
2013	12541

Output #3

Output Measure

- Number of youth participants trained in healthy lifestyles.

Year	Actual
2013	16701

Output #4

Output Measure

- Number of adult participants trained in human development and family well-being.

Year	Actual
2013	867

Output #5

Output Measure

- Number of youth participants trained in human development and family well-being.

Year	Actual
2013	2464

Output #6

Output Measure

- Number of adult participants trained in youth development.

Year	Actual
2013	3089

Output #7

Output Measure

- Number of youth participants trained in youth development.

Year	Actual
2013	1832

Output #8

Output Measure

- Number of adult participants trained in family resource management.

Year	Actual
2013	1767

V(G). State Defined Outcomes

V. State Defined Outcomes Table of Content

O. No.	OUTCOME NAME
1	Number of research programs to determine the relationship between family meals/lifestyle factors, education/food choices, general health and environmental influences, physical activity and general health.
2	Number of research programs to understand how environmental pollutants, especially ozone and endocrine disruptors, affect human health.
3	Number of research programs to develop better models for the human health and human services sector.
4	Number of adult participants with increased knowledge about healthy lifestyles.
5	Number of youth participants with increased knowledge about healthy lifestyles.
6	Number of adult participants with increased knowledge of human development and family well-being.
7	Number of youth participants with increased knowledge of human development and family well-being.
8	Number of adult participants with increased knowledge of youth development.
9	Number of youth participants with increased knowledge of youth development.
10	Number of research programs to develop more effective environmental/natural resources management systems.
11	Number of adult participants with increased knowledge of family resource management.
12	Number of research programs that study the function of nutrients and other components related to human health.

Outcome #1

1. Outcome Measures

Number of research programs to determine the relationship between family meals/lifestyle factors, education/food choices, general health and environmental influences, physical activity and general health.

2. Associated Institution Types

- 1862 Extension
- 1862 Research

3a. Outcome Type:

Change in Action Outcome Measure

3b. Quantitative Outcome

Year	Actual
2013	15

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)

Overweight people are at serious risk for cardiovascular disease, diabetes and some forms of cancer, and the risk is lifelong. The Surgeon General's Call to Action to Prevent and Decrease Overweight and Obesity reports that overweight adolescents have a 70 percent chance of becoming overweight or obese adults, and this risk increases to 80 percent if a parent is overweight or obese. Further, obesity associated coronary heart disease is now the No. 1 cause of mortality in the United States. Parents can significantly improve the health of their children by initiating family lifestyle changes in activity and eating behavior.

What has been done

Research to: generate information to make it easier for citizens to eat healthier and be more physically active; determine the effects of food marketing on children's dietary behavior; determine the role of inflammation in the development of diabetic retinopathy; determine the role of diet, obesity and inflammation on colon cancer risk; determine the effect of calorie restriction on the body's innate immune response to influenza; and develop effective prevention and intervention methods for E. coli-related illnesses.

Results

Collected data to assist food scientists and processors design healthier foods for developed and under-developed countries by investigating the use of low-glycemic index dry beans instead of high-glycemic starchy foods. This would aid in reducing the incidence of Type 2 diabetes.

Developed and implemented standardized, competency-based food safety education and training programs. That was translated and adapted to Vietnamese and Thai. A 16-module training programs on food safety for global food manufacturing was developed and pilot tested in China.

More than 160 food safety professionals completed training workshops.

Studies on school interventions on nutrition behaviors among low-income middle schools students are informing state and national-level nutrition policy and programs related to school environment and policy change to improve student dietary intake. School health teams were established at 4 Grand Rapids schools with training focused on basic nutrition and physical activity.

Published study results of findings regarding advergames designed to promote food to children and generally promoting food that are high in fat, sodium and sugar. Children's exposure to these games result in more positive attitudes towards the game and the brand than passive advertizing messages.

4. Associated Knowledge Areas

KA Code	Knowledge Area
703	Nutrition Education and Behavior
724	Healthy Lifestyle
802	Human Development and Family Well-Being
806	Youth Development

Outcome #2

1. Outcome Measures

Number of research programs to understand how environmental pollutants, especially ozone and endocrine disruptors, affect human health.

2. Associated Institution Types

- 1862 Research

3a. Outcome Type:

Change in Condition Outcome Measure

3b. Quantitative Outcome

Year	Actual
2013	6

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)

Michigan residents are exceptionally vulnerable due to chronic exposure to complex mixtures of endocrine disruptors that include legacy environmental contaminants within the Great Lakes basin(e.g., dioxin, PCBs, DDT), numerous pesticides and herbicides from the diverse and intense agricultural activities within the state, and the broad range of industrial activities that contribute to the overall pollution burden.

What has been done

Research to: comprehensively assess the toxicity of endocrine disruptors to determine the health risks of this contaminant to human health and wildlife in Michigan; study chronic respiratory diseases caused by air pollutants to better understand how nasal tissues and cells may respond to inhaled intoxicants; determine why some species of birds are more likely to support infectious agents than others; and to evaluate pesticide use and mitigate pesticide misuse to reduce environmental and human risk.

Results

Published papers on prevalence of Newcastle disease virus and avian influenza in double-crested cormorants and investigated the health of migrating landbirds in relation to habitat use.

Test analysis for the turfgrass pesticide certification exam and the certified crop advisors exam resulted in poor questions being identified and rewritten or substituted to improve the quality, fairness and reliability of the exams.

4. Associated Knowledge Areas

KA Code	Knowledge Area
723	Hazards to Human Health and Safety
805	Community Institutions, Health, and Social Services

Outcome #3

1. Outcome Measures

Number of research programs to develop better models for the human health and human services sector.

2. Associated Institution Types

- 1862 Extension
- 1862 Research

3a. Outcome Type:

Change in Condition Outcome Measure

3b. Quantitative Outcome

Year	Actual
2013	10

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)

Healthy, vital communities with active citizenry are better equipped to address the challenges facing many of today's families. Whether the issue is economic development, youth aging, family

dynamics, demographics or rural and urban security, better models for the human health and human services sector are critical to human development and overall well-being.

What has been done

Research to: transition young people who age out of foster care; develop healthcare packaging that is easier to access, particularly for aging consumers and people with disabilities; develop models for preventive and early intervention strategies for children living with a family member with a serious illness; examine the relationship between the number of foster home placements for youth and the number of community connections as emancipated adults; examine the relationships between emotion-related socialization behaviors and infants', toddlers' and preschoolers self-regulation and social-emotional competencies; and to develop models and family-based interventions that advance the well-being of National Guard soldiers and their families post-deployment to a combat zone.

Results

We have empirically-tested an emotion-related parenting construct and validated its association with toddler self-regulation in a low income population. Results will better inform understanding of associations between dimensions of self regulation as well as shed light on how various emotion-related parenting behaviors (emotional supportiveness, emotion talk and emotion coaching) are related to domains of self regulation.

4. Associated Knowledge Areas

KA Code	Knowledge Area
802	Human Development and Family Well-Being
803	Sociological and Technological Change Affecting Individuals, Families, and Communities
805	Community Institutions, Health, and Social Services
806	Youth Development

Outcome #4

1. Outcome Measures

Number of adult participants with increased knowledge about healthy lifestyles.

2. Associated Institution Types

- 1862 Extension

3a. Outcome Type:

Change in Knowledge Outcome Measure

3b. Quantitative Outcome

Year	Actual
2013	11287

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)

There is a high level of people living at or below the poverty level; high levels of obesity among adults; and low levels of adults consuming the adequate amount of fruits and vegetables in Michigan. These are factors that affect the quality of life of adults and their families, and increase their likelihood of chronic diseases.

In Michigan, 17.5% were considered below the poverty level in 2011 (US Census Bureau, 2011).

Based on USDA data, 1,784,755 people (18.1%) are receiving Supplemental Nutrition Assistance Program benefits- Bridge Card in Michigan (USDA Food and Nutrition Service, 2013).

Through 2009-2011, 3,855,000 people (14.2%) in Michigan were considered food insecure, and 5.6% of people in Michigan were considered to have very low food security (USDA ERS, 2011).

About 48% of all SNAP participants are in working families (USDA Food and Nutrition Service, 2011), and 22% of those who receive SNAP Benefits in Michigan are adults living with children (USDA Food and Nutrition Service, 2011).

Michigan has the 10th highest prevalence of obesity in the United States (Michigan Department of Community Health, 2011). Three out of every ten (30.3%) adults in Michigan are obese, while approximately 35% of adults are overweight (Michigan Behavioral Risk Factor Survey & Weight Status Among Michigan Adults, 2009). 11.9% of Michigan youth are considered obese (CDC YRBSS, 2009).

In 2009, 77.4% of Michigan adults did not consume adequate amounts of fruits and vegetables (CDC BRFSS, 2009). 20% (1/5) of Michigan youth eat the recommended daily allowance of five servings of fruit and vegetables a day (Michigan Youth Risk Behavior Survey, 2009).

In 2009, the prevalence of inadequate physical activity among Michigan adults was 48% (MiBRFSS, 2009).

23.6% of Michigan's adults reported that during the past month, they had not participated in any physical activity (CDC, BRFSS, 2009-2010).

In Michigan, only 49.4% of adolescents were physically active for at least 60 minutes/day on 5 or more days (CDC, YRBS, 2011).

According to Michigan Food Safety, the three main causes of foodborne illness are (2009): improper temperatures, poor personal hygiene and cross-contamination of food.

Preventing or managing chronic diseases is the top health challenge of the 21st century. Seven out of 10 deaths each year are from chronic diseases. More than 75% of healthcare spending (in Michigan and the U.S.) is for people with chronic diseases including heart disease, stroke, cancer, diabetes, kidney disease, and dementia. Leading a healthy lifestyle can greatly reduce the risk of developing chronic diseases (Michigan 4 by 4 Wellness Plan).

What has been done

MSU Extension provides nutrition education in all 83 counties of Michigan through a variety of programs and funding sources (numbers here reflect approximately 25% of participants in this area). Nutrition and physical activity education are means to prevent obesity among adults and to prevent and decrease chronic diseases. Michigan State University (MSU) Extension delivers high-quality and affordable education to serve the needs of children, youth, families and communities in urban, rural and suburban areas.

MSU Extension programming promotes healthy life-styles and educates Michigan residents, allowing each individual to acquire the skills to take control of his or her personal health. The

Nutrition & Physical Activity Workgroup (NPA) of the Health and Nutrition Institute of MSU Extension works to improve the knowledge, skills, attitudes and behavior of individuals regarding nutrition and physical activity. Through promotion, planning and delivery, MSU Extension staff members provide education to diverse audiences at the local, county and state level. Programs aim to help children, youth, adults and seniors incorporate healthy and affordable nutrition choices into their lifestyles while increasing physical activity for an overall increased community well-being.

Through our educational programs, adults learn about MyPyramid and MyPlate; making the most of their food dollars; menu planning; understanding a recipe; keeping food safe; nutrition and health; improving physical activity and feeding a family.

Results

An evaluation found:

Dietary Quality

After the series, participants reported the following changes in the area of dietary quality:

Adults:

98% of adults completing the series demonstrate adoption of healthy eating practices by reporting a positive change in exit intake nearer the recommended amount with regards to age, sex, and level of physical activity (Caloric Balance).

40% of the adults completing the series demonstrate adoption of healthy eating practices by reporting an increase in fruit consumption during a typical day.

50% of the adults completing the series demonstrate adoption of healthy eating practices by reporting an increase in vegetable consumption during a typical day.

30% of the adults completing the series demonstrate adoption of healthy eating practices by reporting a positive change in whole grain consumption during a typical day (e.g., change from never to seldom, seldom to sometimes, sometimes to most times, and most times to always)

29% of adults completing the series demonstrate gains in awareness of healthy eating practices by reporting a positive change in how often they think about healthy food choices when deciding what to feed their family.

Food Resource Management

After the series, participants reported that they would engage in these food resource management behaviors more often than before participating in the series:

57% of adults completing the series demonstrate improvement in one or more food resource management practices (i.e., planning meals, comparing prices, not running out of food, or using grocery lists).

Food Safety

After the series, participants reported that they would often or always engage in these food safety

behaviors:

Adults:

38% of the adults completing the series demonstrate improvement of the food safety practices of thawing and storing foods.

Physical Activity

After the series, participants reported an increase in their physical activity behaviors:

Adults:

25% of adults completing the series demonstrate adoption of increased time spent in physical activity by reporting a positive change in the time spent being physically active on a weekly basis (e.g., changes from sedentary to moderate activity, or to active; and changes from 30 minutes or more of physical activity/day in at least 4 days of the week).

4. Associated Knowledge Areas

KA Code	Knowledge Area
724	Healthy Lifestyle

Outcome #5

1. Outcome Measures

Number of youth participants with increased knowledge about healthy lifestyles.

2. Associated Institution Types

- 1862 Extension

3a. Outcome Type:

Change in Knowledge Outcome Measure

3b. Quantitative Outcome

Year	Actual
2013	15031

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)

Situation: Knowing our numbers in Michigan

There is a high level of people living at or below the poverty level; high levels of obesity among adults; and low levels of adults consuming the adequate amount of fruits and vegetables in Michigan. These are factors that affect the quality of life of adults and their families, and increase their likelihood of chronic diseases.

In Michigan, 17.5% were considered below the poverty level in 2011 (US Census Bureau, 2011).

Based on USDA data, 1,784,755 people (18.1%) are receiving Supplemental Nutrition Assistance Program benefits- Bridge Card in Michigan (USDA Food and Nutrition Service, 2013).

Through 2009-2011, 3,855,000 people (14.2%) in Michigan were considered food insecure, and 5.6% of people in Michigan were considered to have very low food security (USDA ERS, 2011).

About 48% of all SNAP participants are in working families (USDA Food and Nutrition Service, 2011), and 22% of those who receive SNAP Benefits in Michigan are adults living with children (USDA Food and Nutrition Service, 2011).

Michigan has the 10th highest prevalence of obesity in the United States (Michigan Department of Community Health, 2011). Three out of every ten (30.3%) adults in Michigan are obese, while approximately 35% of adults are overweight (Michigan Behavioral Risk Factor Survey & Weight Status Among Michigan Adults, 2009). 11.9% of Michigan youth are considered obese (CDC YRBSS, 2009).

In 2009, 77.4% of Michigan adults did not consume adequate amounts of fruits and vegetables (CDC BRFSS, 2009). 20% (1/5) of Michigan youth eat the recommended daily allowance of five servings of fruit and vegetables a day (Michigan Youth Risk Behavior Survey, 2009).

In 2009, the prevalence of inadequate physical activity among Michigan adults was 48% (MiBRFSS, 2009).

23.6% of Michigan's adults reported that during the past month, they had not participated in any physical activity (CDC, BRFSS, 2009-2010).

In Michigan, only 49.4% of adolescents were physically active for at least 60 minutes/day on 5 or more days (CDC, YRBS, 2011).

According to Michigan Food Safety, the three main causes of foodborne illness are (2009): improper temperatures, poor personal hygiene and cross-contamination of food.

Preventing or managing chronic diseases is the top health challenge of the 21st century. Seven out of 10 deaths each year are from chronic diseases. More than 75% of healthcare spending (in Michigan and the U.S.) is for people with chronic diseases including heart disease, stroke, cancer, diabetes, kidney disease, and dementia. Leading a healthy lifestyle can greatly reduce the risk of developing chronic diseases (Michigan 4 by 4 Wellness Plan).

What has been done

What do we do? Nutrition and Physical Activity Education

Nutrition and physical activity education are means to prevent obesity among adults and to prevent and decrease chronic diseases. Michigan State University (MSU) Extension delivers high-quality and affordable education to serve the needs of children, youth, families and communities in urban, rural and suburban areas.

MSU Extension programming promotes healthy life-styles and educates Michigan residents, allowing each individual to acquire the skills to take control of his or her personal health. The Nutrition & Physical Activity Workgroup (NPA) of the Health and Nutrition Institute of MSU Extension works to improve the knowledge, skills, attitudes and behavior of individuals regarding nutrition and physical activity. Through promotion, planning and delivery, MSU Extension staff members provide education to diverse audiences at the local, county and state

level. Programs aim to help children, youth, adults and seniors incorporate healthy and affordable nutrition choices into their lifestyles while increasing physical activity for an overall increased community well-being.

Through our educational programs, adults learn about MyPyramid and MyPlate; making the most of their food dollars; menu planning; understanding a recipe; keeping food safe; nutrition and health; improving physical activity and feeding a family.

Results

An evaluation found:

Dietary Quality

After the series, participants reported the following changes in the area of dietary quality:

Youth

30% of youth demonstrated adoption of healthy eating habits by improving their intake of fruit servings in a usual day.

36% of youth demonstrated adoption of healthy eating habits by improving their intake of vegetable servings in a usual day.

32% of youth demonstrated adoption of healthy eating habits by decreasing their intake of sugary drinks on a usual day.

34% of youth demonstrated adoption of healthy eating habits by improving their intake of whole grain servings.

Food Safety

After the series, participants reported that they would often or always engage in these food safety behaviors:

Youth:

29% of youth reported increasing their frequency of food safety practices.

Physical Activity

After the series, participants reported an increase in their physical activity behaviors:

Youth:

29% of youth demonstrated adoption of increased time spent in physical activity by reporting a positive change in time spent being physically active on a weekly basis.

4. Associated Knowledge Areas

KA Code	Knowledge Area
724	Healthy Lifestyle
806	Youth Development

Outcome #6

1. Outcome Measures

Number of adult participants with increased knowledge of human development and family well-being.

2. Associated Institution Types

- 1862 Extension

3a. Outcome Type:

Change in Action Outcome Measure

3b. Quantitative Outcome

Year	Actual
2013	651

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)

Research shows that children who receive affection and nurture from their caregivers have the best opportunity for healthy development.

What has been done

One example is a program based on Stephen Bavolek's evidence-based Nurturing Parenting, where MSUE developed a program for parents, grandparents, childcare providers and others who care for children, ranging from birth to teens. Participants learned what nurturing is and how to be a nurturing parent, enhance positive relationships with children, how to discipline without spanking, methods to handle stress and anger, child growth and development, understanding the brain development of children and teens and how to help build self-esteem. Nurturing Families increased skills that promoted positive family relationships. It was offered as a series, and one-time workshops on specific topics.

Results

Surveys were given at the beginning of the series and at the end of the series. The evaluation results found there was a positive change on all four constructs assessed; Family Functioning and Resiliency, Emotional Supports, Concrete Supports and Nurturing and Attachment.

44% of the participants changed on the extent to which they recognized and responded to their own needs

48% of the participants changed on the extent to which they could identify negative/abusive relationship behaviors

39% of the participants changed on increased social support that helped in their emotional needs

47% of the participants changed on ability to access needed resources at a time of crisis

4. Associated Knowledge Areas

KA Code	Knowledge Area
802	Human Development and Family Well-Being

Outcome #7

1. Outcome Measures

Number of youth participants with increased knowledge of human development and family well-being.

2. Associated Institution Types

- 1862 Extension

3a. Outcome Type:

Change in Knowledge Outcome Measure

3b. Quantitative Outcome

Year	Actual
2013	2176

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)

Social and emotional health and well-being -- the social, mental, psychological and spiritual aspects of people's lives across the lifespan -- play a critical role in our overall health. Social and emotional health encompasses forming and maintaining satisfying and healthy relationships, taking another's perspective, resolving interpersonal conflict, feeling capable and whole, expressing emotions, navigating stress, and having supportive relationships. Social and emotional health also involves having a positive sense of self ? including developing a healthy sense of identity around aspects related to race and ethnicity, gender, sexuality, spirituality and abilities/disabilities. As is true for all aspects of human development, social and emotional health must be addressed across multiple levels, including the personal, interpersonal, institutional and cultural levels.

What has been done

MSU Extension developed the ABC of Bullying Prevention workshop to help youth develop skills to address self esteem, aggressive behavior, and strategies to address bullying.

Results

Evaluation results found:

91% had a greater understanding about different kinds of bullying behaviors and how they can affect all those involved.

89% had a greater understanding about the connections between bullying and human differences based on class, gender, sexual orientation, race, ethnicity, etc.

85% could distinguish between bullying behaviors and harassment behaviors.

93% understood the importance of addressing issues of bullying at multiple levels (personal, interpersonal, institutional, and cultural).

86% developed new skills for interrupting bullying behaviors and for supporting those who are targeted.

87% were aware of more programs and resources for addressing these issues.

4. Associated Knowledge Areas

KA Code	Knowledge Area
802	Human Development and Family Well-Being
806	Youth Development

Outcome #8

1. Outcome Measures

Number of adult participants with increased knowledge of youth development.

2. Associated Institution Types

- 1862 Extension

3a. Outcome Type:

Change in Knowledge Outcome Measure

3b. Quantitative Outcome

Year	Actual
2013	2780

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)

One example in this area is helping adults teach youth about science. There is a need to build science literacy on a local and state level. To do so, adults needed to learn not only science curriculum but youth development.

What has been done

Target audience was youth and adult volunteers who attended 4-H Exploration Days from 83 Michigan counties.

Results

Evaluation results found:

For adults:

- 100% of adult learners indicated increased food science knowledge
- 100% of adult learners indicated increased understanding about entrepreneurship and career opportunities that youth can pursue in food science related fields.
- 100% of adult learners indicated that they plan to apply the science knowledge and skills they gained during the workshop.
- 20% increased in their perception of their knowledgeable in science.
- 25% increased in their perception of their understanding of how to teach youth using a hands-on learn-by-doing approach.
- 10% increased in their perception of their ability to teach youth using a hands-on learning- by-doing approach.

For Youth changes regarding science:

- 10% increased in their perception of their ability to figure out exactly what the problem is.
- 9% increased in their perception of their ability to determine what caused the problem.
- 9% increased in their perception of their ability to keep their minds open to different ideas when planning to make a decision.
- 8% increased in their perception of their ability to easily express their thoughts on a problem.
- 10% increased in their perception of their ability to compare ideas when thinking about a topic.
- 9% increased in their perception of their ability to keep their minds open to different ideas when planning to make a decision.
- 10% increased in their perception of their ability to look for information to help them understand the problem.
- 9% increased in their perception of their ability to think about all the information they have in order to make choices.
- 18% increased in their perception of their ability to think of past choices when making new decisions.

4. Associated Knowledge Areas

KA Code	Knowledge Area
802	Human Development and Family Well-Being
806	Youth Development

Outcome #9

1. Outcome Measures

Number of youth participants with increased knowledge of youth development.

Not Reporting on this Outcome Measure

Outcome #10

1. Outcome Measures

Number of research programs to develop more effective environmental/natural resources management systems.

2. Associated Institution Types

- 1862 Research

3a. Outcome Type:

Change in Knowledge Outcome Measure

3b. Quantitative Outcome

Year	Actual
2013	9

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)

The need to develop economically and environmentally sound approaches to address environmental and natural resources challenges is increasingly important. Policies, practices and science-based knowledge must constantly evolve to promote stewardship and sustainability in light of new opportunities for increased productivity, resource-saving technologies and threats to biodiversity. Research is needed to ensure that practices and policies have a strong, science based foundation.

What has been done

Research to: better understand public benefits for policy development in recreation and tourism resource management; identify sustainable ways to enhance human well-being while reducing stresses on the environment; and to better understand the current spread, historical distribution and future disease risk of Lyme disease to inform effective citizen-focused information campaigns; better understand the effects of climate on woody seedlings.

Results

Strengthening and sustaining MI's tourism industry and increasing collaboration between state tourism and agriculture industries, specifically the relationships between tourism, outdoor recreation, natural resources and the environment. Many of these goals were realized through the Michigan Tourism Strategic Plan; 10 presentations and 6 web-based articles and the MTSP website (tourismplan.anr.msu.edu)

Two international and two workshops to discuss the establishment of Wolbachia into malaria mosquito vector and demonstration of its ability to induce cytoplasmic incompatibility. NIH invited our group to submit a proposal.

4. Associated Knowledge Areas

KA Code	Knowledge Area
723	Hazards to Human Health and Safety
803	Sociological and Technological Change Affecting Individuals, Families, and Communities

Outcome #11

1. Outcome Measures

Number of adult participants with increased knowledge of family resource management.

2. Associated Institution Types

- 1862 Extension

3a. Outcome Type:

Change in Knowledge Outcome Measure

3b. Quantitative Outcome

Year	Actual
2013	1590

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)

Many Michigan families are finding it difficult to make ends meet and sustain daily living. Some of the reasons for this are job loss, decreased income, increased mortgage or rent costs, rising food prices and lack of affordable credit. In order for communities to prosper it is important that individuals and families review their assets and liabilities and develop a plan to change their financial habits for a more sustainable existence. When individuals and families in our communities are financially healthy, it creates an environment for sustained community prosperity.

According to the BLS current population survey (CPS), the unemployment rate for Michigan was 8.7% in June 2013, compared to the national average of 7.6%. There are 408,335 Michigan residents currently unemployed. Foreclosure rates are also troubling in Michigan. A recent 2013

RealtyTrac report on foreclosures ranks Michigan tenth on a list of the top state foreclosure rates. The filings include default notices, auction sale notices and bank repossessions. Home ownership rates could also be improved in the state. In Michigan, home ownership dropped from 71.7% in 2000 to 69.2% in 2010 for householders under age 65. That is a decrease of 3.5 percent and it reflects difficulties purchasing or keeping a home under recent economic conditions. Additionally, many Michigan residents struggle to manage their finances. Saving and debt statistics illustrate this challenge:

- ?Forty-nine percent (49%) of American consumers have difficulty covering monthly expenses.
- ?Fifty-six percent (56%) do not use a budget to guide spending.
- ?Forty-four percent (44%) gave themselves a grade of c and lower on their financial knowledge.

MSU Extension has an important role to play in addressing issues of financial health of individuals and families through community-based educational programs. The overarching goal of these efforts is for Michigan consumers to become aware of their personal financial profile, to adopt sound financial practices ? including managing a spending and savings plan and utilizing financial products and services in a beneficial manner and identify goals and the steps necessary to reach self-sufficiency. MSU educational programs also provide Michigan citizens with housing education that better prepares consumers for homeownership and retention of the home as an asset. Homeownership education and counseling has been shown to get buyers into lower-cost mortgages, increase credit scores, reduce defaults, improve borrowers' financial standing and increase the likelihood of troubled borrowers seeking foreclosure prevention assistance.

What has been done

Michigan State University Extension developed a financial literacy program to assist individuals, households, organizations and communities to become sustainable through education related to financial capability, pre-purchase and foreclosure intervention and more.

Results

Evaluation results found:

- 45% changed in setting SMART Financial Goals
- 41% changed in keeping track of spending and income
- 40% changed in reviewing all credit cards bills and statements for accuracy
- 40% changed in writing out a spending plan
- 47% changed in saving money regularly
- 50% changed in obtaining and reviewing credit report annually
- 24% changed in paying bills on time
- 38% changed in paying down debt or new credit card charges each month
- 21% changed in obtaining a housing payment that fits within their budget
- 53% changed in making choices today that will make retirement a reality
- 47% conducted a home energy audit through reputable company or service

4. Associated Knowledge Areas

KA Code	Knowledge Area
801	Individual and Family Resource Management

Outcome #12

1. Outcome Measures

Number of research programs that study the function of nutrients and other components related to human health.

2. Associated Institution Types

- 1862 Research

3a. Outcome Type:

Change in Condition Outcome Measure

3b. Quantitative Outcome

Year	Actual
2013	3

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)

As we head into the second decade of the new millennium, paradigms of an unfolding nutrition transition in many countries; and uncontrolled obesity epidemic gripping America; global malnutrition; prolonged food insecurity in many low-income countries; and changes to prevent childhood stunting compel us to more fully understand the developmental (nutritional) origins of health and chronic disease that dominate the global public health nutrition agenda. By studying how individual food components are digested, absorbed, metabolized and utilized - and their effects on genes, cells and organs - the whole person can be understood. Deliberate manipulation of these food interactions can lead to improved health.

What has been done

Research to: identify more effective, efficient and greener, plant-based processes to produce pharmaceuticals; to determine the effect of selected nutrients and food components on the development of allergic airway diseases; and understand genetic and environmental components of *M. tuberculosis* persistence.

Results

Due to unreliable manufacturing, a recent Taxol shortage caused treatment delays in patients with breast, ovarian, lung and colon cancers. We used an in vitro enzyme system to produce paclitaxel from baccatin III for the first time using two *Taxus* acyltransferases and two CoA ligases co-opted from bacteria in only 4 enzymatic steps. We will partner with the Michigan Biotechnology Institute to scale up the process.

4. Associated Knowledge Areas

KA Code	Knowledge Area
702	Requirements and Function of Nutrients and Other Food Components

V(H). Planned Program (External Factors)

External factors which affected outcomes

- Natural Disasters (drought, weather extremes, etc.)
- Economy
- Appropriations changes
- Public Policy changes
- Government Regulations
- Competing Public priorities
- Competing Programmatic Challenges
- Populations changes (immigration, new cultural groupings, etc.)

Brief Explanation

The ongoing economic challenges being faced by Michigan -- including the recent federal funding sequestration process -- continue to affect this planned program area. Consequences have included fewer new hires, delaying the award of new financial obligations, reducing levels of continued funding, and renegotiating or reducing the current scope of assistance through formula funds or block grants. Although overall research FTEs only decreased by one -- from 65 FTEs to 64 FTEs this past year, we are down from 77.1 FTEs just two years ago.

Specifically, a 15 percent decrease in state funding FY2011-2012 coupled with a flat federal funding line for two consecutive years resulted in the elimination of 72 Extension educator positions across 83 counties, 22 academic and faculty positions on campus and 15 support staff. Administrative positions were reduced from 45 to 19 FTEs. Impacts on AgBioResearch came largely in the form of reductions in research infrastructure support. Investments in facility maintenance and equipment were postponed in an effort to avoid eliminating more than 45 research positions (faculty, support staff and graduate assistants) and one research facility had to be closed in light of the reductions. There were also fewer funds to seed research on emerging issues.

These reductions caused some stakeholders to question the commitment of Extension and AgBioResearch to Michigan agriculture. In an effort to address these concerns, leaders from both organizations participated in a series of 13 open forum meetings held throughout Michigan in 2013. Stakeholders and community members asked questions and had the opportunity to learn more about the past decisions and future plans of Extension, AgBioResearch and the MSU College of Agriculture and Natural Resources. It was a valuable exchange between the organizations' leaders and industry stakeholders across Michigan, and helped to ease some tension caused by the cutbacks.

Together, Extension and AgBioResearch continue to serve as the primary research and development arm for the agriculture and food industries in Michigan, valued at more than \$91 billion annually.

V(I). Planned Program (Evaluation Studies)

Evaluation Results

As Hatch dollars are base funding for faculty salaries, there is a built-in evaluation mechanism through annual reviews of overall performance, research productivity and the leveraging of additional research dollars. In addition, many of the research projects have an evaluative element that is required by state and federal-level funding sources that provides documentation related to project assumptions, goals and outcomes. This information is used to determine the overall success of research initiatives; their contribution to providing practical, real-world solutions and resources to address challenges and problems; and whether continuation funding and/or new dollars are appropriate and necessary as funds are available.

Additional MSUE Evaluations in this area:

Diabetes Personal Action Toward Health (PATH)

Issue (who cares and why)?

Chronic diseases are among the most prevalent, costly, and preventable of all health issues. Leading a healthy lifestyle greatly reduces a person's risk for developing chronic disease. Access to high-quality and affordable prevention measures are essential to saving lives, reducing disability and lowering costs for medical care.

What has been done

MSUE is positioned to provide education to Michigan citizens related to the prevention and management of leading chronic diseases. One example is Diabetes Personal Action Toward Health (PATH) program. PATH provides the skills and tools to manage chronic health conditions. In Michigan, this is the name for Stanford University's Chronic Disease Self-Management Program. People who participate in PATH workshops are better equipped to face the daily challenges of living with one or more chronic conditions. PATH is a six-week series facilitated by two trained leaders who have chronic conditions themselves. PATH teaches ways to deal with the challenges of not feeling well, talk to healthcare providers and family members, overcome stress and relax, increase energy, handle everyday activities more easily, stay independent and set goals.

Results

Evaluation results found:

- 72% diagnosed with Type 2 diabetes; 14% no diagnosis of diabetes at time of PATH; 5% diagnosed at-risk for developing diabetes; 2% diagnosed Type 1 diabetes; and 7% pre-diabetic.
- 50% self-report being in good or very good health. 4% described their health as

poor.

- Improved self-rated general health 13%
- Decreased discouragement by health problems 30%
- Decreased fearfulness about future health 22%
- Decreased worry in life about health 29%
- Decreased frustration about health problems 31%
- Decreased symptoms of fatigue 34%
- Decreased shortness of breath symptoms 25%
- Decreased pain symptoms 37%
- Increased time stretching or doing strengthening exercises 39%
- Increased time walking for exercise 41%
- Improved confidence to keep the fatigue caused by disease from interfering with life 47%
- Improved confidence to keep physical discomfort or pain from interfering with life 41%
- Improved confidence to keep emotional distress caused by disease from interfering 47%
- Improved confidence to keep any other symptoms or health problems from interfering with life 33%
- Improved confidence to do different tasks and activities needed to manage health to reduce need to see a doctor 49%
- Improved confidence to do things other than just taking medication to reduce how much illness affects everyday life 49%
- Reduced interference with normal social activities with family, friends, neighbors, etc 21%
- Reduced interference with hobbies or recreational activities 27%
- Reduced interference with household chores 23%
- Reduced interference with your errands and shopping 24%
- Increased frequency of preparing a list of questions to ask during a healthcare visit 37%
- Increased frequency of asking questions related to disease and treatment during healthcare visit 38%
- Increased frequency discussing personal problems possibly related to illness during a healthcare visit 39%
- Increased confidence to eat meals every 4 to 5 hours every day, including breakfast every day 29%
- Increased confidence to follow diet when preparing or sharing food with other people who do not have diabetes 44%
- Increased confidence to choose the appropriate foods to eat when hungry 42%
- Increased confidence to exercise 15 to 30 minutes, 4 to 5 times a week 49%
- Increased confidence to do something to prevent blood sugar levels from dropping when exercising 52%
- Increased confidence to know what to do when blood sugar level goes higher/lower than it should 54%
- Increased confidence to judge when changes in illness happen to visit the doctor 47%
- Increased confidence to control diabetes so it does not interfere with life 57%

4-H Life of Lake Superior - TechXcite -Solar Car Challenge

Issue (who cares and why)?

There is a need to build science literacy on a local and state level.

What has been done

MSUE developed and implemented Life of Lake Superior Workshop for 4-H youth. This was an engineering workshop featuring Topic/s: Alternative Energy: Solar Energy Car Challenge. Specific Title: 4-H Engineering & Design Challenge: Racing With the Sun from Duke University's TechXcite curriculum (2012). Additionally, handouts and other materials were adapted from the National 4-H Robotics curriculum, specifically; the characteristics of an engineer (see attached description of Chiodini's Life of Lake Superior Lesson Planning Notes).

Results

Evaluation results found:

- 44% of youth learners participating in the TechXcite Solar Car Challenge indicated that they would like to be a scientist or an engineer when they grow up.
- 75% of youth learners indicated that they feel more knowledgeable about solar/alternative energy after the Challenge.
- 67% of youth learners indicated that they feel more knowledgeable about entrepreneurship and career opportunities that youth can pursue in engineering/design or science related fields.
- 66% of youth learners indicated that they plan to apply the science knowledge and skills they gained at the Challenge.
- 87% of youth learners indicated that engineering requires specific knowledge and skills above and beyond just training in the engineering field.
- 87% of youth learners indicated that engineers need to be well rounded and understand the social context of their issue, including history, economics, and environment relating to the engineering problem.
- 95% of youth learners indicated that engineers need to understand the importance of teamwork and the ability to work with others.

Breakfast on the Farm

Issue (who cares and why)?

Many consumers have lost the connection between agriculture and food systems in the community. This connection can have many implications on supporting farmers to buying local food.

What has been done

MSU Extension developed Breakfast on the Farm that provides consumers with a first-hand look at modern agriculture.

Results

Evaluation results found:

Exit surveys continue to show that for approximately 43% of the visitors, the experience is the first time they have been on a farm in twenty years or more. In 2012, participants attending BOTF at one of 7 dairy farms were invited to participate in a follow-up electronic survey approximately 6 months after the events. The survey tool was designed, in part, to see if the BOTF experience resulted in changing the purchasing behaviors of the participants.

Follow up electronic survey approximately 6 months after participants visited a Breakfast on the Farm event held on a Michigan dairy farm was conducted

Results/Impact: 244 individuals completed the survey. Data indicates a 9.3% increase in the percentage of dairy products purchased per household following the visit to one of the dairy farms hosting Breakfast on the Farm. Based on the total number of respondents, data showed weekly household purchases of milk, cheese and yogurt increased by 2 gallons for milk, 2 pounds (cheese) and .33 units of yogurt. Using these figures and average retail prices, the overall change in dollars spend on Michigan sourced milk, cheese and yogurt for households (96) attending 2013 BOTF events equates to \$426,377.

Key Items of Evaluation

MSU scientists are using funding from the National Institute of Environmental Health Sciences (NIEHS) to continue research on understanding the health risks from chemicals -- primarily dioxins -- commonly found at the sites. Research focuses on remediation technologies to eliminate the potential for exposure to chemicals at the sites. They are trying to use different mouse strains to model human genetic diversity. We hope the results will give risk assessors an accurate way of calculating the risk of exposure for people who live or work near Superfund sites and ultimately show ways to minimize that risk.

Another project is looking at Fat accumulation in the liver. The chronic accumulation of fat in the liver can progress into more complex diseases such as nonalcoholic fatty liver disease and metabolic syndrome, which have been associated with diseases such as diabetes, obesity, cardiovascular disease and liver cancer. So far, we have found that dioxins work through a specific protein called the aryl hydrocarbon receptor to increase liver fat accumulation using fat from the food we eat. We believe that's what is creating the problem. Researchers are also trying to discover whether the response in mice is relevant to humans and whether it can be a contributing factor in the increased incidences of liver cancer, diabetes and cardiovascular disease.

Preparing Michigan's Children and Youth for the Future Institute

Indicator
Reported
of adults that increase knowledge and skills in early childhood content areas
346
of caregivers , community partners, and families that are aware of MSUE early childhood resources and opportunities
331
Number indicating the ability to apply science knowledge
593
of youth who attend post-secondary education
1,568
of adults who increase knowledge and skills in science content areas
167
of adults who indicate increased confidence in their ability to engage youth in experiential, inquiry based science learning
147
of community partners, educators, and families that are aware of MSUE 4-H science resources and opportunities for youth.
424
Number of youth participating in programs who report an increase in science knowledge.
761
Number of participating youth indicating the ability to apply problem solving, critical thinking, and decision-making life skills.
1,973
of youth indicating the ability to apply the use of life skills gained through participation in 4-H.
2,316
of Michigan youth who apply life skills learned in their daily lives.
1,964
Number of youth participating in programs who report an increase in problem solving, critical thinking, and decision-making life skills.
439
of youth participants able to identify life skills they have gained through their 4-H experiences.
1,916
#of adult participants who can identify the connection between 4-H participation, life skills development, and academic success.
281
of community partners, educators and families that are aware of MSUE CYI life skills resources and opportunities for youth.
563
Number of participants indicating an increase in knowledge, skills, or confidence by using facilitative processes, conflict management skills, or civic participation practices
331
Number of participants who report that they are better prepared to make a change in their community or organization as a result of the training provided by MSUE
231

Number of youth that demonstrate the skills necessary for leadership.
243

Number of youth that gain knowledge and skills necessary for leadership.
563

Number of adults that gain knowledge and skills necessary for leadership.
212

Number of youth that gain understanding of Youth/Adult partnerships.
96

Number of youth participants that set a goal for their career or job.
1,590

Number of youth participants that gain self-awareness as it relates to future career possibilities.
1,537

Number of youth who indicate an increase in knowledge of financial concepts.
146

Number of youth participants that learn about the basic skills necessary for employment.
128

Number of youth that apply global and cultural competencies.
3,672

Number of youth that are culturally and globally competent leaders and citizens.
3,672

Number of youth that gain knowledge and skills in global and cultural competencies.
3,707

of adults indicating the ability to apply knowledge to engage youth in experiential, inquiry based science learning.
234

of adults indicating the ability to apply life skills education into their youth development programs and activities.
237

Number of volunteers that incorporate appropriate quality standards for positive youth development into their programming.
151

Number of communities/counties in Michigan that have systems in place to support the development of assets and life skills in youth.
54

Number of new volunteers that gain knowledge about quality standards for positive youth development.
372

Number of new professionals that gain knowledge about quality standards for positive youth development.
112

Improving Health and Nutrition Institute

Indicator
Reported
Number of participants who correctly answer 75% of the end of session questions
425

Number of participants that implement 2 actions related to a safe food environment

207

Number of participants that pass a national exam

440

Number of participants that increase safe food handling practices such as proper and frequent hand washing, improved kitchen cleanliness, cooking food adequately, avoidance of cross contamination, keeping foods at safe temperatures, avoidance of foods from unsafe sources.

646

Number of participants that follow USDA food preservation guidelines including freezing, dehydrating, proper processing techniques for low and high acid foods, using correcting processing times and using tested recipes for preserving foods,

805

Number of participants that gain knowledge in the proper process for hand washing and personal hygiene

558

Number of participants that gain knowledge in cross- contamination

636

Number of participants that gain knowledge in safe temperatures for cold and hot foods/cooling hot foods and storing temperatures

674

Number of participants that gain knowledge in preserving foods including canning methods for low and high acid foods and methods for freezing and dehydrating foods.

825

Number of participants with improved awareness, knowledge, and skills of personal hygiene (such as hand washing), cooking and storing food adequately, and avoidance of cross contamination, keeping foods at safe temperatures, and avoidance of foods from unsafe sources.

670

Number of participants with improved knowledge and awareness of the importance of following USDA food preservation guidelines including proper processing of low acid and high acid foods, correct processing times, selection of food for preservation, using tested recipes, freezing & dehydrating foods.

834

Number of adults completing the series demonstrate adoption of healthy eating practices by reporting an increase in fruits consumption during a typical day

2,755

Number of adults completing the series demonstrate adoption of healthy eating practices by reporting an increase in vegetable consumption during a typical day

3,160

Number of adults completing the series demonstrate adoption of healthy eating practices by reporting a positive change in whole grains consumption during a typical day (e.g., change from never to seldom, seldom to sometimes, sometime to most times, and most times to always)-V1

2,123

Number of adults completing the series demonstrate gains in awareness of healthy eating practices by reporting a positive change in how often they think about healthy food choices when deciding what to feed their family.

1,865

Number of adults completing the series demonstrate adoption of healthy habits by reporting a positive change in the time spent being physically active on a weekly basis.

1,815

Number of adults completing the series demonstrate adoption of healthy eating practices by reporting a positive change in diet intake nearer recommended amount with regards to age, sex, and level of physical activity

5,707

Number of adults completing the series demonstrate improvement in one or more food resource management practices (i.e., plans meals, compares prices, does not run out of food, or uses grocery lists).

3,341

Number of the adults completing the series demonstrate improvement of the food safety practices of thawing and storing foods.

2,496

Number of youth demonstrate adoption of healthy eating by improving intake of fruit servings in a usual day.

3,504

Number of youth completing the series will demonstrate an increase in the knowledge necessary to identify food groups.

1,181

Number of youth demonstrate adoption of healthy eating by decreasing intake of sugary drinks.

829

Number of youth demonstrate adoption of healthy eating by improving intake of vegetable servings.

2,573

Number of youth demonstrate adoption of healthy eating by improving intake of whole grains servings.

871

Number of youth completing the series demonstrate adoption of increased time spent in physical activity by reporting a positive change in the time spent being physically active on a weekly basis.

3,084

Number of youth report increasing frequency of food safety practices.

2,790

Number of adults demonstrate adoption of increased time spent partially and exclusively breastfeeding.

1,008

Number of Adults demonstrate adoption of increased initiation of breastfeeding.

568

Greening Institute

Indicator

Reported

Number of participants that keep track of spending and income by creating a personal budget.

236

Number of participants that save money regularly by spending less than is earned

259

Number of participants that obtain, review and correct their personal credit report.
256

Number of participants that pay bills on time.
241

Number of participants that pay down debt and adopt behavior change that improves their credit score.
238

Number of participants that plan for retirement
124

Number of participants that can calculate a reasonable housing cost based on the household budget.
209

Number of participants that conduct a home energy audit.
180

Number of participants that can identify SMART financial goals.
234

Number of participants that increase awareness of income, saving and spending through tracking
221

Number of participants that learn to review all bills and/or financial institution statements for accuracy.
220

Number of participants that increase their knowledge of home ownership financial requirements.
190

Number of participants that increase their knowledge in predatory lending.
183

Number of participants that learn foreclosure options - keep, sell or foreclose.
169

Number of adult and youth participants who access MNFI, DNR and DEQ data.
115

Number of adult and youth participants who indicate they know how to access needed information.
121

Number of adult and youth participants who implement a practice to mitigate an ecosystem threat.
1,550

Number of participants who initiate or contribute to ecosystem-related planning in their local area.
18

Number of adult and youth participants who indicate a high or very high awareness of human impacts on ecosystems and ecosystem health.
8

Number of adult and youth participants who indicate their awareness of human impacts, such as exotic invasive species, habitat damage or non-point source pollution.
53

Number of adult and youth participants who indicate high or very high confidence in their ability to address an ecosystem threat.
8

Fostering: Number of local ordinances amended to accommodate economic development, placemaking, form based coding, Firewise provisions, and other similar measures

16
Number of youth program participants who increase involvement in community issues.

12
Fostering: Number of community leaders with increased awareness and skills in global or new economy (such as but not limited to placemaking, entrepreneur-friendly, regionalism, and so on).

25
Fostering: Number of community leaders with increased awareness and skills in measures to prevent damage from wild fire and local regulation to deal with wildfire issues.

62
Number of youth program participants who increase knowledge on tribal, state, and local government.

12
Governance: Number of boards who have adopted new or improved rules or processes for compliance

13
Governance: Number of participants that report their board used new skills or techniques to improve the effectiveness of their meetings and/or processes at the local or regional level.

184
Governance: Number of boards who implement improved citizen engagement strategies.

53
Number of boards who report improved use of data and relevant information to inform their decision making

31
Number of participants who show understanding of relevant laws and the practical impacts of those laws on their boards

233
Number of participants who increase knowledge of their board's structure, functions and duties, and/or operational best practices

394
Number of participants who increase their knowledge of citizen input processes and /or methods to implement those practices

47
Number of participants who can identify and locate resources for quality information and/or apply that information to the solution of problems

151
Number of producers selling at local/regional markets

10
Number of new enterprizes/locals that purchase local/regional food

23
Number of vendors, farm markets, road side stands that accept Bridge Cards, Project Fresh, and participate in Double Up Food Bucks.

20
Number of new diversifying/expanded agri-food businesses developed

46
Number of Community Food Assessments Completed. Gaps in local food system are identified. This helps guide local food work.

2
Number of people with increased knowledge of community food systems. (measured by a quiz and a specific score means knowledge gain. (Short term.)

1,357

Number of people that have an increase in awareness of the goals of the Michigan Good Food Charter.

983

Number of Sea Grant facilitated curricula adopted by formal and informal educators.

140

Number of people engaged in Sea Grant supported informal education programs.

3,430

Number of acres of coastal habitat protected, enhanced or restored as a result of Sea Grant's activities.

1,051

Number of people or organizations who reported utilizing the tools

44