

# 2008 Montana State University Extension Annual Report of Accomplishments and Results

**Status: Accepted**  
**Date Accepted: 06/30/09**

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## I. Report Overview

### 1. Executive Summary

As Vice Provost and Director it is my pleasure to present the 2008 Montana State University Extension Annual Report, which exemplifies the breadth and depth of Extension programming and education efforts across the state as we fulfill the land-grant University mission of "taking the University to the people." Extension reaches throughout the state with programs in all 56 counties and office locations on five of the seven Indian Reservations. Some program highlights include

- The Nutrition, Food Safety and Healthy Lifestyles efforts has addressed difficult problems such as exercise and obesity, making better food choices and maximizing your food dollar. These areas require changes in behavior that are ingrained in personal, social and psychological makeup. While these are very challenging program goals, the end results are better educated choices and healthier lifestyles.
- The 4-H Youth Development program continues to show success in teaching young people to become competent, caring and confident. Positive youth development principles are at the core of the Montana 4-H program and recent research studies indicate that youth involved in 4-H are better equipped to make good decisions and to be contributing members of their communities.
- One major program emphasis has been assisting communities address very difficult times through efforts of Community and Economic Development programs that not only focus on business retention and expansion, but also on developing successful citizen leadership and governance, alternative energy sources and strategies for coping with disaster.
- Family issues, resources and environments have identified areas of greatest need for Montana families. Examples include: coping with chronic disease such as Alzheimer's, especially from the caregivers perspective; helping grandparents be successful with parenting their grandchildren; estate planning (including the fractionization of Indian lands); and strategies for addressing energy costs and other housing challenges have been an emphasis of many educational outreach programs.
- Extension Natural Resource and Environmental efforts continue to recognize that there are two sides to every issue and a balance provided by unbiased research and education is needed. Forestry programs on stewardship, secondary usages of timber and forest management are critical to good decision making. Rangeland issues such as grazing conservation, management of livestock and wildlife and control of rangeland noxious weeds are long-term issues that need to be addressed. Other Extension efforts on managing small acreages, environmentally sensitive areas and water quality continue to be in high demand.
- Ag sustainability and profitability are extremely important to the state since agriculture is the number one industry. Livestock and small grains are at the heart of the industry and require staying current on basic and applied research, as well as industry and consumer trends. Agriculture is a "risky business" that entails knowledge and information on many disciplines (marketing, pest control, variety selection, rotations, genetics, fertilizer, management systems and environmental factors, just to mention a few) are required to be successful.

While this report reflects just a portion of the many accomplishments during the past year, it does adequately portray the dedicated and talented individuals who are the driving force of Extension. I am pleased to share these accomplishments with you.

#### Total Actual Amount of professional FTEs/SYs for this State

Year:2008	Extension		Research	
	1862	1890	1862	1890
<b>Plan</b>	37.0	0.0	0.0	0.0
<b>Actual</b>	37.0	0.0	0.0	0.0

## II. Merit Review Process

### 1. The Merit Review Process that was Employed for this year

- External University Panel
- Expert Peer Review

### 2. Brief Explanation

Programs delivered by MSU Extension were reviewed by the merit review committee according to the process outlined in the Plan of Work. The committee, composed of Dr. LeRoy Luft (ID Director of Extension retired – 2 years on Merit Review), Jim DeBree (WY Director of Extension retired – 5 years on Merit Review), and Jim Johannes (MSU Extension Area Supervisor, Director of Programming and FRTEP – 1 year on Merit Review) provided written and oral feedback following their review of the Annual Report/Plan of Work. The feedback was compiled into one letter and sent back to the review committee for revision, edit and acceptance.

The comments made by the Merit Review Committee were used in planning and conducting programs by Extension administration/specialists. Additionally, the Regional Department Heads (County Agent Supervisors) stimulate cross county and multi-county programming which involve state specialists when appropriate. The cross state programming efforts at the county level are limited, but are slowly being developed. In Montana, most of the cross state program efforts are lead by the MSU Extension specialist faculty and involve county level people in the delivery of programs.

As in the past, the Merit Review process provided valuable information and suggestions that improved Extension's programs. While the process was the same for this years review, one member on the review committee has been changed. Don Addy was replaced by Jim Johannes. Because of Don's unexpected and untimely death, another recently retired person who has the perspective of the reservation population has been selected. Jim Johannes served as the coordinator for the FRTEP programs with Montana Extension since they began. He worked closely with all 7 reservations through both FRTEP and 1994 Tribal Land Grant colleges.

The Merit Review team indicated the 2008 Annual Report showed MSU Extension provided very valuable and important education to Montana citizens. They commended the organization for its effectiveness in addressing high priority issues with very limited resources and very great distances in a sparsely populated state. Each state defined initiative was considered by the team resulting in some suggestions for ways to strengthen program offerings. These suggestions will be shared with program faculty for future planning. They felt the work MSU Extension is doing is impressive with strong programs and meaningful results.

## III. Stakeholder Input

### 1. Actions taken to seek stakeholder input that encouraged their participation

- Use of media to announce public meetings and listening sessions
- Targeted invitation to traditional stakeholder groups
- Targeted invitation to non-traditional stakeholder groups
- Targeted invitation to traditional stakeholder individuals
- Targeted invitation to non-traditional stakeholder individuals
- Targeted invitation to selected individuals from general public
- Survey of traditional stakeholder groups
- Survey of traditional stakeholder individuals
- Survey of the general public

### Brief Explanation

Personal contact has been the most successful way for Extension to gain stakeholder participation. Those who use Extension regularly are willing to provide input when asked. People who attend programs or are referrals from other agencies are asked to indicate which issues are important to them and their families and communities. While less effective, radio, newsletters, newspapers and electronic distribution lists are used to inform clientele about the opportunity to make requests for Extension assistance. Informational booths are set up at some fairs, agricultural trade shows, home and garden shows. Literature is distributed at fairs and shows however discussions and questions with potential Extension users make up the biggest share of conversations. If common issues surface, they are considered in the program planning process.

### 2(A). A brief statement of the process that was used by the recipient institution to identify individuals and groups stakeholders and to collect input from them

#### 1. Method to identify individuals and groups

- Use Advisory Committees
- Use Internal Focus Groups
- Use External Focus Groups
- Open Listening Sessions
- Needs Assessments
- Use Surveys

#### **Brief Explanation**

Membership on county advisory groups is generally achieved by sending an invitation to traditional stakeholder groups requesting the name of an individual who can represent their views and provide input for Extension programming. A similar invitation is sent to non-traditional groups however, in these cases, personal contact is made to explain the role of the representative. During programs targeted at certain audiences (eg., EFNEP, Horizons, Small Acreage Owners), attendees are asked directly for input or may be asked to serve on a specific advisory committee for the program area.

Membership on the MEAC (Montana Extension Advisory Council) is based on geographic representation, areas of interest and some previous relationship with Extension. Recruitment from specific sectors such as health care, government agencies and community development are also targeted. County Extension Agents and state Specialists, Extension Program Leaders and Regional Department Heads are asked to make recommendations for membership to MEAC. Those who are selected serve a 3 year term.

### **2(B). A brief statement of the process that was used by the recipient institution to identify individuals and groups who are stakeholders and to collect input from them**

#### **1. Methods for collecting Stakeholder Input**

- Meeting with traditional Stakeholder groups
- Meeting with traditional Stakeholder individuals
- Survey of traditional Stakeholder individuals
- Survey of the general public
- Survey specifically with non-traditional groups
- Survey of selected individuals from the general public

#### **Brief Explanation**

The most common method of gathering stakeholder input is from the regular clientele of MSU Extension. While they are contacted on a less formal basis, they are systematically asked for input into program priorities. Often this occurs in intentional program planning sessions to which these people are invited, requested to attend or are required to be present by their role or position. Examples of groups that fall into this category are County/Reservation 4-H Councils, Livestock Associations, Weed Boards, Human Resource Coalitions, Local and state Agricultural Organizations, Ag Research Center Advisory committees and special interests groups. Some of these groups have offices or directing boards that are asked for specific input.

County and state Advisory committees are also used to gather input. Advisory groups are generally comprised of a cross section of the leadership and citizens in the county. Efforts are made to involve the under served and under represented clientele by contacting agencies and organizations that work with this audience regularly. They are asked for input and/or for names of people who could provide input directly. Local Extension agents follow up with personal conversations to explain the goals and process.

At the state level, one of the most valuable sources of input is from MACo. (Montana Association of Counties). Extension makes presentations during MACo's Annual Meeting followed by an open session for mutual dialog. These types of discussions also happen during the newly elected county commissioner's orientation and have proven very beneficial. Extension administration, through the Regional Department Heads (RDH's), also gathers stakeholder input from County Commissioners during the regular and systematic visits at the county level between the RDH's and County Commissioners.

Surveys are used to gather information at either the local or state level. They may be hard copy although the electronic formats are becoming more popular. As faculty become more familiar with the electronic capabilities, it is expected that more survey work will be done.

### **3. A statement of how the input was considered**

- To Identify Emerging Issues
- Redirect Extension Programs
- In the Action Plans
- To Set Priorities
- Other (Create a basis for additional resources)

**Brief Explanation**

Information gathered through the stakeholder input process is used to determine program needs and direction. In some cases, cross-county educational teams made up of county extension agents, specialists, clientele and researchers are formed to develop and implement programs. At times, county agents are able and equipped to address the issue with resources from his/her office. At other times and when issues are determined to be statewide, specialists will become more involved with program development and direction than if they are responding to a single request for information. Work to address the methamphetamine problem is an example of a program that has been started because of this type of input.

The statewide advisory committee (Montana Extension Advisory Council) meets twice a year, once on campus and once in the state. The campus meeting is focused on campus based activities and the educational outreach of specialists. The off-campus meeting focuses on programming at the county level. The Director of Extension also provides a system wide update and discusses program priorities and funding.

**Brief Explanation of what you learned from your Stakeholders**

From the meetings with the Montana Association of Counties, Extension has learned over the past year of the desire for Extension to take a leadership role in agri-security and emergency disaster planning; the need for unbiased, research based information in renewable energies and a renewed commitment to rural community development – both economic and leadership development. For example, resulting from this input, a regional specialist was hired to work in the area of renewable energy and another specialist has targeted his work toward the use of bio-fuels. These two people, along with county agents and researchers, serve on a program team to explore needs and develop programs to address the issue. This effort was reinforced by input from a legislative committee in 2008. Additionally, Extension is responding to stakeholder input for information on the costs/value of transitioning to organic agriculture. A team of Extension specialists, researchers and agents are providing materials so interested people can make informed decisions.

**IV. Expenditure Summary**

<b>1. Total Actual Formula dollars Allocated (prepopulated from C-REEMS)</b>			
<b>Extension</b>		<b>Research</b>	
<b>Smith-Lever 3b &amp; 3c</b>	<b>1890 Extension</b>	<b>Hatch</b>	<b>Evans-Allen</b>
2295884	0	0	0

<b>2. Totaled Actual dollars from Planned Programs Inputs</b>				
<b>Extension</b>			<b>Research</b>	
	<b>Smith-Lever 3b &amp; 3c</b>	<b>1890 Extension</b>	<b>Hatch</b>	<b>Evans-Allen</b>
<b>Actual Formula</b>	997000	0	0	0
<b>Actual Matching</b>	0	0	0	0
<b>Actual All Other</b>	419500	0	0	0
<b>Total Actual Expended</b>	1416500	0	0	0

<b>3. Amount of Above Actual Formula Dollars Expended which comes from Carryover funds from previous years</b>				
<b>Carryover</b>	0	0	0	0

**V. Planned Program Table of Content**

<b>S. NO.</b>	<b>PROGRAM NAME</b>
1	Nutrition, Food Safety and Healthy Lifestyles
2	Youth Development
3	Ag Sustainability and Profitability
4	Family Issues, Resources and Environments
5	Community and Economic Development
6	Natural Resources and Environment

**Program #1**

**V(A). Planned Program (Summary)**

**1. Name of the Planned Program**

Nutrition, Food Safety and Healthy Lifestyles

**V(B). Program Knowledge Area(s)**

**1. Program Knowledge Areas and Percentage**

KA Code	Knowledge Area	%1862 Extension	%1890 Extension	%1862 Research	%1890 Research
703	Nutrition Education and Behavior	55%			
712	Protect Food from Contamination by Pathogenic Microorganisms, Parasites, and Naturally Occurring Toxins	35%			
724	Healthy Lifestyle	10%			
<b>Total</b>		<b>100%</b>			

**V(C). Planned Program (Inputs)**

**1. Actual amount of professional FTE/SYs expended this Program**

Year: 2008	Extension		Research	
	1862	1890	1862	1890
<b>Plan</b>	3.0	0.0	0.0	0.0
<b>Actual</b>	4.2	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
17000	0	0	0
1862 Matching	1890 Matching	1862 Matching	1890 Matching
0	0	0	0
1862 All Other	1890 All Other	1862 All Other	1890 All Other
195000	0	0	0

**V(D). Planned Program (Activity)**

**1. Brief description of the Activity**

- Conduct train the trainer workshops
- Conduct workshops
- Facilitate meetings
- Develop local and state partnerships
- Provide training

**2. Brief description of the target audience**

Low income adults and children under the age of 19  
 Low income youth, ages 5-12  
 Adults that are FSP eligible  
 Youth from FSP eligible households  
 Restaurant & other Foods Service Managers/Employees  
 Volunteers at food service operations  
 Underserved Seniors living in rural areas

**V(E). Planned Program (Outputs)**

**1. Standard output measures**

**Target for the number of persons (contacts) reached through direct and indirect contact methods**

	<b>Direct Contacts Adults</b>	<b>Indirect Contacts Adults</b>	<b>Direct Contacts Youth</b>	<b>Indirect Contacts Youth</b>
<b>Year</b>	<b>Target</b>	<b>Target</b>	<b>Target</b>	<b>Target</b>
<b>Plan</b>	13000	16000	3000	2000
2008	15630	11737	3518	7257

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

**Patent Applications Submitted**

<b>Year</b>	<b>Target</b>
<b>Plan:</b>	0
2008 :	0

**Patents listed**

**3. Publications (Standard General Output Measure)**

**Number of Peer Reviewed Publications**

	<b>Extension</b>	<b>Research</b>	<b>Total</b>
<b>Plan</b>	1	0	
2008	0	0	0

**V(F). State Defined Outputs**

**Output Target**



**Output #1**

**Output Measure**

- EFNEP/FSNP
  - The NEP curriculum will be used to teach three series of 8-12 sessions to adults who are enrolled.
  - The NEP youth curriculum will be used to teach 6-7 lessons to youth in workshops (after school, in school, summer camps, park programs).
  - Develop and maintain local and state partnerships and collaborations.

Year	Target	Actual
2008	8000	8760

**Output #2**

**Output Measure**

- Steps to a New You
  - Provide 3 train the trainer sessions for 15 County Extension Agents who in turn, can implement county Steps to a New You program.
  - Provide 350 sets of training materials to County Extension Agents who will be presenting programs.

Year	Target	Actual
2008	4000	3571

**Output #3**

**Output Measure**

- Food Safety
  - Provide 3 train the trainer sessions for County Extension Agents so they can conduct 25 food safety education for audiences such as county sanitarians, school food service personnel, volunteers, food banks and so forth.
  - Provide training and updates to County Extension Agents so they can implement County based programs.

Year	Target	Actual
2008	850	2412

**Output #4**

**Output Measure**

- HEALTHY LIFESTYLES: To reach adult and youth populations living in rural communities who have limited resources to assist in maintaining a healthy lifestyle. Medical screenings will be offered as well as classes on managing stress, nutrition, obesity, fitness, osteoporosis, cardiovascular disease, diabetes, prostate cancer to mention a few.

Year	Target	Actual
2008	{No Data Entered}	887

V(G). State Defined Outcomes

V. State Defined Outcomes Table of Content

O No.	OUTCOME NAME
1	<p>SHORT TERM EFNEP/FSNP Number of adults gaining awareness and knowledge regarding the importance of: Healthy eating (more fruits and vegetables, more whole grains Increasing physical activity Food Safety practices Food resource management practices Food planning and preparation Number of youth increasing knowledge regarding the importance of: Eating a variety of foods Healthy eating Increasing physical activity Food safety principles (hand washing) STEPS TO A NEW YOU Participants will learn about facts, attitudes, behavior change techniques and specific behaviors related to physical activity, nutrition, body image that will allow them to live healthier lifestyles and prevent or reduce obesity. FOOD SAFETY The participants will learn about safe food handling, specifically facts and skills related to the basics of safe food handling: Controlling time and temperature when handling food Ensuring proper personal hygiene Preventing cross-contamination Proper cleaning and sanitizing MEDIUM TERM EFNEP/FSNP Number of adults: Improving the family diets by choosing/preparing healthier choices(more fruits and vegetables, hole grains) Improving food safety practices storing and thawing foods properly) Improving food resource management practices (meal planning shopping with list) Improving nutrition practices (reading food labels) Healthy eating (more fruits and vegetables, more whole grains Increasing physical activity Food Safety practices Food resource management practices Food planning and preparation Number of youth increasing knowledge regarding the importance of: Eating a variety of foods Healthy eating Increasing physical activity Food safety principles (hand washing) STEPS TO A NEW YOU Number of children: Eating a variety of foods Improving practices in food preparation and food safety Select low cost nutritious foods FOOD SAFETY The participants will improve safe food handling, specifically the behaviors supporting the basics of safe food handling: Controlling time and temperature when handling food Ensuring proper personal hygiene Preventing cross-contamination Proper cleaning and sanitizing. LONG TERM EFNEP/FSNP Participants will: Decrease their risk of developing diet-related chronic disease, obesity, osteoporosis, cardiovascular disease and diabetes. Decrease the risk for illness and death associated with foodborne illness. Increase their confidence in the ability to manage food resources, as well as other resources. FOOD SAFETY Participants will adopt healthy attitudes related to a healthy lifestyle approach to prevention or reduction of obesity. Participants will improve their eating behaviors related to a healthy lifestyle approach to obesity. Participants will increase their level of physical activity related to a healthy lifestyle approach to preventing or reducing obesity. There will be a decline in the economic and health consequences of foodborne illnesses.</p>
2	<p>STEPS TO A NEW YOU: Participants will learn about facts, attitudes, behavior change techniques and specific behaviors related to physical activity, nutrition, body image that will allow them to live healthier lifestyles and prevent or reduce obesity. Number of children: Eating a variety of foods Improving practices in food preparation and food safety Select low cost nutritious foods</p>
3	<p>FOOD SAFETY: The participants will learn about and improve safe food handling, specifically facts and skills related to the basics: Controlling time and temperature when handling food, Ensuring proper personal hygiene, Preventing cross-contamination, Proper cleaning and sanitizing. Participants will adopt healthy attitudes related to a healthy lifestyle approach to prevention or reduction of obesity. Participants will improve their eating behaviors related to a healthy lifestyle approach to obesity. Participants will increase their level of physical activity related to a healthy lifestyle approach to preventing or reducing obesity. There will be a decline in the economic and health consequences of foodborne illnesses</p>
4	<p>HEALTHY LIFESTYLES: Percentage of the population participating in health/wellness activities/events. Number of medical screenings performed and action taken as a result. Number of referrals to Dr's/Clinics.</p>

**Outcome #1****1. Outcome Measures**

SHORT TERM EFNEP/FSNP Number of adults gaining awareness and knowledge regarding the importance of: Healthy eating (more fruits and vegetables, more whole grains Increasing physical activity Food Safety practices Food resource management practices Food planning and preparation Number of youth increasing knowledge regarding the importance of: Eating a variety of foods Healthy eating Increasing physical activity Food safety principles (hand washing) STEPS TO A NEW YOU Participants will learn about facts, attitudes, behavior change techniques and specific behaviors related to physical activity, nutrition, body image that will allow them to live healthier lifestyles and prevent or reduce obesity. FOOD SAFETY The participants will learn about safe food handling, specifically facts and skills related to the basics of safe food handling: Controlling time and temperature when handling food Ensuring proper personal hygiene Preventing cross-contamination Proper cleaning and sanitizing MEDIUM TERM EFNEP/FSNP Number of adults: Improving the family diets by choosing/preparing healthier choices(more fruits and vegetables, hole grains) Improving food safety practices storing and thawing foods properly) Improving food resource management practices (meal planning shopping with list) Improving nutrition practices (reading food labels) Healthy eating (more fruits and vegetables, more whole grains Increasing physical activity Food Safety practices Food resource management practices Food planning and preparation Number of youth increasing knowledge regarding the importance of: Eating a variety of foods Healthy eating Increasing physical activity Food safety principles (hand washing) STEPS TO A NEW YOU Number of children: Eating a variety of foods Improving practices in food preparation and food safety Select low cost nutritious foods FOOD SAFETY The participants will improve safe food handling, specifically the behaviors supporting the basics of safe food handling: Controlling time and temperature when handling food Ensuring proper personal hygiene Preventing cross-contamination Proper cleaning and sanitizing. LONG TERM EFNEP/FSNP Participants will: Decrease their risk of developing diet-related chronic disease, obesity, osteoporosis, cardiovascular disease and diabetes. Decrease the risk for illness and death associated with foodborne illness. Increase their confidence in the ability to manage food resources, as well as other resources. FOOD SAFETY Participants will adopt healthy attitudes related to a healthy lifestyle approach to prevention or reduction of obesity. Participants will improve their eating behaviors related to a healthy lifestyle approach to obesity. Participants will increase their level of physical activity related to a healthy lifestyle approach to preventing or reducing obesity. There will be a decline in the economic and health consequences of foodborne illnesses.

*Not reporting on this Outcome for this Annual Report*

**Outcome #2****1. Outcome Measures**

STEPS TO A NEW YOU: Participants will learn about facts, attitudes, behavior change techniques and specific behaviors related to physical activity, nutrition, body image that will allow them to live healthier lifestyles and prevent or reduce obesity. Number of children: Eating a variety of foods Improving practices in food preparation and food safety Select low cost nutritious foods

**2. Associated Institution Types**

- 1862 Extension

**3a. Outcome Type:**

Change in Condition Outcome Measure

**3b. Quantitative Outcome**

Year	Quantitative Target	Actual
2008	{No Data Entered}	3571

**3c. Qualitative Outcome or Impact Statement****Issue (Who cares and Why)**

Montanans, like people in other parts of the country, are experiencing health problems related to obesity, heart disease, diabetes, and loss of muscle mass and strength that can lead to lack of mobility and independence. These are but a few of the health issues that can provide major concern for families/individuals as they work to balance their personal finances in a time of economic crisis for many.

**What has been done**

Through different but related programs, workshops are focused on individual health and well being. The Steps to a New You is a 9 week program aimed at nutritious food, physical activity and body image. The program is targeted at rural areas generally underserved by health agencies and to Native Americans who have a high rate of obesity. Small Steps to Health and Wealth™ encourages people to make behavior changes that will improve their health and finances. SMART Role Modeling for Teachers helps educators, by their example, send a powerful health message to children through their food and physical activity habits for the day.

**Results**

Residents on the Northern Cheyenne, Crow, Blackfeet and Rocky Boy Reservation as well as 9 counties participated programs related to health, wellness and nutrition. At the end of the Steps to a New You classes, a survey given to participants showed that 100% understand ways to reduce health risks, the importance of physical activity, controlling portion/serving sizes and what may trigger 'unthinking eating'. Through the Small Steps to Health and Wealth™ program, 83% of the participants began a savings plan, 92% began eating more fruits and vegetables/whole grains, 75% developed both health and wealth goals. Other 'small step' examples include reduction in weight (15-30# on the average) and lowering cholesterol from 250 to 180 and triglycerides from 246 to 130. Teachers said they improved nutrition practices by including more fruits and vegetables for classroom parties and annual student test days and using non-food rewards to celebrate success in classroom activities.

**4. Associated Knowledge Areas**

KA Code	Knowledge Area
703	Nutrition Education and Behavior
724	Healthy Lifestyle

**Outcome #3****1. Outcome Measures**

FOOD SAFETY: The participants will learn about and improve safe food handling, specifically facts and skills related to the basics: Controlling time and temperature when handling food, Ensuring proper personal hygiene, Preventing cross-contamination, Proper cleaning and sanitizing. Participants will adopt healthy attitudes related to a healthy lifestyle approach to prevention or reduction of obesity. Participants will improve their eating behaviors related to a healthy lifestyle approach to obesity. Participants will increase their level of physical activity related to a healthy lifestyle approach to preventing or reducing obesity. There will be a decline in the economic and health consequences of foodborne illnesses

**2. Associated Institution Types**

- 1862 Extension

**3a. Outcome Type:**

Change in Condition Outcome Measure

**3b. Quantitative Outcome**

Year	Quantitative Target	Actual
2008	{No Data Entered}	2412

**3c. Qualitative Outcome or Impact Statement****Issue (Who cares and Why)**

Food borne illnesses impact 1 in 65 Montanans so food safety is of growing concern for the food service industry, public and private agencies. Food safety training ranges from basic safe food handling practices to understanding HACCP. The financial costs of food-borne illnesses are tremendous covering lost wages, health care and investigation. These losses have widespread implications in health care costs, productivity and health and economic well-being of children, families and communities.

**What has been done**

Food Safety training for Food Service employees covered the basics of safe food handling focusing on controlling time and temperature, ensuring personal hygiene, preventing cross-contamination, proper cleaning and sanitizing. Additional training included HACCP and the ServSafe Food Protection Manager Certification Course designed to provide food-safe knowledge and skills to maintain a food-safe establishment, the impact of safety on the operation, and the flow of food through the operation.

**Results**

Food Safety training in counties/reservations caused food establishments and employees to recognize the importance of handling food safely. As a result of basic food safety trainings, 9 counties conducted a pre/post test with 6 month follow up and reported 96% of the participants are practicing better personal hygiene (washing hands etc.), adequately cooking foods, safely cooling foods, and effectively cleaning and sanitizing surfaces/dishes or not mixing cutting boards used with raw foods. The basic food safety training is being requested as schools, senior centers, head start, tribal colleges, day care centers require employees to show a food safety training certificate as a term for employment and for serving food to the public. On the Crow/Northern Cheyenne Reservation, these programs are a collaborative effort with the Hospital's Field Sanitarians and with the tribal college and head start program on the Rocky Boy and Fort Peck Reservations

**4. Associated Knowledge Areas**

KA Code	Knowledge Area
712	Protect Food from Contamination by Pathogenic Microorganisms, Parasites, and Naturally Occurring Toxins
703	Nutrition Education and Behavior

**Outcome #4****1. Outcome Measures**

HEALTHY LIFESTYLES: Percentage of the population participating in health/wellness activities/events. Number of medical screenings performed and action taken as a result. Number of referrals to Dr's/Clinics.

**2. Associated Institution Types**

- 1862 Extension

**3a. Outcome Type:**

Change in Condition Outcome Measure

**3b. Quantitative Outcome**

Year	Quantitative Target	Actual
2008	{No Data Entered}	887

**3c. Qualitative Outcome or Impact Statement**

**Issue (Who cares and Why)**

People living in rural areas find access to medical screening, testing or regular Doctor visits challenging. Few resources are available to assist them though technology makes access to specialized medicine more available for catastrophic illnesses. County health entities, physicians, clinic/hospitals, schools and Extension recognize the need for a well planned, locally based prevention and early detection approach to health care giving people the tools to be responsible for their own well being.

**What has been done**

Through activities such as health fairs, county wide efforts have offered residents in rural Montana access to medical screenings and testing otherwise not convenient to them. Additional classes were offered on topics such as nutrition, food selection and preparation, fitness, lowering sugars in the diet, and how to prevent or lower risk of diabetes. One area did work on public health and preventive medicine during a potential epidemic or disaster. Also, organizations and agencies are invited to provide information through exhibits.

**Results**

Statewide, there are over 20 health fairs conducted by collaborations of medical and health care communities and often involves Extension. In the most rural counties, participation is most vital. For example in one very rural county of less than 1000 residents, 660 people attended the health fair. Over 400 blood profiles and 133 PSA's were completed. In another county, a 'Point of Dispensing' (POD) was activated to test ability to quickly and efficiently handle large numbers of people needing medications. Twenty six volunteers received 'just in time' training to manage the POD and 227 individuals received simulated medications. All of the participants learned the importance of preventive medicine, the risks and symptoms of contagious disease and methods to control or reduce the spread of disease.

**4. Associated Knowledge Areas**

KA Code	Knowledge Area
724	Healthy Lifestyle

**V(H). Planned Program (External Factors)****External factors which affected outcomes**

- Natural Disasters (drought, weather extremes, etc.)
- Economy
- Appropriations changes
- Competing Programmatic Challenges

**Brief Explanation**

In 2008, the largest challenge for families has been the economic issues. As the year progressed, families recognized the potential of a tightening income vs. expenses outlook. Some families were forced into making decisions about housing, transportation, home heating, health/medications, and nutritious food. Setting priorities on these essential issues is a very difficult and stressful proposition for anyone, but especially for those on fixed or limited incomes and those in the low socio-economic sectors.

**V(I). Planned Program (Evaluation Studies and Data Collection)****1. Evaluation Studies Planned**

- Before-After (before and after program)
- During (during program)
- Other (focus groups)

**Evaluation Results**

Certification tests with a 98% passing score of 85 or higher for food safety.

A written post evaluation instrument noted 87% of participants were storing food properly, 54% were washing hands prior to handling food and 36% were keeping the preparation area and equipment clean.

**Key Items of Evaluation**

**Program #2**

**V(A). Planned Program (Summary)**

**1. Name of the Planned Program**

Youth Development

**V(B). Program Knowledge Area(s)**

**1. Program Knowledge Areas and Percentage**

KA Code	Knowledge Area	%1862 Extension	%1890 Extension	%1862 Research	%1890 Research
806	Youth Development	100%			
	<b>Total</b>	100%			

**V(C). Planned Program (Inputs)**

**1. Actual amount of professional FTE/SYs expended this Program**

Year: 2008	Extension		Research	
	1862	1890	1862	1890
<b>Plan</b>	14.0	0.0	0.0	0.0
<b>Actual</b>	12.0	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
445000	0	0	0
1862 Matching	1890 Matching	1862 Matching	1890 Matching
0	0	0	0
1862 All Other	1890 All Other	1862 All Other	1890 All Other
0	0	0	0

**V(D). Planned Program (Activity)**

**1. Brief description of the Activity**

Conduct Workshops, Clinics that provide active learning in subject matter related to projects  
 Conduct/facilitate Meetings that focus on facilitation and leadership skills  
 Develop Curriculum and supporting Teaching Tools for volunteers to use  
 Provide training for youth and adult volunteers  
 Partner with youth serving groups on state and local levels

**2. Brief description of the target audience**

Youth ages 5-19  
 Parents of youth involved in 4-H  
 Adult volunteers involved in Youth Development Work: 4-H program and other group volunteers.  
 Professionals involved in Youth Development Work: 4-H program and other agencies, schools and organization professionals

**V(E). Planned Program (Outputs)**

**1. Standard output measures**

**Target for the number of persons (contacts) reached through direct and indirect contact methods**

	<b>Direct Contacts Adults</b>	<b>Indirect Contacts Adults</b>	<b>Direct Contacts Youth</b>	<b>Indirect Contacts Youth</b>
<b>Year</b>	<b>Target</b>	<b>Target</b>	<b>Target</b>	<b>Target</b>
<b>Plan</b>	2200	3600	11000	12000
2008	5334	7857	13611	7757

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

**Patent Applications Submitted**

<b>Year</b>	<b>Target</b>
<b>Plan:</b>	0
2008 :	0

**Patents listed**

**3. Publications (Standard General Output Measure)**

**Number of Peer Reviewed Publications**

	<b>Extension</b>	<b>Research</b>	<b>Total</b>
<b>Plan</b>	2	0	
2008	1	0	1

**V(F). State Defined Outputs**

**Output Target**

**Output #1**

**Output Measure**

- Life Skill Development
  - Statewide, 9,000 youth will be involved in 300 experiential learning activities including workshops, clinics, seminars and club meetings.
  - On a statewide basis, 300 youth will attend 15 camps to develop enhance life skill development.

<b>Year</b>	<b>Target</b>	<b>Actual</b>
2008	11000	21368

**Output #2**

**Output Measure**

- Leadership/Volunteer Development
  - An estimated 250 youth and 450 adults will be able to apply leadership skills and positive youth development practices in their roles of organizational, project or other leadership positions.
  - Professional and volunteer staff in at least 1/3 of the counties will follow and adhere to established financial and audit guidelines.
  - Teenage youth will exhibit leadership and communications skills both within the 4-H program and at other times outside 4-H program.

<b>Year</b>	<b>Target</b>	<b>Actual</b>
2008	2200	4371

**Output #3**

**Output Measure**

- Methamphetamines Develop a presentation that will teach basic information about meth. Develop a presentation that addresses meth and weight control - one of the the reasons youth begin to use meth.

<b>Year</b>	<b>Target</b>	<b>Actual</b>
2008	3100	8820



## V(G). State Defined Outcomes

## V. State Defined Outcomes Table of Content

O No.	OUTCOME NAME
1	<p>Short Term: Life Skill Development 100% of 4-H members will show an increase in knowledge and skills 100% of 4-H members will report improved practices learned 50% of 4-H members will re-enroll 85% of the youth involved in the experiential learning activities through 4-H will gain knowledge and skills about the topic they have selected. (Example: plants, animals/quality assurance, aerospace, vet science, foods, public speaking, leadership, etc.) 200 youth select new project literature or participate in new educational programs Leadership/Volunteer Development Eighty percent (80%) of Extension agents attending professional development opportunities will increase knowledge in volunteer management. Sixty percent of the 4-H volunteers participating in trainings will learn the duties of an organizational leader, project leader and other leadership positions within the program so 4-H Clubs and activities will use positive youth development practices. Fifty percent of the county 4-H Councils will learn the established financial and audit procedures for handling public money. Eighty percent (80%) of participating youth will increase their self-perception of leadership development skills. Methamphetamine Percent of students who can identify the ingredients used to manufacture meth Percent of students who can identify the effects of taking meth Medium Term Life Skill Development 80% of the youth involved in the experiential learning activities through the 4-H program will show improvement in life skills. 75% of youth selecting new project literature or participating in new programs successfully complete project records or program requirements. 50% of agents and leaders will promote and market new curriculum and program initiatives Leadership/Volunteer Development 50% of Extension professionals will adopt best management practices in the areas of volunteer identification, selection, orientation, training, utilization, recognition and evaluation. Fifty percent (50%) of volunteers attending trainings will adopt practices that support the 8 critical elements on 4-H educational programs. Over the next year, at least one-third of 4-H Councils in Montana will adopt the established financial and audit guidelines. Fifty percent (50%) of participating youth will apply developed practices of leadership. Methamphetamine Participants will become involved in community meth awareness and prevention outreach activities. Long Term Life Skill Development Youth involved in 4-H will make contributions to their communities, be less likely to be involved in illegal activity and be more likely to perform better in school. Youth involved in 4-H will exhibit having more confidence, feeling more competent and self-assured, and feeling more connected to their families and communities. As a result of participating in 4-H programs for at least 2 years, members are less likely than other kids: To shoplift or steal (3 times less likely) To use illegal drugs of any kind to get high (2 times less likely) To ride in a car with someone else who has been drinking To smoke cigarettes To damage property for the fun of it (2 times less likely) To skip school or cut classes without permission 4-H members are more likely than non-members To succeed in school, getting more A's than other kids To be involved as leaders in their school and the community To be looked up to as role models by other kids To help others in the community Leadership/Volunteer Development Agents and volunteers participating in professional development opportunities will provide a safe, positive environment for youth to gain life skills and meet developmental needs through participation in 4-H programs in Montana. Montanan's will have a more accurate and positive impression of the 4-H Youth Development Program.</p>
2	<p>LIFE SKILL DEVELOPMENT - Number of youth involved in experiential learning activities of 4-H will show improvement in life skills. Number of youth selecting new projects and/or completing records and program requirements. Youth involved in 4-H will make contributions to their communities, be less likely to be involved in illegal activity and more likely to perform better in school. They will exhibit more confidence, feel more competent, self-assured and more connected to their families and communities.</p>
3	<p>LEADERSHIP/VOLUNTEER DEVELOPMENT - Volunteers will attend training to adopt practices that support the 8 critical elements of 4-H educational programs. Agents and volunteers participating in these trainings will provide a safe, positive environment for youth to gain life skills and meet developmental needs. More 4-H Councils will adopt the established financial and audit guidelines. Montanans will have a more accurate and positive impression of the 4-H programs.</p>
4	<p>METHAMPHETAMINES - More students can identify the effects of taking meth and will become involved in community meth awareness and prevention outreach activities.</p>

**Outcome #1****1. Outcome Measures**

Short Term: Life Skill Development 100% of 4-H members will show an increase in knowledge and skills 100% of 4-H members will report improved practices learned 50% of 4-H members will re-enroll 85% of the youth involved in the experiential learning activities through 4-H will gain knowledge and skills about the topic they have selected. (Example: plants, animals/quality assurance, aerospace, vet science, foods, public speaking, leadership, etc.) 200 youth select new project literature or participate in new educational programs Leadership/Volunteer Development Eighty percent (80%) of Extension agents attending professional development opportunities will increase knowledge in volunteer management. Sixty percent of the 4-H volunteers participating in trainings will learn the duties of an organizational leader, project leader and other leadership positions within the program so 4-H Clubs and activities will use positive youth development practices. Fifty percent of the county 4-H Councils will learn the established financial and audit procedures for handling public money. Eighty percent (80%) of participating youth will increase their self-perception of leadership development skills. Methamphetamine Percent of students who can identify the ingredients used to manufacture meth Percent of students who can identify the effects of taking meth Medium Term Life Skill Development 80% of the youth involved in the experiential learning activities through the 4-H program will show improvement in life skills. 75% of youth selecting new project literature or participating in new programs successfully complete project records or program requirements. 50% of agents and leaders will promote and market new curriculum and program initiatives Leadership/Volunteer Development 50% of Extension professionals will adopt best management practices in the areas of volunteer identification, selection, orientation, training, utilization, recognition and evaluation. Fifty percent (50%) of volunteers attending trainings will adopt practices that support the 8 critical elements on 4-H educational programs. Over the next year, at least one-third of 4-H Councils in Montana will adopt the established financial and audit guidelines. Fifty percent (50%) of participating youth will apply developed practices of leadership. Methamphetamine Participants will become involved in community meth awareness and prevention outreach activities. Long Term Life Skill Development Youth involved in 4-H will make contributions to their communities, be less likely to be involved in illegal activity and be more likely to perform better in school. Youth involved in 4-H will exhibit having more confidence, feeling more competent and self-assured, and feeling more connected to their families and communities. As a result of participating in 4-H programs for at least 2 years, members are less likely than other kids: To shoplift or steal (3 times less likely) To use illegal drugs of any kind to get high (2 times less likely) To ride in a car with someone else who has been drinking To smoke cigarettes To damage property for the fun of it (2 times less likely) To skip school or cut classes without permission 4-H members are more likely than non-members To succeed in school, getting more A's than other kids To be involved as leaders in their school and the community To be looked up to as role models by other kids To help others in the community Leadership/Volunteer Development Agents and volunteers participating in professional development opportunities will provide a safe, positive environment for youth to gain life skills and meet developmental needs through participation in 4-H programs in Montana. Montanan's will have a more accurate and positive impression of the 4-H Youth Development Program.

*Not reporting on this Outcome for this Annual Report*

**Outcome #2****1. Outcome Measures**

LIFE SKILL DEVELOPMENT - Number of youth involved in experiential learning activities of 4-H will show improvement in life skills. Number of youth selecting new projects and/or completing records and program requirements. Youth involved in 4-H will make contributions to their communities, be less likely to be involved in illegal activity and more likely to perform better in school. They will exhibit more confidence, feel more competent, self-assured and more connected to their families and communities.

## 2. Associated Institution Types

- 1862 Extension

### 3a. Outcome Type:

Change in Condition Outcome Measure

### 3b. Quantitative Outcome

Year	Quantitative Target	Actual
2008	{No Data Entered}	21368

### 3c. Qualitative Outcome or Impact Statement

#### Issue (Who cares and Why)

For youth to become competent, caring, confident, connected and of good character, it is important for them to learn essential life skills. The challenge is to find ways to 'teach' those skills that are interesting to young people. Youth have a wide array of choices on how to spend their out of school time, so developing programs that attract them requires continual assessment and change. Research shows that using the positive youth development approach is most successful viewing youth as resources to be developed rather than problems to be managed.

#### What has been done

Learning opportunities are available through the 4-H projects and over 21000 youth have enrolled in those that interest them. One of the most intense learning laboratories for youth are over night camps. Each year, over 1000 youth participate in camps that are targeted at four youth development concepts: belonging, mastery, independence and generosity. In 2008, an evaluation completed by camp participants indicated camps are successful, at least in part, in meeting those four concepts.

#### Results

A review of youth records books show those enrolled in projects have gained knowledge in subject matter of their choice and depending on the year of participation, have set career goals based on their experiences. In the camping programs, the evaluation survey shows campers: accomplished something they couldn't do the first day(30%), made friendships that will last after camp(30%), could be part of group decision making (30%), felt good about something they accomplished (35%), pushed themselves because of challenging activities(30%), made good choices about how they spent their free time (30%), learned to express their opinion in a group ((28%), felt accepted by other campers (34%), their skills in group activities improved (32%), learned about different careers (20%), taught each other new skills/information (25%). Camp counselors: improved their leadership skills and did not hesitate to take on leadership duties, prepared/lead an organized program, used skills to help 'kids' successfully complete projects/activities.

## 4. Associated Knowledge Areas

KA Code	Knowledge Area
806	Youth Development

## Outcome #3

### 1. Outcome Measures

LEADERSHIP/VOLUNTEER DEVELOPMENT - Volunteers will attend training to adopt practices that support the 8 critical elements of 4-H educational programs. Agents and volunteers participating in these trainings will provide a safe, positive environment for youth to gain life skills and meet developmental needs. More 4-H Councils will adopt the established financial and audit guidelines. Montanans will have a more accurate and positive impression of the 4-H programs.

**2. Associated Institution Types**

•1862 Extension

**3a. Outcome Type:**

Change in Condition Outcome Measure

**3b. Quantitative Outcome**

Year	Quantitative Target	Actual
2008	{No Data Entered}	4371

**3c. Qualitative Outcome or Impact Statement**

**Issue (Who cares and Why)**

Volunteers are asked to serve as mentors/instructors for youth who are involved in Extension youth development programs - especially those who are enrolled in the 4-H club program. Many are not informed of educational techniques in positive youth development theory/strategies, or in the philosophy of 4-H. Continual training in a variety of methods must provide the necessary skills for volunteers (youth/adult) to be successful in working with youth education.

**What has been done**

Eight trainings for volunteer leaders on positive youth development were held during 2008. These programs offered techniques, skills and information about best practices in volunteer and leadership development and working with youth using positive strategies. Sixty three Extension agents received training in volunteer and leadership development. Topics included volunteer management models, recruitment/retention, volunteer succession planning, trends in volunteerism, recreation, leadership styles and challenge course leadership. These agents in turn, train 4-H volunteers who work directly with 4-H youth.

**Results**

Over 50% of the 4-H clubs in the state are following established financial guidelines. Additionally, County agents report leaders who have participated in a formal training program such as the 4-H Leaders College, interact in a more positive way with youth in their clubs or activities they conduct. They are also more likely to work cooperatively toward the goals of the 4-H program because they have an understanding of the basic principles of the program. Research shows positive and sustained relationships between youth and adults is essential in positive youth development. The relationship between a 4-H member and volunteer leader is an example.

**4. Associated Knowledge Areas**

KA Code	Knowledge Area
806	Youth Development

**Outcome #4**

**1. Outcome Measures**

METHAMPHETAMINES - More students can identify the effects of taking meth and will become involved in community meth awareness and prevention outreach activities.

**2. Associated Institution Types**

•1862 Extension

**3a. Outcome Type:**

Change in Action Outcome Measure

**3b. Quantitative Outcome**

Year	Quantitative Target	Actual
2008	{No Data Entered}	4371

**3c. Qualitative Outcome or Impact Statement**

**Issue (Who cares and Why)**

In Montana, 74.3% of federal drug cases involve meth. The problems created by meth reach beyond users or dealers. Meth affects public health and safety, family and social services, law enforcement, criminal justice and the environment. In reservation and rural Native communities, meth abuse rates have been seen as high as 30% of the population. Public education, working directly with consumers, youth, community leaders, and main-street businesses has been essential in the fight against meth.

**What has been done**

MSU Extension created a multi-disciplinary and multicultural meth outreach awareness and prevention program. The focus of the outreach was the development of two multi-media self-guided and self-contained community action toolkits. The toolkits (one specifically designed for tribal communities and one for other communities) contain all the necessary materials for planning and implementing a wide variety of meth awareness and prevention education programs. Also the Tools for Schools Meth Prevention education component was developed.

**Results**

Of the 54 middle school students who participated in the Meth and Weight interactive lesson 94% could name two reasons why youth start using meth, 81% said they were very unlikely to try meth in the future. Extension's effort in meth education contributes to the state's documented success: Attitudes about meth are changing. Teens, young adults and parents are now more aware of the specific, negative consequences associated with meth use; Meth use is declining. As reported by teens, their meth use dropped from 13.5% to 8.3%. Teen meth use has declined 45% and adult meth use has declined 70%; Meth-related crime is decreasing.

**4. Associated Knowledge Areas**

KA Code	Knowledge Area
806	Youth Development

**V(H). Planned Program (External Factors)****External factors which affected outcomes**

- Economy
- Appropriations changes
- Public Policy changes
- Government Regulations
- Competing Programmatic Challenges
- Populations changes (immigration,new cultural groupings,etc.)

**Brief Explanation**

{No Data Entered}

**V(I). Planned Program (Evaluation Studies and Data Collection)****1. Evaluation Studies Planned**

- Retrospective (post program)
- Before-After (before and after program)
- During (during program)
- Comparisons between program participants (individuals,group,organizations) and non-participants

**Evaluation Results****Key Items of Evaluation**

The findings from the Positive Youth Development (PYD) research study conducted by Tufts University (2008) defines and outlines the value of positive youth development programs. "Studies suggest a link between PYD and the developmental assets associated with youth development programs." They are: Positive and sustained relationships between youth and adults, Activities that build important life skills, and Opportunities for children to use these life skills as participants and leaders in valued community activities.

**Program #3**

**V(A). Planned Program (Summary)**

**1. Name of the Planned Program**

Ag Sustainability and Profitability

**V(B). Program Knowledge Area(s)**

**1. Program Knowledge Areas and Percentage**

KA Code	Knowledge Area	%1862 Extension	%1890 Extension	%1862 Research	%1890 Research
112	Watershed Protection and Management	20%			
121	Management of Range Resources	15%			
205	Plant Management Systems	20%			
213	Weeds Affecting Plants	10%			
216	Integrated Pest Management Systems	10%			
301	Reproductive Performance of Animals	20%			
307	Animal Management Systems	5%			
	<b>Total</b>	100%			

**V(C). Planned Program (Inputs)**

**1. Actual amount of professional FTE/SYs expended this Program**

Year: 2008	Extension		Research	
	1862	1890	1862	1890
<b>Plan</b>	9.0	0.0	0.0	0.0
<b>Actual</b>	9.5	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
275000	0	0	0
1862 Matching	1890 Matching	1862 Matching	1890 Matching
0	0	0	0
1862 All Other	1890 All Other	1862 All Other	1890 All Other
30000	0	0	0

**V(D). Planned Program (Activity)**

**1. Brief description of the Activity**

- Interactive video conferencing from campus on beef related issues.
- Workshops aimed at meeting beef quality assurance standards, production and marketing goals.
- Montana Beef University provides producers with information on a variety of topics via newsletter, seminars, workshops, and interactive TV.
- Develop, test and implement management strategies that reduce production costs by capitalizing on the sheep's ability to favorably manipulate natural resources
- To develop, implement and evaluate controlled sheep grazing strategies for managing large infestations of leafy spurge and knapweed.
- Develop and facilitate the implementation of selection, nutritional and marketing management strategies for sheep.
- Conduct the Master Gardener workshops.
- Conduct field tours of demonstration plots so producers can compare practices in crop and range management.
- Conduct workshops on records, decision making aids, leasing alternatives/marketing, lease agreements for land, machinery and livestock, farm financial record guidelines and computer applications, machinery cost summaries, and cost of production worksheets and summaries.

**2. Brief description of the target audience**

Livestock Producers, especially beef and sheep  
 Commodity Associations  
 Land Managers/Owners (small and large)  
 Weed Control Professionals  
 Gardening Club members/people interested in gardening  
 Small Grain Producers (Dry Land and Irrigated)

**V(E). Planned Program (Outputs)**

**1. Standard output measures**

**Target for the number of persons (contacts) reached through direct and indirect contact methods**

	<b>Direct Contacts Adults</b>	<b>Indirect Contacts Adults</b>	<b>Direct Contacts Youth</b>	<b>Indirect Contacts Youth</b>
<b>Year</b>	<b>Target</b>	<b>Target</b>	<b>Target</b>	<b>Target</b>
<b>Plan</b>	12150	43000	950	2100
2008	17264	23417	938	1947

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

**Patent Applications Submitted**

**Year    Target**  
**Plan:**    0  
 2008 :    0

**Patents listed**

**3. Publications (Standard General Output Measure)**

**Number of Peer Reviewed Publications**

	<b>Extension</b>	<b>Research</b>	<b>Total</b>
<b>Plan</b>	5	0	
2008	3	0	3

**V(F). State Defined Outputs**

**Output Target**



**Output #1****Output Measure**

- Montana Beef Network
  - Number of people attending beef quality assurance, production and marketing programs. Number of classes provided.
  - Number of people participating in the interactive-video conference programs.
  - Number of producers becoming BQA certified.
  - Participation in interactive television short courses (4).
  - Number of hits on the web site
  - Number of people participating in demonstration/tour opportunities.

<b>Year</b>	<b>Target</b>	<b>Actual</b>
2008	3500	6175

**Output #2****Output Measure**

- Montana Sheep Institute
  - Number of people attending workshops teaching innovative ways of using sheep.
  - Number of projects being conducted with sheep grazing invasive plants.
  - Number of sheep producers involved with sheep grazing projects
  - Number of landowners involved in sheep grazing projects
  - Number of acres where weeds were controlled and documentation of vegetative composition trends.
  - Number of wool growers involved in developing larger, more marketable clips.

<b>Year</b>	<b>Target</b>	<b>Actual</b>
2008	6000	1086

**Output #3****Output Measure**

- Weed Control
  - Number of producers participating in workshops on weed control.
  - Number of producers and landowners attending tours
  - Number of people attending meetings on pesticide control and applicator training. Number of people being recertified for pesticide use.

<b>Year</b>	<b>Target</b>	<b>Actual</b>
2008	1550	3055

**Output #4****Output Measure**

- Crops
  - Number of producers attending cropping systems workshops.

<b>Year</b>	<b>Target</b>	<b>Actual</b>
2008	2050	2761

**Output #5****Output Measure**

- Master Gardener
  - Number of people who become certified Master Gardeners

<b>Year</b>	<b>Target</b>	<b>Actual</b>
2008	150	359

**Output #6****Output Measure**

- Profitability
  - Number of producers attending farm management workshops.

<b>Year</b>	<b>Target</b>	<b>Actual</b>
2008	150	1005

**Output #7**

**Output Measure**

- Range Management: Number of ranches certified as Undaunted Land Stewards

<b>Year</b>	<b>Target</b>	<b>Actual</b>
2008	50	1389

**Output #8**

**Output Measure**

- Plant Management (Forage): Number of producers attending workshops on forage cropping systems

<b>Year</b>	<b>Target</b>	<b>Actual</b>
2008	115	1434

**V(G). State Defined Outcomes**

**V. State Defined Outcomes Table of Content**

O No.	OUTCOME NAME
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- 1 SHORT TERM Montana Beef Network
- Number of people using and understanding Beef Quality Assurance protocols for raising beef.
  - Number of people learning about new practices in livestock production. Montana Sheep Institute
  - Number of people who learned about using sheep to control invasive plants
  - Increase in the number of Wool Pool consolidation. Weeds
  - People learn about noxious weed identification and weed management.
  - People learn how to map their property with a GIS device.
  - Landowners will be able to recognize weed problems, determine control techniques, and improve their weed control skills. Master Gardener:
    - Participants learn about plants and how to grow them successfully. Crops:
    - Producers improve their understanding of nutrient cycling, weed control, variety selection and alternative crop possibilities. Profitability:
      - Ag producers gain knowledge associated with development of standard financial statements, and track machinery costs as well as fixed and variable costs associated with crop enterprises. Undaunted Stewardship:
        - Producers learn about best practices in management; specifically, grazing land.
        - Tourists learn that environmental stewardship, historical site preservation and Montana agriculture can be compatible and are often mutually dependent. Forages – Plant Management:
          - Farmers and ranchers learn about the use of annual cereal forages during droughty conditions and the importance of checking for toxic levels of plant nitrates. MEDUIM TERM Montana Beef Network
            - The percent of increase in the value of calves sold at weaning.
            - Number of people who made changes in the way records are kept on ranches.
            - Percent of breeding programs that are meeting the needs of the consumer in terms of quality and yield grade of calves. Montana Sheep Institute
              - Increased number of grazing management programs initiated and monitoring programs developed.
              - Increase in the number of Wool Pools organized and wool delivery and marketing of consolidated pools implemented.
- Number of producers who developed plans to implement technology in their own production unit. (Ribeye program) Weeds
  - An increase in the number of acres mapped for purposed of weed identification and location.
  - An increase in the number of weed infested acres being controlled by accepted practices.
  - Producers will implement weed management plans/areas on their land.
  - Integrated Pest management techniques will be put into practice. Master Gardener:
    - Participants' volunteer hours of service to their communities in answering questions about horticultural issues. Crops:
      - Producers will plant short water varieties when moisture conditions are low, plant sawfly resistant varieties to minimize losses, and forage varieties that will improve production.
      - Pounds of fertilizer used in faming systems will be reduced.
      - Producers will adopt weed, crop and forage management strategies that sustain agricultural crop production and lessen environmental damage. Profitability:
        - Producers will adopt financial management programs that will provide financial statements for business analysis and bank lending requirements.
        - Producers will analyze enterprise cost of production that will aid in cropping decisions, marketing, leasing, machinery and land purchases. Undaunted Stewardship:
          - Producers become Undaunted Land Steward certified which recognizes farms and ranches that practice sustainable environmental stewardship on their private and public lands. Forages – Plant management
            - Producers use cereal forages as a rotation crop
            - Producers use the "Nitrate Qwik Test" to assess the level of plant nitrates. LONG TERM Montana Beef Network
              - Add value to weaned calves. Montana Sheep Institute

- Acres of infested landscape controlled by small ruminant grazing.
  - Wool from smaller growers prepared and marketed on the international market.
  - Producers improving production efficiency of their sheep enterprise. Weeds
  - Agricultural and public lands will be conserved for future production and use.
  - The spread of noxious weeds will be reduced Crops:
    - Farm operators who implement best practices will increase their profitability and enhance long-term sustainability. Profitability
      - Successful farm and ranch businesses provide stability and continuity for local communities, businesses and schools. Undaunted Stewardship:
        - Landowners, policymakers, urban citizens and others engage in cooperative conservation strategies that are used to sustain and enhance the environment, historical and economic values of agricultural landscapes.
          - Private – public landowners and others understand agriculture and environmental values can be compatible. Forages – Plant management
            - Winter cereals are a major forage source
              - Crop rotation benefits, such as weed control, moisture conservation and ease of relay-cropping with alfalfa are well demonstrated and in use.
- 2 MONTANA BEEF NETWORK - The percent of increase in the value of calves sold at weaning. Number of people who made changes in the way records are kept on ranches. The percent of breeding programs that are meeting the needs of the consumer in terms of quality and yield grade of calves.
  - 3 MONTANA SHEEP INSTITUTE - Increase in number of grazing management programs initiated and monitoring programs developed. Increase in number of wool pools organized, wool delivered through marketing efforts. Number of acres of infested landscape controlled by small ruminant grazing.
  - 4 WEED CONTROL Through weed management plans implemented, infested acres will be mapped, identified and controlled. Number of acres of noxious weeds controlled and turned into productive lands. Integrated pest management will be put into practice.
  - 5 CROPS - Producers will adopt weed, crop and forage management strategies that sustain agricultural crop production and lessen environmental damage. Number of farm operators implementing best practices will increase profitability and enhance long term sustainability. Amount of money saved by lower fertilizer usage per acre.
  - 6 MASTER GARDENER - Number of participants' volunteer hours of service to their communities in answering questions about horticultural issues.
  - 7 PROFITABILITY - Producers will adopt financial management programs and analyze costs that will aid in planting decisions, marketing, leasing and machinery and land purchases. Successful farm and ranch businesses provide stability and continuity in their communities, businesses and schools.
  - 8 RANGE MANAGEMENT - Number of people using best practices in their range management strategies.
  - 9 PLANT MANAGEMENT (FORAGE)- Number of acres where forages are used as a rotation crop for winter forage. Reduction in the level of plant nitrates.

**Outcome #1**

**1. Outcome Measures**

SHORT TERM Montana Beef Network

- Number of people using and understanding Beef Quality Assurance protocols for raising beef.
  - Number of people learning about new practices in livestock production.
- Montana Sheep Institute
- Number of people who learned about using sheep to control invasive plants
  - Increase in the number of Wool Pool consolidation. Weeds
  - People learn about noxious weed identification and weed management.
  - People learn how to map their property with a GIS device.
  - Landowners will be able to recognize weed problems, determine control techniques, and improve their weed control skills. Master Gardener:
  - Participants learn about plants and how to grow them successfully. Crops:
  - Producers improve their understanding of nutrient cycling, weed control, variety selection and alternative crop possibilities. Profitability:
  - Ag producers gain knowledge associated with development of standard financial statements, and track machinery costs as well as fixed and variable costs associated with crop enterprises. Undaunted Stewardship:
  - Producers learn about best practices in management; specifically, grazing land.
  - Tourists learn that environmental stewardship, historical site preservation and Montana agriculture can be compatible and are often mutually dependent. Forages – Plant Management:
  - Farmers and ranchers learn about the use of annual cereal forages during droughty conditions and the importance of checking for toxic levels of plant nitrates. MEDUIM TERM Montana Beef Network
  - The percent of increase in the value of calves sold at weaning.
  - Number of people who made changes in the way records are kept on ranches.
  - Percent of breeding programs that are meeting the needs of the consumer in terms of quality and yield grade of calves. Montana Sheep Institute
  - Increased number of grazing management programs initiated and monitoring programs developed.
  - Increase in the number of Wool Pools organized and wool delivery and marketing of consolidated pools implemented.
  - Number of producers who developed plans to implement technology in their own production unit. (Ribeye program) Weeds
  - An increase in the number of acres mapped for purposed of weed identification and location.
  - An increase in the number of weed infested acres being controlled by accepted practices.
  - Producers will implement weed management plans/areas on their land.
  - Integrated Pest management techniques will be put into practice. Master Gardener:
  - Participants' volunteer hours of service to their communities in answering questions about horticultural issues. Crops:
  - Producers will plant short water varieties when moisture conditions are low, plant sawfly resistant varieties to minimize losses, and forage varieties that will improve production.
  - Pounds of fertilizer used in faming systems will be reduced.
  - Producers will adopt weed, crop and forage management strategies that

sustain agricultural crop production and lessen environmental damage.

Profitability:

- Producers will adopt financial management programs that will provide financial statements for business analysis and bank lending requirements.
- Producers will analyze enterprise cost of production that will aid in cropping decisions, marketing, leasing, machinery and land purchases. Undaunted Stewardship:

- Producers become Undaunted Land Steward certified which recognizes farms and ranches that practice sustainable environmental stewardship on their private and public lands. Forages – Plant management

- Producers use cereal forages as a rotation crop
  - Producers use the "Nitrate Qwik Test" to assess the level of plant nitrates.
- LONG TERM Montana Beef Network

- Add value to weaned calves. Montana Sheep Institute
- Acres of infested landscape controlled by small ruminant grazing.
- Wool from smaller growers prepared and marketed on the international market.
- Producers improving production efficiency of their sheep enterprise. Weeds
- Agricultural and public lands will be conserved for future production and use.
- The spread of noxious weeds will be reduced Crops:
- Farm operators who implement best practices will increase their profitability and enhance long-term sustainability. Profitability
- Successful farm and ranch businesses provide stability and continuity for local communities, businesses and schools. Undaunted Stewardship:
- Landowners, policymakers, urban citizens and others engage in cooperative conservation strategies that are used to sustain and enhance the environment, historical and economic values of agricultural landscapes.
- Private – public landowners and others understand agriculture and environmental values can be compatible. Forages – Plant management
- Winter cereals are a major forage source
- Crop rotation benefits, such as weed control, moisture conservation and ease of relay-cropping with alfalfa are well demonstrated and in use.

*Not reporting on this Outcome for this Annual Report*

## **Outcome #2**

### **1. Outcome Measures**

MONTANA BEEF NETWORK - The percent of increase in the value of calves sold at weaning. Number of people who made changes in the way records are kept on ranches. The percent of breeding programs that are meeting the needs of the consumer in terms of quality and yield grade of calves.

### **2. Associated Institution Types**

- 1862 Extension



**3a. Outcome Type:**

Change in Action Outcome Measure

**3b. Quantitative Outcome**

Year	Quantitative Target	Actual
2008	{No Data Entered}	6175

**3c. Qualitative Outcome or Impact Statement****Issue (Who cares and Why)**

The 'produce-and-then sell' mentality of the cattleman who produce beef is rapidly being replaced by the strategy of first asking consumers what they want as attributes in their beef products, then creating or manufacturing it. At the consumer level, quality attributes such as tenderness, flavor and portion size are important while at the production level, concerns are focused on performance, health and predictability throughout the system. Auction markets and video auctions provide producer with the option to sell directly to Wal-Mart, McDonald's and export markets provided they are age and/or source verified.

**What has been done**

For the beef industry evolution to be consumer-focused, producers have used specific and documented management practices resulting in safe and consistent end products--education and protocols. During '08, 100,000 calves were age and source verified through Verified Beef - an increase of 50,000 head from the previous year. BQA and biosecurity programs teach producers to incorporate management components to build healthier herds. Hands-on demonstrations, 'Twilight Training Seminars', web-based self-study courses, producer 'self audits', newsletters and CD videos are important tools in helping producers adopt best practices and protocols.

**Results**

Producers whose cattle have been age/source verified report increased marketability and premiums for this documentation. Summaries of feeder calf video sales indicate producers are receiving an additional \$12/calf by providing this verification. There are approximately 1400 producers in Montana who are BQA certified. Results of two surveys show BQA producers use 'best practices' more than those who are not certified (record keeping, use of carcass data for decision making, etc) and receive premium prices. Producer surveys show value in biosecurity education and subsequent development of herd health programs: Livestock vaccination, Disease surveillance, Animal identification/recordkeeping systems, Documentation/verification - ranchers report they understand how to prevent and if necessary successfully remove BVD carrier animals from infected herds. Northern Cheyenne Reservation data show that over a 5 yr. period, \$876,430 has been saved in non-wasted winter feed, diseased females removed from herd and increased pregnancy rate with bull testing

**4. Associated Knowledge Areas**

KA Code	Knowledge Area
301	Reproductive Performance of Animals

**Outcome #3****1. Outcome Measures**

MONTANA SHEEP INSTITUTE - Increase in number of grazing management programs initiated and monitoring programs developed. Increase in number of wool pools organized, wool delivered through marketing efforts. Number of acres of infested landscape controlled by small ruminant grazing.

**2. Associated Institution Types**

- 1862 Extension

**3a. Outcome Type:**

Change in Condition Outcome Measure

**3b. Quantitative Outcome**

Year	Quantitative Target	Actual
2008	{No Data Entered}	1086

**3c. Qualitative Outcome or Impact Statement****Issue (Who cares and Why)**

The Sheep industry has experienced challenges over the past several years with fewer and fewer operations surviving. Profitability and competitiveness are at the heart of the industry problems. Marketing wool and lamb worldwide for Montana producers requires specific strategies, education and coordination. Additionally, today it is difficult to find people who know how to shear sheep and the expense of obtaining those who do is significant to the operation.

**What has been done**

The Montana Sheep Institute has sponsored over 100 presentations, workshop and ranch visits. Genetic records and selection index values were made available on rams offered at the Montana Wool Growers Association's Ram Sale. With the assistance of Extension, about 250 producers were able to market their wool successfully. An online sheep ration balancing program designed to assist producers in matching available feedstuffs with the animal's nutritional needs was developed. The Montana Wool Harvesting School was established to provide a way for individuals to become trained in shearing, wool handling and wool pressing.

**Results**

At the Miles City Ram Sale, over 90% report ultrasound ribeye area. That, coupled with the genetic records and selection index values, positions Montana purebred sheep producers in leadership roles in genetic development for the nation. About half a million pounds of wool (17% of Montana's wool clip) were marketed through a wool pool. (Over half of the producers had less than 2 bales of wool.) Growers in the pool received a premium of about .25 per pound for their wool - the cost of the program is .07 per pound. The bulk of the wool marketed was exported with one line being sold directly to a Chinese buyer. Thirty two people completed the Montana Wool Harvesting School and have the credential and certificate for employment as a shearer, wool handler or wool presser in the US and abroad. This allows trained people to obtain year round employment in the wool harvesting business.

**4. Associated Knowledge Areas**

KA Code	Knowledge Area
307	Animal Management Systems

**Outcome #4****1. Outcome Measures**

WEED CONTROL Through weed management plans implemented, infested acres will be mapped, identified and controlled. Number of acres of noxious weeds controlled and turned into productive lands. Integrated pest management will be put into practice.

**2. Associated Institution Types**

•1862 Extension

**3a. Outcome Type:**

Change in Condition Outcome Measure

**3b. Quantitative Outcome**

Year	Quantitative Target	Actual
2008	{No Data Entered}	3055

**3c. Qualitative Outcome or Impact Statement**

**Issue (Who cares and Why)**

Invasive weeds alter wildlife habitat suitability, reduce forage yield and quality and increase the costs of producing livestock and crops. Weeds infest over 8 million acres in the state and continue rapid spread into new sites. Constant monitoring for new infestations followed by strategies for control proves to be the best methods of attacking the weed problem. Pesticides have been the primary means of control but there is an increase of biological and other approaches for the suppression of the spread of weeds.

**What has been done**

Several counties/reservations have instituted local level protection from weed spread through the development of long-term Weed Prevention Areas (WPA's). Coupled with Weed Management areas, these efforts are targeted at providing collaborative weed control and prevention. Following Extension programs, some producers are using flea beetles for controlling leafy spurge and teaching cattle/sheep to eat noxious weeds. On the Northern Cheyenne Reservation, a prescribed rehabilitation strategy utilizing improved pasture species and mixes to establish highly competitive and productive grasslands was implemented. Inspections for Certified Weed Seed Free Forage (hay/straw) have been conducted.

**Results**

Producers of Certified Weed Seed Free Forage report a \$5-\$10 premium per ton of forage after inspection. Some producers have started to certify straw for sale to fire and reclamation industries - one county had 350 acres inspected. As a result of the rehabilitation strategies on the Northern Cheyenne Reservation, 120 acres have a 98% seedling establishment. Knapweed was reduced by 95% and 380 acres of established seedling produced 620 ton of hay (\$62,000 in hay/\$163 per acre) and required 1/3 less herbicide. On the Ft Belknap reservation, 180 acres were seeded and/or renovated yielding 300 ton of hay. Diligent monitoring efforts by producers/managers have located new patches of weeds (spotted knapweed, bindweed, leafy spurge, etc.) and follow up control strategies were applied to the areas slowing the progression before the weed problem becomes a large infestation.

**4. Associated Knowledge Areas**

KA Code	Knowledge Area
205	Plant Management Systems
213	Weeds Affecting Plants

**Outcome #5****1. Outcome Measures**

CROPS - Producers will adopt weed, crop and forage management strategies that sustain agricultural crop production and lessen environmental damage. Number of farm operators implementing best practices will increase profitability and enhance long term sustainability. Amount of money saved by lower fertilizer usage per acre.

**2. Associated Institution Types**

•1862 Extension

**3a. Outcome Type:**

Change in Condition Outcome Measure

**3b. Quantitative Outcome**

Year	Quantitative Target	Actual
2008	{No Data Entered}	2761

**3c. Qualitative Outcome or Impact Statement****Issue (Who cares and Why)**

The small grain farming industry is facing many challenges: higher fuel, fertilizer, machine inputs, sawfly damage, irrigation costs. Producers are striving to maximize returns by fine tuning production practices and intensifying crop rotations. In general, this is very important in times of low commodity prices, high input costs and low moisture years. While higher commodity prices were offered in '08, input costs were also higher than usual. There is a continuing trend for larger farm operations to concentrate on reduced tillage programs and intensive crop production. As CRP contracts expire, producers are returning these acres to production and looking for new crops and value added agriculture possibilities.

**What has been done**

Seminars, tours, demonstration plots, workshops, field days on farm and experiment stations, and other producer meetings have focused on giving needed information for making decisions about their crops. Topics include: Pulse Crops, Crop Management, crop production, disease and chemical recommendations (Orange Wheat Blossom midges and Sawfly), crop rotation practices and fertilizer. Close cooperation with the Experiment Stations in Montana and North Dakota has helped producers stay current with potential new crops, cropping systems and management practices.

**Results**

Field observations and contacts with area suppliers indicate an increase in the adoption of soil fertility testing and seed treatments for small grains and pulse crops. FSA records and Montana Agricultural Statistics show an increase in pulse crop and oilseed acreage for rotation. Producers are using cost of production data to determine estimated profitability and to compare crops and crop rotations. The increased acreage of rotation crops and reduction in fallow acres indicates a major shift to planned crop rotations with annual crop production. Producers have adopted soil moisture conserving practices such as reduced tillage and direct seeding and have improved profitability by idling fewer acres and taking advantage of production practices that allow a positive return on all crop land acres. In addition, adopting an annual crop rotation has resulted in an overall increase in soil health. NRCS staff and observations show a reduction in wind and water erosion and an increase in soil organic matter as evidenced by soil test results.

**4. Associated Knowledge Areas**

KA Code	Knowledge Area
216	Integrated Pest Management Systems
205	Plant Management Systems

**Outcome #6****1. Outcome Measures**

MASTER GARDENER - Number of participants' volunteer hours of service to their communities in answering questions about horticultural issues.

**2. Associated Institution Types**

•1862 Extension

**3a. Outcome Type:**

Change in Action Outcome Measure

**3b. Quantitative Outcome**

Year	Quantitative Target	Actual
2008	{No Data Entered}	359

**3c. Qualitative Outcome or Impact Statement****Issue (Who cares and Why)**

Montanans are avid gardeners and landscape enthusiasts who look for information that can make their labors successful. Primary needs include garden problem diagnosis followed by recommendations for pest control, diseases, climate considerations, pruning techniques, drip irrigation and soil health. Many of these people look to the Extension service for non-biased, research based information for assistance because they trust what they learn.

**What has been done**

The Master Gardener Program has trained 359 people to answer questions of local gardeners. Approximately 65% of these people have become certified Master Gardeners completing the volunteer and testing requirements. Master Gardener education was conducted through the computer based 'Breeze' System and through face to face workshops.

**Results**

Approximately 10% of program participants had not previously gardened in Montana and are planning to plant gardens for growing their own produce. After attending classes, approximately 50% of the participants exhibited an understanding of botany, taxonomy and plant varieties suitable for Montana. Approximately 10% of the participants sent in soil to be tested, later reporting the production of their garden was up because they followed the recommendations. Because of an Extension class, one participant had the confidence to create a business for taking care of others flower beds thus increasing her personal income. In many counties, the Master Gardeners are active in local Farmers Markets by bringing produce or manning a booth for answering questions on site.

#### 4. Associated Knowledge Areas

KA Code	Knowledge Area
205	Plant Management Systems

#### Outcome #7

##### 1. Outcome Measures

PROFITABILITY - Producers will adopt financial management programs and analyze costs that will aid in planting decisions, marketing, leasing and machinery and land purchases. Successful farm and ranch businesses provide stability and continuity in their communities, businesses and schools.

##### 2. Associated Institution Types

•1862 Extension

##### 3a. Outcome Type:

Change in Action Outcome Measure

##### 3b. Quantitative Outcome

Year	Quantitative Target	Actual
2008	{No Data Entered}	1005

##### 3c. Qualitative Outcome or Impact Statement

###### Issue (Who cares and Why)

Farms/ranches continue to increase in size due to the agricultural economy and increased age of operators. A large amount of crop acreage is changing hands as CRP acreage expires and older operators retire. This, coupled with normal expansion plans and few new operations, is resulting in the need for increased financial management skills. The farm/ranch manager must be able to manage all aspects of the agricultural business in order to ensure the success of the operation. Expansion plans, production decisions, machinery decisions, marketing and financial management must be incorporated into an overall business plan for the operation. Good management skills are essential in making sound decisions regarding expansion plans, production systems and tax management strategies.

###### What has been done

Workshops and schools have given producers information on enterprise budgeting and management strategies. They learned the importance of record keeping on direct costs, machinery costs, standard income and expense records for cash flow. Enterprise analysis software, fertilizer budget software and farm record keeping systems have been developed and have been adopted by producers.

###### Results

Farm operators have used farm records to make decisions on land leases and input purchases, long-term decisions associated with machinery and land purchases. Lenders and accountants have used the financial statements in tax preparations and farm loans. Land use observations show a dramatic increase in the production of pulse crops that are more profitable, require less nitrogen fertilizer, and aid in pest control through crop rotation. Producers are using financial management tools to make changes in their farm/ranch operations. FSA and Montana Agricultural Statistics show a dramatic change in farm practices including tillage practices, fuel consumption, crop rotations and the mix of crops. There has been a major shift in the number of acres that were once fallow being planted to annual crops such as peas and lentils in rotation with wheat. Producers are realizing greater returns per crop acre with annual cropping. Depending on the area and weather conditions, fallow acres have fallen to 20%-30% of available cropland acreage and rotational crop acreage has increased substantially.

**4. Associated Knowledge Areas**

<b>KA Code</b>	<b>Knowledge Area</b>
205	Plant Management Systems

**Outcome #8****1. Outcome Measures**

RANGE MANAGEMENT - Number of people using best practices in their range management strategies.

**2. Associated Institution Types**

•1862 Extension

**3a. Outcome Type:**

Change in Action Outcome Measure

**3b. Quantitative Outcome**

<b>Year</b>	<b>Quantitative Target</b>	<b>Actual</b>
2008	{No Data Entered}	1389

**3c. Qualitative Outcome or Impact Statement****Issue (Who cares and Why)**

Noxious weeds on range lands are displacing native plant communities, invading sensitive riparian areas and instigating costly control measures in agricultural areas. Education on grazing strategies, range improvement, integrated weed management and control techniques are important for producers so they can efficiently utilize their natural resources.

**What has been done**

There has been significant impact in controlling noxious weeds with sheep grazing. During '08, there were 22 large landscape weed management projects in 18 counties in the state involving over 100,000 acres of weed-infested Montana rangeland and about 100 landowners conducted. The projects involved 35 monitoring sites, 31 producers and 30,000 ewes and lambs. Two publications were developed, Targeted Grazing Handbook and Targeted Grazing educational module, to provide instruction on using sheep for weed control on rangelands.

**Results**

Using the targeted grazing strategies to control large infestations of invasive plants has been accomplished at a much lower cost per acre than by traditional herbicide treatments (\$4-\$8 per acre for targeted grazing compared to \$30 for herbicide). Comparisons from leafy spurge project sites indicate that, as a general rule, leafy spurge composition decreased about 7% per year of grazing whereas the grass component of the landscape increased by 5%. Grazing prescriptions that concentrate on time, duration and density of grazing, combined with a training period can achieve 60-70% utilization of the target plant and limit utilization of native grass to 30-40%. Over time, targeted favors the re-establishment of the grass and forbe components of the landscape.

**4. Associated Knowledge Areas**

<b>KA Code</b>	<b>Knowledge Area</b>
205	Plant Management Systems

**Outcome #9****1. Outcome Measures**

PLANT MANAGEMENT (FORAGE)- Number of acres where forages are used as a rotation crop for winter forage. Reduction in the level of plant nitrates.

**2. Associated Institution Types**

•1862 Extension

**3a. Outcome Type:**

Change in Condition Outcome Measure

**3b. Quantitative Outcome**

Year	Quantitative Target	Actual
2008	{No Data Entered}	1434

**3c. Qualitative Outcome or Impact Statement****Issue (Who cares and Why)**

Harvested hay is produced on 2.6 million acres in Montana with a value of \$378 million annually. Hay and seeded improved pastures are critical components of Montana's \$1.3 billion livestock industry. Winter feed is a major ranch expense and producers need efficient production of home-grown, high-quality roughages and feeds. Also, in droughty conditions, many forages and weeds accumulate high levels of nitrate that are toxic to livestock.

**What has been done**

Along with the Experiment Station, adequate data was available to promote the use of cereal forages to augment low pasture and hay productivity. In 2000, the Nitrate Quik Test Program was developed; it is an annual training and certification effort to ensure proper use and interpretation of the qualitative nitrate test.

**Results**

The acreage of cereal hay has increased to over 306,000 acres for a value of about \$23 million annually. In 2008, 'Willow Creek' winter wheat was released as hay and resulted in 12,000 acres in production. Feeding trials confirmed that cereal forages provide a good winter roughage diet for livestock; other advantages are the ease, low cost and wide adaptation of cereals. Over 110 people in 53 counties have been certified to use the Nitrate Quik Test and County Agents have evaluated over 1800 samples per year. With the current droughty conditions, 38% of all samples tested had prohibitive levels of nitrate for feeding. The economic value of the nitrate testing is estimated at between \$12 million (replacement value of high-nitrate hay) to \$39 million (potential calf losses to abortion) annually.

**4. Associated Knowledge Areas**

KA Code	Knowledge Area
205	Plant Management Systems

**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
- Populations changes (immigration, new cultural groupings, etc.)
- Other (High cost of fuel, fertilizer)

**Brief Explanation**

{No Data Entered}

**V(I). Planned Program (Evaluation Studies and Data Collection)****1. Evaluation Studies Planned**

- Before-After (before and after program)
- During (during program)
- Time series (multiple points before and after program)

**Evaluation Results**

Many of the agriculture programs are collaborations with research which has intentional results identified and methods for tracking, data collection and interpretation. This is true for the Montana Beef Network, The Sheep Institute, and Cereal Hay program and the Nitrate Qwik testing program.

**Key Items of Evaluation**



**Program #4**

**V(A). Planned Program (Summary)**

**1. Name of the Planned Program**

Family Issues, Resources and Environments

**V(B). Program Knowledge Area(s)**

**1. Program Knowledge Areas and Percentage**

KA Code	Knowledge Area	%1862 Extension	%1890 Extension	%1862 Research	%1890 Research
801	Individual and Family Resource Management	45%			
802	Human Development and Family Well-Being	45%			
804	Human Environmental Issues Concerning Apparel, Textiles, and Residential and Commercial Structures	10%			
<b>Total</b>		100%			

**V(C). Planned Program (Inputs)**

**1. Actual amount of professional FTE/SYs expended this Program**

Year: 2008	Extension		Research	
	1862	1890	1862	1890
<b>Plan</b>	2.0	0.0	0.0	0.0
<b>Actual</b>	1.0	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
35000	0	0	0
1862 Matching	1890 Matching	1862 Matching	1890 Matching
0	0	0	0
1862 All Other	1890 All Other	1862 All Other	1890 All Other
2000	0	0	0

**V(D). Planned Program (Activity)**

**1. Brief description of the Activity**

- Conduct Workshops in all areas.
- Partner with Agencies, Associations, Organizations, Real Estate Personnel, County Health Officials, Montana Building Industry Association.
- Develop Fact Sheets on AIPRA for Tribal Members.
- Develop curriculum on AIPRA for Tribal Members, estate planning in general; indoor air quality and record keeping systems; Well maintenance folders.
- Conduct Seminars on Estate Planning Healthy Indoor Environments.
- Revise MontGuides (fact sheets) to reflect the changes in state and federal laws related to estate planning.
- Develop publications on Asthma Awareness and lead-based paint

**2. Brief description of the target audience**

Caregivers of Alzheimer Patients  
 Home Health Care Providers  
 Certified Nursing Assistants  
 Tribal Members who own undivided interests in trust lands on a reservation  
 Farmers/Ranchers  
 Montana Financial Educational Coalition Partners  
 4-H Leaders  
 State Agency Employees  
 Home Builders, housing authorities, real estate professionals  
 Remodeling Contractors  
 Weatherization Contractors  
 Homeowners  
 Senior Citizens

**V(E). Planned Program (Outputs)**

**1. Standard output measures**

**Target for the number of persons (contacts) reached through direct and indirect contact methods**

	<b>Direct Contacts Adults</b>	<b>Indirect Contacts Adults</b>	<b>Direct Contacts Youth</b>	<b>Indirect Contacts Youth</b>
<b>Year</b>	<b>Target</b>	<b>Target</b>	<b>Target</b>	<b>Target</b>
<b>Plan</b>	7400	18450	30	250
2008	4798	24454	23	112

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

**Patent Applications Submitted**

<b>Year</b>	<b>Target</b>
Plan:	0
2008 :	0

**Patents listed**

**3. Publications (Standard General Output Measure)**

**Number of Peer Reviewed Publications**

	<b>Extension</b>	<b>Research</b>	<b>Total</b>
<b>Plan</b>	2	0	
2008	5	0	5

**V(F). State Defined Outputs**

**Output Target**

**Output #1**

**Output Measure**

- Alzheimer's Mini Series Conduct one mini series in the western part of Montana. Based on past experience, 60 people could participate in the sessions.

<b>Year</b>	<b>Target</b>	<b>Actual</b>
2008	80	258

**Output #2**

**Output Measure**

- Estate Planning, Passing of Reservation Lands An estimated 1000 people will attend an in-depth seminar on estate planning and promotion and will begin to make plans. Distribute the revised MontGuide on state and federal law changes to 1400 participants who have purchased Estate Planning: The Basics packet. Reprint the curriculum "Track'n Your Saving Goals Register" MontGuide and develop materials with ideas on how to save. Prepare materials for presentation and seminars on AIPRA on reservations that request it; an estimated 200. Prepare a series of fact sheets that explain AIPRA and distribute them to tribal members; approximately 300.

<b>Year</b>	<b>Target</b>	<b>Actual</b>
2008	1800	1860

**Output #3**

**Output Measure**

- Grandparents Raising Grandchildren
  - Produce and distribute a bimonthly newsletter to all Extension Offices, grandparents, and others on the mailing list – currently 150 names.
  - Provide support and assistance to start educational/support groups in local communities for grandparents who are parenting children. Currently, there are 15 in the state.

<b>Year</b>	<b>Target</b>	<b>Actual</b>
2008	250	314

**Output #4**

**Output Measure**

- Housing and Environmental Quality
  - Number of publications/fact sheets distributed
  - Number of participants attending home environmental workshops/programs.
  - Number of people testing their wells, doing radon tests.

<b>Year</b>	<b>Target</b>	<b>Actual</b>
2008	1000	1171

## V(G). State Defined Outcomes

## V. State Defined Outcomes Table of Content

O No.	OUTCOME NAME
1	<p>SHORT TERM Alzheimer's Mini Series Sixty participants in the Alzheimer's Mini Series will learn about financial planning issues, nutrition, home modifications, and family interactions related to caring for an Alzheimer's patient. Estate Planning, Passing of Tribal Lands, Savings The percent of people who reviewed their property titles and made changes in them, who had an attorney write a will, who reviewed their will and had an attorney update it, who began a gifting program, who made a list of tangible personal property, who reviewed beneficiaries on their life insurance policies, who discussed estate planning with family members, who learned that Montana law would not distribute their property as they desire, who learned that their estate is not large enough that federal estate taxes would apply. Number of participants who attended the educational sessions to learn about AIPRA. Number of feature articles on AIPRA printed in the local newspapers, newsletters and aired over the radio and requests for additional information as a result. Number of tribal members who shared the fact sheets with relatives and talked about estate planning with friends and relatives. Number of parents who open a savings account for their children, discuss saving with family members, and complete a savings goal worksheet. Grandparents Raising Grandchildren Number of grandparents who gain information to assist them in their parenting role, become aware of services available to support them, and learn about methamphetamine and how it affects the user. Home Energy Costs Number of participants who learn common methods to save home energy by applying measures to new or existing homes. Meth Number of participants who learn about the impact meth has on personal health and on a community. Number of participants who are be able to identify signs of meth use and production. Housing and Home Environment Number of participants who learn about environmental health concerns common to new and existing homes – molds, water quality, lead-based paint, radon, etc. Number of people requesting information related to home/environmental concerns. MEDUIM TERM Alzheimer's Mini Series Seventy percent (70%) of the participants will cope with caring for an Alzheimer's patient more effectively. Estate Planning, Passing of Tribal Lands, Savings The percent of people who actually did the list of items under short term (the things they learned about). The percent of people who used POD and TOD designations. Number of people who request a copy of an Informational Title Report from the Bureau of Indian Affairs. The number of people who drew a family generational tree to determine to whom their property will pass upon their death; who wrote a will in their own handwriting, retitled property into joint tenancy with right of survivorship, who decided to establish a life estate, who wrote a will, who talked with an attorney about writing a will, who shared the fact sheets with an immediate family member. The number of people who start saving with a financial institution, open an IRA, 401 k or 403 b plan, and whose children are beginning to save. Grandparents Raising Grandchildren Number of grandparents who begin to use current parenting strategies, prepare nutritious meals for themselves and their grandchildren, seek information to assist with their financial and legal issues related to parenting their grandchildren. Home Energy Costs Number of participants who are using high performance, resource efficient building materials and construction techniques in remodeling and new construction. Number of participants who increase their purchase of EnergyStar products and appliances resulting in an energy saving of at least 30% annually per appliance. Meth Number of participants who become involved in community meth awareness and prevention outreach activities. Housing and Home Environment Number of participants who test and control home environmental health issues (water, mold, lead-based paint, radon, etc.) LONG TERM Alzheimer's Mini Series Participants will feel more comfortable in their care-giving role and will have a greater understanding of how they can assist a loved one afflicted with Alzheimer's. Estate Planning, Passing of Tribal Lands, Savings Farms and ranches will be able to be transferred intact without being sold to provide equally to all heirs of to pay death costs. More Montana families will be financially secure at retirement. Grandparents Raising Grandchildren Number of grandparents and their families will experience reduced stress and grandchildren will have a safe and nurturing environment in which to grow. Home Energy Costs Number of participants who experience an energy savings due to weatherizing and remodeling of existing homes resulting in an annual 13-65% energy savings per household. Number of participants who increase utilization of the Montana Energy Tax Credit program. Meth The use of meth in Montana will be reduced or eliminated Housing and Home Environment Homes in Montana will routinely be tested/assessed and mitigated for environmental health issues. (molds, radon, asbestos, drinking water, carbon monoxide.)</p> <p>2 ALZHEIMER'S MINI SERIES - Seventy percent of the participants will cope with caring for an Alzheimer's patient more effectively. Participants will feel more comfortable in their care-giving role and will have a greater understanding of how they can assist a loved one afflicted with Alzheimer's.</p> <p>3 ESTATE PLANNING, PASSING OF RESERVATION LANDS - Number of people determining heirs, completing legal documents of transfer or shared fact sheets with others. Number of people starting savings and/or retirement accounts. Farms and ranches will be able to transfer without having to be sold to pay death costs. More Montana families will have financial security.</p>

4	<p>GRANDPARENTS RAISING GRANDCHILDREN - Number of grandparents who begin to use current parenting strategies, prepare nutritious meals for themselves and their grandchildren, seek information to assist with their financial and legal issues related to parenting their grandchildren. Number of grandparents and their families experiencing reduced stress and grandchildren having a safer and more nurturing environment in which to grow.</p>
5	<p>HOUSING AND ENVIRONMENTAL QUALITY - Number of participants using high performance, resource efficient building materials and construction techniques in remodeling and in new construction. Number of participants who increase their purchase of EnergyStar products resulting in an energy savings of at least 30% annually per appliance. Number of participants who experience an energy savings due to weatherizing and remodeling of existing homes resulting in an annual 13-65% energy savings per household. Number of participants who increase utilization of the Montana Energy Tax Credit program.</p>

**Outcome #1**

**1. Outcome Measures**

SHORT TERM Alzheimer's Mini Series Sixty participants in the Alzheimer's Mini Series will learn about financial planning issues, nutrition, home modifications, and family interactions related to caring for an Alzheimer's patient. Estate Planning, Passing of Tribal Lands, Savings The percent of people who reviewed their property titles and made changes in them, who had an attorney write a will, who reviewed their will and had an attorney update it, who began a gifting program, who made a list of tangible personal property, who reviewed beneficiaries on their life insurance policies, who discussed estate planning with family members, who learned that Montana law would not distribute their property as they desire, who learned that their estate is not large enough that federal estate taxes would apply. Number of participants who attended the educational sessions to learn about AIPRA. Number of feature articles on AIPRA printed in the local newspapers, newsletters and aired over the radio and requests for additional information as a result. Number of tribal members who shared the fact sheets with relatives and talked about estate planning with friends and relatives. Number of parents who open a savings account for their children, discuss saving with family members, and complete a savings goal worksheet. Grandparents Raising Grandchildren Number of grandparents who gain information to assist them in their parenting role, become aware of services available to support them, and learn about methamphetamine and how it affects the user. Home Energy Costs Number of participants who learn common methods to save home energy by applying measures to new or existing homes. Meth Number of participants who learn about the impact meth has on personal health and on a community. Number of participants who are be able to identify signs of meth use and production. Housing and Home Environment Number of participants who learn about environmental health concerns common to new and existing homes – molds, water quality, lead-based paint, radon, etc. Number of people requesting information related to home/environmental concerns. MEDUIM TERM Alzheimer's Mini Series Seventy percent (70%) of the participants will cope with caring for an Alzheimer's patient more effectively. Estate Planning, Passing of Tribal Lands, Savings The percent of people who actually did the list of items under short term (the things they learned about). The percent of people who used POD and TOD designations. Number of people who request a copy of an Informational Title Report from the Bureau of Indian Affairs. The number of people who drew a family generational tree to determine to whom their property will pass upon their death; who wrote a will in their own handwriting, retitled property into joint tenancy with right of survivorship, who decided to establish a life estate, who wrote a will, who talked with an attorney about writing a will, who shared the fact sheets with an immediate family member. The number of people who start saving with a financial institution, open an IRA, 401 k or 403 b plan, and whose children are beginning to save. Grandparents Raising Grandchildren Number of grandparents who begin to use current parenting strategies, prepare nutritious meals for themselves and their grandchildren, seek information to assist with their financial and legal issues related to parenting their grandchildren. Home Energy Costs Number of participants who are using high performance, resource efficient building materials and construction techniques in remodeling and new construction. Number of participants who increase their purchase of EnergyStar products and appliances resulting in an energy saving of at least 30% annually per appliance. Meth Number of participants who become involved in community meth awareness and prevention outreach activities. Housing and Home Environment Number of participants who test and control home environmental health issues (water, mold, lead-based paint, radon, etc.) LONG TERM Alzheimer's Mini Series Participants will feel more comfortable in their care-giving role and will have a greater understanding of how they can assist a loved one afflicted with Alzheimer's. Estate Planning, Passing of Tribal Lands, Savings Farms and ranches will be able to be transferred intact without being sold to provide equally to all heirs of to pay death costs. More Montana families will be financially secure at retirement. Grandparents

Raising Grandchildren Number of grandparents and their families will experience reduced stress and grandchildren will have a safe and nurturing environment in which to grow. Home Energy Costs Number of participants who experience an energy savings due to weatherizing and remodeling of existing homes resulting in an annual 13-65% energy savings per household. Number of participants who increase utilization of the Montana Energy Tax Credit program. Meth The use of meth in Montana will be reduced or eliminated Housing and Home Environment Homes in Montana will routinely be tested/assessed and mitigated for environmental health issues. (molds, radon, asbestos, drinking water, carbon monoxide.)  
*Not reporting on this Outcome for this Annual Report*

## **Outcome #2**

### **1. Outcome Measures**

ALZHEIMER'S MINI SERIES - Seventy percent of the participants will cope with caring for an Alzheimers' patient more effectively. Participants will feel more comfortable in their care-giving role and will have a greater understanding of how they can assist a loved one afflicted with Alzheimer's.

### **2. Associated Institution Types**

- 1862 Extension

### **3a. Outcome Type:**

Change in Condition Outcome Measure

### **3b. Quantitative Outcome**

<b>Year</b>	<b>Quantitative Target</b>	<b>Actual</b>
2008	{No Data Entered}	258

### **3c. Qualitative Outcome or Impact Statement**

#### **Issue (Who cares and Why)**

In Montana over 116,843 individuals have been diagnosed with Alzheimer's disease. There is no estimate of future numbers who may be affected. Montana has 50 counties designated as frontier counties, which means residents in those areas have greater obstacles in accessing care for families affected by Alzheimer's. The obstacles include: distance, terrain, climate, lack of providers and fewer available specialty services.

#### **What has been done**

While only 2 mini series programs were held; 1 for 46 people in the north central part of the state and 1 on a reservation for 8 people, over 250 people have received continued help and information in 2008 based on the mini series trainings conducted in prior years. Powerful Tools for Caregivers is a program that compliments the Alzheimer's Mini Series and is designed to help the caregiver learn self care so they can provide care, either direct or managed, to a loved one.

#### **Results**

The results of these program efforts reflect the nature of the disease in that it is very personal and different for each individual/family. For example, one family began making plans to put their family member in assisted living after realizing things would get more difficult with time; another family reported they are working with their attorney on some estate planning changes they realized needed to be made; 11 out of 15 people taking a class enrolled in a monthly support group for caregivers; one participant has hired a personal care attendant 4 hours a week to assist in the home; 71 people said they were able to find ways to take care of their own health, to take time for themselves without feeling guilty, to have confidence as a caregiver, to find ways of coping with the stress of caregiving and to find and access caregiving resources in their community.

### **4. Associated Knowledge Areas**

<b>KA Code</b>	<b>Knowledge Area</b>
801	Individual and Family Resource Management
802	Human Development and Family Well-Being

## **Outcome #3**



**1. Outcome Measures**

ESTATE PLANNING, PASSING OF RESERVATION LANDS - Number of people determining heirs, completing legal documents of transfer or shared fact sheets with others. Number of people starting savings and/or retirement accounts. Farms and ranches will be able to transfer without having to be sold to pay death costs. More Montana families will have financial security.

**2. Associated Institution Types**

•1862 Extension

**3a. Outcome Type:**

Change in Condition Outcome Measure

**3b. Quantitative Outcome**

Year	Quantitative Target	Actual
2008	{No Data Entered}	1860

**3c. Qualitative Outcome or Impact Statement**

**Issue (Who cares and Why)**

Montanans are interested in the wise use and handling of their financial resources. Statistics reveal that 70% of Montanan's die without a will. The state legislature continues to change the intestate succession (dying without a will law) and contract laws that impact beneficiaries of real and personal property. Farmers/ranchers/owners of closely held businesses continue to be interested in inter-generational transfers. This is especially true on Indian Reservations where landowners need to plan for passing their agricultural land to avoid further fractionation under the American Indian Probate Reform Act.

**What has been done**

Estate planning meetings were held in 24 of Montana's 56 counties with 765 people attending the 67 sessions. Additionally, 1,095 people participated in an interactive web site on Dying without a Will. Over 1500 Native Americans attended educational presentations and received AIPRA packets (American Indian Probate Reform Act) in which they learned about the impact of AIPRA on fractionated interests they hold on reservations. Educational materials included 12 fact sheets, 13 media articles, 8 PowerPoint presentations, a marketing brochure, a display for group meetings, and a Web Site.

**Results**

Preliminary results show Dying without a Will web site participants took action: 41% discussed estate planning issues with their family; 39% drafted a will for the first time; 20% revised a current will; 12% drafted or revised a holographic will (handwritten); 16% utilized a software, book, or mail-order form to draft or revise a will; 29% contacted an attorney for assistance in drafting or revising a will. The AIPRA program results showed participants increased their understanding of AIPRA by 47%; how trust lands become fractionated by 30%; how trust lands can be inherited by 20%; knowledge of information needed before preparing a will by 40% and have written a will by 20%. As a result of articles in tribal newspapers, over 400 AIPRA packets were mailed to tribal members. The Montana Bar has utilized the materials as a Continuing Legal Education course available to all attorneys. The course is listed in the Montana Lawyer publication.

**4. Associated Knowledge Areas**

KA Code	Knowledge Area
801	Individual and Family Resource Management

**Outcome #4**

**1. Outcome Measures**

GRANDPARENTS RAISING GRANDCHILDREN - Number of grandparents who begin to use current parenting strategies, prepare nutritious meals for themselves and their grandchildren, seek information to assist with their financial and legal issues related to parenting their grandchildren. Number of grandparents and their families experiencing reduced stress and grandchildren having a safer and more nurturing environment in which to grow.

## 2. Associated Institution Types

•1862 Extension

### 3a. Outcome Type:

Change in Condition Outcome Measure

### 3b. Quantitative Outcome

Year	Quantitative Target	Actual
2008	{No Data Entered}	314

### 3c. Qualitative Outcome or Impact Statement

#### Issue (Who cares and Why)

Today, Montana ranks ninth in the nation for the increase in Grandparents Raising Grandchildren between the years of 1990-2000, representing a 53% increase in the number of grandparents responsible for caring of their grandchildren; 6,053 grandparents in 2000. Grandparents are faced with this responsibility for a variety of reasons including death of a parent, involvement of social services due to child abuse or neglect, abandonment, teen pregnancy, etc. The common factor is that in nearly all cases grandparents are called upon to parent their grandchildren due to a crisis or failure in the nuclear family.

#### What has been done

There are 14 support groups offered across the state with 8 new group leaders being trained during 2008. Networking and collaboration is conducted through an annual statewide conference, an e-mail listserv and a quarterly newsletter.

#### Results

After participating in support groups, 80% of the participants feel comfortable calling on others when they are stressed about their situation; 95% report they learned and use coping strategies and resources discussed in the sessions; 75% know how to find resources to help meet daily needs; 60% attend monthly support group meetings; 85% indicated a better understanding of parenting in today's world; 45% of the grandchildren are enrolled in organized youth groups; 95% realize they cannot control the choices their adult children make; two grandparents gained custodial rights after receiving legal information; 90% report experiencing a great purpose for living - providing care to their grandchildren helps some feel young and active provided they are not overwhelmed by the day to day responsibilities, many of which are addressed in the support groups.

## 4. Associated Knowledge Areas

KA Code	Knowledge Area
802	Human Development and Family Well-Being
801	Individual and Family Resource Management

## Outcome #5

### 1. Outcome Measures

HOUSING AND ENVIRONMENTAL QUALITY - Number of participants using high performance, resource efficient building materials and construction techniques in remodeling and in new construction. Number of participants who increase their purchase of EnergyStar products resulting in an energy savings of at least 30% annually per appliance. Number of participants who experience an energy savings due to weatherizing and remodeling of existing homes resulting in an annual 13-65% energy savings per household. Number of participants who increase utilization of the Montana Energy Tax Credit program.

**2. Associated Institution Types**

- 1862 Extension

**3a. Outcome Type:**

Change in Condition Outcome Measure

**3b. Quantitative Outcome**

Year	Quantitative Target	Actual
2008	{No Data Entered}	846

**3c. Qualitative Outcome or Impact Statement****Issue (Who cares and Why)**

Across the state, consumers, real estate professionals, county health offices and others are reporting alarming incidences and health effects related to home environmental issues such as: high radon levels, asthma, molds, asbestos in vermiculate insulation, drinking water contamination, improperly installed and maintained septic systems, carbon monoxide from faulty heating systems and lead-based paint. Additionally, the cost of energy has increased by as much as 65% causing consumers to seek assistance for energy conservation and weatherization strategies

**What has been done**

The Montana Healthy Homes project was conducted in all 56 counties and on all 7 of Montana's reservations by Extension and non Extension personnel. It has 134 groups representing 846 people who are trained to conduct housing inspections resulting in actual measurements of radon levels, carbon monoxide levels, incidents of lead based paint, well water contamination and septic system installation and maintenance to mention a few. People involved in the training include those in real estate, housing authorities, schools, department of commerce, health departments. Information on weatherization has been provided through workshops and publications.

**Results**

The public and Indian housing authorities are the groups doing the healthy homes inspections that result in actual measurements. The assessments include levels of radon, level of asbestos in vermiculate insulation, drinking water contamination, improperly installed and maintained septic systems, carbon monoxide from faulty heating systems and lead-based paint. At this time, data is not available beyond knowing that the assessments are being used by this group, but will be available next year. Real estate people use the assessments information on the disclosure requirements for sale/purchase of homes. Approximately 1500 Montana homes that have been weatherized save an average of 21% (\$156.00) in energy use each year, totaling \$234,000 savings for Montana households.

**4. Associated Knowledge Areas**

KA Code	Knowledge Area
804	Human Environmental Issues Concerning Apparel, Textiles, and Residential and Commercial Structures

**V(H). Planned Program (External Factors)****External factors which affected outcomes**

- Economy
- Public Policy changes
- Government Regulations

**Brief Explanation**

{No Data Entered}

**V(I). Planned Program (Evaluation Studies and Data Collection)****1. Evaluation Studies Planned**

- After Only (post program)
- Before-After (before and after program)
- During (during program)

**Evaluation Results**

Evaluation efforts under this program area are designed largely by program specialists and are specific to the program taught. This is true for Grandparents Raising Grandchildren, Alzheimer's Mini Series and Estate Planning. Data gathered is reflected in the results sections of program outcomes.

**Key Items of Evaluation**

**Program #5**

**V(A). Planned Program (Summary)**

**1. Name of the Planned Program**

Community and Economic Development

**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	50%			
723	Hazards to Human Health and Safety	10%			
803	Sociological and Technological Change Affecting Individuals, Families and Communities	20%			
805	Community Institutions, Health, and Social Services	20%			
	<b>Total</b>	100%			

**V(C). Planned Program (Inputs)**

**1. Actual amount of professional FTE/SYs expended this Program**

Year: 2008	Extension		Research	
	1862	1890	1862	1890
<b>Plan</b>	4.0	0.0	0.0	0.0
<b>Actual</b>	6.5	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
105000	0	0	0
1862 Matching	1890 Matching	1862 Matching	1890 Matching
0	0	0	0
1862 All Other	1890 All Other	1862 All Other	1890 All Other
190000	0	0	0

**V(D). Planned Program (Activity)**

**1. Brief description of the Activity**

- Community meetings will be held to determine community values, attitudes, and vision on which to develop strategies and action plans.
- Partner with local economic development entities, agencies, businesses/industry and organizations to implement goals and plans of action.
- Partner with local Adult Education entities to identify class offerings.
- Three television PSA's announcing EDEN
- Three television PSA's discussing drought
- Community meetings will be held to train facilitators and trainers to assist with leadership development and poverty reduction.

**2. Brief description of the target audience**

Adults interested in education  
 Business and Community Leaders  
 Local Development Entities  
 Local Economic Development Entities  
 Chamber of Commerce Members  
 Tourism Leadership – local/state  
 County Government  
 Individuals interested in start-up and expansion of business

Individuals interested in start-up & expansion of business  
 County DES, Law Enforcement, Emergency Response Coordinators  
 Current Community Leadership/Potential Community Leaders

**V(E). Planned Program (Outputs)**

**1. Standard output measures**

**Target for the number of persons (contacts) reached through direct and indirect contact methods**

	<b>Direct Contacts Adults</b>	<b>Indirect Contacts Adults</b>	<b>Direct Contacts Youth</b>	<b>Indirect Contacts Youth</b>
<b>Year</b>	<b>Target</b>	<b>Target</b>	<b>Target</b>	<b>Target</b>
<b>Plan</b>	5150	162300	450	1345
2008	8742	9321	223	337

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

**Patent Applications Submitted**

<b>Year</b>	<b>Target</b>
<b>Plan:</b>	0
2008 :	0

**Patents listed**

**3. Publications (Standard General Output Measure)**

**Number of Peer Reviewed Publications**

	Extension	Research	Total
<b>Plan</b>	1	0	
2008	7	0	7

**V(F). State Defined Outputs**

**Output Target**

**Output #1**

**Output Measure**

- Community Resource Development
  - Number of Extension lead activities such as facilitation services, assistance in feasibility studies, strategic planning processes, development of business retention and expansion plans/programs.
  - Number of partnerships and existing relationships utilized to strengthen sustainability of county and private efforts in community and economic development.

Year	Target	Actual
2008	7200	4950

**Output #2**

**Output Measure**

- Adult and Community Education
  - Number of collaborations with community organizations to identify and establish classes to be offered in adult educational settings.

Year	Target	Actual
2008	250	238

**Output #3**

**Output Measure**

- EDEN:
  - Number of hits on the EDEN WEB Site
  - Number of responses from PSA's to emergency service entities.

Year	Target	Actual
2008	155000	92529

**Output #4**

**Output Measure**

- Horizons Program Number of community members trained and serving as facilitators for program Number of community members involved in Study circles and Leadership Plenty process

Year	Target	Actual
2008	100	1745

**Output #5**

**Output Measure**

- ALTERNATIVE ENERGY Number of people attending seminars on renewable energy - wind, solar, bio-fuels and related topics. Number of people accessing information from the Extension web site.

Year	Target	Actual
2008	{No Data Entered}	884

## V(G). State Defined Outcomes

## V. State Defined Outcomes Table of Content

O No.	OUTCOME NAME
1	EDEN Short Term: <ul style="list-style-type: none"> <li>• Number of PSA's produced to increase public awareness and knowledge of disasters and increase consumer awareness of local emergency services</li> </ul> Medium Term: <ul style="list-style-type: none"> <li>• The public will understand how they access local emergency services and take steps to prepare for a disaster (number of disaster survival kits made)</li> </ul> Long Term: <ul style="list-style-type: none"> <li>• Reduction of accidents, loss of property and human life due to disasters</li> </ul>
2	COMMUNITY RESOURCE DEVELOPMENT Short Term Number of community leaders, agency personnel, organization members and other citizens that will gain an understanding of the value of creating a community development/economic development plan. Medium Term: Number of community leaders, agency personnel, organization membership that will collaborate on economic development strategies. Numbers of communities that will utilize an inclusive process to establish goals and action plans. Long Term Counties will establish and maintain a sustainable population with a viable and diversified economy. Communities will be prepared and able to deal with and direct change so it will reflect its goals, values and vision.
3	ADULT/COMMUNITY EDUCATION Short Term Number of people who gained knowledge through adult education classes Number of participants who tried a new activity as a result of attending a class. Medium Term Number of participants who used a new skill, practice or technique as a result of attending a class.
4	Horizons Program Short Term Communities demonstrate awareness and interest in poverty reduction. Community members become aware of opportunities, tools and techniques available to engage in poverty reduction. Communities begin to recognized and own poverty as a community issue about which they can take action. Communities begin to recognize and own leadership as a community issue about which they can take action. Medium Term <ul style="list-style-type: none"> <li>• Communities demonstrate an interest in poverty reduction and begin the process of learning to recruit and mobilize others.</li> <li>• Communities are mobilized to create and adopt a shared vision for poverty reduction.</li> <li>• Communities will directly engage people living in poverty in leadership training and action planning.</li> <li>• Communities will define leadership for poverty reduction as collective, rather than individual actions.</li> <li>• Communities will implement inclusive processes and decision-making methods. Long Term</li> <li>• Leadership base of communities will mirror the demographics of their community.</li> <li>• Communities have a commitment to poverty reduction.</li> <li>• Communities will implement and sustain changes that contribute to poverty reduction in the community.</li> <li>• Communities will be able to demonstrate progress toward reducing poverty.</li> </ul>
5	ALTERNATIVE ENERGY - Individuals/communities will be able to make cost effective decisions about the use of an alternative energy source.



**Outcome #1****1. Outcome Measures**

EDEN Short Term:

- Number of PSA's produced to increase public awareness and knowledge of disasters and increase consumer awareness of local emergency services

Medium Term:

- The public will understand how they access local emergency services and take steps to prepare for a disaster (number of disaster survival kits made)

Long Term:

- Reduction of accidents, loss of property and human life due to disasters

**2. Associated Institution Types**

- 1862 Extension

**3a. Outcome Type:**

Change in Condition Outcome Measure

**3b. Quantitative Outcome**

Year	Quantitative Target	Actual
2008	155000	92529

**3c. Qualitative Outcome or Impact Statement****Issue (Who cares and Why)**

Communities are being asked to prepare disaster plans to address potential emergencies. Hazard mitigation is an integral part of emergency preparedness and is the process of figuring out how to reduce or eliminate the loss of life and property damage resulting from hazards such as floods, earthquakes, fires, etc. With the recent catastrophic disasters that have occurred around the world, there is increased emphasis on disaster mitigation, planning and preparedness. Research has shown the benefits to a community with lives saved, decreased levels of damage, and smoother recovery when residents know how to respond before, during and after a disaster.

**What has been done**

A full-scale 3 day exercise called 'Operation June Bug' was held to improve networking among all emergency response agencies and to promote involvement of the public. It included 3 separate aspects: 'Point of Dispensing' (POS) medication activation; 'Survivor Challenge' including evacuation, sheltering, decontamination and public preparedness activities; hospital exercises including bomb threat, evacuation, decontamination, surge capacity, patient triage and ICS. A web-site with interactive activities and a YouTube section with live video footage of survivor challenge events was also developed.

**Results**

As a result of participating in the 'Operation June Bug', a post-survey was mailed to a sample of participants 6 months after the exercise. The returned survey's showed: 37% compiled a survival kit; 37% discussed a family disaster and communication plan; 59% gained personal emergency preparedness knowledge; 58% have a better understanding of sources of reliable information in a disaster; and 53% have increased knowledge of family emergency response protocols. One county completed a Community Wildfire Protection Plan. Contracts were signed with landowners for fuels mitigation projects on 77 acres of fuel treatments, which will protect 25 homes and 46 other structures. Fuel reduction is the primary means to help prevent and lessen the impact of wildfires. The installation of software that will allow the 911 system to deliver mass telephone warning messages can inform people of impending disasters in urban and rural areas.

**4. Associated Knowledge Areas**

KA Code	Knowledge Area
723	Hazards to Human Health and Safety

**Outcome #2****1. Outcome Measures**

COMMUNITY RESOURCE DEVELOPMENT Short Term Number of community leaders, agency personnel, organization members and other citizens that will gain an understanding of the value of creating a community development/economic development plan. Medium Term: Number of community leaders, agency personnel, organization membership that will collaborate on economic development strategies. Numbers of communities that will utilize an inclusive process to establish goals and action plans. Long Term Counties will establish and maintain a sustainable population with a viable and diversified economy. Communities will be prepared and able to deal with and direct change so it will reflect its goals, values and vision.

**2. Associated Institution Types**

- 1862 Extension

**3a. Outcome Type:**

Change in Condition Outcome Measure

**3b. Quantitative Outcome**

Year	Quantitative Target	Actual
2008	7200	4950

**3c. Qualitative Outcome or Impact Statement**

**Issue (Who cares and Why)**

Montana people say they want to improved conditions for their families and communities which is not easy in a large and diverse state. The major initiatives that have been identified though the stakeholder input process include effective governance and community strategic planning that will address community needs; healthy business, leadership development especially as it relates to new government employees and volunteer competence.

**What has been done**

The Community Business Matching model (CBM) maximizes economic development efforts and focuses on matching business needs with community attributes and goals. Six counties are participating in the CBM project. Training for people serving on citizen boards and governmental bodies has been conducted across the state. A program called Gateway to Opportunity has provided potential entrepreneurs with ways to interact with individuals and small business owners about starting new ventures.

**Results**

sAs a result of the CBM project, 3 new manufacturing firms have been opened and starting small; each with less than 14 employees but plans to expand to 25-50 employees over the next 5 years. Two new transportation related industries have been established and working in a 6 county region on trade-port business attractions. The Citizen Board Training program has had the following impact: 48% have better understanding Montana's open meeting laws; 40% feel their board meetings are more efficient; 48% have a better understanding of Montana's Code of Ethics; 57% have a better understanding of liability issues for board members; 51% can better address conflicts at board meetings more constructively. As a result of the Gateway program, two producers have planted wine grapes and started to produce wine; 7 individuals have increased their incomes by selling items on eBay; 12 producers have joined ag marketing cooperative to help market their products and increase their on-farm income.

**4. Associated Knowledge Areas**

KA Code	Knowledge Area
608	Community Resource Planning and Development
805	Community Institutions, Health, and Social Services

**Outcome #3**

**1. Outcome Measures**

ADULT/COMMUNITY EDUCATION Short Term Number of people who gained knowledge through adult education classes Number of participants who tried a new activity as a result of attending a class. Medium Term Number of participants who used a new skill, practice or technique as a result of attending a class.

**2. Associated Institution Types**

- 1862 Extension

**3a. Outcome Type:**

Change in Action Outcome Measure

**3b. Quantitative Outcome**

Year	Quantitative Target	Actual
2008	250	238

**3c. Qualitative Outcome or Impact Statement****Issue (Who cares and Why)**

Many Montana citizens recognize the value of the internet and other technology in their businesses and personal lives. They note that businesses have been started using the internet for marketing, networking and distribution. E-commerce has opened new opportunities for working from home or a small, isolated community. Especially for people who live in rural Montana, accessing resources to improve skills in areas like technology are often a challenge. They look to MSU Extension to help.

**What has been done**

Adult education classes have been offered to local citizens. They are often in conjunction with one of the schools that offered laboratory facilities. Computer classes are by far the most popular because participants learn how to use the technology for day to day activities. Other popular classes include health related issues and classes directly related to their professions.

**Results**

Adult education classes in rural Montana counties provided over 200 people opportunities to learn skills in identified areas. The most popular of these is in technology for example, basic computer class participants say they feel comfortable paying bills on line and using eBay to buy and sell items. A class of 12 women have continued their walking program for two years. They started the class in the adult education program and have said they believe the classes they have taken in the adult ed program have improved their health. Two of the ladies report a large decrease in knee and back pain since they began their walking exercise program.

**4. Associated Knowledge Areas**

KA Code	Knowledge Area
803	Sociological and Technological Change Affecting Individuals, Families and Communities

**Outcome #4****1. Outcome Measures**

Horizons Program Short Term Communities demonstrate awareness and interest in poverty reduction. Community members become aware of opportunities, tools and techniques available to engage in poverty reduction. Communities begin to recognized and own poverty as a community issue about which they can take action. Communities begin to recognize and own leadership as a community issue about which they can take action. Medium Term

- Communities demonstrate an interest in poverty reduction and begin the process of learning to recruit and mobilize others.
- Communities are mobilized to create and adopt a shared vision for poverty reduction.
- Communities will directly engage people living in poverty in leadership training and action planning.
- Communities will define leadership for poverty reduction as collective, rather than individual actions.
- Communities will implement inclusive processes and decision-making methods. Long Term
- Leadership base of communities will mirror the demographics of their community.
- Communities have a commitment to poverty reduction.
- Communities will implement and sustain changes that contribute to poverty reduction in the community.
- Communities will be able to demonstrate progress toward reducing poverty.

**2. Associated Institution Types**

- 1862 Extension

**3a. Outcome Type:**

Change in Condition Outcome Measure

**3b. Quantitative Outcome**

Year	Quantitative Target	Actual
2008	100	1745

**3c. Qualitative Outcome or Impact Statement**

**Issue (Who cares and Why)**

In small rural areas it is difficult to locate qualified people who are skilled in providing leadership to their communities. Additionally, these types of communities often have limited resources and have been experiencing considerable decline in population and income. Volunteer leadership and people who are not generally engaged or represented in community decision making are significant.

**What has been done**

Through Horizons, 15 communities prepared for and conducted Study Circle events with 30-60 residents meeting for 6 two hour meetings. Study Circles help people talk about the kind of community they want to live in, look at poverty in their community, discuss what it looks like and why it exists and work together to make that vision a reality. The Study Circle process trained 126 people as facilitators and involved more than 670 people in 6 discussion segments.

**Results**

Communities have been successful in motivating new leaders and addressing poverty issues-45% said they are very likely to take individual action to reduce poverty and 63% said they are very likely to take community action to reduce poverty. A post-survey of Study Circle participants showed 93% either agreed or strongly agreed they can make a difference in their community, 90% agree or strongly agree they can reduce poverty in their community. The process offered hope of structural and systemic solutions for working together to move from poverty to prosperity. People appreciated being asked to solve their own problems. One person said, 'I learned more in the six weeks of Study Circles than I had learned in 5 years about community and how things work.' Examples of action being taken by communities include: creating a local food bank, childcare cooperative, community garden, community resource coordinator, offering parenting and life skills course, adult ed program and community newspaper.

#### 4. Associated Knowledge Areas

KA Code	Knowledge Area
608	Community Resource Planning and Development

#### Outcome #5

##### 1. Outcome Measures

ALTERNATIVE ENERGY - Individuals/communities will be able to make cost effective decisions about the use of an alternative energy source.

##### 2. Associated Institution Types

•1862 Extension

##### 3a. Outcome Type:

Change in Knowledge Outcome Measure

##### 3b. Quantitative Outcome

Year	Quantitative Target	Actual
2008	{No Data Entered}	884

##### 3c. Qualitative Outcome or Impact Statement

###### Issue (Who cares and Why)

Montana ranks first in the nation with regard to potential for wind energy development of Class 3 and above wind resources. Recent events related to transmission capacity as well as increasing national demand for wind energy have stimulated two significant factors: 1.) national and international developers have begun to lease land and explore development of significant wind farms in Montana. 2.) individual interest regarding the potential for wind generation has escalated. Information on many wind industry topics ranging from small scale net metering projects to large scale development and the associated land leasing process is needed.

###### What has been done

Each county and reservation Extension Office received a 'Wind Kit' that provided information at the local level to address constituent questions and concerns. An MSU Extension Wind Energy website provides information about wind generation - during 2008 there were 6,230 page views. A tool for landowners to evaluate the economic viability of installing a wind-energy generation off-set for irrigation pumping systems was developed. A series of educational seminars on land leasing agreements was conducted throughout the state with more than 700 landowners attending.

###### Results

While this is a new program (2008), there are already indications of positive results. County/Reservation Extension Agents in high wind areas report they have distributed materials from the 'Wind Kit' to constituents and received positive feedback. Landowners, economic development organizations and other constituents have reported using information found on the website in making decisions about proposed wind projects. Many producers decided against installing a wind energy generation irrigation system after they used the tool to evaluate the economic return on investment. As a result of Extension education, landowners considering leasing land for wind-energy generation reported they increased the amount of work they did with legal counsel changing their strategies and altering language in their lease agreements. In seminars where evaluations were conducted, nearly all evaluations demonstrated moderate to high levels of knowledge gain.

#### 4. Associated Knowledge Areas

KA Code	Knowledge Area
803	Sociological and Technological Change Affecting Individuals, Families and Communities
608	Community Resource Planning and Development

#### V(H). Planned Program (External Factors)

##### External factors which affected outcomes

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

##### Brief Explanation

{No Data Entered}

#### V(I). Planned Program (Evaluation Studies and Data Collection)

##### 1. Evaluation Studies Planned

- Before-After (before and after program)
- During (during program)

##### Evaluation Results

Evaluation of these efforts are still in the "how many people are using information" stage with little data on the impacts available at this time.

##### Key Items of Evaluation

**Program #6**

**V(A). Planned Program (Summary)**

**1. Name of the Planned Program**

Natural Resources and Environment

**V(B). Program Knowledge Area(s)**

**1. Program Knowledge Areas and Percentage**

KA Code	Knowledge Area	%1862 Extension	%1890 Extension	%1862 Research	%1890 Research
102	Soil, Plant, Water, Nutrient Relationships	20%			
123	Management and Sustainability of Forest Resources	20%			
135	Aquatic and Terrestrial Wildlife	20%			
136	Conservation of Biological Diversity	20%			
605	Natural Resource and Environmental Economics	20%			
<b>Total</b>		100%			

**V(C). Planned Program (Inputs)**

**1. Actual amount of professional FTE/SYs expended this Program**

Year: 2008	Extension		Research	
	1862	1890	1862	1890
<b>Plan</b>	5.0	0.0	0.0	0.0
<b>Actual</b>	3.3	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
120000	0	0	0
1862 Matching	1890 Matching	1862 Matching	1890 Matching
0	0	0	0
1862 All Other	1890 All Other	1862 All Other	1890 All Other
2500	0	0	0

**V(D). Planned Program (Activity)**

**1. Brief description of the Activity**

- Conduct workshops that will address specific topics such as forest stewardship and controlling pests for example for Extension Professionals and clientele.
- Provide training so people learn will be able to calibrate spray equipment and making management plans for example.
- Work with the media to educate the public on natural resource topics.
- Partner with local associations, agencies and organizations with common interests and goals.
- Prepare MontGuides (Fact Sheets) on related topics.
- Conduct tours and demonstrations when appropriate teaching method for topic.
- Conduct workshops on water quality and safety.

**2. Brief description of the target audience**

Private Forest Land Owners  
 Graduates of the Forest Stewardship Program  
 County Weed Boards  
 Farmers and Ranchers – Ag producers  
 Private Land Owners  
 Small Acreage Land Owners  
 Producers who operate Animal Feeding Operations  
 Professional loggers/foresters  
 Vertebrate Pest Control Operators  
 WIC  
 City/County Health Departments  
 Nursing Homes  
 Food Bank  
 St Vincent DePaul

**V(E). Planned Program (Outputs)**

**1. Standard output measures**

**Target for the number of persons (contacts) reached through direct and indirect contact methods**

	<b>Direct Contacts Adults</b>	<b>Indirect Contacts Adults</b>	<b>Direct Contacts Youth</b>	<b>Indirect Contacts Youth</b>
<b>Year</b>	<b>Target</b>	<b>Target</b>	<b>Target</b>	<b>Target</b>
<b>Plan</b>	4000	45000	400	8350
2008	7768	7032	137	1217

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

**Patent Applications Submitted**

<b>Year</b>	<b>Target</b>
<b>Plan:</b>	0
2008 :	0

**Patents listed**

**3. Publications (Standard General Output Measure)**

**Number of Peer Reviewed Publications**

	<b>Extension</b>	<b>Research</b>	<b>Total</b>
<b>Plan</b>	1	0	
2008	4	0	4

**V(F). State Defined Outputs**

**Output Target**



**Output #1**

**Output Measure**

- I. Forestry
  - Number of private forest owners who attend one/two workshops so they will understand the timber sale process allowing them to complete a successful timber sale.
  - Number of people attending the forestry mini-college, a one-day educational program that includes 10 forestry related courses that provide attendees with knowledge or sources of assistance necessary to implement their forest stewardship plans.

Year	Target	Actual
2008	500	366

**Output #2**

**Output Measure**

- II. Small Acreage Lands
  - Number of one-on-one consultation and group workshops for small acreage land owners on pest control, weed management and other topics.
  - Number of people who participate in Field Days and demonstration opportunities for land owners to observe techniques and best practices.

Year	Target	Actual
2008	500	3115

**Output #3**

**Output Measure**

- III. Environmentally Sensitive Management Systems.
  - Provide one-on-one assistance for developing management plans. (Forestry, Animal Feeding Operations, etc.) Number of consultations. Number of demonstrations of sprayer calibrations, GPS usage, and other technical practices that provide environmental protection.

Year	Target	Actual
2008	500	311

**Output #4**

**Output Measure**

- IV. Water Quality Number of people starting a file to track water quality Number of people attending "Well Educated" program

Year	Target	Actual
2008	350	2586



5	WATER QUALITY - Number of people regularly testing their wells, tracking well water quality over time thus making decisions for water safety.
6	PEST MANAGEMENT - Number of people using accepted practices and protocols for safely applying pesticides.

**Outcome #1**

**1. Outcome Measures**

## SHORT TERM Forestry

- Participants will learn the necessary steps for selling timber and what resources are available to them for assistance.
- Attendees will receive information they can use to meet their individual forest stewardship objectives. Small Acreages
- Producers and small acreage landowners will become aware of insect, weed and disease infestations as they are developing so they can make management decisions in a timely manner.
- Applicators will learn the risks associated with applying pesticides and safety precautions recommended to mitigate those risks, while at the same time, learn techniques in applying chemical appropriately.
- Producers will learn to use the GPS in locating weed or other problem areas. Environmentally Sensitive Management Systems
- Producers will understand the current rules and regulations relative to animal feeding operations and how to evaluate their own operation. This also applies to forestry plans, grazing land plans and any other plans appropriate to the individual operation.
- Producers will learn to identify and manage their particular IPM issue or natural resource concern. Water Quality
- Participants will learn the importance of and steps to do well testing.
- Percent of forage producers/participants who learn proper timing and implementation of control techniques and methods appropriate to their operations. MEDUIM TERM Forestry
- Landowners will develop a plan and implement activities that will enhance the sustainability of their forests.
- Landowners will implement activities for their individual stewardship objectives. Small Acreages
- Landowners will implement best management practices in addressing weed issues.
- Number of producers/small landowners who have adopted weed, crop, pest and forage management strategies. Environmentally Sensitive Management Systems
- Producers/Landowners will adopt practices outlined in their CNMP plans. (applies to other planning efforts)
- Producers/landowners will adopt practices that will address their specific IPM problem. Water Quality
- People will test their wells regularly and will track the quality of their well water over time using the test information so they can make decisions for their water safety. Long Term:
- The number of dollars saved from damage by ground squirrels to forage crops.
- Rangeland forage will improve, soils will be protected, run-off will be reduced, and potential hazards from ground squirrel holes will be reduced.

## LONG TERM Forestry

- Montana's private landowners will be managing their forests to meet their individual stewardship objectives and so the forests lands continue to provide environmental, economic and social benefits to Montana citizens. Small Acreages
- Local landowners will become more profitable while protecting the environment. Environmentally Sensitive Management Systems
- All operations that develop and implement a CNMP protect ground and surface water, apply manure at agronomic rates, and utilize technologies that allow them to better operate and/or monitor their operation. All operations will remain economically viable and environmentally friendly.

*Not reporting on this Outcome for this Annual Report*

**Outcome #2****1. Outcome Measures**

FORESTRY - Montana's landowners will manage their forests to meet their individual stewardship objectives and the forest land will continue to provide environmental, economic and social benefits to Montana citizens.

**2. Associated Institution Types**

•1862 Extension

**3a. Outcome Type:**

Change in Condition Outcome Measure

**3b. Quantitative Outcome**

Year	Quantitative Target	Actual
2008	{No Data Entered}	366

**3c. Qualitative Outcome or Impact Statement****Issue (Who cares and Why)**

Statistics show all family forested lands are under influences that would permanently change the role they play in providing wildlife habitat, wood fiber, clean water, recreational opportunities, and aesthetic landscape appeal. Factors contributing to the changes are: urban areas are expanding into outlying forests; wood products infrastructures are severely threatened; skilled forestry workforce is being lost; a large percentage of forest landowners are aging; sustainable forest management certification is becoming a required process in order for forest landowners to sell wood; climate changes and associated insect, disease and wildfire perturbations.

**What has been done**

The Montana Master Forest Steward Program, the Forest Stewardship Program and the Forest Stewardship Class for Loggers have been developed to address issues impacting people involved with the forest industry, whether they are land owners or professional loggers. Workshops on forest ecology, inventory, silviculture and management are taught, followed by participants developing management plans of their own. Brochures and fliers served as a method of updating landowners.

**Results**

After participating in the forest programs, 84% completed a written management plan that was verified by an adviser. Monitoring was conducted with families who had been through the Forest Stewardship Programs; 89% still had their original management plan; 55% had completed all the management they had planned - lack of money and time were the most common reasons for having not completed the plan; 49% completed commercial harvests on 1,870 acres; 47% completed pre-commercial thinning on 650 acres; 28% did weed control on 3,851 acres; 19% did tree planting on 153 acres; 28% did work to increase the resilience to fire. Resources managed or protected included: 98% timber; 96% forest health; 81% cover type/habitat; 9% insects and disease; 87% soil; 62% water quality; 32% riparian/wetlands; 53% range; 85% aesthetic quality; 67% recreational opportunities; 81% fish and wildlife, 28% threatened or endangered species; 11% archeological, cultural or historic sites; 6% roads.

**4. Associated Knowledge Areas**

KA Code	Knowledge Area
102	Soil, Plant, Water, Nutrient Relationships
605	Natural Resource and Environmental Economics
123	Management and Sustainability of Forest Resources

**Outcome #3****1. Outcome Measures**

SMALL ACREAGE LANDS - Number of landowners implementing best management practices in addressing weed issues. Number of producers/small landowners adopting weed, crop, pest and forage management strategies. Local landowners will become more profitable while protecting the environment.

**2. Associated Institution Types**

- 1862 Extension

**3a. Outcome Type:**

Change in Action Outcome Measure

**3b. Quantitative Outcome**

Year	Quantitative Target	Actual
2008	{No Data Entered}	3115

**3c. Qualitative Outcome or Impact Statement****Issue (Who cares and Why)**

Thousands of acres of former ranch, farm or wilderness lands are being subdivided into small acreage parcels. As this occurs, the number of landowners grows with people who often lack knowledge and skills to manage land while preserving the natural resources. Soil erosion, overgrazing, water contamination/waste, decreased/ fragmented wildlife habitat, noxious weed infestations, poor domesticated animal health, air quality issues, pesticide overuse, riparian area issues are problems that can result.

**What has been done**

The small acreage landowner is the target for educational efforts to help them care for their properties. The Big Sky Small Acres publication has been distributed for two years and has a subscription of 365 people. Example topics include: winter power outages, wildlife friendly fencing, understanding soil moisture, investing in pond private septic systems, cheatgrass, livestock fees, Montana beneficiary deed law. Home visits to address specific issues along with workshops targeted at the intended audience help landowners successfully work with their property.

**Results**

In at least two communities, a Community Garden system has been established focused to 1-provide a place for people to have a garden who don't have much space, 2-Teach people to garden and provide them with fresh vegetables/fruits in the process, and 3-Be a resource to the Food Bank and other charitable groups. Publications have been distributed to landowners on current problems such as Mountain Pine Beetle which is now at epidemic level. Educational efforts have saved tree owners thousands of dollars by identifying which trees need to be removed and offering free disposal of removed trees. Example: one shelterbelt owner had 10 trees marked for removal at the cost of \$2500. After inspection, only 2 trees needed to be removed which he did himself. The landowner was taught how to protect the other trees in the spring for \$40.

**4. Associated Knowledge Areas**

KA Code	Knowledge Area
135	Aquatic and Terrestrial Wildlife
123	Management and Sustainability of Forest Resources
102	Soil, Plant, Water, Nutrient Relationships
605	Natural Resource and Environmental Economics

**Outcome #4****1. Outcome Measures**

ENVIRONMENTALLY SENSITIVE MANAGEMENT SYSTEMS - Number of producers/landowners adopting practices outlines in their management plans, including their specific IPM problem.

**2. Associated Institution Types**

- 1862 Extension

**3a. Outcome Type:**

Change in Action Outcome Measure

**3b. Quantitative Outcome**

Year	Quantitative Target	Actual
2008	{No Data Entered}	311

**3c. Qualitative Outcome or Impact Statement****Issue (Who cares and Why)**

CAFO (Confined animal feeding operation) federal and state regulations on water quality and air emissions are approaching deadlines resulting in more questions from impacted producers. Human waste management and composting, equine owner environmental management, manure for organic grain, CAFO permitting, manure application rates, well protection around livestock and carcass composting materials are all concerns being expressed by agriculture operators, business managers and the general population.

**What has been done**

Workshops, presentations and seminars have discussed topics related to equine manure management, agricultural emergency and security preparedness, agrosecurity, AFO/CAFO regulations and permitting, biosecurity/animal health seminars for non-commercial livestock owners, Flathead Reservation -emergency preparedness. Two web-sites and two new web pages for other MSU programs have been developed and found to be effective as a means of making information accessible.

**Results**

Because Montana has limited resources to assist producers in writing their Nutrient Management Plans (NMP), Extension has provided workshops, site visits and private consultation for technical help for producers (80) to complete the plans. The Montana Department of Emergency Services Planning Chief states that Extension programs have provided emergency management professionals with education and practical technical assistance regarding agricultural emergency planning, prevention of foreign animal disease outbreaks and awareness of agro-terrorism events. As a result of Extension consultation, a business that provides organic material for sale and large projects across the state, can successfully continue its work. A correction in the process eliminated orders that were causing complaints while still allowing the business to divert the bio-solids from up to 9 million gallons of wasted water per day from the landfill.

**4. Associated Knowledge Areas**

KA Code	Knowledge Area
102	Soil, Plant, Water, Nutrient Relationships
136	Conservation of Biological Diversity

**Outcome #5****1. Outcome Measures**

WATER QUALITY - Number of people regularly testing their wells, tracking well water quality over time thus making decisions for water safety.

**2. Associated Institution Types**

•1862 Extension

**3a. Outcome Type:**

Change in Condition Outcome Measure

**3b. Quantitative Outcome**

Year	Quantitative Target	Actual
2008	{No Data Entered}	2586

**3c. Qualitative Outcome or Impact Statement****Issue (Who cares and Why)**



During the fall of 2008, a survey of Extension agents to assess current water resources programming needs at the state and county level was conducted. An overwhelming number (96%) of survey respondents indicated a need for water programming in their counties. The top five program needs as indicated by the survey were: domestic water/well testing (73%), irrigation management (69%), livestock water (65%), water rights (58%), and water conservation (53%). Lack of knowledge about water quality and quantity was identified as the overwhelming limiting factor (76%).

**What has been done**

Several programs and studies are in progress to address water issues: Surface water monitoring projects (8); i.e.; Buffalo Rapids Irrigation District to monitor irrigation return flows into the Yellowstone River, Freezout Lake Monitoring focused on water quality and flow into the lake; Ground Water Monitoring Projects (2): The Well Educated Program distributes well testing kits to private well owners, Fergus County Ground Water Monitoring Project tests wells in this elevated nitrate-nitrogen area; Tribal Curriculum and Training works with tribes and tribal colleges to provide short courses on stream monitoring methods and techniques. Videos and DVDs have been developed on well and septic installation/maintenance.

**Results**

From the Buffalo Rapids project, results indicate average daily loads measured in the field are lower in the subwatershed with the most BMP's and greatest in the subwatershed with the fewest BMP's. An 8.6% conveyance loss was measured in the canal to Freezout Lake resulting in meetings with producers to address irrigation water management needs. To date, 1391 wells have been tested through the Well Educated program. In a 2008 post survey participants indicated: 100% would participate in the program again, 97% understood the importance of regularly monitoring their drinking water. To start the Fergus County project, 17 wells were tested; one exceeded the EPA drinking water standard for nitrate-nitrogen, the majority of wells had no detection. To date, 30 tribal students have completed the Water Quality monitoring training.

**4. Associated Knowledge Areas**

KA Code	Knowledge Area
605	Natural Resource and Environmental Economics
136	Conservation of Biological Diversity
102	Soil, Plant, Water, Nutrient Relationships

**Outcome #6**

**1. Outcome Measures**

PEST MANAGEMENT - Number of people using accepted practices and protocols for safely applying pesticides.

**2. Associated Institution Types**

•1862 Extension

**3a. Outcome Type:**

Change in Action Outcome Measure

**3b. Quantitative Outcome**

Year	Quantitative Target	Actual
2008	{No Data Entered}	3789

**3c. Qualitative Outcome or Impact Statement**

**Issue (Who cares and Why)**

Over 6,500 individuals applied restricted use pesticides to control pests on ag. commodities that they own, rent or lease. These individuals are classified as private applicators under FIFRA(Federal Insecticide, Fungicide, and Rodenticide Act) Private applicators must be trained to safely handle and apply chemicals as well as to understand pest problems and pest control practices including storage, use and disposal. The West Nile Virus has been in the state for several years causing health problems for both humans and livestock. In '08, the spring weather was cooler slowing the mosquito hatch but it is agreed the virus will be present in the state for years to come.

**What has been done**

Over 30 extension publications including ag. alerts, pesticide news, Montguides, and web based pesticide updates were produced during the year. Over 40 workshops/presentations were given on pesticide topics targeting over 1,200 private applicators and over 6 trainings were initiated for 35 pesticide educators. Over 125 programs were conducted by PSEP stakeholders during the year reaching an estimated 3,780 applicators. Mosquito traps and WNV surveillance occurred in 15 of the 56 counties in '08. Flathead Reservation applicators participated in a 6 hour private applicator training and tour.

#### Results

Feedback from a survey monkey survey indicated 100% of pesticide education participants rated the impact of the sessions high saying they learned new perspectives to applying chemicals and plan to change their approaches. A mail survey showed that 85% of the participants attending the Pesticide Education Training titled 'Annual Weed Seminar', intend to adopt at least one practice. Direct conversations of over 20 audience members during the field season indicated they will change their approach to using/applying pesticides. Nine applicators successfully passed the online tests for PAR recertification credits. Because of the cooler/wetter spring, WNV was less prevalent in the state which was reflected in the light trap catches and virus infection rates in mosquitos.

#### 4. Associated Knowledge Areas

KA Code	Knowledge Area
102	Soil, Plant, Water, Nutrient Relationships
605	Natural Resource and Environmental Economics

#### V(H). Planned Program (External Factors)

##### External factors which affected outcomes

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

##### Brief Explanation

{No Data Entered}

#### V(I). Planned Program (Evaluation Studies and Data Collection)

##### 1. Evaluation Studies Planned

- Before-After (before and after program)
- During (during program)
- Time series (multiple points before and after program)
- Case Study
- Comparison between locales where the program operates and sites without program intervention

##### Evaluation Results

Programs in this area are connected to research specialists on campus. Specific goals and targets are established through that process along with methods of data collection.

##### Key Items of Evaluation