

# 2008 NY State Agricultural Experiment Station Research and Cornell University Research and Extension Combined Annual Report of Accomplishments and Results

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Report of Accomplishments and Results

## I. Report Overview

### 1. Executive Summary

#### Executive Summary

##### Cornell University Agricultural Experiment Station

The Cornell University Agricultural Experiment Station links Cornell's world-class research facilities with one of the nation's most comprehensive statewide cooperative extension systems. Through this engaged, interactive system we address pressing issues that directly affect the health and welfare of the state, and beyond. Many of today's most urgent societal concerns – from childhood obesity to invasive species to global climate change – do not recognize state or national boundaries.

With more than 130 years of experience identifying, quantifying, and responding to emerging issues in an ever-changing world, CUAES directs some of the most important projects in the state on a broad range of topics with five general themes: agriculture and food systems, quality of life, youth development, community and economic vitality, and natural resources and the environment.

CUAES currently oversees a \$7 million federally-funded project portfolio, in partnership with Cornell Cooperative Extension and the New York Agricultural Experiment Station. The chief source of station funding is a yearly allocation made on a formula basis by the Cooperative State Research, Education and Extension Services (CSREES) of the United States Department Agriculture (USDA) as part of the land-grant system.

The station also manages 14,000 acres of farms and forests and more than a dozen farms, facilities and greenhouses, providing critical research services to scientists. Our organic farm, Dilmun Hill is a model of a student-run agricultural operation that has been emulated by other organizations and universities. Every aspect of our operation – from staff development to forest management to farm equipment – is viewed through the lens of environmental sustainability. We practice what we preach.

Additional examples of current topics include:

**Global Climate Change** Climate data for the last 50 years show dramatic changes in temperature and precipitation at the global, national, regional, and state level. Cornell scientists are at the forefront of responding to climate change with adaptation and mitigation strategies for ecosystems from tropical seas to arctic tundras.

**Bioenergy** Conversion of corn to ethanol, wind and hydro are currently driving alternative energy systems in the U.S. Longer term, grasses and/or wood products will provide a substantial source of cellulosic ethanol and other bioenergy to meet the world's energy needs.

**Natural Gas Leasing** Landowners in Upstate New York and Pennsylvania are striking apparent "gold" with energy development companies offering anywhere from \$200 to \$2,000 an acre for gas drilling rights in certain areas where natural gas is believed to reside thousands of feet below the surface. Cornell Cooperative Extension has compiled the latest, objective information for landowners to understand the legal, economic and environmental implications about leasing your property.

##### New York State Agricultural Experiment Station

The focus of both research and extension programs at NYSAES is on the production, protection, and processing of horticulture food crops. The interests of the research scientists range from applied to basic science including biotechnology, with frequent cooperation between basic and applied scientists and among scientists in other disciplines. Research and extension faculty work closely with members of the agricultural community and encourage their graduate students and other visiting scholars to participate in this important activity. Several of the faculty members also teach graduate and undergraduate courses in Ithaca. The bare facts about the NYSAES follow:

- NYSAES was established in 1880, making it the sixth oldest agricultural experiment station in the United States.
- The budget is approximately \$21.1 million; \$11.3 million is funded through SUNY's base budget (year 2000 figures).
- Currently, 253 staff and 43 professors (10, 26, 3.5 and 3.5 FTEs in extension, research teaching and administration, respectively) are employed.
- At any one time, 25-90 graduate students are conducting Ph.D and MS.
- At any one time, there are around 15 visiting scientists, 10 postdocs, 20 research associates and 6 extension associates.
- There are four academic departments: Horticultural Sciences, Plant Pathology and Plant-Microbe Biology, Entomology, and Food Science and Technology all with corresponding departments in Ithaca. The focus is on improving the genetics, cultivation, protection, post-harvest handling, and processing of fruit and vegetable crops.
- Support services are provided by the following units: the Computer Center, Lee Library, CALS Communications Services, Buildings and Properties, and the Field Research Unit.
- Two pilot plants provide opportunities for entrepreneurs, processors, and wine, beer, and cider makers to add value to New York State's raw products: the Fruit & Vegetable Processing Pilot Plant, and the Vinification & Brewing Technology Laboratory.
- The Northeast Center for Food Entrepreneurship (NECFE), a joint program with the University of Vermont, provides comprehensive assistance to beginning and established food entrepreneurs, thus promoting sustainable economic development of rural

communities. •The NYSAES campus includes U.S. Department of Agriculture's Plant Genetic Resources Unit (PGRU), and Grape Genetics Resources Unit (GGRU) responsible for the U.S. collection of apple and cold-hardy grapes and selected seed-propagated crops, such as onion, garlic, broccoli, cabbage and winter squash and for the national program on grape genetics and genomics, respectively.. •NYSAES administers a research/extension laboratory in the Hudson Valley at Highland, with one professor, one Sr. Extension Associate and one Extension Associate and support personnel. It also administers the Vineyard Laboratory at Fredonia, which will soon move to a new facility in Portland New York (Cornell Lake Erie Research and Extension Laboratory) where a Research Associate and staff work with faculty from Ithaca and Geneva on viticulture research.

•The central campus consists of 20 major buildings, several smaller buildings for storage and similar purposes, and 3 houses with apartments rented to graduate students, visiting scientists, and employees. •The station has eleven farms for experimental plot work close to the Geneva campus with a total of 870 acres. There is also one acre of glasshouse space on the campus.

Programs at Geneva cover the continuum from fundamental to applied research, to extension and outreach for diverse stakeholder groups. A blend of classical methodologies and cutting-edge technologies is utilized to accomplish the mission. Cooperative efforts in research, extension and teaching with faculty on the Ithaca campus are common, and are facilitated by distance learning technologies.. Many faculty work closely with county and regional extension personnel throughout the state.

Fruit and vegetable crops are a valuable part of the New York agricultural economy, and the value-added benefit of processed products increases their worth. Growing horticultural crops is technically complex because of many factors, including: the perennial nature of some crops; the consumers' demand for cosmetically perfect fresh-market produce; and the public's perception that some methods used to control diseases and pests pose risks to the environment, farm workers, and consumers. In addition, competition from other regions of the U.S. and from other countries poses challenges to this segment of New York's agricultural economy. Other challenges exist for processors including disposal of processing waste in an environmentally acceptable manner.

NYSAES has a strong commitment to strengthening the state's fruit and vegetable industries from 'the farm to the fork'. We are continually reminded of the importance of an adequate and safe supply of fruits and vegetables in the human diet. The changing complexity of agriculture and consumer demands present challenges to crop and food product production that accentuate the continual need for research, extension and teaching at NYSAES.

#### **Cornell Cooperative Extension**

The Cornell Cooperative Extension educational system:

•Has an Association in every county in the state and an office in New York City. (In two instances, an Association covers more than one county.) •Employs 1,700 staff and educators statewide. Local employees work for their CCE Associations, each of which is governed by a volunteer Board of Directors. •Deploys some 50 specialists to carry out regional and statewide Extension programming in such areas as Integrated Pest Management and Fruit, Vegetable, and Field Crop Production and Management. •Includes 40,000 volunteers who participate annually in CCE programs. Volunteer roles vary from advising and planning to teaching and mentoring. Many volunteers are trained to help carry out educational activities. •Partners with approximately 200 faculty who have formal Extension work within their academic responsibilities. •Engages a program development process that relies heavily upon local citizen input to identify issues of local importance. Local educators connect these needs with faculty resources. Often research is informed by the two-way flow of information and experience.

•Collaborates with thousands of organizations, agencies, institutions, and business interests. It is a powerful network that incubates positive community change and moves on to the next issue once sustainable solutions are established. •Cornell Cooperative Extension's educational system, which includes 40 distance learning centers across New York State, is fully equipped to deliver events and instruction to remote audiences. These learning centers serve as a portal to Cornell University and other universities in the national land grant system.

#### **Cornell Cooperative Extension Program Areas**

##### **4-H Youth Development: *Building tomorrow's leaders***

Healthy children and youth need knowledge, skills, and support to reach their potential as capable, competent, and caring citizens. Cornell Cooperative Extension's 4-H youth development programs engage young people and their families in the work of Cornell University and the land grant university system, teach knowledge and life skills that enhance quality of life, and create opportunities for positive youth development.

In classrooms, after school, and in community clubs and camp settings, 4-H youth learn by doing, and participate in practical, real life experiences that encourage them to experiment, innovate, and think independently.

In 2008, 316,000 youth from urban, suburban, and rural communities across New York joined in the 4-H experience and were assisted by more than 17,700 volunteers.. Major 4-H programs provide opportunities in science and technology, youth community action, and healthy living. Program work teams provide up-to-date resources and support professional development needs of county educators working with youth in local settings.

##### **Agriculture & Food Systems: *Maximizing the value of agricultural and natural resources***

Agriculture and food systems must be efficient and profitable to remain viable and benefit the quality of life for individuals, families, and communities. Cornell Cooperative Extension's agriculture and food systems programs address the needs of New

Yorkers by promoting sustainability, environmental stewardship, a safe, reliable, and healthy food supply, renewable energy, recreation, and agri-tourism.

Cornell Cooperative Extension offers agricultural programs and resources in dairy and livestock, fruits, vegetables, viticulture and enology, field crops, nutrient management, food safety, and farm business economics and policy. Regional specialists and agriculture teams develop resources for small and large farms, beginning and established farmers, and commodity and specialty producer groups.

**Community and Economic Vitality: *Addressing quality of life, social cohesion, ecological integrity, and economic opportunity***

Education that incorporates data and research can empower residents and communities to realize increased prosperity and self-sufficiency. Cornell Cooperative Extension's community and economic vitality programs seek to build the capacity of local leaders and communities to direct their own futures as they negotiate changes in economic structures, transportation and residential patterns, demographics, communication technologies, and other challenges and opportunities that effect communities.

Cornell Cooperative Extension educators help residents gather and synthesize knowledge, develop decision-making skills, and improve the use of community resources.

Cornell Cooperative Extension associations design community and economic development programming based on the context, issues, and needs of their communities. Community and economic vitality programs include land use training, inter-municipal collaboration on shared municipal services, leadership training, agroforestry workforce development, local food regional economic impact strategies, not-for-profit development, sustainable community-based initiatives, and small business agricultural education.

These and other programs help communities forge strong partnerships with campus faculty and staff, local government officials, community and economic developers, not-for-profit directors, community colleges, planners, policymakers, and informal leaders.

**Environment & Natural Resources: *Helping communities preserve and protect the environment***

In order to sustain the environmental resources that are needed for healthy and pleasing communities, human beings must balance activities and needs with their associated impact. Cornell Cooperative Extension's environment and natural resources programs aim to develop knowledge that will help individuals and communities make decisions and take actions that preserve and enhance environmental quality and, therefore, human health.

Environment and natural resources programs consist of water resources, agricultural environmental management, including manure management, waste management, land use management, forestry, wildlife habitat and human interactions, fisheries, lawns and turf, invasive species, and energy, both conservation and renewable energy sources.

Cornell Cooperative Extension environment and natural resources programs serve the general public, resource managers, such as foresters, water and wastewater treatment plant operators, and farmers, and policy makers.

**Nutrition and Healthy Families: *Supporting healthy and active communities***

Human health, well-being, and relationships are vital to the interests of communities. Cornell Cooperative Extension promotes knowledge, skills, and behavior change that support human development and welfare across social, emotional, physical, and psychological dimensions. Cornell Cooperative Extension's nutrition, health, and resource management programs address the interaction between individuals and the world around them to help people achieve their potential, solve problems, and strengthen their families and communities. Cornell Cooperative Extension educators use multidisciplinary academic approaches and apply varied cultural, social, and economic perspectives to provide learner-focused education.

Nutrition and health programs work to reduce the incidence of childhood obesity and alleviate chronic disease prevalence through improved nutrition and the promotion of healthy lifestyles. Programs foster developmentally appropriate parenting and child care as well as elder care, address environmental hazards, and support education in financial literacy, health care issues, and energy costs and conservation.

**Reporting Notes**

A variety of data sources and documentation procedures were used to generate this report. The significant majority of data presented are collected through annual reporting structures. For extension, the primary sources were system-wide annual accountability reports and fiscal and personnel accounting records. Extension annual reports include participation data, reports against our approved performance indicators, and program impact statements. For research, The CRIS reporting system, annual faculty activity reports, and fiscal and personnel accounting records were the primary sources. These extension and research data are supplemented by targeted evaluation studies in selected areas.

As per instructions from Bart Hewitt (Plan of Work Newsletter Vol.4, No.1), in this report we dramatically reduced the number of narrative outcome statements and elected the "not reporting this year" option for non-required output indicators and many inactive outcome indicators. We have included only two narrative statements per plan, one for research and one for extension. These are selected from more than 500 narrative statements provided by educators and researchers. Such a limited sample obviously only provides a glimpse of the scope and impact of our programs.

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

Year:2008	Extension		Research	
	1862	1890	1862	1890
<b>Plan</b>	247.7	0.0	120.5	0.0
<b>Actual</b>	1168.0	0.0	1866.8	0.0

**II. Merit Review Process**

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

- Combined External and Internal University External Non-University Panel
- Expert Peer Review

**2. Brief Explanation**

We use one integrated process for merit review for applied research and extension projects, including integrated and multistate activities. Key elements of the process are described here followed by statistics from the 2008 proposal cycle.

#### **Review Process (Research Projects and Extension Projects with Designated Funding)**

1. Principal investigators are asked to consult program priorities (established as outlined in the stakeholder involvement section) and develop short pre-proposals for new or revised projects funded by Federal Formula Funds.

2. Pre-proposals are reviewed for purpose and relevancy by advisory Program Councils (see stakeholder involvement section) and other external stakeholders, the principal investigator's department chair, Extension Program Associate/Assistant Directors, and the Experiment Station directorates (Ithaca and Geneva). Reviews are submitted via a secure website.

##### **\*\*For research proposals:**

3. Pre-proposals are accepted/rejected; Principal Investigators develop accepted preproposals into full proposals.

4. The Department Chair recommends two or three peer reviewers to the Director's Office.

5. The Director's Office obtains the necessary reviews in accordance with CSREES rules using standard format.

6. Changes suggested by the peer reviewer are conveyed to the Principal Investigator. Peer reviewer names are not revealed to the Principal Investigator.

7. The revised proposal, with required CRIS forms, is submitted to the Director's Office.

8. The Director's Office submits the package to CSREES along with an attached statement certifying the peer review was completed.

9. Reviews are kept on file in the Director's Office.

10. The Director's Office attaches a statement to the proposal and sends this with the proposal and Form 10 to the CALS Research Office.

11. After approval by CSREES, funds are allocated to the appropriate research account.

##### **\*\* For extension proposals:**

3. Extension Program Directors rank/recommend extension preproposals.

4. Extension Program Directors meet with Experiment Station (Ithaca and Geneva) staff to discuss potential R-E linkages among extension preproposals.

5. Extension Program Directors finalize Smith-Lever funding recommendations and communicate decisions and needed modifications.

#### **Cornell Review Criteria**

1. Anticipated significance of results relative to current priority needs or opportunities

2. Scientific merit of objectives

3. Clarity of objectives

4. Appropriate methodology

5. Feasibility of attaining objectives

6. Accomplishment during preceding project (for revisions)

7. Research performance and competence of investigator(s)

8. Relevance of the proposed work to regional or national goals

9. Level of research-extension integration

For ongoing extension work not captured in current funded projects, we rely on our structure of Program Councils and Program Work Teams for input and conduct regular program conferences with academic units to review program progress and direction. For FY08, a total of 123 preproposals were submitted to the two Experiment Stations and to Cooperative Extension of which 84 were funded.

### **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
- Survey specifically with non-traditional groups
- Survey specifically with non-traditional individuals
- Survey of selected individuals from the general public

### **Brief Explanation**

Gaining stakeholder input and encouraging stakeholder participation is a system-wide expectation of all levels and units. Across the system, all of the stakeholder participation methods listed are employed, no single unit uses them all.

At the state level, membership in our five program councils -- Community and Economic Vitality, Quality of Life for Individuals and Families, Natural Resources and Environment, Youth Development, and Agriculture and Food Systems -- is intentionally monitored and updated to ensure involvement and ties to traditional and non-traditional constituents and established and emerging partnerships. These councils provide guidance for CCE, CUAES and NYSAES by setting broad priorities for applied research and extension programming. In 2005 and 2006, we experimented with convening the program councils via electronic means and updated priorities through an on-line survey process. In 2007, we reinstated a face-to-face program council conference feeling that was needed to re-establish a system perspective and encourage cross-council priority setting. We continue the pattern of annual combined meetings with the latest being March 10, 2009. About 90 people attend and the event is seen as highly valuable by participants.

In addition, we have 33 active Program Work Teams comprised of extension educators, faculty, and stakeholders who work together to develop, implement and evaluate priority programs. New teams added in FY08 include those focused on poverty issues, energy, and a reconstituted dairy team. More than 650 individuals were involved in the work of these teams in 2008. Since 2001, forty-one (44) program work teams have been authorized and supported to develop and deliver integrated applied research and extension programming across the state. The fact that 11 have completed their work and "decommissioned" indicates they are serving as intended, as a flexible program development mechanism responsive to needs. PWTs are expected to nurture research-extension integration, to encourage campus-field interactions and collaborations, to take multi-disciplinary approaches, to evaluate their efforts, and to involve their external members in all aspects of their work.

Beyond this state-level program development and stakeholder input structure/process, each of Cornell Cooperative Extension's 55 county extension associations continued to work closely with stakeholders in their counties via participation in their local governance structures, i.e. board of directors, and program guidance structures, i.e., advisory committee structures. Formal advisory committees are also used to guide New York City Extension programs. In 2008, more than 40,000 stakeholder volunteers from all walks of life participated and assisted in the direction, priority setting, and delivery of extension programs throughout the state.

By definition, "under-represented or under-served" groups require that additional outreach and engagement steps be taken. One of the most effective strategies for gaining input and developing working relationships is by networking and partnering with organizations that do have credible relationships with target groups. Our local boards of directors and advisory committees include at least 300 such representatives statewide. On both the program councils and program work teams, we target representatives of organizations working effectively with groups with whom we should strengthen ties.

Effective involvement of youth in program determination and implementation is of particular concern. Our local advisory committees are expected to include youth members as part of the needs assessment and decision making structure. In 2008, more than 3000 youth served in governance and program delivery roles statewide. Our Youth Community Action program, a coordinated effort to develop active youth voice and meaningful partnerships between youth and adults, reached about 20,100 youth in 2008 with nearly 18,000 adults participating in partnership with youth.

## **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**

Across all units of the system, all of the techniques listed were used; the mix of methods varied from site to site and program to program. All of our units are required to have active and diverse advisory processes and to intentionally consider audiences not currently served. Activities of our state level councils and work teams re described in other questions in this section. Needs assessments, focus groups, and use surveys are conducted at the level of individual program units as well as in our statewide plan of work process. In 2008, a program work team was established to focus on poverty issues, particularly in rural areas which clearly will involve extending our efforts to difficult to reach audiences.

Extension educators are expected to submit narrative reports of efforts to engage underserved populations. For the 2008 reporting year, more than 60 such stories were submitted representing all five of our broad program areas. Example titles included: Lead Awareness Program, Diabetes Outreach and Nutrition Education, Nutrition and Health Kitchens of Faith, Family Fun & Resource Center, Farmworker Training, Volunteer Income Tax Assistance Program, 4-H Assisted Riding Program, and Urban Outreach.

### **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
- Survey of traditional Stakeholder groups
- Meeting with traditional Stakeholder individuals
- Survey of traditional Stakeholder individuals
- Meeting with the general public (open meeting advertised to all)
- Meeting specifically with non-traditional groups
- Survey specifically with non-traditional groups
- Meeting specifically with non-traditional individuals
- Survey specifically with non-traditional individuals
- Meeting with invited selected individuals from the general public
- Survey of selected individuals from the general public

#### **Brief Explanation**

All of the techniques listed were used in 2008 but methods varied site to site and program to program across the system. Structures and processes for aggregating data are described in other questions in this section. The most active data gathering occurred in three venues – local advisory bodies, the program work teams, and program councils. Example outreach mechanisms include a series public forums on gas drilling rights delivered via Adobe Connect, targeted efforts directed to understanding and addressing consumer energy issues, establishment of a sustainable agriculture center for the Finger Lakes region bringing together diverse interests, and a facilitated on-line course for new farmers that included active needs assessment.

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

- In the Budget Process
- To Identify Emerging Issues
- Redirect Extension Programs
- Redirect Research Programs
- In the Staff Hiring Process
- In the Action Plans
- To Set Priorities

### **Brief Explanation**

The stakeholder input process for statewide program development jointly utilized by Cornell Cooperative Extension (CCE), the Cornell University Agricultural Experiment Station (CUAES), and the New York State Agricultural Experiment Station (NYSAES) was established in February 2001. The process informs federal formula funding priorities and provides project specific input on relevance and value of proposed work. In other words, our program councils and program work teams work to improve program focus, relevance, and planning activities. Members of our program councils have direct input on decisions regarding funding of current extension and research projects contributing ratings of perceived relevance. Each year, we compare funding decisions with advisory input and can confidently conclude that stakeholders are having a powerful voice in the direction of our programs. Our program councils also advise the directors of CCE and CUAES on annual statewide program priorities, review Program Work Team performance and identify "gaps" in programmatic coverage. Our statewide applied research and extension priorities are updated annually, communicated to faculty and staff, and used as a primary criterion in funding decisions.

For example, for the FY08 funding year, 123 preproposals were received for research, extension, or integrated projects. Of these, 89% of those that were highly rated by the stakeholder-reviewers were ultimately funded, and 86% of the preproposals rated moderately high were also funded. The majority of the preproposals receiving lower ratings were not funded. Regular communications with Program Council members, especially focused on off-campus and external members, have been used each year to keep these stakeholders abreast of the decision-making process, and notified about the projects that were funded. In May 2008, all Program Council Members, representing each of the five program areas, had an opportunity to attend an all-day meeting focused on emerging issues and discussions about research and extension priorities.

Perhaps even more important is the influence of stakeholder input in determining local programming. Our county extension associations and multi-county programs are semi-autonomous, much more so than in many states. The program of work of each unit is established under guidance of stakeholders in local advisory structures and governing boards and through environmental scanning activities conducted as part of our plan of work process. Such input has immediate and specific influence on program direction and strategy.

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



These are the current priorities established by our program work team and council structure.

#### **Agriculture and Food Systems Priorities**

- Managing Human Resources Especially Related to Identifying, Hiring, and Retaining New Workers and the Education of Middle Management and Owners
- Identifying Value Added Products and Associated Market Channels
- Agriculture and Food Systems Responsiveness to Human Health Needs

#### **Community and Economic Vitality Priorities**

- Effective and sustainable land use decisions consistent with multiple goals related to health, housing, transportation, energy, and economic opportunities
- Community based decision making that includes an engaged and educated citizenry representative of the community
  - Inter-municipal and regional collaborations, and new public-private partnerships, that spur innovative strategies to address complex community development issues
  - Economic development that promotes both community support for entrepreneurship and agricultural and food system development.

#### **Natural Resources and Environment Priorities**

- Improving Watershed and Water Resource Protection and Management, in Agricultural, Rural and Developed Systems
- Improving Management Practices for Sustainable and Compatible Agricultural, Natural Resource, and Energy Systems
- Improving Policy Makers' and Individual Citizens' Understanding of Different Planning and Management Practices to Make Natural and Agricultural Systems More Sustainable
- Prevention, management, and education on aquatic and terrestrial invasive species.
- Management options for addressing impacts of climate change on NYS water resources (flooding, drought, impacts of land use on riparian zones, urban and rural), invasive species, environment in general, and agriculture; including how to implementing effective and timely (before it is too late) community comprehensive plans in the face of property rights concerns by rural landowners.
  - Renewable energy, including as an agricultural niche; local, alternative energy sources; and carbon/air quality issue.

#### **Quality of Life for Individuals and Families Priorities**

- Nutrition, Health and Wellness
- Advancing Healthy Lifestyles, Safety, and Wellness
- Improving food security & healthy food systems
- Strengthening family support and care across the life course--young to aging families and elders
- Improving the quality of housing, home, school, and workplace environments and the horticulture environment in communities
  - Enhancing personal skills in household economics, financial literacy, and resource management

#### **Youth Development Priorities**

- Science, Engineering and Technology Literacy
- Youth Community Action/Citizenship
- Healthy Living
- Positive Youth Development and Life Skill Development

### **IV. Expenditure Summary**

**Institution Name:** Cornell University

1. Total Actual Formula dollars Allocated (prepopulated from C-REEMS)			
Extension		Research	
Smith-Lever 3b & 3c	1890 Extension	Hatch	Evans-Allen
7447365	0	4938232	0

**Institution Name:** NY State Agricultural Experiment Station

1. Total Actual Formula dollars Allocated (prepopulated from C-REEMS)			
Extension		Research	
Smith-Lever 3b & 3c	1890 Extension	Hatch	Evans-Allen
0	0	812025	0

**Institution Name:** Cornell University

2. Totaled Actual dollars from Planned Programs Inputs				
	Extension		Research	
	Smith-Lever 3b & 3c	1890 Extension	Hatch	Evans-Allen
Actual Formula	7226294	0	7064658	0
Actual Matching	7226294	0	7064658	0
Actual All Other	0	0	0	0
Total Actual Expended	14452588	0	14129316	0

**Institution Name:** NY State Agricultural Experiment Station

2. Totaled Actual dollars from Planned Programs Inputs				
	Extension		Research	
	Smith-Lever 3b & 3c	1890 Extension	Hatch	Evans-Allen
Actual Formula	0	0	1291749	0
Actual Matching	0	0	1291749	0
Actual All Other	0	0	0	0
Total Actual Expended	14452588	0	14129316	0

3. Amount of Above Actual Formula Dollars Expended which comes from Carryover funds from previous years				
Carryover	0	0	4914579	0

**V. Planned Program Table of Content**

S. NO.	PROGRAM NAME
1	1.1 Agricultural and Horticultural Business Vitality
2	1.2 Viable and Sustainable Production Practices
3	1.3 Renewable/Alternative Energy and Conservation
4	1.4 The Agriculture/Community Interface
5	2.1 Connecting People to the Land and Their Environment
6	2.2 Strengthening Community Economic Development
7	3.1 Nutrition, Food Safety and Health
8	3.2 Parenting and Dependand Care
9	3.3 Family Financial Security and Management of Housing Resources
10	4.1 Natural Resource Management
11	4.2 Water Resources Management
12	4.3 Waste Management and Prevention
13	5.1 Youth in Action
14	5.2 Positive Youth Development/Life Skill Development
15	5.3 Science and Technology Literacy

**Program #1**

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

**1. Name of the Planned Program**

1.1 Agricultural and Horticultural Business Vitality

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

**1. Program Knowledge Areas and Percentage**

KA Code	Knowledge Area	%1862 Extension	%1890 Extension	%1862 Research	%1890 Research
511	New and Improved Non-Food Products and Processes	20%		20%	
601	Economics of Agricultural Production and Farm Management	7%		7%	
602	Business Management, Finance, and Taxation	10%		10%	
603	Market Economics	5%		5%	
604	Marketing and Distribution Practices	8%		8%	
605	Natural Resource and Environmental Economics	10%		10%	
606	International Trade and Development	10%		10%	
609	Economic Theory and Methods	15%		15%	
610	Domestic Policy Analysis	10%		10%	
611	Foreign Policy and Programs	5%		5%	
	<b>Total</b>	100%		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>	16.7	0.0	5.0	0.0
<b>Actual</b>	75.9	0.0	11.0	0.0

**2. Institution Name: Cornell University**

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

Extension		Research	
Smith-Lever 3b & 3c	1890 Extension	Hatch	Evans-Allen
469709	0	538186	0
1862 Matching	1890 Matching	1862 Matching	1890 Matching
469709	0	538186	0
1862 All Other	1890 All Other	1862 All Other	1890 All Other
0	0	0	0

**2. Institution Name: NY State Agricultural Experiment Station**

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

Extension		Research	
<b>Smith-Lever 3b &amp; 3c</b> 0	<b>1890 Extension</b> 0	<b>Hatch</b> 4631	<b>Evans-Allen</b> 0
<b>1862 Matching</b> 0	<b>1890 Matching</b> 0	<b>1862 Matching</b> 4631	<b>1890 Matching</b> 0
<b>1862 All Other</b> 0	<b>1890 All Other</b> 0	<b>1862 All Other</b> 0	<b>1890 All Other</b> 0

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

**1. Brief description of the Activity**

This is a comprehensive, statewide educational program entailing a wide variety of applied research and multiple education methods depending on local context and need. Campus-based faculty and extension associates, regional specialists and county-based educators all are involved in designing, implementing, and evaluating tailored educational efforts depending on the focus and scope of their role.

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

Key audiences served, directly and indirectly, in enhancing agricultural and horticultural business viability include: Established producers; new and young producers, consultants and service providers, input suppliers, cooperative directors and managers, marketing firms, governmental agencies, lenders, and local/state/federal governmental 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>	12000	35000	0	0
2008	65034	501569	5804	125115

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

**Patent Applications Submitted**

<b>Year</b>	<b>Target</b>
<b>Plan:</b>	0
2008 :	2

**Patents listed**

Surface Bonding of Metal Nanoparticles onto Fiber Material (2)

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

**Number of Peer Reviewed Publications**

	<b>Extension</b>	<b>Research</b>	<b>Total</b>
<b>Plan</b>	0	85	
2008	0	0	62

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

**Output Target**

**Output #1**

**Output Measure**

- # persons completing education programs on the labor needs of agriculture/horticulture businesses and and/or the needs of potential employees. (1.1.3a)

*Not reporting on this Output for this Annual Report*

**Output #2**

**Output Measure**

- # producers/horticulture business persons completing education programs on business management, finance, business planning and marketing, human resource management, risk management, production economics, and business transitions. (1.1.1a)

*Not reporting on this Output for this Annual Report*

**Output #3**

**Output Measure**

- # producers/horticulture business persons completing programs to expand profitability, develop marketing options, diversify or substitute alternative products or enterprises, and/or increase operational efficiencies. (1.1.2a)

*Not reporting on this Output for this Annual Report*

**Output #4**

**Output Measure**

- # of non-credit instructional activity contact hours directed to this plan.

*Not reporting on this Output for this Annual Report*

**Output #5**

**Output Measure**

- # of non-credit instructional activities directed to this plan.

*Not reporting on this Output for this Annual Report*

**Output #6**

**Output Measure**

- # funded applied research projects directed to this program.

*Not reporting on this Output for this Annual Report*

V(G). State Defined Outcomes

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

O No.	OUTCOME NAME
1	# participants demonstrating knowledge or skill gains re business management, finance, business planning and marketing, human resource management, risk management, production economics, inter-generational transfer and other business transitions. (1.1.1b)
2	# participants demonstrating knowledge or skill gains related to expanding profitability, develop marketing options, diversify or substitute alternative products or enterprises, and/or increase operational efficiencies to solve immediate concerns. (1.1.2b)
3	# participants who demonstrate knowledge gains related to needs of potential employees and/or availability of qualified employees. (1.1.3b)
4	# participants documented to have applied knowledge or skills gained to strengthen existing business operations. (1.1.1c)
5	# participants documented to have initiated one or more alternative or expanded ventures. (1.1.2c)
6	# participants or producer groups who adopt practices of value-added production through retaining control of their product further in the processing chain, starting their own value added business, or forming alliances. (1.1.2d)
7	# participants documented to have made one or more changes in human resources practices to enhance labor availability or retention. (1.1.3c)
8	# participating family-owned agricultural/horticultural businesses that plan for succession, transfer, or sale of their business. (1.1.1d)
9	# participants reporting improved agricultural/ horticultural business profitability attributed at least in part to program participation. (1.1.1e)
10	# of new food, horticultural, and agricultural businesses and/or new enterprises within existing businesses reported by program participants and attributed at least in part to program participation. (1.1.2e)
11	# producers/horticultural businesses reporting improved labor availability, performance, and/or retention of higher skilled and more valuable human resource team members attributed at least in part to program participation. (1.1.3d)
12	# business owners successfully completing an intergenerational transfer or other desired dispensation of their business attributed at least in part to program participation. (1.1.1d)
13	Marketing Surplus Grape Production
14	Season Extension for Raspberries, Blackberries, and Strawberries using High Tunnels and Cultural Manipulations
15	Evaluation of Sweet Cherry Advanced Breeding Selections



**Outcome #1**

**1. Outcome Measures**

# participants demonstrating knowledge or skill gains re business management, finance, business planning and marketing, human resource management, risk management, production economics, inter-generational transfer and other business transitions. (1.1.1b)

*Not reporting on this Outcome for this Annual Report*

**Outcome #2**

**1. Outcome Measures**

# participants demonstrating knowledge or skill gains related to expanding profitability, develop marketing options, diversify or substitute alternative products or enterprises, and/or increase operational efficiencies to solve immediate concerns. (1.1.2b)

*Not reporting on this Outcome for this Annual Report*

**Outcome #3**

**1. Outcome Measures**

# participants who demonstrate knowledge gains related to needs of potential employees and/or availability of qualified employees. (1.1.3b)

*Not reporting on this Outcome for this Annual Report*

**Outcome #4**

**1. Outcome Measures**

# participants documented to have applied knowledge or skills gained to strengthen existing business operations. (1.1.1c)

*Not reporting on this Outcome for this Annual Report*

**Outcome #5**

**1. Outcome Measures**

# participants documented to have initiated one or more alternative or expanded ventures. (1.1.2c)

**2. Associated Institution Types**

- 1862 Extension

**3a. Outcome Type:**

Change in Action Outcome Measure

**3b. Quantitative Outcome**

Year	Quantitative Target	Actual
2008	100	522

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

**Issue (Who cares and Why)**

**What has been done**

**Results**

#### 4. Associated Knowledge Areas

KA Code	Knowledge Area
604	Marketing and Distribution Practices
511	New and Improved Non-Food Products and Processes
601	Economics of Agricultural Production and Farm Management
605	Natural Resource and Environmental Economics

#### Outcome #6

##### 1. Outcome Measures

# participants or producer groups who adopt practices of value-added production through retaining control of their product further in the processing chain, starting their own value added business, or forming alliances. (1.1.2d)

##### 2. Associated Institution Types

•1862 Extension

##### 3a. Outcome Type:

Change in Action Outcome Measure

##### 3b. Quantitative Outcome

Year	Quantitative Target	Actual
2008	50	282

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

Issue (Who cares and Why)

What has been done

Results

#### 4. Associated Knowledge Areas

KA Code	Knowledge Area
602	Business Management, Finance, and Taxation
605	Natural Resource and Environmental Economics
511	New and Improved Non-Food Products and Processes
601	Economics of Agricultural Production and Farm Management
604	Marketing and Distribution Practices

#### Outcome #7

##### 1. Outcome Measures

# participants documented to have made one or more changes in human resources practices to enhance labor availability or retention. (1.1.3c)

##### 2. Associated Institution Types

•1862 Extension

**3a. Outcome Type:**

Change in Action Outcome Measure

**3b. Quantitative Outcome**

Year	Quantitative Target	Actual
2008	3000	250

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

**Issue (Who cares and Why)**

**What has been done**

**Results**

**4. Associated Knowledge Areas**

KA Code	Knowledge Area
601	Economics of Agricultural Production and Farm Management
602	Business Management, Finance, and Taxation
605	Natural Resource and Environmental Economics

**Outcome #8**

**1. Outcome Measures**

# participating family-owned agricultural/horticultural businesses that plan for succession, transfer, or sale of their business. (1.1.1d)

**2. Associated Institution Types**

•1862 Extension

**3a. Outcome Type:**

Change in Action Outcome Measure

**3b. Quantitative Outcome**

Year	Quantitative Target	Actual
2008	20	155

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

**Issue (Who cares and Why)**

**What has been done**

**Results**

**4. Associated Knowledge Areas**

KA Code	Knowledge Area
602	Business Management, Finance, and Taxation

**Outcome #9**

**1. Outcome Measures**

# participants reporting improved agricultural/ horticultural business profitability attributed at least in part to program participation. (1.1.1e)

**2. Associated Institution Types**

•1862 Extension

**3a. Outcome Type:**

Change in Condition Outcome Measure

**3b. Quantitative Outcome**

Year	Quantitative Target	Actual
2008	2500	1896

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

**Issue (Who cares and Why)**

**What has been done**

**Results**

**4. Associated Knowledge Areas**

KA Code	Knowledge Area
601	Economics of Agricultural Production and Farm Management
605	Natural Resource and Environmental Economics
602	Business Management, Finance, and Taxation

**Outcome #10**

**1. Outcome Measures**

# of new food, horticultural, and agricultural businesses and/or new enterprises within existing businesses reported by program participants and attributed at least in part to program participation. (1.1.2e)

**2. Associated Institution Types**

•1862 Extension

**3a. Outcome Type:**

Change in Condition Outcome Measure

**3b. Quantitative Outcome**

Year	Quantitative Target	Actual
2008	75	189

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

**Issue (Who cares and Why)**

**What has been done**

**Results**

**4. Associated Knowledge Areas**

KA Code	Knowledge Area
602	Business Management, Finance, and Taxation
601	Economics of Agricultural Production and Farm Management
605	Natural Resource and Environmental Economics

**Outcome #11**

**1. Outcome Measures**

# producers/horticultural businesses reporting improved labor availability, performance, and/or retention of higher skilled and more valuable human resource team members attributed at least in part to program participation. (1.1.3d)

**2. Associated Institution Types**

•1862 Extension

**3a. Outcome Type:**

Change in Condition Outcome Measure

**3b. Quantitative Outcome**

Year	Quantitative Target	Actual
2008	2000	724

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

**Issue (Who cares and Why)**

**What has been done**

**Results**

**4. Associated Knowledge Areas**

KA Code	Knowledge Area
602	Business Management, Finance, and Taxation

**Outcome #12**

**1. Outcome Measures**

# business owners successfully completing an intergenerational transfer or other desired dispensation of their business attributed at least in part to program participation. (1.1.1d)

**2. Associated Institution Types**

•1862 Extension

**3a. Outcome Type:**

Change in Condition Outcome Measure

**3b. Quantitative Outcome**

Year	Quantitative Target	Actual
2008	25	155

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

**Issue (Who cares and Why)**

**What has been done**

**Results**

**4. Associated Knowledge Areas**

KA Code	Knowledge Area
602	Business Management, Finance, and Taxation

**Outcome #13**

**1. Outcome Measures**

Marketing Surplus Grape Production

**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}	0

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

**Issue (Who cares and Why)**

The Finger Lakes region found itself with a surplus of grapes in 2008, thanks to a higher than average crop and lower than expected purchases by regional wineries. This left many growers in the difficult situation of having to find new buyers for their grapes in the midst of a very busy harvest season, when they have minimal time to make a lot of phone calls to find new buyers for their excess grapes. Having a single site where growers can list what grapes they have for sale, and potential buyers can look for grapes they need, would make the task of connecting these two parties easier.

**What has been done**

The Finger Lakes Grape Program developed the web-based 'Finger Lakes Grape Listing' as a tool for buyers and sellers of New York grapes and bulk wine and juice to connect. The site accepts listings of grapes or bulk wine and juice for sale from anybody in New York. The site also accepts listings from anybody in the country who is looking to purchase grapes or bulk wine and juice from New York producers.

**Results**

The Finger Lakes Grape Listing was used extensively by growers throughout New York State in 2008. The Listing contained an average of 39 listings of grapes that were for sale during the August - October time frame, with a range of 21 to 46 listings over that period. On average, there were 439 tons of grapes listed each week, with an approximate value of \$514,510. A survey of a sample of the site's users indicated that 12 out of 15 (80%) growers contacted said that it helped them to sell at least some of their surplus grapes.

**4. Associated Knowledge Areas**

KA Code	Knowledge Area
601	Economics of Agricultural Production and Farm Management
604	Marketing and Distribution Practices

**Outcome #14**

**1. Outcome Measures**

Season Extension for Raspberries, Blackberries, and Strawberries using High Tunnels and Cultural Manipulations

**2. Associated Institution Types**

•1862 Research

**3a. Outcome Type:**

Change in Action Outcome Measure

**3b. Quantitative Outcome**

Year	Quantitative Target	Actual
2008	{No Data Entered}	0

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

**Issue (Who cares and Why)**

The growing season is too short to profitably produce certain high-value berry crops in New York. Meanwhile, consumer demand for high-value specialty crops, such as fresh berries, is expanding.

**What has been done**

To develop growing practices and explore low-cost technologies that will extend the season, allowing high-value berries to be grown outside the normal season.

**Results**

Several cultivars of berry crops, particularly blackberries and fall raspberries, were identified that perform particularly well in a tunnel environment. New recommendations for treating fall raspberries enable the crop to continue to fruit into mid-November rather than ending at the end of September or early October. The response of blackberries was also remarkable. Plants were able to overwinter and produce a full crop within tunnels. Growers are now implementing recommendations. Our techniques can be used by growers to produce blackberries when few or none could be grown before in the NY climate. Strawberries and black raspberry harvest also improved, but not as much as blackberries and fall raspberries. Demand for information is very high, and we have been invited to give many presentations to grower audiences and also to a venture capitalist group.

**4. Associated Knowledge Areas**

KA Code	Knowledge Area
601	Economics of Agricultural Production and Farm Management
604	Marketing and Distribution Practices

**Outcome #15**

**1. Outcome Measures**

Evaluation of Sweet Cherry Advanced Breeding Selections

**2. Associated Institution Types**

•1862 Research

**3a. Outcome Type:**

Change in Action Outcome Measure

**3b. Quantitative Outcome**

Year	Quantitative Target	Actual
2008	{No Data Entered}	0

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

**Issue (Who cares and Why)**

There is renewed interest in the Northeastern USA in growing sweet cherries. However, there is an urgent need for new varieties that are well adapted to our production challenges (winter injury, spring frost and bacterial canker) and have good fruit quality yet are not prone to large amounts of rain-induced fruit cracking.

**What has been done**

This project will identify best selections available to the cherry growers of New York State. New improved varieties will be developed to expand orchardists' market opportunities and to provide consumers with locally grown and healthy cherries.

**Results**

Four advanced sweet cherry breeding from the Cornell program were named and trademarked in 2008 in cooperation with International Plant Management, Inc. (IPM). All of these sweet cherries ripen before Bing and have 20 degrees Brix on average. These four selections become the fourteenth to the eighteenth cultivars released from the cherry breeding program since its inception. Advanced selections remaining from earlier cherry breeders continue to be evaluated and if fruit does not meet certain criteria they are discarded. The biggest challenges were obtaining adequate fruit firmness, fruit size and quality while minimizing overcropping and susceptibility to fruit cracking.

**4. Associated Knowledge Areas**

KA Code	Knowledge Area
601	Economics of Agricultural Production and Farm Management
604	Marketing and Distribution Practices

**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

**Brief Explanation**

-- Natural disasters (drought, weather extremes, etc. -- Economic downturn-- Public policy changes -- Government regulations-- Competing public priorities

See plan for additional details.

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

**1. Evaluation Studies Planned**

- After Only (post program)
- Retrospective (post program)
- During (during program)
- Case Study
- Comparisons between program participants (individuals, group, organizations) and non-participants

**Evaluation Results**

Evaluation results are reflected in the outcome indicators and impact statements associated with each planned program and result from a broad variety of evaluation approaches appropriate to the individual programs and contexts they represent.

**Key Items of Evaluation**



Each of our planned programs represents broad program emphases and strategies. Program evaluation results are incorporated in outcome statements associated with each plan. Here is an additional example.

Reduced nitrogen rates recommended by the Cornell Cooperative Extension Vegetable Program based on pre-side-dress nitrogen test (PSNT) results saved one pilot farm \$20,500 and nearly \$3,000 in nitrogen and fuel costs, respectively, on 600 acres of cabbage and butternut squash. Results are being shared with producers across the Lake Plains region.

**Program #2**

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

**1. Name of the Planned Program**

1.2 Viable and Sustainable Production Practices

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

**1. Program Knowledge Areas and Percentage**

KA Code	Knowledge Area	%1862 Extension	%1890 Extension	%1862 Research	%1890 Research
201	Plant Genome, Genetics, and Genetic Mechanisms	3%		3%	
202	Plant Genetic Resources	2%		2%	
203	Plant Biological Efficiency and Abiotic Stresses Affecting Plants	5%		5%	
204	Plant Product Quality and Utility (Preharvest)	4%		4%	
205	Plant Management Systems	6%		6%	
211	Insects, Mites, and Other Arthropods Affecting Plants	8%		8%	
212	Pathogens and Nematodes Affecting Plants	10%		10%	
213	Weeds Affecting Plants	2%		2%	
215	Biological Control of Pests Affecting Plants	4%		4%	
216	Integrated Pest Management Systems	8%		8%	
301	Reproductive Performance of Animals	3%		3%	
302	Nutrient Utilization in Animals	14%		14%	
303	Genetic Improvement of Animals	8%		8%	
305	Animal Physiological Processes	9%		9%	
306	Environmental Stress in Animals	2%		2%	
307	Animal Management Systems	2%		2%	
308	Improved Animal Products (Before Harvest)	1%		1%	
311	Animal Diseases	6%		6%	
312	External Parasites and Pests of Animals	2%		2%	
313	Internal Parasites in Animals	1%		1%	
	<b>Total</b>	<b>100%</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>	15.6	0.0	75.0	0.0
<b>Actual</b>	70.1	0.0	169.2	0.0

**2. Institution Name: Cornell University**

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

Extension		Research	
<b>Smith-Lever 3b &amp; 3c</b> 433578	<b>1890 Extension</b> 0	<b>Hatch</b> 2557795	<b>Evans-Allen</b> 0
<b>1862 Matching</b> 433578	<b>1890 Matching</b> 0	<b>1862 Matching</b> 2557795	<b>1890 Matching</b> 0
<b>1862 All Other</b> 0	<b>1890 All Other</b> 0	<b>1862 All Other</b> 0	<b>1890 All Other</b> 0

2. Institution Name: NY State Agricultural Experiment Station

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

Extension		Research	
<b>Smith-Lever 3b &amp; 3c</b> 0	<b>1890 Extension</b> 0	<b>Hatch</b> 1124140	<b>Evans-Allen</b> 0
<b>1862 Matching</b> 0	<b>1890 Matching</b> 0	<b>1862 Matching</b> 1124140	<b>1890 Matching</b> 0
<b>1862 All Other</b> 0	<b>1890 All Other</b> 0	<b>1862 All Other</b> 0	<b>1890 All Other</b> 0

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

**1. Brief description of the Activity**

This is a comprehensive, statewide educational program entailing a wide range of applied research activities and multiple education methods depending on local context and need. Campus-based faculty and extension associates, regional specialists and county-based educators all are involved in designing, implementing, and evaluating tailored educational efforts depending on the focus and scope of their role.

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

Key audiences served, directly and indirectly include: established producers; new and young producers, consultants and service providers, input suppliers, governmental agencies, and local and state agricultural 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>	5000	10000	0	0
2008	99119	190281	1318	143335

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

**Patent Applications Submitted**

**Year Target**  
**Plan:** 70  
 2008 : 34

**Patents listed**

- \* Immunogenic Proteins from Genome-Derived Outer Membrane of Leptospira and Compositions and Methods Based Thereon
- \* Compositions for Eliciting an Immune Response Against Mycobacterium Avium Subspecies Paratuberculosis
- \* Ehrlichia Canis Genes and Vaccine
- \* Compositions and Methods for Bone Strengthening
- \* Cellular Antioxidant Activity (CAA) Assay
- \* Photo-crosslinking-based Method for Creating DNA Hydrogels
- \* Use of NAP Gene to Manipulate Leaf Senescence in Plants (3)
- \* Tomato Spotted Wilt Resistance Gene
- \* Production of Proteins with Downstream Box Fusions in Plastids and in Bacteria Terpene-Containing Compositions And Methods Of Making And Using Them (9)
- \* Formulations of Viable Microorganisms and Their Methods of Production and Use (4)
- \* Potato Variety NY38-4 'Red Charisma' (5)
- \* The Use of Plant Glycosyl Hydrolases With Carbohydrate Binding Modules to Alter Plant Cell Wall Composition and Structure, or Enhance Degradation
- \* Single Nucleotide Polymorphism (SNP) in a Gene that Influences Tomato Fruit Ripening and an Assay to Identify that SNP
- \* Jensen (experimental line NY88046-8138)
- \* Method for Rapid Functional Analysis of Plant Genes

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

**Number of Peer Reviewed Publications**

	<b>Extension</b>	<b>Research</b>	<b>Total</b>
<b>Plan</b>	0	785	
2008	0	0	675

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

**Output Target**

**Output #1**

**Output Measure**

- # non-credit instructional activities directed to this program.

*Not reporting on this Output for this Annual Report*

**Output #2**

**Output Measure**

- # non-credit instructional activity contact hours directed to this program.

*Not reporting on this Output for this Annual Report*

**Output #3**

**Output Measure**

- # funded applied research projects directed to this program.

*Not reporting on this Output for this Annual Report*

**Output #4**

**Output Measure**

- # producers, horticulture business persons, and/or natural resource managers completing education programs on existing and new production management practices and techniques. (1.2.1a)

*Not reporting on this Output for this Annual Report*

**Output #5**

**Output Measure**

- # producers, horticulture businesses, and/or natural resource mangers completing education programs on potential environmental impacts of practices; requirements and opportunities of environmental regulations and programs; whole farm systems. (1.2.2a)

*Not reporting on this Output for this Annual Report*

V(G). State Defined Outcomes

V. State Defined Outcomes Table of Content

O No.	OUTCOME NAME
1	# of producers, horticulture business persons, and/or natural resource managers demonstrating knowledge/skill gains re existing/new practices and techniques; improved product handling and storage to maintain quality and food safety; and/or improving production efficiency through adoption of best management practices. (1.2.1b)
2	# of producers, horticulture businesses, and/or natural resource managers demononstrating knowledge/skill gains re environmental impacts of practices; environmental regulations and programs; whole farm systems including integrated nutrient management, integrated pest management; waste management; and water protection. (1.2.2b)
3	# of producers, horticulture business persons, and/or natural resource managers modifying existing practices and/or adopted new production management practices to address current issues and improve yield efficiency, consistency and/or quality. (1.2.1c)
4	# of producers, horticulture business persons, and/or natural resource managers who report improved ability to anticipate and respond to environmental and market variations variations through alternative production management strategies. (1.2.1d)
5	# technical assistance providers documented to have incorporated current best management practices in their recommendations. (1.2.1e)
6	# of producers, horticulture businesses, and/or natural resource managers documented to have assessed potential environmental impacts of their operations and developed and acted on plans to eliminate or minimize those concerns. (1.2.2c)
7	# of producers, horticulture businesses, and/or natural resource documented to have developed and implement nutrient management and/or waste management plans or modified existing plans to meet production and environmental goals and meet regulations. (1.2.2d)
8	# of producers, horticulture business persons, and/or natural resource managers documented to have improved economic returns to agricultural business profitability and vitality resulting from enhanced production management practices. (1.2.1f)
9	# of producers, horticulture businesses, and/or natural resource documented to meet or exceed current environmental protection standards as a result of participating in relevant educational programs. (1.2.2.e)
10	# resource managers reporting reduced environmental concerns for participating enterprises. (1.2.2.f)
11	Reducing Nitrate Leaching with Controlled Release Nitrogen Fertilizers
12	National Animal Genome Research Program
13	Effect of Bt Toxin Expression in Transgenic Corn on Root Exudation, Residue Decomposition and the Persistence of Bt Toxins in Field Soils

**Outcome #1**

**1. Outcome Measures**

# of producers, horticulture business persons, and/or natural resource managers demonstrating knowledge/skill gains re existing/new practices and techniques; improved product handling and storage to maintain quality and food safety; and/or improving production efficiency through adoption of best management practices. (1.2.1b)

*Not reporting on this Outcome for this Annual Report*

**Outcome #2**

**1. Outcome Measures**

# of producers, horticulture businesses, and/or natural resource managers demonstrating knowledge/skill gains re environmental impacts of practices; environmental regulations and programs; whole farm systems including integrated nutrient management, integrated pest management; waste management; and water protection. (1.2.2b)

*Not reporting on this Outcome for this Annual Report*

**Outcome #3**

**1. Outcome Measures**

# of producers, horticulture business persons, and/or natural resource managers modifying existing practices and/or adopted new production management practices to address current issues and improve yield efficiency, consistency and/or quality. (1.2.1c)

**2. Associated Institution Types**

- 1862 Extension

**3a. Outcome Type:**

Change in Action Outcome Measure

**3b. Quantitative Outcome**

Year	Quantitative Target	Actual
2008	3000	4162

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

**Issue (Who cares and Why)**

**What has been done**

**Results**

**4. Associated Knowledge Areas**

KA Code	Knowledge Area
204	Plant Product Quality and Utility (Preharvest)
203	Plant Biological Efficiency and Abiotic Stresses Affecting Plants
205	Plant Management Systems
308	Improved Animal Products (Before Harvest)
306	Environmental Stress in Animals
211	Insects, Mites, and Other Arthropods Affecting Plants
212	Pathogens and Nematodes Affecting Plants
311	Animal Diseases
305	Animal Physiological Processes

301	Reproductive Performance of Animals
312	External Parasites and Pests of Animals
307	Animal Management Systems
313	Internal Parasites in Animals
302	Nutrient Utilization in Animals

**Outcome #4**

**1. Outcome Measures**

# of producers, horticulture business persons, and/or natural resource managers who report improved ability to anticipate and respond to environmental and market variations through alternative production management strategies. (1.2.1d)

**2. Associated Institution Types**

•1862 Extension

**3a. Outcome Type:**

Change in Action Outcome Measure

**3b. Quantitative Outcome**

Year	Quantitative Target	Actual
2008	2000	3248

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

**Issue (Who cares and Why)**

**What has been done**

**Results**

**4. Associated Knowledge Areas**

KA Code	Knowledge Area
205	Plant Management Systems
204	Plant Product Quality and Utility (Preharvest)
307	Animal Management Systems
308	Improved Animal Products (Before Harvest)
306	Environmental Stress in Animals

**Outcome #5**

**1. Outcome Measures**

# technical assistance providers documented to have incorporated current best management practices in their recommendations. (1.2.1e)

**2. Associated Institution Types**

•1862 Extension

**3a. Outcome Type:**

Change in Action Outcome Measure

**3b. Quantitative Outcome**

Year	Quantitative Target	Actual
2008	100	770

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

**Issue (Who cares and Why)**

**What has been done**

**Results**

**4. Associated Knowledge Areas**

KA Code	Knowledge Area
204	Plant Product Quality and Utility (Preharvest)
205	Plant Management Systems
216	Integrated Pest Management Systems
306	Environmental Stress in Animals
215	Biological Control of Pests Affecting Plants
213	Weeds Affecting Plants
302	Nutrient Utilization in Animals
311	Animal Diseases
312	External Parasites and Pests of Animals
313	Internal Parasites in Animals
203	Plant Biological Efficiency and Abiotic Stresses Affecting Plants
305	Animal Physiological Processes
308	Improved Animal Products (Before Harvest)
212	Pathogens and Nematodes Affecting Plants
211	Insects, Mites, and Other Arthropods Affecting Plants
307	Animal Management Systems

**Outcome #6**

**1. Outcome Measures**

# of producers, horticulture businesses, and/or natural resource managers documented to have assessed potential environmental impacts of their operations and developed and acted on plans to eliminate or minimize those concerns. (1.2.2c)

**2. Associated Institution Types**

•1862 Extension

**3a. Outcome Type:**

Change in Knowledge Outcome Measure

**3b. Quantitative Outcome**

Year	Quantitative Target	Actual
2008	2000	1110

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

**Issue (Who cares and Why)**



**What has been done**

**Results**

**4. Associated Knowledge Areas**

KA Code	Knowledge Area
213	Weeds Affecting Plants
302	Nutrient Utilization in Animals
216	Integrated Pest Management Systems
307	Animal Management Systems
215	Biological Control of Pests Affecting Plants
205	Plant Management Systems

**Outcome #7**

**1. Outcome Measures**

# of producers, horticulture businesses, and/or natural resource documented to have developed and implement nutrient management and/or waste management plans or modified existing plans to meet production and environmental goals and meet regulations. (1.2.2d)

**2. Associated Institution Types**

•1862 Extension

**3a. Outcome Type:**

Change in Action Outcome Measure

**3b. Quantitative Outcome**

Year	Quantitative Target	Actual
2008	500	674

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

**Issue (Who cares and Why)**

**What has been done**

**Results**

**4. Associated Knowledge Areas**

KA Code	Knowledge Area
203	Plant Biological Efficiency and Abiotic Stresses Affecting Plants
213	Weeds Affecting Plants
205	Plant Management Systems
215	Biological Control of Pests Affecting Plants
307	Animal Management Systems
216	Integrated Pest Management Systems
302	Nutrient Utilization in Animals

**Outcome #8**

**1. Outcome Measures**

# of producers, horticulture business persons, and/or natural resource managers documented to have improved economic returns to agricultural business profitability and vitality resulting from enhanced production management practices. (1.2.1f)

**2. Associated Institution Types**

•1862 Extension

**3a. Outcome Type:**

Change in Condition Outcome Measure

**3b. Quantitative Outcome**

Year	Quantitative Target	Actual
2008	1800	2677

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

**Issue (Who cares and Why)**

**What has been done**

**Results**

**4. Associated Knowledge Areas**

KA Code	Knowledge Area
301	Reproductive Performance of Animals
305	Animal Physiological Processes
302	Nutrient Utilization in Animals
313	Internal Parasites in Animals
308	Improved Animal Products (Before Harvest)
211	Insects, Mites, and Other Arthropods Affecting Plants
306	Environmental Stress in Animals
307	Animal Management Systems
205	Plant Management Systems
203	Plant Biological Efficiency and Abiotic Stresses Affecting Plants
303	Genetic Improvement of Animals
311	Animal Diseases
212	Pathogens and Nematodes Affecting Plants
204	Plant Product Quality and Utility (Preharvest)
312	External Parasites and Pests of Animals

**Outcome #9**

**1. Outcome Measures**

# of producers, horticulture businesses, and/or natural resource documented to meet or exceed current environmental protection standards as a result of participating in relevant educational programs. (1.2.2.e)

**2. Associated Institution Types**

•1862 Extension

**3a. Outcome Type:**

Change in Knowledge Outcome Measure

**3b. Quantitative Outcome**

Year	Quantitative Target	Actual
2008	250	497

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

**Issue (Who cares and Why)**

**What has been done**

**Results**

**4. Associated Knowledge Areas**

KA Code	Knowledge Area
215	Biological Control of Pests Affecting Plants
307	Animal Management Systems
213	Weeds Affecting Plants
205	Plant Management Systems
216	Integrated Pest Management Systems
302	Nutrient Utilization in Animals

**Outcome #10**

**1. Outcome Measures**

# resource managers reporting reduced environmental concerns for participating enterprises. (1.2.2.f)

**2. Associated Institution Types**

•1862 Extension

**3a. Outcome Type:**

Change in Condition Outcome Measure

**3b. Quantitative Outcome**

Year	Quantitative Target	Actual
2008	20	162

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

**Issue (Who cares and Why)**

**What has been done**

**Results**

**4. Associated Knowledge Areas**

KA Code	Knowledge Area
307	Animal Management Systems
205	Plant Management Systems

**Outcome #11**

**1. Outcome Measures**

Reducing Nitrate Leaching with Controlled Release Nitrogen Fertilizers

**2. Associated Institution Types**

- 1862 Extension
- 1862 Research

**3a. Outcome Type:**

Change in Action Outcome Measure

**3b. Quantitative Outcome**

Year	Quantitative Target	Actual
2008	{No Data Entered}	0

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

**Issue (Who cares and Why)**

There is a need to improve nitrogen use efficiency for maintaining and strengthening farm viability in Suffolk County on Long Island while improving environmental issues regarding water quality and nitrate contamination in ground and surface waters. The Peconic Estuary Program, Suffolk County Department of Health Services and the EPA are requesting a reduction in nitrates in groundwater and surface waters.

**What has been done**

The issue has been addressed both in terms of education and research. First, during the past four years replicated research trials were conducted in vegetable crops, sod, tree fruit, and nursery crops to evaluate the effectiveness of controlled release nitrogen fertilizers to conventional nitrogen fertilizers in regard to crop yield and quality. Results from these trials have indicated similar production with controlled release nitrogen fertilizers. Further, results have indicated that nitrogen rates per acre can be reduced by as much as 20% and production be maintained with controlled release nitrogen fertilizers. Results have been presented at Extension conferences and workshops, national conferences, and out-of-state speakers have addressed growers on results of controlled release nitrogen fertilizer studies throughout the U.S. Over 30 large-scale, on-farm demonstrations were conducted to evaluate controlled release nitrogen fertilizers on a commercial scale.

**Results**

Over 25 on farm, large demonstration trials have shown a reduction in total nitrogen per acre applied by 10 to 20% using controlled release nitrogen fertilizers. Three sod growers, who produce over 90% of the sod on Long Island, have integrated controlled release nitrogen fertilizers into their fertility program. Eleven vegetable and potato growers have adopted controlled release nitrogen technology as part of their commercial fertilizer program. Intensive monitoring of groundwater will continue over the next several years to determine if efforts are having the desired impact.

**4. Associated Knowledge Areas**

KA Code	Knowledge Area
205	Plant Management Systems
204	Plant Product Quality and Utility (Preharvest)

**Outcome #12**

**1. Outcome Measures**

National Animal Genome Research Program

**2. Associated Institution Types**

- 1862 Research

**3a. Outcome Type:**

Change in Action Outcome Measure

**3b. Quantitative Outcome**

Year	Quantitative Target	Actual
2008	{No Data Entered}	0

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

**Issue (Who cares and Why)**

Worldwide demand for high quality animal protein continues to grow at an explosive pace. The fundamental basis for all of animal breeding and the continuing genetic improvement of all agricultural animal species exists within the genome.

**What has been done**

By developing genome maps for the equine (and other) species, it will ensure increased agricultural efficiency, profitability, and global competitiveness.

**Results**

The information in the horse genome mapping has had a great impact on the horse breeding industry. The information has been widely used by equine geneticists and clinicians to identify mutant genes causing inherited diseases of the horse. Genetic tests developed with this knowledge are available to inform horse breeders on mating strategies that will result in offspring free of particular genetic diseases. Use of the new SNP chip will accelerate the identification of additional genes controlling important traits in the horse. In parallel, the new expression microarray is finding wide application in studies of pathology and physiology of the horse.

**4. Associated Knowledge Areas**

KA Code	Knowledge Area
303	Genetic Improvement of Animals

**Outcome #13**

**1. Outcome Measures**

Effect of Bt Toxin Expression in Transgenic Corn on Root Exudation, Residue Decomposition and the Persistence of Bt Toxins in Field Soils

**2. Associated Institution Types**

•1862 Research

**3a. Outcome Type:**

Change in Action Outcome Measure

**3b. Quantitative Outcome**

Year	Quantitative Target	Actual
2008	{No Data Entered}	0

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

**Issue (Who cares and Why)**

Transgenic Bt crops expressing the Cry insecticidal toxins are grown on an estimated 30 million acres in the U.S. Effects of Bt crops on soil ecology and biochemistry are poorly known. Biosafety issues are of public concern. This project is especially relevant to the EPA, which will soon review the commercial use of this hybrid to determine whether to extend further the approval period.

**What has been done**

In this project, we examine the effect of Bt corn on soil organisms responsible for crop residue decomposition, rates of decomposition and the persistence and toxicity of the Cry3Bb and Cry1Ab toxins in field soil. Corn cultivars examined are MON863, resistant against the corn rootworm and Pioneer 34N44Bt and NC+ 4990Bt, resistant against the European corn borer.

### Results

Based on seven years of experimentation, we conclude that MON863 transgenic Bt corn causes no detectable adverse effects on the abundance, activity or community composition of the soil microbiota, including soil arthropods. This conclusion is based on more than 13 different assays (traditional and molecular) conducted over 3 field seasons, with 3 samplings per season for each variable measured. These results should allay public concerns about the possible effects of Bt crops on soil ecology in general and on residue decomposition and C turnover in soil, in particular. Results are being distributed widely to help reduce the rampant misinformation on this topic that abounds on the internet and in lay publications. Results are being communicated to the EPA, which regulates the use and assure the biosafety of transgenic Bt crops.

### 4. Associated Knowledge Areas

KA Code	Knowledge Area
205	Plant Management Systems
211	Insects, Mites, and Other Arthropods Affecting Plants
202	Plant Genetic Resources

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

#### External factors which affected outcomes

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

#### Brief Explanation

- Natural disasters (drought, weather extremes, etc. -- Economic downturn-- Public policy changes
- Government regulations
- Competing public priorities
- Population changes (immigration, new cultural groupings, etc.

See plan for additional details.

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

#### 1. Evaluation Studies Planned

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

#### Evaluation Results

Evaluation results are reflected in the outcome indicators and impact statements associated with each planned program and result from a broad variety of evaluation approaches appropriate to the individual programs and contexts they represent.

#### Key Items of Evaluation

Each of our planned programs represents broad program emphases and strategies. Program evaluation results are incorporated in outcome statements associated with each plan.

**Program #3**

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

**1. Name of the Planned Program**

1.3 Renewable/Alternative Energy and Conservation

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

**1. Program Knowledge Areas and Percentage**

KA Code	Knowledge Area	%1862 Extension	%1890 Extension	%1862 Research	%1890 Research
401	Structures, Facilities, and General Purpose Farm Supplies	6%		6%	
402	Engineering Systems and Equipment	49%		49%	
404	Instrumentation and Control Systems	45%		45%	
	<b>Total</b>	100%		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>	2.5	0.0	3.0	0.0
<b>Actual</b>	11.7	0.0	0.9	0.0

**2. Institution Name: Cornell University**

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

Extension		Research	
Smith-Lever 3b & 3c	1890 Extension	Hatch	Evans-Allen
72263	0	22049	0
1862 Matching	1890 Matching	1862 Matching	1890 Matching
72263	0	22049	0
1862 All Other	1890 All Other	1862 All Other	1890 All Other
0	0	0	0

**2. Institution Name: NY State Agricultural Experiment Station**

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

Extension		Research	
<b>Smith-Lever 3b &amp; 3c</b> 0	<b>1890 Extension</b> 0	<b>Hatch</b> 3450	<b>Evans-Allen</b> 0
<b>1862 Matching</b> 0	<b>1890 Matching</b> 0	<b>1862 Matching</b> 3450	<b>1890 Matching</b> 0
<b>1862 All Other</b> 0	<b>1890 All Other</b> 0	<b>1862 All Other</b> 0	<b>1890 All Other</b> 0

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

**1. Brief description of the Activity**

This is a statewide educational program entailing a wide range of applied research activities and multiple education methods depending on local context and need. Campus-based faculty and extension associates, regional specialists and county-based educators all are involved in designing, implementing, and evaluating tailored educational efforts depending on the focus and scope of their role.

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

Agricultural/horticulture/natural resource and supporting businesses are targeted both regarding biofuels production opportunities and information regarding alternative energy sources and conservation. Consumers, property managers, and community leaders are targeted for information regarding energy supply alternatives and energy conservation options for residential, facilities, and transportation needs. Citizens, community agencies and organizations are targeted for energy-related policy education efforts particularly as related to development of alternative energy sources and the interaction between land use and energy conservation.

**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>	17500	200000	1000	0
2008	1110	117845	2475	49898

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

**Patent Applications Submitted**

<b>Year</b>	<b>Target</b>
<b>Plan:</b>	0
2008 :	2

**Patents listed**

- \* Microchannel Detection Device and Use Thereof
- \* Rapid Test for Cell Detection

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

**Number of Peer Reviewed Publications**

	<b>Extension</b>	<b>Research</b>	<b>Total</b>
<b>Plan</b>	0	10	
2008	0	0	10



## V(F). State Defined Outputs

### Output Target

#### Output #1

##### Output Measure

- # non-credit instructional activities directed to this program.

*Not reporting on this Output for this Annual Report*

#### Output #2

##### Output Measure

- # non-credit instructional activity contact hours directed to this program.

*Not reporting on this Output for this Annual Report*

#### Output #3

##### Output Measure

- # funded applied research projects directed to this program.

*Not reporting on this Output for this Annual Report*

#### Output #4

##### Output Measure

- # agricultural producers and agribusiness representatives completing educational programs on the potential for development of biologically-based fuels. (1.3.1a)

*Not reporting on this Output for this Annual Report*

#### Output #5

##### Output Measure

- # local and state leaders completing educational programs on the potential for development of biologically-based fuels such as biodiesel, ethanol, methane, recycled vegetable oils, space heating fuels etc. (1.3.1b)

*Not reporting on this Output for this Annual Report*

#### Output #6

##### Output Measure

- # agricultural producers and agribusiness, and natural resource business representatives completing educational programs about cropping for biofuels production. 1.3.1c)

*Not reporting on this Output for this Annual Report*

#### Output #7

##### Output Measure

- # agricultural/horticulture/ natural resource and supporting business representatives completing educational programs about the availability and pros and cons of alternative energy sources and/or about potential energy savings in operations. (1.3.2a)

*Not reporting on this Output for this Annual Report*

#### Output #8

##### Output Measure

- # consumers and community leaders completing educational programs about the availability and pros and cons of alternative energy. (1.3.3a)

*Not reporting on this Output for this Annual Report*

#### Output #9

##### Output Measure

- # community members, leaders and officials completing education programs about the relationships between development patterns and energy use/costs. (1.3.4a)

*Not reporting on this Output for this Annual Report*

V(G). State Defined Outcomes

V. State Defined Outcomes Table of Content

O No.	OUTCOME NAME
1	# agricultural/horticulture/ natural resource and supporting businesses who demonstrate knowledge or skills gains about the availability and pros and cons of alternative energy sources and/or potential energy savings in operations. (1.3.2b)
2	# consumers and/or community leaders who demonstrate knowledge or skills gains about the availability and pros and cons of alternative energy sources especially related to housing and transportation. (1.3.3b)
3	# of consumers documented to have adopted appropriate alternative energy sources. (1.3.3c)
4	# community members, leaders and officials who demonstrate knowledge gains about the relationships between development patterns and energy use/costs. (1.3.4b)
5	# of community agencies/organizations documented to have adopted appropriate alternative energy sources. (1.3.3d)
6	# producers, economic development organizations and other groups collaborate to establish biofuels as a viable alternative crop. (1.3.1f)
7	# of existing or new producers documented to have modified existing practices or technologies and/or adopted new production management practices for biofuels production. (1.3.1g)
8	# of agricultural/horticultural/natural resource businesses documented to have adopted appropriate alternative energy sources and/or energy conservation practices. (1.3.2c)
9	# of consumers who report savings on energy costs attributable to adopting alternative energy sources. (1.3.3e)
10	# of community agencies/organizations reporting savings on energy costs attributable to adopting alternative energy sources. (1.3.3f)
11	# communities documented to have assessed local energy development proposals and/or the relationships between current policies and regulations and energy conservation. (1.3.4c)
12	# of producers, horticulture businesses and/or natural resource managers reporting that cropping for and/or use of biofuels leads to increased economic returns to their enterprises. (1.3.1h)
13	# of producers/horticulture businesses/natural resource managers documented to have improved economic returns to agricultural/ horticultural business profitability and vitality resulting from adopting alternative energy sources and/or energy conservation. (1.3.2d)
14	# of consumers who report savings on energy costs attributable to adopting alternative energy sources and/or energy conservation measures. (1.3.3h)
15	# of communities documented to have established or modified land use and development policies to promote energy conservation. (1.3.4d)
16	# agricultural producers, agribusiness, or local and state leaders who demonstrate knowledge gains about the potential for development of biologically-based fuels. (1.3.1d)
17	# forest owners and purchasers of forest products who demonstrate knowledge or skills gains about current markets for firewood and chips/pellets and associated cropping practices. (1.3.1e)
18	Grass Pellets as an Alternative Land Use and Heating Source
19	Developing and Integrating Components for Commercial Greenhouse Production System

**Outcome #1**

**1. Outcome Measures**

# agricultural/horticulture/ natural resource and supporting businesses who demonstrate knowledge or skills gains about the availability and pros and cons of alternative energy sources and/or potential energy savings in operations. (1.3.2b)

*Not reporting on this Outcome for this Annual Report*

**Outcome #2**

**1. Outcome Measures**

# consumers and/or community leaders who demonstrate knowledge or skills gains about the availability and pros and cons of alternative energy sources especially related to housing and transportation. (1.3.3b)

*Not reporting on this Outcome for this Annual Report*

**Outcome #3**

**1. Outcome Measures**

# of consumers documented to have adopted appropriate alternative energy sources. (1.3.3c)

*Not reporting on this Outcome for this Annual Report*

**Outcome #4**

**1. Outcome Measures**

# community members, leaders and officials who demonstrate knowledge gains about the relationships between development patterns and energy use/costs. (1.3.4b)

*Not reporting on this Outcome for this Annual Report*

**Outcome #5**

**1. Outcome Measures**

# of community agencies/organizations documented to have adopted appropriate alternative energy sources. (1.3.3d)

**2. Associated Institution Types**

- 1862 Extension

**3a. Outcome Type:**

Change in Action Outcome Measure

**3b. Quantitative Outcome**

Year	Quantitative Target	Actual
2008	250	35

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

**Issue (Who cares and Why)**

**What has been done**

**Results**

**4. Associated Knowledge Areas**

KA Code	Knowledge Area
401	Structures, Facilities, and General Purpose Farm Supplies
404	Instrumentation and Control Systems

**Outcome #6**

**1. Outcome Measures**

# producers, economic development organizations and other groups collaborate to establish biofuels as a viable alternative crop. (1.3.1f)

**2. Associated Institution Types**

•1862 Extension

**3a. Outcome Type:**

Change in Action Outcome Measure

**3b. Quantitative Outcome**

Year	Quantitative Target	Actual
2008	150	1074

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

**Issue (Who cares and Why)**

**What has been done**

**Results**

**4. Associated Knowledge Areas**

KA Code	Knowledge Area
402	Engineering Systems and Equipment
404	Instrumentation and Control Systems

**Outcome #7**

**1. Outcome Measures**

# of existing or new producers documented to have modified existing practices or technologies and/or adopted new production management practices for biofuels production. (1.3.1g)

**2. Associated Institution Types**

•1862 Extension

**3a. Outcome Type:**

Change in Action Outcome Measure

**3b. Quantitative Outcome**

Year	Quantitative Target	Actual
2008	50	151

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

**Issue (Who cares and Why)**

**What has been done**

**Results**

**4. Associated Knowledge Areas**

<b>KA Code</b>	<b>Knowledge Area</b>
401	Structures, Facilities, and General Purpose Farm Supplies
404	Instrumentation and Control Systems
402	Engineering Systems and Equipment

**Outcome #8**

**1. Outcome Measures**

# of agricultural/horticultural/natural resource businesses documented to have adopted appropriate alternative energy sources and/or energy conservation practices. (1.3.2c)

**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	2500	411

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

**Issue (Who cares and Why)**

**What has been done**

**Results**

**4. Associated Knowledge Areas**

<b>KA Code</b>	<b>Knowledge Area</b>
404	Instrumentation and Control Systems
401	Structures, Facilities, and General Purpose Farm Supplies
402	Engineering Systems and Equipment

**Outcome #9**

**1. Outcome Measures**

# of consumers who report savings on energy costs attributable to adopting alternative energy sources. (1.3.3e)

*Not reporting on this Outcome for this Annual Report*

**Outcome #10**

**1. Outcome Measures**

# of community agencies/organizations reporting savings on energy costs attributable to adopting alternative energy sources. (1.3.3f)

**2. Associated Institution Types**

•1862 Extension

**3a. Outcome Type:**

Change in Condition Outcome Measure

**3b. Quantitative Outcome**

Year	Quantitative Target	Actual
2008	100	29

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

**Issue (Who cares and Why)**

**What has been done**

**Results**

**4. Associated Knowledge Areas**

KA Code	Knowledge Area
401	Structures, Facilities, and General Purpose Farm Supplies
404	Instrumentation and Control Systems
402	Engineering Systems and Equipment

**Outcome #11**

**1. Outcome Measures**

# communities documented to have assessed local energy development proposals and/or the relationships between current policies and regulations and energy conservation. (1.3.4c)

**2. Associated Institution Types**

•1862 Extension

**3a. Outcome Type:**

Change in Action Outcome Measure

**3b. Quantitative Outcome**

Year	Quantitative Target	Actual
2008	30	22

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

**Issue (Who cares and Why)**

**What has been done**

**Results**

**4. Associated Knowledge Areas**

KA Code	Knowledge Area
401	Structures, Facilities, and General Purpose Farm Supplies

**Outcome #12**

**1. Outcome Measures**

# of producers, horticulture businesses and/or natural resource managers reporting that cropping for and/or use of biofuels leads to increased economic returns to their enterprises. (1.3.1h)

**2. Associated Institution Types**

•1862 Extension

**3a. Outcome Type:**

Change in Condition Outcome Measure

**3b. Quantitative Outcome**

Year	Quantitative Target	Actual
2008	35	62

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

**Issue (Who cares and Why)**

**What has been done**

**Results**

**4. Associated Knowledge Areas**

KA Code	Knowledge Area
402	Engineering Systems and Equipment

**Outcome #13**

**1. Outcome Measures**

# of producers/horticulture businesses/natural resource managers documented to have improved economic returns to agricultural/ horticultural business profitability and vitality resulting from adopting alternative energy sources and/or energy conservation. (1.3.2d)

**2. Associated Institution Types**

•1862 Extension

**3a. Outcome Type:**

Change in Condition Outcome Measure

**3b. Quantitative Outcome**

Year	Quantitative Target	Actual
2008	1800	168

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

**Issue (Who cares and Why)**

**What has been done**

**Results**

**4. Associated Knowledge Areas**

<b>KA Code</b>	<b>Knowledge Area</b>
404	Instrumentation and Control Systems
402	Engineering Systems and Equipment
401	Structures, Facilities, and General Purpose Farm Supplies

**Outcome #14**

**1. Outcome Measures**

# of consumers who report savings on energy costs attributable to adopting alternative energy sources and/or energy conservation measures. (1.3.3h)  
*Not reporting on this Outcome for this Annual Report*

**Outcome #15**

**1. Outcome Measures**

# of communities documented to have established or modified land use and development policies to promote energy conservation. (1.3.4d)

**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	5	18

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

**Issue (Who cares and Why)**

**What has been done**

**Results**

**4. Associated Knowledge Areas**

<b>KA Code</b>	<b>Knowledge Area</b>
401	Structures, Facilities, and General Purpose Farm Supplies

**Outcome #16**

**1. Outcome Measures**



# agricultural producers, agribusiness, or local and state leaders who demonstrate knowledge gains about the potential for development of biologically-based fuels. (1.3.1d)  
*Not reporting on this Outcome for this Annual Report*

**Outcome #17**

**1. Outcome Measures**

# forest owners and purchasers of forest products who demonstrate knowledge or skills gains about current markets for firewood and chips/pellets and associated cropping practices. (1.3.1e)  
*Not reporting on this Outcome for this Annual Report*

**Outcome #18**

**1. Outcome Measures**

Grass Pellets as an Alternative Land Use and Heating Source

**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}	0

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

**Issue (Who cares and Why)**

Alternative sources of energy for heating homes and businesses are needed in New York State. Reduced dependence on foreign oil and other fossil fuels is also desirable. Farmland in New York State is often seen as underutilized and a fast disappearing asset. If idled land and just 10% of the current currently harvested grazing, crop, pasture lands and just 10% of the current wastelands are used for grass production, a total of 831,596 acres of land could be available in New York State for grass pellet production.

**What has been done**

Funding was secured from NYS Energy Research and Development Authority and used to purchase a portable pellet mill, utility trailer, biofuel parlor-type stove, and biomass hot-air furnace. Collaboration with SUNY Canton's Alternative Energy Program and Heating and Cooling Technology Department provided working demonstration of grass hay production and insight into each step of the process through production of pellets and monitoring and combustion of a grass-based solid fuel.

**Results**

This project has resulted in an increased awareness of the bottlenecks of biomass solid fuel production from local grasses. The conundrum of which needs to be created first, appliances built specifically for burning grass pellets, or the appropriate equipment and infrastructure for making grass pellets is more clearly understood by our audiences. There continues to be a desire to pursue this opportunity and additional projects have been initiated by other collaborators with the expectation that this industry will soon develop and succeed.

**4. Associated Knowledge Areas**

KA Code	Knowledge Area
402	Engineering Systems and Equipment

**Outcome #19**

**1. Outcome Measures**

Developing and Integrating Components for Commercial Greenhouse  
Production System

**2. Associated Institution Types**

•1862 Research

**3a. Outcome Type:**

Change in Action Outcome Measure

**3b. Quantitative Outcome**

Year	Quantitative Target	Actual
2008	{No Data Entered}	0

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

**Issue (Who cares and Why)**

Greenhouse crop production is a high-cost system for high-value crop production locally and year round. It is very dependent on advanced technologies and high energy inputs.

**What has been done**

Detailed understanding of the interaction between physical and biological components of a greenhouse system is essential to implement advanced technologies. The purpose of this study is to advance greenhouse production by improving the use of water, nutrients, and energy resources while reducing environmental impacts.

**Results**

The most important output has been the development of a control algorithm used to coordinate supplemental greenhouse lighting and carbon dioxide addition in an optimum way. The algorithm has been patented and licensed by Cornell University to a private sector entity for extension to the greenhouse industry. The results show nearly half the electricity needed for lighting in climates such as in Ithaca, NY, can be saved by suitable CO2 addition and optimization based on total cost, with lettuce as the greenhouse crop. Activities are currently underway to make the algorithm available and usable for the manufacturers of greenhouse environmental control computers. The work has also lead to further expansion of the basic supplemental light control algorithm to situations of day-ahead electricity markets, and possible adoption as a decision tool for combined heat and power operations, where quick decisions must be made on whether to use the locally produced electricity on site, or sell it to the grid.

**4. Associated Knowledge Areas**

KA Code	Knowledge Area
404	Instrumentation and Control Systems
402	Engineering Systems and Equipment
401	Structures, Facilities, and General Purpose Farm Supplies

**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

**Brief Explanation**

-- Natural disasters (drought, weather extremes, etc.-- Economic downturn-- Public policy changes-- Appropriation changes-- Government regulations-- Competing public priorities

See plan for additional details.

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

### **1. Evaluation Studies Planned**

- After Only (post program)
- Retrospective (post program)
- During (during program)
- Case Study

### **Evaluation Results**

Evaluation results are reflected in the outcome indicators and impact statements associated with each planned program and result from a broad variety of evaluation approaches appropriate to the individual programs and contexts they represent.

### **Key Items of Evaluation**

Each of our planned programs represents broad program emphases and strategies. Program evaluation results are incorporated in outcome statements associated with each plan.

**Program #4**

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

**1. Name of the Planned Program**

1.4 The Agriculture/Community Interface

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

**1. Program Knowledge Areas and Percentage**

KA Code	Knowledge Area	%1862 Extension	%1890 Extension	%1862 Research	%1890 Research
315	Animal Welfare/Well-Being and Protection	6%		6%	
803	Sociological and Technological Change Affecting Individuals, Families and Communities	94%		94%	
	<b>Total</b>	100%		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>	6.3	0.0	2.0	0.0
<b>Actual</b>	29.2	0.0	2.2	0.0

**2. Institution Name: Cornell University**

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

Extension		Research	
Smith-Lever 3b & 3c	1890 Extension	Hatch	Evans-Allen
180657	0	74202	0
1862 Matching	1890 Matching	1862 Matching	1890 Matching
180657	0	74202	0
1862 All Other	1890 All Other	1862 All Other	1890 All Other
0	0	0	0

**2. Institution Name: NY State Agricultural Experiment Station**

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

Extension		Research	
<b>Smith-Lever 3b &amp; 3c</b> 0	<b>1890 Extension</b> 0	<b>Hatch</b> 0	<b>Evans-Allen</b> 0
<b>1862 Matching</b> 0	<b>1890 Matching</b> 0	<b>1862 Matching</b> 0	<b>1890 Matching</b> 0
<b>1862 All Other</b> 0	<b>1890 All Other</b> 0	<b>1862 All Other</b> 0	<b>1890 All Other</b> 0

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

**1. Brief description of the Activity**

Program activities/outputs are situation-specific but typically involve the full range of public issues education roles and methods and more general individual, group and media approaches directed to promoting awareness of issues and opportunities.

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

Agriculture/horticulture/natural resource enterprise managers, community residents and visitors, youth, local media, local officials, and local planning and economic development staff.

**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>	3500	150000	5000	30000
2008	24905	206969	30432	196943

**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>	0	20	
2008	0	0	1

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

**Output Target**

**Output #1**

**Output Measure**

- # of agriculture/ horticulture/natural resource business persons participating in education programs on potential environmental, health, social, and cultural impacts of their operations from the perspective of the community. (1.4.1a)

*Not reporting on this Output for this Annual Report*

**Output #2**

**Output Measure**

- # of community members participating in education programs on the roles of agriculture/horticulture/ natural resource enterprises in the local community, tax base, and environment. (1.4.2a)

*Not reporting on this Output for this Annual Report*

**Output #3**

**Output Measure**

- # of local leaders participating in education programs on the roles of agriculture/horticulture/ natural resource enterprises in the local community and how they are affected by local policy. (1.4.2b)

*Not reporting on this Output for this Annual Report*

**Output #4**

**Output Measure**

- # of local community members and leaders participating in programs on the potential benefits of community-based agriculture and opportunities for promoting same. (1.4.2c)

*Not reporting on this Output for this Annual Report*

**Output #5**

**Output Measure**

- # of youth participating in education programs on the agriculture and food system and/or natural resource enterprises. (1.4.3a)

*Not reporting on this Output for this Annual Report*

**Output #6**

**Output Measure**

- # of adults participating in education programs on the agriculture and food system and/or natural resource enterprises. (1.4.3b)

*Not reporting on this Output for this Annual Report*

**Output #7**

**Output Measure**

- # non-credit instructional activities directed to this program.

*Not reporting on this Output for this Annual Report*

**Output #8**

**Output Measure**

- # non-credit instructional activity contact hours directed to this program.

*Not reporting on this Output for this Annual Report*

**Output #9**

**Output Measure**

- # funded applied research projects directed to this program.

*Not reporting on this Output for this Annual Report*

V(G). State Defined Outcomes

V. State Defined Outcomes Table of Content

O No.	OUTCOME NAME
1	# of communities that initiate specific plans to address agriculture/ horticulture/natural resource enterprise related issues or capitalize on new opportunities including community agriculture initiatives. (1.4.2h)
2	# documented instances in which agriculture/community onlicts are resolved locally. (1.4.1d)
3	# communities documented to adopt, maintain, or expand policies supportive of appropriate agriculture/horticulture/ natural resource enterprise development and/or community agriculture. (1.4.2i)
4	# of agriculture/horticulture/natural resource business persons demonstrating knowledge or skill gains related to potential environmental, health, social, and cultural impacts of their operations from the perspective of the community. (1.4.1b)
5	# of community members demonstrating knowledge or skill gains related to the roles of agriculture/horticulture/natural resource enterprises in the local community, tax base, and environment. (1.4.2d)
6	# of local leaders demonstrating knowledge or skill gains related to the roles of agriculture/horticulture/natural resource enterprises in the local community and how they are affected by local policy. (1.4.2e)
7	# of local community members and leaders demonstrating knowledge or skill gains related to the potential benefits of community-based agriculture and opportunities for promoting same. (1.4.2f)
8	# of youth demonstrating knowledge or skill gains related to the agriculture and food system and/or natural resource enterprises. (1.4.3c)
9	# of adults demonstrating knowledge or skill gains related to the agriculture and food system and/or natural resource enterprises. (1.4.3d)
10	# of instances in which producers/horticulture businesses/natural resource enterprises, residents and community leaders work together to address issues. (1.4.1c)
11	# of communities that assess how current policies and infrastructures sustain or impede agriculture/ horticulture/natural resource enterprises (such as farmland protection or including such enterprises in economic development planning). (1.4.2g)
12	Protection of Viable Vineyard Lands
13	Managing Abandoned Agriculture Land to Maximize and Protect Avian Biodiversity in New York State

**Outcome #1**

**1. Outcome Measures**

# of communities that initiate specific plans to address agriculture/  
horticulture/natural resource enterprise related issues or capitalize on new  
opportunities including community agriculture initiatives. (1.4.2h)

**2. Associated Institution Types**

•1862 Extension

**3a. Outcome Type:**

Change in Action Outcome Measure

**3b. Quantitative Outcome**

Year	Quantitative Target	Actual
2008	75	93

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

**Issue (Who cares and Why)**

**What has been done**

**Results**

**4. Associated Knowledge Areas**

KA Code	Knowledge Area
803	Sociological and Technological Change Affecting Individuals, Families and Communities
315	Animal Welfare/Well-Being and Protection

**Outcome #2**

**1. Outcome Measures**

# documented instances in which agriculture/community onflicts are resolved  
locally. (1.4.1d)

**2. Associated Institution Types**

•1862 Extension

**3a. Outcome Type:**

Change in Condition Outcome Measure

**3b. Quantitative Outcome**

Year	Quantitative Target	Actual
2008	20	118

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

**Issue (Who cares and Why)**

**What has been done**

**Results**



**4. Associated Knowledge Areas**

KA Code	Knowledge Area
803	Sociological and Technological Change Affecting Individuals, Families and Communities
315	Animal Welfare/Well-Being and Protection

**Outcome #3**

**1. Outcome Measures**

# communities documented to adopt, maintain, or expand policies supportive of appropriate agriculture/horticulture/ natural resource enterprise development and/or community agriculture. (1.4.2i)

**2. Associated Institution Types**

•1862 Extension

**3a. Outcome Type:**

Change in Condition Outcome Measure

**3b. Quantitative Outcome**

Year	Quantitative Target	Actual
2008	50	121

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

**Issue (Who cares and Why)**

**What has been done**

**Results**

**4. Associated Knowledge Areas**

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

**Outcome #4**

**1. Outcome Measures**

# of agriculture/horticulture/natural resource business persons demonstrating knowledge or skill gains related to potential environmental, health, social, and cultural impacts of their operations from the perspective of the community. (1.4.1b)

*Not reporting on this Outcome for this Annual Report*

**Outcome #5**

**1. Outcome Measures**

# of community members demonstrating knowledge or skill gains related to the roles of agriculture/horticulture/natural resource enterprises in the local community, tax base, and environment. (1.4.2d)

*Not reporting on this Outcome for this Annual Report*

**Outcome #6**

**1. Outcome Measures**

# of local leaders demonstrating knowledge or skill gains related to the roles of agriculture/horticulture/natural resource enterprises in the local community and how they are affected by local policy. (1.4.2e)  
*Not reporting on this Outcome for this Annual Report*

**Outcome #7**

**1. Outcome Measures**

# of local community members and leaders demonstrating knowledge or skill gains related to the potential benefits of community-based agriculture and opportunities for promoting same. (1.4.2f)  
*Not reporting on this Outcome for this Annual Report*

**Outcome #8**

**1. Outcome Measures**

# of youth demonstrating knowledge or skill gains related to the agriculture and food system and/or natural resource enterprises. (1.4.3c)

**2. Associated Institution Types**

•1862 Extension

**3a. Outcome Type:**

Change in Knowledge Outcome Measure

**3b. Quantitative Outcome**

Year	Quantitative Target	Actual
2008	5500	8959

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

**Issue (Who cares and Why)**

**What has been done**

**Results**

**4. Associated Knowledge Areas**

KA Code	Knowledge Area
803	Sociological and Technological Change Affecting Individuals, Families and Communities
315	Animal Welfare/Well-Being and Protection

**Outcome #9**

**1. Outcome Measures**

# of adults demonstrating knowledge or skill gains related to the agriculture and food system and/or natural resource enterprises. (1.4.3d)

**2. Associated Institution Types**

•1862 Extension

**3a. Outcome Type:**

Change in Knowledge Outcome Measure

**3b. Quantitative Outcome**

Year	Quantitative Target	Actual
2008	2500	19437

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

**Issue (Who cares and Why)**

**What has been done**

**Results**

**4. Associated Knowledge Areas**

KA Code	Knowledge Area
803	Sociological and Technological Change Affecting Individuals, Families and Communities
315	Animal Welfare/Well-Being and Protection

**Outcome #10**

**1. Outcome Measures**

# of instances in which producers/horticulture businesses/natural resource enterprises, residents and community leaders work together to address issues. (1.4.1c)

**2. Associated Institution Types**

•1862 Extension

**3a. Outcome Type:**

Change in Action Outcome Measure

**3b. Quantitative Outcome**

Year	Quantitative Target	Actual
2008	30	321

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

**Issue (Who cares and Why)**

**What has been done**

**Results**

**4. Associated Knowledge Areas**

KA Code	Knowledge Area
315	Animal Welfare/Well-Being and Protection
803	Sociological and Technological Change Affecting Individuals, Families and Communities

**Outcome #11**

**1. Outcome Measures**

# of communities that assess how current policies and infrastructures sustain or impede agriculture/ horticulture/natural resource enterprises (such as farmland protection or including such enterprises in economic development planning). (1.4.2g)

**2. Associated Institution Types**

•1862 Extension

**3a. Outcome Type:**

Change in Action Outcome Measure

**3b. Quantitative Outcome**

Year	Quantitative Target	Actual
2008	200	176

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

**Issue (Who cares and Why)**

**What has been done**

**Results**

**4. Associated Knowledge Areas**

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

**Outcome #12**

**1. Outcome Measures**

Protection of Viable Vineyard Lands

**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}	0

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

**Issue (Who cares and Why)**

Until this year, no Schuyler County landowner had submitted an application for funding through New York State's Farmland Protection Implementation Grant program, the leading purchase of development rights funding opportunity in New York State. Schuyler County is home to unique vineyard lands surrounding Seneca Lake, and has seen a recent boom in new home construction and small business development in prime lakefront/lakeview areas. Rising land prices make it difficult for farmers to access land when it comes up for sale, which in turn threatens the health of the burgeoning regional wine industry and associated tourism-dependent businesses.

**What has been done**

Cornell Cooperative Extension, Schuyler County (CCESC) made a significant effort in collaboration with the Agriculture and Farmland Protection Board to recruit potential landowner applicants to the state Purchase of Development Rights funding program. An informational meeting and panel discussion were held in April, and a formal pre-screening process was established. Staff then met with applicants individually, and worked closely with each farm and the Schuyler County Soil and Water Conservation District (SWCD) to create an application and draft budget. CCE facilitated meetings between landowners and the Finger Lakes Land Trust early on in the process, to assess suitability of fit and foster positive working relationships.

**Results**

In September of 2008, Schuyler County submitted its first application to the NYS Farmland Protection Implementation Grant (FPIG) program to protect approximately 80 acres of mixed vineyards, forests and gorge/ravine habitat at a total project cost of over \$600,000. Schuyler County now has a tested, predictable pre-screening process for local landowners interested in accessing FPIG funding. This process includes a pre-application, related scoring criterion, and relationships with a local land trust, the SWCD, and an appraisal firm experienced in farmland valuation for PDR. CCESC has initiated discussions with three additional potential farm applicants, with the potential to protect over 200 more acres of prime vineyards, if funded by the FPIG program.

**4. Associated Knowledge Areas**

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

**Outcome #13**

**1. Outcome Measures**

Managing Abandoned Agriculture Land to Maximize and Protect Avian Biodiversity in New York State

**2. Associated Institution Types**

- 1862 Research

**3a. Outcome Type:**

Change in Knowledge Outcome Measure

**3b. Quantitative Outcome**

Year	Quantitative Target	Actual
2008	{No Data Entered}	0

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

**Issue (Who cares and Why)**

The degradation of scrubland habitat in New York State is negatively impacting a suite of species that rely on these environments for breeding. The availability of abandoned farmland in upstate New York will provide important refugia for avian scrubland-species if properly maintained.

**What has been done**

Understanding the genetic interactions and subtle differences in habitat needs between Golden-winged and Blue-winged Warblers will enable the protection of Golden-winged Warblers in New York State. This project provides land managers with management prescriptions on how to maintain a mosaic of habitat types in agricultural landscapes that will provide safe haven areas for populations of Golden- winged Warblers (in isolation from Blue- winged Warblers) and associated scrubland species.

**Results**

The survey protocol we developed was employed by biologists, state officials and volunteers in New Jersey, Connecticut, Kentucky, West Virginia, Virginia, Tennessee and North Carolina during the 2008 field season. By creating a protocol that can be broadly used, we are able to better understand the habitat requirements for early shrubland species throughout northeastern North America. Just one year into the project, we are well on the way to developing effective management prescriptions that will help ensure that we protect and enhance safe haven areas for populations of Golden-winged Warblers and associated shrubland species.

#### 4. Associated Knowledge Areas

KA Code	Knowledge Area
315	Animal Welfare/Well-Being and Protection

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

##### External factors which affected outcomes

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

##### Brief Explanation

- Economic downturn-- Public policy changes-- Government regulations
- Competing public priorities
- Population changes (immigration, new cultural groupings, etc. See plan for additional details.

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

##### 1. Evaluation Studies Planned

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

##### Evaluation Results

Evaluation results are reflected in the outcome indicators and impact statements associated with each planned program and result from a broad variety of evaluation approaches appropriate to the individual programs and contexts they represent.

##### Key Items of Evaluation

Each of our planned programs represents broad program emphases and strategies. Program evaluation results are incorporated in outcome statements associated with each plan.

**Program #5**

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

**1. Name of the Planned Program**

2.1 Connecting People to the Land and Their 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
131	Alternative Uses of Land	100%		100%	
	<b>Total</b>	100%		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>	10.0	0.0	1.0	0.0
<b>Actual</b>	46.7	0.0	0.5	0.0

**2. Institution Name: Cornell University**

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

Extension		Research	
Smith-Lever 3b & 3c	1890 Extension	Hatch	Evans-Allen
289052	0	28424	0
1862 Matching	1890 Matching	1862 Matching	1890 Matching
289052	0	28424	0
1862 All Other	1890 All Other	1862 All Other	1890 All Other
0	0	0	0

**2. Institution Name: NY State Agricultural Experiment Station**

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

Extension		Research	
Smith-Lever 3b & 3c	1890 Extension	Hatch	Evans-Allen
0	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**

Cornell Cooperative Extension faculty, extension and research associates and educators partner with community leaders and elected officials to promote educational strategies which lead to informed land use and natural resource decisions in the context of balanced long-term outcomes. Training, research and resources focus on a number of issues including land use education, land use impacts, rural-urban interface, farmland preservation, community based agricultural economic development, involving youth in community mapping, place based education, pedestrian friendly communities, affordable housing, use of open spaces, leadership development and community decision-making, residential and community horticultural education, and integrated pest management. Yet another approach to connecting people to their environments is fostering locally relevant economic development that builds on local resources, including people, capital, access to markets and natural resources, in a way that strengthens community and environmental assets.

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

Targeted groups include local elected officials and engaged community citizens. There is interest in developing a land use education curriculum for general citizens.

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

**1. Standard output measures**

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

	Direct Contacts Adults	Indirect Contacts Adults	Direct Contacts Youth	Indirect Contacts Youth
Year	Target	Target	Target	Target
Plan	10000	75000	0	0
2008	40422	408660	4693	53362

**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**

	Extension	Research	Total
Plan	0	20	
2008	0	0	3

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

**Output Target**



**Output #1**

**Output Measure**

- # of residents and community leaders participating in programs on community assets, citizen involvement, property rights, land use, conservation, interaction between environmental, economic, issues, quality of life issues. (2.1.1a)

*Not reporting on this Output for this Annual Report*

**Output #2**

**Output Measure**

- # of non-credit instructional activities directed to this program.

*Not reporting on this Output for this Annual Report*

**Output #3**

**Output Measure**

- # of non-credit instructional hours directed to this program.

*Not reporting on this Output for this Annual Report*

**Output #4**

**Output Measure**

- # of funded applied research projects directed to this program.

*Not reporting on this Output for this Annual Report*

V(G). State Defined Outcomes

V. State Defined Outcomes Table of Content

O No.	OUTCOME NAME
1	# of residents and/or community leaders demonstrating knowledge or skill gains related to community assets, property rights, land use, environmental conservation, interaction between environmental, economic issues, quality of life indicators. (2.1.1b)
2	# of community leaders documented to apply community economic development and quality of life indicators to support decision-making. (2.1.1c)
3	# of communities implementing projects that protect public health through sound environmental management. (2.1.1e)
4	# of municipalities adopting land use planning tools that incorporate environmental dimensions and/or develop new institutional arrangements to support land use planning and environmental management. (2.1.2a)
5	# of communities adopting or updating farmland preservation and/or agricultural economic development plans. (2.1.1b)
6	Increase in number of organizations and number of public/private partnerships with educational focus on environmental conservation (land, water, other natural resources). (2.1.2c)
7	# of communities that plan for development directed toward existing communities re broader range of housing types including affordable housing, focus on bikable and walkable communities, and/or a variety of transportation choices. (2.1.3a)
8	# of communities that have taken steps to foster a sense of place. (2.1.3b)
9	# instances in which communities are documented to have resolved agricultural-environmental conflicts and/or other land use/natural resource issues at least in part due to participation in the program. (2.1.1d)
10	# documented initiatives to increase public health and community well-being that take into account connections between work, civic life and residential patterns. (2.1.1f)
11	# of additional acres covered by open space preservation, environmental conservation and/or protection programs attributable at least in part to participation in the program. (2.1.2d)
12	Increase in percentage of food produced locally and regionally that is consumed locally or regionally. (2.1.2e)
13	# of instances in which communities institute changes leading to one of following: development directed toward existing communities, range of housing types, more bikable and/or walkable community, variety of transportation choices. (2.1.3c)
14	# of new or enhanced community organizations or networks linking diverse sub-groups and focused on enhancing community sustainability. (2.1.3d)
15	# of communities demonstrating greater balance of population across the age spectrum. (2.1.3e)
16	# of communities marketing what is distinct and unique about themselves. (2.1.3f)
17	# communities/regions adopting buy local campaigns. (2.1.3g)
18	Keuka Lake Land Use Leadership Alliance
19	Linking Under-Served Forest Owners to Assistance for Enhanced Environmental Sustainability

**Outcome #1**

**1. Outcome Measures**

# of residents and/or community leaders demonstrating knowledge or skill gains related to community assets, property rights, land use, environmental conservation, interaction between environmental, economic issues, quality of life indicators. (2.1.1b)

*Not reporting on this Outcome for this Annual Report*

**Outcome #2**

**1. Outcome Measures**

# of community leaders documented to apply community economic development and quality of life indicators to support decision-making. (2.1.1c)

**2. Associated Institution Types**

•1862 Extension

**3a. Outcome Type:**

Change in Action Outcome Measure

**3b. Quantitative Outcome**

Year	Quantitative Target	Actual
2008	1500	380

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

**Issue (Who cares and Why)**

**What has been done**

**Results**

**4. Associated Knowledge Areas**

KA Code	Knowledge Area
131	Alternative Uses of Land

**Outcome #3**

**1. Outcome Measures**

# of communities implementing projects that protect public health through sound environmental management. (2.1.1e)

**2. Associated Institution Types**

•1862 Extension

**3a. Outcome Type:**

Change in Condition Outcome Measure

**3b. Quantitative Outcome**

Year	Quantitative Target	Actual
2008	75	57

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

**Issue (Who cares and Why)**

**What has been done**

**Results**

**4. Associated Knowledge Areas**

<b>KA Code</b>	<b>Knowledge Area</b>
131	Alternative Uses of Land

**Outcome #4**

**1. Outcome Measures**

# of municipalities adopting land use planning tools that incorporate environmental dimensions and/or develop new institutional arrangements to support land use planning and environmental management. (2.1.2a)

**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	125	96

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

**Issue (Who cares and Why)**

**What has been done**

**Results**

**4. Associated Knowledge Areas**

<b>KA Code</b>	<b>Knowledge Area</b>
131	Alternative Uses of Land

**Outcome #5**

**1. Outcome Measures**

# of communities adopting or updating farmland preservation and/or agricultural economic development plans. (2.1.1b)

**2. Associated Institution Types**

•1862 Extension

**3a. Outcome Type:**

Change in Action Outcome Measure

**3b. Quantitative Outcome**

Year	Quantitative Target	Actual
2008	75	49

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

**Issue (Who cares and Why)**

**What has been done**

**Results**

**4. Associated Knowledge Areas**

KA Code	Knowledge Area
131	Alternative Uses of Land

**Outcome #6**

**1. Outcome Measures**

Increase in number of organizations and number of public/private partnerships with educational focus on environmental conservation (land, water, other natural resources). (2.1.2c)

*Not reporting on this Outcome for this Annual Report*

**Outcome #7**

**1. Outcome Measures**

# of communities that plan for development directed toward existing communities re broader range of housing types including affordable housing, focus on bikable and walkable communities, and/or a variety of transportation choices. (2.1.3a)

**2. Associated Institution Types**

•1862 Extension

**3a. Outcome Type:**

Change in Action Outcome Measure

**3b. Quantitative Outcome**

Year	Quantitative Target	Actual
2008	25	7

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

**Issue (Who cares and Why)**

**What has been done**

**Results**

**4. Associated Knowledge Areas**

KA Code	Knowledge Area
131	Alternative Uses of Land

**Outcome #8**

**1. Outcome Measures**

# of communities that have taken steps to foster a sense of place. (2.1.3b)

**2. Associated Institution Types**

•1862 Extension

**3a. Outcome Type:**

Change in Action Outcome Measure

**3b. Quantitative Outcome**

Year	Quantitative Target	Actual
2008	0	26

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

**Issue (Who cares and Why)**

**What has been done**

**Results**

**4. Associated Knowledge Areas**

KA Code	Knowledge Area
131	Alternative Uses of Land

**Outcome #9**

**1. Outcome Measures**

# instances in which communities are documented to have resolved agricultural-environmental conflicts and/or other land use/natural resource issues at least in part due to participation in the program. (2.1.1d)

**2. Associated Institution Types**

•1862 Extension

**3a. Outcome Type:**

Change in Condition Outcome Measure

**3b. Quantitative Outcome**

Year	Quantitative Target	Actual
2008	50	35

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

**Issue (Who cares and Why)**

**What has been done**

**Results**

**4. Associated Knowledge Areas**

<b>KA Code</b>	<b>Knowledge Area</b>
131	Alternative Uses of Land

**Outcome #10**

**1. Outcome Measures**

# documented initiatives to increase public health and community well-being that take into account connections between work, civic life and residential patterns. (2.1.1f)

**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	20	22

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

**Issue (Who cares and Why)**

**What has been done**

**Results**

**4. Associated Knowledge Areas**

<b>KA Code</b>	<b>Knowledge Area</b>
131	Alternative Uses of Land

**Outcome #11**

**1. Outcome Measures**

# of additional acres covered by open space preservation, environmental conservation and/or protection programs attributable at least in part to participation in the program. (2.1.2d)

*Not reporting on this Outcome for this Annual Report*

**Outcome #12**

**1. Outcome Measures**

Increase in percentage of food produced locally and regionally that is consumed locally or regionally. (2.1.2e)

*Not reporting on this Outcome for this Annual Report*

**Outcome #13**

**1. Outcome Measures**

# of instances in which communities institute changes leading to one of following: development directed toward existing communities, range of housing types, more bikable and/or walkable community, variety of transportation choices. (2.1.3c)

**2. Associated Institution Types**

•1862 Extension

**3a. Outcome Type:**

Change in Condition Outcome Measure

**3b. Quantitative Outcome**

Year	Quantitative Target	Actual
2008	25	12

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

**Issue (Who cares and Why)**

**What has been done**

**Results**

**4. Associated Knowledge Areas**

KA Code	Knowledge Area
131	Alternative Uses of Land

**Outcome #14**

**1. Outcome Measures**

# of new or enhanced community organizations or networks linking diverse sub-groups and focused on enhancing community sustainability. (2.1.3d)

**2. Associated Institution Types**

•1862 Extension

**3a. Outcome Type:**

Change in Condition Outcome Measure

**3b. Quantitative Outcome**

Year	Quantitative Target	Actual
2008	20	11

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

**Issue (Who cares and Why)**

**What has been done**

**Results**



**4. Associated Knowledge Areas**

KA Code	Knowledge Area
131	Alternative Uses of Land

**Outcome #15**

**1. Outcome Measures**

# of communities demonstrating greater balance of population across the age spectrum. (2.1.3e)  
*Not reporting on this Outcome for this Annual Report*

**Outcome #16**

**1. Outcome Measures**

# of communities marketing what is distinct and unique about themselves. (2.1.3f)  
*Not reporting on this Outcome for this Annual Report*

**Outcome #17**

**1. Outcome Measures**

# communities/regions adopting buy local campaigns. (2.1.3g)  
*Not reporting on this Outcome for this Annual Report*

**Outcome #18**

**1. Outcome Measures**

Keuka Lake Land Use Leadership Alliance

**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}	0

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

**Issue (Who cares and Why)**

Development pressure in the Finger Lakes is increasing and rural municipalities are ill equipped to handle the growth and complex projects without professional planning staff or trained volunteer board members. This program was developed in response to a request from the Keuka Watershed Improvement Cooperative and the Keuka Lake Association to address educational needs and planning resources of the eight towns and villages in the watershed.

**What has been done**

CCE collaborated with the Pace University Land Use Law Center, Cornell Community and Rural Development Institute, and the Genesee Finger Lakes Regional Planning Council (GFLRPC) and applied for and was awarded a NYS Quality Communities grant. Two, 4 day training sessions with 35 participants each were held at Keuka College. The training was tailored to identify and address issues unique to the Keuka Lake watershed (i.e., steep slopes, ag land preservation, etc.). A land use plan development committee was formed with participants from the training sessions to work with GFLRPC and CCE to develop a watershed land use plan.

**Results**

Seventy municipal leaders participated in the land use training and 15 participated in the land use plan development committee. As a result of this program, 70 participants graduated from the training and a cooperative sustainable land use plan was completed for use by the municipalities. A network of people interested, motivated and knowledgeable on issues affecting Keuka was established and a plan to guide future actions related to land use was put in place. Many of the concepts of the plan were shared with municipalities during the course of this project and many local actions took place immediately such as the incorporation of the Keuka Lake Land Use plan into the comprehensive plan in the Town of Milo, formation of an agricultural advisory committee in the Town of Wayne, and updates to codes in the Town of Barrington.

**4. Associated Knowledge Areas**

KA Code	Knowledge Area
131	Alternative Uses of Land

**Outcome #19**

**1. Outcome Measures**

Linking Under-Served Forest Owners to Assistance for Enhanced Environmental Sustainability

**2. Associated Institution Types**

- 1862 Research

**3a. Outcome Type:**

Change in Action Outcome Measure

**3b. Quantitative Outcome**

Year	Quantitative Target	Actual
2008	{No Data Entered}	0

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

**Issue (Who cares and Why)**

Recent and projected changes in ownership patterns among family forest owners have diminished the ability of Cornell Cooperative Extension system and its partners to offer educational input into the decision making process of family forest owners.

**What has been done**

This project will use survey research methodology to better understand the educational needs of family forest owners. Informed by this research, extension education strategies will develop new strategies and materials, including web-based services, that will better serve the needs of family forest owners.

**Results**

A web conference seminar series was developed to reach previously underserved forest owner populations. The series met with such success that four other states adopted a similar model. Monthly web conferences reached an average of 90 participants who documented a 75% increase in awareness of the topic and a 70% increase in the development of a skill or potential behavior change. A third of web conference participants reported having never attended a forestry workshop. Respondents to a 2008 survey represented 157,000 acres and more than 30 states. The landowner survey and the two surveys addressing forestry web conference subjects complement more extensive efforts by the USDA Forest Service Northern Research Station through the National Woodland Owner Survey. Together these state level and national-level inputs have been used to reformulate educational materials to better resonate with the interests, attitudes and values of forest owners.

**4. Associated Knowledge Areas**

KA Code	Knowledge Area
131	Alternative Uses of Land

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

### **External factors which affected outcomes**

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

### **Brief Explanation**

- Natural disasters (drought, weather extremes, etc.-- Economic downturn
  - Public policy changes
  - Government regulations
  - Competing public priorities
  - Population changes (immigration, new cultural groupings, etc.
- See plan for additional details.

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

### **1. Evaluation Studies Planned**

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

### **Evaluation Results**

Evaluation results are reflected in the outcome indicators and impact statements associated with each planned program and result from a broad variety of evaluation approaches appropriate to the individual programs and contexts they represent.

### **Key Items of Evaluation**

Each of our planned programs represents broad program emphases and strategies. Program evaluation results are incorporated in outcome statements associated with each plan.

**Program #6**

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

**1. Name of the Planned Program**

2.2 Strengthening Community 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	40%		40%	
805	Community Institutions, Health, and Social Services	25%		25%	
903	Communication, Education, and Information Delivery	35%		35%	
	<b>Total</b>	100%		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>	13.6	0.0	5.0	0.0
<b>Actual</b>	70.1	0.0	2.2	0.0

**2. Institution Name: Cornell University**

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

Extension		Research	
Smith-Lever 3b & 3c	1890 Extension	Hatch	Evans-Allen
433578	0	76359	0
1862 Matching	1890 Matching	1862 Matching	1890 Matching
433578	0	76359	0
1862 All Other	1890 All Other	1862 All Other	1890 All Other
0	0	0	0

**2. Institution Name: NY State Agricultural Experiment Station**

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

Extension		Research	
Smith-Lever 3b & 3c	1890 Extension	Hatch	Evans-Allen
0	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**

Cornell Cooperative Extension Associations are uniquely positioned to provide unbiased assistance and education to communities in order for them to pursue their goals. Educators can provide the kind of initial facilitation and organizational skills necessary for successful visioning and action planning processes thereby assisting communities to improve or enhance their quality of life. Specific approaches for which we have resources: main street revitalization; community based entrepreneurial development; and strategic planning and visioning; technology-led economic development (via the EDA University Center).

Program staff work with a variety of state and local groups to tackle projects that that vary in nature from applied research to pilot projects or case studies. These activities, which are demand driven (locally or regionally initiated usually with sponsored or self-financing), provide valuable insights, resources and materials for extension education. This project work also provides innovative local government practitioners, professionals who work with local governments, and practitioner-professionals all of whom serve as a resource for our training and educational outreach. A variety of Cornell faculty, instructors and other professionals also serve as instructors, provide existing written and web resources and help develop needed resources for local government extension education. We utilize a number of strategies in conducting local government education.

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

The educational approach to community and economic renewal suggest multiple audiences and stakeholders working in a partnership mode (elected officials, community leaders, business leaders, not-for-profit agencies, youth serving agencies, schools, environmental groups, agribusiness leaders, etc.).

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

**1. Standard output measures**

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

	Direct Contacts Adults	Indirect Contacts Adults	Direct Contacts Youth	Indirect Contacts Youth
Year	Target	Target	Target	Target
Plan	15000	0	50000	0
2008	6807	164460	1871	2033

**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>	0	80	
2008	0	0	55

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

**Output Target**

**Output #1**

**Output Measure**

- # non-credit instructional activities directed to this program.

*Not reporting on this Output for this Annual Report*

**Output #2**

**Output Measure**

- # non-credit instructional activity contact hours directed to this program.

*Not reporting on this Output for this Annual Report*

**Output #3**

**Output Measure**

- # funded applied research projects directed to this program.

*Not reporting on this Output for this Annual Report*

**Output #4**

**Output Measure**

- # of residents, community leaders, entrepreneurs, econ. devel. professionals participating in programs re: workforce, entrepreneurial climate, diversification, economic impact analysis, e-commerce, market devel., business planning, partnerships. (2.2.1a)

*Not reporting on this Output for this Annual Report*

**Output #5**

**Output Measure**

- # of community members participating in educational programs related to community decision-making, public participation, planning and monitoring processes, and collaborative approaches. (2.2.3a)

*Not reporting on this Output for this Annual Report*

**Output #6**

**Output Measure**

- # of economic developers and/or entrepreneurs participating in educational programs on "green" business opportunities. (2.2.4a)

*Not reporting on this Output for this Annual Report*

V(G). State Defined Outcomes

V. State Defined Outcomes Table of Content

O No.	OUTCOME NAME
1	# of residents, community leaders, entrepreneurs, econ. devel. professionals demon. knowledge/skill gains re: workforce, entrepreneurial climate, diversification, econ. impact analysis, e-commerce, market devel., business planning, partnerships. (2.2.1b)
2	# of community members demonstrating knowledge or skills gains related to community decision-making, public participation, planning and monitoring processes, collaborative approaches, and/or emergency preparedness. (2.2.3b)
3	# of economic developers and/or entrepreneurs demonstrating knowledge gains related to "green" business opportunities. (2.2.4b)
4	# of communities who plan for and implement initiatives re community based agric. econ. devel., main street revitalization, workforce development, business devel. and assistance, non-profit sector devel. and/or other elements of sustainable growth. (2.2.1c)
5	# of businesses initiated, retained, or expanded in a sustainable manner based on individual and community goals. (2.2.1a)
6	# of employers establishing or contributing to community-based workforce development approaches. (2.2.2a)
7	# of communities instituting new or enhanced participatory processes related to economic development. (2.2.3c)
8	# of communities developing vision statements and strategic plans and implement steps toward achieving their plans. (2.2.3d)
9	# of collaborative partnerships established within and across communities for issue resolution and collective action and/or to improve community services. (2.2.3e)
10	# of new "green" businesses established at least in part due to participation in the program. (2.2.4c)
11	# of communities establishing an infrastructure and climate to support entrepreneurs, local farms and agribusinesses attributable at least in part to initiatives of the program. (2.2.1e)
12	# of communities reporting that their local economies are increasingly diverse and developing in a sustainable manner attributable at least in part to participating in the program. (2.2.1f)
13	# of employers reporting enhanced workforce availability attributable at least in part to participation in the program. (2.2.2b)
14	# of communities reporting increased retention or return of youth in their communities due to meaningful employment opportunities attributable at least in part to initiatives of the program. (2.2.2c)
15	# of documented instances in which a community effectively resolves a need or strengthens community assets attributable at least in part to participation in the program. (2.2.3f)
16	# of communities that report increased diversification of their local economies attributable at least in part to participation in the program. (2.2.4d)
17	Rockland Community Capacity Building Initiative
18	Rural Schools and Their Communities: Life After High Stakes School Reform

**Outcome #1**

**1. Outcome Measures**

# of residents, community leaders, entrepreneurs, econ. devel. professionals demon. knowledge/skill gains re: workforce, entrepreneurial climate, diversification, econ. impact analysis, e-commerce, market devel., business planning, partnerships. (2.2.1b)

*Not reporting on this Outcome for this Annual Report*

**Outcome #2**

**1. Outcome Measures**

# of community members demonstrating knowledge or skills gains related to community decision-making, public participation, planning and monitoring processes, collaborative approaches, and/or emergency preparedness.

(2.2.3b)

*Not reporting on this Outcome for this Annual Report*

**Outcome #3**

**1. Outcome Measures**

# of economic developers and/or entrepreneurs demonstrating knowledge gains related to "green" business opportunities. (2.2.4b)

*Not reporting on this Outcome for this Annual Report*

**Outcome #4**

**1. Outcome Measures**

# of communities who plan for and implement initiatives re community based agric. econ. devel., main street revitalization, workforce development, business devel. and assistance, non-profit sector devel. and/or other elements of sustainable growth. (2.2.1c)

**2. Associated Institution Types**

•1862 Extension

**3a. Outcome Type:**

Change in Action Outcome Measure

**3b. Quantitative Outcome**

Year	Quantitative Target	Actual
2008	50	427

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

**Issue (Who cares and Why)**

**What has been done**

**Results**

**4. Associated Knowledge Areas**

KA Code	Knowledge Area
805	Community Institutions, Health, and Social Services
903	Communication, Education, and Information Delivery
608	Community Resource Planning and Development



**Outcome #5**

**1. Outcome Measures**

# of businesses initiated, retained, or expanded in a sustainable manner based on individual and community goals. (2.2.1a)  
*Not reporting on this Outcome for this Annual Report*

**Outcome #6**

**1. Outcome Measures**

# of employers establishing or contributing to community-based workforce development approaches. (2.2.2a)

**2. Associated Institution Types**

•1862 Extension

**3a. Outcome Type:**

Change in Action Outcome Measure

**3b. Quantitative Outcome**

Year	Quantitative Target	Actual
2008	50	55

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

**Issue (Who cares and Why)**

**What has been done**

**Results**

**4. Associated Knowledge Areas**

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

**Outcome #7**

**1. Outcome Measures**

# of communities instituting new or enhanced participatory processes related to economic development. (2.2.3c)

**2. Associated Institution Types**

•1862 Extension

**3a. Outcome Type:**

Change in Action Outcome Measure

**3b. Quantitative Outcome**

Year	Quantitative Target	Actual
2008	50	204

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

**Issue (Who cares and Why)**

**What has been done**

**Results**

**4. Associated Knowledge Areas**

<b>KA Code</b>	<b>Knowledge Area</b>
608	Community Resource Planning and Development
903	Communication, Education, and Information Delivery
805	Community Institutions, Health, and Social Services

**Outcome #8**

**1. Outcome Measures**

# of communities developing vision statements and strategic plans and implement steps toward achieving their plans. (2.2.3d)  
*Not reporting on this Outcome for this Annual Report*

**Outcome #9**

**1. Outcome Measures**

# of collaborative partnerships established within and across communities for issue resolution and collective action and/or to improve community services. (2.2.3e)  
*Not reporting on this Outcome for this Annual Report*

**Outcome #10**

**1. Outcome Measures**

# of new "green" businesses established at least in part due to participation in the program. (2.2.4c)  
*Not reporting on this Outcome for this Annual Report*

**Outcome #11**

**1. Outcome Measures**

# of communities establishing an infrastructure and climate to support entrepreneurs, local farms and agribusinesses attributable at least in part to initiatives of the program. (2.2.1e)

**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	15	31

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

**Issue (Who cares and Why)**

**What has been done**

**Results**

**4. Associated Knowledge Areas**

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

**Outcome #12**

**1. Outcome Measures**

# of communities reporting that their local economies are increasingly diverse and developing in a sustainable manner attributable at least in part to participating in the program. (2.2.1f)  
*Not reporting on this Outcome for this Annual Report*

**Outcome #13**

**1. Outcome Measures**

# of employers reporting enhanced workforce availability attributable at least in part to participation in the program. (2.2.2b)  
*Not reporting on this Outcome for this Annual Report*

**Outcome #14**

**1. Outcome Measures**

# of communities reporting increased retention or return of youth in their communities due to meaningful employment opportunities attributable at least in part to initiatives of the program. (2.2.2c)  
*Not reporting on this Outcome for this Annual Report*

**Outcome #15**

**1. Outcome Measures**

# of documented instances in which a community effectively resolves a need or strengthens community assets attributable at least in part to participation in the program. (2.2.3f)

**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	35	161

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

**Issue (Who cares and Why)**

**What has been done**

**Results**

**4. Associated Knowledge Areas**

KA Code	Knowledge Area
608	Community Resource Planning and Development
805	Community Institutions, Health, and Social Services
903	Communication, Education, and Information Delivery

**Outcome #16**

**1. Outcome Measures**

# of communities that report increased diversification of their local economies attributable at least in part to participation in the program. (2.2.4d)  
*Not reporting on this Outcome for this Annual Report*

**Outcome #17**

**1. Outcome Measures**

Rockland Community Capacity Building Initiative

**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}	0

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

**Issue (Who cares and Why)**

Rockland County's 600+ non-profits are a vital part of the Rockland community, improving the quality of life, employing over 11,000 people, generating income of more than \$779 million annually and adding \$19.5 million in value through volunteer hours. Executive directors and their staff in non-profits regularly identify training and collaboration needs for themselves, their staff and boards to ensure efficient and effective management of their programs and resources. Likewise, government and funders demand accountability for effective and efficient use of public/private funds.

**What has been done**

CCE of Rockland received the Rockland Community Capacity Building Initiative (RCCBI) Grant from the County of Rockland. The RCCBI is the first county-wide effort to assist non-profit business in building organizational strength, capacity, and sustainability. Through this Initiative, educational training, technical assistance, and sub-awards were provided in the five capacity building areas of revenue development, organizational development, program development, leadership development, and community engagement. During the past year 18 educational programs and 450 hours of individual/group technical assistance was provided to 589 non-profits.

**Results**

Nineteen non-profit businesses were awarded mini-grants intended to expand their capacity to serve specific audiences. Grants were used for a variety of purposes such as: obtaining 501(c)3 and tax-exempt status; installation of computers and software programs to track donors, volunteers, finances, and even organizational management; commercial stoves were able to be purchased to increase the capacity of food served in pantries and emergency feeding sites; and grantsmanship and fundraising training was provided for staff and Boards of Directors. 39 % of the participants identified specific techniques that they intend to use in completing and submitting grant applications 55% of the participants stated that they now know and intend to utilize the Internet and the Cooperating Collection of the Foundation Center at the Suffern Free Library to search for grant opportunities by specific categories. 50% of the sub-award participants are collaborating for the first time with other non-profits on new initiatives in the areas of fundraising and program development.

**4. Associated Knowledge Areas**

KA Code	Knowledge Area
805	Community Institutions, Health, and Social Services

**Outcome #18**

**1. Outcome Measures**

Rural Schools and Their Communities: Life After High Stakes School Reform

**2. Associated Institution Types**

- 1862 Research

**3a. Outcome Type:**

Change in Action Outcome Measure

**3b. Quantitative Outcome**

Year	Quantitative Target	Actual
2008	{No Data Entered}	0

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

**Issue (Who cares and Why)**

Rural communities and their public schools are facing unprecedented expectations from the state and federal government, both in terms of how well they educate children, and also the roles schools play in community issues beyond education.

**What has been done**

This project aims to provide relevant research to rural communities and their schools and to connect the Rural Schools Association of New York State with universities and associations in other states. The public school is an integral piece of the broader goal of reviving rural communities.

**Results**

The most substantial outcome of this three year project has been the creation of the NYS Center for Rural Schools in 2008 by New York Governor Paterson. While other centers that focus on rural issues exist, this is the first legislatively-created and statutorily backed center of its kind in the nation. The key feature of the Center's design and practice is that it views the public school as an integral piece of the broader goal of rejuvenating rural communities through better linkages with the healthcare system, economic development, early care, demographic changes, and STEM-related issues. The Center, house at Cornell, connects disparate entities, such as state agencies, universities, interest groups, practitioners and scholars. A speaker series, published reports, conferences and other network building activities are underway.

**4. Associated Knowledge Areas**

KA Code	Knowledge Area
805	Community Institutions, Health, and Social Services

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

External factors which affected outcomes

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

**Brief Explanation**

-- Economic downturn-- Rural development policy changes

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

**1. Evaluation Studies Planned**

- After Only (post program)
- Retrospective (post program)
- During (during program)
- Case Study

**Evaluation Results**

Evaluation results are reflected in the outcome indicators and impact statements associated with each planned program and result from a broad variety of evaluation approaches appropriate to the individual programs and contexts they represent.

**Key Items of Evaluation**

Each of our planned programs represents broad program emphases and strategies. Program evaluation results are incorporated in outcome statements associated with each plan.

**Program #7**

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

**1. Name of the Planned Program**

3.1 Nutrition, Food Safety and Health

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

**1. Program Knowledge Areas and Percentage**

KA Code	Knowledge Area	%1862 Extension	%1890 Extension	%1862 Research	%1890 Research
501	New and Improved Food Processing Technologies	16%		16%	
502	New and Improved Food Products	15%		15%	
503	Quality Maintenance in Storing and Marketing Food Products	13%		13%	
701	Nutrient Composition of Food	2%		2%	
702	Requirements and Function of Nutrients and Other Food Components	2%		2%	
703	Nutrition Education and Behavior	4%		4%	
704	Nutrition and Hunger in the Population	5%		5%	
711	Ensure Food Products Free of Harmful Chemicals, Including Residues from Agricultural and Other Sources.	7%		7%	
712	Protect Food from Contamination by Pathogenic Microorganisms, Parasites, and Naturally Occurring Toxins	14%		14%	
722	Zoonotic Diseases and Parasites Affecting Humans	7%		7%	
723	Hazards to Human Health and Safety	7%		7%	
724	Healthy Lifestyle	8%		8%	
	<b>Total</b>	100%		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>	71.0	0.0	16.0	0.0
<b>Actual</b>	332.9	0.0	54.6	0.0

**2. Institution Name:** Cornell University

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

Extension		Research	
<b>Smith-Lever 3b &amp; 3c</b> 2059493	<b>1890 Extension</b> 0	<b>Hatch</b> 2118454	<b>Evans-Allen</b> 0
<b>1862 Matching</b> 2059493	<b>1890 Matching</b> 0	<b>1862 Matching</b> 2118454	<b>1890 Matching</b> 0
<b>1862 All Other</b> 0	<b>1890 All Other</b> 0	<b>1862 All Other</b> 0	<b>1890 All Other</b> 0

2. Institution Name: NY State Agricultural Experiment Station

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

Extension		Research	
<b>Smith-Lever 3b &amp; 3c</b> 0	<b>1890 Extension</b> 0	<b>Hatch</b> 147796	<b>Evans-Allen</b> 0
<b>1862 Matching</b> 0	<b>1890 Matching</b> 0	<b>1862 Matching</b> 147796	<b>1890 Matching</b> 0
<b>1862 All Other</b> 0	<b>1890 All Other</b> 0	<b>1862 All Other</b> 0	<b>1890 All Other</b> 0

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

**1. Brief description of the Activity**

This is a comprehensive, statewide educational program entailing multiple education methods depending on local context and need. Campus-based faculty and extension associates and county-based educators are involved in designing, implementing, and evaluating tailored educational efforts depending on the focus and scope of their role.

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

Audiences reached include: moderate and low income families; 4-H youth; nutrition, health, and family professionals; front-line family workers; food service and food production staff and their managers and directors; and government and agency leaders at the local, state, and federal level.

**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>	55000	250000	20000	100000
2008	68674	560697	27098	164933

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

**Patent Applications Submitted**

**Year Target**  
**Plan:** 8  
 2008 : 39



**Patents listed**

- \* Simple Mozzarella Cheese-Making Methods (3)
- \* Uniformly Moist Cheese
- \* Branched Chain Fatty Acids for Prevention or Treatment of Gastrointestinal Disorders
- \* Use of DHA and ARA in the Preparation of a Composition for Preventing or Treating Obesity (2)
- \* Method for Preventing or Treating Obesity (4)
- \* Use of DHA and ARA in the Preparation of a Composition for Preventing or Treating Obesity (10)
- \* Method for Regulating Gene Expression in Subjects (5)
- \* Use of DHA and ARA in the Preparation of a Composition for Regulating Gene Expression (9)
- \* Biodegradable Cationic Polymer Gene Transfer Compositions and Methods of Use
- \* Method and System for Lactose-free or Lactose-reduced Milk and Associated Products, Production Thereof, and Associated Processes
- \* Commensal Bacteria as Signal Mediators within a Human Host
- \* Development and Implementation of a Multiplex Single Nucleotide Polymorphism (SNP) Genotyping Assay to Detect Virulence Attenuating Mutations in the *Listeria monocytogenes* virulence gene, *inlA*

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

**Number of Peer Reviewed Publications**

	<b>Extension</b>	<b>Research</b>	<b>Total</b>
<b>Plan</b>	0	290	
2008	0	0	220

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

**Output Target**

**Output #1**

**Output Measure**

- # non-credit instructional activities directed to this program.

*Not reporting on this Output for this Annual Report*

**Output #2**

**Output Measure**

- # non-credit instructional hours directed to this program.

*Not reporting on this Output for this Annual Report*

**Output #3**

**Output Measure**

- # funded applied applied research projects directed to this program.

*Not reporting on this Output for this Annual Report*

**Output #4**

**Output Measure**

- # of children, youth, and adults completing education programs on: food, nutrition and health topics including attitudes about healthy eating, food choices, selection of healthy foods, preparation of healthy foods, and active living. (3.1.1a)

*Not reporting on this Output for this Annual Report*

**Output #5**

**Output Measure**

- # of women and health providers completing education programs addressing healthy weight gain during pregnancy and breastfeeding. (3.1.1b)

*Not reporting on this Output for this Annual Report*

**Output #6**

**Output Measure**

- # of community members completing educational programs on issues that influence food and health behavior and associated appropriate actions including obesity prevention programs and policy. (3.1.1c)

*Not reporting on this Output for this Annual Report*

**Output #7**

**Output Measure**

- # of children, youth, and adults completing education programs on: identifying food insecurity, obtaining food assistance, balancing available resources by planning food choices, and lack of sufficient quality food/ hunger. (3.1.2a)

*Not reporting on this Output for this Annual Report*

**Output #8**

**Output Measure**

- # of policy makers and citizens participating in education programs on status of food security in their communities and possible actions to promote increased food security. (3.1.2b)

*Not reporting on this Output for this Annual Report*

**Output #9**

**Output Measure**

- # of participants in programs on: reducing food safety and/or food borne risks and illnesses including recommended food purchase, storage, handling, and preparation practices. (3.1.3a)

*Not reporting on this Output for this Annual Report*

V(G). State Defined Outcomes

V. State Defined Outcomes Table of Content

O No.	OUTCOME NAME
1	# of program participants who demonstrate knowledge or skill gains related to food, nutrition and health topics including: attitudes about healthy eating, healthy food choices, selection of healthy foods, preparation of healthy foods, and benefits of healthy living. (3.1.1d)
2	# of program participants who demonstrate knowledge or skill gains related to healthy weight gain during pregnancy and breast feeding. (3.1.1e)
3	# of program participants who demonstrate knowledge or skill gains related to issues that influence food and health behavior and associated appropriate school/public/community actions, programs, and policy. (3.1.1f)
4	# of program participants who demonstrate knowledge or skill gains related to status of food security in their communities and possible actions to promote increased food security. (3.1.2c)
5	# of program participants who know what to do related to food insecurity problems such as actions to obtain food assistance, balance available resources by planning food choices, and lack sufficient quality food/hunger. (3.1.2d)
6	# of program participants who demonstrate knowledge or skill gains related to reducing food safety and/or food borne risks and illnesses including recommended food purchase, storage, handling, and preparation practices. (3.1.3b)
7	# of program participants documented to have applied healthy eating, active living, and/or food safety recommendations. (3.1.1g)
8	# of program participants documented to have managed food budgets and related resources to meet family needs. (3.1.1h)
9	# of program participants documented to have increased participation in public/community health-related programs. (3.1.1i)
10	# of program participants documented to have reduced one or more chronic disease indicators. (3.1.1j)
11	# of participating schools and/or communities documented to have made practice and policy changes to promote healthy eating and active living. (3.1.1k)
12	# of program participants who have acted to improve their food security status. (3.1.2e)
13	# of participating communities that assess food insecurity and develop appropriate action plans. (3.1.2f)
14	# of household and food handler participants documented to have increased application of safe food preparation practices (storage, preparation, and serving, i.e, HACCP standards. (3.1.3c)
15	# of vulnerable children, youth and members of other priority groups documented to have reduced incidence of overweight and obesity as a result of participating in relevant educational programs. (3.1.1i)
16	# of participating schools and/or communities reporting decline in incidence of overweight and/or indicators of chronic diseases associated with obesity. (3.1.1m)
17	# of individuals or households documented to have improved food security status. (3.1.2h)
18	# of participating communities reporting declines in food insecurity indicators. (3.1.2i)
19	# of communities/firms/or organizations documented to have implemented improved practices or food safety policies as a result of participating in relevant educational programs. (3.1.3d)
20	Diabetes Outreach and Nutrition Education Program
21	Preventative Health Education Based upon Environmental Engineering of Food Contexts
22	Foodborne Illness by Improving Safe Food Preparation Messages

**Outcome #1**

**1. Outcome Measures**

# of program participants who demonstrate knowledge or skill gains related to food, nutrition and health topics including: attitudes about healthy eating, healthy food choices, selection of healthy foods, preparation of healthy foods, and benefits of healthy living. (3.1.1d)

*Not reporting on this Outcome for this Annual Report*

**Outcome #2**

**1. Outcome Measures**

# of program participants who demonstrate knowledge or skill gains related to healthy weight gain during pregnancy and breast feeding. (3.1.1e)

*Not reporting on this Outcome for this Annual Report*

**Outcome #3**

**1. Outcome Measures**

# of program participants who demonstrate knowledge or skill gains related to issues that influence food and health behavior and associated appropriate school/public/community actions, programs, and policy. (3.1.1f)

*Not reporting on this Outcome for this Annual Report*

**Outcome #4**

**1. Outcome Measures**

# of program participants who demonstrate knowledge or skill gains related to status of food security in their communities and possible actions to promote increased food security. (3.1.2c)

*Not reporting on this Outcome for this Annual Report*

**Outcome #5**

**1. Outcome Measures**

# of program participants who know what to do related to food insecurity problems such as actions to obtain food assistance, balance available resources by planning food choices, and lack sufficient quality food/hunger. (3.1.2d)

*Not reporting on this Outcome for this Annual Report*

**Outcome #6**

**1. Outcome Measures**

# of program participants who demonstrate knowledge or skill gains related to reducing food safety and/or food borne risks and illnesses including recommended food purchase, storage, handling, and preparation practices. (3.1.3b)

*Not reporting on this Outcome for this Annual Report*

**Outcome #7**

**1. Outcome Measures**

# of program participants documented to have applied healthy eating, active living, and/or food safety recommendations. (3.1.1g)

**2. Associated Institution Types**

•1862 Extension

**3a. Outcome Type:**

Change in Action Outcome Measure

**3b. Quantitative Outcome**

Year	Quantitative Target	Actual
2008	32000	35926

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

**Issue (Who cares and Why)**

**What has been done**

**Results**

**4. Associated Knowledge Areas**

KA Code	Knowledge Area
723	Hazards to Human Health and Safety
703	Nutrition Education and Behavior

**Outcome #8**

**1. Outcome Measures**

# of program participants documented to have managed food budgets and related resources to meet family needs. (3.1.1h)

**2. Associated Institution Types**

•1862 Extension

**3a. Outcome Type:**

Change in Action Outcome Measure

**3b. Quantitative Outcome**

Year	Quantitative Target	Actual
2008	15000	16624

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

**Issue (Who cares and Why)**

**What has been done**

**Results**

**4. Associated Knowledge Areas**

KA Code	Knowledge Area
703	Nutrition Education and Behavior

**Outcome #9**

**1. Outcome Measures**

# of program participants documented to have increased participation in public/community health-related programs. (3.1.1i)

**2. Associated Institution Types**

•1862 Extension

**3a. Outcome Type:**

Change in Action Outcome Measure

**3b. Quantitative Outcome**

Year	Quantitative Target	Actual
2008	1500	8778

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

**Issue (Who cares and Why)**

**What has been done**

**Results**

**4. Associated Knowledge Areas**

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

**Outcome #10**

**1. Outcome Measures**

# of program participants documented to have reduced one or more chronic disease indicators. (3.1.1j)

*Not reporting on this Outcome for this Annual Report*

**Outcome #11**

**1. Outcome Measures**

# of participating schools and/or communities documented to have made practice and policy changes to promote healthy eating and active living.

(3.1.1k)

*Not reporting on this Outcome for this Annual Report*

**Outcome #12**

**1. Outcome Measures**

# of program participants who have acted to improve their food security status. (3.1.2e)

**2. Associated Institution Types**

•1862 Extension

**3a. Outcome Type:**

Change in Action Outcome Measure

**3b. Quantitative Outcome**

Year	Quantitative Target	Actual
2008	7500	12949

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

**Issue (Who cares and Why)**

**What has been done**

**Results**

**4. Associated Knowledge Areas**

KA Code	Knowledge Area
702	Requirements and Function of Nutrients and Other Food Components
703	Nutrition Education and Behavior
701	Nutrient Composition of Food
704	Nutrition and Hunger in the Population

**Outcome #13**

**1. Outcome Measures**

# of participating communities that assess food insecurity and develop appropriate action plans. (3.1.2f)

**2. Associated Institution Types**

•1862 Extension

**3a. Outcome Type:**

Change in Action Outcome Measure

**3b. Quantitative Outcome**

Year	Quantitative Target	Actual
2008	25	753

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

**Issue (Who cares and Why)**

**What has been done**

**Results**

**4. Associated Knowledge Areas**

KA Code	Knowledge Area
703	Nutrition Education and Behavior

**Outcome #14**

**1. Outcome Measures**

# of household and food handler participants documented to have increased application of safe food preparation practices (storage, preparation, and serving, i.e, HACCP standards. (3.1.3c)

**2. Associated Institution Types**

•1862 Extension

**3a. Outcome Type:**

Change in Action Outcome Measure

**3b. Quantitative Outcome**

Year	Quantitative Target	Actual
2008	15000	13127

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

**Issue (Who cares and Why)**

**What has been done**

**Results**

**4. Associated Knowledge Areas**

KA Code	Knowledge Area
503	Quality Maintenance in Storing and Marketing Food Products
501	New and Improved Food Processing Technologies
722	Zoonotic Diseases and Parasites Affecting Humans
711	Ensure Food Products Free of Harmful Chemicals, Including Residues from Agricultural and Other Sources.
712	Protect Food from Contamination by Pathogenic Microorganisms, Parasites, and Naturally Occurring Toxins
723	Hazards to Human Health and Safety

**Outcome #15**

**1. Outcome Measures**

# of vulnerable children, youth and members of other priority groups documented to have reduced incidence of overweight and obesity as a result of participating in relevant educational programs. (3.1.11)  
*Not reporting on this Outcome for this Annual Report*

**Outcome #16**

**1. Outcome Measures**

# of participating schools and/or communities reporting decline in incidence of overweight and/or indicators of chronic diseases associated with obesity. (3.1.1m)  
*Not reporting on this Outcome for this Annual Report*

**Outcome #17**

**1. Outcome Measures**

# of individuals or households documented to have improved food security status. (3.1.2h)



**2. Associated Institution Types**

•1862 Extension

**3a. Outcome Type:**

Change in Condition Outcome Measure

**3b. Quantitative Outcome**

Year	Quantitative Target	Actual
2008	5200	6402

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

**Issue (Who cares and Why)**

**What has been done**

**Results**

**4. Associated Knowledge Areas**

KA Code	Knowledge Area
703	Nutrition Education and Behavior
702	Requirements and Function of Nutrients and Other Food Components
701	Nutrient Composition of Food

**Outcome #18**

**1. Outcome Measures**

# of participating communities reporting declines in food insecurity indicators.  
(3.1.2i)

*Not reporting on this Outcome for this Annual Report*

**Outcome #19**

**1. Outcome Measures**

# of communities/firms/or organizations documented to have implemented improved practices or food safety policies as a result of participating in relevant educational programs. (3.1.3d)

**2. Associated Institution Types**

•1862 Extension

**3a. Outcome Type:**

Change in Condition Outcome Measure

**3b. Quantitative Outcome**

Year	Quantitative Target	Actual
2008	350	486

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

**Issue (Who cares and Why)**

**What has been done**

**Results**

**4. Associated Knowledge Areas**

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

**Outcome #20**

**1. Outcome Measures**

Diabetes Outreach and Nutrition Education 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}	0

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

**Issue (Who cares and Why)**

Diabetes is an increasing health concern in Wayne County. Currently there are an estimated 7,000 people with diabetes in the county (Wayne County Rural Health Network) with a total population of 93,765. Mortality rates due to diabetes are relatively high with 32.4 per 100,000 residents in Wayne County, compared to 19.1 for the Finger Lakes and 20 for New York State (NYS DOH, 2003). Obesity, associated with diabetes, is also high with 65% of residents in Wayne County overweight or obese compared to 57% for NYS (NYS Vital Statistics).

**What has been done**

CCE of Wayne County expanded programming to reach diabetics and those at risk for diabetes, making special effort to target African Americans. 18 'Sugar and Spice' workshops were conducted in churches, senior nutrition sites, migrant centers, housing complexes and community centers. Two 'Living with Diabetes' series, using the 'Life with Diabetes' curriculum available from the American Diabetes Association.

**Results**

273 people were reached through 18 Sugar and Spice workshops. 96% learned their risk status for diabetes by completing a diabetes risk assessment tool provided by the American Diabetes Association and 93% learned at least one healthy food preparation technique. A total of 39 people completed Living with Diabetes, defined as attending three or more of the five classes and completing both intake and exit forms. Evaluations showed a significant increase in knowledge gained and lifestyle changes anticipated, as well as increased ability to self-manage this chronic disease. In particular, significant positive changes were reported in the use of nutrition and diet and physical activity in managing diabetes and in the utilization of A1C and cholesterol readings by participants to monitor health status. A quarter reported decreases in both A1C and blood cholesterol levels. 46% of participants reported an increase in their intake of high fiber foods as a result of the series, 31% reported increasing fruits and vegetables and 18% increased use of low-fat dairy in their diets.

**4. Associated Knowledge Areas**

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

**Outcome #21**

**1. Outcome Measures**

Preventative Health Education Based upon Environmental Engineering of Food Contexts

**2. Associated Institution Types**

•1862 Research

**3a. Outcome Type:**

Change in Knowledge Outcome Measure

**3b. Quantitative Outcome**

Year	Quantitative Target	Actual
2008	{No Data Entered}	0

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

**Issue (Who cares and Why)**

Obesity is an epidemic. In New York State, 58 percent of the adult population is overweight or obese. Portion control is one of the main culprits leading to overeating and obesity.

**What has been done**

This project seeks to provide environmental tools, which have been empirically shown to lead to positive behavioral changes and weight loss, to New York State families that will allow them to overcome obstacles to eating better and maintaining good eating habits.

**Results**

Mindless Eating Survey data confirmed the type of individuals who are most likely to adhere to web-base behavioral recommendations and identified the most effective "tips" for healthy eating. The findings were widely distributed to educators, extension agents and community leaders in New York and across the U.S. Impact from this project will soon be enormously extended through the training of Certified Facilitators and through the Wellness Programs of Corporations in New York State and nationwide, for which we are currently preparing training materials and curriculums. Based on the survey, "tips" were ranked according to compliance, ease of implementation and weight loss. Top tips for meals were: 1) restrict eating to the kitchen or dining room; 2) use an appetizer plate or bread plate for main dish at dinner and 3) leave some food on the plate and cover it with a napkin. Top snack tips were: 1) before eating a snack, wait five minutes; 2) exercise at a time when usually snack and 3) allow an afternoon snack only after eating a piece of fruit.

**4. Associated Knowledge Areas**

KA Code	Knowledge Area
703	Nutrition Education and Behavior

**Outcome #22**

**1. Outcome Measures**

Foodborne Illness by Improving Safe Food Preparation Messages

**2. Associated Institution Types**

•1862 Research

**3a. Outcome Type:**

Change in Knowledge Outcome Measure

**3b. Quantitative Outcome**

Year	Quantitative Target	Actual
2008	{No Data Entered}	0

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

### Issue (Who cares and Why)

Despite public health campaigns, many consumers do not follow recommended safe food preparation practices resulting in \$10-83 billion in medical costs, about 76 million illnesses, more than 300,000 hospitalizations, and 5,000 deaths in the U.S. each year. Research shows current food safety campaigns using informational advocacy messages are often ineffective.

### What has been done

Better compliance may be possible by using narrative messages. Our goal is to design scientifically accurate and informative narrative messages to promote better safe food preparation compliance and prevent illness and death. The project should also increase scholars understanding of the risk communication process and the process of developing and designing more effective health and safety messages.

### Results

Focus groups and survey data showed surprising results on efficacy of risk messages and narrative food safety public service announcements that address the barriers to compliance with home food safety recommendations. Preliminary results support the notion that social aspects of food safety behavioral compliance do exist and may be important considerations in the development of risk messages. It is concluded that more complex, emotional, transporting stories are needed for persuasiveness in the domain of food safety at home than is the case for other domains of risky behavior. A major outcome of the Hatch research was the successful funding of a follow-up 3 year CSREES-funded project entitled 'Improving Safe Home Food Preparation Messages to Reduce Food borne Illness' which aims to create, test, and finally, disseminate narrative television food safety Public Service Announcements.

## 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

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

### External factors which affected outcomes

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

### Brief Explanation

- Economic downturn
- Public policy changes
- Government regulations
- Competing public priorities
- Competing program demands
- Population changes (immigration, new cultural groupings, etc.)

See plan for additional details.

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

### 1. Evaluation Studies Planned

- After Only (post program)
- Retrospective (post program)
- During (during program)
- Comparisons between program participants (individuals, group, organizations) and non-participants
- Comparisons between different groups of individuals or program participants experiencing different levels of program intensity.

**Evaluation Results**

Evaluation results are reflected in the outcome indicators and impact statements associated with each planned program and result from a broad variety of evaluation approaches appropriate to the individual programs and contexts they represent.

**Key Items of Evaluation**

Each of our planned programs represents broad program emphases and strategies. Program evaluation results are incorporated in outcome statements associated with each plan.

**Program #8**

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

**1. Name of the Planned Program**

3.2 Parenting and Dependant Care

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

**1. Program Knowledge Areas and Percentage**

KA Code	Knowledge Area	%1862 Extension	%1890 Extension	%1862 Research	%1890 Research
802	Human Development and Family Well-Being	100%		100%	
	<b>Total</b>	100%		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>	18.2	0.0	1.0	0.0
<b>Actual</b>	87.6	0.0	0.7	0.0

**2. Institution Name: Cornell University**

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

Extension		Research	
Smith-Lever 3b & 3c	1890 Extension	Hatch	Evans-Allen
541972	0	82992	0
1862 Matching	1890 Matching	1862 Matching	1890 Matching
541972	0	82992	0
1862 All Other	1890 All Other	1862 All Other	1890 All Other
0	0	0	0

**2. Institution Name: NY State Agricultural Experiment Station**

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

Extension		Research	
Smith-Lever 3b & 3c	1890 Extension	Hatch	Evans-Allen
0	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**

This is a comprehensive, statewide educational program entailing multiple education methods depending on local context and need. Campus-based faculty and extension associates and county-based educators are involved in designing, implementing, and evaluating tailored educational efforts depending on the focus and scope of their role.

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

Key audiences served, directly and indirectly, include: parents, grandparents and other relative caregivers who are parenting children; child and elder care workers and their supervisors and program directors; community stakeholders such as employers, leaders and policy makers at the local and state levels.

**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>	7500	100000	0	0
2008	23379	211800	10224	24038

**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>	0	10	
2008	0	0	119

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

**Output Target**

**Output #1**

**Output Measure**

- # non-credit instructional activities directed to this program.

*Not reporting on this Output for this Annual Report*

**Output #2**

**Output Measure**

- # non-credit instructional hours directed to this program.

*Not reporting on this Output for this Annual Report*

**Output #3**

**Output Measure**

- # funded applied research projects directed to this program.

*Not reporting on this Output for this Annual Report*

**Output #4**

**Output Measure**

- # of care-giving professionals who complete non-formal education programs about quality dependant care giving. (3.2.1a)

*Not reporting on this Output for this Annual Report*

**Output #5**

**Output Measure**

- # of persons with care-requiring dependants completing non-formal education programs on selection of care-giving individuals and facilities. (3.2.1b)

*Not reporting on this Output for this Annual Report*

**Output #6**

**Output Measure**

- # of organizations, agencies, and institutions participating in non-formal educational programs about social and public policy issues to enhance opportunities for safe, economical, and developmentally appropriate care-giving programs for infants, children, youth, and older adults. (3.2.2a)

*Not reporting on this Output for this Annual Report*

**Output #7**

**Output Measure**

- # of persons completing complete non-formal education programs about parenting. (3.2.3a)

*Not reporting on this Output for this Annual Report*



V(G). State Defined Outcomes

V. State Defined Outcomes Table of Content

O No.	OUTCOME NAME
1	# of participating care-giving professionals who demonstrate knowledge or skill gains related to quality care-giving practices. (3.2.1c)
2	# of participating persons with care-requiring dependents who demonstrate ability to evaluate the quality of care programs to determine appropriate placement for their family members or others. (3.2.1d)
3	# of program participants who demonstrate knowledge or skills gains regarding community approaches to family care. (3.2.2b)
4	# parents, grandparents and other adults providing parental care gaining who demonstrate knowledge or skills gains regarding developmentally appropriate and effective parenting methods. (3.2.3b)
5	# of participating care-giving professionals reporting to have applied positive care-giving practices. (3.2.1e)
6	# participating persons with care-requiring dependents reporting to have used child care quality characteristics in their care selection. (3.2.1f)
7	# of program participants reporting to have been involved in community level assessments of family care needs. (3.2.2c)
8	# parents and other adults providing parental care adopting developmentally appropriate and effective parenting methods. (3.2.3c)
9	# of care-giving providers reporting improved dependant care as a result of participating in educational programs. (3.2.1g)
10	# participating persons with care-requiring dependents reporting positive change in dependant care as a result of participating in educational programs. (3.2.1h)
11	# of communities documented to have taken action to family needs that can be related to educational programs and/or critical community collaborations provided. (3.2.2d)
12	# of parents/relative caregivers reporting to have experienced positive change in parent-child relationships and child nurturance that they attribute to implementing new parenting behaviors learned in educational programs. (3.2.3d)
13	Parenting Apart
14	Enhancing Programs for Relative Caregivers in New York State: Integrating Extension and Research Activities

**Outcome #1**

**1. Outcome Measures**

# of participating care-giving professionals who demonstrate knowledge or skill gains related to quality care-giving practices. (3.2.1c)  
*Not reporting on this Outcome for this Annual Report*

**Outcome #2**

**1. Outcome Measures**

# of participating persons with care-requiring dependents who demonstrate ability to evaluate the quality of care programs to determine appropriate placement for their family members or others. (3.2.1d)  
*Not reporting on this Outcome for this Annual Report*

**Outcome #3**

**1. Outcome Measures**

# of program participants who demonstrate knowledge or skills gains regarding community approaches to family care. (3.2.2b)  
*Not reporting on this Outcome for this Annual Report*

**Outcome #4**

**1. Outcome Measures**

# parents, grandparents and other adults providing parental care gaining who demonstrate knowledge or skills gains regarding developmentally appropriate and effective parenting methods. (3.2.3b)  
*Not reporting on this Outcome for this Annual Report*

**Outcome #5**

**1. Outcome Measures**

# of participating care-giving professionals reporting to have applied positive care-giving practices. (3.2.1e)

**2. Associated Institution Types**

•1862 Extension

**3a. Outcome Type:**

Change in Action Outcome Measure

**3b. Quantitative Outcome**

Year	Quantitative Target	Actual
2008	500	3273

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

**Issue (Who cares and Why)**

**What has been done**

**Results**

**4. Associated Knowledge Areas**

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

**Outcome #6**

**1. Outcome Measures**

# participating persons with care-requiring dependents reporting to have used child care quality characteristics in their care selection. (3.2.1f)  
*Not reporting on this Outcome for this Annual Report*

**Outcome #7**

**1. Outcome Measures**

# of program participants reporting to have been involved in community level assessments of family care needs. (3.2.2c)

**2. Associated Institution Types**

•1862 Extension

**3a. Outcome Type:**

Change in Action Outcome Measure

**3b. Quantitative Outcome**

Year	Quantitative Target	Actual
2008	500	470

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

**Issue (Who cares and Why)**

**What has been done**

**Results**

**4. Associated Knowledge Areas**

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

**Outcome #8**

**1. Outcome Measures**

# parents and other adults providing parental care adopting developmentally appropriate and effective parenting methods. (3.2.3c)

**2. Associated Institution Types**

•1862 Extension

**3a. Outcome Type:**

Change in Action Outcome Measure

**3b. Quantitative Outcome**

Year	Quantitative Target	Actual
2008	7000	16493

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

**Issue (Who cares and Why)**

**What has been done**

**Results**

**4. Associated Knowledge Areas**

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

**Outcome #9**

**1. Outcome Measures**

# of care-giving providers reporting improved dependant care as a result of participating in educational programs. (3.2.1g)

**2. Associated Institution Types**

•1862 Extension

**3a. Outcome Type:**

Change in Condition Outcome Measure

**3b. Quantitative Outcome**

Year	Quantitative Target	Actual
2008	350	3398

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

**Issue (Who cares and Why)**

**What has been done**

**Results**

**4. Associated Knowledge Areas**

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

**Outcome #10**

**1. Outcome Measures**

# participating persons with care-requiring dependents reporting positive change in dependant care as a result of participating in educational programs. (3.2.1h)

*Not reporting on this Outcome for this Annual Report*

### **Outcome #11**

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

# of communities documented to have taken action to family needs that can be related to educational programs and/or critical community collaborations provided. (3.2.2d)

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

•1862 Extension

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

Change in Action Outcome Measure

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

Year	Quantitative Target	Actual
2008	100	18

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

**Issue (Who cares and Why)**

**What has been done**

**Results**

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

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

### **Outcome #12**

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

# of parents/relative caregivers reporting to have experienced positive change in parent-child relationships and child nurturance that they attribute to implementing new parenting behaviors learned in educational programs. (3.2.3d)

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

•1862 Extension

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

Change in Condition Outcome Measure

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

Year	Quantitative Target	Actual
2008	4000	15270

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

**Issue (Who cares and Why)**

**What has been done**

**Results**

**4. Associated Knowledge Areas**

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

**Outcome #13**

**1. Outcome Measures**

Parenting Apart

**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}	0

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

**Issue (Who cares and Why)**

Every year the Warren County Family Court addresses thousands of custody and visitation cases between parents seeking to resolve parenting issues. 300 divorces take place in Warren County each year. The children in these cases are the innocent bystanders who are at increased risk for juvenile delinquency, substance abuse, low self-esteem, poor school performance and teen parenthood.

**What has been done**

Parents who are experiencing a separation or divorce are mandated by Family and Supreme Court Judges in Warren County to attend Cornell Cooperative Extension's 6 hour program Parent's Apart. In 2007- 2008, Cornell Cooperative Extension offered 6 sessions of their Parent's Apart Program; each session consisted of 2 three hour classes for 6 hours of training for each parent. The program is a child-centered curriculum which covers children's reactions to divorce/separation based on age and development, techniques for reducing conflict in the family, the emotional experience for parents and children, effective parenting skills, and general communications skills.

**Results**

76 parents attended in 2008 57% were mothers 43% were fathers. 91% of attendees were referred or mandated to attend by Family or Supreme Court. Complete feedback was obtained from 35 participants. 91% of the respondents indicated the program was useful or very useful and 94% of the respondents felt the suggestions for improving parent-child relationships was relevant or very relevant to their own setting and identified specific practices that would be helpful. Comments made by respondents include 'The class is wonderful. It points out a lot things that you might be doing that you don't realize affects your child.' 'It is a good course to take because what you get out of it helps your child.'

**4. Associated Knowledge Areas**

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

**Outcome #14**

**1. Outcome Measures**

Enhancing Programs for Relative Caregivers in New York State: Integrating  
Extension and Research Activities

## 2. Associated Institution Types

•1862 Research

### 3a. Outcome Type:

Change in Knowledge Outcome Measure

### 3b. Quantitative Outcome

Year	Quantitative Target	Actual
2008	{No Data Entered}	0

### 3c. Qualitative Outcome or Impact Statement

#### Issue (Who cares and Why)

In 2000, 2.4 million children were being raised by relatives (U.S. Census Bureau).

#### What has been done

The goal of this project is to integrate research and extension activities to support programs for relative caregivers in New York, to improve the lives of youth being raised by relatives, especially teenagers.

#### Results

The research identified several areas of need among these families and children they care for, including that many children have physical, mental or emotional health problems; relative caregivers have high levels of strain; and many families are in perilous economic circumstances. Some of these characteristics have never before been measured among relative caregiver families in New York, and are being used to inform the development of programs and policies. Interviews with relative caregivers and youth in their care highlighted the need for more programming relating to the issue of raising teens. To this end, we are now developing a special supplement to the Parenting a Second Time Around (PASTA) curriculum in order to provide this information to relative caregivers. Research was presented at the PREVENT Child Abuse Conference in Albany in April 2008.

## 4. Associated Knowledge Areas

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

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

### External factors which affected outcomes

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

### Brief Explanation

-- Economic downturn  
-- Public policy changes-- Government regulations  
-- Competing public priorities  
-- Competing program priorities  
-- Population changes (immigration, new cultural groupings, etc.  
See plan for additional details.

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

### 1. Evaluation Studies Planned

- After Only (post program)
- During (during program)
- Other (Control Study Group)

### **Evaluation Results**

Each of our planned programs represents broad program emphases and strategies. Program evaluation results are incorporated in outcome statements associated with each plan.

### **Key Items of Evaluation**

Each of our planned programs represents broad program emphases and strategies. Program evaluation results are incorporated in outcome statements associated with each plan. Here is one example:

The NYS Parental Information and Resource Center (PIRC) provides information, activities and resources that foster partnerships between families and schools to strengthen parental/caregiver involvement that ultimately impacts student achievement. Since the program started, 892 parents have attended 132 parenting education workshops. The program has developed 25 different user friendly Parent Guides and Fact Sheets related to parental involvement and No Child Left Behind that are being distributed statewide. The program provides resources and technical assistance around parental involvement to 18 different school districts. Twenty four professional development workshops were attended by 734 teachers and school administrators. Recently, a workshop for 100 state education leaders and policy makers led to formation of action teams that will continue to build statewide capacity for parental involvement over the next three years.



**Program #9**

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

**1. Name of the Planned Program**

3.3 Family Financial Security and Management of Housing Resources

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

**1. Program Knowledge Areas and Percentage**

KA Code	Knowledge Area	%1862 Extension	%1890 Extension	%1862 Research	%1890 Research
607	Consumer Economics	50%		50%	
801	Individual and Family Resource Management	25%		25%	
804	Human Environmental Issues Concerning Apparel, Textiles, and Residential and Commercial Structures	25%		25%	
<b>Total</b>		100%		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>	8.1	0.0	1.0	0.0
<b>Actual</b>	35.0	0.0	4.4	0.0

**2. Institution Name: Cornell University**

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

Extension		Research	
Smith-Lever 3b & 3c	1890 Extension	Hatch	Evans-Allen
216789	0	157424	0
1862 Matching	1890 Matching	1862 Matching	1890 Matching
216789	0	157424	0
1862 All Other	1890 All Other	1862 All Other	1890 All Other
0	0	0	0

**2. Institution Name: NY State Agricultural Experiment Station**

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

Extension		Research	
<b>Smith-Lever 3b &amp; 3c</b> 0	<b>1890 Extension</b> 0	<b>Hatch</b> 0	<b>Evans-Allen</b> 0
<b>1862 Matching</b> 0	<b>1890 Matching</b> 0	<b>1862 Matching</b> 0	<b>1890 Matching</b> 0
<b>1862 All Other</b> 0	<b>1890 All Other</b> 0	<b>1862 All Other</b> 0	<b>1890 All Other</b> 0

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

**1. Brief description of the Activity**

This is a comprehensive, statewide educational program entailing multiple education methods depending on local context and need. Campus-based faculty and extension associates and county-based educators are involved in designing, implementing, and evaluating tailored educational efforts depending on the focus and scope of their role.

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

•Low and moderate-income households who are especially vulnerable to financial setbacks and have less disposable income to commit to savings. •Low-income households living in poor-quality housing.

**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>	15000	125000	5500	30000
2008	19564	2333473	2770	139155

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

**Patent Applications Submitted**

**Year Target**

**Plan: 0**

2008 : 8

**Patents listed**

- \* Biodegradable Cationic Polymer Gene Transfer Compositions and Methods of Use
- \* Non-Woven Fabric For Biomedical Application Based on Poly(Ester-Amide)s (5)
- \* Novel Chitosan-derived Biomaterials prepared by Organo-soluble Chitosan Precursors
- \* Cationic Charged Hydrogels as Biologics Carrier
- \* Nitroxyl Radical Incorporated Electrospun Biodegradable Poly(ester amide) Nanofiber Membranes

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

**Number of Peer Reviewed Publications**

	<b>Extension</b>	<b>Research</b>	<b>Total</b>
<b>Plan</b>	0	10	
2008	0	0	52

## V(F). State Defined Outputs

### Output Target

#### Output #1

##### Output Measure

- # non-credit instructional activities directed to this program.

*Not reporting on this Output for this Annual Report*

#### Output #2

##### Output Measure

- # non-credit instructional activity contact hours directed to this program.

*Not reporting on this Output for this Annual Report*

#### Output #3

##### Output Measure

- # funded applied research projects directed to this program.

*Not reporting on this Output for this Annual Report*

#### Output #4

##### Output Measure

- # of persons completing education programs on age-appropriate topics like spending and saving concepts, appropriate use of money, financial goals, tracking expenses, budgeting, credit management, financial planning, and/or wealth generation strategies. (3.3.1a)

*Not reporting on this Output for this Annual Report*

#### Output #5

##### Output Measure

- # of consumers and property managers completing programs on indoor air quality issues. (3.3.2a)

*Not reporting on this Output for this Annual Report*

#### Output #6

##### Output Measure

- # consumers, property managers, and/or housing officials completing educational programs about potential energy cost savings, including selecting energy providers, and energy conservation strategies and measures especially related to housing and transportation. (3.3.3a )

*Not reporting on this Output for this Annual Report*

V(G). State Defined Outcomes

V. State Defined Outcomes Table of Content

O No.	OUTCOME NAME
1	# participants who demonstrate knowledge or skill gains and/or can articulate specific actions they will take related to spending and saving concepts, appropriate use of money, setting financial goals, tracking expenses, budgeting, credit management, financial planning, and/or wealth generation strategies. (3.3.1b)
2	# of consumers and property managers gaining awareness and knowledge of indoor air quality issues and remediation options. (3.3.2b)
3	# of program participants reporting they are practicing wise money management skills such as comparison shopping, paying bills on time, paying more than minimum payment, checking credit report, and reviewing and understanding bills/statements as a means to meeting financial goals. (3.3.1c)
4	# of program participants documented to have used standard practices such as timely bill payment to meet financial life planning goals. (3.3.1e)
5	# of program participants documented to have taken measures to prevent or remediate indoor air quality issues. (3.3.2c)
6	# of program participants documented to have reduced short-term health effects of indoor air pollutants (such as irritation of the eyes, nose, and throat, headaches, dizziness, and fatigue) as a result of participating in educational programs. (3.3.2d)
7	# of program participants reporting to have met day-to-day financial obligations while also progressing on future goals for homeownership, savings, retirement accounts, etc. (3.3.1d)
8	# of participants reducing risks of respiratory diseases, heart disease, and cancer by impl. measures such as radon remediation, controlling indoor triggers of asthma: secondhand smoke, dust mites, pet dander, and pests. (3.3.2e)
9	# consumers, property managers, and/or housing officials who demonstrate knowledge or skills gains and/or can articulate specific actions they will take related to energy cost controls and conservation measures especially related to housing and transportation. (3.3.3b)
10	# of consumers reporting to have adopted appropriate energy cost control and/or conservation practices. (3.3.3c)
11	# of property managers, and/or housing officials documented to have taken measures to improve energy cost control or efficiency of existing and new buildings. (3.3.3d)
12	# of consumers who report savings on energy costs attributable to adopting alternative energy sources and/or energy conservation measures. (3.3.3e)
13	Volunteer Income Tax Assistance Program
14	Consumer Education Program for Residential Energy Efficiency

**Outcome #1**

**1. Outcome Measures**

# participants who demonstrate knowledge or skill gains and/or can articulate specific actions they will take related to spending and saving concepts, appropriate use of money, setting financial goals, tracking expenses, budgeting, credit management, financial planning, and/or wealth generation strategies. (3.3.1b)

*Not reporting on this Outcome for this Annual Report*

**Outcome #2**

**1. Outcome Measures**

# of consumers and property managers gaining awareness and knowledge of indoor air quality issues and remediation options. (3.3.2b)

*Not reporting on this Outcome for this Annual Report*

**Outcome #3**

**1. Outcome Measures**

# of program participants reporting they are practicing wise money management skills such as comparison shopping, paying bills on time, paying more than minimum payment, checking credit report, and reviewing and understanding bills/statements as a means to meeting financial goals. (3.3.1c)

**2. Associated Institution Types**

•1862 Extension

**3a. Outcome Type:**

Change in Action Outcome Measure

**3b. Quantitative Outcome**

Year	Quantitative Target	Actual
2008	6000	5147

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

**Issue (Who cares and Why)**

**What has been done**

**Results**

**4. Associated Knowledge Areas**

KA Code	Knowledge Area
607	Consumer Economics
801	Individual and Family Resource Management

**Outcome #4**

**1. Outcome Measures**

# of program participants documented to have used standard practices such as timely bill payment to meet financial life planning goals. (3.3.1e)

**2. Associated Institution Types**

•1862 Extension

**3a. Outcome Type:**

Change in Condition Outcome Measure

**3b. Quantitative Outcome**

Year	Quantitative Target	Actual
2008	3500	3588

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

**Issue (Who cares and Why)**

**What has been done**

**Results**

**4. Associated Knowledge Areas**

KA Code	Knowledge Area
607	Consumer Economics
801	Individual and Family Resource Management

**Outcome #5**

**1. Outcome Measures**

# of program participants documented to have taken measures to prevent or remediate indoor air quality issues. (3.3.2c)

**2. Associated Institution Types**

•1862 Extension

**3a. Outcome Type:**

Change in Action Outcome Measure

**3b. Quantitative Outcome**

Year	Quantitative Target	Actual
2008	6200	1719

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

**Issue (Who cares and Why)**

**What has been done**

**Results**

**4. Associated Knowledge Areas**

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

**Outcome #6**

**1. Outcome Measures**

# of program participants documented to have reduced short-term health effects of indoor air pollutants (such as irritation of the eyes, nose, and throat, headaches, dizziness, and fatigue) as a result of participating in educational programs. (3.3.2d)

*Not reporting on this Outcome for this Annual Report*

**Outcome #7**

**1. Outcome Measures**

# of program participants reporting to have met day-to-day financial obligations while also progressing on future goals for homeownership, savings, retirement accounts, etc. (3.3.1d)

**2. Associated Institution Types**

- 1862 Extension

**3a. Outcome Type:**

Change in Condition Outcome Measure

**3b. Quantitative Outcome**

Year	Quantitative Target	Actual
2008	4500	3877

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

**Issue (Who cares and Why)**

**What has been done**

**Results**

**4. Associated Knowledge Areas**

KA Code	Knowledge Area
607	Consumer Economics
801	Individual and Family Resource Management

**Outcome #8**

**1. Outcome Measures**

# of participants reducing risks of respiratory diseases, heart disease, and cancer by impl. measures such as radon remediation, controlling indoor triggers of asthma: secondhand smoke, dust mites, pet dander, and pests. (3.3.2e)

*Not reporting on this Outcome for this Annual Report*

**Outcome #9**

**1. Outcome Measures**

# consumers, property managers, and/or housing officials who demonstrate knowledge or skills gains and/or can articulate specific actions they will take related to energy cost controls and conservation measures especially related to housing and transportation. (3.3.3b)

*Not reporting on this Outcome for this Annual Report*

**Outcome #10**

**1. Outcome Measures**

# of consumers reporting to have adopted appropriate energy cost control and/or conservation practices. (3.3.3c)

**2. Associated Institution Types**

•1862 Extension

**3a. Outcome Type:**

Change in Action Outcome Measure

**3b. Quantitative Outcome**

Year	Quantitative Target	Actual
2008	8500	3247

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

**Issue (Who cares and Why)**

**What has been done**

**Results**

**4. Associated Knowledge Areas**

KA Code	Knowledge Area
801	Individual and Family Resource Management
804	Human Environmental Issues Concerning Apparel, Textiles, and Residential and Commercial Structures
607	Consumer Economics

**Outcome #11**

**1. Outcome Measures**

# of property managers, and/or housing officials documented to have taken measures to improve energy cost control or efficiency of existing and new buildings. (3.3.3d)

*Not reporting on this Outcome for this Annual Report*

**Outcome #12**

**1. Outcome Measures**

# of consumers who report savings on energy costs attributable to adopting alternative energy sources and/or energy conservation measures. (3.3.3e)

**2. Associated Institution Types**

•1862 Extension

**3a. Outcome Type:**

Change in Condition Outcome Measure

**3b. Quantitative Outcome**

Year	Quantitative Target	Actual
2008	5000	2609

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



**Issue (Who cares and Why)**

**What has been done**

**Results**

**4. Associated Knowledge Areas**

KA Code	Knowledge Area
607	Consumer Economics
801	Individual and Family Resource Management

**Outcome #13**

**1. Outcome Measures**

Volunteer Income Tax Assistance 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}	0

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

**Issue (Who cares and Why)**

In 2004 the Financial Education Committee of Cortland County identified the lack of a source for free or low cost income tax assistance as one of the critical needs of their clients. The committee is made up of several local organizations working with low/limited income families and special needs residents including the elderly and disabled.

**What has been done**

Cornell Cooperative Extension Cortland County staff worked with IRS to bring the Volunteer Income Tax Assistance program to Cortland County. CCE-Cortland committed a large percentage of the financial educator's time to serve as the program coordinator, provide volunteer education/training and acts as the site specialist for the program.

**Results**

Participation in the program has grown from 54 in the pilot year to 531 in 2008. 63% of the program participants fell under the federal poverty level and 59% of the participants were over the age of 60. In 2008, the program was able to assist 107 individuals and couples who were not required to file income taxes in obtaining the economic stimulus payment. Many indicated that they would have gone to a paid preparer if this program had not been available. The total of the economic stimulus payments that came through this program for this audience is estimated at \$81,900 with an additional \$3,025 saved in filing fees. The estimated overall economic impact for Cortland County of this program in Earned Income Credit received and savings in filing fees for 2008 was \$255,601.

**4. Associated Knowledge Areas**

KA Code	Knowledge Area
607	Consumer Economics
801	Individual and Family Resource Management

**Outcome #14**

**1. Outcome Measures**

Consumer Education Program for Residential Energy Efficiency

**2. Associated Institution Types**

- 1862 Extension
- 1862 Research

**3a. Outcome Type:**

Change in Condition Outcome Measure

**3b. Quantitative Outcome**

Year	Quantitative Target	Actual
2008	{No Data Entered}	0

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

**Issue (Who cares and Why)**

The high cost of energy for heat and electricity is a major burden for New York Families. Many households under most economic distress are in housing that lacks appropriate energy conservation measures.

**What has been done**

Through a variety of local programming initiatives in nearly 40 counties, more than 17,000 persons participated in programs directed at practical energy conservation measures. Many more were reached through media initiatives.

**Results**

A statewide survey of participants indicated that 6,207 (69 percent) of 8,991 respondents had implemented recommended practices. Recommended practices typically achieve 20 - 30 percent reduction in energy use per home; average electricity savings of 1,298 kWh (12%); average oil or gas savings of 270 therms (22%); and average cash savings of \$400 per year. Total estimated savings from the statewide effort total more than \$4,000,000.

**4. Associated Knowledge Areas**

KA Code	Knowledge Area
804	Human Environmental Issues Concerning Apparel, Textiles, and Residential and Commercial Structures
801	Individual and Family Resource Management
607	Consumer 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**

- Natural disasters (drought, weather extremes, etc.
- Economic downturn
- Public policy changes-- Government regulations-- Competing public priorities
- Competing program priorities
- Population changes (immigration, new cultural groupings, etc. See plan for additional details.

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

### **1. Evaluation Studies Planned**

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

### **Evaluation Results**

Evaluation results are reflected in the outcome indicators and impact statements associated with each planned program and result from a broad variety of evaluation approaches appropriate to the individual programs and contexts they represent.

### **Key Items of Evaluation**

Each of our planned programs represents broad program emphases and strategies. Program evaluation results are incorporated in outcome statements associated with each plan. Here is one additional example.

From November 2007 to February 2008, CCE of Orange County and the Orange County Energy Task Force distributed 1,825 energy saving toolkits. Total attendance at all workshops held across the county exceeded 500 people. Home Energy Assistance Program (HEAP) utilization increased 13% from the 2006-2007 heating season and the waiting list for weatherization services was reduced by 25 families.

**Program #10**

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

**1. Name of the Planned Program**

4.1 Natural Resource Management

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

**1. Program Knowledge Areas and Percentage**

KA Code	Knowledge Area	%1862 Extension	%1890 Extension	%1862 Research	%1890 Research
101	Appraisal of Soil Resources	7%		7%	
102	Soil, Plant, Water, Nutrient Relationships	45%		45%	
104	Protect Soil from Harmful Effects of Natural Elements	4%		4%	
123	Management and Sustainability of Forest Resources	5%		5%	
124	Urban Forestry	6%		6%	
125	Agroforestry	5%		5%	
132	Weather and Climate	2%		2%	
134	Outdoor Recreation	5%		5%	
135	Aquatic and Terrestrial Wildlife	11%		11%	
136	Conservation of Biological Diversity	5%		5%	
214	Vertebrates, Mollusks, and Other Pests Affecting Plants	5%		5%	
<b>Total</b>		100%		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>	9.9	0.0	6.0	0.0
<b>Actual</b>	46.7	0.0	14.8	0.0

**2. Institution Name: Cornell University**

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

Extension		Research	
Smith-Lever 3b & 3c	1890 Extension	Hatch	Evans-Allen
289052	0	668436	0
1862 Matching	1890 Matching	1862 Matching	1890 Matching
289052	0	668436	0
1862 All Other	1890 All Other	1862 All Other	1890 All Other
0	0	0	0

**2. Institution Name: NY State Agricultural Experiment Station**

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

Extension		Research	
<b>Smith-Lever 3b &amp; 3c</b> 0	<b>1890 Extension</b> 0	<b>Hatch</b> 8645	<b>Evans-Allen</b> 0
<b>1862 Matching</b> 0	<b>1890 Matching</b> 0	<b>1862 Matching</b> 8645	<b>1890 Matching</b> 0
<b>1862 All Other</b> 0	<b>1890 All Other</b> 0	<b>1862 All Other</b> 0	<b>1890 All Other</b> 0

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

**1. Brief description of the Activity**

This is a statewide educational program entailing a wide range of applied research activities and multiple education methods depending on local context and need. Campus-based faculty and extension associates, regional specialists and county-based educators all are involved in designing, implementing, and evaluating tailored educational efforts depending on the focus and scope of their role.

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

Residents and property owners are targeted with stewardship and natural resources protection for their properties. Businesses, organizations, and producers are targeted with information improved management practices and alternative land uses, such as agroforestry. Local government and community leaders are targeted with information related to governmental management of natural resources, such as land use planning and open space preservation. Environmental planners and managers and technical assistance providers, such as foresters, are targeted with in-depth information related to their audiences/constituents.

**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>	12000	100000	25000	35000
2008	32223	315739	9207	173869

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

**Patent Applications Submitted**

<b>Year</b>	<b>Target</b>
<b>Plan:</b>	2
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>	0	290	
2008	0	0	101

## V(F). State Defined Outputs

### Output Target

#### Output #1

##### Output Measure

- # non-credit instructional activities directed to this program.

*Not reporting on this Output for this Annual Report*

#### Output #2

##### Output Measure

- # non-credit instructional activity contact hours directed to this program.

*Not reporting on this Output for this Annual Report*

#### Output #3

##### Output Measure

- # funded applied research projects directed to this program.

*Not reporting on this Output for this Annual Report*

#### Output #4

##### Output Measure

- # of agricultural/ natural resources producers and business representatives completing educational programs on managing natural resources, invasive species, and/or biodiversity. (4.1.1a)

*Not reporting on this Output for this Annual Report*

#### Output #5

##### Output Measure

- # of organization and business representatives completing educational programs on managing natural resources, invasive species, and/or biodiversity. (4.1.2a)

*Not reporting on this Output for this Annual Report*

#### Output #6

##### Output Measure

- # of local government officials and community leaders completing educational programs on managing natural resources, invasive species, open space preservation, alternative land uses and/or biodiversity. (4.1.3a)

*Not reporting on this Output for this Annual Report*

#### Output #7

##### Output Measure

- # of consumers, residents, and landowners completing educational programs on natural resources protection, invasive species, and/or biodiversity. (4.1.4a)

*Not reporting on this Output for this Annual Report*

#### Output #8

##### Output Measure

- # of teachers and youth professionals and volunteers completing educational programs on natural resources protection, invasive species, and/or biodiversity. (4.1.5a)

*Not reporting on this Output for this Annual Report*

#### Output #9

##### Output Measure

- # of youth completing educational programs on natural resources protection, invasive species, and/or biodiversity. (4.1.6a)

*Not reporting on this Output for this Annual Report*

V(G). State Defined Outcomes

V. State Defined Outcomes Table of Content

O No.	OUTCOME NAME
1	Documented instances in which implementation of natural resources management practices and/or land use policies lead to increased open space preservation, enhanced or protected natural resources, enhanced biodiversity, and/or increases in alternative land use. (4.1.3f)
2	Increased local economic activities attributable at least in part to enhanced natural resources management and/or increased alternative land uses. (4.1.3g)
3	Documented instances in which implementation of natural resources management practices by individual consumers, residents, and/or private landowners lead to increased open space preservation, enhanced or protected natural resources, enhanced biodiversity. (4.1.4d)
4	# of youth documented to have chosen natural resources-related careers. (4.1.6e)
5	Documented instances in which implementation of natural resources management practices by agricultural/natural resources producers or other business persons lead to increased open space preservation, enhanced/protected natural resources, biodiversity and/or land use. (4.1.1d)
6	# of agricultural/natural resources producers and business representatives who demonstrate knowledge gains about managing natural resources, invasive species, and/or biodiversity. (4.1.1b)
7	# of organization and business representatives who demonstrate knowledge gains about managing natural resources, invasive species, and/or biodiversity. (4.1.2b)
8	# of local government officials and community leaders who demonstrate knowledge gains about managing natural resources, invasive species, open space preservation, alternative land uses and/or biodiversity. (4.1.3b)
9	# of consumers, residents, and landowners who demonstrate knowledge gains about natural resources management, invasive species, and/or biodiversity. (4.1.4b)
10	# of teachers and youth professionals and volunteers who demonstrate knowledge gains about natural resources management, invasive species and/or biodiversity. (4.1.5b)
11	# of youth who demonstrate knowledge gains about natural resources management, invasive species and/or biodiversity. (4.1.6b)
12	# of agricultural/natural resources producers and business representatives documented to have modified existing practices or technologies and/or adopted new management practices to protect/enhance natural resources and/or enhance biodiversity. (4.1.1c)
13	# of organization and business representatives documented to have modified existing practices or technologies and/or adopted new management practices to protect/enhance natural resources and/or enhance biodiversity. (4.1.2c)
14	# of local government officials and community leaders documented to have modified existing practices or technologies and/or adopted new management practices to protect/enhance natural resources and/or enhance biodiversity. (4.1.3c)
15	# of communities documented to have thoroughly assessed the status of their natural resources. (4.1.3d)
16	# of producers, businesses, local governments, organizations, landowners, and individuals collaborate to develop and implement natural resources management strategies. (4.1.3e)
17	# of consumers, residents, and landowners documented to have modified existing practices or technologies and/or adopted new management practices to protect/enhance natural resources and/or enhance biodiversity. (4.1.4c)
18	# of teachers and youth professionals and volunteers who incorporate natural resources management and/or biodiversity knowledge into curriculum. (4.1.5c)
19	# of youth documented to have modified existing practices and/or adopted new practices to protect/enhance natural resources and/or enhance biodiversity. (4.1.6c)
20	# of youth introduced to variety of environmental and natural resources career options. (4.1.6d)
21	Invasive Species Local Alert
22	Forest Connect: Regional Forestry Initiative

**Outcome #1**

**1. Outcome Measures**

Documented instances in which implementation of natural resources management practices and/or land use policies lead to increased open space preservation, enhanced or protected natural resources, enhanced biodiversity, and/or increases in alternative land use. (4.1.3f)

**2. Associated Institution Types**

•1862 Extension

**3a. Outcome Type:**

Change in Condition Outcome Measure

**3b. Quantitative Outcome**

Year	Quantitative Target	Actual
2008	75	95

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

**Issue (Who cares and Why)**

**What has been done**

**Results**

**4. Associated Knowledge Areas**

KA Code	Knowledge Area
135	Aquatic and Terrestrial Wildlife
124	Urban Forestry
134	Outdoor Recreation
104	Protect Soil from Harmful Effects of Natural Elements
132	Weather and Climate
123	Management and Sustainability of Forest Resources
102	Soil, Plant, Water, Nutrient Relationships
125	Agroforestry
101	Appraisal of Soil Resources
136	Conservation of Biological Diversity
214	Vertebrates, Mollusks, and Other Pests Affecting Plants

**Outcome #2**

**1. Outcome Measures**

Increased local economic activities attributable at least in part to enhanced natural resources management and/or increased alternative land uses.

(4.1.3g)

*Not reporting on this Outcome for this Annual Report*

**Outcome #3**

**1. Outcome Measures**

Documented instances in which implementation of natural resources management practices by individual consumers, residents, and/or private landowners lead to increased open space preservation, enhanced or protected natural resources, enhanced biodiversity. (4.1.4d)



## 2. Associated Institution Types

- 1862 Extension

### 3a. Outcome Type:

Change in Condition Outcome Measure

### 3b. Quantitative Outcome

Year	Quantitative Target	Actual
2008	2500	1035

### 3c. Qualitative Outcome or Impact Statement

**Issue (Who cares and Why)**

**What has been done**

**Results**

## 4. Associated Knowledge Areas

KA Code	Knowledge Area
123	Management and Sustainability of Forest Resources
135	Aquatic and Terrestrial Wildlife
125	Agroforestry
136	Conservation of Biological Diversity
124	Urban Forestry
102	Soil, Plant, Water, Nutrient Relationships
214	Vertebrates, Mollusks, and Other Pests Affecting Plants
134	Outdoor Recreation
104	Protect Soil from Harmful Effects of Natural Elements
132	Weather and Climate

### Outcome #4

#### 1. Outcome Measures

# of youth documented to have chosen natural resources-related careers.

(4.1.6e)

*Not reporting on this Outcome for this Annual Report*

### Outcome #5

#### 1. Outcome Measures

Documented instances in which implementation of natural resources management practices by agricultural/natural resources producers or other business persons lead to increased open space preservation, enhanced/protected natural resources, biodiversity and/or land use. (4.1.1d)

*Not reporting on this Outcome for this Annual Report*

### Outcome #6

#### 1. Outcome Measures

# of agricultural/natural resources producers and business representatives who demonstrate knowledge gains about managing natural resources, invasive species, and/or biodiversity. (4.1.1b)

*Not reporting on this Outcome for this Annual Report*

### Outcome #7

**1. Outcome Measures**

# of organization and business representatives who demonstrate knowledge gains about managing natural resources, invasive species, and/or biodiversity. (4.1.2b)  
*Not reporting on this Outcome for this Annual Report*

**Outcome #8**

**1. Outcome Measures**

# of local government officials and community leaders who demonstrate knowledge gains about managing natural resources, invasive species, open space preservation, alternative land uses and/or biodiversity. (4.1.3b)  
*Not reporting on this Outcome for this Annual Report*

**Outcome #9**

**1. Outcome Measures**

# of consumers, residents, and landowners who demonstrate knowledge gains about natural resources management, invasive species, and/or biodiversity. (4.1.4b)  
*Not reporting on this Outcome for this Annual Report*

**Outcome #10**

**1. Outcome Measures**

# of teachers and youth professionals and volunteers who demonstrate knowledge gains about natural resources management, invasive species and/or biodiversity. (4.1.5b)  
*Not reporting on this Outcome for this Annual Report*

**Outcome #11**

**1. Outcome Measures**

# of youth who demonstrate knowledge gains about natural resources management, invasive species and/or biodiversity. (4.1.6b)  
*Not reporting on this Outcome for this Annual Report*

**Outcome #12**

**1. Outcome Measures**

# of agricultural/natural resources producers and business representatives documented to have modified existing practices or technologies and/or adopted new management practices to protect/enhance natural resources and/or enhance biodiversity. (4.1.1c)

**2. Associated Institution Types**

- 1862 Extension

**3a. Outcome Type:**

Change in Action Outcome Measure

**3b. Quantitative Outcome**

Year	Quantitative Target	Actual
2008	2000	465

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

**Issue (Who cares and Why)**

**What has been done**

**Results**

**4. Associated Knowledge Areas**

KA Code	Knowledge Area
104	Protect Soil from Harmful Effects of Natural Elements
132	Weather and Climate
136	Conservation of Biological Diversity
214	Vertebrates, Mollusks, and Other Pests Affecting Plants
101	Appraisal of Soil Resources
135	Aquatic and Terrestrial Wildlife
125	Agroforestry
102	Soil, Plant, Water, Nutrient Relationships

**Outcome #13**

**1. Outcome Measures**

# of organization and business representatives documented to have modified existing practices or technologies and/or adopted new management practices to protect/enhance natural resources and/or enhance biodiversity. (4.1.2c)

**2. Associated Institution Types**

- 1862 Extension

**3a. Outcome Type:**

Change in Action Outcome Measure

**3b. Quantitative Outcome**

Year	Quantitative Target	Actual
2008	200	291

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

**Issue (Who cares and Why)**

**What has been done**

**Results**

**4. Associated Knowledge Areas**

KA Code	Knowledge Area
101	Appraisal of Soil Resources
136	Conservation of Biological Diversity
214	Vertebrates, Mollusks, and Other Pests Affecting Plants
135	Aquatic and Terrestrial Wildlife
123	Management and Sustainability of Forest Resources
102	Soil, Plant, Water, Nutrient Relationships
104	Protect Soil from Harmful Effects of Natural Elements
132	Weather and Climate
125	Agroforestry

**Outcome #14**

**1. Outcome Measures**

# of local government officials and community leaders documented to have modified existing practices or technologies and/or adopted new management practices to protect/enhance natural resources and/or enhance biodiversity.  
(4.1.3c)

**2. Associated Institution Types**

•1862 Extension

**3a. Outcome Type:**

Change in Action Outcome Measure

**3b. Quantitative Outcome**

Year	Quantitative Target	Actual
2008	200	196

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

**Issue (Who cares and Why)**

**What has been done**

**Results**

**4. Associated Knowledge Areas**

KA Code	Knowledge Area
214	Vertebrates, Mollusks, and Other Pests Affecting Plants
136	Conservation of Biological Diversity
104	Protect Soil from Harmful Effects of Natural Elements
102	Soil, Plant, Water, Nutrient Relationships
123	Management and Sustainability of Forest Resources

**Outcome #15**

**1. Outcome Measures**

# of communities documented to have thoroughly assessed the status of their natural resources. (4.1.3d)

**2. Associated Institution Types**

•1862 Extension

**3a. Outcome Type:**

Change in Action Outcome Measure

**3b. Quantitative Outcome**

Year	Quantitative Target	Actual
2008	50	30

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

**Issue (Who cares and Why)**

**What has been done**

**Results**

**4. Associated Knowledge Areas**

<b>KA Code</b>	<b>Knowledge Area</b>
124	Urban Forestry
136	Conservation of Biological Diversity

**Outcome #16**

**1. Outcome Measures**

# of producers, businesses, local governments, organizations, landowners, and individuals collaborate to develop and implement natural resources management strategies. (4.1.3e)  
*Not reporting on this Outcome for this Annual Report*

**Outcome #17**

**1. Outcome Measures**

# of consumers, residents, and landowners documented to have modified existing practices or technologies and/or adopted new management practices to protect/enhance natural resources and/or enhance biodiversity. (4.1.4c)

**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	3500	7820

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

**Issue (Who cares and Why)**

**What has been done**

**Results**

**4. Associated Knowledge Areas**

<b>KA Code</b>	<b>Knowledge Area</b>
123	Management and Sustainability of Forest Resources
136	Conservation of Biological Diversity

**Outcome #18**

**1. Outcome Measures**

# of teachers and youth professionals and volunteers who incorporate natural resources management and/or biodiversity knowledge into curriculum. (4.1.5c)

**2. Associated Institution Types**

•1862 Extension

**3a. Outcome Type:**

Change in Action Outcome Measure

**3b. Quantitative Outcome**

Year	Quantitative Target	Actual
2008	750	509

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

**Issue (Who cares and Why)**

**What has been done**

**Results**

**4. Associated Knowledge Areas**

KA Code	Knowledge Area
123	Management and Sustainability of Forest Resources
136	Conservation of Biological Diversity

**Outcome #19**

**1. Outcome Measures**

# of youth documented to have modified existing practices and/or adopted new practices to protect/enhance natural resources and/or enhance biodiversity. (4.1.6c)

**2. Associated Institution Types**

•1862 Extension

**3a. Outcome Type:**

Change in Action Outcome Measure

**3b. Quantitative Outcome**

Year	Quantitative Target	Actual
2008	1250	4280

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

**Issue (Who cares and Why)**

**What has been done**

**Results**

**4. Associated Knowledge Areas**

KA Code	Knowledge Area
136	Conservation of Biological Diversity
123	Management and Sustainability of Forest Resources

**Outcome #20**

**1. Outcome Measures**

# of youth introduced to variety of environmental and natural resources career options. (4.1.6d)

**2. Associated Institution Types**

•1862 Extension

**3a. Outcome Type:**

Change in Action Outcome Measure

**3b. Quantitative Outcome**

Year	Quantitative Target	Actual
2008	20000	4883

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

**Issue (Who cares and Why)**

**What has been done**

**Results**

**4. Associated Knowledge Areas**

KA Code	Knowledge Area
136	Conservation of Biological Diversity
123	Management and Sustainability of Forest Resources
134	Outdoor Recreation

**Outcome #21**

**1. Outcome Measures**

Invasive Species Local Alert

**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}	0

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

**Issue (Who cares and Why)**

New problematic invasive species have either encroached and spread in the North Country region, or are increasingly nearer to Northern New York State threatening commercial forests, maple production, and private forests. Property owners and producers mentioned have limited knowledge about potential negative environmental and economic effects from invasive species and possible control or management strategies. Key invasives include emerald ash borer, Asian longhorn beetle, Swede midge, pale, black swallow wort, buckthorn, honeysuckles, garlic mustard, and spotted knapweed.

**What has been done**

Seven training class presentations and field sessions were given in St. Lawrence County and Lewis Counties, along with several informal educational outreach demonstrations at commodity and consumer group events. A media outreach effort also was conducted focused on proper identification and best management practices.

**Results**

Participants are better prepared to scout their properties and are increasingly reporting suspected infestations for proper identification or assessment. Participating maple sugarbush operators, forest owners, and other property owners are more closely scouting their lands for infestations of invasive plants on the rise in the region, and insects of a distant, yet potential, threat. At least four additional infestations of invasive swallow-wort and garlic mustard have been reported in new areas of the county and region. Several property owners have begun special cultural and herbicidal efforts together to control invasive swallow-wort encroaching onto their lands from a major infestation, as instructed by CCE. This 'fire-line' effort is intended to slow the infestation's spread until further assistance is garnered.

**4. Associated Knowledge Areas**

KA Code	Knowledge Area
125	Agroforestry
123	Management and Sustainability of Forest Resources

**Outcome #22**

**1. Outcome Measures**

Forest Connect: Regional Forestry Initiative

**2. Associated Institution Types**

- 1862 Extension
- 1862 Research

**3a. Outcome Type:**

Change in Action Outcome Measure

**3b. Quantitative Outcome**

Year	Quantitative Target	Actual
2008	{No Data Entered}	0

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

**Issue (Who cares and Why)**

Private woodland owners control approximately 50% of the land area in New York. The actions of these landowners influence water quality, sustainable timber production, community employment opportunities, wildlife habitat, and green space, to mention but a few landscape-scale forest-based amenities. However, a majority of forest owners are unaware of CUCE and the availability of other resources that can help them make natural resource management decisions. Forest owners, resident and non-resident, need to know about educational resources and how to implement sustainable forestry practices.

**What has been done**

Three teams of educators directly impacted more than 6700 forest owners who control more than 130,000 acres resulting an increased understanding of forest resource management. Educators effectively used mass media and direct mailing to reach owners not previously connected to CUCE. Presumably due to increased marketing efforts, workshop attendance increased by 60 to 100%, requests for MFO visits increased 2- to 4-fold, requests for information increased 5-fold in some counties, and 'new' participants at CUCE events reached 75%.

**Results**

Workshop participation increased by as much as 60 to 100% depending on event and project. Requests for visits from Master Forest Owner volunteers experienced a 2 to 4 fold increase. 'First time' users represented as much as 75% of the participants. Increased forestry educational activity with these three CUCE projects has strengthened existing and created new partnerships with other organizations and agencies.



#### 4. Associated Knowledge Areas

KA Code	Knowledge Area
134	Outdoor Recreation
123	Management and Sustainability of Forest Resources
136	Conservation of Biological Diversity
125	Agroforestry

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

##### External factors which affected outcomes

- Natural Disasters (drought, weather extremes, etc.)
- Economy
- Appropriations changes
- Public Policy changes
- Government Regulations
- Competing Public priorities

##### Brief Explanation

- Natural disasters (drought, weather extremes, etc.)
- Economic downturn
- Public policy changes-- Government regulations
- Competing public priorities
- Population changes (immigration, new cultural groupings, etc. See plan for additional details.)

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

##### 1. Evaluation Studies Planned

- After Only (post program)
- Retrospective (post program)
- During (during program)
- Case Study

##### Evaluation Results

Evaluation results are reflected in the outcome indicators and impact statements associated with each planned program and result from a broad variety of evaluation approaches appropriate to the individual programs and contexts they represent.

##### Key Items of Evaluation

Each of our planned programs represents broad program emphases and strategies. Program evaluation results are incorporated in outcome statements associated with each plan.

**Program #11**

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

**1. Name of the Planned Program**

4.2 Water Resources Management

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

**1. Program Knowledge Areas and Percentage**

KA Code	Knowledge Area	%1862 Extension	%1890 Extension	%1862 Research	%1890 Research
111	Conservation and Efficient Use of Water	30%		30%	
112	Watershed Protection and Management	70%		70%	
	<b>Total</b>	100%		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>	4.6	0.0	1.0	0.0
<b>Actual</b>	23.4	0.0	8.7	0.0

**2. Institution Name: Cornell University**

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

Extension		Research	
Smith-Lever 3b & 3c	1890 Extension	Hatch	Evans-Allen
144526	0	466882	0
1862 Matching	1890 Matching	1862 Matching	1890 Matching
144526	0	466882	0
1862 All Other	1890 All Other	1862 All Other	1890 All Other
0	0	0	0

**2. Institution Name: NY State Agricultural Experiment Station**

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

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

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

**1. Brief description of the Activity**

This is a statewide educational program entailing a wide range of applied research activities and multiple education methods depending on local context and need. Campus-based faculty and extension associates, regional specialists and county-based educators all are involved in designing, implementing, and evaluating tailored educational efforts depending on the focus and scope of their role.

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

Residents and property owners are targeted with stewardship and water resources protection in their homes and on their properties. Businesses, organizations, and producers are targeted with information about reducing impacts of their operations. Local government and community leaders are targeted with information related to governmental management of water resources, such as land use planning. Environmental planners and managers and technical assistance providers are targeted with in-depth information related to their audiences/constituents. Teachers, youth professionals and volunteers are targeted with in-depth knowledge relevant to youth. Youth of all ages are provided with age and grade appropriate knowledge about water resources; activities to increase stewardship; and information about career opportunities.

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

**1. Standard output measures**

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

	Direct Contacts Adults	Indirect Contacts Adults	Direct Contacts Youth	Indirect Contacts Youth
Year	Target	Target	Target	Target
Plan	30000	250000	10000	15000
2008	13992	1759471	5526	37100

**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**

	Extension	Research	Total
Plan	0	40	
2008	0	0	25

## V(F). State Defined Outputs

### Output Target

#### Output #1

##### Output Measure

- # non-credit instructional activities directed to this program.

*Not reporting on this Output for this Annual Report*

#### Output #2

##### Output Measure

- # non-credit instructional hours directed to this program.

*Not reporting on this Output for this Annual Report*

#### Output #3

##### Output Measure

- # funded applied research projects directed to this program.

*Not reporting on this Output for this Annual Report*

#### Output #4

##### Output Measure

- # of agricultural/natural resources producers and business representatives completing educational programs on managing water resources. (4.2.1a)

*Not reporting on this Output for this Annual Report*

#### Output #5

##### Output Measure

- # of organization and business representatives completing educational programs on managing water resources. (4.2.2a)

*Not reporting on this Output for this Annual Report*

#### Output #6

##### Output Measure

- # of local government officials and community leaders completing educational programs on managing water resources and the relationship between water resources and land use management. (4.2.3a)

*Not reporting on this Output for this Annual Report*

#### Output #7

##### Output Measure

- # of consumers, residents, and landowners completing educational programs on water resources protection. (4.2.4a)

*Not reporting on this Output for this Annual Report*

#### Output #8

##### Output Measure

- # of teachers and youth professionals and volunteers completing educational programs on water resources. (4.2.5a)

*Not reporting on this Output for this Annual Report*

#### Output #9

##### Output Measure

- # of youth completing educational programs on water resources protection. (4.2.6a)

*Not reporting on this Output for this Annual Report*

V(G). State Defined Outcomes

V. State Defined Outcomes Table of Content

O No.	OUTCOME NAME
1	# of agricultural/natural resources producers and business representatives who demonstrate knowledge gains about managing water resources. (4.2.1b)
2	# of organization and business representatives who demonstrate knowledge gains about managing water resources. (4.2.2b)
3	# of local government officials and community leaders who demonstrate knowledge gains about managing water resources and the relationship between water resources and land use management. (4.2.3b)
4	# of consumers, residents, and landowners who demonstrate knowledge gains about water resources protection. (4.2.4b)
5	# of teachers and youth professionals and volunteers who demonstrate knowledge gains about water resources protection. (4.2.5b)
6	# of youth who demonstrate knowledge gains about water resources protection. (4.2.6b)
7	# of agricultural/natural resources producers and business representatives documented to have modified existing practices or technologies and/or adopted new management practices to protect/enhance water resources. (4.2.1c)
8	# of organization and business representatives documented to have modified existing practices or technologies and/or adopted new management practices to protect/enhance water resources. (4.2.2c)
9	# of local government officials and community leaders documented to have modified existing practices or technologies and/or adopted new management practices to protect/enhance water resources. (4.2.3c)
10	# of communities documented to have thoroughly assessed the status of their water resources. (4.2.3d)
11	# of producers, businesses, local governments, organizations, landowners, and individuals that collaborate to develop and implement water resources management strategies. (4.2.3e)
12	# of consumers, residents, and landowners documented to have modified existing practices or technologies and/or adopted new management practices to protect/enhance water resources. (4.2.4c)
13	# of teachers and youth professionals and volunteers who incorporate water resources management knowledge into curriculum. (4.2.5c)
14	# of youth documented to have modified existing practices and/or adopted new practices to protect/enhance water resources. (4.2.6c)
15	# of youth introduced to variety of environmental and natural resources career options. (4.2.6d)
16	# of agricultural/natural resources producers and business representatives documented to have improved and/or protected water resources. (4.2.1d)
17	Documented instances in which resource managers credit Implementation of improved water resources management practices for lower costs for remediation. (4.2.2d)
18	# of communities documented to have established or modified land use and development policies to enhance and protect water resources. (4.2.3f)
19	# of youth documented to have chosen water resources-related careers. (4.2.6e)
20	Documented instances in which resource managers credit improved groundwater and surface water quality, decreased flooding, and/or decreased over-use of water supplies to implementation of improved water resources management practices. (4.2.7a)
21	Documented instances in which public health officials credit decreased public health risks to implementation of improved water resources management practices. (4.2.7b)
22	# consumers, residents, and landowners documented to have modified existing practices or technologies and/or adopted new management practices to protect/enhance water resources. (4.2.4d)
23	Lawn Care and Water Quality in the Capital District
24	Hydrology-Biogeochemistry Interactions Controlling Phosphorus Transport in Agricultural Ecosystems
25	Evaluating Roadside Ditch Systems for Improved Water Resource Management and Implementation of EPA Phase II Stormwater Regulations

**Outcome #1**

**1. Outcome Measures**

# of agricultural/natural resources producers and business representatives who demonstrate knowledge gains about managing water resources. (4.2.1b)  
*Not reporting on this Outcome for this Annual Report*

**Outcome #2**

**1. Outcome Measures**

# of organization and business representatives who demonstrate knowledge gains about managing water resources. (4.2.2b)  
*Not reporting on this Outcome for this Annual Report*

**Outcome #3**

**1. Outcome Measures**

# of local government officials and community leaders who demonstrate knowledge gains about managing water resources and the relationship between water resources and land use management. (4.2.3b)  
*Not reporting on this Outcome for this Annual Report*

**Outcome #4**

**1. Outcome Measures**

# of consumers, residents, and landowners who demonstrate knowledge gains about water resources protection. (4.2.4b)  
*Not reporting on this Outcome for this Annual Report*

**Outcome #5**

**1. Outcome Measures**

# of teachers and youth professionals and volunteers who demonstrate knowledge gains about water resources protection. (4.2.5b)  
*Not reporting on this Outcome for this Annual Report*

**Outcome #6**

**1. Outcome Measures**

# of youth who demonstrate knowledge gains about water resources protection. (4.2.6b)  
*Not reporting on this Outcome for this Annual Report*

**Outcome #7**

**1. Outcome Measures**

# of agricultural/natural resources producers and business representatives documented to have modified existing practices or technologies and/or adopted new management practices to protect/enhance water resources. (4.2.1c)  
*Not reporting on this Outcome for this Annual Report*

**Outcome #8**

**1. Outcome Measures**

# of organization and business representatives documented to have modified existing practices or technologies and/or adopted new management practices to protect/enhance water resources. (4.2.2c)

*Not reporting on this Outcome for this Annual Report*

## **Outcome #9**

### **1. Outcome Measures**

# of local government officials and community leaders documented to have modified existing practices or technologies and/or adopted new management practices to protect/enhance water resources. (4.2.3c)

### **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	175	116

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

**Issue (Who cares and Why)**

**What has been done**

**Results**

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

<b>KA Code</b>	<b>Knowledge Area</b>
112	Watershed Protection and Management
111	Conservation and Efficient Use of Water

## **Outcome #10**

### **1. Outcome Measures**

# of communities documented to have thoroughly assessed the status of their water resources. (4.2.3d)

### **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	25	51

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

**Issue (Who cares and Why)**

**What has been done**

**Results**

**4. Associated Knowledge Areas**

KA Code	Knowledge Area
111	Conservation and Efficient Use of Water
112	Watershed Protection and Management

**Outcome #11**

**1. Outcome Measures**

# of producers, businesses, local governments, organizations, landowners, and individuals that collaborate to develop and implement water resources management strategies. (4.2.3e)

*Not reporting on this Outcome for this Annual Report*

**Outcome #12**

**1. Outcome Measures**

# of consumers, residents, and landowners documented to have modified existing practices or technologies and/or adopted new management practices to protect/enhance water resources. (4.2.4c)

**2. Associated Institution Types**

- 1862 Extension

**3a. Outcome Type:**

Change in Action Outcome Measure

**3b. Quantitative Outcome**

Year	Quantitative Target	Actual
2008	7500	2727

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

**Issue (Who cares and Why)**

**What has been done**

**Results**

**4. Associated Knowledge Areas**

KA Code	Knowledge Area
112	Watershed Protection and Management
111	Conservation and Efficient Use of Water

**Outcome #13**

**1. Outcome Measures**

# of teachers and youth professionals and volunteers who incorporate water resources management knowledge into curriculum. (4.2.5c)

**2. Associated Institution Types**

- 1862 Extension



**3a. Outcome Type:**

Change in Action Outcome Measure

**3b. Quantitative Outcome**

Year	Quantitative Target	Actual
2008	200	449

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

**Issue (Who cares and Why)**

**What has been done**

**Results**

**4. Associated Knowledge Areas**

KA Code	Knowledge Area
112	Watershed Protection and Management
111	Conservation and Efficient Use of Water

**Outcome #14**

**1. Outcome Measures**

# of youth documented to have modified existing practices and/or adopted new practices to protect/enhance water resources. (4.2.6c)

**2. Associated Institution Types**

•1862 Extension

**3a. Outcome Type:**

Change in Action Outcome Measure

**3b. Quantitative Outcome**

Year	Quantitative Target	Actual
2008	2000	2450

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

**Issue (Who cares and Why)**

**What has been done**

**Results**

**4. Associated Knowledge Areas**

KA Code	Knowledge Area
112	Watershed Protection and Management
111	Conservation and Efficient Use of Water

**Outcome #15**

**1. Outcome Measures**

# of youth introduced to variety of environmental and natural resources  
career options. (4.2.6d)

**2. Associated Institution Types**

•1862 Extension

**3a. Outcome Type:**

Change in Action Outcome Measure

**3b. Quantitative Outcome**

Year	Quantitative Target	Actual
2008	25000	2825

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

**Issue (Who cares and Why)**

**What has been done**

**Results**

**4. Associated Knowledge Areas**

KA Code	Knowledge Area
112	Watershed Protection and Management
111	Conservation and Efficient Use of Water

**Outcome #16**

**1. Outcome Measures**

# of agricultural/natural resources producers and business representatives  
documented to have improved and/or protected water resources. (4.2.1d)

**2. Associated Institution Types**

•1862 Extension

**3a. Outcome Type:**

Change in Condition Outcome Measure

**3b. Quantitative Outcome**

Year	Quantitative Target	Actual
2008	1750	118

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

**Issue (Who cares and Why)**

**What has been done**

**Results**

**4. Associated Knowledge Areas**

KA Code	Knowledge Area
112	Watershed Protection and Management
111	Conservation and Efficient Use of Water

**Outcome #17**

**1. Outcome Measures**

Documented instances in which resource managers credit Implementation of improved water resources management practices for lower costs for remediation. (4.2.2d)

**2. Associated Institution Types**

•1862 Extension

**3a. Outcome Type:**

Change in Condition Outcome Measure

**3b. Quantitative Outcome**

Year	Quantitative Target	Actual
2008	15	4

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

**Issue (Who cares and Why)**

**What has been done**

**Results**

**4. Associated Knowledge Areas**

KA Code	Knowledge Area
112	Watershed Protection and Management
111	Conservation and Efficient Use of Water

**Outcome #18**

**1. Outcome Measures**

# of communities documented to have established or modified land use and development policies to enhance and protect water resources. (4.2.3f)

**2. Associated Institution Types**

•1862 Extension

**3a. Outcome Type:**

Change in Condition Outcome Measure

**3b. Quantitative Outcome**

Year	Quantitative Target	Actual
2008	20	44

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

**Issue (Who cares and Why)**

**What has been done**

**Results**

**4. Associated Knowledge Areas**

<b>KA Code</b>	<b>Knowledge Area</b>
112	Watershed Protection and Management
111	Conservation and Efficient Use of Water

**Outcome #19**

**1. Outcome Measures**

# of youth documented to have chosen water resources-related careers.  
(4.2.6e)  
*Not reporting on this Outcome for this Annual Report*

**Outcome #20**

**1. Outcome Measures**

Documented instances in which resource managers credit improved groundwater and surface water quality, decreased flooding, and/or decreased over-use of water supplies to implementation of improved water resources management practices. (4.2.7a)  
*Not reporting on this Outcome for this Annual Report*

**Outcome #21**

**1. Outcome Measures**

Documented instances in which public health officials credit decreased public health risks to implementation of improved water resources management practices. (4.2.7b)  
*Not reporting on this Outcome for this Annual Report*

**Outcome #22**

**1. Outcome Measures**

# consumers, residents, and landowners documented to have modified existing practices or technologies and/or adopted new management practices to protect/enhance water resources. (4.2.4d)

**2. Associated Institution Types**

•1862 Extension

**3a. Outcome Type:**

Change in Knowledge Outcome Measure

**3b. Quantitative Outcome**

<b>Year</b>	<b>Quantitative Target</b>	<b>Actual</b>
2008	3500	1079

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

**Issue (Who cares and Why)**

**What has been done**

**Results**

**4. Associated Knowledge Areas**

KA Code	Knowledge Area
112	Watershed Protection and Management
111	Conservation and Efficient Use of Water

**Outcome #23**

**1. Outcome Measures**

Lawn Care and Water Quality in the Capital District

**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}	0

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

**Issue (Who cares and Why)**

The Capital District Counties of New York (Albany, Rensselaer and Schenectady) are home to over 600,000 people, many of whom own a suburban lawn. The region's streams and rivers empty primarily into the Hudson River. As development of the watershed increases, lawn runoff becomes an increasing concern.

**What has been done**

This project was designed to educate a large number of residents directly about how proper lawn care can positively impact water quality and the environment. Traditional lawn care classes, newsletter articles and other Extension lawn-related activities have included practices which are sensitive to water quality issues, but water quality has not been the dominant theme. Cornell faculty provided us with two excellent resources, the bulletins entitled 'The Homeowner's Lawn Care and Water Quality Almanac' and 'Lawn Care Without Pesticides.' This project allowed us to make these resources and the idea of water quality the focal point for a series of lawn care classes, a newspaper article and a radio interview.

**Results**

'Healthy Lawns, Healthy Water' sessions were attended by 224 persons at six class sessions. A sample of 50 participants indicated consistent knowledge gains in five areas critical to understanding lawns and water quality: fate of fertilizers and pesticides, best types of grass to grow given the site conditions, proper fertilization, mowing height, and the use of herbicides. 21 respondents (42%) identified at least one specific practice change they had adopted to to protect water resources such as mowing at a higher height, fertilizing at the proper time, fertilizing less, improved watering practices, appropriate seed selection, using less pesticide, etc.

**4. Associated Knowledge Areas**

KA Code	Knowledge Area
112	Watershed Protection and Management
111	Conservation and Efficient Use of Water

**Outcome #24**

**1. Outcome Measures**

Hydrology-Biogeochemistry Interactions Controlling Phosphorus Transport in Agricultural Ecosystems

**2. Associated Institution Types**

•1862 Research

**3a. Outcome Type:**

Change in Knowledge Outcome Measure

**3b. Quantitative Outcome**

Year	Quantitative Target	Actual
2008	{No Data Entered}	0

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

**Issue (Who cares and Why)**

Despite decades of research, excessive phosphorus loads from agricultural landscapes continue to threaten our nation's rivers and lakes. One critical knowledge gap is the microbiological and biogeochemical processes that control phosphorus mobility. This project goal is to improve our understanding about how phosphorus is transported from agricultural nutrient source areas, like barn yards and manure-spread fields, to lakes, rivers, and water supply reservoirs.

**What has been done**

This project focuses on how dissolved organic carbon, which is a natural part of soil and manure, enhances phosphorus mobility. Our specific objectives are to determine how different agricultural phosphorus sources, like milk house waste or barn yard runoff, and various environmental conditions, like soil saturation degree and temperature, interact to promote or depress phosphorus mobility in runoff and drainage waters. These results will be used to develop new risk assessment tools and water quality protection strategies.

**Results**

This project led to changes in Best Management Practices that have been widely adopted in New York City watershed and other areas. The project showed that most nonpoint sources of phosphorus loading from agricultural (and residential) landscapes primarily originate from saturated runoff source-areas. In particular, findings show we can protect riparian (and stream channel) areas from phosphorus loading by buffering and fencing off these areas, with a particularly positive impact on stream water quality. These results are being promoted through peer-reviewed papers (5 published to date, 1 in press, and several in various draft stages), presentations at regional meetings and workshops, and on-line via our lab web-site (<http://soilandwater.bee.cornell.edu/>). We are also developing new, user-friendly on-line tools for predicting where and when runoff source areas will appear based on historical data, real-time conditions, and weather forecasts.

**4. Associated Knowledge Areas**

KA Code	Knowledge Area
112	Watershed Protection and Management

**Outcome #25**

**1. Outcome Measures**

Evaluating Roadside Ditch Systems for Improved Water Resource Management and Implementation of EPA Phase II Stormwater Regulations

**2. Associated Institution Types**

•1862 Research

**3a. Outcome Type:**

Change in Action Outcome Measure

**3b. Quantitative Outcome**

Year	Quantitative Target	Actual
2008	{No Data Entered}	0

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

**Issue (Who cares and Why)**

Networks of roadside ditches are an unrecognized contributor to problems with sediment loading and stormwater flooding in streams.

**What has been done**

This project is investigating how different factors, such as type of ditch management practice, influence the contributions of water, sediment, and associated contaminants from roadside ditches to streams to drinking water supplies.

**Results**

Research showed that roadside ditches significantly alter the natural drainage networks and hydrologic processes within watersheds. The findings led to new recommendations for improving ditch management, resulting in a visible change in awareness, as evidenced by 11 unsolicited invitations to speak at statewide conferences or to state agency committees, with 3 more scheduled for 2009. Ditch management practices are changing across NY. Several towns have conducted ditch outfall inventories, changed practices and/or created demonstration sites and videos. We helped review the ditch management guidelines for NYS Dept. of Transportation and provided testimony to the NYS Legislature. Recommendations were also included in a forthcoming book 'Diet for a Small Lake: Expanded Guide to Lake and Watershed Management' (2009, Forager Press) which is a collaborative effort between NYS Federation of Lake Associations and NYS Dept. of Environmental Conservation.

**4. Associated Knowledge Areas**

KA Code	Knowledge Area
112	Watershed Protection and Management

**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

**Brief Explanation**

- Natural disasters (drought, weather extremes, etc.
  - Economic downturn
  - Public policy changes
  - Government regulations
  - Competing public priorities
  - Population changes (immigration, new cultural groupings, etc.
- See plan for additional details.

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

**1. Evaluation Studies Planned**

- After Only (post program)
- Retrospective (post program)
- During (during program)
- Case Study

**Evaluation Results**

Evaluation results are reflected in the outcome indicators and impact statements associated with each planned program and result from a broad variety of evaluation approaches appropriate to the individual programs and contexts they represent.

**Key Items of Evaluation**

Each of our planned programs represents broad program emphases and strategies. Program evaluation results are incorporated in outcome statements associated with each plan.



**Program #12**

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

**1. Name of the Planned Program**

4.3 Waste Management and Prevention

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

**1. Program Knowledge Areas and Percentage**

KA Code	Knowledge Area	%1862 Extension	%1890 Extension	%1862 Research	%1890 Research
133	Pollution Prevention and Mitigation	86%		86%	
403	Waste Disposal, Recycling, and Reuse	14%		14%	
	<b>Total</b>	100%		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>	2.4	0.0	0.5	0.0
<b>Actual</b>	11.7	0.0	7.8	0.0

**2. Institution Name: Cornell University**

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

Extension		Research	
Smith-Lever 3b & 3c	1890 Extension	Hatch	Evans-Allen
72263	0	226556	0
1862 Matching	1890 Matching	1862 Matching	1890 Matching
72263	0	226556	0
1862 All Other	1890 All Other	1862 All Other	1890 All Other
0	0	0	0

**2. Institution Name: NY State Agricultural Experiment Station**

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

Extension		Research	
<b>Smith-Lever 3b &amp; 3c</b> 0	<b>1890 Extension</b> 0	<b>Hatch</b> 3087	<b>Evans-Allen</b> 0
<b>1862 Matching</b> 0	<b>1890 Matching</b> 0	<b>1862 Matching</b> 3087	<b>1890 Matching</b> 0
<b>1862 All Other</b> 0	<b>1890 All Other</b> 0	<b>1862 All Other</b> 0	<b>1890 All Other</b> 0

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

**1. Brief description of the Activity**

This is a statewide educational program entailing a wide range of applied research activities and multiple education methods depending on local context and need. Campus-based faculty and extension associates, regional specialists and county-based educators all are involved in designing, implementing, and evaluating tailored educational efforts depending on the focus and scope of their role.

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

Residents and property owners are targeted with stewardship and waste reduction and management in their homes and on their properties. Businesses, organizations, and producers are targeted with information about reducing impacts of their operations. Local government and community leaders are targeted with information related to governmental management of waste, such as relationship between waste management and land use, effective recycling programs, and roadkill management. Environmental planners and managers and technical assistance providers are targeted with in-depth information related to their audiences/constituents. Teachers and youth professionals and volunteers are provided with curriculum and training. Youth are targeted with age appropriate education.

**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>	5500	50000	2500	15000
2008	8225	555072	5872	5286

**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>	0	2	
2008	0	0	6

## V(F). State Defined Outputs

### Output Target

#### Output #1

##### Output Measure

- # non-credit instructional activities directed to this program.

*Not reporting on this Output for this Annual Report*

#### Output #2

##### Output Measure

- # non-credit instructional activity contact hours directed to this program.

*Not reporting on this Output for this Annual Report*

#### Output #3

##### Output Measure

- # funded applied research projects directed to this program.

*Not reporting on this Output for this Annual Report*

#### Output #4

##### Output Measure

- # of agricultural/natural resources producers and business representatives completing educational programs on managing and reducing waste. (4.3.1a)

*Not reporting on this Output for this Annual Report*

#### Output #5

##### Output Measure

- # of organization and business representatives completing educational programs on managing and reducing waste. (4.3.2a)

*Not reporting on this Output for this Annual Report*

#### Output #6

##### Output Measure

- # of local government officials and community leaders completing educational programs on managing and reducing waste and the relationship between waste and land use management. (4.3.4a)

*Not reporting on this Output for this Annual Report*

#### Output #7

##### Output Measure

- # of consumers, residents, and landowners completing educational programs on waste reduction and management. (4.3.5a)

*Not reporting on this Output for this Annual Report*

#### Output #8

##### Output Measure

- # of youth completing educational programs on waste management and reduction. (4.3.6a)

*Not reporting on this Output for this Annual Report*

#### Output #9

##### Output Measure

- # of teachers and youth professionals and volunteers completing educational programs on waste management and reduction. (4.3.7a)

*Not reporting on this Output for this Annual Report*

V(G). State Defined Outcomes

V. State Defined Outcomes Table of Content

O No.	OUTCOME NAME
1	# of agricultural/natural resources producers and business representatives who demonstrate knowledge gains about waste management and reduction. (4.3.1b)
2	# of organization and business representatives who demonstrate knowledge gains about waste management and reduction. (4.3.2b)
3	# of local government officials and community leaders who demonstrate knowledge gains about waste management and reduction and the relationship between waste and land use management. (4.3.4b)
4	# of consumers, residents, and landowners who demonstrate knowledge gains about waste management and reduction. (4.3.5b)
5	# of youth who demonstrate knowledge gains about waste management and reduction. (4.3.6b)
6	# of teachers and youth professionals and volunteers who demonstrate knowledge gains about waste management and reduction. (4.3.7b)
7	# of agricultural/natural resources producers and business representatives documented to have modified existing practices or technologies and/or adopted new practices to manage and reduce waste. (4.3.1c)
8	# of organization and business representatives documented to have modified existing practices or technologies and/or adopted new practices to manage and reduce waste. (4.3.2c)
9	# of producers, businesses, local governments, organizations, landowners, and individuals who collaborate to develop and implement waste reduction and management strategies. (4.3.3a)
10	# of local government officials and community leaders documented to have modified existing practices or technologies and/or adopted new practices to manage and reduce waste. (4.3.4c)
11	# of consumers, residents, and landowners documented to have modified existing practices or technologies and/or adopted new practices to manage and reduce waste. (4.3.5c)
12	# of youth documented to have modified existing practices and/or adopted new practices to manage and reduce waste. (4.3.6c)
13	# of youth introduced to variety of environmental and natural resources career options. (4.3.6d)
14	# of teachers and youth professionals and volunteers who incorporate waste reduction and management knowledge into curriculum. (4.3.7c)
15	# of agricultural/natural resources producers and business representatives documented to have improved waste management practices. (4.3.1d)
16	# of organizations and businesses documented to have established or modified waste management policies to enhance and protect land and water resources. (4.3.2d)
17	Documented instances in which resource managers credit reduced risk from waste handling and disposal; decreased waste volume; and improved environmental equity to implementation of improved waste management practices. (4.3.3b)
18	# of local government officials and community leaders documented to have established or modified waste management policies to enhance and protect land and water resources. (4.3.4d)
19	# of consumers, residents, and/or landowners, documented to have improved waste management practices. (4.3.5d)
20	# of youth documented to have chosen waste management-related careers. (4.3.6e)
21	Documented instances in which public health officials credit decreased public health risks to implementation of improved waste management practices. (4.3.8a)
22	Documented instances in which resource managers credit lower costs for remediation to implementation of improved waste management practices. (4.3.8b)
23	Recycling Agricultural Plastics
24	Economic and Environmentally Sustainable Manure Management for the New York Dairy Industry

**Outcome #1**

**1. Outcome Measures**

# of agricultural/natural resources producers and business representatives who demonstrate knowledge gains about waste management and reduction. (4.3.1b)

*Not reporting on this Outcome for this Annual Report*

**Outcome #2**

**1. Outcome Measures**

# of organization and business representatives who demonstrate knowledge gains about waste management and reduction. (4.3.2b)

*Not reporting on this Outcome for this Annual Report*

**Outcome #3**

**1. Outcome Measures**

# of local government officials and community leaders who demonstrate knowledge gains about waste management and reduction and the relationship between waste and land use management. (4.3.4b)

*Not reporting on this Outcome for this Annual Report*

**Outcome #4**

**1. Outcome Measures**

# of consumers, residents, and landowners who demonstrate knowledge gains about waste management and reduction. (4.3.5b)

*Not reporting on this Outcome for this Annual Report*

**Outcome #5**

**1. Outcome Measures**

# of youth who demonstrate knowledge gains about waste management and reduction. (4.3.6b)

*Not reporting on this Outcome for this Annual Report*

**Outcome #6**

**1. Outcome Measures**

# of teachers and youth professionals and volunteers who demonstrate knowledge gains about waste management and reduction. (4.3.7b)

*Not reporting on this Outcome for this Annual Report*

**Outcome #7**

**1. Outcome Measures**

# of agricultural/natural resources producers and business representatives documented to have modified existing practices or technologies and/or adopted new practices to manage and reduce waste. (4.3.1c)

*Not reporting on this Outcome for this Annual Report*

**Outcome #8**

**1. Outcome Measures**

# of organization and business representatives documented to have modified existing practices or technologies and/or adopted new practices to manage and reduce waste. (4.3.2c)

*Not reporting on this Outcome for this Annual Report*

**Outcome #9**

**1. Outcome Measures**

# of producers, businesses, local governments, organizations, landowners, and individuals who collaborate to develop and implement waste reduction and management strategies. (4.3.3a)

*Not reporting on this Outcome for this Annual Report*

**Outcome #10**

**1. Outcome Measures**

# of local government officials and community leaders documented to have modified existing practices or technologies and/or adopted new practices to manage and reduce waste. (4.3.4c)

**2. Associated Institution Types**

•1862 Extension

**3a. Outcome Type:**

Change in Action Outcome Measure

**3b. Quantitative Outcome**

Year	Quantitative Target	Actual
2008	175	7

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

**Issue (Who cares and Why)**

**What has been done**

**Results**

**4. Associated Knowledge Areas**

KA Code	Knowledge Area
403	Waste Disposal, Recycling, and Reuse
133	Pollution Prevention and Mitigation

**Outcome #11**

**1. Outcome Measures**

# of consumers, residents, and landowners documented to have modified existing practices or technologies and/or adopted new practices to manage and reduce waste. (4.3.5c)

**2. Associated Institution Types**

•1862 Extension

**3a. Outcome Type:**

Change in Action Outcome Measure

**3b. Quantitative Outcome**

Year	Quantitative Target	Actual
2008	3500	2485

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

**Issue (Who cares and Why)**

**What has been done**

**Results**

**4. Associated Knowledge Areas**

KA Code	Knowledge Area
403	Waste Disposal, Recycling, and Reuse
133	Pollution Prevention and Mitigation

**Outcome #12**

**1. Outcome Measures**

# of youth documented to have modified existing practices and/or adopted new practices to manage and reduce waste. (4.3.6c)

**2. Associated Institution Types**

•1862 Extension

**3a. Outcome Type:**

Change in Action Outcome Measure

**3b. Quantitative Outcome**

Year	Quantitative Target	Actual
2008	1250	890

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

**Issue (Who cares and Why)**

**What has been done**

**Results**

**4. Associated Knowledge Areas**

KA Code	Knowledge Area
403	Waste Disposal, Recycling, and Reuse
133	Pollution Prevention and Mitigation

**Outcome #13**

**1. Outcome Measures**

# of youth introduced to variety of environmental and natural resources career options. (4.3.6d)

**2. Associated Institution Types**

•1862 Extension

**3a. Outcome Type:**

Change in Action Outcome Measure

**3b. Quantitative Outcome**

Year	Quantitative Target	Actual
2008	20000	1082

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

**Issue (Who cares and Why)**

**What has been done**

**Results**

**4. Associated Knowledge Areas**

KA Code	Knowledge Area
133	Pollution Prevention and Mitigation
403	Waste Disposal, Recycling, and Reuse

**Outcome #14**

**1. Outcome Measures**

# of teachers and youth professionals and volunteers who incorporate waste reduction and management knowledge into curriculum. (4.3.7c)

**2. Associated Institution Types**

•1862 Extension

**3a. Outcome Type:**

Change in Action Outcome Measure

**3b. Quantitative Outcome**

Year	Quantitative Target	Actual
2008	100	55

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

**Issue (Who cares and Why)**

**What has been done**

**Results**



**4. Associated Knowledge Areas**

KA Code	Knowledge Area
403	Waste Disposal, Recycling, and Reuse
133	Pollution Prevention and Mitigation

**Outcome #15**

**1. Outcome Measures**

# of agricultural/natural resources producers and business representatives documented to have improved waste management practices. (4.3.1d)

*Not reporting on this Outcome for this Annual Report*

**Outcome #16**

**1. Outcome Measures**

# of organizations and businesses documented to have established or modified waste management policies to enhance and protect land and water resources. (4.3.2d)

*Not reporting on this Outcome for this Annual Report*

**Outcome #17**

**1. Outcome Measures**

Documented instances in which resource managers credit reduced risk from waste handling and disposal; decreased waste volume; and improved environmental equity to implementation of improved waste management practices. (4.3.3b)

**2. Associated Institution Types**

•1862 Extension

**3a. Outcome Type:**

Change in Condition Outcome Measure

**3b. Quantitative Outcome**

Year	Quantitative Target	Actual
2008	50	51

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

**Issue (Who cares and Why)**

**What has been done**

**Results**

**4. Associated Knowledge Areas**

KA Code	Knowledge Area
403	Waste Disposal, Recycling, and Reuse
133	Pollution Prevention and Mitigation

**Outcome #18**

**1. Outcome Measures**

# of local government officials and community leaders documented to have established or modified waste management policies to enhance and protect land and water resources. (4.3.4d)

**2. Associated Institution Types**

•1862 Extension

**3a. Outcome Type:**

Change in Condition Outcome Measure

**3b. Quantitative Outcome**

Year	Quantitative Target	Actual
2008	25	10

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

**Issue (Who cares and Why)**

**What has been done**

**Results**

**4. Associated Knowledge Areas**

KA Code	Knowledge Area
133	Pollution Prevention and Mitigation
403	Waste Disposal, Recycling, and Reuse

**Outcome #19**

**1. Outcome Measures**

# of consumers, residents, and/or landowners, documented to have improved waste management practices. (4.3.5d)

**2. Associated Institution Types**

•1862 Extension

**3a. Outcome Type:**

Change in Condition Outcome Measure

**3b. Quantitative Outcome**

Year	Quantitative Target	Actual
2008	2500	1357

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

**Issue (Who cares and Why)**

**What has been done**

**Results**

**4. Associated Knowledge Areas**

KA Code	Knowledge Area
133	Pollution Prevention and Mitigation
403	Waste Disposal, Recycling, and Reuse

**Outcome #20**

**1. Outcome Measures**

# of youth documented to have chosen waste management-related careers.  
(4.3.6e)  
*Not reporting on this Outcome for this Annual Report*

**Outcome #21**

**1. Outcome Measures**

Documented instances in which public health officials credit decreased public health risks to implementation of improved waste management practices.  
(4.3.8a)  
*Not reporting on this Outcome for this Annual Report*

**Outcome #22**

**1. Outcome Measures**

Documented instances in which resource managers credit lower costs for remediation to implementation of improved waste management practices.  
(4.3.8b)  
*Not reporting on this Outcome for this Annual Report*

**Outcome #23**

**1. Outcome Measures**

Recycling Agricultural Plastics

**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}	0

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

**Issue (Who cares and Why)**

Plastic sheeting is a cost-effective and popular method of storing forages on farms in uses such as covers for horizontal silos and bale wrap. After it has been used, agricultural plastic ends up in landfills or is burned, releasing air pollutants such as particulates and highly toxic dioxins. Disposal in landfills wastes this energy-rich resource, and many landfills will not accept large sheets of plastic because they clog in machinery, take up a lot of space and are difficult to handle. Recycling markets for agricultural plastics are limited because they are dirty and bulky, which make them difficult to transport and process.

**What has been done**

The Recycling Ag Plastics Project at Cornell obtained a mobile baler that can compress used agricultural plastics into 1,500-lb. cubes that can be efficiently transported. Linkages need to be created between the farms that use agricultural plastics and the nascent recycling market, both of which need to be made aware of the mobile baler technology. To that end, the Cornell staff demonstrated the baler for three days at Empire Farm Days. Cornell Cooperative Extension of Cayuga County worked with its dairy producers to provide an ample supply of used plastic for the baler demonstration.

**Results**

At the demonstration site, the completed bales drew a great deal of interest, including a Cayuga County recycling business that manufactures farm equipment, such as calf hutches, out of used plastic. As a result of this contact, the recycling firm is accepting on a pilot basis baled plastic to convert it into useable products for resale.

**4. Associated Knowledge Areas**

KA Code	Knowledge Area
133	Pollution Prevention and Mitigation
403	Waste Disposal, Recycling, and Reuse

**Outcome #24**

**1. Outcome Measures**

Economic and Environmentally Sustainable Manure Management for the New York Dairy Industry

**2. Associated Institution Types**

•1862 Research

**3a. Outcome Type:**

Change in Action Outcome Measure

**3b. Quantitative Outcome**

Year	Quantitative Target	Actual
2008	{No Data Entered}	0

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

**Issue (Who cares and Why)**

Science-based knowledge and education is needed to improve the management of soil, air and water resources by improving nutrient management programs on dairy farms and to enhance the environment. This project examines the effectiveness of the various manure and nutrient management practices and available technologies on dairy farms in order to address nutrient balancing and enhance the environment.

**What has been done**

Campus collaborators worked with dairy producers and nutrient planners to characterize and analyze five New York existing manure treatment systems on dairies (size, animal density, sensitive receptor, farm business characteristics, manure handling and treatment system and whole farm nutrient budgets).

**Results**

This information continues to be used by the digester owners and also by dairy producers considering anaerobic digestion. Digester owners are better able to understand how effective their digester was at stabilizing manure and also converting biogas to electrical energy and heat. Likewise, dairy producers considering anaerobic digestion continued to be able to use the information to become better educated about anaerobic digestion and in turn make better informed business decisions with respect to determining if anaerobic digestion is right for them and if so what specific technology may be best for their specific needs.

**4. Associated Knowledge Areas**

KA Code	Knowledge Area
403	Waste Disposal, Recycling, and Reuse
133	Pollution Prevention and Mitigation

## **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

### **Brief Explanation**

- Natural disasters (drought, weather extremes, etc.
- Economic downturn
- Public policy changes-- Government regulations
- Competing public priorities See plan for additional details.

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

### **1. Evaluation Studies Planned**

- After Only (post program)
- Retrospective (post program)
- During (during program)
- Case Study

### **Evaluation Results**

Evaluation results are reflected in the outcome indicators and impact statements associated with each planned program and result from a broad variety of evaluation approaches appropriate to the individual programs and contexts they represent.

### **Key Items of Evaluation**

Each of our planned programs represents broad program emphases and strategies. Program evaluation results are incorporated in outcome statements associated with each plan.

**Program #13**

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

**1. Name of the Planned Program**

5.1 Youth in Action

**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%		100%	
	<b>Total</b>	100%		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>	12.8	0.0	0.0	0.0
<b>Actual</b>	58.4	0.0	0.5	0.0

**2. Institution Name: Cornell University**

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

Extension		Research	
Smith-Lever 3b & 3c	1890 Extension	Hatch	Evans-Allen
361315	0	46899	0
1862 Matching	1890 Matching	1862 Matching	1890 Matching
361315	0	46899	0
1862 All Other	1890 All Other	1862 All Other	1890 All Other
0	0	0	0

**2. Institution Name: NY State Agricultural Experiment Station**

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

Extension		Research	
Smith-Lever 3b & 3c	1890 Extension	Hatch	Evans-Allen
0	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**

A variety of educational strategies will be used to help county educators gain the skills and knowledge necessary to fully understand and differentiate between the range of possibilities that exist within the YCA initiative. As a result, youth development professionals will be able to identify what they are already doing well, notice if there are any gaps within their programs, and enhance existing programs. Provided with evaluation 'tools' they will be able to evaluate organizational readiness to embrace the YCA concept, and measure their success in working with groups

Guided trainings and successful implementation of the process at the county level will increase the numbers of Youth /Adult partnerships; will result in the development of strong community action initiatives, and ultimately policy changes within communities. Provided such a diverse range of educational strategies, educators will be able to select those methods that work best for them, and realize the benefits and value in establishing youth/adult partnerships.

County, District and Statewide workshops; news articles; web page trainings; spotlighting successful programs, and critical evaluation offer opportunities for skills development and sharing of work being done. Good evaluation data provides a powerful reporting mechanism that can be used to persuade members of the legislature to provide funding to county and state programs. It can also generate scholarly publications and reviews.

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

- Youth 5 – 21 years of age and adults.
- Youth, 5- 19 year of age are the targeted 4-H / non 4-H youth audiences
- 19 – 21 year olds are college students who work well with younger youth and serve as mentors and role models. They will gain personally and professionally from YCA efforts.
- Adults (21+), of any age, ethnicity, religion, etc. They choose to serve as guides for the process, and are a very important part of any youth/adult driven project.
- Communities as whole: educating / informing youth and adults organizations, businesses, schools, and other institutions, to create the paradigm shift necessary to realize the value of youth and adults working together to build 'community'.

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

**1. Standard output measures**

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

	Direct Contacts Adults	Indirect Contacts Adults	Direct Contacts Youth	Indirect Contacts Youth
Year	Target	Target	Target	Target
Plan	750	4500	5000	45000
2008	17807	248958	20099	1147748

**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**

	Extension	Research	Total
Plan	0	0	
2008	0	0	0

## V(F). State Defined Outputs

### Output Target

#### Output #1

##### Output Measure

- # non-credit instructional activities directed to this program

*Not reporting on this Output for this Annual Report*

#### Output #2

##### Output Measure

- # non-credit instructional activity contact hours directed to this program.

*Not reporting on this Output for this Annual Report*

#### Output #3

##### Output Measure

- # of youth participating in education programs leading to youth community action initiatives. (5.1.1a)

*Not reporting on this Output for this Annual Report*

#### Output #4

##### Output Measure

- # of youth participating in train-the-trainer programs related to youth community action. (5.1.1b)

*Not reporting on this Output for this Annual Report*

#### Output #5

##### Output Measure

- # of adults participating train-the-trainer programs related to youth community action. (5.1.1c)

*Not reporting on this Output for this Annual Report*

#### Output #6

##### Output Measure

- # of communities participating in youth community action initiatives. (5.1.1d)

*Not reporting on this Output for this Annual Report*



V(G). State Defined Outcomes

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

O No.	OUTCOME NAME
1	# of youth and adults demonstrating knowledge gains related to Youth/Adult Partnerships and Youth Community Action Initiatives. (5.1.1d)
2	# of youth documented to have practiced life skills necessary to meet challenges of adolescence and adulthood in authentic decision-making partnerships with adults as a result of participating in the program. (5.1.1e)
3	# of adults documented to have knowledge, skills and abilities and behaviors necessary to assist youth developing into productive community members as a result of participating in the program. (5.1.1f)
4	# of documented instances in which youth and adults partner to improve quality of life within a community as a result of participating in the program. (5.1.1g)
5	Safe Schools/Healthy Students Leadership Teams

**Outcome #1**

**1. Outcome Measures**

# of youth and adults demonstrating knowledge gains related to Youth/Adult Partnerships and Youth Community Action Initiatives. (5.1.1d)  
*Not reporting on this Outcome for this Annual Report*

**Outcome #2**

**1. Outcome Measures**

# of youth documented to have practiced life skills necessary to meet challenges of adolescence and adulthood in authentic decision-making partnerships with adults as a result of participating in the program. (5.1.1e)

**2. Associated Institution Types**

•1862 Extension

**3a. Outcome Type:**

Change in Action Outcome Measure

**3b. Quantitative Outcome**

Year	Quantitative Target	Actual
2008	4500	7699

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

**Issue (Who cares and Why)**

**What has been done**

**Results**

**4. Associated Knowledge Areas**

KA Code	Knowledge Area
806	Youth Development

**Outcome #3**

**1. Outcome Measures**

# of adults documented to have knowledge, skills and abilities and behaviors necessary to assist youth developing into productive community members as a result of participating in the program. (5.1.1f)

**2. Associated Institution Types**

•1862 Extension

**3a. Outcome Type:**

Change in Action Outcome Measure

**3b. Quantitative Outcome**

Year	Quantitative Target	Actual
2008	650	2746

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

**Issue (Who cares and Why)**

**What has been done**

**Results**

**4. Associated Knowledge Areas**

<b>KA Code</b>	<b>Knowledge Area</b>
806	Youth Development

**Outcome #4**

**1. Outcome Measures**

# of documented instances in which youth and adults partner to improve quality of life within a community as a result of participating in the program.  
(5.1.1g)

**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	500	1652

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

**Issue (Who cares and Why)**

**What has been done**

**Results**

**4. Associated Knowledge Areas**

<b>KA Code</b>	<b>Knowledge Area</b>
806	Youth Development

**Outcome #5**

**1. Outcome Measures**

Safe Schools/Healthy Students Leadership Teams

**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}	0

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

**Issue (Who cares and Why)**

The St. Lawrence County Communities That Care Coalition, of which CCE of St. Lawrence County is a partner agency, conducts ongoing school-based 'risk and prevention factors' surveys of school age children. Surveys results delineate a number of prevalent risk factors including: availability of drugs, family management problems, and problem behavior. The St. Lawrence County CTC Coalition was awarded a three-year Safe Schools/Healthy Students grant in order to address these and other risk and prevention factors. The grant is administered by St. Lawrence-Lewis County BOCES and has been implemented in 8 school districts across the county. The 4-H Youth Development Program of CCE of St. Lawrence County is a participating provider within the SS/HS Grant.

**What has been done**

4-H was asked to provide the youth leadership component in the eight participating school districts to create an active, engaged youth voice in program planning. Youth teams formed in each of the eight schools, ranging in size from 10 to 15 participants, and ranging from grades 8th to 11th. The second semester was focused on conducting community assessments and establishing the groundwork for each team's service learning project. Multiple sessions surrounded candid closed-door discussion of the benefits and challenges that face their peers as students within their respective school districts. Interestingly enough, student perceived shortfalls and challenges closely mirrored that delineated on the 'risk and prevention factors' survey. Teams implemented a wide variety of initiatives, both in scope and by targeted outcome.

**Results**

Student Leadership Team participants became engaged members of their community working towards positive change within their school district. Through their efforts and partnerships with school faculty, staff, professional service providers and community members they conducted the following school activities with their peers: three separate Drug, Alcohol and Tobacco Awareness Weeks, five Mock DWI Crash Programs reaching 1,600 youth and 150 adults, two new student orientations for first year high school students, one mentoring/ shadowing program for younger students, two community building programs targeting increased respect and tolerance, two school spirit weeks, one community service week, construction of a student constitution and government, and one facility improvement project.

**4. Associated Knowledge Areas**

KA Code	Knowledge Area
806	Youth Development

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

**External factors which affected outcomes**

- Competing Public priorities
- Competing Programmatic Challenges

**Brief Explanation**

-- Competing public priorities  
 -- Competing program priorities  
 See plan for additional details.

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

**1. Evaluation Studies Planned**

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

### **Evaluation Results**

Evaluation results are reflected in the outcome indicators and impact statements associated with each planned program and result from a broad variety of evaluation approaches appropriate to the individual programs and contexts they represent.

### **Key Items of Evaluation**

Each of our planned programs represents broad program emphases and strategies. Program evaluation results are incorporated in outcome statements associated with each plan. Here is one additional example.

802 youth and 440 adult volunteers participated in ACT for Youth in the metro NY area. The Nassau County ACT for Youth initiative turned their \$28,000 ACT for Youth budget allotment into a budget of \$100,000. With this money the Collaboration for Community Change (CCC) Youth/Adult partnership funded 10 projects that created opportunities for youth and adults to work together. These projects have impacted 1500 youth and more than 250 adults.

**Program #14**

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

**1. Name of the Planned Program**

5.2 Positive Youth Development/Life Skill 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%		100%	
	<b>Total</b>	100%		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>	46.5	0.0	0.5	0.0
<b>Actual</b>	221.9	0.0	0.0	0.0

**2. Institution Name: Cornell University**

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

Extension		Research	
Smith-Lever 3b & 3c	1890 Extension	Hatch	Evans-Allen
1372995	0	0	0
1862 Matching	1890 Matching	1862 Matching	1890 Matching
1372995	0	0	0
1862 All Other	1890 All Other	1862 All Other	1890 All Other
0	0	0	0

**2. Institution Name: NY State Agricultural Experiment Station**

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

Extension		Research	
Smith-Lever 3b & 3c	1890 Extension	Hatch	Evans-Allen
0	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**

4-H Youth Development Staff are recruited with Youth Development experience including an understanding in helping youth develop competencies or life skills. New professionals are introduced to 4-H youth development's system of developing life skills in youth through professional development opportunities using resources such as 4-H 101 and Advancing Youth Development. Staff and volunteers are trained in the use of the NYS 4-H Resource Directory to acquire approved curriculum throughout the nation to teach life skills to 4-H members based on their subject matter interests.

Volunteers in 4-H Youth Development are carefully recruited, screened and selected based on roles needed to promote life skill development in youth. Volunteers, including professional staff from other community agencies and schools, are trained, supported and evaluated to ensure understanding and ability to develop youth and life skills.

Trained 4-H Staff, teachers, community agency staff, volunteers, and teens lead youth in 4-H projects, which are a planned series of learning experiences through which youth develop knowledge, practical skills (woodworking, gardening, cooking, etc.) and life skills (decision-making, self-discipline, leadership, etc.) in a variety of settings. The development of life skills builds assets that promote positive learning and prepare young people for work and adult responsibilities. Statewide, regional, and county events are structured to showcase 4-H project work, to recognize 4-H youths accomplishments and to allow 4-H participants opportunities for developing mastery, independence, generosity and belonging.

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

There are four distinct audiences. The youth development educator is professional or paraprofessional staff employed by Cornell Cooperative Extension. The adult volunteer / leader accepts a role defined by a written volunteer position, does not receive compensation for work, and works directly with young people. The 4-H participant is a young person between the ages of 5 and 19 who chooses to participate in the program. The youth development educator / worker within the community works directly with young people and may or may not have formal training in the area of education or youth development.

Youth development educators must understand and be able to apply the intentional process that promotes positive outcomes for young people by providing support, relationships, and opportunities. Additionally, it is necessary for educators to have training and support in how to incorporate research findings process into program design. The adult volunteer leader must be trained in youth development principles and practices to ensure that the program creates positive opportunities for young people to reach their full potential. Young people must have an active voice in program determination, implementation, evaluation, and policy development. The front line youth worker is provided training in the core concepts of a youth development approach and its implications for youth work practice.

**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>	12000	60000	65000	90000
2008	31182	463581	101838	1920115

**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>	0	2	
2008	0	0	10

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

**Output Target**

**Output #1**

**Output Measure**

- # non-credit instructional activities directed to this program.

*Not reporting on this Output for this Annual Report*

**Output #2**

**Output Measure**

- # non-credit instructional activity contact hours directed to this program.

*Not reporting on this Output for this Annual Report*

**Output #3**

**Output Measure**

- # funded applied research projects directed to this program.

*Not reporting on this Output for this Annual Report*

**Output #4**

**Output Measure**

- # of youth program educators and adult volunteers participating in programs on positive youth development. (5.2.1a)

*Not reporting on this Output for this Annual Report*

**Output #5**

**Output Measure**

- # of youth participating in projects related to vocational skills and/or citizenship. (5.2.1b)

*Not reporting on this Output for this Annual Report*



V(G). State Defined Outcomes

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

O No.	OUTCOME NAME
1	# of youth participants who demonstrate gains in vocational/citizenship skills – knowledge, attitudes, and/or behaviors. (5.2.1c)
2	# of youth participants who learn to set goals, make plans and identify resources to achieve goals. (5.2.1d)
3	# of youth program educators and adult volunteers who demonstrate knowledge and/or skill gains in meeting the needs of youth at various stages of development. (5.2.1e)
4	# of youth participants who demonstrate ability to express their ideas confidently and competently. (5.2.1f)
5	# of adult volunteers documented to mentor and advise youth and other adult volunteers in an effective and positive manner. (5.2.1g)
6	# of youth participants documented as serving in age-appropriate leadership roles. (5.2.1h)
7	# of youth organizations/programs documented as reflecting youth needs, interests, and excitement for learning. (5.2.1i)
8	Independent living Skills
9	Development and Validation of an Instrument to Assess Outcomes of Childhood Overweight Prevention Education for Limited-Resource Parents

**Outcome #1**

**1. Outcome Measures**

# of youth participants who demonstrate gains in vocational/citizenship skills – knowledge, attitudes, and/or behaviors. (5.2.1c)  
*Not reporting on this Outcome for this Annual Report*

**Outcome #2**

**1. Outcome Measures**

# of youth participants who learn to set goals, make plans and identify resources to achieve goals. (5.2.1d)  
*Not reporting on this Outcome for this Annual Report*

**Outcome #3**

**1. Outcome Measures**

# of youth program educators and adult volunteers who demonstrate knowledge and/or skill gains in meeting the needs of youth at various stages of development. (5.2.1e)  
*Not reporting on this Outcome for this Annual Report*

**Outcome #4**

**1. Outcome Measures**

# of youth participants who demonstrate ability to express their ideas confidently and competently. (5.2.1f)

**2. Associated Institution Types**

•1862 Extension

**3a. Outcome Type:**

Change in Action Outcome Measure

**3b. Quantitative Outcome**

Year	Quantitative Target	Actual
2008	30000	20076

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

**Issue (Who cares and Why)**

**What has been done**

**Results**

**4. Associated Knowledge Areas**

KA Code	Knowledge Area
806	Youth Development

**Outcome #5**

**1. Outcome Measures**

# of adult volunteers documented to mentor and advise youth and other adult volunteers in an effective and positive manner. (5.2.1g)

**2. Associated Institution Types**

•1862 Extension

**3a. Outcome Type:**

Change in Action Outcome Measure

**3b. Quantitative Outcome**

Year	Quantitative Target	Actual
2008	16000	5783

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

**Issue (Who cares and Why)**

**What has been done**

**Results**

**4. Associated Knowledge Areas**

KA Code	Knowledge Area
806	Youth Development

**Outcome #6**

**1. Outcome Measures**

# of youth participants documented as serving in age-appropriate leadership roles. (5.2.1h)

**2. Associated Institution Types**

•1862 Extension

**3a. Outcome Type:**

Change in Action Outcome Measure

**3b. Quantitative Outcome**

Year	Quantitative Target	Actual
2008	2500	4203

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

**Issue (Who cares and Why)**

**What has been done**

**Results**

**4. Associated Knowledge Areas**

KA Code	Knowledge Area
806	Youth Development

**Outcome #7**

**1. Outcome Measures**

# of youth organizations/programs documented as reflecting youth needs, interests, and excitement for learning. (5.2.1i)

**2. Associated Institution Types**

•1862 Extension

**3a. Outcome Type:**

Change in Condition Outcome Measure

**3b. Quantitative Outcome**

Year	Quantitative Target	Actual
2008	450	1761

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

**Issue (Who cares and Why)**

**What has been done**

**Results**

**4. Associated Knowledge Areas**

KA Code	Knowledge Area
806	Youth Development

**Outcome #8**

**1. Outcome Measures**

Independent living Skills

**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}	0

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

**Issue (Why)**

The CCE Schenectady County Independent Living Skills Program (ILS) is a comprehensive educational program for Schenectady County youth ages 14-21 in foster care. ILS, funded by the Schenectady County Department of Social Services, is designed to provide youth with opportunities to explore issues related to independent living in a structured and supportive, hands-on setting.

**What has been done**

The CCE Independent Living Skills Program (ILS) offers a year-round educational program for Schenectady County youth in care. Through referrals generated by the Department of Social Services, ILS is designed to provide youth with opportunities to explore issues related to independent living in groups and one-on-one settings. This year the program collaborated with Cornell Cooperative Extension, Schenectady County Health and Nutrition Program and Schenectady Horticulture Education Center, to provide additional education about independent living.

**Results**

Over 30 youth participated during the 2007-2008 program year. Youth were also provided education from various community resources, including Capital District Transportation Authority (CDTA), SEFCU Federal Credit Union, Community Technology Initiative (CTI), Schenectady Fire Department, and Schenectady Planned Parenthood at no cost to the organization. With their help, youth gained skills in money management, public transportation, fire safety and prevention, parenting skills, interview skills, and resume building in addition to job skills and health and nutrition knowledge.

**4. Associated Knowledge Areas**

KA Code	Knowledge Area
806	Youth Development

**Outcome #9**

**1. Outcome Measures**

Development and Validation of an Instrument to Assess Outcomes of Childhood Overweight Prevention Education for Limited-Resource Parents

**2. Associated Institution Types**

•1862 Research

**3a. Outcome Type:**

Change in Knowledge Outcome Measure

**3b. Quantitative Outcome**

Year	Quantitative Target	Actual
2008	{No Data Entered}	0

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

**Issue (Who cares and Why)**

The prevention of childhood obesity is a top public health priority. The immediate causes of childhood overweight are over-consumption of calories coupled with low levels of physical activity. Despite growing concern about the problem, there is insufficient research demonstrating the effectiveness of interventions aimed at counteracting current trends.

**What has been done**

Research suggests that both healthy parental attitudes towards their own diet and weight, and supportive involvement in children's choices are important for the prevention of childhood overweight. Parent interventions are being developed at Cornell and elsewhere, and this project is developing a valid instrument to assess the effectiveness and outcomes experienced by parents enrolled in an intervention.

**Results**

We are now better able to measure the impact of our educational intervention, lending validity to impact reports. This instrument allows us to identify which areas of behavior the program is most likely to impact among our target audience, and this specific information has been used to revise and tailor the curriculum and train our nutrition educators. We have also learned which questionnaire items may be misinterpreted, allowing us to improve the wording and also develop tools for training program staff to clarify items and collect high quality data. In the process of this research we have gained expertise in the methods for instrument development which we now share and apply more broadly within Extension nutrition programs to improve program monitoring.

**4. Associated Knowledge Areas**

KA Code	Knowledge Area
806	Youth Development

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

### **External factors which affected outcomes**

- Economy
- Competing Programmatic Challenges
- Populations changes (immigration,new cultural groupings,etc.)

### **Brief Explanation**

- Economic downturn
  - Competing program priorities
  - Population changes (immigration, new cultural groupings, etc.
- See plan for additional details.

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

### **1. Evaluation Studies Planned**

- After Only (post program)
- Retrospective (post program)
- During (during program)
- Time series (multiple points before and after program)
- Case Study
- Comparisons between program participants (individuals,group,organizations) and non-participants
- Comparisons between different groups of individuals or program participants experiencing different levels of program intensity.

### **Evaluation Results**

Evaluation results are reflected in the outcome indicators and impact statements associated with each planned program and result from a broad variety of evaluation approaches appropriate to the individual programs and contexts they represent.

### **Key Items of Evaluation**

Each of our planned programs represents broad program emphases and strategies. Program evaluation results are incorporated in outcome statements associated with each plan. Here is one additional example.

The CCE Erie County 4-H Urban Outreach effort used contacts with the Buffalo After-School Provider Network and Erie County Board of Cooperative Education Services to present educational resources to the staff of 103 different youth-serving organizations many of whom are now using 4-H resources to meet requirements of funders for "enrichment" activities.

**Program #15**

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

**1. Name of the Planned Program**

5.3 Science and Technology Literacy

**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%		100%	
	<b>Total</b>	100%		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>	9.7	0.0	0.0	0.0
<b>Actual</b>	46.7	0.0	0.0	0.0

**2. Institution Name: Cornell University**

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

Extension		Research	
Smith-Lever 3b & 3c	1890 Extension	Hatch	Evans-Allen
289052	0	0	0
1862 Matching	1890 Matching	1862 Matching	1890 Matching
289052	0	0	0
1862 All Other	1890 All Other	1862 All Other	1890 All Other
0	0	0	0

**2. Institution Name: NY State Agricultural Experiment Station**

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

Extension		Research	
Smith-Lever 3b & 3c	1890 Extension	Hatch	Evans-Allen
0	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**

This is a comprehensive, statewide educational program entailing a wide variety of applied research and multiple education methods depending on local context and need. Campus-based faculty and extension associates, the science and technology program work team, the NYSACCE4-HE professional development committee and county-based educators all are involved in designing, implementing, and evaluating tailored educational efforts depending on the focus and scope of their role.

Activities will include:

- Connecting kids to science and technology at Cornell University through programs at local Cornell Cooperative Extension associations, educational events at Cornell and by building relationships with Cornell Departments, faculty, staff and students.
- Enhancing and maintaining accessibility to hands-on science and technology curriculum that has a youth development basis and a connection to land grant universities through the NYS 4-H Resource Directory.

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

The target audiences for 4-H Science and Technology programming and curricula are youth in grades K-12 and adults who work with youth. These include, but are not exclusive of 4-H Leaders, 4-H Junior Leaders, and 4-H youth members, parents of 4-H members, adult leaders and the youth involved in after school and out-of-school-time programs, summer camp staff and youth campers, classroom teachers and their students in grades K-12, and leaders and youth in other youth serving organizations such as Scouts. Training one adult leader will result in a significant multiplier of youth who will participate in the activity from which their adult leader received training. This audience is reached directly through educational classes and workshops, individual consultations, group consultations and hands-on-curricula. These may be provided to youth or to their adult leaders. Additional contacts are made through newsletter articles highlighting curricula and curriculum reviews. The New York State 4-H Curriculum Resource Directory website provides an opportunity for any person to search for approved curricula in any Science and Technology topic, read a description of the curricula and then purchase it.

**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>	750	24000	35000	50000
2008	16304	385343	117516	1428995

**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>	0	0	
2008	0	0	12

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

**Output Target**



**Output #1**

**Output Measure**

- # non-credit instructional activities directed to this program.

*Not reporting on this Output for this Annual Report*

**Output #2**

**Output Measure**

- # non-credit instructional activity contact hours directed to this program.

*Not reporting on this Output for this Annual Report*

**Output #3**

**Output Measure**

- # funded applied research projects directed to this program.

*Not reporting on this Output for this Annual Report*

**Output #4**

**Output Measure**

- # of 4-H members enrolled in Science and Technology project areas (as reported on ES-237). (5.3.1a)

*Not reporting on this Output for this Annual Report*

**Output #5**

**Output Measure**

- # of youth reached through school enrichment and special interest programs coded as science and technology related (as reported on ES-237). (5.3.1b)

*Not reporting on this Output for this Annual Report*

V(G). State Defined Outcomes

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

O No.	OUTCOME NAME
1	# of members/participants who choose science/technology related college majors/careers. (5.3.1g)
2	# of participants demonstrating knowledge or skill gains related to science and technology. (5.3.1c)
3	# of participants that report improved success in school science and/or increased interest in science and technology. (5.3.1d)
4	# of members/participants who report participating in new science/technology related activities (Career Exploration workshops, Special Interest offerings, school science clubs, etc.). (5.3.1e)
5	# of youth documented to become contributing participants in sci/tech related issues in their communities and/or choose sci/tech related professions and who attribute same at least in part to involvement with the program. (5.3.1f)
6	Geospatial Science
7	Thinking Like A Scientist: Developing Real-World Thinking and Reasoning in Ethnic Minority and Disadvantaged Youth

**Outcome #1**

**1. Outcome Measures**

# of members/participants who choose science/technology related college majors/careers. (5.3.1g)  
*Not reporting on this Outcome for this Annual Report*

**Outcome #2**

**1. Outcome Measures**

# of participants demonstrating knowledge or skill gains related to science and technology. (5.3.1c)  
*Not reporting on this Outcome for this Annual Report*

**Outcome #3**

**1. Outcome Measures**

# of participants that report improved success in school science and/or increased interest in science and technology. (5.3.1d)

**2. Associated Institution Types**

•1862 Extension

**3a. Outcome Type:**

Change in Action Outcome Measure

**3b. Quantitative Outcome**

Year	Quantitative Target	Actual
2008	12000	52295

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

**Issue (Who cares and Why)**

**What has been done**

**Results**

**4. Associated Knowledge Areas**

KA Code	Knowledge Area
806	Youth Development

**Outcome #4**

**1. Outcome Measures**

# of members/participants who report participating in new science/technology related activities (Career Exploration workshops, Special Interest offerings, school science clubs, etc.). (5.3.1e)

**2. Associated Institution Types**

•1862 Extension

**3a. Outcome Type:**

Change in Action Outcome Measure

**3b. Quantitative Outcome**

Year	Quantitative Target	Actual
2008	7500	26380

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

**Issue (Who cares and Why)**

**What has been done**

**Results**

**4. Associated Knowledge Areas**

KA Code	Knowledge Area
806	Youth Development

**Outcome #5**

**1. Outcome Measures**

# of youth documented to become contributing participants in sci/tech related issues in their communities and/or choose sci/tech related professions and who attribute same at least in part to involvement with the program. (5.3.1f)  
*Not reporting on this Outcome for this Annual Report*

**Outcome #6**

**1. Outcome Measures**

Geospatial Science

**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}	0

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

**Issue (Who cares and Why)**

In today's work place and in the community in general people are using the technologies provided by geospatial science. GIS and GPS technology continues to be one of the fastest growing technologies in the world. Formal education, especially in the secondary schools, is not keeping up with the technology in terms of preparing youth with related skills and knowledge for advanced education and careers. A wide range of geospatial experiences and training opportunities needs to be offered from very basic GPS hands on training to the more technical GIS mapping initiative(s).

**What has been done**

In Genesee County CCE 4-H pulled together technical and financial resources to begin GIS and GPS training, offering programs and activities to numerous audiences throughout the county. NYS 4-H has identified Geospatial Science as a high priority initiative and has provided the resources to allow Genesee County's Science and Tech Educator time to develop resources and training in 4-H Geospatial Science state-wide.

**Results**

The CCE Genesee County 4-H After School Program applied for and received a National 4-H & ESRI (Environmental Systems Research Institute) Community Mapping Grant. 5th grade students are receiving regular instruction in the areas of GIS, GPS and remote sensing. Teachers from Batavia City School District and from BOCES completed three-day GIS course offered through the NYS Geospatial Literacy Grant. GIS and GPS activities are being incorporated in after school programming throughout the county.

**4. Associated Knowledge Areas**

KA Code	Knowledge Area
806	Youth Development

**Outcome #7**

**1. Outcome Measures**

Thinking Like A Scientist: Developing Real-World Thinking and Reasoning in Ethnic Minority and Disadvantaged Youth

**2. Associated Institution Types**

- 1862 Extension
- 1862 Research

**3a. Outcome Type:**

Change in Action Outcome Measure

**3b. Quantitative Outcome**

Year	Quantitative Target	Actual
2008	{No Data Entered}	0

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

**Issue (Who cares and Why)**

Statistics from multiple perspectives reflect the underrepresentation in science and technology careers of women, minorities, and people from disadvantaged backgrounds. Many students of color and disadvantaged youth attend urban schools lacking resources to train thinking and reasoning using the scientific method. New approaches are needed to graduate scientifically-literate youth into college or the world of work while narrowing the gap between ethnic/racial/gender groups.

**What has been done**

We will train NYC city public-school teachers in a novel approach for teaching critical thinking called Thinking Like A Scientist. TLAS shows teachers how to inculcate scientific thinking by focusing on real-world examples relevant to students' daily lives, trains students to solve real-world problems effectively, and shows students the practical value of good thinking skills, thus enhancing the enjoyment and perceived value of science education.

**Results**

New York City and Ithaca-area teachers serving African American, Latino and disadvantaged youth were trained in Thinking Like A Scientist, a novel approach for teaching scientific thinking and reasoning about problems in daily life. (TLAS). At Vanguard High School in New York City, two classes were taught TLAS during spring semester, 2008, and one large remedial summer class in 2008 was also taught a modified TLAS curriculum. A 3-day class to 18 high-school students on the TLAS program was taught as part of the annual, 4-H summer program for high school students at Cornell in the summer. The PI and the teachers administered preliminary evaluation assessments to the students, to collect data on student improvement and curriculum impact.

**4. Associated Knowledge Areas**

KA Code	Knowledge Area
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## **V(H). Planned Program (External Factors)**

### **External factors which affected outcomes**

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

### **Brief Explanation**

- Public policy changes
  - Competing programmatic priorities
  - Population changes (immigration, new cultural groupings, etc.
- See plan for additional details.

## **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)
- Comparisons between different groups of individuals or program participants experiencing different levels of program intensity.
- Comparison between locales where the program operates and sites without program intervention

### **Evaluation Results**

Evaluation results are reflected in the outcome indicators and impact statements associated with each planned program and result from a broad variety of evaluation approaches appropriate to the individual programs and contexts they represent.

### **Key Items of Evaluation**

Each of our planned programs represents broad program emphases and strategies. Program evaluation results are incorporated in outcome statements associated with each plan.