Annual Report of Accomplishments and Results
FY01

Washington State University Cooperative Extension

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A. PLANNED PROGRAMS

GOAL 1: An Agricultural System that is Highly Competitive in the Global Economy.

Washington State University Cooperative Extension has once again opted to include all our agricultural programming under ***GOAL 4: An Agricultural System that Protects Natural Resources and the Environment***. This does not suggest a lack of concern for production agriculture, but a change in perspective. Indeed it is because we realize the challenges facing the agricultural community that we do not separate out these two important goals. For agriculture in the state of Washington, competitiveness in the global economy requires that the agricultural community address environmental issues to be accepted by Pacific Rim nations as well as regional constituents.

We recognize that some of our programmatic impacts fit Key Themes identified under Goal 1. Those reports are included in Goal 4 and identified as Key Theme "Other" with the Goal 1 Key Theme identifier in parentheses.

GOAL 2: A Safe and Secure Food and Fiber System.

Overview
The goal of Washington State University food safety education is to enable Washington residents to obtain knowledge and adopt behaviors that reduce risks of illness from foodborne pathogens. We continue to focus on food safety education from farm to table by convening food safety educators, researchers, and regulatory officials from the Pacific Northwest at the annual Food Safety Farm to Table conference.

Through USDA funded research, Washington State University extension faculty have developed key food safety messages for consumers. Educational programs are directed to address the following five major control factors that enable consumers to reduce their risk of foodborne illness:

- Practice personal hygiene
- Cook foods adequately
- Avoid cross-contamination
- Keep foods at safe temperature
- Avoid food from unsafe sources

Educational efforts on the first control factor have focused on hand washing. According to the Center for Disease Control, improper hand washing is considered to be the most frequent source of foodborne pathogens. A team of Washington State University faculty developed an interactive exhibit to promote hand washing titled Germ City. The use of Germ City as a health promotion, educational tool has resulted in increased community awareness of effective personal hygiene as well as cognitive behavioral changes in hand washing behaviors. More than 60,000 Washington state children and adults participated in this award-winning display in 2001. The program was delivered at thirteen state and county fairs, at four tribal health fairs, and at sixteen schools and community events. WSU Extension now has five large scale Germ City units that are interlocking aluminum frame and pop-up tent units, in addition to the original ABS pipe and fabric prototypes. This allows for statewide program outreach, as well as facilitating the adoption of Germ City by other states. In 2001, Germ City was selected as one of 36 programs to be featured on the CSREES Family Development and Resource Management web page as a Program of Excellence.

Much of our state's food safety education is targeted to specific groups. Home food preservers are a primary targeted audience. In 2001, 244 volunteers contributed 6,124 hours of outreach to families on

both safe food preservation and food handling topics. If valued at $15 per hour, the volunteer contribution of time totals approximately $92,000. Those volunteers reached a reported audience of 8,579. As part of their volunteer service, volunteers tested the accuracy of pressure gauges in several counties. As a result of their efforts, approximately 120 families avoided the direct risk of botulism by the detection and recalibration of inaccurate gauges.

Several WSU extension faculty focus much of their time on food safety education for food producers and processors. They have received certification as HACCP instructors and are conducting numerous HACCP and sanitation workshops for food processors and processors of seafood, meat, canned foods and fresh produce. In 2001, contacts with 1,114 commercial and industry training participants were reported.

In summary, the number of participants reported statewide in food safety programming was 46, 285 people. Twenty faculty members reported on food safety activities and accomplishments.

Sources of Funding and FTE for Goal 2

FTE Smith-Lever 3b and 3c	= 0.4
FTE Smith-Lever 3d	= 0.0
Federal Extension	= $90,159
Non-Federal	= $803,597
Other Federal	= $126,937
TOTAL	= $1,020693

Key Theme - Food Safety

a. Hand washing is a key behavior for disease prevention and food safety. Our hand washing display, Germ City, is a large, walk-through tunnel equipped with black lights developed by Washington State University food safety educators. Germ City provides immediate feedback regarding the thoroughness of hand washing. Educators squirt a small dab of the "glo-germ" lotion onto the hands of participants before they walk through the tunnel. The lotion glows under the black lights. After the educator gives tips on hand washing, participants wash their hands and then re-enter the tunnel and see how effectively they have removed the "germs".

b. Impact: More than 60,000 children and adults participated in the Germ City exhibit or in other hand washing educational programs. More than 90% reported that they gained knowledge about correct hand washing procedures, and previous evaluations suggest that about 40% of participants change their hand washing procedures after participating in the displays.

   A $500,000 USDA Food Safety Initiative grant was secured in 2001 to launch an integrated research, education and outreach program utilizing the Germ City model. Five universities, including an 1890 institution, are collaborating with WSU on the project.

c. Source of federal funds: Smith Lever, State, County

d. Scope of impact: State specific; but three other states have purchased units and been trained to deliver the program in Extension; two other extension organizations are considering adoption.

Key Theme - Food Handling

a. Training for food service professionals is offered in several counties. In one county, a Food and Beverage Worker Card Training was developed, delivered and evaluated.

b. Impact: 70% of Food and Beverage Worker Card Training participants (n=891) completed evaluations. When asked what they planned to do differently as a result of the training, 89% planned

to follow appropriate cooling procedures; 88% to improve handling and storage of raw meat, poultry and fish; 86% to use thermometers during prep/cooking; 86% to clean surfaces to prevent cross-contamination; and 80% to follow approved hot and cold holding of food for later service. In the county where the training is offered, no foodborne disease outbreaks have been reported in two years.

c. Source of Federal Funds: Smith-Lever, State, County, contracts.

d. Scope of Impact: State Specific

Key Theme - Foodborne Pathogen Protection
Key Theme - HACCP

a. WSU extension audiences include producers and processors of meat, poultry, milk, and fresh produce; seafood processors; food service managers and workers; health department inspectors and Food Safety Advisor master volunteers. More than 700 people participated in food safety training directed toward food processors and regulators in 2001, and more than 150 successfully completed Better Process Control Schools (BPCS).

b. Impact: More than 85% of successful BPCS participants implemented course principles in their operations. Among seafood processors and retailers receiving training, 100% reported improvements in sanitation techniques and temperature control. For food service employees participating in training, 100% passed the exam with a score of 85 or above; and 60% reported establishing food safety training in their establishments, and 80% conducted self inspections in their food service establishments.

c. Source of federal funds: Smith-Lever, State, County.

d. Scope of impact: Primarily state specific. Some programs are conducted on a regional basis, with ID and OR. Some HACCP training is multi-state, national or international in scope. Food Safety Advisor materials have been shared with faculty in other states.

Key Theme – Food Recovery/Gleaning
Key theme – Food Security
See Goal 4

Goal 3: A Healthy, Well-nourished Population

Overview
Washington State has the fourth highest rate of severe hunger in the United States. Poor nutrition has been shown to reduce children's ability to learn and increase the rate and severity of chronic disease. While nutrition education alone cannot alleviate the risks associated with severe hunger, it has demonstrated effectiveness in helping low income families achieve more nutritious diets and stretch food resources to last more days in the month. Therefore, the primary audience for WSU Extension's nutrition programs is low-income families and their children.

In 2001, major gains were realized in marketing and visibility for low-income nutrition programs in Washington. In collaboration with the Marketing Department at the WSU College of Business, market research was conducted utilizing focus groups and client surveys. As a result, the program brand name Food $ense was developed with a related logo. The brand and logo are now being used to increase visibility and facilitate recruitment for both the EFNEP and Food Stamp Nutrition Education Programs in the state.

The Food $ense program was conducted in 17 counties and directly reached 28,309 people in 2001. Of that number, 40% were adults and 60% were youth. Eighty percent of that total were food stamp eligible, and 46% were persons of color. Although local program approaches vary, all emphasize practical, culturally sensitive and skill-building educational programs that result in the ability of food stamp recipients to manage their food resources in a way that increases availability of healthier food choices throughout the month. Pertinent topics include the use of food resources via meal planning skills; comparative shopping skills; improving nutrition adequacy through use of Dietary Guidelines and the Food Guide Pyramid; expanding food preparation skills; and improving food safety practices. Translators and interpreters are provided on an as-needed basis. Primary educational activities are direct personal contacts with program participants in one or more lessons, though nutrition messages are also disseminated through mailed newsletters and recipe sheets distributed by partnering agencies. Food $ense also has three community gardening programs that target very low-income participants. One of these programs, the Tulalip Tribal Gardening Project, was newly developed in 2001. The project adapted a nutrition education curriculum from the nearby tribal land-grant, Northwest Indian College.

In addition to direct educational contact, another strategy to improve the nutritional status of low income families is public education to encourage families eating together. Family mealtimes have been shown to improve nutrition among family members and those children who eat with their families do better in school. The Nutrition Education Network of Washington, a strategic alliance of public and private concerns with leadership from Cooperative Extension, is promoting family mealtimes among low income families. In 2001, the Network produced a monthly newsletter, Take 5, that was distributed to nutrition professionals that work with low income families. Of the 380 on the mailing list, approximately 15% reported utilizing the educational tools and resources included in the newsletter directly with families. The Eat Better/Eat Together Toolkit was also distributed. Supportive educational materials were also produced and are now stocked at the WSU Publications office.

Washington State University extension faculty are also addressing priority health issues in their programming. The Diabetes Awareness Education program is a current example (see Key Theme: Human Health below for program details). A diabetes epidemic is currently sweeping the nation. Diabetes is a major risk factor for heart disease, stroke, blindness, kidney failure and amputations. In Washington State, recent studies indicate that 6.1% of the population (approximately 400,000 people) have been diagnosed with diabetes. People of color are disproportionately affected, with approximately 10-20% of African Americans, Native Americans and Latinos in the state having the disease. One third to one half of people with diabetes are generally unaware that they have it, increasing the risks of long-term complications. The number one goal for diabetes care in Healthy People 2010 is to increase to 60% the proportion of affected persons that receive formal diabetes care. WSU's Living Well with Diabetes program provides such education, targeting populations who are underserved by the formal health care system. With the success of the five pilot sites in 2001, the program is expected to expand to new sites in the coming year.

Strong partnerships are fundamental to the success of Washington State University Cooperative Extension's health and nutrition programs. In 2001, faculty and staff involved in the Food $ense Program actively partnered with over 180 agencies and organizations. These organizations included public schools, English as a Second Language classes, alternative schools for teenagers, Head Start, food banks and other emergency feeding sites, homeless shelters, health departments, volunteer organizations (Master Gardeners), day care providers, county and city governments. Project partners in the Diabetes Awareness Education project include the Joslin Diabetes Center at Harvard University, the University of Hawaii, the University of New Mexico and USDA/CSREES.

Our work in 2001 demonstrates progress in reaching the goals in the Human Nutrition and Health Program of Work for the state. The expansion of Food $ense to new sites and its positioning for greater

visibility furthers our commitment to nutrition education for low income families. Our organizational commitment to diversity is also well served by both our nutrition and diabetes educational efforts, where approximately half the outreach for both programs is to racially diverse audiences.

Sources of Funding and FTE for Goal 3

FTE Smith-Lever 3b and 3c	= 0.0
FTE Smith-Lever 3d	= 16.09
Federal Extension	= $1,341,872
Non-Federal	= $3,365,821
Other Federal	= $44,310
TOTAL	= $4,752,003

Key Theme – Human Health

a. The Diabetes Awareness Education project began in 1999 in collaboration with Joslin Diabetes Center at Harvard University in Boston Massachusetts. The long-term goal of this project is to reduce the incidence of complications from diabetes. The specific objectives of the project are to: (1) increase knowledge about management of the diabetes; (2) increase knowledge about the medical tests used for early detection and treatment of diabetic complications; (3) increase understanding of the medical tests and (4) motive program participants to seek regular medical assessment of their diabetes.

   In FY 2001, an educational program titled "Living Well with Diabetes" was piloted in five sites. Two of the pilot counties were urban, one with a high percentage of African Americans. Three sites were counties with a high percentage of Mexican Americans and Native Americans. The 1.5 hour program was collaboratively developed with the Joslin Center staff. It screened program participants (who are already diagnosed with diabetes) for HbA1c and blood pressure and provided information on the medical tests needed for early detection of diabetes complications. The programs were standardized by using a "flipchart" to present information. A three-month follow up was conducted to evaluate changes in client attitudes, practices and medical status.

b. Impact: Of the 114 people enrolled in the pilot project, 45% were Caucasian, 23% Hispanic, 18% African American, 17% Native American and 3% Asian. At the three month follow up (n=85), the following data were reported:
   - In response to the question "How are you managing your diabetes overall?", 72% reported "very well" after the program compared to 42% before.
   - In describing changes in practice, only 39% reported eating the proper foods before the program while 60% did so after the program; in relation to exercise, 28% exercised regularly before the program but the proportion increased to 42% after the program.
   - In terms of attitude changes, the largest change came in relation to reported confidence. While only 50% agreed that they were confident that they could manage their diabetes before the program, 70% expressed confidence after the program.
   - Nearly 60% of the participants had seen a health care provider or made an appointment to see one within the three-month period since attending the program.
   - The Hispanic group reported lower levels of mean hemoglobin A1c at the three month follow up, a medical indication that risk of diabetes complications is lessened. This is particularly significant because the Hispanic participants were less educated (8^{th} grade average) and younger (average age 50) than participants in general.

c. Source of Funds: Smith Lever

Scope of Impact: State Specific. In 2001, 5 counties were involved in the program.

Key Theme – Human Nutrition

a. WSU's Food $ense Program (Food Stamp Nutrition Education) provides food and nutrition education for food stamp recipients in partnership with a variety of community-based organizations. In 2001, 17 counties supported projects promoting good nutrition and physical activity, food safety and improved utilization of food resources.

b. Impact: In 2001, total number of contacts made was 134,436. Individuals reached directly totaled 28,309. For adults reached multiple times (average 4.7 lessons), the following behavior changes were reported for an evaluation sample (n=457):
   - 92% improved one or more nutrition practices (examples: used Food Guide Pyramid to plan meals; ate fruits and vegetables daily)
   - 86% improved one or more food resource management practices (examples: ran out of food or food stamps before end of month; used a list when shopping)
   - 62% improved one or more food safety practices (examples: washing hands often, refrigerating leftovers)

   For the youth audience (n=7,582), the following changes were reported:
   - 82% increased hand washing
   - 80% increased food preparation skills and trying new foods
   - 71% increased food resource practices (reading labels)
   - 52% increased nutrition quality (using Food Guide Pyramid)

c. Source of funds: Smith Lever, Washington State University, county, and city governments.

d. Scope of impact: State specific. In 2001, 17 counties in Washington state were involved in the program.

GOAL 4: Greater Harmony Between Agriculture and the Environment.

Overview

Washington State University Cooperative Extension continues to make progress toward its goal to increase agricultural profitability and competitiveness while preserving or enhancing natural resources and the rural environment. Multi-state programs have increased. Partnerships with Idaho, Oregon, and other states have yielded significant improvements to extension programming in risk management, forestry, and in potato production.

We continue to build interdisciplinary research and extension teams to address Integrated Pest Management (IPM) and potato production as well as extension, research, and teaching partnerships through our Center for Sustaining Agriculture and Natural Resources. That center now has a small farms coordinator and a dryland cropping system specialist. In potato production, extension faculty work with researchers in Washington, Idaho, California, Colorado, and Texas to test the adaptability of new cultivars and extend that knowledge to Washington potato growers.

In sustainable agriculture, 7,700 producers adopted decision support systems that recognize and evaluate the economic, environmental, and social implications of alternative plant and animal production systems. Producers managed approximately 6,000,000 acres under improved sustainable stewardship practices. Natural resource owners and managers attended 200 programs reaching 55,000 people. Over 51,500 people increased their knowledge and skills in sustaining natural resource systems such as forests,

windbreaks, range, and wetlands resulting in practice changes that sustained benefits on over 2,750,500 acres.

Washington's producers continued to build upon past successes in IPM. Twenty-six validated prevention-based pest management practices for use on targeted cropping systems may reduce the pesticide load in the environment to safeguard human health and the environmental health of Washington State. Approximately 116 public forums involving joint sponsorship or collaboration enhanced multi-party collaborations and the exchange of information among public, private, and non-profit stakeholders in order to foster the development and adoption of IPM strategies and systems among selected audiences. Educational programs to improve the use of IPM strategies and systems increased the range of benefits and opportunities achieved by enterprises and individuals.

Extension is making a difference in the establishment of local food systems that are relevant to communities and enhance the economic, environmental, and social well being of those communities. We have improved our understanding of the value and characteristics of the major components of Washington's existing and emerging agriculture and food systems. This has led to programming that led to the addition of four new community supported agricultural enterprises and 17 new small farms. Thirty-two new venders were added at farmers markets. In addition, 340 new community garden participants, most of whom were low income, facilitated the entry of people into local food production systems, both commercial and non-commercial. Last year, 28,000 participated in a harvest celebration that connects consumers with food producers on their farms.

Extension continues to provide education for the protection and improvement of Washington's water resources including flora and fauna water quality and quantity. Extension provided technical expertise and educational programs in pollution prevention to reduce water resource degradation from contaminants such as failing onsite sewage systems, household hazardous waste, manure pathogens, nutrients, pesticides, and soil erosion. Subsequently, 17,300 Washington residents now have a greater understanding of the interdependence of water resources, human health, and the ecology of their region and 4, 900 program participants made changes in practices that will protect water resources and aquatic life.

Sources of Funding and FTE for Goal 4

FTE Smith-Lever 3b and 3c	=	6.55
FTE Smith-Lever 3d	=	3.19
Federal Extension	=	$1,763,159
Non-Federal	=	$12,217,561
Other Federal	=	$648,920
TOTAL	=	$14,629,640

Key Theme – Water Quality
Key Theme – Endangered Species

a. The Yakima River Basin Watershed is home to several species of ESA threatened salmonids. The Best Management Practices (BMP) for riparian buffer areas and utilization of forage in the riparian buffers has neither been studied, documented, developed, taught, nor implemented. Riparian buffer areas are valuable to private property owners, and animals rely on these areas for forage and water. Landowners are not willing to exclude from riparian areas while the science evidence exists that forage utilization does not harm and could be beneficial to salmon recovery. Presentations were given about riparian buffer research and management, and a series of Water Quality Macro-Invertebrate seminars trained producers and the public on how to make water quality measurements.

b. Impact: Research and management evaluations showed over a 60% knowledge gain during the overviews of riparian buffer research and a 30% knowledge increase in riparian management. Over 80% of producers surveyed said that they are now considering changes (fences, willow plantings, grazing management, shades, water tanks) in the management of riparian buffer utilization as a direct result of the presentations. Over 1.6 million acres were represented in the riparian management seminars.

c. Source of Federal Funds: State, Smith-Lever, grant

d. Scope of Impact: State Specific

Key Theme – Water Quality
Key Theme – Riparian Management

a. The Native Plant Salvage Project (NPSP) was established to actually involve Thurston County residents in the protection of water resources and improvement of habitat. Increasing urbanization leads to loss of habitat as well as detrimental impacts from storm water, including non-point source pollution, erosion, stream siltation, flooding, loss of aquatic habitat, and reduced groundwater recharge. NPSP involves over 200 volunteers in hands-on field and education activities, including salvaging native plants from areas slated for clearing and re-vegetating riparian corridors and other damaged sites.

b. Impact: Over 3,000 plants were salvaged and potted by over 100 volunteers, and distributed to 18 re-vegetation sites. Twenty-eight landowners learned how to plan, implement, and maintain re-vegetation projects, and 13 have actively begun implementing their project. Over 70 people received technical assistance. Approximately 300 elementary students learned about the role of native plants in protecting water resources and worked together to install a learning landscape at their school. Approximately 250 residents took part in workshops that explained issues regarding the role of landscapes in water resources and provided guidance in conserving and protecting water. Ninety volunteers staffed a garden tour for over 500 participants to learn how to manage their landscapes using water-friendly techniques, and 100 realtors and developers learned about methods to retain native plants and landscape to benefit water resources. Seven demonstration landscapes were maintained for public tours. Survival counts were done and maintenance plans were recommended for eight acres of riparian corridors on two major rivers.

c. Source of Federal Funds: State, Smith-Lever, local jurisdictions, conservation district, EPA, US Fish and Wildlife, WA Dept. of Transportation, NRCS (in kind), amount: $49,000

d. Scope of Impact: County

Key Theme – Forest Resource Management

a. Washington has approximately 100,000 forest owners controlling 20% or over 3 million acres of the state's timberland. These owners vary greatly in their knowledge of forest management. Many are absentee owners living elsewhere in Washington, other states, and in foreign countries. Given the large number of owners, absentee ownership, property turnover, and a small number of extension Forestry Agents, it is a challenge to reach these owners with timely information and to direct them to appropriate sources of help. A unique cooperative education program for forest landowners exists in the state of Washington conducted by WSU's Department of Natural Resource Sciences and Cooperative Extension in cooperation with the Washington State Department of Natural Resources. The Forest Stewardship Program (which consists of workshops, newsletters, and coached planning) is a fine example of issue-based programming and was the most important non-industrial, private forestry (NIPF) program for the year. These educational programs continued the paradigm shift from

strictly commodity-based management to ecosystem management on NIPF lands as well as helping production-oriented owners. Landowners were provided useful information on ecosystem approaches to forest management.

b. Impact: Over 4,200 people received one-on-one consultation or attended educational events and 1,325 land managers expressed a change in their knowledge, skills, or abilities. Private, non-industrial, forest landowners are implementing stewardship practices as a result of their learning and preparing their own Forest Stewardship Plans. These plans have and will result in forestry management practices including tree planting, the rehabilitation of wildlife habitat, stream and riparian area protection, and timber harvesting.

c. Source of Federal Funds: State, Smith-Lever, local jurisdictions, Washington Department of Natural Resources, US Forest Service, Rural Technology Initiative $580,000

d. Scope of Impact: State Specific

Key Theme – Natural Resources Management
Key Theme – Forest Resource Management

a. Washington has many forested rural and suburban counties. There has been a significant increase in rural homebuilding in the last two decades, especially in "interface" areas. This leads to greater risk of wildfire damage to houses and property, and requires greater public expenditure of resources for protection. While forest managers generally agree on the desirability of fire as a management tool, the public has not supported it for a variety of reasons including not understanding fire's positive ecological role, risk liability issues, and smoke issues. The availability of resources such as the federal fire plan grants has combined with heightened public awareness due to recent drought conditions to provide an excellent opportunity for an education program to address these concerns. Educational programs and resources addressed defensible space, and local fire districts.

b. Impact: Homeowners increased their knowledge of fire-wise strategies to reduce the risk of wildfire damage. 90% of participants understand the principles involved in creating defensible space around homes and how to apply these principles to their own property. They are familiar with how rural volunteer fire departments work, what common barriers exist in providing rural fire protection, and how to get the most effective protection possible.

c. Source of Federal Funds: State, Smith-Lever

d. Scope of Impact: State Specific

Key Theme – Water Quality

a. The population of the Southwest Puget Sound region is rapidly increasing. Development practices and landscape modification play significant roles in determining the long-term health of our aquatic systems. A local needs assessment identified real estate professionals and developers as an underserved, high priority audience for water resources education. Developers and real estate professionals with a background in water resource issues can make environmentally suitable decisions regarding development practices, as well as educate their clientele about land stewardship, water quality, and aquatic habitat. The program is a series of courses that provides participants with certified clock hours they can use toward their biennial professional license certification. The five courses cover the science, policy, and regulation of water resource related issues.

b. Impact: In 2001, there were 250 participants. Course evaluations showed that the information provided was relevant and useful for the participants in their work. Follow-up evaluations reported

over 90% of the program participants regularly share the information they learned with clientele and colleagues. Faculty frequently receive letters and emails describing situations where the courses improved their ability to assist clients in protecting water resources. The value of the courses is also illustrated by the fact that over 50% of the participants have taken more than one course (at a cost of $160 each) and that many participants learn about the courses through colleague recommendations.

c. Source of Federal Funds: State, User fees; amount: $24,640

d. Scope of Impact: County

Key Theme – Water Quality

a. Volunteer citizen groups including the Kettle River Advisory Board (KRAB) and the Curlew Lake Association (CLA) identified the need for an extension water quality education program in the area. State and federal water quality initiatives and regulations prompted rural residents, who rely on private water supplies, to increase their knowledge of water quality issues. Tribal and county health authorities checked public and community systems, but private systems were not tested for lead or nitrate levels. WSU Ferry County Cooperative Extension Water Education Training (WET) staff and volunteers delivered 78 hands-on learning programs to 1,321 youth participants in six project area schools, a 4-H natural resources camp, and regional events. These included a domestic water-testing program delivered in each of the six area schools for youth education. Overviews of the results were published in "The WET. Look" to emphasize the importance of testing, treating, and protecting private drinking water sources.

b. Impact: Randomly distributed self-evaluations indicated the number of youth reporting a high level of knowledge about the covered topic increased 91% after program delivery, while those indicating little or no knowledge of the subject decreased by 80%. One hundred percent of youth involved in creating watershed models were able to identify simple ways to reduce run-off pollution for at least two of four potential pollutants discussed (76% identified at least three of the four). The class recalled these principles in discussions nine months later. When asked who will be responsible for water quality when they grow up, they enthusiastically replied; "We will!" Area residents were made aware of a potential health risk when youth created graphs of the 97 educational domestic water test results conducted and analyzed for Ferry County through WET. Coliform bacteria was present in 31% of WET Project educational samples from private water sources. Following published reports in "The WET Look," requests for water testing information increased indicating increased citizen actions to secure safe drinking water.

c. Source of Federal Funds: State, Smith-Lever, grant

d. Scope of Impact: County

Key Theme – Integrated Pest Management (IPM)
Key Theme – Endangered Species

a. Chinook salmon Endangered Species Act (ESA) listing, population pressure on water supply, and Environmental Protection Agency (EPA) removal of two primary insecticides from availability made IPM information necessary in King County. Faculty developed and presented seven nursery-training workshops that reached 180 professionals, moderated a conference on IPM for Groundskeepers, wrote six featured articles on pest management strategies for the “Seattle Times,” and trained 15 speakers to present “Salmon Friendly Gardening.”

b. Impact: 65% of nursery training staffs reported they plan to use information on pesticide disposal and fertilizer use. Of 37 horticulture students, 75% surveyed reported practice change. Twelve slide

shows on "Salmon Friendly Gardening" reached 889 people, of which 66% surveyed said they would definitely reduce pesticide use.

c. Source of Federal Funds: State, Smith-Lever, grant

d. Scope of Impact: County

Key Theme – Sustainable Agriculture
Key Theme – Other (Rangeland/Pasture Management)

a. Beef cattle operations are important economic enterprises in Southeastern Washington. Despite a strong cattle market, producers often make poor management decisions during periods of stronger prices. These decisions historically present profitability problems during following years when prices inevitability cycle downward. Additionally, environmental compliance has become a major issue for Southeastern Washington cattle producers due to recent regulatory enforcement actions. Traditional winter-feeding areas in sheltered canyons are not in compliance with regulatory agency policies. Informational and educational events were requested by the program advisory committee that would address ranch management strategies and also issues of compliance with state and federal water quality rules related to livestock. Four programs and a summer ranch tour were held to provide training and information on Environmental Protection Agency (EPA) and Department of Environment (DOE) rules affecting animal feeding operations and grazing management along riparian zones. The programs provided training in management strategies to keep beef cattle enterprises profitable and sustainable over time.

b. Impact: Over 255 cattle producers received training and information to improve their technical knowledge and decision-making skills, as well as detailed information regarding environmental compliance measures for their operations. One-hundred percent of the producers increased their awareness of environmental regulations relating to cattle operations, and 189 cattle producers implemented at least one management practice or adjustment designed to improve sustainability of their operation.

c. Source of Federal Funds: State, Smith-Lever

d. Scope of Impact: County

Key Theme – Sustainable Agriculture
Key Theme – Drought Prevention and Mitigation
Key Theme – Other (Goal 1: Plant Production Efficiency)

a. The 2001 crop year was severely constrained by drought. Irrigation water was either cut-off or growers were allowed to sell their water to the state. One hundred seventy-eight producers were assisted in managing their crops growing on land that was involved in the Public Utility District (PUD) and Bonneville Power Authority (BPA) Power and Water Buyback Program.

b. Impact: One hundred seventy-eight growers received $330 per acre from BPA for water buyback and for power not used, the PUD paid growers up to $125 per acre. Crops could be harvested from these acres but not irrigated. Growers produced up to forty bushels per acre on these non-irrigated fields.

c. Source of Federal Funds: State, Smith-Lever

d. Scope of Impact: Multi-county

Key Theme – Sustainable Agriculture

a. Eastern Washington growers are interested in adopting sustainable cropping systems to be better stewards of the land and become more profitable in the intermediate rainfall areas of eastern Washington. The Wilke Project finished its fourth year in direct seeding systems research and extension with five growers replicating 3- or 4-year rotations on their farms. The Wilke Field Day had participation by 100 growers, 10 research projects were established in Lincoln County and field day proceedings (including a summary of the previous year's data) were distributed.

b. Impact: The Wilke Project, as an established project, is well known throughout the region. The adoption of direct seeding has increased through the efforts of the Wilke Project from 6% to greater than 10% of dryland acres in Adams, Lincoln, and Spokane counties.

c. Source of Federal Funds: State, Smith-Lever, $30,000 in grants (EPA, Department of Ecology)

d. Scope of Impact: Multi-county

Key Theme – Sustainable Agriculture
Key Theme – Other (Organic Agriculture)
Key Theme – Drought Prevention and Mitigation

a. Washington State orchardists are facing financial and regulatory pressures to change production practices and farm design. Organic and integrated fruit production approaches offer a potential to reduce costs, exceed environmental regulations, and diversify into higher-value markets. A third year of field research was completed to determine the value of orchard mulches for simultaneously controlling weeds, conserving moisture, and adding nutrients. Results were communicated at two field days, seven meetings, and on-line at the Integrated and Organic Fruit Production web site. The organic tree fruit trends report was updated and information presented to growers at five meetings, the National Organic Tree Fruit Research Symposium, and on-line.

b. Impact: The research demonstrated that growers could reduce irrigation by 20-25% with mulch compared to unmulched trees, an important strategy in a drought year such as 2001. Three growers began using mulch on about 10 acres of orchard, reducing their weed control costs and conserving water. Growers used the organic trends information to make decisions regarding organic certification. In one case, a grower removed 80 acres of organic apples due to low prices and bleak future prospects. Twelve growers indicated that organic trends data is critical for business planning.

c. Source of Federal Funds: State, Smith-Lever, $4,000 grant from the WA Tree Fruit Research Commission via a subcontract through Agriculture Canada

d. Scope of Impact: Multi-county

Key Theme – Sustainable Agriculture
Key Theme – Other (Goal 1: Animal Production Efficiency)

a. The White Trail Hog Pool/Cooperative annually produces and markets over 100,000 hogs to the highly competitive Japanese export market. Educational programs concerning production and quality assurance issues are essential for these producers to remain competitive. This group is also active in marketing hogs produced by youth in the Grant/Adams Area. Quality assurance awareness and implementation of good management practices is critical for these producers to maintain this premium market. In 2000, a positive drug residue test jeopardized the future of the cooperative.

b. Impact: Eight individuals certified as Level 9 and 93 hog producers (22 adults, 71 youth) certified as Level 3 in the national Pork Quality Assurance (PQA) program. Producers certified in PQA program

marketed 34,000 hogs. Producers implemented effective record keeping systems to track treated animals and medicated feeds, and identified two antibiotic positive hogs prior to marketing. Potential penalty to producers and marketers was a $12,000 fine per hog and the negative perception associated with a federal violation which could have resulted in "two-strikes" against the livestock show. Three-strikes results in a show loosing their swine market to that particular packer. Producers secured a marketing contract for high quality animals, yielding them year around market and economic premiums.

c. Source of Federal Funds: State, Smith-Lever

d. Scope of Impact: Multi-county

Key Theme – Sustainable Agriculture
Key Theme – Other (Goal 1: Plant Production Efficiency)

a. Because of the industry's rapid growth and the migration of growers into grapes from less profitable crops, there is high interest in educational materials dealing with the establishment and production of grapes. A strong need for extension programs to raise the educational level of those already participating in the grape industry was identified as the most pressing education issue for the wine grape industry. Basic grape growing seminars were presented in Chelan, Okanogan, Walla Walla, and Stevens counties. Faculty presented a day-long seminar on canopy management at the Washington Wine Grape Growers annual meeting. Workshops for both Concord and wine grape diseases were held. A two-day nutrition short course was organized and presented to 112 growers, and faculty arranged and conducted the annual meeting held in Oregon. Hispanic pruning demonstrations and a summer tour of irrigation efficiencies were held in conjunction with the Washington State Grape Society. Monthly field personnel meetings created awareness and addressed grape production issues.

b. Impact: Washington grape acreage continues to expand. Nursery sales indicated a 10% increase in existing acreage, which increases farm gate income by $8 million. By adding vineyards to the mix of crops grown, farmers diversify their farming practices and reduce the risk of income loss. The American Society of Enology and Viticulture Northwest (ASEVN) meeting created a forum for grape growers, educators, and wine backers to exchange information to improve growing and wine making efforts. An extensive evaluation of the nutrition short course indicated that 104 participants will save $250 per acre while increasing crop quality.

c. Source of Federal Funds: State, Smith-Lever, $28,000 grant Washington Wine Commission

d. Scope of Impact: Multi-county

Key Theme – Wetlands Restoration and Protection

a. Estuarine systems are critically important areas for juvenile marine species development and shellfish production. The Pacific Northwest Coastal Ecosystems Regional Study (PNCERS), a five-year, $900,000 National Oceanographic and Atmospheric Administration (NOAA) project, was designed to identify natural and anthropogenic changes in coastal systems, with the goal of applying this understanding to improving estuarine management and utilization. An outreach component was needed to provide understandable information to natural resources managers and the public. Invasive marine species threaten the integrity of intertidal marine communities in Puget Sound and the coast of Washington. The expansion of the introduced cordgrass Spartina is causing massive habitat changes, displacing native plants and animals and impacting commercial and non-commercial species. Current control methods to limit this invasive species are difficult, expensive, and unsuccessful. Research and education are needed to further develop biological control using the leafhopper, *Prokelisia marginata*.

Faculty developed an initial outreach plan for 12 research projects in Washington and Oregon; and provided information to coastal residents, community members and decision makers.

b. Impact: PNCERS project information reached over 30,000 in the Grays Harbor area, and plans for additional outreach products and follow-up have been completed. The *Prokelisia* research work continues to go extremely well, with insect growth and survival better than expected. The project continues to show great promise in providing a more environmentally benign and cost-effective control technique for this serious invader. The public meeting again provided a forum for the presentation of research plans, and an exchange of information and experiences from a broad audience. Educational efforts have greatly enhanced the awareness and approach to this situation. This project has clearly demonstrated the value of the Coastal Resources Science Center, now renamed the Coastal Resources Alliance.

c. Source of Federal Funds: State, Smith-Lever, $100, 000 grant from National Oceanographic and Atmospheric Administration (NOAA) Washington Dept. of Ecology Washington Dept. of Fish and Wildlife

d. Scope of Impact: Multi-county

Key Theme – Sustainable Agriculture
Key Theme – Other (Goal 1: Animal Production Efficiency)

a. Over 195,000 acres of irrigated pasture and over 700,000 acres of range acreage account for one of the largest uses of water for irrigation in Central Washington. Often not considered in crop production, pasture is one of the most consistently profitable crops in this state, with a variation in harvesting methods. Mismanaged pasture and range are high contributors of non-point source pollution from fertilizer, herbicide, and fecal run-off. With improved management, the sustainability of pastures is augmented, as well as forage production, carrying capacity, surface and ground water quality, and reduction of soil erosion by both wind and water. Research-based information demonstrates that optimal forage/grazing management greatly increases productivity. Harvested feed expense can be 75% of the cost of production for many livestock operations. Proper pasture and range management, the use of a second crop of annual forages, and stockpiling perennial forages for late fall, winter, and early spring grazing are important methods in lowering the need for harvested feeds. Many small acreage owners have limited knowledge of proper property management. As a result, many overstock, over-graze, and end up with significant weed problems. These mismanaged properties can cause siltation, nitrate, and coliform bacterial contamination of surface water via runoff. Last year, 112 livestock producers representing 1.63 million acres of pasture and rangeland attended the Working Toward Solutions: Animal Agriculture Compliance and Regulatory Issues workshop and 31 livestock producers from nine counties in Washington and Oregon attended the Pacific Northwest Glaziers' Conference.

b. Impact: Evaluations of the Working Toward Solutions workshop indicated that 80% of the participants had never had training on Animal Feeding Operations (AFO) or Confined Animal Feeding Operations (CAFO) EPA regulations; and 85% had knowledge of EPA or DOE monitoring their property. Evaluations indicated the following knowledge gains: producers averaged 40%; educators averaged 33%; consultants averaged 32%; and agency personnel averaged 10%. Evaluations of the Glaziers' Conference indicated that 100% of the participants increased their knowledge of current management practices of pasture, range, and riparian buffers, livestock health and nutrition, bio-security, federal programs available, and marketing. Two-thirds of the respondents indicated that they would make management changes. Some of the changes indicated were monitoring water quality in riparian areas; more multi-species grazing; improving pasture rotations; using alternative forage sources; and employing holistic management principles.

c. Source of Federal Funds: State, Smith-Lever

d. Scope of Impact: Multi-state

Key Theme – Integrated Pest Management
Key Theme – Other (Invasive Species)
Key Theme – Biological Control

a. Millions of dollars are expended each year to minimize invasive noxious weeds in agricultural, forest, urban, wetland, and wildland environments. Given the magnitude of many of these weed infestations, coupled with biodiversity awareness and water quality issues, and the state's declining economic health, biological control represents one of the few, low-cost, and sustainable management options available to private, state, tribal, and federal land managers. Successful biological control programs result in quantifiable reductions in weed invasiveness and dominance in impacted ecosystems and should be implemented whenever possible. A total of 18 arthropod and plant pathogen species were obtained by the state extension weed specialist and utilized intrastate to initiate new management efforts against Canada thistle, common and moth mullein, poison hemlock, St. Johnswort, purple loosestrife, diffuse, meadow, and spotted knapweed, yellow starthistle, and Dalmatian toadflax. These plant population suppressants were provided to a diverse assemblage of private and government agency-linked landowners situated in 19 of the state's 39 counties. Extensive bioagent translocation assistance was provided for diffuse knapweed and yellow starthistle suppression. Multiple requests from north central Washington residents were received for a newly introduced and highly effective insect biological control agent of toadflax.

b. Impact: Public acceptance of bioagent use for weed control has become widespread in the state. Every county now targets Class B and C weeds for biological control. Implementation of biologically based management methods has decreased herbicide inputs into various affected ecosystems by as much as 100%. Federal land managers have readily adopted the use of biological control as an essential component of their integrated weed management program efforts. Collaborators include the county noxious weed control boards and districts; private landowners; public utility districts; Oregon Department of Agriculture; Montana State University; University of Idaho; Bureau of Indian Affairs; Colville Indian Reservation; Washington State Departments of Agriculture, Transportation, Fish and Wildlife, Natural Resources; and the United States Departments of Defense and Agriculture-ARS and APHIS; U. S. Forest Service; and U. S. Fish and Wildlife Service.

c. Source of Federal Funds: State, Smith-Lever

d. Scope of Impact: Statewide

Key Theme – Sustainable Agriculture

a. Potato farmers depend heavily on pesticides and fertilizers. The use of soil fumigants is standard practice for potato production fields. The soils, subject to heavy tillage, can decrease soil organic matter levels, increase erodibility, and cause compaction, and water infiltration problems. These problems can lead to surface waters contaminated with sediment, reduced soil fertility, expensive tillage operations to treat compaction, and severe soil erosion. Methods to improve profits, reduce soil fumigants use, and improve soil quality are needed. Four farms took part in an on-farm research that included a fumigant replacement trial, a nitrogen fertilizer response trial, a green manure variety trial, and a mustard planting date study. The results were highlighted at a field day attended by 57 growers, crop consultants, and researchers. Over the year, seven other presentations were made to over 270 growers and crop consultants. The research results from 1999-2001 were available in a

county publication and on the Internet. The White Mustard fact sheet and the Dale Gies System Profile were updated, and Using Green Manures in Potato Rotations was published.

b. Impact: The number of acres planted to a mustard green manure crop increased from 3,600 acres in 2000 to 9,260 acres in 2001. A majority of these acres will be planted to potatoes in 2002. The growers using green manures should begin to see improvements in their soil quality, their ability to manage soil-borne pests, and eventually increased profits. Because of this acreage increase of mustard green manures, a new seed company formed in Moses Lake who specializes in varieties of green manure mustards and is actively searching for the most effective varieties, producing seed, and educating producers on the benefits of green manures crops, and best crop management. Interest in using mustard green manure crops has spread beyond potato producers. Onion, bean, and carrot growers are all trying the practice in their systems, which, if successful, should only further increase the acreage of mustard green manures. Increased interest is also shown by the increase in viewing of cover crop pages on the county website. Cover crop related hits from September to December of 2001 are double those of 2000, up to 2700 hits.

c. Source of Federal Funds: State, Smith-Lever, $12,937 Washington State Potato Commission Washington State Commission on Pesticide Registration

d. Scope of Impact: Multi-county

Key Theme – Integrated Pest Management

a. IPM and pesticide credit training for cranberry growers is a high priority. They have no other source of information other than what extension provides. Winter workshops, nighttime educational meetings, and summer field days were held. We conducted and coordinated the IPM training and scouting for cranberries. Numerous newsletters and e-mails were sent to growers.

b. Impact: A record number of acres (800 acres, 30+ growers) were treated with biorational pesticides as replacements for organophosphates. Surface water quality monitoring by DOE indicated a 95% decrease in surface water contamination with organophosphates.

c. Source of Federal Funds: State, Smith-Lever, $50,000

d. Scope of Impact: Multi-state—Maine/ Massachusetts/ New Jersey/ Oregon/ Washington/ Wisconsin

Key Theme – Integrated Pest Management

a. Fewer pesticides and environmental concerns have made pest management practices a top priority. Grape Phylloxera continues to be a concern for the Washington Grape Industry. The ability to grow grapes on their own rootstock gives Washington growers a decided advantage in foreign, as well as, domestic markets. Grape Phylloxera sites have been identified and monitored. Owners of infested sites are urged to remove them. A sanitation program was implemented to reduce the probability of the insect moving to other sites. Radio spots, newsletters and field personnel breakfasts keep the industry aware of current IPM practices.

b. Impact: Grape Phylloxera sites were reduced from nine to four. Site monitoring revealed little or no movement of the insect from infested sites. The grape industry as a result of this study has elected not to use rootstocks. California's move to rootstocks has lost its industry over $1 billion.

c. Source of Federal Funds: State, Smith-Lever

d. Scope of Impact: Statewide

Key Theme – Integrated Pest Management

a. Cherry Fruit Fly remains a serious threat to the cherry industry. The tolerance for fruit fly is zero and California as well as other off shore shipping areas are watching to see how well we control fruit fly problems. If they are not controlled adequately, restrictions will be put into effect. By cooperating with the Benton County Pest Control Board, sources of cherry fruit fly infestations were identified and removed.

b. Impact: By using the IPM spray guide, growers have minimized sprays and increased effectiveness of pesticide use. Fruit fly infestations have been eliminated and no restrictions have been placed on cherry exports from Benton County.

c. Source of Federal Funds: State, Smith-Lever

d. Scope of Impact: Statewide

Key Theme – Integrated Pest Management

a. The tree fruit industry brings in approximately $650 million to a north central, three-county regional economy of Washington each year. Insect, disease, and weed management is a critical component in the production of these commodities. Growers apply an average of six to eight pest management sprays to crops, costing $250 to $850 per acre each year (about 5 to 13% of total production costs). The cost of tree fruit pest management in this region exceeds $22 million each year. Frequency, expense, and effect of these control procedures depend on the growers and advisors making correct choices about a complex and ever-changing situation. By applying the principles of IPM, the number and the amount of sprays applied to the control key pests and diseases can be reduced. Faculty assist growers in improving their ability to determine effective control methods and materials. The North Central Washington (NCW) tree fruit web pages provide information not available in a useful format from alternative sources.

b. Impact: The Blossom degree development and fire blight models developed by the extension educator are improvements and updates of previously inaccurate models are now recognized as the new standard. Countries recently adopting the Cougar blight fire blight model include New Zealand, Australia, Italy and Hungary. While most tree fruit related models on the web are designed to inform the grower only of current conditions of the crop or pest, WSU's information uses weather forecasts and average weather data to forecast upcoming events. This enables the grower to better plan for events and timings. There were over 17,450 total hits on the web pages this year, 6,190 on IPM topic pages, and 11,268 on horticulture pages. The most active pages were those relating to advisories on fire blight (2,129), general fire blight management (2,314), weekly pest advisories (1,952), orchard soil pH (4,325) and grafting (1,828).

c. Source of Federal Funds: State, Smith-Lever

d. Scope of Impact: Multi-county

Key Theme – Sustainable Agriculture

a. Increasing awareness by local consumers about the positive impacts of farming on local economies and landscapes helps farmers preserve local farmland. The public is often unfamiliar with farming and unaware of the environmentally sensitive management techniques used. Raising consumer awareness about their local food system helps maintain both local food systems and working landscapes.

b. Impact: Over 16,000 residents in 11 counties visited 83 farms in Western Washington to connect with local farmers, look at farms, and to learn about local food systems in a fun and stimulating environment. Farms hosted family-oriented learning activities, tours, music, hayrides, contests, and locally grown foods, among a long list of events. Both Governor Locke and the leaders of county government in five counties proclaimed October 7th as Harvest Celebration Day. The event generated over $27,750 in donations, $24,500 in-kind, and $29, 500 in volunteer time ($15.39/hr). Over 1,020 people learned that there exists a diverse farming culture, as well as the basics of what and how farmers produce food and animal products. A participating 7-acre blueberry farmer said that her sales justified being open even though she normally sells only through her catalog. The Harvest Tour had 5,000 people attend seven farms. One farmer, who is usually not open to the public, sold $900 of product that day and other farmers noted that they had more people on their farm than they ever had before and they want to host the event next year. The Gig Harbor Farmers Market doubled their usual attendance and the market manager noted that these people were "new to our market." Thus the farmers were able to sell much more than usual ($1,100 more in receipts than last year on that day) and create new customers. In response to a survey done at the Skagit Harvest Celebration Day event, of those who attended in previous years, 36% changed their food buying habits as a result of attending the event. Most of those said they buy more locally, and some said they buy more organic produce. When asked if their attitude about farming changed after visiting the farms, 36% said "yes." Responses were very similar to those in 2000. People indicated an increased respect for farmers and understanding of the nature of farming as a business. A great many people were impressed with how hard farmers work and the level of expertise required.

c. Source of Federal Funds: State, Smith-Lever

d. Scope of Impact: Statewide

Key Theme – Recycling

a. Vegetative debris represents up to one-third of the amount of solid waster deposited at local landfills. Backyard composting reduces the flow of waste to landfills and produces valuable organic matter for the soil, providing a simple yet important way for local homeowners to improve our community and protect the environment. The compost/recycling program educates the general public on methods they might use to achieve a reduction of the solid waste stream. Components include: composting of various types; compost use and soil relationships; grass cycling; and waste reduction and recycling. Volunteers provided 2,500 hours of service in 2001. Volunteers and staff had educational contacts with 7,300 people, including over 1,000 youth. Volunteers and staff organized 52 workshops and classroom presentations on composting, vermiculture, and recycling to both the general public and students.

b. Impact: Program participants increased their knowledge of how to decrease their contribution to the waste stream through composting household organics. Youth reported plans to use the skills developed in creating worm bins and in assisting in parks garden sites. Adults participating in all demonstration gardens and training workshops reported planning to use information in their own gardens and in their volunteer activities in public gardens.

c. Source of Federal Funds: State, Smith-Lever

d. Scope of Impact: Statewide

GOAL 5: Enhanced Economic Opportunity and Quality of Life for Americans

Overview
Washington State University Cooperative Extension offers a wide array of youth, family and community development programs that impact economic opportunity and quality of life for the people of Washington. Included are programs in the state Plan of Action that address *strengthening life skills for youth and adults, workforce preparation, character education, parenting, building strong communities, leadership for public decision making,* and *economic and social change.* In addition, Extension maintains its commitment to ongoing youth and family programs that are both volunteer-based and directly delivered by faculty and staff.

Life skills programming is a mainstay of Extension outreach to youth and families across the state. The total number of contacts reported to indicators in the life skills program of work was 239,089. The areas of learning reporting the largest numbers of contacts were decision-making and self-responsibility. The WSU Cooperative Extension Life Skills Evaluation System is a web-based accountability tool that allows faculty and staff to create standardized evaluation forms online (see http://ext.wsu.edu/lifeskills). According to aggregated data for 2001 (n=482), 70 percent of the program participants who completed evaluations made gains in life skills after completing the programs. The largest overall gains were reported in the areas of healthy lifestyle choices (average increase of .55 on a 4-point scale) and leadership (.54 on same scale). The indicators that reflected the most dramatic skill changes between pre and post scores were making a presentation (in communication area), problem-solving (in marketable skills area), and choosing activities that promote physical health and well being (in healthy lifestyle choices area).

In the area of *youth life skills*, WSU CE's 4-H Youth Development Program (4-H) continues to strengthen its outreach statewide, positively impacting the lives of 86,000 (9%) of our state's age- eligible youth with critical life-skill education. Over the past six years, 4-H membership has gown in Washington State by nearly 25%, made possible through the efforts of nearly 10,000 trained adult volunteers. Last year these adult 4-H volunteers contributed over 1.6 million hours of volunteer service to Washington State youth. If that service had been provided by paid staff, it would have cost in excess of $23.6 million dollars. In addition to the fiscal impact, the young person's sense of personal value was increased because an adult cared enough to give his or her free time to support that young person's growth. CEOs, youth and family professionals collaborate with a broad spectrum of partners from family and youth-serving organizations to maximize outreach and effectiveness. Washington 4-H has made significant strides to reach all of Washington's youth with high quality life skills education. Last year, 26% of all 4-H members in Washington were youth of color, exceeding the state profile by nearly 8% (U.S. Census for Washington, 2000). Planned outreach efforts for increasing Hispanic volunteer recruitment and retention are currently underway.

Through a statewide input process of faculty and staff, 4-H has identified eight major life skills to focus our efforts: leadership, marketable skills, self responsibility, healthy life style choices, decision making, wise use of resources, communication and accepting differences. These life skills are emphasized throughout our 4-H educational outreach, but especially in our focus areas of: workforce preparation, ethics/character education, and science and technology literacy.

One example of 4-H's community effectiveness is the Youth Connections 4-H After-School Program in Granger Middle School. Granger is an isolated rural community in Yakima County, WA. The Granger school district has about 1,300 students; about 33% are migrants. About 88% of the students qualify for subsidized lunches. About 76% are of Hispanic origin and 25% attend bilingual education classes. The district's schools have high dropout rates, high teen pregnancy rates, and low standardized test scores. Middle school students have few after-school options besides sports. The Youth Connections program

provided safe activities to help youth learn new skills, explore academic, social and employment outcomes. Enrichment activities were offered after school on Wednesdays, after-school tutoring on Tuesdays and special activities on Thursdays. Enrichment sessions have included speakers, presentations and field trips. Speakers have included a male Hispanic nurse who shared his stories of growing up, going through college and embarking on a successful career in the health care field. Students have researched careers on the Internet and were taken on a field trip to Washington State University's Pullman campus during spring break. Youth were an essential part of the planning and implementing of this program. Members of the youth leadership group thought incentives and community service projects were important. They have become involved in community service projects, volunteering 15 to 80 hours of their time. A total of 279 students participated in the after-school program with an average of 70 students participating each week.

An unexpected benefit has been the overwhelming academic success of the students in the tutoring program. The percentage of failed classes dropped 60% from January through the end of the school year. Some have gone from failing all their classes to passing all of them. The success of this program resulted in funding for an enhanced summer program called Feed Your Brain, which included a reading program. Forty-four percent of the students participating in the reading program improved their reading by one grade level. Twelve percent improved reading by two grade levels and 4% improved reading by five grade levels and 28% improved, but not to the next grade level. Project URL: **Error! Hyperlink reference not valid.**

Parenting programs in Washington state focus both on parents as a direct audience, but also caregivers and parent educators from a variety of systems. The Parenting Team gives leadership to these efforts, including the organization of an annual regional conference (see **Key Themes- Parenting** for details). The team also reviews and promotes new parenting curricula and program approaches (see their website http://parenting.wsu.edu for more details). In 2001, the team built on pilot efforts in offering integrated programs in which youth and families learn together. **Family Night Out** and **Strengthening Families** are model programs for bringing parents and their children together in learning environments. In 2001, over 200 family members participated in Family Night Out and reported new skills in working as family teams and cooperating to reach goals. In a program conducted with the Lummi Tribe, facilitators reported that 125 participants demonstrated improved family communication skills as a result of the activities. The Strengthening Families program was integrated into a 21st Century Learning Grant site in rural Adams County. Youth participants completed pre/post evaluation surveys and indicated the greatest amount of behavior change in areas that included knowing steps for reaching personal goals and taking concrete actions to reduce peer pressure. In the adult survey, parents reported the greatest behavior change in areas that included letting their children know consequences for breaking rules and communicating the reasons for rules. Families also reported improved skills in team building, problem solving, decision-making and positive communication. In its first year of implementation, about 60 Adams County families participated.

In *Responding to Economic and Social Change*, WSU Cooperative Extension have initiated and managed WSU Learning Centers. Since 1996, WSU Learning Centers (LC) have been serving time- and place-bound students in areas of the state not served by other four-year degree granting institutions. A function of university-wide engagement, the Learning Centers served 21,296 students and community patrons during the academic year 2002-2001. Another 391 formal recruiting presentations were made to an audience of approximately 10,972. In the fall of 2001, distance degree program enrollment had increased by 63% to 1,382 students enrolled in the counties served by the ten WSU Learning Centers. Enrollment in other WSU programs through the LC also showed a marked increase of 52%, to 124 students enrolled.

In the broader arena of community development, extension educators worked with hundreds of community leaders and organizations across the State on a myriad of projects. Examples include:

- assisting in the development of 65 low-income housing units in the Skagit Valley
- organizing communities in SE Washington to attract tourism during the Lewis and Clark Bicentennial Commemoration working with local leaders to establish a Community Education Center in Raymond, WA and assisting Dayton, WA to "bridge the digital divide" through the integration of digital technology into the every-day life of the community.

The WSU Center to Bridge the Digital Divide was established through the effort of Dr. William Gillis with support from a host of WSU faculty and staff. The Center's mission is to assist rural and urban underserved areas to overcome barriers to gaining the economic and social benefits of participating in the telecommunications revolution. The Center has already made strides in applied research, educational outreach and public policy initiatives to help people in Washington State and nationally to gain access to and utilize modern digital technology.

Through its activities in *Leadership Development for Public Decision Making,* Extension provided education to over 28,500 community members and leaders across Washington. Notable ongoing extension programs include:

- Community Leadership Programs. Serving four regions in the State, these leadership programs expose participants to community problems and provide them with the skills necessary to resolve the issues.
- The Skagit County Forum. This non-profit organizations goal is to provide a setting for "structured conversations" which will help the community understand local issues and ensure the possibility for informed public and private decision-making to take place.

Partnership for Rural Improvement. Now in its 27th year, PRI is a consortium of five community colleges and WSU Cooperative Extension. The consortium's mission is to bring the resources of the participating institutions to bear on issues and opportunities of importance to Washington communities. Examples of last year's activities include:

- providing facilitation training for 90 community and NGO leaders in the Yakima Valley.
- working with Nuestro Centro para Familias Latinas, in Selah, WA, to help promote civic betterment dialogues among local municipal, educational and legal system leaders.

The Certified Public Officials program. In its second year, this program has developed collaboration with Washington's county, municipal and appointed officials associations. The program conducts workshops aimed at improving local officials' leadership and administrative skills. In this last program year, 230 local officials participated.

Washington State ranks third in the nation in apparel and textiles industry productivity. Preparing workers is essential for this thriving industry. Teaching knowledge and skills applicable to the industry in our clothing and textile 4-H programming and then encouraging WSU professional studies in apparel can help fill the need for qualified workers. The Clothing and Textiles Team (CTT) of WSU extension professionals also provide leadership and training for the Washington State 4-H clothing program. The nine-member CTT includes academic and extension faculty, specialists, volunteers, and leaders. The goals of the team are to provide communication, programming, and resources to the 1,229 4-H clothing leaders and the 3,089 youth enrolled in clothing and textile projects. A model partnership exists between the Cooperative Extension 4-H and the Apparel, Merchandising and Interior Design (AMID) Department at WSU. Extension has benefited from stronger programming efforts and greater connections for resource development. The department has benefited through increased methods of recruitment, educational outreach and securing state-of-the art equipment for their labs.

The Fashion Institute was a week-long program held WSU Spokane with the purpose of introducing youth and adult leaders to the fashion industry. Forty-nine adults and youth were involved from 6 different states and Canada. Knowledge level of the participants was evaluated on a scale of 1 to 4 for 13 different topics. In all 13 topic areas, participant knowledge increased. On 10 topic areas, participant knowledge as measured by pre- and post-tests increased between 1 and 1.8. On 6 topic areas participant's knowledge levels increased between 1.5 and 1.8. An evaluation was conducted one year after the Fashion Institute to determine how the participants had used knowledge and skills they learned from the Institute. The evaluation showed that respondents had shared information learned at Fashion Institute with others; many had taught classes to youth using the materials.

Sources of Funding and FTE for Goal 5

FTE Smith-Lever 3b and 3c	= 10.14 FTE
FTE Smith-Lever 3d	= 2.19 FTE
Federal Extension	= $1,583,953
Non-Federal	= $8,289,339
Other Federal	= $1,317,505
TOTAL	= $11,190,797

Key Theme – Parenting
Key Theme – Child Care/Dependent Care

a. The Northwest Regional parenting Conference is an event targeted to reach professional and volunteer parent educators and caregivers. In 2001, the 7th Annual Conference was held in Spokane, WA, and attracted 346 participants from eight states and British Columbia, Canada. The keynote presentations addressed strategies for helping families work together to strengthen their communities and skills for setting boundaries to support families and youth. Thirty-four workshops demonstrated activities to enhance parent education, theoretical underpinnings, and family issues. The two-day conference was co-sponsored by a number of state agencies and non-profit organizations.

a. Impact: In a six-month follow-up evaluation, 116 surveys (34% response rate) provided the following information:
   - ♣ 55 % of respondents reported increased confidence, ability, and skills in providing parent education.
   - ♣ 49% of parent educators reported their programs are using new materials/techniques in existing programs.
   - ♣ Over 50% of respondents reported increased confidence and satisfaction in their own parenting.
   - ♣ 66% of all respondents indicated some form of personal change had taken place as a result of attending the conference.

a. Source of Federal Funds: Smith-Lever, plus over $14,000 in external funds.

b. Scope of Impact: Multi-state Extension with primary focus on Oregon, Idaho, and Washington

Key Theme – Family Resource Management

a. In 2001, several county extension faculty conducted volunteer-based life skills education programs specifically directed to low income families. These efforts included the Ideas for Living program which operates in two counties with the goal of promoting positive family functioning and increasing self-sufficiency. The MEMO (Making Ends Meet More Often) program teaches life skills related to managing money, food, and stress more effectively through volunteer outreach. In one urban county, the Home and Community Educators and the Clothing and Textile Advisors (CTA) conduct classes for both youth and adult audiences. Volunteers in the three programs (money, food, and stress

management) contributed a total of 7,064 hours and reached 6,129 people in educational workshops. An estimated 40% of audiences were ethnic minorities, including Latino, African American, Vietnamese, Cambodian, Middle Eastern, Russian, and Native American.

a. Impacts: In the Ideas for Living program, 97% of participants completing post-session evaluations reported new knowledge in at least one of the following areas: Making healthy lifestyle choices; managing resources wisely; and improving decision-making skills. Follow-up interviews and surveys of participants indicated that 83% continued to use the skills learned in earlier classes. Evaluations of the MEMO program documented that low income participants gained the greatest skills in managing on a limited income, followed by making economical meals, and purchasing foods more wisely (n=300). In qualitative evaluations of adult sewing classes conducted for recent immigrants by CTA volunteers, participants reported reduced sense of isolation and better adjustment to life in a new community. Volunteers also report utilizing skills learned in the programs to increase their marketability in the workforce. For example, 18 CTAs reported annual earnings of $5,000 to $15,000 working in clothing related occupations while also maintaining volunteer service in the community.

b. Source of Federal Funds: Smith-Lever

c. Scope of Impact: State Specific

Key Theme – Youth Development/4-H (Adolescent)
Key Theme – Children, Youth, and Families at Risk

a. Living wage jobs now require post secondary training; those without will be left behind. Washington schools lack adequate staffing and infrastructure to help students plan effectively for college. In 1992-93, the ratio of counselors to students was 535:1. Youth without supportive parents or other mentors may not finish high school nor even consider pursuit of post secondary education opportunities. Early intervention that includes working with at risk youth and their parent(s) can prepare them to consider attending college or technical school. Incentives such as access to tutoring, visits to post secondary institutions, group community service activities and scholarship dollars in trust can provide needed support to keep youth involved and goal directed.

   Grays Harbor County has a high rate of illiteracy (between 25 and 30%), a higher than average drop out rate, and a rate of unemployment that is chronically at twice the state average. All of these factors plus a community wide lack of valuing education contribute to a low rate of completion of post secondary education or training. Only 10% of Grays Harbor residents have earned a four year college degree while the statewide average of completion is 29%. These are long stating factors in the Grays Harbor area.

   WSU Grays Harbor was successful in securing the HECB intervention program contract called GEAR UP. Now in the third year of grant funding, the project has been awarded $160,000, plus additional reimbursable expenses up to $92,000. One hundred and fifty youth at risk of not finishing high school in grades 7 to 12 were recruited. During the school year, study and tutoring sessions are offered 3 afternoons per week at the middle school in each of three districts, as well as at Harbor High, the Aberdeen district alternative school. Additional academic support included 13 field trips to colleges, universities, technical colleges and educational destinations such as museums and tours. A three-day leadership camp was provided at Panhandle 4-H Camp for 40 scholars (20 from Grays Harbor and 20 from the east Tacoma site). This highly culturally diverse group divided into work groups and undertook initiatives from the Challenge Ropes training program.

b. Impacts: As a result, the youth involved developed skills in working with others, and made many new friends from a variety of cultures. These skills were applied directly by 25 Grays Harbor scholars at

the two week day camp for 75 youth. The GU youth demonstrated excellent skills while working with day campers, staying on task, developing positive relationships with the children, and remaining focused on goals of camp organizers. Throughout the school year as well as during the summer, GU scholars are involved in a variety of community service projects such as assistance at: evening school events, ambulance service, car washes, clothing banks, child care, community family nights, feeding the hungry, park cleanups, reading corps, mission trips, yard work and gardening, clothing drives, blanket drives, food bank drives, and related projects. Community service projects are undertaken to provide scholars with a sense of belonging and to help the community learn more about the capabilities and enthusiasm of high school aged youth.

Scholars in good standing are given the opportunity to earn points (hours) toward scholarship dollars. In 2001, the amount that could be earned was approximately $3,750 for 150 hours of participation by scholars and 40 hours by parents in the GU program during one program year. These dollars are held by the HECB and made available to the scholars as part of a financial aid package to be used within the state of Washington upon being granted admission. Scholars can earn up to $15,000 or 4 years of scholarship assistance through their efforts as program scholars in good standing.

One incentive for participants of GU is the Ambassadors program. Ninth through twelfth grade scholars who meet requirements and make a commitment for participation receive additional training during weekly Ambassador meetings. The training involves skill building in leadership, provide many of the lessons shared with Ambassadors. Those in good standing have the opportunity to earn a stipend for hours spent in training, leading or tutoring others. This can take the place of outside employment that can take time away from studies.

GU scholars participated in 19,387 total hours of program activities, including studying, tutoring, leadership training, field trips and community service and community service totaled 4,345 hours. Fifty-six scholars or 39% earned one year of full scholarship ($3,750), or a total of $270,000 and another 56 scholars earned partial scholarships ranging from $200 to $3,000 depending on participation. Seventeen 2001 graduates earned a total of $100,000 in scholarship dollars during their participation in GU. All participants reported improved study habits, improved grades, changed attitudes about school, and improved social and listening skills. Leadership camp participants have demonstrated increased skills in working with groups to achieve goals. They have also demonstrated the ability to work with others from different and diverse backgrounds and to establish new friendships.

c. Source of Federal Funds: Smith-Lever, State, County

d. Scope of the impact: State Specific

Key Theme - Character/Ethics Education

a. Ethics refers to standards of conduct, standards that indicate how one should behave based on moral duties and virtues, which themselves are derived from principles of right and wrong. The Aspen Declaration on Character Education concludes that because the character and conduct of our youth reflect the character and conduct of society, “Every adult has the responsibility to teach and model the core ethical values and every social institution has the responsibility to promote the development of good character. Although the responsibility for developing the character of young is first an obligation of families, it is also an important obligation of faith communities, schools, youth and of other human service organizations.” Character development is best achieved when these groups work in concert in entire communities. In order to satisfy the 4-H goal of developing youth to their greatest potential, we cannot overlook the importance of thinking, talking and modeling ethical behavior. Youth leaders are in an ideal position to help develop and nurture ethical character in young people.

b. Impact: Last year, 211 4-H Leaders became familiar with the Character Education materials through leader training in numerous counties throughout the state. Over 90 youth improved their behavior and skills in regards to the six pillars of character: respect, responsibility, citizenship and fairness at four summer day camps in Whitman County. An estimated 75% of the day camp youth demonstrated respect and responsibility towards camp assistants and each other for the duration of the camp. Over 250 school teachers and school district personnel became familiar with the character education curriculum and participated in age appropriate activities for the various stages of youth development. Over 2,100 students in Pierce, Spokane, and Ferry School districts gained skills in ethical decision making using character education models.

   As the result of the enhanced awareness of the need for character education programming, the state budget for character education programming was doubled. Last year 20 counties began incorporating character education topics in their newsletters and radio show that reached approximately 20,000 households. Over 2,000 youth throughout the state experienced positive behavioral changes due to character education being taught in schools, after-school programs, summer programs, and 4-H club settings.

c. Source of Federal Funds: Smith-Lever, State, County

d. Scope of Impact: Multi-state

Key Theme – Community Development

a. In *Responding to Economic and Social Change***,** WSU Cooperative Extension educators delivered educational programs, conducted action research and provided technical assistance across the spectrum of local, state and regional community/economic development. Although local, state and regional leaders may be well aware of the need for better information and analysis of trends and developments in order to diagnose and establish a sound understanding of their economy; how they work, how they are changing, and how they can be changed. Community leaders frequently lack the resources or staff trained to know how to access, organize, synthesize, analyze and interpret the pertinent data. Smaller rural and mid-size areas are especially limited in their capacity to initiate and undertake the applied research needed to establish a sound baseline of information and analysis from which to build a broad collective understanding of where they've been, where they are, and where they may likely be going.

   To help address these realities, Extension faculty conducted 981 social, economic and demographic analyses on behalf of community groups, social service organizations, state agencies, local/regional economic development organizations and private businesses. Two hundred and thirty-seven (237) organizations and individuals reported direct benefits for their work from these analyses. The majority of the analyses were provided through Northwest Income Indicator Project's website http//niip.wsu.edu.

b. Impact: In this past reporting year, WSU Cooperative Extension provided 887 businesses with technical assistance, helped in the creation of 45 new enterprises and assisted in the expansion or retention of 5 others. In one notable area, the Extension food processing assistance program continued its work with the State's MEP, the Washington Manufacturing Service (WMS). In partnership with WMS, our food processing specialist worked with 180 different businesses in the Northwest providing assistance in market analysis and development, solving quality problems, regulatory compliance, and resolving food safety issues. Approximately $3.3 million in revenue were saved or generated and 27 jobs were added or retained through this direct assistance. At least two of the

companies are composed entirely of underrepresented groups in which Extension assistance saved or generated 19 jobs and $750,000 in revenues.

c. Source of Federal Funds: Smith-Lever, State, County
d. Scope of Impact: State Specific

SUMMARY

Sources of Funding and FTE for Goals 2, 3, 4, and 5

FTE Smith-Lever 3b and 3c	= 17.09
FTE Smith-Lever 3d	= 21.47
Federal Extension	= $4,779,143
Non-Federal	= $24,676,318
Other Federal	= $2,137,672
TOTAL	= $31,593,133

B. STAKEHOLDER INPUT PROCESS

Washington State University Cooperative Extension's planning process was built from a major initiative in 1998 when four task forces were formed to help shape WSU's role in addressing significant issues facing the state. This process identified the priority programming areas in the college. Since that time, stakeholder input has been an important part of updating these programs. During this year (FY 2000) the College's citizen advisory council has given input to plans. This council is made up of representatives of the agriculture industry, County government, 4-H volunteers, families and businesses. Nominations for vacant positions are sought from agencies and organizations that represent the people of the state. Consideration is given to cultural and gender diversity. Expenses for the council to meet are paid if needed.

A strategic planning process took place around the opportunity to approach the state legislature for new funding for a "Safe Food Initiative." Input from the entire agricultural community was obtained in an extended and thorough process to identify the programs and positions that would be sought. These positions were filled during FY 2000 and the people hired are now implementing the work based on stakeholder input.

Many of the programs and program teams in extension have their own advisory committees made up of constituents and collaborators. An example is the two Extension Indian Reservation Programs that have strong advisory committees helping them plan and execute their work.

All county offices have an advisory system. Most have formal advisory committees that meet regularly, and all have been encouraged to do so. These committees represent the makeup of the constituents in the county, with specific efforts to obtain input from typically under-represented groups. When it is difficult to obtain formal input from such constituents because they do not want to participate in a committee, then a system of informal input is used. The county chair obtains input by personal contact, from other agencies and organizations and through the use of key people in that community.

In addition to this standard stakeholder input, the entire university is currently immersed in a strategic planning process that will identify future priorities and will involve input from its stakeholders. Cooperative Extension has finished its macro plan and implementation plan.

C. PROGRAM REVIEW PROCESS

No significant changes in the program review processes since the 5-Year Plan of Work.

D. EVALUATION OF THE SUCCESS OF MULTI AND JOINT ACTIVITIES

Washington State University made significant progress toward its planned activities in the areas of multi-state, multi-institutional, and multidisciplinary activities, and joint research and extension activities. In Washington, budget cuts have forced the Agricultural Research Center to focus its support on food and fiber. So, although our human sciences programs are based in research from both WSU and other universities, many are grant-funded and joint research while extension programs supported by CSREES formula funds are almost entirely in the agricultural arena. These activities address issues critical to the sustainability of agriculture in the Pacific Northwest. Planned programs occurred in Risk Management, forestry, potato production, conservation tillage systems, IPM and sustainable agriculture through the Center For Sustaining Agriculture and Natural Resources.

In the area of risk management, WSU Cooperative Extension has collaborated with University of Idaho, Oregon State University, USDA/Farm Service Agency, USDA/Risk Management Agency, WSDA, and Wenatchee Valley College. During 2001, WSU Cooperative Extension became the host for the Western Region Risk Management Center. Washington programs continued to work with the apple growers and expanded to work with vegetable producers.

Diseases, pests and marketability are all problems identified by potato growers that affect the sustainability of their operations. Research and extension participants of the trial and industry at an annual meeting select potato clones and cultivars for inclusion in either the Tri-State trials of the Western Regional trials. This program is a cooperative effort between the county and state extension faculty instate and across seven potato producing states in the western United States including personnel from Oregon State University, University of Idaho, University of California, University of Colorado, Texas A and M University and USDA/ARS in WA and Idaho. Cultivar use has changed significantly, i.e. use of Russett Burbank the standard cultivar 10 years ago now makes up less than 50% of the acreage, over 40% of the remaining acreage is made up of cultivars that have been demonstrated as acceptable for use by the cultivar evaluation program.

In the area of IPM and potatoes, growers have become more knowledgeable concerning the biological and environmental conditions that favor late blight. Number of calls on the potato late blight information line was 1,116 and accounted for approximately 56 hours of information. Growers that followed management recommendation from the information line successfully managed the disease and had no tuber rot problems in storage.

Washington lags behind the Midwest in the adoption of conservation tillage systems, especially direct seeding. There is an intense resurgence of interest in this topic, led by researchers and extension personnel in the Pacific Northwest.

The PNW Web site and new PNW Direct Seed e-mail/web list server are helping meet the expanding PNW demand for computer access to technologies for direct seed cropping systems developed through the PNW STEEP program and related northwest research programs, and provide an improved communications network. The web site averaged over 200 hits per day in 2001. Over 180 messages have been posted. The distribution list for the list server grew from the 200 initial base of Ag support contacts and growers in late 1999 to over 320 in late 2000, and over 460 by the end of 2001. It is expected to

show continued growth in the future. The usefulness and functionality of this PNW web site and web-based list server was acknowledged on a national basis through its selection for a Certificate of Excellence in Web Pages in the 2000 American Society of Agronomy Educational Materials Awards Program.

The Direct Seed Case Study Series of publications has been a very popular resource for NW growers and Ag advisers interested in direct seed systems. Over 20,000 print copies have been distributed. There are also accessible for viewing and printing in PDF format (as you see them in print) on the PNW Web site (http://pnwsteep.wsu.edu), which receives about 200 hits/day. As an illustration of the quality of this publication series, it was selected for a Certificate of Excellence in Extension Publications in the 2001 American Society of Agronomy Educational Materials Awards Program.

Attendance at the NW Direct Seed Cropping Systems Conferences grew from the typical 150-350 in previous PNW Conference Tillage Conferences and PNW STEEP Annual Research Reviews to 900 at the first Conference at Pasco, WA in 1998, 940 at Spokane, WA in 1999, and 620 at Pendleton, OR in 2000, and 700 at Spokane in 2001. Over 99% of the 1998 through 2001 conference evaluation respondents felt that the conferences would help increase the success and adaptation of direct seed systems by northwest growers.

Grower adoption of direct seeding and other minimum tillage systems is increasing with the accelerated development of and grower access to new research technologies and experiences. Pacific Northwest small grain production under low disturbance direct seeding (no-till) has grown from 157,000 to 630,000 acres from 1990 to 2000, an increase from 4% to 9%.

The Center for Sustaining Agriculture and Natural Resources was active in several cross cutting issues. Teaching, research and extension faculty collaborated to plan programs in organic agriculture. The Washington Sustainable Food and Farming Network as a priority for their upcoming legislative effort have picked up the organic farming program proposal. They were successful, in adding a position to the WSDA that works closely with the CSANR.

In a multi-state effort, the CSANR has helped develop and support The Food Alliance (TFA). TFA approved growers are experiencing direct and indirect benefits from their affiliation. Growers for whom extension conducted the evaluation are accessing new markets and in some cases getting price premiums. Extension faculty have been featured in several articles about The Food Alliance that have exposed the public to a positive story about agriculture. TFA is sought out as a national leader on food ecolabeling.

In the area of 4-H Youth Development (4-H), Washington State University Cooperative Extension has also made remarkable progress in its goal of empowering people and communities, through research-based information and education, to address economic and social challenges facing our youth, their families and communities by effectively implementing multi-state, multi-institutional and multidisciplinary efforts.

Multi-state programs and projects, in the broader 4-H network, have strengthened and reached new levels of collaboration. Specifically related to professional staff development Washington, Oregon, and Idaho conducted joint 4-H and Family Living training. This was a multi-state and multi-disciplinary approach to youth and their families, recognizing the holistic nature of effective youth development. Young people are in families and families have young people. This comprehensive approach has resulted in 120 Extension professionals in the Pacific Northwest better prepared to do effective program delivery for an increasing complex and diverse population.

Additionally, Washington, Oregon, California, New Mexico, Nevada, Arizona, Alaska, Wyoming, Colorado, Montana, Idaho, Utah and Illinois have produced a comprehensive volunteer recruitment effort including staff development and training conducted via satellite, marketing materials, and a volunteer teaching system. This systematic approach to volunteer recruitment is in the first year of a three-year effort to increase the diversity of our 4-H volunteer base. Currently in Washington State, 26 of all 4-H members are youth of color, exceeding our state's youth profile by over 8. However, our volunteer base does not reflect this diversity. The newly implemented multi-state effort focused on the recruitment of Hispanic, Latino, male and senior volunteers will result in a volunteer base better able to relate to our state's youth.

Washington State 4-H Youth Development has joined with 25 other states in the 4-H Curriculum Consortium System in collaboration with the National 4-H Council. The resulting curriculum development system has provided up-to-date, relevant and leading edge curriculum for youth.

In 2001, over 23,618oject enrollments were reported in Washington State 4-H multidisciplinary programs. Learning objectives of these multidisciplinary projects include: exploration of the outdoors and gain an appreciation for the environment; increase in self-confidence; increase in team work skills and cooperation; development of problem-solving skills; enhancement of leadership skills; service learning; goal setting; enhanced decision making; increased responsibility; wise use resources; cultivation of an inquiring mind; acceptance of group decision processes including goal setting; and the encouragement of scientific processes in personal decision making.

Washington State has been a regional leader in the Western Regional Teen Task Force collaborating with New Mexico, Utah, Arizona, Oregon, Idaho, Montana, Wyoming, Colorado, and California in conducted specific leadership training for teens in the Western Region who serve in identified statewide leadership roles. For Washington State, these state teens are forming the core Task Force for the reorganization of the 4-H Ambassadors program.

In Washington state, parent education has been identified by stakeholders as a major need in numerous county and state level assessments. For instance, results from the 1995 WSU Omnibus Survey indicated that about 66% of Washington State residents felt that strengthening parenting skills was a "very important" need. This need extends beyond state borders. Two parenting/family education programs developed by WSU extension faculty are currently being extended to other states.

The Northwest Regional Parenting Conference has been held for the past seven years. Initiated by the WSU Parenting Team, the planning group now includes representatives from Oregon and Idaho. The conference's primary audience is professionals in parent education and care giving roles, though it also attracts parents. The conference has been very effective in reaching its goal of providing professional development and networking for parent educators, as well as reaching interested parents who wish to improve their own skills. The 2001 Conference evaluation indicated that the majority of parent educators who attended reported increased confidence, ability and skills in parent education as a result. Thirty-six percent reported use of new materials or techniques they learned about at the conference; 23% reported that they attended to improve their own parenting skills, though a much larger percentage; 64% said they made some type of personal improvement in their parenting role as a result of the conference. The conference attracts a diverse audience and addresses parenting from a number of cultural perspectives. In 2001, 346 people attended from 8 states and British Columbia, Canada.

The Family Night Out (FNO) program uses the 4-H Challenge model to help families practice communication skills, solve problems and identify strengths. It also provides a safe and supervised atmosphere in which families can have fun together and learn at the same time. This program has operated in several Washington communities for the last three years. With support from Partners in

Promoting Strengths (the CSREES State Strengthening grant), the FNO manual and video were published in 2000 and considerable effort went into promoting the materials and the model. WSU Bulletins reports that 169 copies of the manual and 53 copies of the video were sold in 2001. Two invited articles were written and published, three workshops held at multi-state conferences, and the program was showcased at a national conference sponsored by CSREES.

The Fashion Institute was a week-long program held in Spokane, WA, with the purpose of introducing youth and adult leaders to the fashion industry. Forty-nine adults and youth were involved from six different states and Canada. The knowledge level of the participants was evaluated on a scale of one to four for 13 different topics. In all 13 topic areas, participant knowledge increased. On 10 topic areas, participant knowledge as measured by pre- and post-tests increased between 1 and 1.8 points. On six topic areas participant's knowledge levels increased between 1.5 and 1.8 points. An evaluation was conducted one year after the Fashion Institute to determine how the participants had used knowledge and skills they learned from the Institute. The evaluation showed that respondents had shared information learned at Fashion Institute with others; many had taught classes to youth using the materials. As a result of the Fashion Institute, Idaho and Oregon 2001 4-H teen conferences incorporated a clothing and textiles track.

Finally, we have an ongoing relationship with the Northwest Indian College (NWIC). This is a unique college in that it does not serve only the reservation on which it is located, but considers its responsibility extends to the three-state Pacific Northwest. Most of the Tribes in the area, however, do not consider NWIC "their" college. Much of its extension work is conducted by satellite and is pretty targeted to specific sites. Their main concern is with credit students who generate most of their funding. We collaborated on some grants early on and there is some local interaction in youth education programming, but in general the geographical distance from Pullman and our lack of personnel have limited our interactions. However, we recently began discussions with the new President about collaborating on a distance delivery project. NWIC is to be a test site in a national experiment in high speed Internet via satellite, with the American Distance Education Consortium (ADEC), funded by the National Science Foundation. The focus is using this technology to help better serve underrepresented audiences.

E. MULTI-STATE EXTENSION ACTIVITIES
(See Appendix C Multi-state Extension Activities Form CSREES-REPT (2/00))

Although this narrative report covers many multi-state extension activities and we certainly do a great deal of work in collaboration with Oregon and Idaho, we have requested a waiver for this year and will not be reporting any auditable activities. The impossibility of tracking Federal and State funds which we use very flexibly, and the lack of clarity on how to auditably separate the time faculty spend on multi-state as opposed to state-specific programs is preventing us from taking credit for the work we are actually doing that meets the intent of Congress.

Forestry: To better serve WSU and Oregon State University extension clientele on both sides of the Columbia River in the east end of the Columbia River Gorge, WSU Cooperative Extension provides Forestry Extension Agent expertise from Skamania County to woodland owners in Hood River and Wasco Counties in Oregon. In return, OSU Extension Service provides Horticulture Agent expertise to apple and pear orchard and vineyard managers in Skamania and Klickitat Counties in Washington. This successful arrangement has been in place for more than 12 years. Close working relations have developed between the Hood River County, OR, and Skamania County, WA, Extension offices as a result.

Impacts from the forestry program include more than 60 woodland owners trained in writing management plans and more than 400 trained in various individual aspects of woodland management. Program evaluation consistently indicates that participants come away with knowledge, skills and abilities that help

them get what they want from their woodland properties. The total woodland acreage under management by program participants is estimated at about 35,000 acres.

More recently, Extension agents from both Washington and Oregon increased the level of cooperation in Extension programming for small acreage farmers in a five-county area along the Columbia River by developing newsletter for small acreage farmers and coordinating workshop and field day planning.

Also, a National Fire Plan proposal is being written for submission March 15, 2002 to fund one WSU Extension FTE for two years to enhance fire fighting capacity in rural volunteer fire districts and teach interface dwellers firewise home maintenance and landscaping in four Washington and Oregon Columbia Gorge counties.

PNW Risk Management: In the area of risk management, WSU Cooperative Extension has collaborated with University of Idaho, Oregon State University, USDA/Farm Service Agency, USDA/Risk Management Agency, WSDA, and Wenatchee Valley College. During 2001, WSU Cooperative Extension became the Western Region Risk Management Center, serving 13 western states. Washington programs continued to work with the apple growers and expanded to work with vegetable producers.

Potato Program: Potato clones and cultivars are selected for inclusion in either the Tri-State trials or the Western Regional trials by participants of the trials and industry at an annual meeting. Results are printed for all locations in an annual summary and provided to the participants. Trial results are presented at annual conference in most if not all the participating states. In Washington, the trials are used to host field days in all production areas. County faculty in all locations are involved in the selection of the cooperating grower trial and in the field days. Idaho, Oregon, Colorado, California, and Texas are the participating states. Each participates in the committee that is responsible for coordinating the effort; each state carries out the trial and reports the results. Industry participation is excellent in the annual tour of some of the trial location to make selection of early generation material to be included in subsequent trials. Part of the salary of the team leader will be paid from Smith Lever Funds.

Conservation Cropping Systems: The major component of this program is the PNW STEEP III (Solutions to Environmental and Economic Problems) program. Grants from USDA-CSREES to this multidisciplinary program in Washington, Oregon, and Idaho provide operational funding for research and education projects on conservation cropping systems to control soil erosion, increase profitability, and enhance cropland productivity and environmental quality. Activities include the Northwest Direct Seed Cropping Systems Conferences and Trade Shows; PNW STEEP III Extension Conservation Tillage Update, a newsletter which highlights new technologies from STEEP and related programs, new educational materials and upcoming events; PNW Conservation Tillage Handbook and Handbook Series, highlighting important research findings from the STEEP and related research programs (handbook accessible through the Internet); PNW Internet Home Page (http://pnwsteep.wsu.edu); Cropping Systems Research and Educational Project on Direct Seeding Spring Grain Legumes to develop direct seed cropping systems for establishment of spring rain legumes and the subsequent winter wheat crop—a critical high erosion crop sequence in the annual cropping region of the Inland Northwest (project includes 6 grower on-farm tests in Washington and 6 in Idaho, plus university research center trails in both states); PNW No-till Case Study Project to enhance Northwest grower adaptation of no-till systems through the development of grower case studies as PNW extension publication, and incorporation of them into conferences and workshops to facilitate grower to grower learning; PNW Coalition for Direct Seed Cropping Systems Research and Extension with representatives from the U.S. Dry Pea and Lentil Council, WSU, UI, OSU, ARS, PNW commodity organizations and commissions, and other Ag related agencies and groups to expand and coordinate research and educational efforts on direct seed cropping systems. Smith Lever Funds will pay WSU's portion of the coordinator's salary.

F. INTEGRATED RESEARCH AND EXTENSION ACTIVITIES
(See Appendix C Integrated Activities Form CSREES-REPT (2/00))

A great deal of integrated work is going on in Washington. Joint appointments between extension and the Agricultural Research Center are common, the specific purpose of those appointments being to integrate the missions seamlessly, making research projects focus on real problems, and bringing research-based information and education programs to the people of the state. We have begun giving joint appointments to county-based faculty also, where appropriate. Integrated teams of faculty address issues in both agriculture and human sciences. Extension faculty are members of regional research projects and regional coordinating committees. However, the need to keep Federal and State funding of positions flexible and the resultant impossibility of providing an auditable report to reflect all this work has required us to ask for a waiver of the report this year, and to underreport our actual work on the auditable forms. Because a waiver was obtained and the programs are described within this document, and because of the difficulty of sending it electronically, Form CSREES-REPT (2/00) is not attached.

Integrated Pest Management: Cooperative Extension conducts educational programs to maintain and improve agricultural production and a healthy environment by promoting pest management practices that provide adequate pest control while minimizing the potentially adverse effects of such practices upon people and the environment. Researchers and extension faculty throughout the state work together in this program. Part of the IPM Coordinator's salary will be paid out Smith-Lever 3b/c Funds and Hatch Funds.

Center for Sustaining Agriculture and Natural Resources: In response to rapid and complex changes facing the state, in 1991 the state legislature established the Center for Sustaining Agriculture and Natural Resources (CSANR) at WSU. The mission of the CSANR is to develop and foster agriculture and natural resource management approaches that are economically viable, environmentally sound, and socially acceptable. Cooperative Extension and the Agricultural Research Center jointly provide financial support.

The CSANR acts as facilitator to bring together interdisciplinary teams, both within WSU and in partnership with other organizations. It has a stakeholder advisory committee with representation form a broad spectrum of interests. The CSANR provides education on emerging issues through conferences and workshops, on-farm testing and applied research, informational materials, a World Wide Web site, satellite broadcasts, resource library, and personal consultation. Examples of current areas of focus are alternative farming systems, small-scale and urban agriculture, energy and agriculture, organic farming systems, role of biotechnology, integrated pest management, soil and water quality protection, and farmland preservation.

Part of the director's salary will be paid from Smith-Lever Formula Funds. Part of the director's salary and the CSANR's operating funds will be paid from Hatch Funds.

Potato Program: The Washington potato industry, although the most productive in the world on a per unit basis, must continue to increase productivity and quality and/or reduce cost of production to maintain competitiveness as it utilizes practices that assure sustainability and protect the environment. These objectives can in part be addressed by the use of new cultivars that require low input of resources or produce more with the same inputs.

Cultivars and clones that are available from potato breeding programs throughout the world are being assessed for their adaptability for production. When viable material is identified, the cultural practices that have been successfully used by the industry are evaluated for producing the new cultivars and clones. Special emphasis is given to material that gives economical returns to the producers and is acceptable to

the market (primarily frozen potato product processors) while being adaptable to lower input of nutrients, pest control materials, and water.

This program is a cooperative effort between the county and state faculty in Washington as well as across seven potato-producing states in the western United States. Part of the salary of the team leader will be paid from Smith-Lever Formula Funds. Part of the salaries of faculty and support staff and some operating funds will be paid from Hatch Funds.

C/mydoc/csrees/Annual Report/2001 Federal Report
March 8, 2002

Appendix C

U.S. Department of Agriculture
Cooperative State Research, Education, and Extension Service
Supplement to the Annual Report of Accomplishments and Results
Multi-state Extension Activities and Integrated Activities
(Attach Brief Summaries)

Institution: Washington State University
State: Washington

Check one: ____ Multi-state Extension Activities
____ Integrated Activities (Hatch Act Funds)
_X_ Integrated Activities (Smith-Lever Act Funds)

	Actual Expenditures				
Title of Planned Program/Activity	**FY 2000**	**FY 2001**	**FY 2002**	**FY 2003**	**FY 2004**
Center for Sustaining Ag & Natural Resources	_____	**$57,743**	_____	_____	_____
Research and Extension Potato Program	_____	**$44,112**	_____	_____	_____
_____	_____	_____	_____	_____	_____
_____	_____	_____	_____	_____	_____
_____	_____	_____	_____	_____	_____
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_____	_____	_____	_____	_____	_____
_____	_____	_____	_____	_____	_____
_____	_____	_____	_____	_____	_____
Total	_____	**$101,855**	_____	_____	_____

Target: 2% of federal funding = $96,135.70

_____Mike Tate_____ _March 8, 2002__
Director Date

Form CSREES-REPT (2/00)

Appendix C

U.S. Department of Agriculture
Cooperative State Research, Education, and Extension Service
Supplement to the Annual Report of Accomplishments and Results
Multi-state Extension Activities and Integrated Activities
(Attach Brief Summaries)

Institution: Washington State University
State: Washington

Check one: __X_ Multi-state Extension Activities
____ Integrated Activities (Hatch Act Funds)
____ Integrated Activities (Smith-Lever Act Funds)

	Actual Expenditures				
Title of Planned Program/Activity	**FY 2000**	**FY 2001**	**FY 2002**	**FY 2003**	**FY 2004**
Potato Program		**$11,028**			
Conservation Cropping Systems		$36,129			
Water Quality		$16,755			
Forestry		$21,162			
Risk Management		$ 8,783			
Risk Management		$ 3,935			
Total		$97,792			

Target: 2% of federal funding = $96,135.70

_____Mike Tate_____ _March 8, 2002__
Director Date

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