



Extension



Colorado
State
University

A portrait of Deb Young, a woman with shoulder-length brown hair, smiling. She is wearing a red top. The background is a blurred outdoor scene with green foliage and yellow flowers.

Extension

A handwritten signature in black ink that reads "DYoung".

DYoung

Deb Young
Extension Director

Today information is pervasive. 24-hour news, talk radio and reality TV have become primary forms of entertainment. Paper newspapers are rapidly becoming a thing of the past for today's 20- to 40-somethings as news must be real-time or only a click away. We can text message or e-mail a friend, mentor or family member for help any moment of the day or night.

With the screen playing the news in real-time and answers to most everyday questions only a click away on your computer, what is it that continues to make Extension essential across Colorado?

The answer is really quite simple: In an age of high technology and full speed ahead, Extension is local – based on local needs and community assets, trustworthy and completely committed. Extension is about people, research and community. No one else is present in 59 of 64 counties throughout Colorado, listening, partnering, providing hands-on assistance, research-based education and information and community development except Colorado State University Extension.

Of course people can surf the Internet and find a diet for diabetes, but how many hours did that search take and how do they know it is correct? What if it is not accurate or healthy? Who will they consult with if they do not see health improvement? From local CSU county Extension offices, classes are offered and support given on an ongoing basis in your home community with people you know and recognize. We know your local hospital and public health department and have formed partnerships with them. You know our staff and we know you. We are in your community for the long haul.

The knowledge, information, and education methods that Extension provides are research-based, having been formulated by some of the best minds in the state at Colorado State University.

All Colorado citizens benefit in reduced state costs when one Colorado citizen improves her health and reduces emergency health care costs. The Extension ripple effect provides public value to every Colorado citizen, not only those directly engaged with Colorado State University Extension.

Extension is high technology, too. We lead in providing almost every county in Colorado the opportunity to participate in live university-based programs while sitting in the comfort of their local community Extension office. Extension has a Web site that can provide answers from leading scientific researchers on most common questions and engage communities throughout Colorado, 24 hours a day, seven days a week. We look to provide online, interactive communities for those who want to or must stay in their communities and yet who deserve the same information, education, and opportunity to engage currently available at only a handful of locations throughout Colorado.

For nearly 100 years, Extension has helped people find the best resources, locally or from the university, to resolve problems. From clean energy opportunities, youth development, urban and rural water issues, new sustainable agricultural directions, and healthy diverse families, Colorado State University Extension is helping Colorado's people and economy grow one community at a time.

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Community leadership

in renewable energy options

Colorado State University Extension brings resources to bear to help local communities make sound renewable energy economic growth choices.

Mike Bowman grew up on a ranch in Yuma County. He's a fifth-generation Coloradan who is passionate about maintaining the agricultural landscapes and lifestyles that have defined the state. These days Mike travels the country on behalf of 25x25, a national non-profit advocacy group that's prompting policy changes to support their vision that 25 percent of America's energy will be drawn from agricultural resources by the year 2025.

"The business of renewable energy can reinvigorate rural communities across America and Extension can play a vital role in bringing people and science together to make it work," Bowman said.

Colorado State University Extension hosted, "Renewable Energy Options: The Role of Extension Agents in the 21st Century Energy Economy" in March 2007. This first-of-its-kind conference attracted 100 participants – mostly Extension agents – from 17 different states. Twenty-six presenters

shared their knowledge from the Department of Energy in Washington, D.C., the Colorado Governor's Office of Energy Management and the National Renewable Energy Laboratory in Golden, Colorado.

Gary Sheppard, Pennsylvania State University County Extension Director for Westmoreland County, attended the conference because Penn State is doing a lot with renewables.

"Locally, we have wind turbines, solar panels, we're working with farmers to explore a biogas plant, and we have an ethanol plant going in," Sheppard said. "The university's tractors are now fueled by biodiesel and even Penn State's elevators use bio-hydraulic oil. The whole world of renewables seems to be exploding," said Sheppard.

Until he attended the conference, Sheppard had never heard of producing biodiesel from algae, a technology being researched at Colorado State University. He said he was also excited to find out about wind and solar breakthroughs.

“Knowing what I do now will change how we deliver our programs,” Sheppard said. “I’ll share what I learned in Denver at an in-service project planned for Extension agents in Pennsylvania.”

While the technology is interesting, fostering renewable energy businesses provides a much-needed economic boost to struggling rural communities. Upon attending the conference, Montana State University Community Development Specialist and Assistant Professor Paul Lachapelle sees even more possibilities.

“There is a definite role Extension agents can play to revitalize these communities,” Lachapelle said. “It will involve their leadership, training abilities, communication with policy makers, and enhancing a social understanding that can give people hope. We can help create pride and a sense of belonging that makes it worth living in a place.”

“No one is better suited than Extension agents to carry out that mission and educate farmers and ranchers about the new brand of business opportunities available to them,” Bowman said.

“Extension agents know which natural resources are most abundant in their communities,” he said. “They are the perfect liaisons between people in rural communities and the renewable energy industry.”

For example, Bowman said, the agricultural products that farmers and ranchers are already growing or could grow are materials that can be transformed into biofuels. From sunflowers and corn to wood chips, peanut shells and manure, rural producers have more value-added business options now than ever before. Wind is another resource that can change the lives and economic realities of those who are barely making ends meet.

“If they know what to look for, Extension agents can recognize the possibilities and introduce entrepreneurial producers with financial backers, utilities, private energy enterprises and other industry professionals,” said Bowman. “An informed agent can literally be the catalyst for changing the fabric of an entire community.”

The conference in Denver was the first attempt to bring Extension agents together to network about what they already know while learning more about the ongoing break-



A home in rural Boulder County features a Whisper 3000 (small) wind turbine, passive solar design, and a PV power system on the roof. The wind turbine is rated at 3 kW, has a 14.7 foot (4.5 meter) diameter rotor, and charges a 54 volt DC battery bank. The PV system consists of BP Solar model 590 modules, rated at 8.6 kW. The home also has a pair of Trace SW5548 inverters, 240 volt AC, rated at 11 kW. The home is all-electric, including an electric dryer, stove, oven, and a charger for an electric car. Space heating and cooling are accomplished through a ground-source heat pump.

throughs in renewables. The conference set the foundation for Extension agents nationwide to take on a new role with the potential to bring prosperity to rural communities and help America become energy independent while attending to the environment.

Colorado State University Extension plays a key role in the conservation side of the energy equation. Horticulture research, education and information provided directly to the public increases the use of shade plants in landscaping, reduces reflected-heat generation from asphalt and rock, and reduces water use. All contribute to reduced energy consumption and more water availability for energy-related crops. Future conferences will include consumer choices to improve building alternatives, landscaping, home energy use and home energy alternatives.

In Colorado, the next steps are rolling out quickly. Locally driven conferences designed to attract investment and bring smaller projects to fruition are already convening. Larger alternative-energy plant projects are soon to break ground. Colorado State University has announced the Clean Energy Supercluster to enhance collaboration between academic researchers and commercial partners and improve time-to-market for new technologies. Extension is in every community to find the right match for the right opportunity.

“There is no one else that could do the job more effectively than Extension agents,” said Penn State’s Sheppard.

– Leigh Fortson

Extension collaborates with 25x’25

Colorado State University Extension has made a commitment to the 25x’25 organization, a nationwide, non-partisan, grassroots-led and supported renewable energy initiative. The 25x’25 vision is that “By 2025, America’s farms, forests and ranches will provide 25 percent of the total energy consumed in the United States, while continuing to produce safe, abundant, and affordable food, feed, and fiber.” Colorado is a successful model of the renewable energy initiative because the agricultural, environmental, and labor communities have found common ground in the push for renewable energy.

25x’25 has been endorsed by 20 governors, the American Farm Bureau, National Farmers Union, American Farmland Trust and more than 400 national and regional organizations.

Community support for Colorado healthy homes

Colorado State University Extension leads the way in radon education: Free radon test kits reveal public health hazard.

Archuleta County Extension offers information to help officials move quickly to enact proactive radon building code standards after testing reveals unexpected high levels in county homes.

Archuleta County was already experiencing a year of awareness, action and change by January, which is Colorado Radon Action Month. All it took were 150 radon test kits, several radio and newspaper articles and community leaders who were willing to make changes.

Last fall, the county's Extension office received a grant through the state for free home radon test kits to distribute to residents. Archuleta County Extension Director Bill Nobles and assistant Kim Vernon mounted a media campaign to make the public aware of the issues of radon in the home. The area is considered by the EPA to be a "moderate" risk area for presence of the odorless, colorless and deadly gas.

A different picture emerged when the test results started coming in: 60 percent of homes tested had radon levels of immediate concern. Thirty-one percent of homes tested needed retesting and mitigation. The risk to public health was much higher than anyone had anticipated.

Extension presented the results to other county agencies whose health and building departments moved to make changes in

building codes to address the risk. By April, the Archuleta County Commissioners voted to add a Radon Resistance New Construction (RRNC) clause to the code, which was enacted May 1.

Nobles believes the success of the campaign came from the tremendous cooperative effort of county officials and residents. "Because everyone felt it was important, we were able to get something done. It does make a difference."

Behind the entire radon awareness program is a commitment to community-based education that directly impacts lives. Moffat County Extension Director Elisa Shackleton encourages not only homeowners, but realtors,

legislators and builders to educate themselves about radon testing and prevention. She explains, "As homeowners, we may not know that radon could be there, so it's up to the building, contracting and zoning professionals to look out for people." She adds that clear regulation is critical to making sure homes are safe and healthy. "If it can come to the law level, I think that's smart."

Shackleton says Colorado can lead the way in combating the serious public health risks of radon, which is the second leading cause of cancer in the U.S.

— Jamie Folsom

Learn more: <http://www.ext.colostate.edu/PUBS/housing/07winter.html>.

Extension uses the Air Chek, Inc. radon test kit, pictured. Instructions must be followed carefully, the start and end time of the test filled out accurately, and the test sample mailed promptly to obtain accurate results.





According to the EPA, costs of materials and labor for radon-resistant building techniques vs. retrofitting an existing home are \$350-\$500 vs. \$800-\$2,500 (a 128 percent to 400 percent saving).

The EPA estimates between 33 and 50 percent of Colorado homes have radon levels in excess of 4 pCi/L (pico-Curies per liter of air), and places all but 12 counties in the Zone 1: High Risk category.

In 2006, 1,566 people attended radon awareness programs
 165,359 people heard radon radio announcements
 1,292 people received free radon testing kits
 from Colorado State University Extension

The Colorado State University Extension Radon Program received three separate professional association peer-awarded honors from the National Extension Association of Family and Consumer Sciences:

- Environmental Education Award – National
- Environmental Education Award – Western Region
- Soap and Detergent Association Safe and Healthy Families Award – Western Region

Small ag producers and land owners

Back to the future

Amy Tisdale from Red Wagon Organic Farms attends to take advantage of the networking. Tim Ferrell from Berry Patch Farms takes time to go because there are so few forums for small scale farms or organic operations. Wyatt Barnes from Red Wagon Farms can't wait to hear the new ideas from the university and his colleagues.

Each year, between 200 and 250 Colorado and Wyoming agricultural producers gather at the Colorado Agricultural "Big & Small" conference to regenerate, take in new ideas and network.

"The conference grew out of a 10-year history of attempts to serve the growing organic farming community with information," says Tom McBride, Adams County Extension director.

"The format of combining agricultural produce farmers, organic farmers and the small acreage owners proved to be the successful combination," McBride says.

Wyatt Barnes came to Colorado from Philadelphia to race bicycles and never turned back. After receiving a business degree and working on someone else's farm, he knew he wanted to give running his own farm operation a try. Amy Tisdale came from Virginia as an environmental consultant and took some time off to work at the farmers' market. Barnes met up with Tisdale at the farmers' market and they were in business.

"We had no idea what we were doing the first year," laughed Barnes and Tinsdale. "We planted and waited to see what would happen."

Every year since that first year, the farm has taken in as much revenue as all the prior years combined. Barnes and Tisdale take advantage of every educational opportunity they find.

In 1986, across town in Arvada, Tim Ferrell was growing berries on less than one acre.

By 1991, he was growing several varieties on six acres in Commerce City. By 1998, he had married Dr. Claudia Ferrell and they owned the 40-acre Berry Patch "Pick Your Own" Farm.

"We knew that if we built it they would come," says Tim Ferrell. Come they have; Berry Patch Farms has grown 800 percent since its beginning.

"We do have a commitment to other farmers, kids and education, and we do quite a few school tours," says Ferrell. "We just finished Junior Farmer Days for the kids."

Colorado Agriculture Big & Small speaks directly to Barnes, Tisdale and Ferrell supporting new methods, offering marketing and distribution ideas and discussing tough issues.

The 2007 conference included a focus on Colorado produce and water issues on day one, and a focus on organic farming and ranching the second day. The 2008 conference promises to include small acreage management the third day.

"We are trying to help these producers be successful," says Boulder County Extension Agent Adrian Card. The farms generate revenue for the local communities and maintain open spaces. More markets are opening up for these small specialty producers.

"These farmers are providing home-grown organic crops that people appreciate," says McBride.

– Meg Wilson

Learn more: www.coopext.colostate.edu/boulder/AG/smallacreage.shtml.



Photo by Ashley Fillmer



Photos by Amy Tisdale

Wyatt Barnes, co-owner of Red Wagon Farms, works with Molly on the farm just east of Boulder, Colorado.

- According to USDA Research Services, in 2006 Colorado had 111 certified organic operations, 73,092 acres of cropland and 60,766 acres of pasture for a total of 133,858 of certified organic acres.
- In 2005, for the first time, all 50 states in the U.S. had some certified organic farmland. U.S. producers dedicated over 4.0 million acres of farmland – 1.7 million acres of cropland and 2.3 million acres of rangeland and pasture – to organic production systems in 2005.
- While adoption of organic farming systems showed strong gains between 1992 and 2005 and the adoption rate remains high, the overall adoption level is still low – only about 0.5 percent of all U.S. cropland and 0.5 percent of all U.S. pasture was certified organic in 2005.

Food Stamp awareness and support: *Then and now*



Balancing finances and nutrition takes creativity.

Stretching food dollars with healthy choices can change lives.

Jeannette Lynch Albersheim started with a simple question: “How do we help disadvantaged families if we haven’t walked in their shoes?”

In 1965 she took on that challenge with a month-long living experiment. Albersheim, a former Colorado State University Extension consumer marketing specialist, was a single mother living in Fort Collins. She and her 18-year-old son, Doug Lynch, lived on a food budget of \$44, which is the monthly allowance they would have received from Aid to Families of Dependent Children, a War on Poverty-era program. The national focus on poverty in the ’60s spurred her feeling of responsibility as an Extension specialist to go beyond her own life experiences.

“It was up to me to understand the issues facing the people I was working with,” she says.

Hunger in America remains a serious issue and Albersheim, now 88, is interested in sharing her story again. She recorded her thoughts, questions and experiences in a daily diary that was published by Colorado State University Extension in 1966 as “30 Days on the Food Stamp Plan.” By Day 3, they ran out of black pepper, and she struggled between

the long range savings of the larger tin and the immediate savings of buying the smaller tin. On Day 10, she splurged on soda pop to have on hand in case Doug brought home friends. Although it cost two meals’ worth at 55 cents, she felt he needed the extra boost to his morale. And on Day 16, she made a dinner of canned mackerel cooked in milk. She lit candles hoping to lift their spirits.

“You realize that people cannot live on that alone,” she says. “They need help from someone else, a friend or a family member. People can’t do it alone.”

Her 30-day experience strengthened her understanding of the challenges of living on food stamps and working to eat well. She applied her understanding in Extension publications and radio broadcasts to assist families of the time. In 1965, the nation’s focus was on farm producers and little attention given to the recipients of food stamps, their situation, their needs or the impact of daily hunger in America.

The USDA Food Stamp Nutrition Education (FSNE) program has come a long way. Colorado State University Extension has 14 agents involved in food stamp nutrition education. Educators and the campus research specialists who support them are working throughout the state delivering high quality, tested nutritional, shopping and food preparation classes to seniors, single parents, youth and working families. Forty years later and with much better research-based educational tools, the focus remains on the people.

San Luis Valley Extension Agents Eleanor West and Mary Ellen Fleming have an enduring sense of creativity. West, a former

teacher and current FSNE educator, takes an unconventional and flexible approach to leading classes. She has a great toolkit of research-based information from Colorado State University, but in the classroom, she begins by asking, “What is it you want to learn?” For West, what she teaches depends on the needs of the people. She doesn’t want to tell them what she thinks they should learn.

Fleming loves to get out to the Alamosa farmers’ market and sample recipes featuring local produce. She heads SLV’s Healthy Habits Network, which includes MoKi, a mobile kitchen unit where food is prepared and recipes shared throughout the 15-week market season. Healthy Habits Network provides vouchers for low-income families and seniors to use at the market, which encourage them to use the fresh fruits and vegetables their neighbors have grown. Besides the obvious benefits of nutrition and “flavor” from the market, Fleming says: “There is a social component. People walk up to the MoKi and ask us what we have this week, and say, ‘Oh, that spinach pie was delicious – I made it three times!’”

Extension’s Healthy Habits Network is a broad-based collaboration among several groups, including WIC, Rocky Mountain Prevention Research Center (RMPRC), Head Start, and the hospital. They also work with the community gardens and local businesses to create new ways of bringing people together. “We have really great community collaboration,” says Fleming.

– Jamie Folsom

Learn more: <http://www.fshn.caahs.colostate.edu/NEP/enp/index.html>.

Then (1965):

- 10,800 families (32,700 children) received Aid for Dependent Children (AFDC) in Colorado.
- The average household receiving AFDC was 1 adult and 3 children in 1965 and is 1 adult with 2 or less children now.
- Nationwide five million people were receiving Food Stamps
(Source: U.S. Department of Health and Human Services)

Now:

- 107,246 Colorado households receive Food Stamps; 464,000 households are estimated to be eligible with 53 percent of those classified as Working Poor.
- Nationwide 25.7 million people received food stamps in 2005, five times the number in 1965.
- Access to healthy food at farmer's markets in Colorado is improving through the efforts of the Colorado Farmers' Market Association, the State Department of Human Services and local Extension and a grant from the USDA.
(Source: U.S. Department of Health and Human Services)



Results from the Food Stamp Nutrition Education Program for 11 years indicate:

- 94,710 adults experienced a single event or multiple nutrition education lessons.
- 97,954 children experienced multiple nutrition education lessons.
- 424,599 adults received information in newsletters, displays or exhibits.
- On average 92 percent of adults participants have changed one or more dietary habits to improve their health.
- On average adult participants reported a savings of \$80.75 on their monthly grocery bills.

State organizations better serve the Colorado public

with help from CSU Extension



Captain Don Taullie believes a different approach to communication will change the way Colorado State Patrol troopers do their jobs.

As commander of the Colorado State Patrol Academy, Taullie oversees organizational development and skills training for new troopers. He serves as consultant with Colorado State University Extension and Continuing Education staff to develop a new communication skills curriculum based on CSP organizational needs and on Colorado State research.

The new curriculum teaches officers to listen first, seek to understand, and then speak to provide a less threatening foundation for trooper interactions with the public and with each other. These skills figure heavily into the basic training and the continuing training for advancement in the CSP. For the last three years, Taullie has given his input from the perspective of what goes on for troopers in the field. He sees changes on the horizon, both inside and outside the State Patrol.

“When we are done, we will bring about a cultural change in the Patrol,” says Taullie.

The communication skills curriculum began as a conversation between Colorado State University Extension Elbert County Director, Kipp Nye and Chief of the CSP Col. Mark Trostel. Always looking for ways to help troopers improve their performance, Trostel

was not completely satisfied with any of the communications skills programs he had found. Nye offered to help by checking into Colorado State’s faculty and curriculum for assistance.

“We jumped at the opportunity to work with CSU because we operate in remote locations throughout the state, and Extension does, too,” Trostel says. “It was a natural partnership.”

“Open communication doesn’t mean you can’t get your job done and be authoritative.”

– Sgt. Gary Eyer

The Colorado State Patrol was originally founded in 1935 as the Colorado State Courtesy Patrol. Today, the concepts of courtesy and good communication are the backbone of the organization. The job of trooper is demanding and highly stressful, and to support those who serve, Trostel started with that core value.

“As human beings, our problems often center around communication,” he says.

As the program began to develop, Trostel and others in the CSP recognized the need for other kinds of support and initiated a broader program for stress management in a wellness unit, using Colorado State University and Extension research-based programs in nutrition, exercise and personal finances.

“Our society changes, and there is growing diversity in our country, so our people need to know how to deal with that,” says Trostel, adding that the typical way of approaching issues often ignores personal needs and differences.

The program is unique and expanding, says project coordinator Nye. A leadership component is currently being added, and a comprehensive program is emerging that is likely to affect how troopers interact with everyone from traffic violators and fellow officers to their family and friends. Its foundation is good listening skills.

“We wanted to create an environment to support the overall well-being of our people, and help them be better, well-rounded individuals. Help them be happier, have better morale and be more productive at their jobs,” says Trostel.

Trostel believes that creating this program with Colorado State University Extension and Continuing Education will improve interactions with the public and set a standard for the state and nation. Colorado State University and other state organizations like the Colorado State Patrol share a common mission to serve all the citizens of Colorado. It is a solid foundation for joint program development.

“The expertise of CSU has been a good fit for us because we are both state organizations with traditional values, philosophies and leadership,” Trostel says.

Capt. Taullie agrees, saying, “I believe this is a long-term partnership.” The next step is a team teaching strategy with CSU staff and state troopers, and measurement of training impact.

– Jamie Folsom

Learn more: Kip Nye, CSU Elbert County Extension Director, (303) 621-3162.

Facts

A 2001 CSP public survey found that:

- Although almost half of the contacts between the public and the CSP are citations or warnings, less than 10 percent of those contacts are rated poorly by the public.
- Nearly 88 percent of the public rated their contact with the CSP as “courteous and professional.”
- Colorado recorded one of the largest declines in traffic fatalities among all states in 2006, tying Minnesota with a 12 percent drop. (National Highway Traffic Safety Administration)
- Of the 33,611 accidents investigated by the CSP in 2003, 40.9 percent were caused by aggressive driving behavior. The Patrol wrote 8,600 DUI citations.
- Number of field troopers injured on the job for 2006: 14



Procedural justice: Listening is the key

When a Chicago courtroom became excessively crowded with traffic violators, the judge dismissed all their cases. Despite getting out of a fine, many of those gathered were still angry. They wanted what social psychologists refer to as “procedural justice,” or the chance to tell their side of the story.

Colorado State University Sociology Professor and co-developer of CSP’s curriculum Prabha Unnithan says that people feel they are treated fairly if they have the chance to speak on their own behalf, even if they ultimately receive a ticket. Law enforcement agents can improve their interactions with the public by giving the opportunity to explain and by listening. Unnithan says, “Yes, the outcome is important but we can’t forget the process.”

The Social Psychology of Procedural Justice by Allan Lind and Tom Tyler (1988, Plenum Publishers).



Irrigation audits

Water is liquid gold in the west



“Water is liquid gold in the west,” claims David Miller, of electronic banking at Alpine Bank in Grand Junction. “That’s why we chose to take action to conserve it.”

Miller is part of the Green Team at Alpine Bank, which has more than 30 locations throughout Western Colorado. The Green Team evaluated 200 projects that could have a significant, positive impact on the environment. Given that the Grand Valley only receives 7 to 10 inches of precipitation each year, saving water was at the top of the list.

“Our goal is to use 25 percent less water than we have used in the past,” Miller says. “Extension gave us the tools to do that.”

For years, Mesa County’s Horticulture Agent Dr. Curtis Swift has recognized that water is a precious resource that must be used wisely. That said, many people don’t respond to messages about conservation. During his work with landscape plants, it became clear to Swift that he could promote wise-water use by simply helping people alleviate the common problems they had with disease and root rot in their plants and lawn.

“Most of the problems people have in their yards are due to over watering or watering at the wrong times,” says Swift. “Teaching them

how much water to use and when to water is an effective way to save water while also resulting in healthier landscapes.”

Through grant money received from a variety of local businesses and governmental agencies, Swift created the Irrigation Audit program. The audit is a comprehensive evaluation of irrigation systems. Miller took the Irrigation Audit idea to the Green Team.

“We wanted to do the right thing, but we’re in the business of making loans, not managing irrigation systems,” Miller says. “We had no idea where to begin. Curt evaluated our systems and came up with proactive steps that each location manager could take. It made it so easy for us because he provides a detailed follow-up report that reiterates the problems and articulates the solutions.”

The bank managers are now implementing the changes Swift suggested, aiming for 25 percent savings at all of their bank locations throughout the state.

After the success of the first year of Irrigation Audits, Swift hired Colorado Master Gardener Ardith Blessinger to become certified to conduct inspections. After her certification, Grand Junction resident Bob Wall hired Blessinger to do an audit on his residential lawn



“Ardith walked me through each station of the system,” says Wall. “She pointed out the defects, whether I needed to change a head or simply the angle it was shooting. We talked about soil testing, when to cut the lawn and how short, the best time of day to water and how to alleviate problems I had in the yard. The audit was conducted professionally and courteously, and we appreciated Ardith’s willingness to help.”

Wall says that his grass looks greener than ever, and they expect their water use to be significantly lower.

Blessinger audited 29 acres worth of lawn in 2006. If everyone made the changes she recommended, it would reduce water use by 40 percent. That adds up to savings of 21 million gallons of water each year.

Miller agreed that it is not only conserving liquid gold, it’s money in the bank.

– Leigh Fortson

Learn more: <http://www.coopext.colorado.edu/TRA/PLANTS/>.



Irrigation auditor Ardith Blessinger, and Ken Sublett preparing a site for an audit. Both are certified by the Irrigation Association as Landscape Irrigation Auditors.

In the next 25 years, Colorado’s population is expected to exceed seven million people, and an additional 632,000 acre-feet of water will be needed in cities to support their growth.

Table 1. Population Projections by Basin and Increase in Water Demand
 Colorado Population and Water Demand
 2000-2030

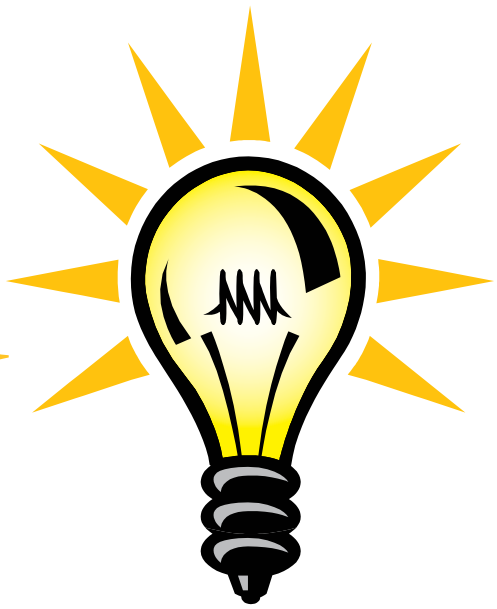
Basin	2000 Population	2030 Projected Population	Increase in Population	Percent Change 2000 to 2030	Increase in Water Demand AF	Percent Change in Water Demand AF
Arkansas	835,100	1,293,000	457,900	55%	98,000	38%
Colorado	248,000	492,600	244,600	99%	61,900	84%
Dolores/San Juan/San Miguel	90,900	171,600	80,700	89%	18,800	80%
Gunnison	88,600	161,500	72,900	82%	14,900	72%
North Platte	1,600	2,000	400	25%	100	20%
Rio Grande	46,400	62,700	16,300	35%	100	20%
South Platte	2,985,600	4,911,600	1,926,000	65%	409,700	53%
Yampa/White/ Green	39,300	61,400	22,100	56%	22,300	76%
Total	4,335,500	7,156,400	2,820,900	65%	630,000	53%

Source: SWSI and Colorado Department of Local Affairs Demography Section
 AF is acre-feet

- In 2005-2006, 47.5 acres were audited with an estimated water savings of 35.6 million gallons, or 109.24 acre-feet.
- Problems found during the basic level irrigation audit typically cause overwatering of a lawn by 20 to 70 percent for an accumulated average of 40 percent. In the Grand Valley, this equates to an over-application of 2.3 acre-feet of water per one acre of turf.
- A 2006 survey of those audited indicates that 56 percent had completed the suggested repairs and another 26 percent had started and not yet completed repairs. 76 percent saw an improvement in their lawns.

From paperclips in light sockets to windmills and weather stations:

“Electricity Boy” succeeds with 4-H



John Benson has barely finished building his Savonius wind turbine for the Boulder County Fair 4-H competition, and he’s already itching to get started on his solar panel project for next year.

What he really wants is a complete weather station that runs on renewable energy.

John, 11, dreams big when it comes to electricity, and his family struggles to keep up with the support he needs to translate ideas to a working weather station. Even as a preschooler, John didn’t settle for pretend. He wanted the real thing, much to his mother’s and teachers’ alarm.

“I used to put pins across the electrical prongs in my nightlight and turn it on. They would spark and break and I thought it was cool... Mom didn’t really like that,” John said with a half-embarrassed grin.

And fortunately for his mother, Fay Benson, a childhood 4-Her herself, she knew exactly where her son John could go to channel his “exploratory electrical desires.” Benson knows that 4-H gives young people the chance to follow their own interests and take them as far as they want to.

John enjoys all of the activities he and his brother Christopher do in 4-H – fingerknitting, leathercraft, dog obedience, canning and robotics. He and Christopher love to design

John says he chose the Savonius design because it is compact and low to the ground for easy access.



Photo by Jamie Folsom

and build, and both of them participate in the Boulder County 4-H rocketry program.

John's keen interest in renewable energy led him to develop his own 4-H activities. Through his series of weather station projects, he is delving into solar and wind power – and he couldn't be in a better location. The Benson family lives near Boulder, in the shadow of the National Oceanic and Atmospheric Administration (NOAA) research facility. NOAA's Earth System Research Laboratory (ESRL) monitors weather, air quality and climate changes on a global scale.

John already knows he will have to reach out to a broader scientific community for help with next year's 4-H project.

“It's good to be doing things and not just playing video games.”

“My mom doesn't understand electrical stuff, and I do,” he said. “She said next year she can't help me to understand what (the solar panel project) does. I'll have to get an electrical engineer to help me.”

He will have to keep up with his own paperwork, too, by using 4-H's online “E-Records” to document and summarize his project from goals to finished project. John said he is impressed with the way his 4-H friends are able to keep track of their many projects, especially with livestock.

“If you build some big thing, and you have no paperwork about how to make it work, then people will not buy your product,” John said, noting the development requirements in the professional world.

John may not be that many years away from the professional world, and his work in 4-H may one day gain the notice of NOAA. Right now, though, John is content to tackle his dreams one step at a time and keep doing what he enjoys most.

“I love inventing things,” he said, pausing for a moment to think. “It's a lot more fun to go out and do the real thing rather than fake stuff?”

– Jamie Folsom

Learn more: <http://www.colorado4h.org/>.



Photo by Fay Benson

John carefully positions the magnets on a disk that will generate an electrical charge, which is then stored in batteries. He uses the batteries for his other projects and estimates it will take 100 recharges to recover the cost of materials.

America presently faces a significant challenge

Young people are not prepared with the necessary Science, Engineering and Technology (SET) workforce skills to compete in the 21st century. (*Rising Above the Gathering Storm*, 2006)

- Only 18 percent of high school seniors are considered proficient in science. (NAEP 2000)
- A mere 5 percent of college undergraduates earn degrees in science and engineering. (*Rising Above the Gathering Storm*)

Currently, 4-H Science, Engineering and Technology (SET) projects reach more than **5.9 million youth** in urban, suburban and rural communities across America. In order to address our nation's challenge, 4-H is committed to involving **1 million new young people** in SET projects over the next five years.

As a public-private partnership with the resources of the nation's 106 land-grant universities and colleges, 4-H can focus expertise through SET to improve science literacy; increase the number of American students seeking undergraduate degrees in science, technology and engineering; and increase the number of young adults pursuing careers in these fields.

Building today's youth and tomorrow's leaders

A 2005 independent study of Colorado 4-H



Nothing predicts future success better than past achievement. Colorado State University Extension's 4-H Program has demonstrated success that is driving the future.

4-H is a community of young people learning leadership, citizenship and life skills. Many people may not realize that 4-H is the largest out-of-school education program for boys and girls in the United States. It is a worldwide youth development program available in every state and many other countries.

The results of a random sample survey of Colorado students in the fifth, seventh and ninth grades conducted in 2005 provided firm evidence that 4-H is important to positive youth development for more than 100,000 youth served annually across Colorado.

The survey results indicated the following:

- 4-H members get 12.2 percent more "A" grades than other students.
- 4-H members volunteer to lead 11.8 percent more than the general student population and feel other kids look up to them 12.9 percent more often.
- 4-H members are more socially competent – elected to a leadership position or serving on a committee 7 to 10 percent more often; able to speak in front of others, to set goals, to plan ahead and to manage money wisely; all aspects of 4-H projects.
- 4-H members are 15 to 17 percent more involved in their community helping others and more often donating to charities than other youth.
- 4-H Colorado is more diverse than the overall Colorado population, indicating it helps a wide variety of Colorado youth; 4-H served 6.8 percent more Hispanics, 6.1 percent more Blacks.

Youth involved with Colorado 4-H are successful contributors and developing lifelong confidence and skills. They are connected to



Fun activities help 4-Hers learn about themselves and learn to interact successfully with others.

their communities and giving back. Colorado 4-H members have a positive self-identity that gives them the confidence to succeed in life.

One ninth grade 4-H member from Washington County reported: “4-H taught me leadership skills and to become more adaptable to situations.”

Colorado 4-Hers are more likely to view their future and their role in the community more positively than youth who have not been involved in the program. 4-H members were more likely to report that adults look at them as valuable assets to the community.

“I am accepted for who I am and what I like,” said another ninth grade member from Conejos County.

4-H participants are more likely to report these higher gains than their peers because 4-H programs are intentionally designed to include the eight essential elements necessary for positive youth development.

1. A positive relationship with a caring adult
2. A safe environment
3. An inclusive environment
4. Engagement in learning
5. Opportunity for mastery
6. Opportunity to see oneself as an active participant in the future
7. Opportunity for self-determination
8. Opportunity to value and practice service for others

Military 4-H clubs exist on every U.S. Army installation in the world. In 2007, Colorado 4-H received funding for Operation: Military Kids to support the children of non-traditional military families living in civilian communities and missing a parent serving in Iraq or Afghanistan.

Today, over 40 percent of Colorado 4-H youth live in suburbs or cities of greater than 50,000, which demonstrates that 4-H is no longer exclusively livestock oriented. Colorado faces significant demand for science, engineering and technology workers and 4-H has developed programs to work towards a solution. 4-H is providing youth with hands-on learning experiences that foster exploration, discovery and passion for the sciences. Almost six million youth nationally are participating in science, engineering and technology projects, preparing them for the future.

In 2006, Colorado State University Extension 4-H worked with more than 120,000, or 7 percent, of Colorado’s youth, reinforcing a sense of belonging, a spirit of generosity toward others and the poise to master life’s challenges. These are Colorado’s future leaders.

– Meg Wilson

Learn more: <http://www.colorado4h.org/>.



Creating fire protection plans

About a million people live in six million acres of Colorado's high fire hazard forests.



According to Walden Fire Chief Jeff Benson, there hasn't been a big fire in his area since 2002 when approximately 30,000 acres between Routt and Jackson counties went up in smoke. Fortunately, no homes were affected in that fire, but according to Benson, "there's going to be a big fire. It's not a matter of if, it's a matter of when."

Benson's claim isn't because there are more lightning strikes or because people in the sparsely populated Northwestern Colorado county are becoming more careless. It's because the Mountain Pine Beetle is killing so many trees and leaving behind dead, dry wood that is volatile and ripe for burning.

Bonnie Jean Neighbors has a cabin three miles from Rand, a small town south of Walden, which she's enjoyed for nearly 50 years. She relishes her time there, and in 2006, decided it was time to give back to the community she loves so much. Understanding the fire danger that the beetle-infested trees pose, she decided to head up a committee that would create a Community Wildfire Protection Plan (CWPP).

Officially, CWPPs are a result of the Healthy Forests Restoration Act. Creating the plans requires a partnership between local government, fire authorities, state forest service personnel, relevant federal land

management agencies and non-governmental representatives. The objective of a CWPP is to provide relevant guidelines unique to each community that individual property owners can implement. After doing so, property owners greatly increase their chances of saving their homes in the event of a wildfire.

“Putting together a CWPP is a monumental effort. I had no idea how to get it started and how to complete it,” says Neighbors. “But when I met Deb Alpe, Jackson County’s sole Colorado State University Extension agent, it was clear that her leadership, assertiveness and enthusiasm would motivate everyone to see this process through.”

Neighbors credited Alpe for doing most everything: introducing the problem to community members, gathering partners, collecting information and preparing handouts, conducting meetings and writing up the minutes.

“She helped people realize they are responsible for being fire defensible,” says Neighbors. “Not because it’s required, but because the threat of a devastating fire is huge and unprecedented, and people just need to take action to protect themselves and their property.”

“It would have never happened without her,” agrees Fire Chief Benson. Since the towns of Rand and nearby Gould created the CWPP, Benson has received 128 requests from residents to perform on-site inspections of what they’ve done to reduce fire risks.

“If there’s a fire, we’ll pass right by the houses that haven’t implemented the plan,” says Benson. “Instead, we’ll go straight to the homes where people followed the CWPP guidelines. In those cases, however, the property will probably take care of itself.”

– Leigh Fortson

Learn more: <http://csfs.colostate.edu/>.

To learn more about the CWPP adopted by Rand and Gould, go to: http://csfs.colostate.edu/districts/steamboatspgs/ss_cwpp.htm.

To learn more about preparing a CWPP, go to: <http://csfs.colostate.edu/cwpp.htm>.



The cost in effort, property destruction and environmental impact is significant when fire strikes.

- A mountain pine beetle epidemic infested 660,000 acres of Colorado’s lodgepole pine trees in 2006, noticeably altering the look and health of Colorado forests.
- About a million people live in six million acres of Colorado’s high fire hazard forests.
- There are currently only 20 Community Wildfire Protection Plans in draft or final form in the state of Colorado.
- In the four years following the 2002 Hayman Fire, the Denver Water Board has spent over \$7.8 million to remove debris, replace culverts, build sediment dams, stabilize slopes, and improve water quality.

The American home ownership dream comes true

Colorado State University Extension's Financial Fitness classes build the skills and confidence to make the dream a reality for many.

Owning a home is the great American family dream. For most families, that dream is impossible without critical, basic personal financial skills. Colorado State University Extension's Financial Fitness classes build the skills and confidence to make the dream a reality for at-risk families.

Michelle Hodge struggled to find time in her hectic schedule for her dreams.

Being the sole breadwinner for her family of four meant she often dashed past learning the tools she needed to plan for owning her own home. Making rent was hard enough, and Hodge struggled to keep up. Government assistance, such as Medicaid and food stamps, kept her going. Recovering from divorce and a serious car accident had taken a toll on her confidence. She had no savings, no credit and no viable budget.

"I lived paycheck to paycheck, not knowing what each day would bring," Hodge says.

She enrolled in the Home Ownership Program through the Fort Collins Housing Authority (FCHA) and took preparation classes, including the Financial Fitness course taught by Colorado State Larimer County Extension Director, Laurel Kubin.

"The class really focuses on making choices," Kubin says. "We're going to have to spend money, so we have to plan ahead for our spending."

Hodge was already making some good choices by not using credit cards. She needed help creating a realistic budget and looking ahead. Mike Salza, home ownership coordinator with the FCHA, noted that learning specific financial skills is essential, whether renting or owning, because the basic issues of spending and saving are always there. He presses program participants to develop a solid financial foundation.





Michelle Hodge, newly independent home owner.

“Don’t move on to ownership unless you have a budget,” Salza cautions. Salza requires Extension’s Financial Fitness classes as part of the Home Ownership Program to provide budgets and plans to track spending against the budget.

Using a real budget was a novel idea, Hodge thought at first. She explained that she already had some idea what went into a budget, but didn’t know how to use it to plan ahead and change the future. Planning and sticking to the budget meant changing behavior.

Ever the optimist, Hodge set the goal to own a home. Her family wondered if she could pull it off against the apparent adversity, but Hodge decided to push forward.

In the Financial Fitness Class, the first thing she needed to do was look at where all her money was going.

She says that in the past, she often gave into the idea that she had more money to spend because she got a raise. However, after taking the Financial Fitness class, and sitting down to talk about her monthly budget with Salza, she found that kind of impulse spending was draining what could be savings for a down payment on a house.

The class activities helped her see things more clearly. “Until you see somebody do it and show you what it looks like, you don’t know how to use a budget right,” Hodge says.

In the span of a few months, Hodge hustled to build a credit history, save money and rethink her spending habits.

“I knew that if I waited, I would get scared, and I wouldn’t go for a house,” she says. Her fears didn’t win out, though. Hodge and her boys moved into their new home just before Christmas 2006.

Six years after her divorce and car accident, three years after entering the Housing Authority Home Ownership Program and one

year after completing the Financial Fitness class, her efforts, despite the odds against her, paid off.

Si Bon Steetle’s home is filled with unexpected curiosities and a hundred reasons to be proud.

After her divorce, Steetle struggled to make ends meet and provide the kind of home she dreamed of for herself and her son.

“All I could think about was buying a house and making a home for my son – anything to better our lives,” Steetle says. Faced with disability and little income, Steetle says monthly accounting was difficult to deal with. “It’s hard to budget in your head because you worry so much.”

She signed up for the Home Ownership program and attended the Financial Fitness classes.

The first thing Steetle learned to do was write down a budget. For her, it was a great relief.

“If you have your budget down on paper, you don’t have to worry about it as much because it’s there in black and white,” she says.

Steetle says that although she can’t save as much money now that she owns her own home, it has changed her whole outlook on life.

“Now that I know these things, it’s so easy,” she says. “It’s been such a confidence builder for me.”

For some it is building credit, for some it is developing basic budgeting skills and for some it is all about confidence. For many it is home ownership.

– Jamie Folsom

Learn more: <http://www.colostate.edu/Depts/CoopExt/LARIMER/financial.ed.htm>.

Si Bon Steetle at home with her best friend, Onyx.

Larimer County faces the challenge of homelessness:

- Families are the fastest growing homeless population.
- 1,200 children in the Poudre School District are homeless.
- 50 percent of those in homeless shelters have jobs.
- 92 percent of homeless women are survivors of domestic violence.

(Source: Fort Collins Housing Authority)

Forty percent of American families spend more than they earn, according to the Federal Reserve Bank.

Based on first-quarter filings, Colorado is on pace to record more than 37,000 foreclosures this year, about 30 percent above the 28,435 recorded in 2006, which was 31 percent higher than 2005, according to a report released last month by the Colorado Division of Housing.



Building strength and confidence



Photo by Val's Photography

Osteoporosis myth:
Once you've lost bone,
you can't get it back.



Photo by Brittany Kurtzer

At 84 years old, Fern Scheel knows when to hold 'em and when to fold 'em, and she wasn't about to throw in her hand when the doctor told her she needed a cane.

"I had never used a cane, and I didn't want to start," says Fern.

True, her balance wasn't at all good and her sister, Selma Heath, often worried that a fall might take her out of the game. Her walking had degenerated to the point where Fern was almost shuffling in order to get around, says Selma.

Fern decided to take a chance on herself when Selma invited her to join the StrongWomen™ workout through their local Colorado State University Extension office in Phillips County.

"When Fern started the classes she didn't use the weights, she just did the motions of the exercises," says Extension Agent Bonnie Sherman as she leads the class through the series of leg lifts, wrist curls and stretches.

She is one of 14 Extension agents in Colorado trained to be StrongWomen™ leaders, who teach at locations such as Extension offices, local senior centers and courthouse basements.

The goal for the StrongWomen™ program, which was started at Tufts University, is to increase the strength and flexibility in older people to help improve their quality of life and allow them to live independently. While the program is open to all, women make up the majority of participants, in part due to their rapid loss of muscle and bone mass. It's estimated that women can lose 10 percent of muscle mass each decade after age 40.

The twice-a-week classes also offer them the chance to get out of the house, stay active and meet new people. The women in the class joke back and forth, and encourage one another to try harder. They sometimes do the exercises at home, but, "it's more fun in a group like this, and we keep each other on track," says Shirley Salyers, who also participates. Even when Sherman cannot teach the class, they get together and go through the hour-long workout by themselves.

"Strength training really benefits the sense of well-being for older people," Sherman says.

In rural areas especially, it is difficult for people to find inexpensive and much-needed fitness programs. Colorado State University Extension offers similar classes in several counties. Sherman notes that even when there are fitness clubs in a community, it is still hard to get seniors involved at a time when they may believe it's too late to start an exercise program.

"When you are 70 or 80 and have never really exercised, you need to start at a low level like Fern did," Sherman says. "This is not something that can be done at a fitness center or with machines."

One of the issues facing the program is a traditional idea that people must become frail as they get older.

"Frailty is common and the reason a lot of people, especially women, go into nursing



Photo by Val's Photography

homes," Sherman says. "If we can put that off for some number of years, it saves money for all and allows a better quality of life."

Fern lives independently and spends time with her sisters and brother. They recently attended Selma's granddaughter's wedding in Aspen. The sisters had to hike to the ceremony and climb a lot of stairs at the lodge. If it weren't for her hard-earned physical improvements, Fern said she wouldn't have been able to enjoy the festivities, or the view of the Maroon Bells mountain peaks.

Selma believes her sister has a renewed outlook on life after eight months with the Extension classes. Her progress is impressive.

"I'm amazed by it. We all are."

Even her doctor noticed the change. "Boy, you look good!" he said at her last check-up.

Fern recalls that when she retired, "I thought that was it, but it wasn't. I kept going."

Now she has gained back her self-confidence and is ready to ante-up for the next round. "I'll go as long as I can."

– Jamie Folsom

Learn more: <http://www.ext.colostate.edu/pubs/columnha/hamenu.html>.

The bare bones facts

- In 2006, 10 agents around the state taught some 258 classes, each lasting 10 or 12 weeks.
- The majority of hospitalizations for fall-related injuries (62 percent) involve individuals ages 65 and older. More than one-third of these individuals (38 percent) sustain a hip fracture. (<http://www.cdph.state.co.us/pp/injepi/InjuryinColorado/7falls.pdf>)
- Falls are the leading cause of injury hospitalization in Colorado. Each year, approximately 13,000 Coloradans are hospitalized for fall-related injuries, accounting for 45 percent of all injury hospitalizations. This is higher than the national average. (Colorado Department of Public Health and Environment – CDPHE)
- In the U.S., more than one of every three adults ages 65 and older fall each year, and falls are the leading cause of injury death in this age group. (CDPHE)
- Anna Tosteson, Sc.D., Dartmouth, reported in an NIH study in 2000 that the estimated annual direct medical cost for treating osteoporotic fractures in the U.S. is \$15.2 billion.

Extension agents take center stage in the race to save livestock

“The magnitude of the snow out here is astounding.”

Colorado State University Extension agricultural agents were on the front lines of Southeastern Colorado’s response to livestock emergencies during and after the 2007 snow storm disaster. Throughout Southeast Colorado, Colorado State Extension and Agricultural Research Station staff provided their local connections, communications capabilities and agricultural knowledge to meet critical emergency resource demands.

The Extension Disaster Emergency Network (EDEN) response began with an early New Year’s Day call from Bill Bennett, Director of Homeland Security-Colorado Department of Agriculture, to Dr. Marc Johnson, interim director of Colorado State University Extension asking for immediate EDEN mobilization. Tom McBride, EDEN director, immediately began contacting Extension agents in the hardest hit areas.

The goal was to engage a local Extension agent with agricultural experience and knowledge to serve in each county’s Emergency Operations Center to gather needs, locations and access to livestock feed, water and delivery capabilities and provide the information to the central command post in Lamar for prioritization, according to McBride and Bennett.



As integral community members, Extension agents are uniquely positioned to identify the local needs and available community resources, and communicate throughout the broader emergency response network.

Leading the charge was Leonard Pruett, Southeast Area Extension director and 38-year veteran of Colorado State Extension. Pruett, along with Extension's Scott Brase of Prowers County and Bruce Frickenscher of Kiowa County, worked tirelessly with the Lamar central command. Approximately 2,000 bales of hay were sourced from local area producers, loaded into National Guard helicopters and dropped to 18,000 cattle.

In a massive effort to save stranded rangeland cattle, the Colorado National Guard conducted a three-day airlift that dropped about 3,000 hay bales to herds spotted on the rangeland.

Similar stories unfolded throughout the region with Extension agents working through the days and weeks to assist the local communities.

"Leonard Pruett was one heck of an asset," says Bennett. "He knows the local people and the local government. At the command center, Bruce filled in for Leonard when needed and Kaye Kasza backed them up with information."

"Emergencies happen locally and emergency response must be driven locally," Bennett says.

State Extension veterinarian Roger Ellis said local beef producers continue to face challenges in feed availability, distance and price. The risk of disease increases, given the muddy conditions and the need to confine cattle during calving.

In June, Colorado pulled together in support of those who will spend years recovering economically from the blizzard of 2006. Despite an estimated \$22 million dollars in unreimbursed losses from 650 producers, the USDA denied the governor's request for federal disaster assistance. Some support did come from Operation Blizzard Benefit Fund-raiser that was put together by the Colorado Farm Bureau, Colorado Cattlemen's Association, Colorado Livestock Association, Colorado Department of Agriculture and the Colorado State Fair. Relief still amounted to less than \$1 million, much of that in-kind. Producers also reported 3.4 million acres affected, 13,000 head of cattle lost and 41,000 head of livestock lost. This does not include the effects of calf losses.

"Calving was very difficult for most producers this year. High calf losses were reported due to premature births, cold temperatures and weakness on both the cow and the calves' part," says Brase, Southeast Area Extension Agent and agricultural specialist.

Many producers will sell the cow early or

be required to continue to care for a cow that will not produce income for at least another year. Producers are spending less and are not funding previously planned equipment, according to Brase.

Extension agents across Southeast Colorado continue to work day-to-day in their communities to help producers through these economic issues. Colorado State University Extension is there for the long haul, not just for the emergency.

"I think we learned that we need to be more prepared, especially when it comes to communication with other organizations and agencies," Brase says. "The agriculture industry received a wake-up call to remind them that they need to prepare and protect their investment better by having feed supplies and protections for their animals."

– Meg Wilson

Learn more: <http://www.ext.colostate.edu/pubs/livestk/01814.html>.

Cattle search for food under snowpacked paths.



The public value of ranchland

How are we going to capitalize on the dollars coming into the community to maintain open spaces?

Measuring how open spaces contribute to the economic viability of a community can seem nearly impossible. Yet, two land-use studies conducted through Colorado State University Extension in Routt County provided specific figures that may change the way this Northwestern Colorado county forges its future.

Two surveys were included in the studies: one aimed at local residents and the other at visitors. The purpose of the surveys was to estimate the support for ranchland preservation and the contribution of Routt County's working landscapes to the local summer tourism industry and regional community.

Routt is a hybrid county that includes one of Colorado's premier ski resorts in Steamboat Springs, while also being home to ranchers who have worked the land for generations. Still, the resort industry has overshadowed the economic importance of agriculture in the valley, according to Marsha Daughenbaugh,

executive director of the Community Agriculture Alliance.

"The results of the surveys bring home the fact that people are coming to the area to see the open landscapes," Daughenbaugh says. "Whether they come to ski or kayak, they appreciate driving through the working ranches to get to their destination and they don't want them destroyed."

The results of the survey revealed that 50 percent of the visitors said they would reduce their expenditures and number of days spent in the area if ranchlands were converted to urban uses. Steamboat Springs Chamber of Commerce tourist data, combined with economic analysis in the study, indicates that a median estimate of \$36 million annually can be lost in summer tourist revenue due to the development of ranch open space.

C.J. Mucklow, Routt County's CSU Extension agricultural agent, facilitated a presentation that spelled out this statistic so that local



Routt County Extension director, C.J. Mucklow, takes tourists on working ranch tours to increase appreciation for the county's historic way of life and the land.



business owners, developers, resort personnel, educators and ranchers can understand the full impact of how open spaces impact the economy. The information was presented at a meeting in January of 2007, during which a discussion ensued about how ranchers can be compensated for their inherent contribution to the economic stability of the area. Subsequent meetings continue to carry on the conversation.

The studies show that the estimated value of ranchlands to current Routt residents is \$20 to 30 million.

“The meetings C.J. facilitates generate a lot of discussion,” says Daughenbaugh. “How are we going to capitalize on the dollars coming into the community to maintain open spaces? We’re now looking at ways we might support ranchers; whether it’s financing a value-added business, helping pay inheritance taxes, assisting with environmental issues, working with transfer fees – all kinds of ideas are being tossed out. C.J. keeps things moving.”

Tammie Delaney, who is on Extension’s

advisory board, echoes the relevance of Mucklow’s role.

“C.J. brings his knowledge to so many aspects of the community through a diverse set of approaches whether they’re economic, environmental or educational,” Delaney says. “It’s a systematic approach that is a highly effective way to connect community members around this subject.”

“The studies show that the estimated value of ranchlands to current Routt residents is \$20 to 30 million. That’s important information to have,” Daughenbaugh says.

“Our community would fall apart without Extension. CSU looks for projects like this while other college institutions take no interest. C.J. helps foster that interest, which essentially brings our community together.”

– Leigh Fortson

Land Use Impacts

Fifty percent of Routt County’s summer tourists would reduce their expenditures and time spent if existing ranchlands were converted to urban uses. This reduction would cost the county \$8 million per year in lost direct revenues annually.

Approximately 706,100 acres in Routt County are in agriculture production out of a total of 1.49 million acres (47 percent). Of the total County acreage, one-third is Routt National Forest, leaving approximately one-fifth of the acreage for commercial, industrial and residential use.

Routt County Agriculture: By the Numbers (2002)

- 494 Ranches - 520,618 acres owned by ranchers; 102,315 acres in cropland
- Annually, Colorado loses at least 140,000 acres per year to growth
- The average age for a Routt County rancher is 53

Since the Routt County project results became public, more counties including Gunnison, Delta, Montrose, Chaffee, and Moffat have asked CSU Extension Agriculture Economics to provide unbiased assessment of aspects of land use value.

To read complete details on the land use surveys, go to:

<http://dare.agsci.colostate.edu/csuagecon/extension/docs/impactanalysis/edr06-06.pdf>

<http://dare.agsci.colostate.edu/csuagecon/extension/docs/impactanalysis/edr05-02.pdf>

Colorado State University Extension funding

Colorado State University Extension is the community-based educational outreach arm of the university. The land-grant university Extension system, a nationwide educational network, is a partnership of county, state and federal governments working cooperatively with the private sector.

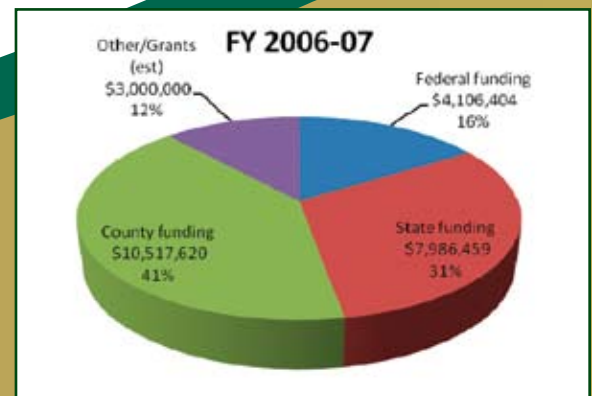
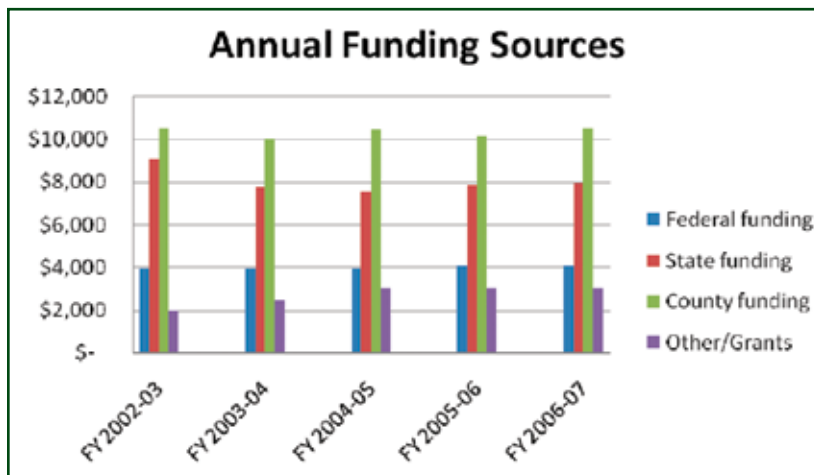
Funding for Extension is provided from multiple sources: federal, state, county and non-tax monies. The past five years have been especially challenging for Colorado State University Extension with the combination of economic recession and Tabor Amendment impacts on higher education budgets.

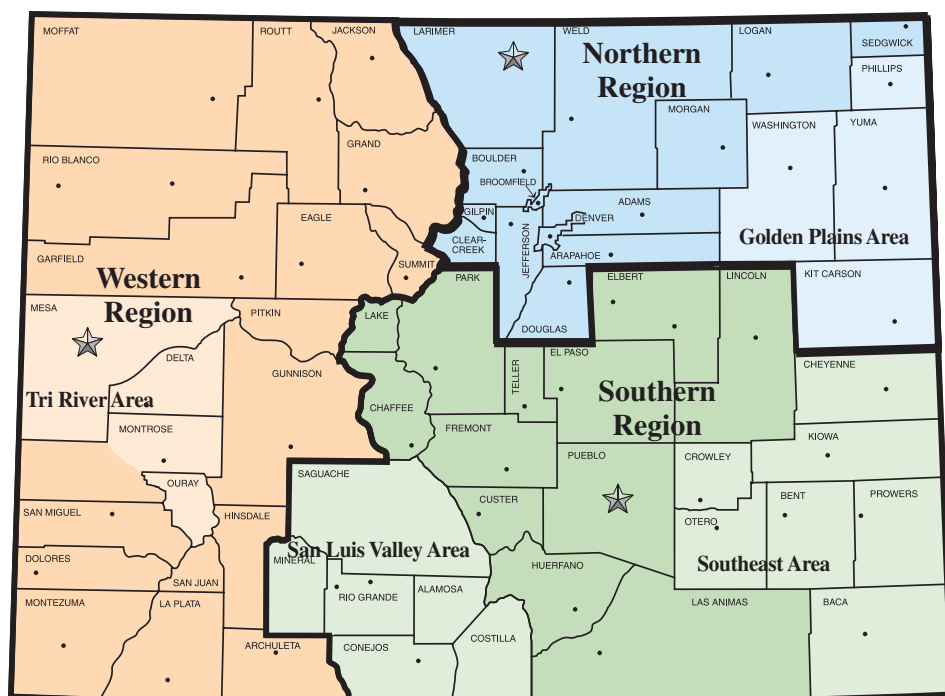
Total CSU Extension funding decreased by \$1.8 million in FY04 from both state and county budgets due to recession and other university reductions.

In FY07, total funding from county budgets remains consistent with FY04 levels, while individual counties vary. Federal funding has remained constant, with minimal allowance for wage or inflation increases. State funding for Extension has increased since FY04 only to the extent of salary increases for existing staff, leaving the overall budget flat in operational funding and in staff positions to FY04 levels.

Grant source funding increased to 12 percent of total funding and represents efforts by Extension faculty and agents to seek outside funds to maintain programs. These funds can only be used on specific projects and cannot replace permanent positions.

Colorado State University Extension meets or exceeds customer satisfaction expectations with 95 percent of County Commissioners responding to a 2007 survey that they were satisfied or very satisfied with their local Extension office and programs. These results, despite challenges, speak to the success of the federal, state, county and private collaboration.





★ Regional Offices
 • County Offices

State Forest District Office Phone Numbers

Alamosa	(719) 587-0915
Boulder	(303) 823-5774
Cañon City	(719) 275-6865
Durango	(970) 247-5250
Fort Collins	(970) 491-8660
Fort Morgan	(970) 867-5610
Franktown	(303) 660-9625
Golden	(303) 279-9757
Granby	(970) 887-3121
Grand Junction	(970) 248-7325
Gunnison	(970) 641-6852
La Junta	(719) 384-9087
La Veta	(719) 742-3588
Montrose	(970) 249-9051
Salida	(719) 539-2579
Steamboat Springs	(970) 879-0475
Woodland Park	(719) 687-2951

Extension County Office Phone Numbers

Adams	(303) 637-8100	Elbert	(719) 541-2361	Montezuma	(970) 565-3123
Alamosa	(719) 852-7381	Elbert (Branch office)	(303) 621-3162	Montrose	(970) 249-3935
Arapahoe	(303) 730-1920	Fremont	(719) 276-7390	Morgan	(970) 542-3540
Archuleta	(970) 264-5931	Garfield	(970) 625-3969	Otero	(719) 254-7608
Baca	(719) 523-6971	Gilpin	(303) 582-9106	Park	(719) 836-4289
Bent	(719) 456-0764	Grand	(970) 724-3436	Phillips	(970) 854-3616
Boulder	(303) 678-6238	Gunnison	(970) 641-1260	Prowers	(719) 336-7734
Broomfield	(720) 887-2286	Huerfano	(719) 738-2170	Pueblo	(719) 583-6566
Chaffee	(719) 539-6447	Jackson	(970) 723-4298	Rio Blanco	(970) 878-4093
Cheyenne	(719) 767-5716	Jefferson	(303) 271-6620	Rio Blanco (Branch)	(970) 675-2417
Conejos	(719) 274-5200	Kiowa	(719) 438-5321	Rio Grande-Saguache	(719) 852-7381
Costilla	(719) 852-7381	Kit Carson	(719) 346-5571	Routt	(970) 879-0825
Crowley	(719) 267-4741 x7	La Plata	(970) 247-4355	San Miguel	(970) 327-4393
Custer	(719) 783-2514	Larimer	(970) 498-6000	Sedgwick	(970) 474-3479
Delta	(970) 874-2195	Las Animas	(719) 846-6881	SLV Area Office	(719) 852-7381
Denver	(720) 913-5270	Lincoln	(719) 743-2542	Summit	(970) 668-3595
Dolores	(970) 677-2283	Logan	(970) 522-3200	Teller	(719) 689-2552
Douglas	(720) 733-6930	Mesa	(970) 244-1834	Washington	(970) 345-2287
Eagle	(970) 328-8630	Mineral	(719) 852-7381	Weld	(970) 304-6535
El Paso	(719) 636-8920	Moffat	(970) 824-9180	Yuma	(970) 332-4151

Agricultural Experiment Station Phone Numbers

ARDEC	(970) 491-2405	Plainsman	(719) 324-5643	Southwestern Colorado	(970) 562-4255
Arkansas Valley	(719) 254-6312	San Juan Basin	(970) 385-4574	Western Colorado	(970) 434-3264
Eastern Colorado	(970) 345-6402	San Luis Valley	(719) 754-3594		

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Jeanette Lynch Albersheim: Personal photo
Colorado State Patrol: Archive photos, data
City of Fort Collins: Radon test kits
Mike Salza and Carissa Sigward of Fort Collins Housing Authority

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