



University of Nevada Cooperative Extension

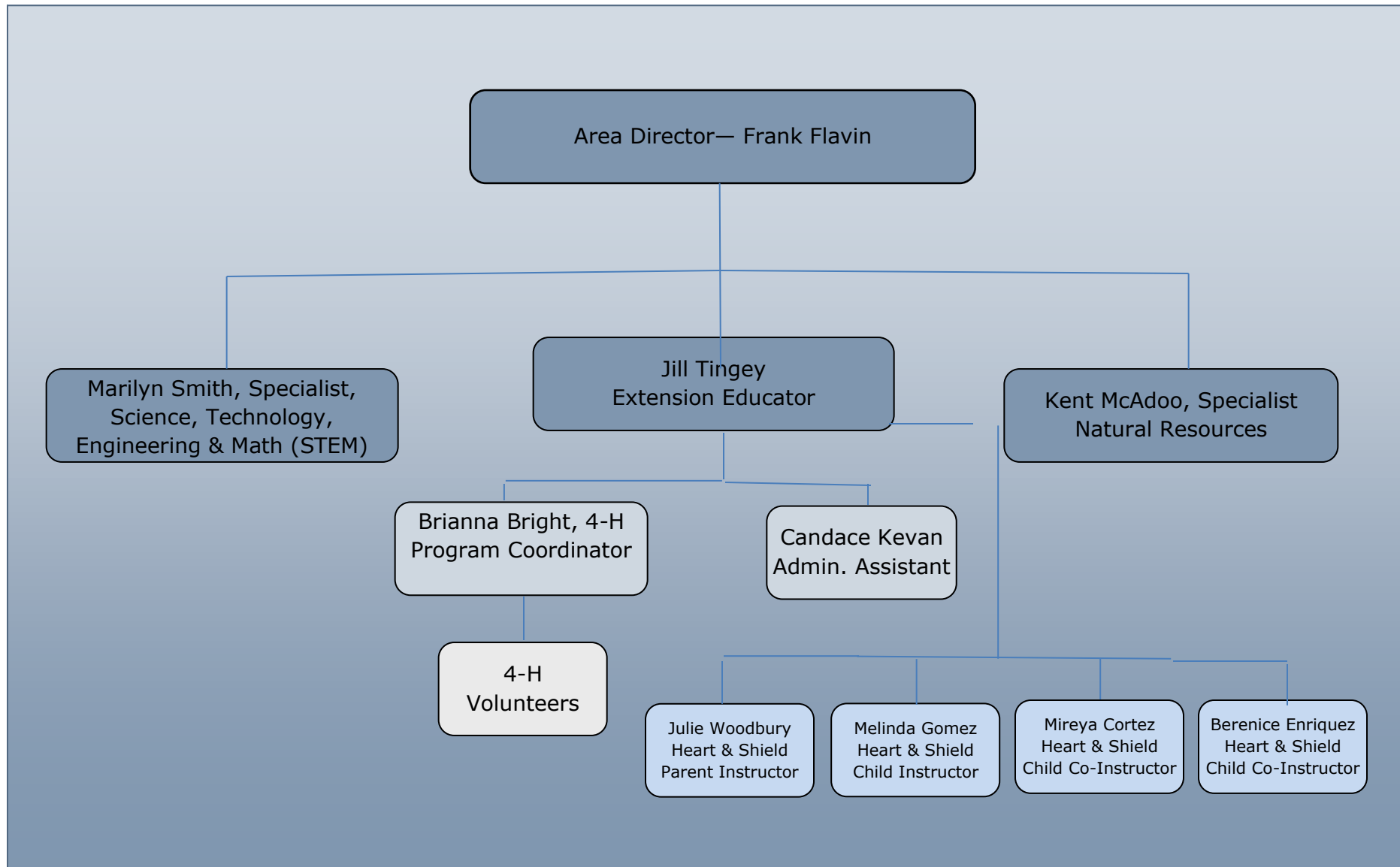
Elko County

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2016 Accomplishment Report

Summary Description	The Cooperative Extension Fund was established to allocate a 1 cent ad valorem tax apportioned to, and specifically appropriated for, statutorily established educational programs focusing on agriculture; community development; health and nutrition; horticulture; personal and family development, and natural resources. Cooperative Extension identifies critical needs, and designs educational programs and activities to address those needs. Extension provides ongoing program evaluation to ensure educational offerings impact and improve lives of Elko County residents through a planned educational process. As an outreach partnership of the University of Nevada, Elko County and USDA, Cooperative Extension provides research-based information to local residents.
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University of Nevada Cooperative Extension—Elko County Accomplishment Reports 2016
Organizational Chart



Mission

To discover, develop, disseminate, preserve and use knowledge to strengthen the social, economic and environmental well-being of people.

Background

University of Nevada Cooperative Extension (UNCE) is the University – Elko County partnership that puts university research to work in our Elko County rural settings; on public rangelands; in schools; on family farms and ranches; and in our homes, workplaces and communities. Cooperative Extension assists the County and its citizens in community engagement, providing youth development activities, assisting agriculture producers in farm and range management, providing best management practices to protect our precious natural resources, providing educational programming for improved health and nutrition and preparing high risk youth and vulnerable families for the world of work.

Since 1914 Cooperative Extension has played a major role in the outreach teaching, research and service of the University for the benefit of Elko County. It is the college that connects citizens with the University, provides a NSHE presence in Elko County and fulfills the statewide land-grant mission of the University of Nevada. UNCE was founded in 1914 as a partnership between the federal government, land-grant universities, and county governments throughout the United States. Cooperative Extension exists through land-grant universities in all 50 states. UNCE's purpose, as stated in the Nevada Revised Statutes (NRS 549.010), is to "conduct educational, research, outreach and service programs pertaining to agriculture, community development, health and nutrition, horticulture, personal and family development and natural resources in the rural and urban communities of Nevada." The Statute states that State "funds to carry out the provisions of this chapter shall be provided by direct legislative appropriation from the General Fund." Federal enabling legislation for UNCE is found in the Smith-Lever Act. This law requires a State match in order to receive Federal funds. These funds are appropriated through the USDA/NIFA budget. Counties, such as Elko County, contribute through a tax levy pursuant to NRS 549 of not less than 1 cent and no more than 5 cents on each \$100 of taxable property in the county.

Programs

Educational programs developed by Cooperative Extension utilize *a needs assessment* methodology to identify issues at the community, county, and area level. In Elko County two Specialists (Science, Technology, Engineering and Math (STEM) and Natural Resources) assess needs and develop educational programming for an area comprised of 11 Nevada counties in the Central/Northeast Area, now incorporated into the Northern Area. Jill Tingey, Elko County Extension Educator is responsible for developing educational programs at the county level.

A. CHILDREN, YOUTH AND FAMILIES.

These programs are focused on youth at risk, strengthening families, and preparing youth to be more productive members of their communities.

1. GEAR UP with STEM (Science, Technology, Engineering and Math) emphasis.

Situation: 2016 was Marilyn Smith's third year as the Science, Technology, Engineering and Math (STEM) specialist. Her extensive experience in assessing, developing, delivering and evaluating youth development programs in Nevada with emphasis on preparing youth for careers in science, technology, engineering and mathematics resulted in her selection for this position during a competitive process.

Marilyn conducted an extensive literature review and interviewed school principals at the target schools to focus her programing. Much is being written about the need for STEM Education. One report succinctly stated: *Some 75 million young people around the world are unemployed, yet most employers say they cannot find enough qualified candidates for entry-level jobs. What skills will help young people find work, and what is the most effective way of delivering them?*

GEAR UP: Starting in September 2012, Marilyn began working with the GEAR UP (Gaining Early Awareness and Readiness for Undergraduate Programs) team from the Educational Leadership at UNR and with the Nevada Department of Education. GEAR UP is a federally funded grant that is designed to increase the number of low-income students who are prepared to enter and succeed in postsecondary education. Students were identified during 7th grade and exposed to GEAR UP activities that continue through high school. The cohort groups of students that Marilyn started working with in the 7th grade are now high school sophomores. Marilyn collaborated with Carlin, Wells, Owyhee and Jackpot schools to assist them in the implementation of their school improvement plan.

Inputs: While each phase of Marilyn's program is in various stages of implementation at seven different sites, she has piloted and developed intensive STEM programming for students in 7th through 9th grade. The purpose of these programs is to motivate students towards science learning with an emphasis on creating a college-going culture. Most of the activities are conducted during school hours in collaboration with teachers.

Robotics: Marilyn taught seventh graders and teachers how to build clawbot (robot with a claw to pick up things) robots and operate the clawbot with a remote control at the seven schools. STEM clubs were established at several schools to encourage student input to help students increase learning beyond Marilyn's curriculum. Eighth grade robotics programming is an advanced class that includes building a new, more complex robot design with sensors for autonomous control. She traveled to each of the seven schools multiple times to teach robot building. Some schools requested/needed more of her time than others, directly teaching 380 students for a total of 1,534 contacts. In an effort toward sustainability, Marilyn provided funding for two teachers to attend a 40-hour Carnegie Mellon University teacher certification training in Pittsburg, PA. Six additional teachers are currently enrolled in an on-line class.

Drones: In Fall 2015 Marilyn created a new drone curriculum for freshmen. Four schools participated in Marilyn’s drone building class: Wells, Owyhee, Carlin and Jackpot. Teams of three or four students built drones, added cameras and receivers, programmed the drones and radios and flew using FPV goggles. Marilyn has found that science teachers struggle with an experiential learning environment and see the drone project as an “outstanding component of physical science that all students will remember.” Marilyn traveled to Wells 30 times to teach 20 students in two separate classes. In Owyhee she taught three days per week in a classroom of 23 students. Carlin students participate five days per week.

Outcomes/Impacts: STEM activities were taught at seven sites during 2016: Winnemucca, Wells High School, Wells Junior High School, Jackpot School, Owyhee School, McDermitt School, Tonopah AfterSchool, and Carlin School. Marilyn trained new staff supervising the Reno area GEAR UP program.

Marilyn collected pre-post results of her STEM teaching in 2014-2015. After completing the experiential learning activities, the students completed a survey about their attitudes and behaviors toward STEM. They completed the pre survey one week before the activity and again at the end of the program. Comparison on pre-post surveys revealed statistically significant improvements in attitudes and behaviors toward STEM education and careers. Paired t-tests revealed that after completing the program, youth reported a significant increase in comfort working on a team, plans to attend a college/university or tech school in the future, comfort in working with people different than themselves, belief that attaining a STEM degree is worth the effort, thinking that learning STEM is important, taking STEM classes to get an important job, taking STEM classes to get a good job, taking STEM classes to get a high paying job, plans to take STEM courses as part of my college/university or tech school program. A science teacher commented, “Marilyn’s STEM programs are making a difference with our students. We are starting to see student interest and enthusiasm generated by your programs spill over into classroom studies.” A school principal explained, “Students being able to envision themselves in a STEM career is a goal. Collaborations with STEM professionals plus the skills Marilyn teaches our students are helping make those linkages between what they learn in class and how it applies to a future career.” Another teacher reported, “Marilyn’s work is helping us build student interest toward college and future careers.”

2. Project MAGIC. Project Magic was developed locally to target juvenile offenders. Youth participants attend a small group, twenty session class. Each session is 1.5 hours each. Parents participate in four, 2.5 hour classes. This award-winning program continues to be a viable option for juvenile offenders and their parents. Original needs assessments conducted during the development phase of this program indicated the extreme need for MAGIC in the targeted rural sites in Nevada. Violence and crime among youth continues to be an enormous problem for families and communities nationwide.

The program works with small groups of offenders to teach them skills to help them get out of trouble and stay out of trouble with the law. The project goal is to help reduce the recidivism rate of juvenile offenders.

Inputs: Marilyn Smith supervised six MAGIC instructor positions funded by grants she received. She taught and supported the instructors who in turn taught 250 juvenile offenders and parents for the 20-hour youth program and 12-hour parent program. The instructors taught a total of 13 youth groups of 20 sessions per group and 13 parent parent groups of four sessions per group. Marilyn's instructors taught MAGIC in Wendover, Winnemucca, Tonopah, Lovelock and Battle Mountain.

Outcomes/Impacts:

- Survey responses of youth indicated that from pre- to posttest, Project MAGIC youth participants were more engaged and experienced higher achievement academically. Youth had a reduction in school absences, earned better grades, with more youth reporting that they were now earning better grades than most of their classmates, greater recognition that the things they were learning in school are important for later life, greater participation in extracurricular activities and community service or volunteer work.
- Parents reported many of the same academic improvements as the youth. In addition to the aspects described in the youth survey results, parent survey results indicated that parents observed their children had greater recognition that schoolwork is meaningful and important.
- Project MAGIC has been added to the National Registry of Evidenced-based Programs and Practices, a registry of effective prevention programs. Some grants only fund proven programs listed in this registry.

3. Heart and Shield: Rural Domestic Violence Prevention Program.

Situation: The 2012 Elko County Needs Assessment revealed that domestic violence (DV) prevention is a high-priority issue for county residents. Nevada continues to have some of the highest domestic violence arrests and deaths of any other state. The cost to taxpayers in lost work hours, cost of support by law enforcement and other agencies, and health care costs have been documented in the research. Children living in violent homes have an increased risk for abuse. Children who witnessed violence experience long-lasting difficulties such as adult depression, low self-esteem and trauma-related symptoms. Limited resources exist in rural communities for victimized families.

Inputs: Jill Tingey, Elko County Extension Educator, co-wrote a 5-year \$596,000 Children, Youth and Families At-Risk (CYFAR) grant application with Pam Powell (Churchill County) and Marilyn Smith (STEM Specialist based in Elko County) to support a pilot program in Elko and Churchill Counties. The grant was awarded in August 2013 to provide an educational program for former DV victims and their children in two rural communities - Elko and Fallon, Nevada. The grant proposal was one of nine

accepted submissions in the U.S., and the first awarded for a DV prevention program. Initially funded for \$574,000, the team received an additional \$50,000 in the first four years, increasing the grant amount to be awarded for 5-years, at this time, to \$624,000. The grant, titled *Heart and Shield: A Program to End Domestic Violence*, provide families with resources and skills to strengthen relationships, enhance positive outcomes, reduce the risk of future violence, and envision a positive future for themselves.

Jill is responsible for directing the Elko site. In addition, she taught or co-taught 27 classes or family night out events for nine adults and 21 youth. Jill supervises one adult facilitator/community site coordinator, one early childhood facilitator, and two assistant child/youth facilitators. In serving as both the PI and Co-PI roles, she provided leadership for writing and revising the curriculum for the four age categories of our program: 1) adults/parents; 2) teens ages 14-18; 3) youth ages 9-13; and 4) early childhood, birth to 8 years. Building collaborations with community organizations and agencies has been key to promoting the program and recruiting program participants. Jill delivered 18 presentations about the Heart and Shield program to community stakeholders. She co-taught PACE Coalition, a group of human service providers in Elko County about DV, its prevalence in Elko County, how to help a victim, described the Heart and Shield program and explained how to refer families to the program. Furthermore, Jill taught home visitation staff and participants about DV and the Heart and Shield program. It is important for home visitation staff to recognize if their families are experiencing DV to provide support that helps families remain safe and be aware of and have access to community resources.

Outcomes/Impacts: Two Heart and Shield cohorts were completed in 2016. A total of nine adults and 20 youth received program education, resulting in 214 participant contacts.

Formative Evaluation:

Formative evaluation examines the program process during a program's implementation with the goal of improving its design and performance. In an effort to understand what was working and what curriculum changes were needed, this qualitative evaluation approach was used to provide a richer, more meaningful evaluation that highlights the usefulness of the program.

1. Exit Interviews:

Following the sessions, adult participants were asked to participate in a guided discussion about their thoughts on preventing domestic violence and raising resilient youth that do not become involved in domestic violence as adults. The interviews were analyzed for content related to topics taught during the program. The analysis also revealed how prepared parents felt in helping stop the cycle of violence with their children. One question asked parents, "What do you think are the most important things you can do to help your children build healthy relationships free from domestic violence?" Overwhelmingly, parents and adults responded "attend the Heart and Shield

classes.” The Elko site adults listed the following topics taught in the program as most useful in helping their children become resilient: typical child development and behaviors; development and behaviors a child might manifest when exposed to domestic violence; authoritarian, permissive and authoritative parenting styles; how parents interact with their children affects children as they grow; teaching children routines; and modeling healthy relationships sets an example for children. Adults further stated that they now recognized their child’s resilience is based in large part upon how the parent responds and moves forward. This resilience is a critical component of the Heart and Shield program. Parents also identified communication as a key to healthy relationships in the future. Qualitative comments from the parents included:

- “The different topics helped my family grow closer and healthier together.”
- “We are definitely more communicative. When we feel something is [wrong], we are able to problem solve. We share affection more on a daily [basis], we’re more productive, more understanding, and we’re better listeners.”
- “Before the program, we did not spend time together as a family. Since we’ve been involved with this program, we have a family activity at least three times a week!”

2. End of Session Evaluation:

Of the 27 activities used during the Heart and Shield classes to reinforce learning, 20 received a 4.00 rating or greater on a scale of 1-5, with 1 being “Very Unhelpful” and 5 being “Very Helpful.” Only one activity was rated as “neutral” and will be evaluated for its future usefulness. The “Parent Letter” activity, in which parents compose a letter to themselves designed to be read during future challenging times, allows parents to evaluate the new skills they have learned in the program, and offers encouragement and support to face the challenges. The “Parent Letter” activity received a 5.00 rating by all participants.

The qualitative analysis of this component included three open-ended questions, as well as field notes from facilitators. Results yielded the following themes: 1) Positive aspects for the Heart and Shield activities, evidenced by a parent who wrote “These [Heart and Shield] topics have been very helpful in helping me to talk to and understand my child;” 2) the impact of participation on participants, in which parents indicated they are better able to control or manage their own parenting behaviors and are better able to understand their children’s feelings; and 3) suggestions for improvement included additional practice and/or information on self-care and more information and assistance using “I”-messages, a tool to enhance communication, assertiveness, conflict resolution and active listening. Moreover, the parents shared appreciation, stating “Thank you, I can really see a difference in my family.”

Summative Evaluation:

3. Behavioral observations:

CYFAR faculty and staff who had weekly contact with families over a nine-week period realized that family activities were easier to teach as the program progressed and observed an increase in family functioning and reduced family behavioral issues. Over

the course of the nine-week session, chaotic interactions within families were replaced with positive routines. Staff observed improvements in the way parents interact with their children, utilizing techniques we taught and modeled. At the beginning of the program, parents would become very frustrated and angry with their children's challenging behaviors. Staff noted a change in the parents' interactions with their children mid-way through the program. When children's challenging behaviors manifested, parents remained calm and employed firm and kind guidance. Parents improved their leadership skills with children, as evidenced during group activities as they guided their children to stay on task. Staff also observed adults increasing their awareness and attention to self-care. Several parents reported taking time for themselves and how it improved their ability to better care and guide their children.

Families continued to participate in monthly family activities after they completed the nine-week session. One parent reported that her child posts the Family Night Out activity flier on the refrigerator to make sure the family attends the activity. While new families have enrolled in the classes, some parents have chosen to repeat the course. For these repeating families, we observed a higher level of family cohesiveness and communication, and a marked reduction in disagreements between parent and child during class. Parents report that they are seeing a positive difference in how their children are responding to the family and to the parent, and children frequently ask "is tonight class night?" Children now enter the classroom with clear expectations of appropriate behavior.

4. Funded Mandated Survey – Common Measures Pre-Post Survey:

The Common Measures survey, administered to parents, consisted of 18 questions that asked about parent/child relationships. The survey question "I feel that a child should have time to daydream, think, and even loaf sometimes" realized a significant increase ($p < .05$) in mean score when comparing pre and post mean scores. As families in DV situations have been conditioned to behave in a structured, regimented and controlled manner, they often do not realize the importance of imagination as a critical component to recovery. Parents who attended the Heart and Shield program expressed an increased knowledge that allowing children to dream about their future was a valuable trait for their children.

4. Keeping Kids Safe: Recognizing, Reporting and Responding to Child Abuse.

Situation: Preventing child abuse and neglect was ranked as the second-highest priority in *Results of a Mailed Survey: Priorities for Elko County*, the Elko County needs assessment Jill Tingey published in 2012. According to the most recent Nevada child abuse and neglect statistics, 239 total child maltreatment reports were investigated in Elko County during 2014 (Nevada KIDS COUNT Data Book 2015). Children and adolescents' exposure to maltreatment can negatively affect their physical, emotional and intellectual development. Child abuse almost doubles the danger of children and adolescents' overall poor health, impairs psychosocial functioning, may cause severe mental health consequences and changes the physical structures of the brain, impairing language acquisition and cognitive processing. Compared with children who have not

been maltreated, abused children have an increased risk of educational underachievement, have higher rates of school absenteeism, an increased risk of dropping out of school, higher likelihood to be referred for special education services, and higher likelihood of exhibiting poor social skills and more classroom behavioral problems (National Children’s Advocacy Center 2013). Preventing child maltreatment improves the health and quality of life for children and youth. Rural communities are more isolated than urban communities, with fewer resources including mental health services and healthcare providers available to help youth. Social isolation is also associated with the risk of child maltreatment.

Child maltreatment has lasting adverse effects on adults who were abused or neglected as children. These adults are at a greater risk for adverse physical and mental health conditions when compared to adults who were not abused as children. Adults who were maltreated as children are more likely to engage in behaviors that put them at further risk for negative physical and mental health outcomes. Healthcare costs are higher among former child abuse victims because they utilize more medical and mental health services, including more emergency room visits (National Children’s Advocacy Center 2013). Child abuse prevention efforts not only protect children, they generate healthier adults.

Very few resources are available to child caregivers and youth workers to help them understand their reporting requirements and role in preventing child abuse and neglect. Child caregivers, youth workers and volunteers working with children and youth are mandated reporters of suspected child maltreatment. Most often, rural child caregivers do not have access to on-line training for this topic at their worksite nor are they paid to attend the mandated training. As a result of the budget cuts to UNCE, faculty and staff who formerly provided training to caregivers across the state are no longer employed nor are their programs available to rural communities. Thus, Jill teaches quarterly face-to-face workshops for local child care workers to attain compliance with state regulations that require them to have the training within three months of beginning employment.

Inputs: Jill taught *Keeping Kids Safe: Recognizing, Reporting and Responding to Child Maltreatment*, a UNCE curriculum, five times in 2016 to child care providers, youth workers and prospective 4-H volunteers in Elko County. One hundred fifty-one adults participated in the program. While most prospective 4-H volunteers participate in the *Recognizing and Reporting Child Abuse and Neglect Self Study Guide*, available on the UNCE website, five prospective 4-H volunteers attended this face-to-face training.

Outcomes: A pre- and post- questionnaire was administered at each training (n=71 matched sets and 4 unmatched sets). Eighteen items on the questionnaires realized statistically significant (at $p < .01$) with increases in participant knowledge and attitudes, when comparing pre-test and post-test mean scores. Selected items include, “How confident are you in being able to make a report of suspected child abuse and/or neglect of a child?,” “How confident are you in recognizing indicators of child abuse and/or neglect of a child?,” and “How aware are you that you should not interrogate or

interview the child if a child discloses abuse or neglect?” Survey respondents were also asked, “How can we improve this training?” Comments included, “Very well presented and great information. No change,” “Everything was well taught,” “Training was excellent. Thank you!” “Very well done and loved the interaction with scenarios and other things,” and “Have more activities, scenarios, and videos.”

5. 4-H YOUTH DEVELOPMENT. The Elko County 4-H Coordinator, Steve Terry, provided direct leadership for the Elko County 4-H program. In 2016 there were 345 youth and 125 adult volunteer leaders enrolled in the Elko County 4-H program with 15 individual 4-H clubs. Overall program participation increased by 87% in the past year (Elko County ES237 Reports from 2014-2015 and 2015-2016). A new 4-H Science, Technology, Engineering and Math (STEM) club met monthly in 2016 and explored electrical circuits and conductors. Members’ projects include a vast variety of interest areas from livestock to model aviation, fashion revue, electricity and gardening.

- a. 4-H Camp.** Elko County 4-H employs a youth engagement model in the planning and implementation of the overnight 4-H camp. Six County Officers (senior 4-H members selected on their leadership experience and ability) planned all the 4-H camp activities. Their role for the camping program is to provide an educational experience for campers while helping them gain a sense of belonging and independence. These youth assigned campers and chaperones to cabins, made activity group assignments, served as activity group leaders, lead get acquainted and campfire activities. The 4-H Program Coordinator lead a leadership retreat with the County Officers, teaching teamwork, group leadership, planning and organizational skills.
- b. Club Officer Training.** 4-H members elected in their community clubs participated in the Elko County 4-H Club Officer Training to gain basic leadership skills, running effective meetings, duties of each club office, and managing 4-H monies. Participants reported that they learned teamwork, the duties of their office, how to help fellow officers plan meetings, parliamentary procedure and trust fellow officers.
- c. Corporate Support.** A financial committee comprised of three 4-H volunteer leaders who work for Newmont Mining Company reviewed 4-H club fund request applications and determined how more than \$32,000 of Elko County 4-H donations from the Newmont Legacy Fund are distributed. In 2016 the committee allocated \$1,000 to award a second scholarship to a high school senior. In total two \$1,000 Elko County 4-H scholarships were awarded to graduating seniors. Barrick Gold of North America also has a similar program, You Give, Barrick Gives, which has donated \$1,600 in 2016.
- d. Volunteer Mid-Management.** Mid-management volunteer strategies were implemented to recruit volunteers to plan and teach animal science program. In 2016, a Great Basin College student taught a series of livestock judging

workshops to Elko County 4-H youth. Club leaders were trained on Search Institute's Developmental Relationships Framework to foster close connections with young people. The framework's "Express Care" element focuses on increasing social/emotional learning. Fifteen general and project leaders participated in the training.

e. Elko County 4-H Annual Competition Events

- Dog Show
- Carcass Contest
- Livestock Judging and Skillathon
- Shooting Sports Field Day
- Fashion Revue
- Speech & Demonstration
- Talent & Skit – Performing Arts
- Elko County Fair & Livestock Show
- Horse Show
- Junior & Intermediate Record Book Judging

f. Elko County 4-H Educational Workshops

- Livestock Judging Workshop (series)
- Shooting Sports Workshops (series)
- Fashion Revue Workshop (series)
- Sheep and Goat Showmanship Workshop (series)
- Rabbit Care and Showmanship Workshops (series)
- Poultry Care and Showmanship Workshops (series)
- Horse Judging and Skillathon Workshops (series)
- Dog Obedience & Dog Showmanship (series)

h. Other Elko County 4-H Events

- Club Livestock/Project Tours
- 4-H Camp (3 days)
- County 4-H Achievement Night
- Individual Club Achievement Nights

B. COMMUNITY DEVELOPMENT.

The purpose of community development programs is to improve the long-term well-being of communities by providing research based education and facilitation.

1. Volunteerism and Social Capital in Elko County

Situation: Social capital, which includes people's bonds, associations and networks, the depth and type of relationships and connections within a community and access to resources, can affect residents' quality of life. Community volunteerism and engagement are important indicators of individual and community health and economic outcomes (Rebori, Baker-Tingey and Wright 2016; National Research Council 2014). A strong measure of community engagement and one aspect of social capital is the per capita number of volunteers within a community.

Communities benefit from higher rates of volunteerism and engagement through lower crime rates, improved government services, increased graduation rates, better economic growth and increased participation in community problem solving (Pancer 2015; Putnam 1995). Volunteers also benefit from building social capital. Volunteers report greater life satisfaction and better physical health than do non-volunteers, and their life satisfaction and physical health improves as a result of volunteering. Those who provide support through volunteering encounter greater health benefits than those who receive the support, especially among the elderly (Wu 2011).

Inputs: Jill Tingey collaborated with Marlene Rebori, Community Development Specialist and Nevada Volunteers to assist Nevada Volunteers in updating their State Service Plan. The State Service Plan is a strategic planning document developed to assess the robustness of volunteerism across the state, increase stronger partnerships for volunteering and identify strategies that bolster volunteer and engagement efforts across Nevada. As part of this planning process, Nevada Volunteers in partnership with University of Nevada Cooperative Extension conducted six community forums across the state. Gathering information and sharing ideas about volunteerism, service and community engagement were purposes of the forums. Jill co-facilitated the Elko forum with Amber Martin-Jahn, Nevada Volunteers Executive Director. Prior to posing questions to the group, Jill explained information on the U.S. Census Current Population Survey data on volunteering and engagement to the Elko forum participants. To encourage participation from a wide variety of stakeholders including businesses, individual volunteers, faith-based groups, nonprofits, civic organizations and government agencies, Jill sent announcements to my email contacts, local email group lists, Elko Area Chamber of Commerce newsletter and promoted the event on local television and radio stations.

Outcomes/Impacts: Elko Volunteer Forum participants provided information which will be used as a foundation for the development of the Nevada Volunteers State Service Plan. The plan will guide the efforts and resources of Nevada Volunteers for the next three years. The participants identified 81 entities that offer volunteer and engagement opportunities in the Elko area. Participants provided examples of the degree to which community sectors collaborate. These examples indicate that the Elko area has a strong community network among various entities with some cross-over occurring among nonprofits, businesses, government agencies, and faith-based and civic organizations. The formal structures appear strong and not dependent upon one or two individuals within the community. The aforementioned indicators suggest that Elko has a fairly robust network of social capital. Through a nominal group voting technique, participants prioritized two strategies to strengthen volunteerism in the Elko area: 1) provide community-based volunteer information or connector hub and 2) increase the visibility of volunteer opportunities and impacts.

2. Capacity Building for Healthy Communities

Situation: Government and non-profit organizations need to expand their capacity to create safe and productive communities. These sectors face challenges in addressing new critical issues, developing effective policies, adapting communications strategies, improving volunteer recruitment, using technology effectively, collaborating with community partners, and managing resources efficiently. Capacity building strengthens an organization's ability to fulfill its mission, develops goals, achieve measurable and sustainable results, and have a positive impact on places where people live, work, play, and learn (<https://www.councilofnonprofits.org/capacity-building/what-capacity-building>, 2014).

Inputs:

In 2016 Jill Tingey was contacted by the executive director of the Northeastern Nevada Regional Development Authority (NNRDA) to facilitate community listening sessions and assist with the community assessment process to determine actions the community can take to better meet community needs and develop strategies for community improvement and economic development. The community of Jackpot faces a number of threats to its existence including a population that has declined significantly, visitors and tourism have plummeted, community events that brought visitors to the area and fostered a sense of unity for residents have not been organized for several years, and businesses have closed, leaving three casinos and very little else. Apathy among citizens is also a challenge. The town board is rarely able to establish a quorum at its meetings.

The community assessment process for the town of Jackpot involved an initial planning meeting with the Northeastern Nevada Regional Development Authority (NNRDA) executive director. Jill and Pam Borda discussed the major issues facing the town and how to present the concerns to the community. Jill developed questions for community listening sessions and facilitated the town hall meeting and a meeting that included middle and high school students, teachers and staff. She also met with two key stakeholders to gain a better understanding of the community's assets and challenges. Jill will continue working with the community and NNRDA.

Outcomes/Impacts:

The Jackpot Town Board and community members are implementing the plan created from various town meetings and the youth meeting Jill facilitated. Several new community events are in the planning stage, and the new recreation director is offering new programs to involve more community members.

C. AGRICULTURE.

Livestock programs are designed to help producers increase the profitability of their operations through improved nutrition, reproduction, genetics, health, management, and marketing. Programming has integrated content, expertise, and teaching methodology to develop a comprehensive approach to effective education.

- 1. Cattleman's Update.** Cattlemen's Update is an annual educational program offered by the University of Nevada Cooperative Extension for beef cattle producers. Program topics focused on U.S. dietary guidelines and meat consumption, monitoring drought conditions, market cattle trends, options for pregnancy testing in cows, a program overview of the UNR meat science and food safety, rangeland monitoring app and an update on animal health and disease. Subject matter selection is based on a needs assessment of Nevada beef cattle producers and on concerns and trends expressed by the leaders of the beef cattle industry in the United States.
- 2. Outreach and Assistance to Socially Disadvantaged Farmers and Ranchers.** This program teaches American Indian farmers and ranchers on the Duck Valley Indian Reservation how to identify and access USDA programs.
- 3. Federally Recognized Tribes Extension Program.** This USDA funded project focuses on youth development, agriculture, natural resources, nutrition (obesity prevention and food security), community and economic development, and alternative energy on the Duck Valley American Indian Reservation.
- 4. Herds and Harvest.** The purpose of this program is to increase farm or ranch ownership and provides the skills necessary to operate and sustain an agricultural operation. In 2016 program topics included: growing grapes and making wine in Nevada, small scale goat production and farming principles for hoop house growing.
- 5. Nevada Risk Management Education.** This program provided information to Elko County participants on strategies for growing small scale agriculture-related businesses and an agriculture outlook.

D. NATURAL RESOURCES.

Kent McAdoo, Natural Resource Specialist conducts educational natural resource programs in the following categories: Restoring Rangeland Health, Sustainable Biodiversity/ Multiple Use of Rangelands and Collaborative Resource Stewardship. These program categories are based on two formal needs assessment (2001 and 2007) and reached 910 adults and 125 youth in 30 presentations during 2016. This year, our natural resources programming directly impacted audiences in at least 10 Nevada counties, 6 states, and 11 foreign countries. Teaching and research programs involve partnerships with Extension and CABNR peers, as well as several agencies and citizen organizations. The Extension Natural Resources Specialist led or co-led 4 educational workshops/conferences/tours and taught in 6 others. Significant mid- to long-term impacts were documented for 4 teaching programs in 2016. Some specific program highlights are summarized below. In addition to these programs, hundreds of requests are answered annually regarding plant identification, weed control, wildlife depredation, pasture establishment and management, fertilization, disease and pest control, and other agricultural and natural resource-related topics. Extension's natural resources specialist received UNR's "Distinguished Outreach Faculty Award" in 2016.

- 1. Range Management School.** Range Management School (RMS), led by Extension, includes partnerships with Nevada Department of Agriculture, Bureau of Land Management, US Forest Service, Natural Resources Conservation Service, CABNR, and the Nevada ranching industry. This workshop series, focusing on sustainability, is designed to put ranchers and agency range conservationists on the same page, ensuring not only better forage available for livestock, but healthy, productive rangelands for wildlife, recreation, and other land uses. Over a 6-year period, Extension taught 15 RMS workshops, as well as 3 Cooperative Permittee Monitoring workshops designed to teach ranchers the principles of conducting their own rangeland monitoring. Since then, changes have been made in the format, and we have taught RMS principles in several venues reaching approximately 600 program participants since 2005.

During 2016, we stepped back to re-evaluate the RMS approach, and plans are underway to develop the next installment for Nevada ranchers and agency personnel, building on past experience and ongoing research. We taught no traditional RMS workshops this year to Nevada audiences, but for the third year were invited once again by the US Forest Service International Programs group to teach foundational RMS principles as a 3-day component of the traveling, 14-day International Rangeland Seminar, involving 13 agricultural and natural resource specialists from 10 foreign countries. We taught this seminar at the Cottonwood ranch in northern Elko County, with neighboring ranchers also participating in an evening campfire social with the seminar attendees, sharing ideas on livestock and vegetation management. Related to this, we co-authored a paper, "Nevada's Range Management School – An Example for Translating the Science of Rangeland and Grazing Management to Pastoralists," for an international meeting.

- 2. Weed Management.** The Weed Management Program is focused on teaching weed identification and management, as well as revegetation to compete with weeds. During the last 18 years, we have developed and taught annual weed identification and management workshops, worked with UNCE peers and Nevada Department of Agriculture to conduct pesticide applicator training, and helped organized community "weed pulls" and annual Elko County Weed Summits that resulted in the formation of two citizen-led Cooperative Weed Management Areas.

The Weed Management Program during 2016 focused on teaching weed identification and management to private and public land managers and weed control specialists. This was accomplished through leading a team-teaching approach at the annual Weed Identification and Management Workshop and Tour, the Pesticide Applicator Training Workshop, and the fourteenth annual Elko County Weed Summit. For the tenth consecutive year, these workshops were combined into a 3-day "Weed Extravaganza." We taught audiences that included ranchers, property owners, mine personnel, resource consultants, conservation district leaders, Native American tribal members, and agency natural resource specialists.

Participants attending both training days of the 2016 Weed Extravaganza earned a total of 14 continuing education units (CEUs) approved by the Nevada Department of Agriculture. Attendees (from Elko, Eureka, Lander, Washoe, Humboldt, and Clark counties) learned to identify noxious weed species in various growth stages, as well as research-proven weed control and revegetation methods. Based on a 65% response rate (36 responses of 55 attending), survey results showed that Weed Summit participants received and learned useful information that they intend to apply. Twenty attendees had attended previous Weed Summits, and 100% of these indicated that they were using information that they had learned. Ninety-seven percent of the respondents said they would be more likely to read pesticide labels after attending the Summit. Asked what they would do differently based on what they learned, the following are representative responses:

- Use more integrated weed management
- Keep better records
- Apply herbicides to complex perennials differently
- Apply herbicides at appropriate time based on phenology

3. Vegetation Management. In recent years, wildfire has impacted more than 2 million acres in northeastern Nevada. This program teaches land managers/owners about applications of appropriate rangeland vegetation management to avoid crossing thresholds (after fire) that would cause irreversible changes in rangeland vegetation and resultant undesirable effects on both livestock forage and wildlife diversity/habitat.

During 2016, we made 7 presentations related to vegetation management in 8 venues, reaching at least 306 adults, and co-authored several other related presentations. Audiences included diverse constituents at national, regional, and state conferences/workshops and Great Basin College natural resource classes. These presentations were driven by the continuing concern regarding sage-grouse and other sagebrush-obligate wildlife species, with specific reference to habitat needs and plant community functionality.

Research is an integral component of Extension's Vegetation Management. During 2016, we revised and resubmitted a manuscript to the journal, *Restoration Ecology*. This article, on "Evaluating Strategies for Increasing Plant Diversity in Crested Wheatgrass Seedings," summarized the results of our 5-year federally-funded study and was published online in July. We also participated as co-author of a manuscript on mowing Wyoming big sagebrush, which was published during 2016 in *Rangeland Ecology & Management*.

4. Creeks and Communities/Riparian Proper Functioning Condition. As a member of the Nevada Creeks and Communities Team, Extension taught 3 classroom modules and 1 field exercise at a 2-day riparian PFC workshop (August 2016). Our presentations delineated the principles of riparian attributes and processes that contribute to riparian functionality and associated production of multiple use values (especially livestock forage, wildlife habitat, and recreation). The 35 workshop participants included primarily agency personnel and college-age Great Basin Institute employees contracted by the BLM to conduct riparian assessments.

We used a retrospective survey instrument to evaluate the educational impact of the PFC workshop. Results from the 19 respondents (54% the 35 participants) showed that the information was useful and that most workshop participants would apply the knowledge that they gained. Two workshop participants had attended Extension-led riparian workshops previously, and both of them were using information that they had learned. Asked for examples of how they would apply information learned at the workshop, the following statements are representative of participants' responses:

- I will directly use PFC for conducting riparian assessments
- I will use these critical thinking skills while inventorying springs
- I'll be more tolerant of cattle grazing and emphasize more on cattle management

Riparian PFC is now recognized as the foundation for assessing sage-grouse late brood rearing habitat (especially meadows habitat), which is increasingly recognized as a fundamentally important focus for sage-grouse conservation. Extension is assisting with an ongoing grant-funded study on the impacts of wild horses and domestic livestock on such late brood -rearing areas. **In 2016, the Nevada Creeks and Communities Team received the "Soil and Water Conservation Society's 2016 Merit Award" (national award) for effectively teaching this educational program.**

5. Nevada Youth Range Camp (NYRC). Extension faculty teach annually at NYRC, with an attendance this year of 18 high school students from 8 Nevada counties. We taught the wildlife component and co-taught sagebrush ecology and plant identification. NYRC participants acquire a better understanding of Nevada's natural resources, ranch management (during a tour of a local ranch), the diverse vegetation of Nevada, and the wildlife that depend on these habitats. Each year camp participants submit a written evaluation, specifying the knowledge they gained from each of the instructional modules.

In February 2016, Katlyn Uhart (from Wells), the NYRC 2015 runner-up for "Trail Boss" (top camper award based on performance), competed in the High School Youth Forum at the Society for Range Management's International Conference in Corpus Christi, TX. She placed first in the competition with an oral presentation on collaborative conservation. Another former Trail Boss winner, Lewis Mendive, now attending UNR in CABNR's Range program, won first place in the collegiate extemporaneous speaking contest at the same conference. These are just two recent examples of "range camper" success. NYRC has been conducted for 55 consecutive years and has a track record of introducing students to careers in, or appreciation for, rangelands and natural resource management. Many NYRC "veterans" continue to grow in their understanding through activities such as 4-H, FFA, and eventually studies at UNR or elsewhere. History (through self-reporting) shows that some of these youth begin to consider a natural resources career at this camp. Several campers have attended UNR/CABNR or other universities in the West and pursued careers in natural resource management. Some have become leaders in agencies or owners/managers of ranches.

6. Collaborative Resource Stewardship. During 2016, Extension continued its involvement assisting the Shoesole Resource Management Group (comprised of the Cottonwood, Boies, and Home Ranches north of Wells)). We have reported annually on the repeated successes of this team in reducing the conflicts surrounding public land grazing and enhancing natural resources while improving the participating ranchers' economic situation and sustainability.

During this year's summer tour, the Shoesole RMG celebrated 20 years of collaborative partnership. A recent study by Trout Unlimited showed, based on analysis of aerial photography (in 1986, 1995, 2010, and 2013) for the stream reaches of the Cottonwood and Boies ranches, that riparian vegetation has increased along 66% of the major streams grazed by the Boies Ranch and 90% of the major streams grazed by the Cottonwood Ranch. These improvements occurred concurrently with the grazing strategies implemented as part of the Shoesole RMG's management recommendations. The results of this study corroborate the results of BLM quantitative stream survey data. According to rancher Robin Boies, "The "go slow to go fast" collaborative process and model show very obviously that both resource outcomes and the building of human relationships are results of time well-spent."

These long-term outcomes are at least partially a result of the synergism between two of Extension's teaching programs: Range Management School (where livestock grazing management principles are taught), and Riparian Proper Functioning Condition (where principles of riparian health are taught). Several members of the Shoesole RMT have attended Extension workshops on these topics and are implementing the principles learned. **In September of 2016, the Shoesole RMG members received a national award from the Bureau of Land Management, the "Range Stewardship Award – Partner Group."**

In 2016, Extension submitted a manuscript, "Shoesole Resource Management Group Case Study – 20 Years of Collaborative Conservation Success," for publication as an Extension special publication (currently being peer-reviewed). We also completed a related fact sheet, "Successful Collaboration for Columbia Spotted Frog Conservation in Northern and Central Nevada," chronicling the successful partnership efforts of another collaborative group, the Columbia Spotted Frog Technical Team, for which Extension was the team leader over a 10-year period. As mentioned in last year's report, the efforts of this group were at least partially responsible for the U.S. Fish and Wildlife Service's determination that the Great Basin Distinct Population Segment of the Columbia spotted frog did not warrant federal protection under the Endangered Species Act.

7. Living With Fire. This comprehensive, multi-agency program is aimed at teaching people how to live more safely in high fire hazard environments. In 2016 Natural Resource Specialist, Ed Smith, traveled to Elko to promote steps homeowners can take before, during and after a wildfire and encouraging fire adapted communities, neighborhoods located in wildfire-prone areas that can survive wildfire with little or no assistance from firefighters.

- 8. Nevada Wildfire Awareness Week.** The purpose of NVAW is to recruit and coordinate a variety of resources to promote awareness and action concerning Nevada wildfire issues during a dedicated week in May.

E. HEALTH AND NUTRITION.

Cooperative Education's nutrition programs target at-risk populations to help youth and adults develop healthy eating habits and lifestyles, preventing chronic diseases and saving health-care costs for the entire community.

- 1. Radon Testing in Elko County Homes.** The Elko County Cooperative Extension Office offered literature, educational programs and radon test kits to educate citizens about the radon health risk. Residents learned about radon hazards, how to test for radon exposure and mitigation procedures. Residents purchased short-term tests from the UNCE office and obtained additional information from www.unce.unr.edu/radon website. Additionally, residents obtained free test kits by attending the radon presentation in January and from the Cooperative Extension office in January and February.
- 2. Veggies for Kids.** This school-based nutrition education program promotes adequate intakes of vegetables and fruits, awareness and use of traditional American Indian foods, and provides an introduction to growing food plants. This program is conducted at Owyhee Combined School.

F. HORTICULTURE.

Horticulture includes a variety of topics important to residents of Elko County. These include landscape plantings, houseplants, gardening, turf grass management, irrigation technology, urban forestry, garden entomology and pest management, general and structural entomology, and vertebrate pest management, growing plants in a short growing season, among others. The Elko Cooperative Extension office responds to hundreds of horticultural questions annually.

- 1. Grow Your Own Gardening Series.** Grow Your Own provides horticultural and gardening information to homeowners who desire to become successful backyard food producers in our unique high-desert climate. In 2016 a fall and spring series of workshops were offered to Elko County residents. Sixteen two-hour sessions covered topics ranging from vegetable cultivar selections to composting and harvesting/preserving. More than 40 participants attended the gardening series in Elko County, a 50% increase over 2015.

Fiscal Summary

Revenues	(1) Actual Prior Year Ending 6/30/15	(2) Estimated Current Year Ending 6/30/16	Budget Year Ending 6/30/17 (3) Tentative Approved	Budget Year Ending 6/30/17 (4) Final Approved
Taxes: Ad Valorem	172,494	184,787	192,800	193,039
Intergovernmental Revenue:				
Federal Grants	0	0	0	0
Consolidated Tax	0	0	0	0
Other	0	0	0	0
Miscellaneous:				
Interest	0	0	0	0
Other	0	0	0	0
Other Financing Sources: Transfers in:				
Beginning Fund Balance:				
Reserved				
Unreserved	140,753	134,099	147,097	147,217
Total Beginning Fund Balance	140,753	134,099	147,097	147,217
Total Available Resources	313,247	318,886	339,897	340,256

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Expenditures by Function and Activity	(1) Actual Prior Year Ending 6/30/15	(2) Estimated Current Year Ending 6/30/16	Budget Year Ending 6/30/17 (3) Tentative Approved	Budget Year Ending 6/30/18 (4) Final Approved
Salaries and Wages	52,280	53,721	53,302	53,302
Employee Benefits	27,234	27,453	28,631	28,509
Services & Supplies	99,634	90,495	90,495	88,685
Capital Outlay			125,000	125,000
Activity Total	179,148	171,669	297,428	295,496
Other Uses: Contingency (Not to exceed 3% of Total Expenditures – All Functions)	-	-	-	-
Operating Transfers Transfers Out: Bond Income Fund	-		-	
Ending Fund Balance: Reserved				
Unreserved	134,099	147,217	42,469	44,760
Total Ending Fund Balance	134,099	147,217	42,469	44,760
Total Fund Commitments and Fund Balance	313,247	318,886	339,897	340,256