



EXTENSION
College of Agriculture,
Biotechnology & Natural Resources

EXTENSION | HUMBOLDT COUNTY

Annual Report | Fiscal Year 2021 (July 2020 - June 2021)

University of Nevada, Reno Extension is engaged in Nevada communities, presenting research-based knowledge to address critical community needs in the areas of agriculture; children, youth and families; community and economic development; horticulture; health and nutrition; and natural resources. It is a county-state-federal partnership providing practical education to people, businesses and communities. It is a unit of the University's College of Agriculture, Biotechnology & Natural Resources, and plays a vital role in fulfilling the University's land-grant mission.

Extension, Humboldt County Office

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PROGRAM IMPACTS

RANGELAND RESOURCES

- Rangeland education program had at least 500 student contacts.
- Continued participation in the following collaborations: a) Jordan Meadows and Kings River Collaborative Grazing Management processes; b) the Santa Rosa Range Management program; and c) the North Central Nevada Sage-grouse local work group. Extension Educator, Brad Schultz's role is to ensure that participants have the appropriate peer reviewed research available to help inform discussions and decisions.
- Reviewed and summarized the published literature about riparian community composition, the role of depth to groundwater, and factors that influence depth to groundwater at multiple scales, and provided results for inclusion in the draft EA (not yet released) for the Santa Rosa Range Management Project.
- Continued the Santa Rosa Mountains "repeat photography study". Approximately 150 sites, with original photos taken 30 to over 100 years ago had repeat photos taken. See photos at right.
- Conducted a state-wide forage-loss assessment so that the USDA Farm Services Agency Insurance Program had adequate data to distributed funds for forage losses due to drought.



Hillside above the Forks of Martin Creek in the summers of 1920 (top) and 2021 (bottom). Site has changed from mostly dead shrubs and bare ground to now healthy shrubs and abundant grasses.

PROGRAM IMPACTS (CONTINUED)

NOXIOUS AND INVASIVE WEEDS

Noxious and invasive weeds are widespread throughout Nevada and threaten the productivity of cropland, pasture and rangeland. The Humboldt County Extension Educator interacts with the Paradise Valley Weed Control District, the Humboldt Watershed Cooperative Weed Management Area, the Nevada Department of Agriculture and the Nevada Conservation Districts, providing research-based information for weed issues they encounter.

- The Humboldt County Commission continued to supplement the Extension budget (\$25,000) for weed control and management efforts. These resources helped implement weed control efforts on several thousand acres in fiscal year 2021, largely in Paradise Valley,
- Brad Schultz participated in weed management workshops in virtual and live formats. He made educational presentations about the different life-forms of weeds; their different root systems; their annual growth patterns; and how these attributes influence carbohydrate flow at different growth stages. He also discussed weed seedbanks, options and management. This information is critical for the successful management of hard to control deep-rooted, complex perennial forbs (i.e., buds on both the roots and root crowns). This education informs students about the importance of properly timing herbicide treatments for each species, and the need for a long-term follow-up control program.
- Published manuscripts for three priority agricultural weeds in Nevada: perennial pepperweed, hoary cress and Russian knapweed. Completed draft manuscripts, for peer review, for Canada thistle and leafy spurge and initiated another paper.



HUMBOLDT COUNTY 4-H

4-H

- Implemented the rural school "4-H In-School" program. Reached youth grades K – 8 in Paradise Valley, Kings River, Oroville and Denio with 4-H STEM programming for the 2020-2021 school year.
- The Humboldt County 4-H Program included 16 active traditional 4-H clubs, 21 volunteer leaders and 240 traditional club members. 4-H youth exhibited 135 projects at the 2020 Tri-County Fair, 4-H Small Animal Show and Tri-County Junior Livestock Show.
- Participated in the third State 4-H Annual Survey.
- Partnered with the Humboldt County Library to hold a variety of STEM events, including the *Mars STEM Challenge*, for youth ages 5 to 12 for fall of 2020 and spring of 2021.
- Collaborated with the *Up from the Mucc Foundation* and *Nevada Outdoor Schools* to hold three youth leadership day camps and two outdoor-skills day camps for local youth (June & July of 2021).
- Presented carcass data for all Humboldt County 4-H market animals and discussed acceptable and desired carcass characteristics including which carcass attributes receive a premium price, the value of each animal on the market grid, explanations for why each animal received its respective grade, and suggestions about how to improve carcass quality (Fall of 2020).
- Recruited a new foods and nutrition/cooking leader who then re-started a cooking club for the spring of 2021.
- Continued to work with volunteers and committees to provide accurate information on changing guidelines and requirements due to continued Covid-19 guidelines and restrictions.

4-H AND YOUTH IN ACTION



SUPPORT FOR OTHER EXTENSION AND COMMUNITY PROGRAMS

- The Humboldt County Extension Office addresses various horticultural issues that affect County residents, and disseminates research based materials to help resolve those issues and educate the public.
- The Extension Office hosted the *Grow Your Own Program* which originates from the Washoe County Extension Office.
- Extension faculty with statewide youth development roles have developed the *Just in Time Parenting* program which the Humboldt County Extension Office assists in implementing via dissemination of research based publications and materials.
- The Humboldt County Extension Office distributes home radon testing kits and disseminates literature about the dangers of radon gas, a primary cause of lung cancer among non-smokers.
- The Extension Educator assists with community development by residing on the Board of the Humboldt Development Authority (Vice-Chair).
- Secured funding from the County Commission to remodel the 4-H Kitchen. Other capital improvements have been delayed due to Covid-19 issues and supply chain constraints.
- The Extension Office assists with health and nutrition programming by providing meeting space for *TOPS (Taking Pounds of Sensibly)* to hold weight control education meetings.
- The Extension Educator provides weekly input to the U.S. Department of Agriculture | National Agricultural Statistics Service Crop Progress Report.
- Completed harvested sagebrush carcass seeding study initiated by former Extension Specialist, Kent McAdoo. The study found that sagebrush harvested at the seed dissemination stage and staked to the ground can increase seeding success compared to traditional methods.

PROGRAM IMPACTS (CONTINUED)

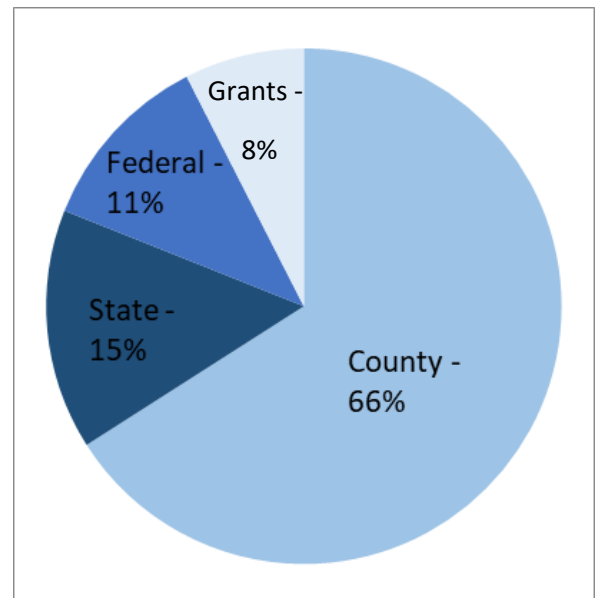
SCHOLARSHIP AND RESEARCH RELATED TO EXTENSION PROGRAMMING IN HUMBOLDT COUNTY

- Schultz, B.** and S. Foster. 2021. *Nevada's Priority Agricultural Weeds: Perennial Pepperweed*. Special Publication 21-01. 14 p.
- Schultz, B.** and S. Foster. 2021. *Nevada's Priority Agricultural Weeds: Russian Knapweed*. Special Publication 21-02. 12 p.
- Schultz, B.** and S. Foster. 2021. *Nevada's Priority Agricultural Weeds: Hoary Cress*. Special Publication 21-03. 12 p.
- Perryman, B.L., **Schultz, B.W.**, and P. Meiman. 2021. *A Change in the Ecological Understanding of Rangelands in the Great Basin and Intermountain West, and Implications for Management: Revisiting Mack and Thompson (1982)*. Rangeland Ecology and Management. 76:1-11. Open access at: <https://www.sciencedirect.com/science/article/pii/S1550742421000038>
- Johnson, D. and **B. Schultz**. 2021. *Reasons to Consider Using a Land Management Decision Support Tool*. International Conference, Society for Range Management. Virtual. February 15-18, 2021. With Abstract.
- Schultz, B.**, Perryman, B., Thacker, E. and T. Rajabov. 2020. *Food Security and the Need for Improving Rangelands to Meet Human Needs*. International Conference "Food Security: National and Global Challenges." Samarkand State University, Samarkand Uzbekistan. October 16-17, 2020. Invited Plenary Video Presentation.
- Schultz, B.** 2020. *2020 Forage Loss Assessment for Nevada*. Technical Report to the USDA Farm Services Agency. 31 p. Submitted on December 23, 2020.
- Meiman, P.J. (PI), **Schultz, B.W.** (co-PI), Tull, J. (Collaborator), Kutosky, W. (Collaborator) and C. McAdoo (Collaborator). *Winter Annual Grass Seedling Reduction for Restoration of Native Sagebrush Grassland Plant Communities*. Special Publication #210037 (FWS ID: F20AC11454-00). US Fish and Wildlife Service. \$248,748.
- Schultz, B.** and J.K. McAdoo. 2021. *Placing Fall-harvested Wyoming Big Sagebrush Plants to Catch Snow and Provide Seed for Creating Sagebrush Islands – Final Project Report to USFS Rocky Mountain Research Station*. 21 p. **Project Agreement No.** 17-JV-11221632-016. 21 p.

REVENUE AND EXPENSES FOR FISCAL YEAR 2021 (JULY 2020-JUNE 2021)

Total Revenue	\$ 700,662
Approved County Budget	\$ 462,169
State Funds	\$ 105,664
Federal Funds	\$ 80,162
Grant Funds	\$ 52,667
Total Expenses	\$ 488,567
County Funds	\$ 250,074 ^a
State, Federal and Grant Funds	\$ 238,493
FY 2019-20 Balance	\$ 212,095
County Ending Fund Balance	\$1,205,903

Percent of Revenue by Funding Source



^a An additional County contribution includes an in-kind value of approximately \$450,000 annually on buildings, facilities, and administrative support. The value shown includes approximately \$124,000 from the property tax assessment and the remainder from the Cooperative Extension Ending Fund Balance.

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