Montezuma Land Conservancy

WSRF 6-month and Final Report

Project: *Montezuma Land Conservancy and Southwest Colorado Research Center: Innovative Agricultural Management and Colorado's Next Generation of Water Leaders*

Water Project Overview:

This project seeks to bring together a diverse collaboration of partners in Montezuma County to engage, educate, and empower youth, agricultural producers, and the public. Our goal is to help create a more resilient, connected, and collaborative community that is positioned to transition into the future of water in Colorado in the face a changing climate and a growing population. The project is broken into two objectives described below. To accomplish this goal, we will bring together dedicated community partners to collaborate on a project that no single partner would be able to carry out on their own. The project will utilize MLC's education center, called Fozzie's Farm, as a site for research and public education. The research component will look at regenerative agricultural strategies that focus on building soil health as a method for conserving water, and the use of soil moisture technology as a method for more efficient irrigation applications.

Tasks
Task 1 – Irrigation and Soil Research Monitoring
Description of Task:
With Colorado State University (CSU) research staff at the helm, this task will seek to design and implement a scientific research project on MLC's Fozzie's Farm with youth program participants assisting. This project will focus on soil moisture monitoring for the purpose of enhanced irrigation water application strategies, and monitoring soil health over time as management changes occur on the farm. The goal is to show producers and the public strategies for conserving water through both application management and changes in overall farm management that seek to use improved soil health as a method of water conservation. While this protocol will be developed with Fozzie's Farm needs in mind, the goal is to create something easily replicable on other agricultural operations.
6-Month Report
The installation of the irrigation monitoring technology was completed in mid-summer of 2020 and the data collection began during the late summer. Due to delays in shipping and manufacturing due to COVID-19 the timeline was pushed back later than ideal. The project had hoped to install the materials in late spring thereby allowing a full irrigation season's worth of monitoring in 2020. Irrigation monitoring is going well and the project looks forward to entering the 2021 season with full capacity to monitor the entire season and engage students at a deeper level with the citizen science components identified in the following task. Ongoing work with CSU in this project is being supported by the matching Water Plan Grant dollars.
Final Report Project Summary As outlined above in the 6-Month Report and specified in the Statement of Work, scientific monitoring equipment was installed in the research pasture in July of 2020. At that time baseline soil health data was collected to a depth of 6' with a Giddings probe and sent to Ward

Tasks
Laboratories, Inc. for analysis. Forage production was measured and recorded. During the 2021 growing season, soil health monitoring continued, along with measuring forage production levels and completing line-point intercept transects. Soil moisture data was compiled and tracked throughout the irrigation seasons. (See the attached documents for summaries of the procedures and results.) The monitoring of soil health, water usage, and forage production has provided us with a solid baseline from which we can better understand the land we manage. While the data has proven useful, firm conclusions remain to be determined. However, one preliminary finding seems clear: our flood irrigation practices have resulted in applying more water to our fields than necessary. Throughout the 2020 and 2021 irrigation seasons, the field capacity levels (water content measurements) in the research plot at both the 12" and 24" depths regularly exceeded the recommended levels for our soil types (0.3% for loam), and the allowable depletion in soil moisture levels never approached the low end of recommendations (0.18%). This was the case for both the control side and the deficit irrigation side of the field, though to a lesser degree in the latter. We suspect that other producers in our area who use flood irrigation methods may also be overwatering; hopefully, our future findings can clarify this hypothesis and create more opportunities for water conservation. As our research continues and as we refine our water management practices, the scientific methods we have set in motion will continue to guide decisions. Obstacles Encountered and Overcome The pandemic delayed the production, shipment, and installation of the equipment in 2020. We also experienced technical issues with the flow meter, making precise measurements of the volume of water applied to each plot difficult to obtain and record. We hope to obtain a new flow meter for future tracking of water usage. Due to the difficulty to apply water precisely to separate portions of the research plot using flood irrigation methods, our research team decided in the summer of 2021 to alter the trial somewhat. In the test plot we chose to skip two of the four irrigations that the control side of the field received, simulating an irrigation water supply shortage. Forage production levels were measured a 2nd time in late September of 2021 to gauge how the deficit irrigating affected production. 2020 and 2021 presented vastly different grazing situations, making direct comparisons somewhat problematic. But the researchers concluded the variations would still allow us to draw reasonable conclusions. As this project is also funded with a complementary Water Plan Grant through Colorado Water Conservation Board, the final white paper described in the statement of work will be delivered at the completion of the project and included with the grant reporting documents in June of 2022. The white paper will provide updated details on the results of our data collection and further analysis.

Tasks
Task 2 – Citizen Science: Youth Exploration and Engagement
Description of Task:

Tasks

We believe in the power of youth and the importance of preparing the next generation to meet the challenges of water conservation and climate change head on. For the Water Plan to be successfully implemented, emphasis on youth engagement should be a primary priority. By engaging youth in the direct scientific research of this project, as well as the public outreach, we seek to empower these young people to take agency in conservation and advocacy. To this end, youth will be a key player in this grant at all steps.

Research has also shown the power and impact of experiential education in schools and the importance of getting youth outdoors to connect to nature. By engaging youth in the research portion of this grant we offer a unique opportunity to learn about physical sciences, agriculture, scientific method, and critical thinking further developing important lifelong skills. Additionally, youth participants will be eligible to receive credits towards graduation.

MLC has worked diligently with Southwest Open School (SWOS) to identify opportunities for students to receive credits towards graduation for participation in our Summer Agricultural Immersion Program and Student Internships. Not only do these programs provide youth the opportunity for academic credits but they also touch on key principles emphasized in the Colorado Department of Education's work based learning and Innovative Learning Opportunities which state:

"Innovative learning opportunities may include work-based learning such as apprenticeships or residency programs, enrollment in postsecondary courses taught on college campuses, competency-based learning or capstone projects, and other learning experiences that are designed to help students develop and demonstrate personal, entrepreneurial, civic and interpersonal, and professional skills as described in CDE's Essential Skills Required in the Colorado Academic Standards."

SWOS staff have identified the following Work Based Learning opportunities and essential skills created by this grant:

1. Initiative/Self Direction
2. Adaptability/flexibility
3. Perseverance/Resilience Critical thinking/problem solving
4. Inquiry/Analysis
5. Collaboration/teamwork
6. Communication
7. Global/Cultural Awareness
8. Civic engagement
9. Task/time management
10. Career awareness
11. Leadership

Students are eligible to receive .25 credits per 30 hours for work-based learning that incorporates these essential skills. Work based learning that incorporates on-farm labor allows students .25 credits per 60 hours. Students are also eligible to receive academic credits for English and speech for the public outreach component of this grant as well as science and math credits (including integrated science, life science, earth science, and agricultural science) for the research component. Please feel free to contact applicant for a complete breakdown of Colorado State educational standards used by SWOS administration to cite these credits as it is too extensive for the purposes of this application.

6-month Report

Tasks
The funds from WSRF for this task are intended for the use during the 2021 Summer Agricultural Immersion program with Southwest Open School (SWOS). These tasks have not been carried out yet.

Final Report

Project Summary The Agriculture Immersion Program was offered to students at Southwest Open School (SWOS) and began on June 7, 2021 and ended July 1. Eight students participated and earned a weekly stipend and credit towards graduation requirements commensurate with their attendance and participation. See the attached letter from the school registrar. Throughout the four-week program the youth received hands-on training with irrigation practices at Fozzie's Farm, including servicing and moving side roll equipment and using gated pipe for flood irrigation. They worked alongside our research partners from CSU to collect and measure forage production and complete line intercept transects in both the test and control portions of the research plot. The group also traveled to other farms, ranches, and natural resource management locations to further their understanding of the impacts of the drought, the variety of agricultural production models in our region, and to learn about career and education opportunities in the fields of agriculture and conservation. On all of the six field trips the students engaged in experiential learning and service projects. Students kept field journals where they recorded observations, illustrations, and reflections on their experiences. (See the attached documents and photos)

In addition to the Agriculture Immersion Program, grant funds covered the wages of five youth farm interns in 2021. Staff provided an orientation on June 1, and each young person worked approximately 20 hours per week from then through August 15. Three continued working part-time after the new school year began until mid-September, when our irrigation season ended. They received more in-depth instruction on the operation of the irrigation equipment and took over the maintenance chores and evening water moves each day. They, too, traveled to various sites to learn more about the area's watersheds and irrigation infrastructure, including a tour of the Dolores Water Conservancy District's control room and pumping station at McPhee Reservoir. At the Ute Farm and Ranch, they met with the head irrigator and saw first-hand the impact of the drought on the tribal enterprises. They also joined the Agriculture Immersion Program youth and CSU researchers in the citizen science work of collecting data for our research project. (See the attached letters from these partner organizations.)

Although the Water Plan Grant from CWCB covered the costs, we hosted a field day on October 6, 2021 to share with the public our progress on the research project and youth engagement. Our partners from the High Desert Conservation District, CSU, the Four Corners Water Center at Fort Lewis College, the Water Information Program all shared timely information. Youth from Fort Lewis College and SWOS also shared about their role in the research and provided a hands-on demonstration in the test plot of our data collection methods. Though the Agriculture Immersion Program participants and Fozzie's Farm interns were not able to participate due to required school attendance, we shared their reflections on their work with a video compilation.

Obstacles Encountered and Overcome Recruiting youth to participate in the Agriculture Immersion Program was inhibited by the pandemic and restrictions placed on schools for public health considerations. The pandemic also impacted in-person attendance at SWOS, making follow up with student applicants challenging. We fell short of our target of recruiting 12 students, and several of the eight who participated failed to attend all of the four weeks. Most sited the extreme heat conditions we experienced in June.

While the pandemic presented challenges, it also created new opportunities to engage youth with our water education programs and research project. In the winter of 2021 MLC staff supported a statewide collaborative education project with middle school students called "Water for Everyone." Three groups from Deer Hill Expeditions based in Mancos, Colorado camped at Fozzie's Farm in the spring and summer. Another summer outdoor adventure partner, Telluride Academy, brought youth to the farm for four days in July from around the United States. The local School Community Youth Collaborative

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held their weekly meetings of the Youth Advisory Council at Fozzie's Farm throughout June. All these groups assisted staff and interns with the daily irrigation work, studied maps of the watershed and regional irrigation infrastructure, and learned about the ongoing research. (See the attached letters and photos from these partner organizations.) MLC's partnership with SWOS continues to evolve. In the fall of 2021, staff from CSU and MLC visited a SWOS STEM class to introduce more students to the applied science going on at Fozzie's Farm and the Southwestern Colorado Research Center. Our data sets provided real-world context for their exercises in statistics. The same students visited the farm twice in September and October to participate in additional data collection, discuss climate change and aridification, and build a working model of the watershed and irrigation diversions. Two student interns were hired to assist MLC staff with these water education efforts and to facilitate peer-to-peer learning. One intern is a student at Fort Lewis College in Durango, and the other is a SWOS student and former participant in the Agriculture Immersion Program and the Telluride Academy summer camp.

Montezuma Land Conservancy

Innovative Agricultural Management & Colorado's Next Generation of Water Leaders

Task 1 Attachments

Bagging and labeling soil samples

Collecting forage samples

Installation of the equipment

Flow meter

Downloading soil moisture data from the data logger

Measuring soil core samples

Soil moisture probe

Soil Sampling Giddings probe

Task 2 Attachments

2021 Ag immersion students at Mesa Verde national park

Ag immersion students at the Old Fort Lewis Farm

Ag immersion students at Ute Farm and Ranch learning about center pivot irrigation.

Youth from Deer Hill learning about on gated pipe irrigations at Fozzies Farm.

Youth from School Community Youth Collaborative learning about flood irrigation.

Southwest Open School students using the infiltrometer

Southwest Open School students mapping the watershed

Southwest Open School students building a watershed model

Telluride Academy students at the McPhee overlook

Telluride Academy moving side roll irrigation in the morning

Field Day @ Fozzies Farm

Field Day presentation

Water Education Interns

Forage Data Summary

At Fozzie's Farm we used rotational grazing during the 2020 and 2021 grazing seasons. The five-acre research pasture was grazed by cattle in 2020 on two occasions. Approximately 36 Animal Units grazed for five days, May 3-7; then after 65 days of re-growth, 90 Animal Units grazed for four days July 12-15. In 2021, 50 AU (cattle) grazed the pasture April 22-30 for nine days, followed by 30 days of regrowth. The same number returned June 1-6 and grazed again for six days. July 5-15 a smaller group of just 12 AU grazed for 11 days. We anticipate a third dormant season grazing in the late fall of 2021 by up to 100 AU.

On each side (control and test) of the 5-acre pasture we collected two intercept line point transects for baseline plant diversity data and 5 biomass hoop clippings to measure forage production at this point in the growing season. The biomass production is a point in time measurement that can be used to measure how much forage is currently standing but is not a measurement of total production for the season. We didn't expect to see changes in biodiversity in the 2 years of this project because those changes will only be seen long term. Production is expected to fluctuate year to year because of differences in precipitation or irrigation water availability. Our goal with collecting plant biomass and plant biodiversity data is to track how those results change in the future while MLC implements sensor-based irrigation strategies in this pasture the long term (5-10 years).

Emily Lockard taught Fozzie's Farm interns, SWOS Agriculture Immersion Program participants, and guest students from Deer Hill Expeditions about pasture monitoring and the role of rotational grazing management in this project. The students participated in data collection with the assistance of local extension agents Gus Westerman and Greg Felsen, and extension intern Chelsey Miller.

In 2020 the hoop clippings showed the east section produced 1,152 lb/ac and the west section 1,396 lb/ac. In 2021, the east section produced 1,330 lb/ac, and west section 1,488 lb/ac. The west section appears to produce slightly more biomass than the east section which makes sense based on the slope of the field. We will continue to measure biomass production to show changes as future strategic watering strategies are implemented in this field.

Year	Date	West—test/deficit (lb/ac)	East--control (lb/ac)
2020	June 8	1,396	1,152
2021	June 28	1,488	1,330
	September 29	1,828	2,520

Figure 1. 2020 and 2021 biomass clipping results.

We also conducted line-point intercept transects on the east and west sides of the field in 2021. Due to scheduling and safety concerns, line-point intercept transects were not collected in both fields in 2020. The compiled data from line-point intercept transects communicates the percent foliar cover of plants and soil surface cover. We were interested in documenting the current diversity on each side of the field so we can track changes to diversity and production indicators like changes in percent cover of weeds and bare ground. Students learned line-point intercept transect methods and plant identification during this process.

The most common plants identified on the west side were tall fescue (33.53% foliar cover), plantain (20.96%), orchard grass (16.77%). Bare ground was 2.99%. The most common plants identified on the east side were bluegrass (33.99%), orchard grass (13.07%), and tall fescue (26.14%). Bare ground was 3.92%.

	West side (% cover)	East side (% cover)
Plant cover		
Timothy	1.80	1.96
Dandelion	2.40	0.00
Bluegrass	6.59	33.99
Smooth Brome	8.98	5.88
Orchard Grass	16.77	13.07
Plantain	20.96	5.23
Tall Fescue	33.53	26.14
Bindweed	0.00	4.58
Chicory	2.40	0.00
Soil surface cover		
Bare Ground	2.99	3.92
Litter	2.99	4.58
Basal hit	0.00	0.65

Figure 2. 2021 line-point intercept results. Data collected 6/28/21.

Soil Sampling Summary

In conjunction with the pasture management we also sampled soil measurements. On each side (control and test) of the 5-acre pasture we collected soil moisture using a Campbell Scientific CR 206X data logger powered via a solar panel and 4 CS 655 soil probes at both 12 inch depth and 24 inch depth. These measurements included volumetric soil content, electrical conductivity and minimum and maximum soil temperature data taken in 2 minute intervals throughout the season. The below graphs summarize the two depths and the watering schedule as well as the drying off periods for the 2020 field season. 2021 data is still being analyzed. (Figure 1, 2, 3).

In addition to the soil probe data we collected soil samples to a depth of 3-6 feet using a mounted Giddings probe. The Giddings probe is a hydraulic probe that penetrates the soil using a 1 inch wide probe. The samples are divided into 6 inch samples and sent off for testing. The testing included macronutrients (Nitrogen, Potassium, Phosphorus) and micronutrients (Calcium, Magnesium, Sodium, Zinc, Iron, Manganese, Copper), as well as, pH, organic matter, % base saturation and a Haney test for biological productivity, active carbon, and a general soil health calculation. These samples were replicated across both the test and control areas of the field and combined for uniformity across the field. The tests were performed by Ward Laboratories (Kearney, Nebraska). The Haney test was performed on samples taken at a 6 inch depth. The fertility tests were taken at 12 inch depths.

Bulk density was also measured which is an indicator of soil compaction (USDA NRCS, 2008). This test was performed using the cylindrical core method (Arshad, et al., 1996). (Figure 4) A cylindrical ring is hammered into the soil and the weight and moisture are measured. This measure for compaction can be an indicator for grazing density and mechanical use to avoid compaction and water infiltration. The bulk density of soils is dependent on the soil texture and field history.

Figure 1. Soil texture effect on soil moisture capacity.

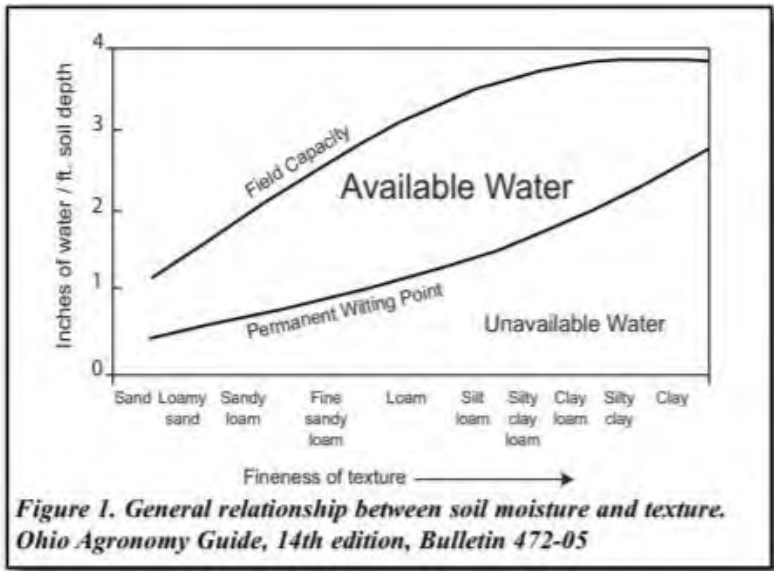


Figure 1. General relationship between soil moisture and texture. Ohio Agronomy Guide, 14th edition, Bulletin 472-05

Figure 2. Soil moisture measurements to a depth of 6 feet in both test and control treatments (2020).

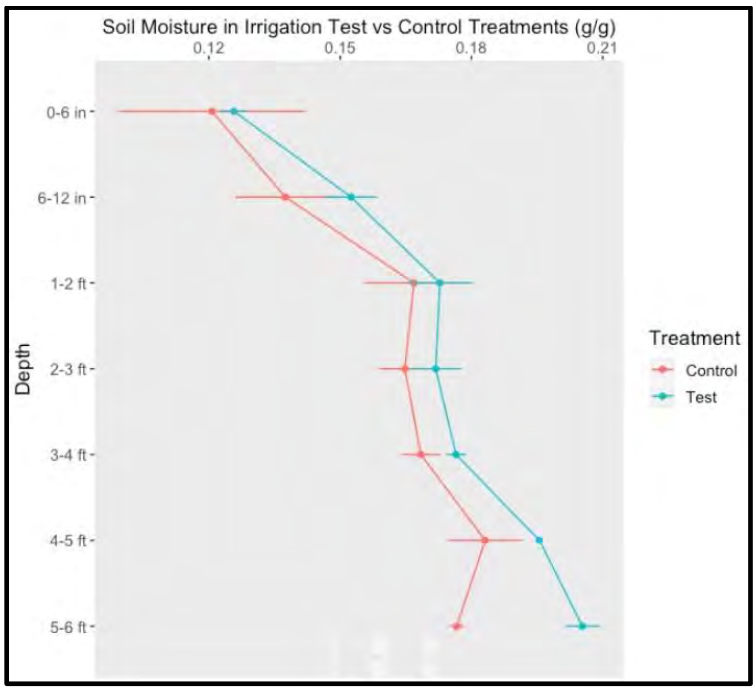


Figure 3- Soil moisture probe data (2020) for the full irrigation treatment. Top graph 12 in. depth, lower graph 24 in. depth.

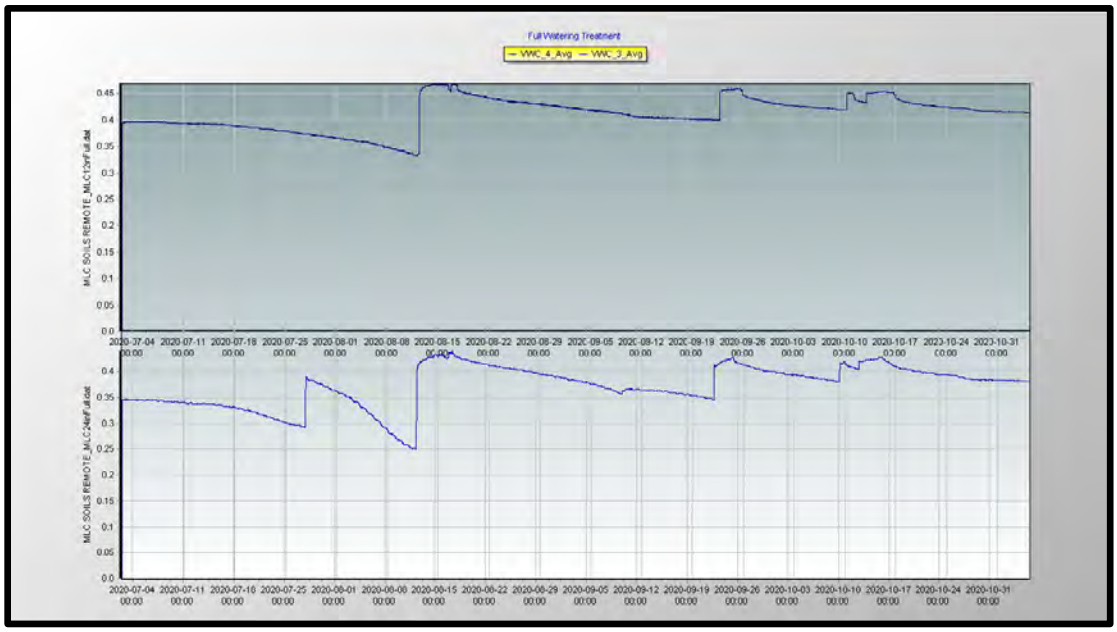
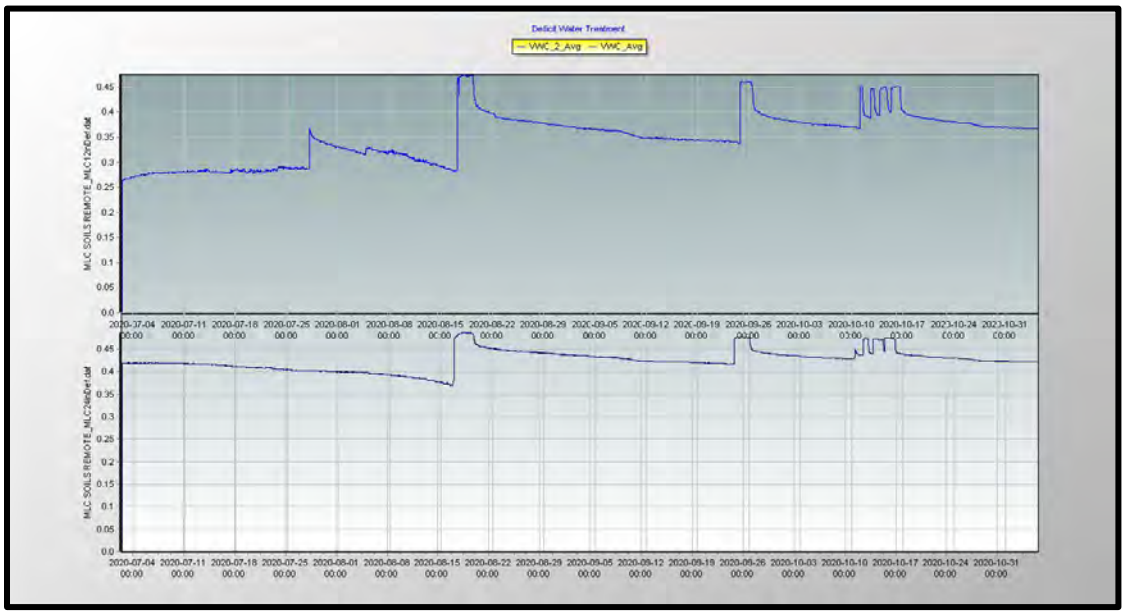


Figure 4- Soil moisture probe data (2020) for the deficit irrigation treatment. Top graph 12 in. depth, lower graph 24 in. depth.



Jul 27, 2021

Dear CWCB's Water Supply Reserve Fund (WRSF),

Throughout the 2020-2021 school year, I had the privilege of working with Jay Lochert and Montezuma Land Conservancy (MLC) and Fozzie's Farm. MLC and Fozzie's Farm were industry leaders and community partners for multiple of my 8th-grade science class projects. *Water is for Everyone* was a state-wide, virtual collaboration which morphed into a local, *Water Matters Podcast Project.*

75 students participated in the *Water Matter Podcast Project*, and each student determined their own role for contributing to the final product. Eight, of those 75 students, participated in a state-wide, virtual, *Water is for Everyone* collaboration and were Ambassadors for the kickstart of the *Water Matters Podcast Project.* The goal was to create a podcast about water, and students had to generate their own questions as it related to water. Their questions provided a path to interview industry leaders in the community to find their answers. Jay, and MLC's Fozzie's Farm provided an outlet for understanding the depths of carbon sequestration and implementing efficient irrigation systems within our drought-stricken region.

This project has inspired a continuous partnership with Jay and MLC's Fozzie's Farm. The grant from CWCB's Water Supply Reserve Fund is also extending the opportunities for students to connect with industry leaders in our community. I foresee extended collaborations with CSU's Southwest Research Center, the Four Corners Water Center at Fort Lewis College, and High Desert Conservation District.

We are changing the way we teach to be more conducive with how students learn. I have only been able to make this pedagogical shift because of the relationships and partnerships with industry leaders and community partners. We have Jay and MLC's Fozzie's Farm to thank, because students now have a solid foundation of finding the answers to their questions from people they know and trust.

Best,

Brittany Lang
M-CMS 8th-Grade Science & Gifted and Talented Coordinator
blang@cortez.k12.co.us

Dear Jay,

Our participants certainly got a full experience of the hard work that goes into maintaining a farm in the southwest and also the science and planning that plays an essential role as well. Climate change has become a common understanding amongst our participants and at times it can feel daunting on what they can do about it. They have experienced the droughts while hiking in the canyons, seen the forest fires that have been burning in the west, and seen low water conditions while rafting on the San Juan River. Being able to engage with you and at Fozzie's has opened their awareness on how we can and need to adapt in our water usage. Thank you for bringing the challenges of climate change to an approachable and accessible level to where now our participants can become good stewards of the land and our planet.

Alongside the learning, thank you for providing good hard-work opportunities. We've always believed in the power of community service and doing good work for others. It's such a rewarding gift and can teach our participants so much about themselves and their group as a whole. Your classroom provides an excellent setting in which our participants can connect the classroom learning with the practical, hands on learning on the farm, which aligns perfectly with the experiential learning model that we practice.

Thanks again for hosting us, we look forward partnering next year too!

-John

Owner/Director of Operations

Deer Hill Expeditions

To Whom it May Concern,

I am a current educator at South West Open High School (SWOS) in Cortez, CO, I was also privileged to work as the Program Director of the Agricultural Immersion Program with Montezuma Land Conservancy during the summer of 2021. This past summer the study of water in our community could not have been more relevant.

As you likely know we are facing a water crisis in the Southwest, one that is not likely going to go away and is definitely going to impact the lives of our young people. With only about 1% of the water on this planet available for human use and consumption and 32% of that water being used for irrigation (EPA) it seems invaluable for us to start connecting people to that reality. It seems especially important here in Southwestern Colorado, a headwater state, where we have been experiencing rising temperatures in the region and a long term drought that has so far lasted about 22 years.

In order to engage the students in this plight we have to connect them to it. To read about these issues in news articles is one thing, and to actually hear the stories from our community members is quite another. We visited a variety of different farms all with their own philosophies and purpose. We visited the Old Fort Hesperus and worked with their Farmer in Training (FiT) program, Ute Farm and Ranch, CSU's extension growing and research station, Battlerock Farm, a Solstice Sown Design property, a dry land farm, Mesa Verde where we learned about Ancestral Puebloans and their farming/gardening practices, and we met with members of the community to help educate us further on water issues in the Southwest.

All of these folks shared with us their wisdom and their stories, and we talked water. We heard stories about hundreds of acres being left unplanted and ranchers having to sell off entire herds of their cattle. We heard that this sort of drought could lead to economic struggles that last upwards of three years for the Ute Farm and Ranch. We also talked problem solving. The students heard from individuals who are addressing these issues first hand and helped them to work to do so. We saw first hand at Fozzies how our soil and water are connected. To protect water, we must protect soil. To grow food, we must grow soil. To grow community we must grow and nurture relationships.

I think the most important thing that was done during our Agricultural Immersion program was that we tended to these relationships first hand. For many of the students (for most people in general) their relationship to land and food has been severed. Most people do not realize all the resources and hard work that it takes to grow food. Most people do not realize all that has been done so that they could live in this landscape. Now these students know and they will tell their families. Most of our participants have no desire to go into agriculture, and that isn't the point. The point is that they know how much goes into growing their food, they know how much

this landscape and their community is doing to hold us all. What an incredible gift; they will be forever changed for it. I will also be forever changed and grateful to have helped in some small way, to have taken part in their journey.

To that point I would like to share one story of a young person whom I had in classes last year. He was moderately engaged and spent a significant amount of time on his phone, he did just enough academically to get by, but he has always been a hard worker. This young person signed up for the Agriculture Immersion Program, he continued to work hard and he is now interning out at Fozzies. He is giving presentations to his classmates and meeting with community members. I spoke with him the other day, he was wearing his MLC shirt and beaming about all that has come to him from this program, and all that he was doing, “I am going to speak with all of the members and give a presentation,” he told me. I know his friends and how some of them struggle, I worry about them, but not this young person. I truly believe his involvement in MLC has changed something for him, something in him.

This is the real work of building a healthy community and supporting our young people. I thank you for taking the time to read my words, know some story, and mostly for supporting our youth.

Sincerely,

devyn lacey
Educator
Southwest Open School
dlacey@cortez.k12.co.us

Dear CWCB's Water Supply Reserve Fund (WRSF),

It was a great honor to work with Jay Loschert and other water experts in a collaboration between several Colorado rural schools and the STEM School highlands Ranch.

Bringing subject matter experts to learning via this state-wide collaboration brought about awareness and ideas that continue to motivate our students and teachers.

Here is a short sport about the experience. http://stemk12.org/water-is-for-everyone/
https://youtu.be/2ct6IdZcGdk
https://youtu.be/Hdlt7aD0nsQ

Cortez teacher, Brittany Lang, was able to extend the learning experience into a wonderful model that continues to inspire and inform. https://blang403.wixsite.com/watermatters

If our planet is going to solve water issues, learning about water problems and creating solutions is essential for EVERYONE. In order to inspire and inform student-driven solutions, seven rural schools and the STEM School Highlands Ranch worked together with subject matter experts.

Students were divided into four groups, each containing students from different schools, mentors, and facilitating teachers.

1. Water Usage (scarcity, rights, technology, purification)
2. Irrigation-Farming
3. Fish and Wildlife
4. Climate Change (drought, wildfire, natural disaster)

The majority of the work was done between the virtual meetings by students; facilitated by their teachers, inspired and informed by the mentors.

The power of mentorship became the driving force to inspire and inform this student-driven, teacher-facilitated QUEST.

Gratefully,

Gregg Cannady, D.M.A.
Collaboration and Concept Development | STEM School Highlands Ranch
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303-917-7008

Homegrown
TALENT INITIATIVE

September 29, 2021
Chad Wheelus
cwheelus@cortez.k12.co.us

To whom it may concern,

I am writing this letter in support of the Fozzie's Farm program of the Montezuma Land Conservancy. My support is in relation to the Colorado Water Conservation Board's funding for MLC's grant titled Innovative Agricultural Management and Colorado's Next Generation of Water Leaders. I am the grant coordinator for the Homegrown Talent Initiative in the Montezuma-Cortez School District. Our program is designed to build community partnerships that allow for Work Based Learning(WBL) experiences for students. We focus on building these partnerships across industry and organizations, including non-profits. Then through guided career exploration and awareness we provide as many opportunities as we can to all students. The end goal is for students to gain some real world experience in career pathways that may be of interest to them. Fozzie's Farm has been a valuable partner in this work.

In the summer of 2021, using the funding from CWCB, Fozzie's Farm was able to offer five internships to students to build skills, experience and explore career opportunities in agriculture, conservation and water management. In a region where agriculture is a critical industry and water use and conservation is a prominent issue, these internships were valuable work based learning experiences for these students. In addition, of these five internships three were offered to Native American students. With two reservations closely linked to this region, it is imperative that we focus on providing opportunities for our Native American youth. Montezuma Land Conservancy's guiding principles around diversity, equity and inclusion make them a prime partner for fostering "homegrown talent" in our community.

In conclusion I will restate the Homegrown Talent Initiative's strong support for continued funding for Fozzie's Farm. These funds have allowed for a strong partnership that affords students a valuable opportunity to explore career pathways in the area of agriculture and land and water conservation. I look forward to being able to offer these opportunities to a whole new generation of students in the coming years. Thank you for your time and consideration and feel free to reach out if you have any questions.

Sincerely,
Chad Wheelus
cwheelus@cortez.k12.co.us

SCYC
SCHOOL COMMUNITY YOUTH COLLABORATIVE

October 14, 2021

To Whom It May Concern,

My name is Angela Adams. I am a Program Coordinator for School Community Youth Collaborative (SCYC). We provide educational and leadership programming for Montezuma County middle and high school students. We have partnered with Montezuma Land Conservancy and Fozzie's Farm for four years with our Youth Leadership Council (YLC) program. YLC is a youth-led leadership group. The members let us know what they want to learn about and how they would like to help the community. Then I plan our weekly meetings around the requested topics, and organize service learning and community service projects.

These young leaders in our community are concerned about the environment and interested in learning about agriculture, regenerative ranching, and water conservation. YLC members were therefore excited to hold each of our meetings in June 2021 at Fozzie's Farm. The Outreach and Education Coordinator, Jay Loschert, is a wealth of information and is wonderful with young people. We learn so much each time we visit Fozzie's Farm. In June we focused on water use and conservation as it relates to agriculture and regenerative ranching. Each meeting we got to help Jay irrigate the fields. We learned about the difference between flood irrigation and sprinkler irrigation, how to direct the water, and also helped remove invasive weeds that are poisonous to cattle. We all enjoyed our time on that beautiful ranch in the summer evenings learning hands-on about water.

Sincerely,

Angela Adams

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Jay Loschert,

The 2021 Agriculture Immersion Program had 8 students participate and receive credit for their work.

Eli Fitzgerald Reed .25 Credit
Treasure Whitely .25 Credit
Loranzo Padilla .50 Credit
Killian Sanders .50 Credit
AJ Saiz 1.00 Credit
Elijah Holt 1.00 Credit
Rhett Smith .25 Credit
Kaliya Madison .75 Credit

Thank You

Casey Simpson
Director
Southwest Open School