

NATURAL RESOURCE EDUCATION CENTER

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Farm Filled “Ag-Ventures”



2020-2021 FINAL REPORT

SEPTEMBER 2020— AUGUST 2021

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NREC is a natural resource and water conservation education program sponsored by the West Pinal Natural Resource Conservation District (NRCD), Eloy NRCD, Florence-Coolidge NRCD, and the Arizona Department of Water Resources (ADWR).



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Introduction

The Natural Resource Education Center (NREC), with funding and support from the Arizona Department of Water Resources (ADWR), delivered water and natural resource conservation education to Pinal County students and residents for the fiscal year 2020-2021. This report details the attendance and educational hours, learning outcomes, evaluations, and promotional activities for 2020-2021.

Task 1 and 2– Water related classroom activities (field days), attendance and evaluations.

Corn Festival and Water Out West Programs

In response to ongoing COVID-19 protocols and restrictions enforced by county school districts, NREC produced on-line videos of our fall program, “Corn Festival”, that includes content delivery and interactive activity support. These videos are published to NREC’s website: www.naturalresourcecenter.org. In addition to NREC’s website videos, NREC presenters hosted virtual (on-line) Water Festival Days via ZOOM. All NREC “Farm Filled Ag-Venture Programs” are school grade age specific, aligned to the current Arizona State Educational Standards and include a water conservation component.

The Corn Festival was presented, in the Fall of 2020, as an on-line resource for teachers to utilize with their students during at-home, distance (on-line) learning. This program was viewed by **178 students** in **7 classrooms**. Teachers completed an emailed survey after completion of the on-line lessons with their students. **One hundred percent** of participating teachers “strongly agreed” or “agreed” with the following statements: The videos and activities were relevant and improved my student’s knowledge of natural resources. The videos provided background knowledge of corn as a food crop and how farmers utilize water to grow it. The videos provided activities and resources that students can share with their families at home.



Part 1 of four from the NREC video Series: Corn Festival.

The Water Out West (WOW) program was developed in a virtual (ZOOM) meeting format to be delivered as an in-classroom, on-line presentation. NREC staff met with teachers and students virtually and presented a grade level appropriate 50-minute lesson utilizing *The Water Savers Issue* booklet. Many of the topics covered during the lesson are the water cycle, water availability in the west, water efficiency and water conservation. The lesson was followed by a hands-on activity. The booklet and activity materials were compiled as individual student “kits” and were delivered to the classrooms prior to the scheduled ZOOM meetings.

Once students returned to classrooms in March of 2021, NREC was able to host virtual meetings with **139 students in 3 different school districts.**

-A chart of program attendance details can be found in Appendix A

A 5th grade student utilizing a Water Saver kit during an NREC virtual presentation.



Water Saver Kit delivered to students.



NREC presenters and students during a virtual WOW presentation.



Teachers completed an emailed survey after the virtual classroom meeting. **One hundred percent** of participating teachers “strongly agreed” or “agreed” with the following statements: The virtual meeting helped enrich my student’s knowledge of the water cycle, water availability in the west, and water conservation. The virtual meeting helped meet the specific AZ State teaching standard for the grade level. The meeting provided activities and resources that students can share with their families at home.

Many teachers expressed their gratitude to NREC for providing the WOW program virtually so that their students were able to participate safely and interactively in water education.

Task 3- Water Related Community Events

In the summer of 2021, NREC was able to participate in an in-person summer camp for middle school students sponsored by the Casa Grande Elementary School District. **34 students and 4 adults were in attendance.** Because the format was in-person, NREC was able to present the “original in-person” field day WOW program including the water trailers sponsored by ADWR. The in-person program consisted of four learning stations that the students rotated through. Students learned about watersheds using model watershed areas, hydroelectricity, and about the history of water in Arizona. At another station, students worked together at the mobile water trailer to build cities, roads, parks, and farms then watched how flooding effects their communities. Using critical thinking skills, the students got to rebuild their structures and see if they withstood the ravages of the floodwaters. The water cycle was explored as the students were trans morphed into water molecules and followed their individual water journeys. Students also learned the importance of the Native American canal systems and made clay pots, decorating them with different symbols. All of these stations incorporated **STEM** standards for learning.

Students were asked true or false pre and post questions before and after the WOW field day to assess prior knowledge and post knowledge gain. The chart below represents the percentage of students who answered the questions correctly.

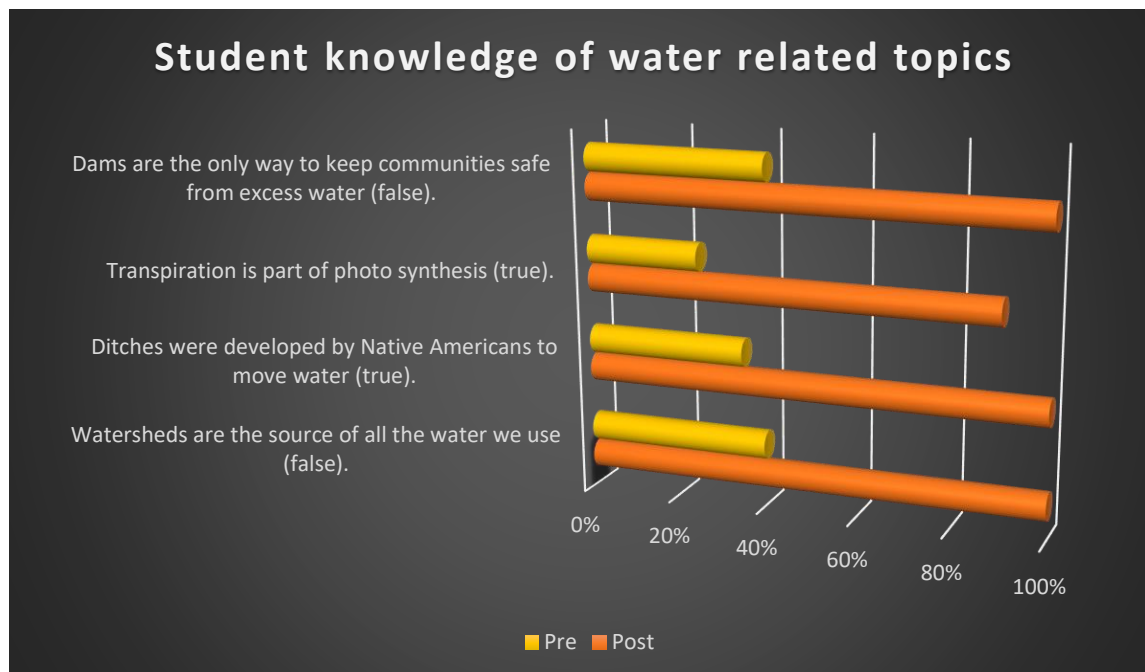


Figure 1: percentage of knowledge gain pre and post WOW program.

Conclusion

For 24 years the Natural Resource Education Center has focused on educating residents of Pinal County on the awareness of natural and renewable natural resources in our county and state. NREC pledges to teach conservation techniques so these resources will be available to be used by future generations. 2020-2021 proved to be an unprecedented year with the continuation of the COVID-19 pandemic while NREC continues to step up to the challenge of meeting the frequently changing needs of students, teachers and residents during this time. NREC was able to reach a **total of 351 students, 17 adults and 6 different Pinal County School districts** this year.

Each year, teachers report that the NREC programs are beneficial to their students and that the information and activities presented meet many, grade level, state educational standards and STEM requirements. Past, present and future students, teachers and adults are the great beneficiaries of the support of NREC by entities such the Department of Water Resources. NREC sincerely appreciates the support of ADWR to further its educational and outreach goals.



APPENDIX A



NREC 2020-2021 Program Attendance

Date	School/Group	Grade	# students	# adults	District	Program
10/8/2020	Blackwater Elem.	3	21	1	Gila River Indian Comm	Corn
10/13/2020	Blackwater Elem.	4	26	1	Gila River Indian Comm	Corn
10/27/2020	Ironwood	5	28	1	Casa Grande Elementary	Corn
11/10/2020	Ironwood	3	30	1	Casa Grande Elementary	Corn
11/17/2020	Heartland Ranch	3	22	1	Coolidge Elementary	Corn
11/18/2020	Heartland Ranch	3	23	1	Coolidge Elementary	Corn
12/1/2020	Stanfield Elementary	4	28	1	Stanfield Elementary	Corn
Total			178	7		
4/15/2021	Ironwood Elem.	4	28	1	Casa Grande Elementary	WOW
4/15/2021	Ironwood Elem.	4	23	1	Casa Grande Elementary	WOW
4/15/2021	Ironwood Elem. Mary C. O'Brien	4	24	1	Casa Grande Elementary	WOW
4/22/2021	School Mary C. O'Brien	3	19	1	Pinal County Schools	WOW
4/22/2021	School	4	18	1	Pinal County Schools	WOW
5/6/2021	Eloy Intermediate	5	27	1	Eloy Elementary	WOW
Total			139	6		
6/9/21	Summer Ag Camp	6,7 &8	34	4	Casa Grande Elementary	WOW
TOTAL			351	17		