

RIVERXCHANGE® 2023-2024

EDUCATION FOR UNDERSTANDING AND PROTECTING WATERSHED HEALTH



Executive Summary

During the 2023-2024 school year, RiverXchange® served **897** 5th grade students and **41** teachers across **13** schools, 10 of which were Title I schools. Each student engaged with a minimum of 10 hours of programming provided by Ciudad SWCD staff and partners. Classrooms who completed an action project engaged in an addition 5-10 hours of the program. Contributions from partner time, and student and adult volunteers on the conservation field trip provided a total of **\$105,871.00 of in-kind match** this school year. MRSSQT provided \$48,477.00 and SSCAFCA provided \$22,374.00 for a total of **\$70,851.00 in cash** for program coordination, bus costs, teacher stipends and materials.

4 Teachers

Teacher Professional Development

Teachers are invaluable participants in RiverXchange® and are a key audience for the program. RiverXchange® serves teachers by providing a teacher workshop that helps strengthen their own understanding of watershed health through experiencing science and project-based activities they can use in the classroom to support RiverXchange®, the Action Project, and other curriculum. Teachers learn from other teachers, partners and RiverXchange® staff at the teacher workshop and receive a stipend for attending, along with other materials and resources for their classrooms.



Post Program Teacher Feedback

Upon completion of the program, teachers are asked to fill out a survey providing feedback about the program. 27 participants responded, with overwhelmingly positive feedback. **97% of respondents said students had made meaningful connections between human actions, stormwater and pollution** with evidence such as “children [are] thinking about [the] use of various pollutants, and trying to keep things clean ‘so they wouldn’t get into the river.’” (Carty, Seven Bar ES)

“The greatest learning outcomes for my class as participants in RiverXchange was focusing on the **importance of water in our ecosystem**. Another **big learning outcome was to be stewards within our school community**. Many students were able to **discuss bigger issues they see towards the end of program compared to the beginning**.” Martinez, Valle Vista ES

“My students are **more invested now** in taking care of the environment, protecting natural resources and **being more responsible stewards of their community**.” Ortiz y Martinez, Chaparral ES

RIVERXCHANGE® CURRICULUM

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The RiverXchange® Curriculum introduces a wide range of water resource topics with the goal of bringing awareness to their role in protecting watershed health. Within the curriculum, all 897 students engaged with grade-level appropriate lessons that covered the following required MS4 topics:

897
Students



- PET WASTE MANAGEMENT
- PROPER DISPOSAL OF OIL, HOUSEHOLD HAZARDOUS WASTE
- PROPER DISPOSAL OF PESTICIDES, HERBICIDES AND FERTILIZERS
- IMPAIRED WATERS IN THE CITY/STATE
- WATERSHED MANAGEMENT



Presentations

Each class in RiverXchange® experienced presentations on Drinking Water, Wastewater, Stormwater and River History. Students in Rio Rancho Public schools also received an Agriculture & Water presentation.

Partners that provided these presentations are:

- Albuquerque Bernalillo County Water Utility Authority
- Sandia Labs
- City of Rio Rancho Utilities Department
- Sandoval County Cooperative Extension Services
- City of Albuquerque Open Space Division
- Ciudad Soil and Water Conservation District Board Chair, Steven Glass

303
trees planted
41 shrubs planted



Conservation Field Trip

Thanks to a long-standing partnership with City of Albuquerque Open Space Division, RiverXchange® students are able to participate in the Conservation Field Trip where they help to restore the Bosque riparian ecosystem by planting native species such as Cottonwood, Coyote Willow, Four Wing Saltbush, New Mexico Olive and seed native grasses. In addition to the **749 students** recorded in attendance across December through March this year, **112 adults** joined in the effort to steward the Bosque by learning restoration practices guided by Open Space and Ciudad SWCD staff.

RIVERXCHANGE® ACTION PROJECT

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The RiverXchange® Action Project is a process by which students and teachers work together to determine an issue of concern, engage with stakeholders, decision-makers and community members to research their issue, and take informed action with the goal of changing or positively influencing a policy or practice to improve an environmental outcome.

Criteria for Action Projects to be submitted for an award:

- Student Voice and Participation
- Practicality
- Civic Engagement

4,471

individuals impacted by action projects

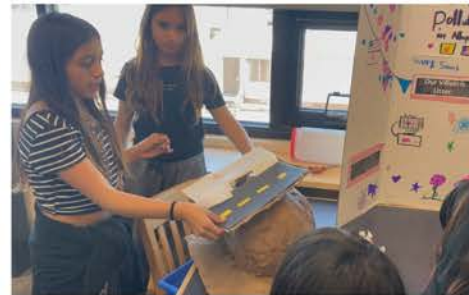


News reports are a great tool to share student voices with other classes on campus!

Action Project Submissions

14 classes officially submitted their Action Projects for the reward of a pizza party, however, more teachers reported doing an Action Project in the teacher feedback. Of those who submitted, the projects varied from campus clean-ups, trash to treasure campaigns, water conservation campaigns, the creation of bilingual resources, and public service announcements. In total, teachers reported reaching 4,471 individuals through their projects, mostly from school-wide efforts by RiverXchange® students to educate others and change community practices such as littering. A few examples of the amazing RiverXchange® students are shared here!

STUDENTS INVESTIGATE ISSUES AND USE THEIR VOICE TO SHARE THEIR KNOWLEDGE



"Dear Person in Power,
We believe that litter is a villain to Albuquerque's water supply.

Are you aware of the litter in Albuquerque, New Mexico's water supply.

Litter is poisoning the water supply. What goes into the storm drain goes into the Rio Grande River. When trash and dog poop and other things go in the storm drain all of that goes into the River."

-Excerpt of student letter from "Villain" exhibition

Shown above are students who investigated the Villain of the Water Supply by doing literature research, talking to experts, and then presented their findings in an exhibition with over 50 members of community, families, and school admin in attendance. Each presentation included a proposed solution or action to take to address their issue of concern, like adding more "grates" to storm drains to filter out trash (above right).

STUDENTS CREATE INVENTIVE WAYS TO ENGAGE PEERS IN THEIR CAMPAIGNS FOR CHANGE - "TRASH TO TREASURE"



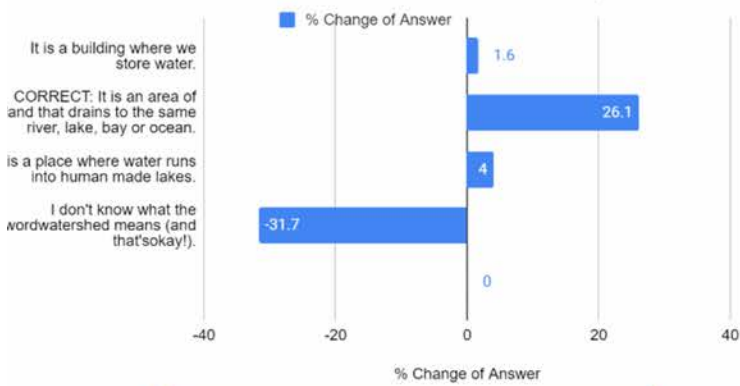
Pictured to the left are students who completed the action project process by completing a campus walk to identify environmental issues, talked with teachers and admin about concerns, selected litter as their issue, developed a plan to reduce litter, conducted a school survey to determine effective methods for change and created a Trash to Treasure recycling program to encourage recycling and teach about the impacts of litter!

Program Evaluation

Qualitative evaluation of the program is compiled via teacher feedback through short answer questions, which concludes that the program was successful in helping students make connections between their actions, stormwater and watershed health and that the program was a positive experience for teachers. Quantitative evaluation is conducted through pre and post student surveys. The metrics of these surveys demonstrate a positive percentage change of correctly identifying the definition of a watershed and the impacts of pollution on water quality (i.e. pet waste, pesticides, herbicides, fertilizers, oils, and trash). 732 students completed the pre-survey and 492 students completed the post-survey.

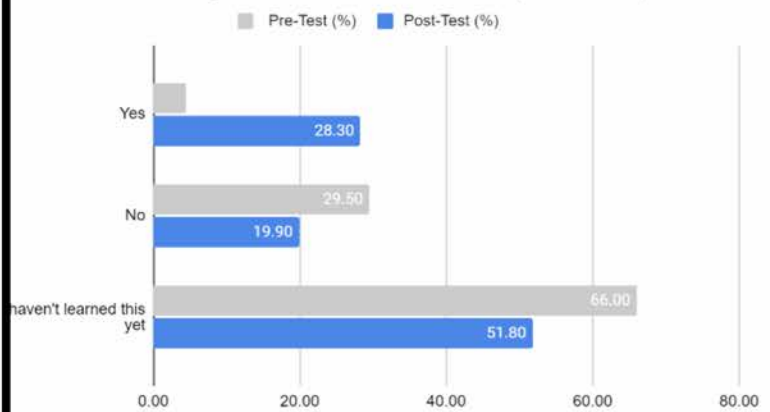


What is the correct definition of "watershed"? (% Change in Answer from Pre to Post Test - RX 23-24)



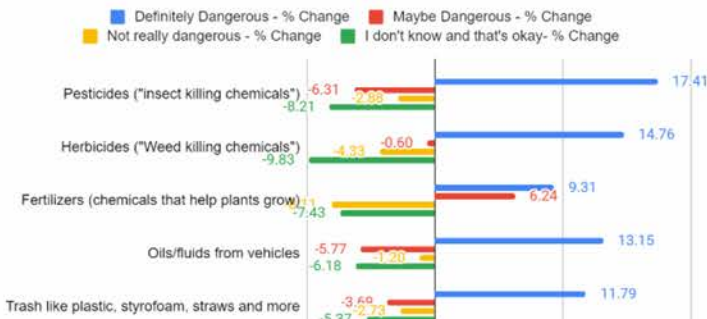
26.1% MORE STUDENTS CORRECTLY DEFINED "WATERSHED" AFTER THE PROGRAM

Does everyone live in a watershed? (RX 23-24)



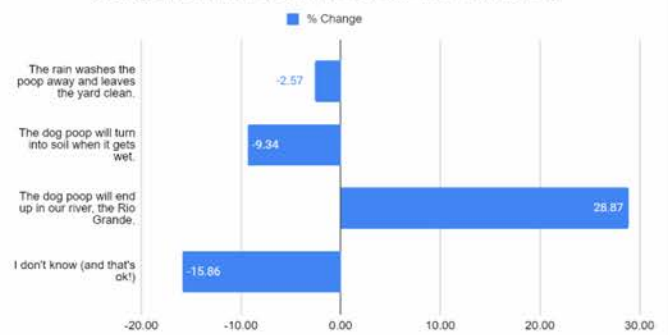
28.3% MORE STUDENTS AGREE THAT EVERYONE LIVES IN A WATERSHED AFTER THE PROGRAM

Which of the following are dangerous to water when left on the ground around our homes, neighborhoods and cities: (% of change from Pre to Post test-RX 23-24)



APPROXIMATELY 10%-20% MORE STUDENTS IDENTIFY THE ABOVE MSH TOPICS AS DANGEROUS TO WATER AFTER THE PROGRAM

What do you think could happen to the dog poop when it rains? (% Change in answers from Pre to Post Test - RX 23-24)



28.87% MORE STUDENTS IDENTIFY THAT DOG WASTE CAN END UP IN THE RIVER AFTER THE PROGRAM