

Rio Rancho Children's Water Festival and Outreach Program

2009 ANNUAL REPORT

Children's Water Festival



Rio Rancho - 2009

*Where does my drinking water
come from?*

EXECUTIVE SUMMARY

We are proud to present the *Rio Rancho Children's Water Festival and Outreach Program 2009 Annual Report*. This is our third year playing a critical role in providing innovative, effective water resource education to Rio Rancho elementary students and teachers. The mission of our program is to introduce elementary students and teachers to new ideas, options and solutions so they will conserve and protect our water resources now and in the future. We do this by organizing a two-day field trip event and by conducting outreach in the form of in-class water resource education -- all at no cost to the participants.

The long-term goal is that students not only understand our *Big Water Questions*, but can formulate logical, fact-based answers by the time they finish elementary school. These questions were developed and fine-tuned by festival Steering Committees from Albuquerque, Santa Fe and Rio Rancho as a way to re-focus the festival to be an outcomes-based program. We believe that students who can synthesize water facts to understand larger water questions will have the proper critical thinking skills and foundation for further discussion in middle and high school so that they will become informed citizens and voters on water issues. These questions are integrated into all aspects of the festival and outreach projects.

- Why is water so important to life?
- How do all living things depend on each other?
- What is the water cycle?
- What is a watershed?
- Where does my drinking water come from?
- What makes water dirty?
- How much water does my family use?
- Who are the other water users in our society?
- What can I do to protect our water?

Ten financial sponsors contributed \$19,311 to fund the complete program, while in-kind supporters donated their time and resources valued at over \$26,600. The New Mexico Water Conservation Alliance, a 501(c)(3) nonprofit corporation, continued as our fiscal partner.

The third annual Rio Rancho Children's Water Festival (RRCWF) was held on October 1 & 2, 2009 at Rio Rancho High School, with the theme *Where does our water come from?* This event educated 490 students, 28 teachers and dozens of parent chaperones from 24 classes, which represents all fourth grade classes from four of the ten public elementary schools.

At the festival, students participated in five 30 minute hands-on activities relating to five water themes. Teachers participated in a pre-festival Teacher Workshop where they received in-class water resource materials and professional development opportunities. We also increased the visibility of water resource education and our sponsors by distributing free custom T-shirts, featuring original student artwork on the front and sponsor logos and names on the back. After the festival, students participated in an essay contest to describe a plan they had developed with their families for conserving water. The winning essay (Appendix B) was published in the City of Rio Rancho Water Conservation Office's quarterly newsletter which goes out to all water customers.

This year, staff from the City of Rio Rancho Water Conservation Department will conduct in-class presentations in all 39 fourth grade classes at the six public elementary schools that did not attend the festival. ***For the third consecutive year, this means that 100% of Rio Rancho Public Schools fourth graders will receive some form of water resource education!***

PROGRAM DESCRIPTION

Festival Event

The Rio Rancho Children's Water Festival was held October 1 & 2, 2009 at Rio Rancho High School from 10:00 am – 1:15 pm. Students in all fourth grade classes from four of the ten Rio Rancho Public Schools elementaries attended, with 13 classes the first day and 11 the second day. This was the maximum number of participants that the facility could accommodate while enabling all fourth grade classes from a school to attend. Twenty-four classes with 490 students, 28 teachers and dozens of parent chaperones attended from the following schools:

- Cielo Azul Elementary
- Colinas del Norte Elementary
- Rio Rancho Elementary
- Sandia Vista Elementary

This event would not have been possible without over 100 volunteers from 18 organizations, who either presented activities or provided logistical support (e.g., directing the bus traffic, assisting presenters or guiding each class to their activities). Ruben Archuleta, from the City of Rio Rancho's Water Conservation Office, helped keep order by entertaining students as the Water Wizard. Otto the Otter, a mascot of the U.S. Bureau of Reclamation (courtesy of Ed Kandl), was also on hand to entertain the students.

All activities addressed at least one fourth grade New Mexico Science Standard; however, most activities addressed multiple standards not only in science but in all core curriculum areas. Thirteen activities were presented simultaneously each day by 62 presenters over the two days (see Program, Appendix A). Activities were grouped according to their primary water theme so that each class could be assigned to one 30-minute hands-on activity in each of the following five water themes:

- Web of life
- General hydrology and the water cycle
- Watershed and water quality
- Water conservation
- Water and our society/culture

Presenters were predominantly professionals in the water industry but also included educators from museums, as well as high school students from Rio Rancho High School. In many cases, these organizations were motivated to develop water education activities for fourth grade students only because of the opportunity offered by the festival. The event also provided an excellent opportunity for high school age presenters to learn how to facilitate a water education activity for elementary age students, and serve as role models.

All photographs on our website and in this report were taken by Amelia White, Sarah Holcomb, Barry Conant and Katie Babuska. A festival photo gallery is featured on our website, www.waterfestnm.com.

PHOTO PAGE



T-shirt artwork winner Jadyn L. with teacher Mrs. Merrek, Cielo Azul Elementary



Glenn Walters (Sandoval Co. Commissioner), Otto the Otter (Ed Kandl, U.S. Bureau of Reclamation) and Barry Conant (Keep Rio Rancho Beautiful) pause for a break in front of an exhibit courtesy of SSCAFCA.



Marian Wrage (City of Rio Rancho) helps students learn about an aquifer in *Every Drop Counts*.



Students use math to calculate the volume of a leak in *Leak Detective*, presented by Smart Use, LLC.



Steve Lucero (Sandoval Co. Cooperative Extension) demonstrates serious watershed issues like erosion in *Rolling River*.



Alyse Walton (NCS) helps students learn about nonpoint source pollution in *Why the River Runs Brown*.



Mike Sanchez (NM Museum of Natural History and Science) helps students learn about the pollution tolerance of insects in *Meet Water Bugs Up Close*.

Outreach

We believe that multiple interactions with students and teachers throughout the school year – over many years -- are necessary to successfully educate the community on water conservation and water quality issues, resulting in greater protection of local resources. At this time, the City of Rio Rancho has no formal education outreach position to carry out such duties now or in the immediate future. This is why the Steering Committee worked hard to create opportunities for such interaction. These outreach efforts include pre- and post-festival activities for teachers and students, as well as in-class presentations and resource materials for all fourth grade classes that did not attend the festival this year.

Pre-festival Activities

- *Teachers*

Teachers participating in the festival were required to attend the Teacher Workshop, which was held September 16 at Rio Rancho Elementary. The purpose of the workshop was to present festival logistical information, help teachers understand how to integrate the lessons of the festival with the core curriculum, and provide them with opportunities for professional development. *Our goal is to entice elementary teachers to go beyond minimum state science standards and use water as a tool to teach multiple curriculum standards.* At the workshop, each teacher received a resource bag filled with in-class teaching materials including posters, equipment, lesson plans and a water vocabulary list, and was asked to integrate these resources during the school year. In addition, each teacher received materials for the essay contest to be held after the festival.

- *Students*

Students participated in a contest to generate artwork for the festival T-shirts. Teachers were asked to discuss the Big Water Questions with their class, then ask students to draw a picture on the theme “Where does my drinking water come from?”

Post-festival Activities

- *Essay Contest*

After the festival, students participated in an essay contest to describe a plan they had developed with their families for conserving water. The activity was based on the *Water Squad* DVD, in which New Mexico kids show other kids and parents a variety of simple, concrete ways to conserve water inside and outside the home. The winning essay (Appendix B) was published in the City of Rio Rancho Water Conservation Office’s quarterly newsletter which goes out to all water customers.

- *In-Class Presentations*

In-class, hands-on water resource presentations will be provided free of charge to all 39 fourth grade classes in the six elementary schools that were not invited to attend the festival due to venue and other limitations. Staff from the City of Rio Rancho’s Water Conservation Office will present *Leaky Faucet*, a hands-on activity in which students simulate a leak and calculate how much water would be wasted in a year. Presenters also demonstrate what percentage of Earth’s water is clean and available for drinking, and discuss where Rio Rancho’s drinking water comes from and how we use it. ***This means that 100% of Rio Rancho Public Schools fourth graders will receive some form of hands-on water resource education this school year!***

EVALUATION

We conducted teacher, presenter and volunteer surveys to evaluate the festival experience in the new venue. The festival as a whole received high marks from all who responded, though some said parking was a problem. Teachers were enthusiastic about the hands-on nature of activities, and said they planned to do the essay contest. All groups felt the acoustics made it difficult for presenters to be heard, just as in the Santa Ana Star Center (the venue in 2007 and 2008). Rio Rancho High School students served as independent Activity Evaluators using a form we developed to provide feedback to the presenters.

PLANNING, FUNDRAISING AND SUPPORT

The work of fundraising, designing, planning and implementing the Rio Rancho Children's Water Festival and Outreach Program was done by an all-volunteer Steering Committee and three part-time paid festival staff.

Steering Committee

Marian Wrage	City of Rio Rancho, Water Conservation Department
Ruben Archuleta	City of Rio Rancho, Water Conservation Department
Jennifer Scacco	City of Rio Rancho, Keep Rio Rancho Beautiful
Barry Conant	City of Rio Rancho, Keep Rio Rancho Beautiful
Lynn Kronowit	CH2M Hill OMI
Nora Romero	NM Environment Dept., Drinking Water Quality Bureau
Sarah Holcomb	NM Environment Dept., Surface Water Quality Bureau
Elena Kayak	Rio Rancho Public Schools
Linda Poe	Sandoval Co. Cooperative Extension/Master Gardeners
Joe Alderete	U.S. Bureau of Reclamation

Festival Staff

Katie Babuska	Festival Director
Amelia White	Festival Manager
Nora Romero	Festival Coordinator

Project management services were provided by Experiential EE, LLC, a local consulting firm owned by Katie Babuska, who also served as Festival Director. In addition to other related water resources contract work, Experiential EE has produced children's water festivals in Albuquerque, Rio Rancho and Santa Fe. Annual Reports for all Children's Water Festivals produced by Experiential EE, LLC are published on our festival website www.waterfestnm.com. Experiential EE's website is www.experientialee.com.

Experiential EE, LLC, developed a budget and wrote proposals to potential sponsors which resulted in grants, in-kind donations and contracts for service. All of these contributors were recognized on the back of the festival T-shirt (back cover), on our website's Home and Sponsors pages, and in printed materials.

Fiscal sponsor services were provided by New Mexico Water Conservation Alliance, a nonprofit 501(c)(3) corporation comprised of municipal and industrial water conservation professionals dedicated to water conservation education and networking.

FINANCIAL ANALYSIS

Ten sponsors provided cash contributions and 27 in-kind sponsors provided services and resources. The City of Rio Rancho played a key role as our largest financial sponsor, and by providing classroom resources, Steering Committee members, and in-class presentations. Please note that Sandoval County's donation was received after the T-shirt production deadline.

City of Rio Rancho \$7061.52	Waste Management of NM, Inc. \$1500
Sandoval County \$2500	Bohannon-Huston, Inc. \$1000
PNM \$2500	Daniel B. Stephens & Assoc., Inc. \$1000
Narasimhan Consulting Services \$2000	Wells Fargo Foundation \$1000
CH2MHill OMI \$1500	McDonalds of Rio Rancho \$250

The Rio Rancho Children's Water Festival event would not have been possible without the 504 hours of volunteer time donated by Steering Committee members, Activity Evaluators, Presenters and Volunteers. Steering Committee members not only provided their time and expertise as planners, fundraisers and festival presenters, they also provided classroom resources, in-class presentations and meeting space. Rio Rancho Public Schools provided a substantial in-kind contribution by waiving the facility fee for our use of the Rio Rancho High School auxiliary gym, and by providing tables and chairs at no cost. Rio Rancho Elementary provided classroom space at no charge for us to host the Teacher Workshop. Total in-kind contributions were valued at \$26,601 with \$4,981 in classroom resource materials donated by presenter and steering committee organizations.

This year, in spite of a downturn in fundraising due to the national economic recession, we were able to reduce costs and even come in under budget. The major costs and expenses for the entire program are shown on Page 7.

NEXT STEPS

Lessons learned from the past year indicate the need to continue focusing on the following program areas:

- *Fundraising*

At Experiential EE's request, the City of Rio Rancho has accepted the task of fundraising for future festival events and related outreach.

- *Festival Venue and Date*

It remains to be decided whether we will hold the festival at one of the high schools next year, or go back to the Santa Ana Star Center. We hope to hold the festival on October 21 & 22, 2010.

- *Outreach*

Since most teachers in Rio Rancho have now attended a festival, next year's teacher workshop will focus on professional development. A guest speaker will address specific science content to be used in the T-shirt artwork project.

- *Marketing/Public Relations*

Steering committee will tap their networks to recruit a wide variety of presenters, festival activities and sponsors. Utilize the City of Rio Rancho's public relations network to notify elected officials and other VIPs of the festival program and its role in educating our youth.

- *Evaluation*

We will ask teachers to serve as Activity Evaluators.

2009 Rio Rancho Children's Water Festival and Outreach Program

	Budget	Actual
Income (Cash)		
City of Rio Rancho	7000.00	7061.52
2008 Carryover	10018.88	10018.88
Other Sources	14981.12	13268.88
Total Income	32000.00	30330.40
In-kind Services		
Steering Committee Services	2500.00	3550.00
Volunteer Services	6000.00	2310.00
Presenter Services	11000.00	6080.00
Resource materials, meeting space	8500.00	6861.00
In-Class Presentations (City of Rio Rancho)	0.00	7800.00
Total In-kind	28000.00	26601.00
Total (Cash + In-kind)	60000.00	56931.40
Supplies		
Tables, chairs, pipe/drape	2800.00	1197.00
Copies	400.00	92.13
Postage	200.00	34.64
Office Supplies	100.00	24.89
T-shirts	3000.00	2298.50
Banners, graphics	300.00	426.43
Discover the Waters of NM booklets (festival & in-class)	550.00	1515.66
Total Supplies	7350.00	5589.25
Contractual		
Facility	1000.00	60.68
Food	1750.00	1389.47
Bus transportation	2000.00	1061.52
Insurance	600.00	583.50
Website hosting, updates	300.00	400.00
Coordination Services	18000.00	9855.00
Fiscal Services Fee	1000.00	1000.00
Total Contractual	24650.00	14350.17
Total Budget	32000.00	19939.42
Projected 2009 carryover		10390.98

APPENDIX A: FESTIVAL PROGRAM

2008 Rio Rancho Children's Water Festival Program of Activities

Area 1. Water Jeopardy – Water and Society 1

Students will learn some basic concepts and differences about ground water vs. surface water supply for potable drinking water. Concepts will be reinforced by participation in a game competing to determine the correct ground water or surface water 'question' for a series of given 'answers'. *NM State Science Standards, Fourth Grade: 4.1.1, 4.5.1*

US Bureau of Reclamation

Joe Alderete Phone: 462-3578 E-mail: jalderete@uc.usbr.gov

Area 2. Every Drop Counts – Water Conservation 1

Students will learn how the aquifer was formed by building one of their own. They will learn about the various uses for water and why it is so important for everyone to conserve. *NM State Science Standards, Fourth Grade: 4.1.10, 4.4.4, 4.5.1*

City of Rio Rancho

Marian Wrage Phone: 896-8737 E-mail: mwrage@ci.rio-rancho.nm.us

CH2MHill/OMI

Lynn Kronowit Phone: 891-5023 E-mail: lkronowit@ci.rio-rancho.nm.us

Area 3. Why the River Runs Brown – Water Quality 1

Students will learn about watersheds by examining and manipulating watershed models. They will learn that a watershed is the land area that drains to a water body such as a river or lake, and see for themselves how watersheds influence water quality. *NM State Science Standards, Fourth Grade: 4.3.6, 4.5.1*

Narasimhan Consulting Services, Inc.

Alyse Walton Phone: (602) 629-0206 E-mail: alyse@ncseng.com

Area 4. Meet Water Bugs Up Close – Web of Life 1

Students learn about riverine aquatic habitats by role-playing a food chain and larger food web, and through direct observation of live animals. Students practice using field macroscopes, create investigative sketches during this introduction to aquatic macroinvertebrates. Finally, students learn about aquatic invertebrate life cycles and how they adapt to river life. *NM State Science Standards, Fourth Grade: 4.1.1, 4.3.1, 4.3.2, 4.3.4, 4.3.6, 4.3.7, 4.5.1*

New Mexico Museum of Natural History and Science

Mike Sanchez Phone: 841-2853 E-mail: michael.sanchez1@state.nm.us

Area 5. Rio Grande Bosque Water Cycle – General Hydrology 1

Students become water molecules traveling through a water cycle. In the semi-arid climate of New Mexico, our scarce precipitation limits the quantity of water for plants, animals and humans to use. We need to consider all water users. *NM State Science Standards, Fourth Grade: 4.2.4, 4.2.5, 4.4.5*

Rio Grande Nature Center

Karen Herzenberg Phone: 344-7240 E-mail: karen.herzenberg@state.nm.us

Area 6. Mission Impossible – Water and Society 2

The students' mission, if they choose to accept it, is to rescue Albuquerque from water shortages that could occur in the next 10 years. Students play an interactive game and make decisions about how to manage water resources. *NM State Science Standards, Fourth Grade: 4.1.5, 4.1.9*

Sandia National Laboratories/Lockheed Martin Geohydrology Department

Marissa Reno Phone: 284-6469 E-mail: mdreno@sandia.gov

Area 7. Leak Detective – Water Conservation 2

The students will be presented information about household water leaks, will observe a leak occurring, will predict the volume of the leak, then will scientifically measure the leak with a "leak cup" and a second

hand to determine the actual size of the leak in gallons per day and per month. *NM State Science Standards, Fourth Grade: 4.1.1, 4.1.9*

Smart Use, LLC

Richard Chapman Phone: 400-0283 / 400-4543 E-mail: rjchapman@aol.com

Area 8 (Outside). Rolling River – Water Quality 2

How does a river work? Students will see and play with a model river and watch the effects of water as it flows down stream. *NM State Science Standards, Fourth Grade: 4.3.6, 4.5.1*

Sandoval County Cooperative Extension, 4-H

Steve Lucero Phone: 867-2582 E-mail: smlucero@nmsu.edu

Area 9. Swimmin' in the Rio Grande – Web of Life 2

Students play a game to learn about perils and challenges in the life of Rio Grande Cutthroat Trout, our native State Fish. *NM State Science Standards, Fourth Grade: 4.3.1, 4.3.4, 4.3.6, 4.5.1*

U.S. Forest Service, Santa Fe National Forest

Kristin Sanderson Phone: (505) 438-7879 E-mail: ksanderson2@fs.fed.us

Area 10 (Outside Thursday). Incredible Journey – General Hydrology 2

Students become water drops to learn about the movement and distribution of water within the water cycle, and how pollution can move throughout the water cycle as well. *NM State Science Standards, Fourth Grade: 4.5.1*

New Mexico Environment Dept.

Gary King Phone: (505) 827-2928 E-mail: gary.king@state.nm.us

Area 11. Bosque Ecosystem Monitoring Program - Web of Life 3

Students learn about the Bosque ecosystem of cottonwoods and willows along the Rio Grande. *NM State Science Standards, Fourth Grade: 4.1.1, 4.1.2, 4.1.3, 4.1.4, 4.1.5, 4.1.6, 4.1.8, 4.1.9, 4.1.10, 4.2.2, 4.2.8, 4.3.1, 4.3.2, 4.3.3, 4.3.4, 4.3.5, 4.3.6, 4.3.7, 4.3.8, 4.4.4, 4.5.1, 4.5.3, 4.5.4*

Bosque Ecosystem Monitoring Program, UNM Biology Dept. & Bosque School

Kimi Scheerer Phone (505) 898-6388 ext. 128 E-mail ksche@bosqueschool.org

Area 12. Grease Police: Protectors of the High Tech River – Water Quality 3 Thursday only

Officer Oil, a member of the Grease Police, explains how our water supply becomes wastewater and goes into the High Tech River (HTR) which is the sewer system and wastewater treatment plant. He explains how wastewater can pollute the environment via manholes overflowing, caused by household grease and construction debris. He explains how the wastewater is cleaned and returns again to the water supply, and how we can be protectors of the HTR to protect the water supply, homes, neighborhoods, and our river. *NM State Science Standards, Fourth Grade: 4.1.2, 4.1.6, 4.1.9, 4.2.1, 4.2.8, 4.5.1*

CH2M Hill/OMI

Neal Klimek Phone: 891-5017 E-mail: nklimek@ci.rio-rancho.nm.us

Area 13. Bacterial Sewage – Water Quality 4 Thursday only

Students will experience how environmental water can be polluted with human and other animal waste products, and how scientists can investigate the specific organisms responsible and determine the point of contamination. Students will use microbiological techniques to observe agents of contamination and determine whether water is safe. *NM State Science Standards, Fourth Grade: 4.1.1, 4.1.4, 4.1.10, 4.3.9, 4.5.1.*

Rio Rancho High School Students, Scimatics Academy, Microbiology class

Justin Baiardo Phone: 896-5784 E-mail: jbaiardo@rrhs.rtps.k12.nm.us

Water Wizard

Ruben Archuleta, City of Rio Rancho Phone: 891-5031 E-mail: rarchuleta@ci.rio-rancho.nm.us

Otto the Otter

Ed Kandl, USBR Phone: 462-3586 E-mail: ekandl@uc.usbr.gov

APPENDIX B: STUDENT ESSAY CONTEST WINNER

Lauren Volquardsen, Mrs. Dengler's Class, Sierra Vista Elementary

Lauren Volquardsen
SVES
Mrs. Lambson

Lauren
Mrs. Dengler
10-23-01

Conserving Water

It is important to conserve water especially when we live in a desert because of all of the water shortages that some cities or towns are experiencing today. Conserving water is easy. There are lots of fun ways to save water such as turning off the faucet when you brush your teeth, using old or non-drinkable water to water your plants, and you can take shorter showers. Those are some ways that my family is conserving water. There are tons of other ways to conserve water.

Saving water is important because 97 percent of our water here on Earth is salty ocean water that us humans cannot drink. The other 3 percent is freshwater like a river or a lake. Water comes from our aquifers that are all around. The water that goes into the aquifer

is rainwater. From there it is cleaned so don't worry if you think it is dirty. Reservoirs are these huge tanks that have boulders, rocks, pebbles, and clay. When you turn on your faucet, water flows from the aquifer through pipes underground to your house. It is also important to not pollute as much because when it rains all of those pollutions including pesticides, dog poop and so much more gets washed into rivers and lakes and make them brown.

Every so often you receive a water bill. A water bill is how you pay for all of the water that you have used.

It is important to save water because when you waste it, it's gone.

2009 Rio Rancho Children's Water Festival

Sponsors



A personal commitment to New Mexico



In-Kind Supporters

- | | |
|---|---|
| Albuquerque Bernalillo County Water Utility Authority | NM Environment Department |
| Albuquerque BioPark | NM Museum of Natural History & Science |
| Bernalillo County Public Works Division | NM Office of the State Engineer |
| Bosque Ecosystem Monitoring Program | NM State Parks, Rio Grande Nature Center |
| CH2MHILL OMI | Rio Rancho Public Schools |
| City of Rio Rancho | Rio Rancho High School Scimatics Academy |
| Ciudad Soil & Water Conservation District | Sandoval County Cooperative Extension |
| Keep Rio Rancho Beautiful | Smart Use, LLC |
| Lockheed Martin / Sandia National Laboratories | Southern Sandoval County Arroyo Flood Control Authority |
| Narasimhan Consulting Services, Inc. | Sunflower Markets |
| National Weather Service | U.S. Bureau Of Reclamation |
| NM Department of Game & Fish | U.S. Forest Service, Santa Fe National Forest |



experiential cc

Fiscal Agent & Production

