

# Santa Fe Children's Water Festival 2004 Project Report



Students discover real water facts and concepts and exercise their critical thinking skills at the Santa Fe Children's Water Festival.  
(photo by Phil Lucero)

May 5, 2004  
By  
Susan Gorman  
Project Manager

**Santa Fe  
Children's Water Festival 2004  
Project Report**

The first Santa Fe Children's Water Festival was held on Wednesday and Thursday, February 18 & 19 at the Sweeney Convention Center where students and teachers gathered to celebrate water.

**Goals and Performance Targets**

Educating students and teachers about water and its relationship to human and other natural resources in a fun and interactive atmosphere is the primary goal of the Children's Water Festival. The Water Festival activities are designed to help students understand that water is an essential and limited resource and what each of us can do to protect and conserve our precious water. Water related facts, concepts and values are presented through fun, hands-on learning activities.

We have set specific performance targets for the Water Festival:

Students demonstrate that they can answer these questions:

- Why is water so important to life?
- How much water do we use and how much is there?
- What is the water cycle and why is it important?
- What is a watershed and how does it function?
- How are trees, plants, animals, people, soils, and water interdependent?
- How do our actions affect water and all nature?

Students take action to conserve water and protect water quality.

Students urge their family and friends to take action to conserve water and protect water quality.

Teachers continue water education in the classroom using the concepts learned at the Festival and the resources obtained at the Teacher Workshop.

Teachers take action to conserve water and protect water quality.

Santa Fe Children's Water Festival 2004 provided effective community education about water by teaching children and enabling them to educate their friends, parents and other family members. Through the Teacher Workshop, teachers received resources and activity ideas to use themselves and to share with colleagues. The organizations that participated benefit from greater recognition and community awareness of the work that they do.

**Work Products**

The Water Festival Project delivered the following specific work products:

- ◆ The Santa Fe Children's Water Festival 2004 event which was attended by 522 4<sup>th</sup> grade students, 24 teachers and 75 parents from 14 public and private schools in Santa Fe, Espanola and Tesuque.
- ◆ A Teacher Workshop which provided concepts that enabled the teachers to prepare their students before the Water Festival and continue with water education after the Water Festival.
- ◆ A Water Resource Kit for each teacher to provide water education materials and ideas for use in each classroom.
- ◆ A Water Festival Toolkit on CD (in progress).
- ◆ Communication with local media to build awareness of the Water Festival.
- ◆ Outreach to other New Mexico communities to encourage them to hold Water Festivals.

## **Water Festival Event**

The Festival was held on February 18 & 19 at the Sweeney Convention Center. Each group of 15 to 26 students attended the Water Festival for one day and participated in five 25 minute activities. Assistance was provided by 39 volunteers and members of the Steering Committee.

In every room of Santa Fe's Sweeney Convention Center, more students were discovering real water facts and concepts and exercising their critical thinking skills through fun, hands-on activities. A different activity was presented in each room, 12 in all, about water science, history, geography, and our water future.

A highlight of the Santa Fe Water Festival was a visit from New Mexico Senator Jeff Bingaman. He visited students as they played Water Jeopardy and urged them to really concentrate on learning about our water because it is essential to our future. He toured several activities, observing the students as they engaged in water sharing, discovered who lives in the algae, and played "Swimmin' in the Rio Grande", a board game about the perilous life of a Rio Grande Cutthroat Trout. We are grateful for Senator Bingaman's deep interest in the Water Festival!

(See Program - Attachments)

## **Teacher Workshop**

The Teacher Workshop was held January 29 at Genoveva Chavez Center. A total of 16 teachers and 1 parent participated. The Workshop program included: Introductions, Why a Water Festival and Partnerships, Logistics, What's in the Box ? (the Water Resource Kit), a video of a previous Water Festival and an Activity Sampler, short versions of 3 activities. Each teacher left with a Water Resource Kit filled with water education materials to use in the classroom.

## **Resource Kit**

This kit contained the following teaching resources:

### **NM Dept of Game & Fish**

- Educator Media Resources and Programs
- Booklet: Endangered Species of New Mexico
- Brochure: Project WILD "Awareness to Action"
- Newsletter: Wildlife Tails (4 issues)
- Booklet: Wildlife of New Mexico
- Booklet: Aquatic life of New Mexico
- Booklet: Life Zones and Habitats of New Mexico

### **City of Santa Fe**

- Magnets: Know What Time to Water? (1 per student)
- Booklet: Storm Water as a Resource

### **US Army Corps of Engineers**

- Booklet: Water, Fun and You
- Booklet: Water Safety Fun
- Book covers (1 per student)
- Poster: Life Jacket
- Brochure: Never Swim Alone

### **NM State Engineer, Water Conservation Office**

- Booklet: Conserve Water (1 per student)

### **City of Albuquerque**

- Coloring Book: Incredible Journey (1 per student)

## **NOAA**

Poster: Cloud Formations

## **Water Festival Steering Committee**

Handout: Big Water Questions

Handout: Make Your Own Aquifer

## **Santa Fe's Water Cycle Poster**

Perhaps the most essential concepts that students need to understand are those related to the water cycle. Research has shown that students are able to understand concepts more readily when the presentation has a local context. Therefore, Festival organizers contracted with Media Mantis, a graphic arts firm, to develop and produce Santa Fe's Water Cycle Poster.

These posters have been distributed to each teacher who attended the Water Festival and will be distributed to other teachers and educators in the Santa Fe area. (See exhibit .)

## **Outreach and the Children's Water Festival Toolkit**

The Festival organizers contracted with PioneerWest Information Technology to produce an interactive multimedia Water Festival Toolkit on CD. This Toolkit includes information about the importance of water education and the Water Festival as a powerful delivery method. It also includes Festival planning aids, document templates and activity descriptions and instructions. It is being used in conjunction with the video, "Water Festivals - Delivering Effective Water Education" that was produced as part of Middle Rio Grande Water Festival 2001.

The outreach initiative to encourage and assist people in other New Mexico communities to initiate planning for their own Water Festival event resulted in the successful Gila Water Festival for students in Silver City and the Socorro Water Festival for Socorro students. A Steering Committee has formed to plan a Water Festival in Southeastern New Mexico.

## **Media Communication**

Two press releases were sent to the media (Thanks to NMED Communications). This resulted in a photo feature in the Santa Fe New Mexican and a solid story in Tumbleweeds. VIP invitations were mailed to 74 people including members of the NM Senate and House from Santa Fe districts. Several VIP visitors, including Senator Jeff Bingaman, toured the Water Festival. Stories about the event appeared in the newsletters of several water and environmental education organizations.

## **Process**

The work of designing, planning and implementing the Festival was done by a Steering Committee, a Festival Manager, 2 Festival Coordinators and a Volunteer Coordinator. The Steering Committee includes representatives from City of Santa Fe Water Conservation Office, Santa Fe County Water Conservation and Facilities Management Departments, NMED Surface Water Quality Bureau, NM Game and Fish Department, the State Engineer Office Water Conservation educator, the State Land Office Educator, and others who are interested in water education. (List Attached)

Project management services were provided by Susan Gorman, owner of PioneerWest, a local project management consulting firm. Pam Riley and Darrell Kundargi provided Festival Coordination and Stephanie Stringer provided Volunteer Coordination services.

Fiscal sponsor services were provided by New Mexico Water Conservation Alliance, a nonprofit organization of municipal and industrial water conservation professionals dedicated to water conservation education and networking.

The project plan, schedule and work tasks were developed based on the experience derived from Middle Rio Grande Water Festivals held annually since 1999 and the first Santa Fe Water Festival held in 2003. Work Groups were formed to work on Teacher Outreach and Communication, Teacher Workshop, Program Development, Media Communication, Logistics, and Financial Management. The Steering Committee met monthly and the Work Groups met as necessary. E-mail was used for meeting notices and progress reports. Information on the Water Festival Program is published on PioneerWest's website, [www.pioneerwest.net](http://www.pioneerwest.net).

### **Support**

In addition to planning and implementing the project, it was necessary to raise the funds needed for implementation. We developed a budget and wrote proposals to potential sponsors. The fund raising initiative resulted in grants, in-kind donations and contracts for service from many organizations. In addition, other organizations contributed through the work of their representatives on the Steering Committee and by volunteering and presenting activities at the Festival. (List Attached)

The major donors, contributors and presenters were recognized through press releases, T-shirts, large signs and logos displayed at the Festival and lists in teacher packets.

### **Results**

The Festival activities covered a wide range of core curriculum areas including language arts, math, science, social studies, visual arts, and health & wellness. Presenters endeavored to present water related facts, concepts and values through hands-on learning activities.

The Festival stimulated the development of water education activities by the presenting organizations. In many cases, organizations were motivated to develop activities for 4th grade students because of the opportunity offered by the Festival.

The Festival brought together 25 dedicated teachers who are committed to giving their students an excellent education. These teachers have the motivation and resources to continue water education that was started at the Festival in their classrooms.

The Festival offered an opportunity for a wide range of organizations to participate. A total of 34 organizations provided support through donations of time, resources and money. The list of organizations that were major donors, contributors and presenters includes businesses, state and federal agencies, local governments, community organizations and schools. (List Attached)

Teachers, students, presenters and volunteers were asked to complete evaluation surveys and the results were compiled and analyzed. Most respondents rated the experience as 6 (Wonderful) or 5 (Really Good) on a scale of 1 to 6.

We were particularly interested in the responses of students since they are the primary "customers" for the Water Festival. In addition to the evaluations, we made visits to classrooms to talk with students about the Big Water Questions:

- Why is water so important to life?
- How much water do we use and how much is there?
- What is the water cycle and why is it important?
- What is a watershed and how does it function?
- How are trees, plants, animals, people, soils, and water interdependent?
- How do our actions affect water and all nature?

A complete report on the analysis of the evaluations is available on request.

## Financial Analysis

A careful accounting of the cost components was carried out to ensure that each funder was provided with the necessary documentation and also to provide a more accurate budget that could be used to plan future Festivals.

The major cost components are shown below:

<b>Expenses</b>		
Equipment	\$	300
Supplies		1,639
Contractual		5,222
Other		1,319
Travel		960
Personnel		9,637
<b>Total</b>	<b>\$</b>	<b>19,077</b>
<b>Value of in-kind time and resources</b>	<b>\$</b>	<b>9,495</b>

It is important to note that the Water Festival would not have been possible without the hundreds of hours of volunteer work that were donated by teachers, parents, presenters, volunteers and members of the Steering Committee.

## Next Steps

The continuing work that has evolved from the Festival includes:

- ◆ Continuing water education for the teachers & students who attended the Water Festival - Teachers will be offered additional opportunities to continue water education. The website, [www.pioneerwest.net](http://www.pioneerwest.net), provides contact information for the Festival presenters.
- ◆ Outreach to New Mexico Communities - The members of the Steering Committee will offer workshops to groups in other communities considering a Water Festival. The workshop will utilize the video, "Water Festivals - Delivering Effective Water Education to Children" and the Children's Water Festival Toolkit.
- ◆ Planning for the future - Work has already begun to plan and organize Santa Fe Water Festival 2005.

# **Attachments**

# Santa Fe Children's Water Festival 2004

## ***Lower Level***

### **1. The Rolling River**

**Exhibit Hall**

How does the river work? Students will see a model river and watch the effects of water as it flows down stream.

NM State Land Office & NM Environment Dept., Surface Water Quality Bureau  
Nina Wells & Dana Strang, Phone 505-827-5096, E-mail [dvackar@slo.state.nm.us](mailto:dvackar@slo.state.nm.us)

### **2. What's in Your Watershed?**

**Exhibit Hall**

Students puzzle out how people and wildlife use and depend on rivers; how actions within a river system can affect the entire system; and that people need to take action to maintain the vitality of river systems.

NM Environment Dept., Surface Water Quality Bureau  
Julie Arvidson, Phone 505-476-3069, E-mail [julie\\_arvidson@nmenv.state.nm.us](mailto:julie_arvidson@nmenv.state.nm.us)

### **3. Down by the River's Edge**

**Exhibit Hall**

Students learn how native vegetation like cottonwoods and willows along the rivers edge prevents erosion.

Santa Fe County  
Ron Sandoval, Phone 505-490-2269, E-mail [rsandoval@co.santa-fe.nm.us](mailto:rsandoval@co.santa-fe.nm.us)

### **4. Water Jeopardy**

**Room 5**

Students compete to give questions for the water answers (like the TV show).

High School students  
Jemez Valley High School  
Anna Gahl & Students, Phone 505-834-7392x144, E-mail [agahl@jvps.org](mailto:agahl@jvps.org)

## ***Upper Level***

### **5. Swimmin' in the Rio Grande**

**Room 1-A**

Students play a game to learn about the perils and challenges in the life of a Rio Grande Cutthroat Trout, New Mexico's state fish and a native.

US Forest Service, Santa Fe National Forest  
Erica Nevins, Phone 505-892-3535, E-mail [enevins@fs.fed.us](mailto:enevins@fs.fed.us)

### **6. Weather or Not**

**Room 1-B**

Students analyze meteorological and hydrological data to determine if a flash flood might occur, issue warnings and monitor the flood event.

National Weather Service  
Deirdre Kann, Phone 505-243-0702, E-mail [deirdre.kann@noaa.gov](mailto:deirdre.kann@noaa.gov)

### **7. Meet Water Bugs Up Close**

**Room 2-A**

Students observe and identify live macroinvertebrates commonly found in local ponds and rivers and learn how biologists determine the purity of the water by which critters live there.

New Mexico Game & Fish Department  
Colleen Welch and Jamey Brytowski, Phone 505-476-8119, E-mail [cewelch@state.nm.us](mailto:cewelch@state.nm.us)



**8. Who's Got the Water?****Room 2-B**

Students demonstrate that our water must be shared among many users. They negotiate water sharing agreements when it's a dry year and discover what might happen if they cannot agree!

City of Santa Fe, City Attorney Department

Kyle Harwood and associates, E-mail [akharwood@ci.santa-fe.nm.us](mailto:akharwood@ci.santa-fe.nm.us)

**9. The Long Haul****Room 3-A*****New!***

Students learn to really appreciate how much water a gallon of water is as they haul enough to flush the toilet or brush their teeth. They experience the difference between conserving and wasting uses.

City of Santa Fe, Water Division and Santa Fe Country

Emily Talmage and Liza Vitale, Phone 505-955-4223, E-mail [ectalmage@ci.santa-fe.nm.us](mailto:ectalmage@ci.santa-fe.nm.us)

**10. There Otter be Otters!****Room 3-B**

Once upon a time otters swam in the rivers of New Mexico. Students will learn about the river otters' history and the efforts to bring them back.

Amigos Bravos

Rachel Conn, Phone 505-758-3874, E-mail [rconn@amigosbravos.org](mailto:rconn@amigosbravos.org)

**11. Stories need Water, too!****Room 4-A*****New!***

Students learn that sometimes water plays a big part in old stories and legends.

National Park Service, Bandelier National Monument

Chris Judson, 505-672-3861, E-mail [chris\\_judson@nps.gov](mailto:chris_judson@nps.gov)

**12. Waterfowl & Shorebirds of NM Waterways****Room 4-B*****New!***

Students learn how New Mexico's ducks and shore birds are adapted to their special environment. They will also learn what makes a bird a bird and the perils water birds face here.

Audubon New Mexico

Eileen Everett, Phone 505-983-4609, E-mail [eeverett@audubon.org](mailto:eeverett@audubon.org)

**Water Wizard who knows all there is to know about H<sub>2</sub>O.**

Bev Brunson, Phone 505-474-3621

Santa Fe  
Children's Water Festival 2004  
Steering Committee

Emily Talmage	City of Santa Fe, Water Division
Abraham Franklin	NMED, Surface Water Bureau
Colleen Welch	NM Game & Fish
Cheri Vogel	NM Office of State Engineer
Dana Strang	NM State Land Office
Ron Sandoval	Santa Fe County
Liza Vitale	Santa Fe County

# Santa Fe Children's Water Festival 2004

Thanks to these organizations for their generous support!

## **Lead Donors**

New Mexico Environment Department, Surface Water Quality Bureau  
US Environmental Protection Agency, Region 6, Clean Water Act Grant  
US Bureau of Reclamation  
City of Santa Fe  
Sierra Club Rio Grande Chapter

## **Contributors**

Albertson's  
Arid Solutions, Inc.  
AWWA - Rocky Mountain Chapter  
CH2M Hill  
City of Albuquerque, Water Resources Division  
Environmental Education Association of New Mexico  
Greetings Etc., Inc.  
Molzen Corbin  
National Weather Service  
New Mexico Environment Department, Ground Water Quality Bureau  
New Mexico Game & Fish Department  
New Mexico State Engineer / Water Conservation Office  
New Mexico State Land Office  
Parsons Engineering Science, Inc.  
PNM  
Science Applications International Corporation  
The Rain Well  
US Army Corps of Engineers  
US Forest Service, Santa Fe National Forest  
Wild Oats

## **Fiscal Agent**

New Mexico Water Conservation Alliance

Santa Fe  
Children's Water Festival 2004

Thanks to these organizations for their creative activities!

**Presenters**

Amigos Bravos  
Audubon New Mexico  
Capitol High School  
City of Santa Fe, City Attorney Department  
City of Santa Fe, Water Division  
Desert Academy  
Jemez Valley High School  
National Park Service, Bandelier National Monument  
National Weather Service  
New Mexico Environment Department, Surface Water Quality Bureau  
New Mexico Game & Fish Department  
New Mexico State Land Office  
Santa Fe County  
US Forest Service, Santa Fe National Forest



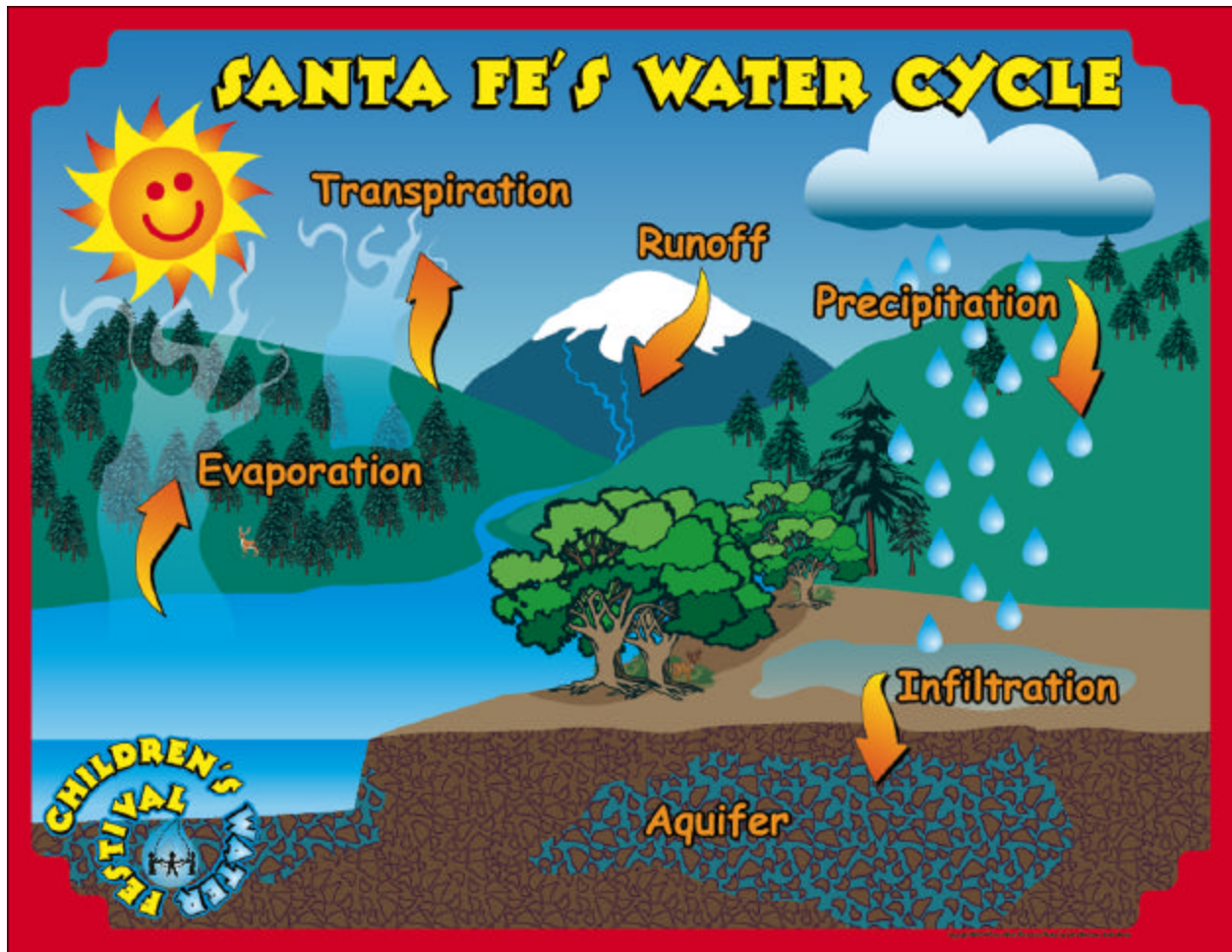
New Mexico Senator Jeff Bingaman joins students as they observe and identify live macroinvertebrates commonly found in local ponds and rivers, and learn how biologists determine the purity of the water by which critters live there.

Presented by  
New Mexico Game & Fish Department  
(photo by Phil Lucero)



Students demonstrate that our water must be shared among many users. They negotiate water sharing agreements when it's a dry year and discover what might happen if they can't agree.  
Presented by City of Santa Fe, City Attorney Department (Photo by Michael Bowers)

# The New Santa Fe Water Cycle Poster



This poster is available to Teachers and Other Water Educators.

It is 17 inches high by 22 inches wide.

Copies may be requested from

Children's Water Festival  
2226B Wyoming Blvd NE #272  
Albuquerque, NM 87112

(505) 259-7190 or  
h2ofest@aol.com