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METRO AREA CHILDREN'S WATER FESTIVAL

AWARDED TO

Basset Creek Water Management Commission



"Water Connects Everyone
and Everything on Earth!"



www.metrocwf.org

2016 METRO CHILDREN'S WATER FESTIVAL

September 28th, 2016
Minnesota State Fair Grounds

November 2016

Dear Laura Jester & Basset Creek Watershed Management Commission

On behalf of the Metropolitan Conservation Districts and the Children's Water Festival Planning Committee, I would like to thank you for your generous contribution towards making the 2016 Children's Water Festival a reality. We recognize the Festival would not have been possible without your support.

The Festival was a huge success. The 1142 students had a great experience outdoors interacting with water resource specialists, and learning much about how Water Connects Everyone and Everything on Earth! We were very lucky to have decent weather again this year with a brisk but sunny day.

We also continued working with U of MN Researchers with their evaluation program to extract what and how much water related knowledge students gain from participating in the CWF. The data will provide quality information about what students retain and perhaps their changes in behavior as a result.

Last year we had a video completed on the festival. It does a beautiful job of summarizing what the festival is about and showing you scenes from the day. Check it out on our website at www.metrocwf.org. Please share the video with your colleagues and boards that they may see how contributions are used.

Enclosed is the 2016 Children's Water Festival booklet, listing sponsors, participating schools and presenters. Sponsors are recognized on the website, booklets, and signs throughout the festival. Also included is the 2016 Program Summary, the Composting Summary, and a Sponsor Certificate.

Plans for the 2017 Children's Water Festival have begun. The date is currently set for will be September 27th, 2017 at the State Fair Grounds. The 2017 festival will be Metro CWF's 20th anniversary. The planning committee is currently brainstorming on how to celebrate this long running festival.

Thank you for your commitment to educating Minnesota's students in the metro area, and your commitment to protecting water as one of Minnesota's most valuable resources.

Madeline Seveland
Festival Coordinator
Carver County Water Management Organization
600 East 4th St. Chaska, MN 55318
952-361-1026 mseveland@co.carver.mn.us



Program Summary for the 2016 Metro Area Children's Water Festival

September 28th, 2016
MN State Fair Grounds.

Participation: 17 schools, 45 classes, 1142 students, 45 teachers plus 2-3 chaperones per class.

- Sand Creek Elementary in Coon Rapids (Anoka Co.) with 5 classes.
- St. Stephen's Catholic School in Anoka (Anoka Co.) with 2 classes.
- Central Elementary in Norwood Young America (Carver Co.) with 4 classes.
- St. Joseph's School in Waconia (Carver Co.) with 1 class.
- Deerwood Elementary in Eagan (Dakota Co.) with 1 class.
- Diamond Path Elementary in Apple Valley (Dakota Co.) with 5 classes.
- St. John the Baptist (Dakota Co.) with 1 class.
- Good Shepherd School in Golden Valley (Hennepin Co.) with 2 classes.
- Learning for Leadership School in Minneapolis (Hennepin Co.) with 1 class.
- Pratt School in Minneapolis (Hennepin Co.) with 2 classes.
- Sullivan Elementary in Minneapolis (Hennepin Co.) with 3 classes.
- Brimhall Elementary in Roseville (Ramsey Co.) with 4 classes.
- Richardson Elementary in North St. Paul (Ramsey Co.) with 3 classes.
- Weaver Elementary in Maplewood (Ramsey Co.) with 3 classes.
- Royal Oaks Elementary in Woodbury (Washington Co.) with 3 classes.
- Saint Peter's School in Forest Lake (Washington Co.) with 2 classes.
- Woodbury Elementary in Woodbury (Washington Co.) with 3 classes.

Program Booklet: Access a copy of the program booklet online at <http://metrocwf.org/pastfestivals/>

Making a Difference: The program provides effective, interactive education and supports goals for water literacy from teachers, schools, and organizations proven through the comprehensive evaluations. Highlights include:

- + 86% of the teachers indicated that the Water Festival will help them achieve State and school district science standards; 90% also indicated they would incorporate lessons, activities, and topics from the Metro CWF into their classroom lesson plans and teaching and use the 2016 Metro theme "*Water Connects Everyone and Everything on Earth*" in their classroom.
- + The Metro CWF follows the best practices for effective outdoor environmental education. Teachers, classroom guides, and presenters all agree, the learning stations that provided exceptional learning had the following components:
 - Hands-on, interactive, & demonstrations
 - Fun and enjoyed by students while learning
 - Knowledgeable presenters all had the ability to connect, to talk, & to present to students
 - Content was interesting
 - Level of material was appropriate



- ✚ The Metro CWF included 36 specific learning stations with more than 55 presenters including water and natural resource professionals and educators. See the complete list and descriptions under “Resources” on the website found at www.metrocwf.org.

Staff and Volunteers:

- ✚ **We had 185 professionals and volunteers participated in the Metro CWF this year.** Staff and volunteers represent water resource professionals from many state and local agencies and from a number of groups this year including Volunteer Match, MN Master Naturalists, Master Water Stewards, Xcel Energy, and more.

The Metro CWF would not be possible without their support! Finding enough volunteers to fill the openings is always difficult, therefore with the evidence we have we need your support to continue to provide and support staff and volunteers for the program.

- ✚ **45 Class Guides** who include water resource professionals, educators, and others accompany each class throughout the program connecting each learning station to the next through discussions and interaction. **95% of Class Guides rate their experience as great or good and will return next year!**
- ✚ Our festival works at promoting zero waste lunches and having composting and recycling during the lunch periods creating another teachable moment. **74.1 % of the waste at the CWF was composted or recycled! Only 74.2 pounds of trash were produced by all students and staff, less than one ounce per person. This is a decrease of 18.6% from 2015.**

Presenters: Over 55 presenters participated, including staff from the following organizations and agencies; The Science Museum of Minnesota, The US Coast Guard, MN Geological Survey, Metropolitan Council, MN Dept. of Natural Resources, Minnesota Pollution Control Agency, Friends of the Mississippi River, Science Outside the Box, Trout Unlimited, Metropolitan Mosquito Control District and Roseville Community Players.

Curriculum: Presentations focused on water conservation, water quality, stormwater and runoff, groundwater and wells, native plants benefits to water, aquatic species (fish, macro-invertebrates and invasive species), mercury, and more. See the full booklet for more details – available on the website www.metrocwf.org

Format: CWF is a one day Program. Each class attends five to eight, 25 minute, learning stations. The number of stations depends on their arrival and departure availability. Students are picked up from their bus, led to each learning station, and dropped off at their bus by volunteer class guides. All classes see a presentation by the Science Museum and visit the Water Arcade.

Costs: On average, it costs between \$11-16K to implement the Metro CWF depending on State Fair Costs, bussing reimbursement needs, presenter fees, etc. The 2016 final budget will not be reconciled until January 2016 when all expenses are in.

Collaboration: The Metro CWF Planning Committee consists of representatives from each of the following organizations; Carver County, Washington County, Hennepin County, Dakota County, Anoka County, Ramsey County and Ramsey Conservation District, Metropolitan Council, Mississippi Watershed Management Organization, Minnesota Dept. of Natural Resources, US Forest Service, and University of Minnesota Extension. In addition there are many partnerships (volunteers and presenters and MN State Fair) that take place in order to make this program possible.

Festival Contact: Madeline Seveland mseveland@co.carver.mn.us 952-361-1026

Result: 74.1% of Waste was Recycled or Composted

Program: Children's Water Festival

Indicator: Measurements (weights) were taken after event

Target: Goal was to achieve a recycling/composting rate of 75%

Partners: Children's Water Festival Organizers, Counties of Anoka, Carver, Dakota, Hennepin, Ramsey, Washington

Background:

Each September, the Children's Water Festival attracts around 1,300 students, teachers, and volunteers to the State Fairgrounds. Here, students learn about water through hands-on activities, demonstrations, and performances. As part of the learning experience, students are expected to recycle and compost their lunch waste. County solid waste staff assist students with sorting to maximize recycling and composting at the event so students make the connection between proper waste management and clean water.

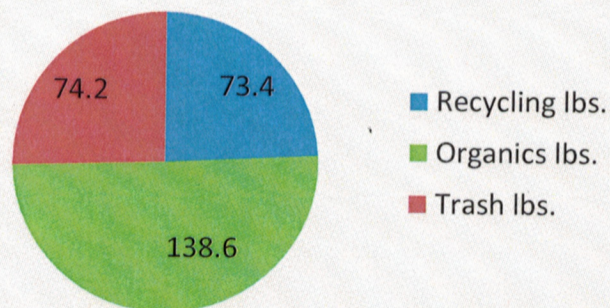


Film plastics collected in 2016

How was it done?

Five waste sorting stations comprised of a recycling, compost, and trash container were placed in the lunch area. An additional container was used to collect unopened food and, new in 2016, a container for plastic film. We also added containers in the registration area for compostable coffee cups and 2/ea in the two restroom buildings for paper towels which were added to the organics for composting. The stations were overseen by staff and volunteers who helped students sort their trash and answer questions.

2016 Children's Water Festival Lunch Waste



Results:

- 74.1% (212 lbs.) of the waste was recycled or composted, down slightly from 2015 (74.5%). There was much less organic waste this year (138.6 pounds) compared to 2015 (180.7 pounds). Less items can now be composted but hopefully, students were eating more of their lunch.
- Only 74.2 pounds of trash were produced by all students and staff, less than one ounce per person. This is a decrease of 18.6% from 2015.
- 35 pounds of unopened food and drink were collected, a 9% increase from the 31.8 pounds collected in 2015.

Recommendations for 2017

- If the condition of the field is wet/muddy, define the areas of the sidewalk or street where the students are supposed to eat lunch so sorting stations do not need to be moved.
- Consider purchasing certified compostable water cups.
- Recycle cream cheese containers. Minimal waste during breakfast so do not need organic containers.
- Confirm with the State Fair staff that the recycling dumpster is for single sort recyclables.
- Remove trash receptacles in restrooms.
- Continue to collect film plastics and paper towels as they were a significant volume of waste.

Deerwood Elementary School/District 196
1480 Deerwood Drive
Eagan, MN 55122
September 30, 2016

Dear Sir or Madam,

Enclosed are a few letters some of our 31 students wrote in appreciation for the experience we had last Wednesday. This is the first time we have attended the Water Festival and we were all impressed! Our guide for the day, Bill, was fantastic (and ran the students between stations: Bonus!) The parent volunteers were impressed, as were we, by the organization, fun-AND-content-filled presentations and even some bonus souvenir give-aways! Later this year the students have a Unit of Study: Petrology & Hydrology: Investigating Rocks, Minerals & Water and they will have much background knowledge to bring into that study, thanks to our opportunity to attend this festival. Thanks for all of the efforts of the companies, their representatives and the many, many volunteers. It's so important to for students to see that our whole community cares about their learning and is willing to step up to share expertise! Thanks for a wonderful day!

Because it was to be our first time, we signed up just one classroom sized group (31). In the end, we chose to use it as a 4th grade enrichment opportunity. Students who were interested in learning more about water completed an application created by the 4th grade teachers and were chosen based on the quality of thought as well as effort put into the application. We had a wonderfully diverse, motivated group and they did soak in information! Below are some of the notes we recorded together about our day!

Sincerely,
Ms. Howell, Deerwood GT/YS Specialist

"Water Arcade" this was a big building where we could wander to booths set up. Included chance to be enclosed in a bubble, fly-fishing casting practice (10:00 and 2:00 are important), examining a boat for invasive species, examining water insects and why important (pollinators), hands-on & conversation regarding water filtration (clay absorbs water)...& a few others.

SOAP SCIENCE *Students observed water/oil mixing, then played a simulation game where some were the dirt, some the water. When water flowed into the dirt...they didn't connect/no real change. (Water only connected to water) Next, dirt stayed but water became soap. Soap connected to dirt, but didn't go anywhere. Finally, soap and water flowed into the dirt... soap has one end that connects to dirt, the other end is attracted to water...thus, with enough TIME (20 seconds), most of the dirt was connected to/could be washed away. Demonstration of mixing oil and water WITH soap in the mix...which kept the oil in suspension (because of soap's connection with water AND "dirt"/oil)*

MINNESOTA FISH and HABITATS *We used a great map of a river area and characteristics of each. Lots of conversation about fish behaviors (with a big map of river habitat areas up & referred to). Many home analogies (ex, where a fish's "kitchen/dining room table" is and why), learned about "riffles", held/discussed/touched a couple of kinds of fish (models and real!) and learned how to identify them. (DNR)*

MYSTERY OF THE DISAPPEARING WATERFALL (NPS) *Started with a fun set of questions about national parks! Looked at paintings of what St. Paul/Minneapolis waterfalls looked like over the years...in the beginning bigger than Niagara Falls! "Time traveled back" visualizing what waterfall was like... Groups of 3 were given 3 rocks to study, then a chart to complete observations (softness/hardness, color, visual details...) Comparing results to a descriptor chart, students determined which was limestone, sandstone or shale. Demonstration of shaking up clay, sand, water in a jar and, given time, its settling into layers. We find that same layering in the earth, evidence that water covered and materials settled out, over millions of years/pressure: rock hardness formed. Animation-type poster showed waterfall starting at St. Paul. As water fell, eroded the underneath limestone layer...over time that left a "shelf" of shale and sandstone that fell. This process continued upstream and is now in Minneapolis (St. Anthony Falls). Now the waterfall is covered in concrete to keep it from continuing to ERODE upstream. Because of this process of earth materials....St. Paul became the port city (too many fallen rocks in the way for shipping to continue toward Minneapolis) and Minneapolis became mill town because waterfall used to run water wheel. Encouraged kids to visit national parks.*

OUR WATER ROCKS SUPERSTAR SHOW This was a group of middle school students presenting a puppet show. The animals had a Talent Show (each sang a song about water, pre-recorded). Hard to understand the words, though sometimes chorus words were shown for us to sing along (& their teacher sang along to that in a booming voice right beside us!) Had a good call & response: Water Conversation. (Conservation for the Nation) Uh-huh!

Science Museum Presentation Time Fantastic visuals and called on a number of audience members to be helpers in the show. Had a long, long, LONG rope (Emilio was able to read the number in quintillions of age of earth); scale: length of our pinky = 1,000 years...and on it marked when earth and water first appeared. When dinosaurs appeared, died out. And then....FINALLY, when humans began. Really incredible tiny fraction of humans! Similarly: showed a blown up earth balloon. Mostly water. In same ratio, all the water put together = a foam block he had. (talked about water covering a lot of the surface BUT it doesn't go that deep...so volume of water on earth is much smaller than whole earth). Of that water, only about 3 % is freshwater (had foam to represent the amount of 3 percent). That little piece then was whittled down by 1/3 to represent all of the frozen water at South Pole. Another 1/3 taken off for all of the

frozen water at North Pole. Last little piece represented all of the rest of our fresh water, separated as ground water, precipitation/evaporation/transpiration and surface water. Most of precipitation actually is taken back up into the air again (rather than ending up in ground or surface).

Finally, a pretty affecting presentation about how much water we use every day. A large balloon showed volume each of us use every day (750 gallons!). Kids thought most was in showering/drinking....but demonstrated that electricity use is most of it, then manufacturing, daily home use and agriculture... So most effective ways to save water are to conserve electricity...though good to turn off water while soaping in shower, etc. too

Good visual: <http://water.usgs.gov/edu/gallery/global-water-volume.html>

WATER JEOPARDY GAME SHOW – Two teams of kids (3-4 each) rotated up front to tables/each had buzzer. Water information asked. Teams could choose: Ask a Friend, Poll the Audience, 50/50 (good way to keep audience engaged!) Students recalled: 3Rs: Reduce/Reuse/Recycle and Boiling/Freezing temperatures of water! Could be a fun project for a small group to design for us at the close of our unit! :))

September 30
2016

Dear Mrs Schoeneur and Mrs Jester,

I was invited to attend the Water Festival. I had a lot of fun. I especially enjoyed the Water Jeopardy. I learned that water boils at 212°f and freeze at 32°f . Thank you for the money pencil. I also appreciate all the sponsors that participated. Thank you. I had so much fun at this years water festival and hope other fourth graders next year get this opportunity. Thank you.

Dincerely,
Vivienne

September 30, 2016

Dear Ms. Jester,

Last Wednesday I was able to attend the Water Festival. I got to go to the water arcade. I really liked when ~~the~~ bubble got engaged in a bubble and I didn't think I was in it. I really hope you do the water festival again because I think it's a really fun way to learn about water. I also learned that most of the water we use is electricity. We used 750 gallons of water each day.

Sincerely,
Jenna

September 30, 2016

Dear Ms. Jester,

Last Wednesday, I was able to attend the Water Festival. It was AMAZING! In the Water Arcade, I got to make a magnet to stick on my fridge. It was about saving water. I even got to decorate it! In Soap Science, I learned that soap and water work together to eliminate dirt and scum. Now, I understand you sponsored the Water Festival. And I thank you for supporting the Water Festival and allowing me to get to go to this amazing place and experience this. I will use the knowledge I learned throughout my life.

Sincerely,

Ella Horn

September, 30, 2016

Dear Ms. Jester,

Last Wednesday we went to the

water festival, it was really, really,

really fun I learned that

one way to identify a walleye

is the white tip of the

tail. I would like to go back

to the water fest again next

year please keep sponsoring

the water fest I liked it

alot. I also learned that some

insects are edible. I learned alot

about water and fish Krahn

Sincerely,

Cora Krahn

Thank you,

September 30, 2016

Dear Ms. Jester,

I learned a lot about the missing waterfall and I thought those rocks were cool.

I learned that the rocks were made of soil, dirt, and sand.

Sincerely,
Lmdigo