



# Earth Team Volunteer Newsletter

February 2010



*Tulsa County Conservation District  
USDA Natural Resources Conservation Service  
Tulsa County Blue Thumb*

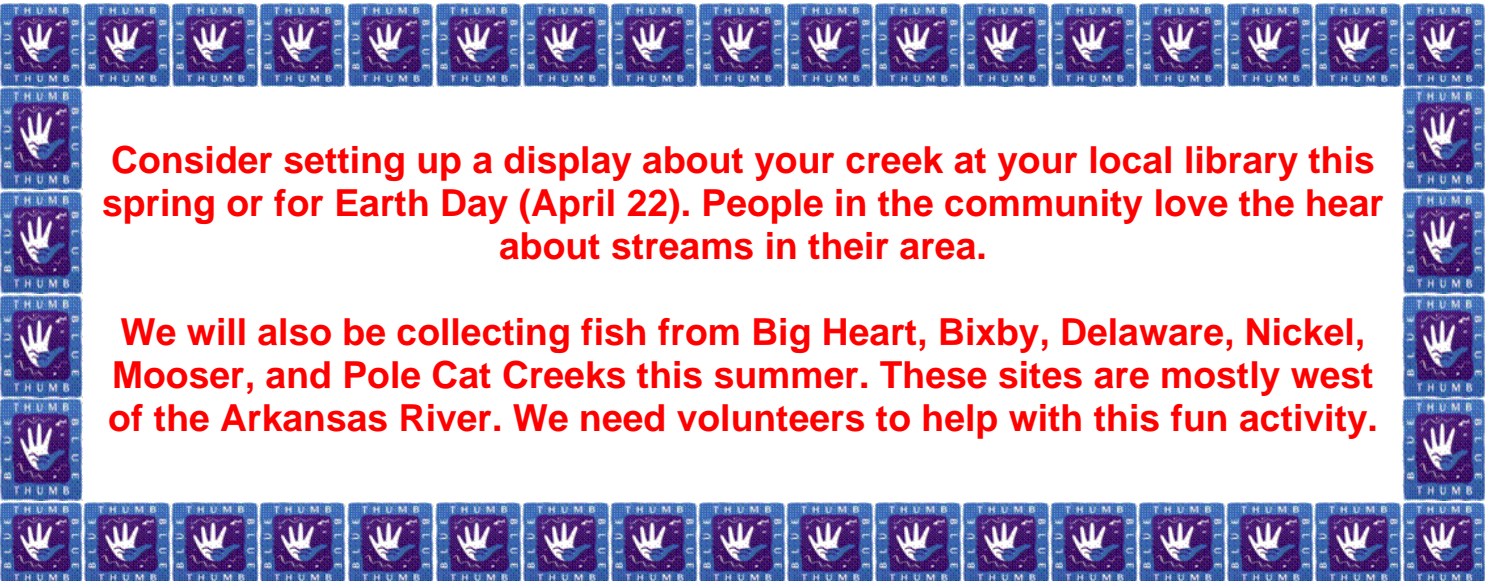
## Volunteer Appreciation Party Full of Food and Friends

The Tulsa County Conservation District had our annual Christmas Party on Tue, Dec 8th at the OSU Extension office. Dan Reinking, senior biologist at the George M. Sutton Avian Research Center, made a fantastic presentation over the Oklahoma Bird Atlases that they have been working on for the past few years. The presentation covered both winter and summer birds and had some really fantastic pictures of both native and migratory birds found in Oklahoma, along with lots of information about them. Everyone really enjoyed the presentation. We had a potluck dinner, with turkey and ham provided by the District, and many delicious side dishes made by those attending the party. Thanks to Julie Grant and Lynn Nabb for cooking the meat.

The party was also a chance for us to recognize some of our volunteers who had gone above and beyond the call of duty during the year. We recognized John Beasley and his students for the hundreds of hours they have volunteered for us, the M.e.t. staff, City of Tulsa staff, Kristin Ruyle, Heather and Brenda Crain, Nan Ray, and Debbie Eagle. While we are only able to officially recognize some of our volunteers, we want everyone who has ever volunteered with us to know that we greatly appreciate their hard work and effort. It would be impossible for us to do anything without the dedication of our incredible group of volunteers. So, THANK YOU, THANK YOU to all of our volunteers.

After the Mr. Reinking's presentation and the awards ceremony, some folks took part in a game of White Elephant/Dirty Santa. There were lots of fun gifts and some were stolen as part of the game. We want to thank everyone who was able to attend, those that made a side dish, and OSU Extension for allowing us to use their facilities. Once again, we had a great time with a great group of people. See you next year!





**Consider setting up a display about your creek at your local library this spring or for Earth Day (April 22). People in the community love to hear about streams in their area.**

**We will also be collecting fish from Big Heart, Bixby, Delaware, Nickel, Mooser, and Pole Cat Creeks this summer. These sites are mostly west of the Arkansas River. We need volunteers to help with this fun activity.**

### Environmental Word of the Month

A **smart grid** delivers electricity from suppliers to consumers using two-way digital technology to control appliances at consumers' homes to save energy, reduce cost and increase reliability and transparency. Such a modernized electricity network is being promoted by many governments as a way of addressing energy independence, global warming and emergency resilience issues. Smart meters may be part of a smart grid, but alone do not constitute a smart grid.

A smart grid includes an intelligent monitoring system that keeps track of all electricity flowing in the system. It also incorporates the use of superconductive transmission lines for less power loss, as well as the capability of integrating alternative sources of electricity such as solar and wind. When power is least expensive a smart grid could turn on selected home appliances such as washing machines or factory processes that can run at arbitrary hours. At peak times it could turn off selected appliances to reduce demand. In principle, the smart grid is a simple upgrade of 20th century power grids which generally "broadcast" power from a few central power generators to a large number of users, to instead be capable of routing power in more optimal ways to respond to a very wide range of conditions, and to charge a premium to those that use energy at peak hours.

One United States Department of Energy study calculated that internal modernization of US grids with smart grid capabilities would save between \$46 and \$117 billion over the next 20 years. As well as these industrial modernization benefits, smart grid features could expand energy efficiency beyond the grid into the home by coordinating low priority home devices such as water heaters so that their use of power takes advantage of the most desirable energy sources. Smart grids can also coordinate the production of power from large numbers of small power producers such as owners of rooftop solar panels — an arrangement that would otherwise prove problematic for power systems operators at local utilities.

Although there are specific and proven smart grid technologies in use, *smart grid* is an aggregate term for a set of related technologies on which a specification is generally agreed, rather than a name for a specific technology. Some of the benefits of such a modernized electricity network include the ability to reduce power consumption at the consumer side during peak hours, called [Demand side management](#); enabling grid connection of distributed generation power (with [photovoltaic arrays](#), small wind turbines, micro hydro, or even combined heat power generators in buildings); incorporating [grid energy storage](#) for distributed generation load balancing; and eliminating or containing failures such as widespread power grid [cascading failures](#). The increased efficiency and reliability of the smart grid is expected to save consumers money and help reduce CO<sub>2</sub> emissions.

To reduce demand during the high cost peak usage periods, communications and metering technologies inform smart devices in the home and business when energy demand is high and track how much electricity is used and when it is used. To motivate them to cut back use and perform what is called **peak curtailment** or **peak leveling**, prices of electricity are increased during high demand periods, and decreased during low demand periods. It is thought that consumers and businesses will tend to consume less during high demand periods if it is possible for consumers and consumer devices to be aware of the high price premium for using electricity at peak periods, this could mean cooking dinner at 9pm instead of 5pm. When businesses and consumers see a direct economic benefit of not having to pay double for the same energy use to become more energy efficient, the theory is that they will include energy cost of operation into their consumer device and building construction decisions.

# New Data on Kingston Coal Ash Spill

WASHINGTON, D.C.//December 8, 2009// New data highlighted in public for the first time today paint an even grimmer picture of the late December 2008 coal ash spill in Kingston, Tennessee, according to the Environmental Integrity Project. Reports filed with the Environmental Protection Agency (EPA) by the Tennessee Valley Authority (TVA) show that the TVA's Kingston coal plant dumped into the Emory River in 2008 an estimated 140,000 pounds of arsenic contained in coal ash -- more than twice the reported amount of the toxin discharged into U.S. waterways from all U.S. power plants in 2007.

The new Toxics Release Inventory (TRI) data submitted to the EPA by TVA also show that the Kingston ash spill deposited nearly 320 tons of vanadium in the Emory River, or more than seven times the total discharge of this toxic pollutant from all power plants in 2007. The Kingston facility singlehandedly discharged more than of chromium, lead, manganese, and nickel into the Emory River last year than reported discharges of those pollutants from the entire U.S. power industry in 2007.

The EIP analysis of the new TVA data finds a total of 2.66 million pounds of 10 toxic pollutants – arsenic, barium, chromium, copper, lead, manganese, mercury, nickel, vanadium and zinc. That compares to the much lower 2.04 million pounds of such discharges from all U.S. power plants into surface waters in 2007. The 2.66 million pound of toxic pollutants dumped into the Emory River in 2008 is nearly 45 times higher than the 59,950 pounds of such materials the TVA reported that released into all U.S. waterways in 2007. To see a detailed chart comparing the TVA versus all U.S. power plant toxic pollution levels, go to [www.environmentalintegrity.org](http://www.environmentalintegrity.org).

Arsenic and other toxic metals were contained in the estimated one billion gallons of coal ash that spilled when the Kingston impoundment dikes burst on December 22, 2008. These toxic pollutants are hazardous to the health of humans, fish and other aquatic life.

Eric Schaeffer, director, Environmental Integrity Project, said: "Toxic metals are notoriously difficult to clean up from ground and surface waters and the aquatic ecosystem. Although TVA has reported that it will spend close to a billion dollars to clean up the Kingston site, it remains to be seen whether this cleanup will be effective. In addition, TVA owns nearly 3,000 acres of ash ponds at its other coal plants in Tennessee, Kentucky and Alabama, four of which are rated as 'high hazard' sites by U.S. EPA. These ash disposal sites also leak their toxic cargo into groundwater, or discharge it directly into rivers, creeks and lakes as runoff or through permitted outfalls. Until the EPA takes action, there are no federal rules setting standards for the safe disposal of ash, or limiting the discharge of toxic ash leachate into our waterways."

Schaeffer added: "EPA is expected to finally propose standards for ash disposal sites by the end of December, and has promised to require the industry to meet Clean Water standards for limiting toxic discharges that were supposed to take effect twenty five years ago. Let's hope these overdue regulations lead to the shutdown of unsafe and outdated ash ponds like the one that burst its banks in Tennessee one year ago this month."

Donna Lisenby, Appalachian Voices and Watuga Riverkeeper, said: "The enormous increase in heavy metals discharged by TVA is very troubling. First, many of these metals bio-accumulate and pose significant risks to human and environmental health. Second, TVA has repeatedly attempted to hide the potential toxicity of the coal ash. For example, TVA's Anda Ray said to 60 Minutes host Leslie Stahl, 'I'd say that the constituents, the things that are in the coal ash, are the same things that are naturally occurring in soil and rock.' But if you compare Kingston discharges from 2007 to 2008 you see an astronomical increase in at least 10 very dangerous metals. If it wasn't for EIP bringing the data and facts forward, the public would never learn the truth from TVA."

Currently, there are no federal rules setting standards for the safe disposal of ash or limiting the discharge of toxic leachate into our waterways. EPA has announced that it will propose regulations for disposal of coal ash by the end of 2009.

Taken from *Erosion Control* at <http://www.erosioncontrol.com/the-latest/kingston-ash-spill.aspx>

# Calendar of Events

## TCCD Office closed

The office will be closed on Monday, January 18 in observation of Martin Luther King Jr. Day.

## TACF Board Meeting

January 19th at 4:30 at the TCCD office

## TCCD Board Meeting

January 21st at 4:00 pm at the TCCD office

## Home and Garden Show Planning meeting

This will be our first meeting to plan the booth for the 2010 Home and Garden Show.

Friday, January 29th at 2 PM at the TCCD office

## TCCD Office closed

The office will be closed on February 15th in observation of Presidents Day.

## TCCD Board Meeting

February 18th at 4:00 pm at the TCCD office

## Greater Tulsa Home and Garden Show

We will be passing out literature and educating people about the Conservation District.

March 11-14th at the QuikTrip Pavilion in the Tulsa State Fairgrounds

Thur, March 11th from 5PM—9PM

Fri, March 12 and Sat, March 13th 10AM—9PM

Sun, March 14th 10AM—6PM

## TCCD Board Meeting

March 18th at 4:00 pm at the TCCD office

## Earthfest at the Tulsa Zoo

We will have a booth and will likely have an educational activity for the kids.

Saturday, April 17th

## The M.e.t's Environmental Expo

Thursday, April 22nd

## Volunteer Notes

- We will be needing volunteers for our Spring bug picking session in April. We do not have the dates conformed yet, but we should have them soon.
- Earthfest at the Zoo is coming up in April as well. This is one of our biggest events. If you have worked at a previous Earthfest, we would love to have your help again
- We will be collecting fish from some of our Tulsa County streams this summer. If you would like to help, please let us know.

## Quotes

“Biodiversity is our most valuable but least appreciated resource.”

~ E. O. Wilson

“Land, then, is not merely soil; it is a fountain of energy flowing through a circuit of soil, plants, and animals. Food chains are the living channels which conduct energy upward; death and decay return it to the soil. The circuit is not closed...but is it a sustained circuit, like a slowly augmented revolving fund of life.”

~ Aldo Leopold *Ecocentrism: The Land Ethic*

“So act as to treat humanity, whether in thine own person, or in that of any other, in every case as an end withal, never as a means only.”

~ Immanuel Kant

“We might say that the earth has the spirit of growth; that it's flesh is the soil.”

~ Leonardo da Vinci

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