



# CONSERVATION UPDATE

A publication of the Washtenaw County Conservation District

**SPRING 2008**

Volume 40, Number 3

## Board of Directors

**Mary Beth Day**, *Chairman*  
**Howard Sias**, *Vice-Chairman*  
**Matthew Koenn**, *Secretary*  
**Bill Van Riper, Jr.**, *Treasurer*  
**Don Rentschler**, *Director*

## District Staff

**Dennis Rice**, *Executive Director*  
**Andrew Henriksen**, *Forester*  
**Aistis Tumas**, *AmeriCorps*  
**Amy Gilhouse**, *Groundwater Technician*  
**Fred Schettenhelm**, *Equipment Manager*

## USDA

### Natural Resources Conservation Service Staff

**Stephen Olds**, *District Conservationist*  
**Zach Cooley**, *Soil Conservation Technician*

## Our Mission

*To educate and assist the people of Washtenaw County with the conservation and management of their natural resources.*

## Web Access

[www.washtenawcd.org](http://www.washtenawcd.org)

*Conservation Update is published in February, March, July, August & December and is available at no charge. To be placed on the mailing list, phone or send a request with complete address to:*

**Washtenaw County CD**  
**7203 Jackson Road**  
**Ann Arbor MI 48103-9506**  
**Phone: (734) 761-6721 x 5**



*A Waste Knot Partner*

## Conservation Awards presented to Bauer Farms and Blewett's at Annual Meeting

Eldean, Carl and Derald Bauer of Bauer Farms, Lodi Township, were presented the "Walter Wolfgang Memorial" Conservation Farmer of the Year Award for 2007 at the 60<sup>th</sup> Annual Meeting of the Washtenaw County Conservation District, January 24, 2008 at the Washtenaw Farm Council Grounds.

The "Wolfgang Memorial" Award is presented to outstanding conservation farmers. The Bauers were recognized for a number of conservation practices implemented on their farm, including the use of no-till, grassed waterways, establishment of buffer strips along creeks, abandoned well closures, planting of field borders, nutrient and pesticide management, recycling used oil from tractors and machinery, and use of bio-diesel fuel. The Bauers operate an 500 acre family farm growing corn soybeans, wheat, some hay and livestock. The Bauer's stewardship ethic over the years was also instrumental in their selection as the 2007 Conservation Farmer of the Year.



Recognition was also given to Lloyd and David Jedele, Saline Township, and Ken and Kathy Siler, Freedom Township, whose farms were the first two farms in Washtenaw County to receive Michigan Agriculture Environmental Assurance Program (MAEAP) verification. MAEAP is a comprehensive, voluntary, proactive program designed to reduce farmers' legal and environmental risks through education, farm-specific risk assessment and on-farm verification that ensures the farmer has implemented environmentally sound practices.

An election of one District Director was also conducted at the annual meeting, with Matthew Koenn of Sylvan Township re-elected to a four-year term on the Conservation District Board of Directors.

Featured program for the 60<sup>th</sup> Annual Meeting was an entertaining and informative program on bees and beekeeping presented by retired professor emeritus of Schoolcraft College, Roger Sutherland. The program included a close-up look at the highly organized honey bee colony; the practice and history of beekeeping; flower and honey bee relationships, pollination, swarming and bee communication.

Special guests in attendance at the meeting included, MSU Extension Ag Agent Ned Birkey; Keith Brown, Legislative Assistant for Congressman Tim Walberg; State Representative Pam Byrnes; Suzie Heiney, Washtenaw Land Trust, Development & Communications Director; Steve Schneider, President of the Washtenaw County Chapter of Pheasants Forever; Washtenaw MSU Extension Director Nancy Thelen; and Washtenaw County Deputy Drain Commissioner Dennis Wojick.



Ron and Carol Blewett received the 2007 Tree Conservationist award in recognition of exceptional tree planting efforts. The Blewetts have planted close to 11,000 evergreen and hardwood trees, many on their 65 acre property in Scio Township for 5 acres of windbreaks and 16 acres of riparian forest buffers. The Blewetts have planted trees for wildlife habitat, reforestation, maintaining natural open space, and to leave a legacy for future family generations.

In addition to tree planting, the Blewetts have planted 15 acres of native prairie grasses and wildflowers to add to the natural landscape they are developing.



# Forestry Niche

by **ANDY HENRIKSEN**, District Forester

## Trees and Drought

Drought affects trees in a variety of ways depending on many conditions. Water stress may kill a tree or, more commonly, predispose it to a wide variety of ailments. Some of these ailments may not become visible for several years.

Root systems draw water from the soil. That water moves throughout the tree to maintain chemical reactions in the living cells. As trees respire, water is expelled and “leaks out” through small pores in the leaves, twigs, branches, and trunk.

During dry periods, the larger humidity difference inside and outside the tree causes increased water loss. Higher temperatures accelerate cell metabolism, which requires additional amounts of water. The response to water stress involves closing the many small pores and drawing more water from the soil.

As soil moisture becomes increasingly low, maintaining an adequate water balance in living tissues becomes more difficult. Sandy or coarse soils dry out quicker. Loamy soils hold available water best. Heavy soils hold more water longer, but much of it becomes unavailable to small tree roots due to the physical chemistry of water and very tiny soil particles.

The inability of a tree to maintain an adequate water balance is called water stress. A moderate amount of stress may slow growth or cause premature autumn color change. More stress might first result in death of leaf tissue. Browning leaf edges due to water stress is called leaf scorch. Conifers may drop older, less efficient needles. Excessive water stress can kill mature trees, and very young trees that have less developed root systems.

After a drought breaks, the impacts are not over. More commonly, the weakened condition allows a number of

pests and pathogens to more successfully attack tree tissues. Trees whose leaves are eaten by gypsy moths or budworms, in combination with a drought, are at higher risk of damage or death. Water stressed pines attract bark beetles, which can kill trees, especially red pine. Mature oaks in sandy soils may die from two-lined chestnut borer attacks over several growing seasons.

The introduction of fungal pathogens during these weak periods can have a longer lasting impact. For example, an Armillaria fungus might enter water stressed roots. Over several years, that fungus might grow and eventually kill the tree.

The drought impact on trees can be very localized. Sometimes, a single tree within a group will die, often seen in plantations. Death might be in the year of the drought or it might be a couple years later.

Soil structure can be highly variable resulting in other local impacts. A tree growing above a large boulder or over a hard pan might die, while its neighbors may recover. Small clay pockets, fissures in bedrock, microtopography, and sandy pockets contribute to local variability that can spell survival or death for a water stressed tree.

Extremely wet years can lead to future drought problems as well. In cool, wet summers, higher water saturation levels in the soil force tree roots to grow closer to the surface in order to obtain enough oxygen, and sometimes kill roots further down. That new root growth near the surface becomes more vulnerable to soils dried out by the following years’ drought. Many tamaracks and other shallow-rooted tree species can die because of this type of extreme wet-dry cycle.

Competition for scarce soil water becomes intense during dry periods. Most trees simply cannot out-compete grasses and herbs for water. We normally think of competition for light, but the underground battle for water and nutrients can be more

important to the long term survival of trees. Because of this, proper weed control is an important factor in minimizing drought problems.

Any time drought is combined with other health issues, trees are at higher risk of damage and death. Drought can tip the scales for trees simultaneously facing an insect attack, a disease, or damage from home construction, laid cable, paving, lawn mowing, etc. Conversely, trees weakened by drought may fall victim to opportunistic insects and diseases several years ahead.

Ideally you should strive to provide newly planted trees with about one inch of water once per week (including rain). In heavy clay soils, you can increase the amount of time between waterings, and on well-drained sandy soils, you should water more often. Usually after a few years, the roots will become fairly well-established and should be able to get most of the water they need on their own. However, in serious drought conditions (2 to 3 rainless weeks or more), the above “one inch of water” rule is still a good idea.

The other water-related concern is over watering. It’s not uncommon for trees to die in drought years because they were watered too much. It’s generally a good idea to let the soil dry out a bit between waterings (i.e. the week between waterings). This will cause the roots to grow some, as they “look” for more water. It also prevents suffocation due to saturated soils. Trees need to be able to absorb both water and air through their roots, something that becomes difficult if trees are watered too often.

If you’ve planted a large number of trees that are out of range of the garden hose, consider placing a few 55 gallon barrels in the back of a pickup with a spigot and a hose attached near the bottom. This way one person can drive down the tree rows, while a second walks behind the truck with the hose.

### This Conservation Update is sponsored by:



**DEXTER MILL**  
3515 Central Street, Dexter  
(734) 426-4621

**FEED, SEED, ANIMAL HEALTH & FARM SUPPLIES**

WLT is a private, nonprofit organization working to protect farmland, natural areas and open space in the Washtenaw County region.



WLT offers land preservation services that:

- Respect private property ownership
- Provide access to income, estate & property tax benefits
- Allow landowners to leave a legacy of open land for future generations

For more information please contact us at: (734) 302-5263 or info@washtenawlandtrust.org Web: www.washtenawlandtrust.org



## Groundwater Gab

By Aistis Tumas, AmeriCorps Member  
Michigan Groundwater Stewardship Program



## Conservationist Corner

By Steve Olds, District Conservationist

### Manage Spring Stormwater

With spring around the corner, now is a good time to think about managing stormwater runoff from your property. Rain storms and melting snow during spring deliver surges of runoff to rivers, streams, and lakes, carrying with it road salts, oil and gasoline from leaking cars, and organic sediments from erosion.

Consider rain barrels or rain gardens for your property, which help to retain and filter rain water, improving the health of local watersheds.

Rain barrels are placed at the side of a home and collect storm water from roof down spouts. Generally, a rain barrel has a 50 to 100 gallon storage capacity (which is easily reached during a light storm).

Rain barrels can be connected with hoses to increase overall storage capacity. The water collected in barrels can be used during drier periods to irrigate lawns or gardens, utilizing a spigot at the bottom of the barrel which connects to a garden hose.

A rain garden is a planted depression that intercepts stormwater runoff from roof downspouts, driveways, and other impermeable surfaces. Native plants, with deep root networks that absorb a lot of water, are well-suited for rain gardens, although non-native species can be integrated into designs as well.

The permeable soil and roots of rain gardens help to retain and filter stormwater, both reducing total runoff and contributing to clean recharge of groundwater.

For more information on incorporating rain barrels or rain gardens onto your property, contact Aistis Tumas, AmeriCorps Educator, at (734) 761-6721 Ext. 101.



### Soil Survey Goes High Tech

Soil surveys provide agricultural producers, businesses, agencies, technical service providers and county residents with access to important soil and related information needed to make land-use and management decisions. They have been “in demand”, since they were first issued in November of 1977.

Until recently, published soil survey data was only available in book, CD and single sheet map form. Now, one may also access this data by visiting the Web Soil Survey (WSS) at <http://websoilsurvey.nrcs.usda.gov>. Upon entering this site, you can start the WSS, or look under the “I Want Help With” heading for assistance with using this resource, which is relatively easy to use.

As listed on the web site; “The Web Soil Survey provides soil data and information produced by the National Cooperative Soil Survey. It is operated by the USDA Natural Resources Conservation Service (NRCS) and provides access to one of the largest natural resource information systems in the world.

NRCS has soil maps and data available online for more than 95% of the nation’s counties and anticipates having 100% in the near future. The site is updated and maintained online as the single authoritative source of soil survey information.”

It should be emphasized that printed copies of the Washtenaw County Soil Survey and CD’s are still available for purchase through the Washtenaw County Conservation District for \$25. The District can also provide individual black and white soil survey map pages at no charge.

Regardless of the format you prefer to use, the NRCS and District staff are available to answer your soils related questions. To contact us, stop by the USDA Service Center at 7203 Jackson Road, in Ann Arbor. You may also reach us by calling; 734-761-6722 ext. 5.

**This Conservation Update is sponsored by**



### Think Habitat!

For information on establishing food or habitat plots for pheasants and other wildlife, call Norwin Raus at (734) 320-4177 or write:

**Washtenaw County Chapter,  
Pheasants Forever, PO Box  
3478, Ann Arbor MI 48106-3478  
Web Site: [www.washtenawpf.org](http://www.washtenawpf.org)**



**Ann Arbor Office  
(734) 769-3411**

3645 Jackson Rd.  
PO Box 2119  
Ann Arbor MI 48106

Intermediate and short-term Credit Programs designed to meet the needs of your farm operation.

Long term farm and rural home real estate mortgages for land, housing, building construction, remodeling or refinancing.



# CONSERVATION UPDATE

Washtenaw County Conservation District  
7203 Jackson Rd  
Ann Arbor MI 48103-9506

RETURN SERVICE REQUESTED

NON-PROFIT  
ORG.  
U.S. Postage  
PAID  
Ann Arbor MI  
Permit No. 374



Printed on 30%  
post-consumer recycled  
paper with soy-based ink

## MSU Biofuel Research: Can Cellulosic Ethanol Crops Enhance Conservation?

Ethanol and biodiesel produced from plant materials, called biofuels, are increasingly in the news these days. Most ethanol in the U.S. is currently produced from corn grain. However, new technologies are coming on-line to produce ethanol from cellulosic plant materials (stalks, leaves, woody stems, etc.). Cellulosic ethanol production promises greatly increased energy efficiency and could be a win—win for farmers, soil and water conservation, wildlife, and the environment.

With funding from the Great Lakes Bioenergy Research Center, Michigan State University researchers are examining how different biofuels crops may affect conservation outcomes. They are studying the impact of potential biofuels crops like corn, switch grass and mixed stands of prairie grasses and wildflowers, on song and game bird numbers, beneficial insects, and soil microbes.

The researchers are currently looking for sites throughout southern Michigan to conduct these studies. Ideal sites would have a pure (or nearly pure) stand of switch grass, a mixed grass and wildflower planting (for example a mixed prairie, CRP or Pheasants Forever type planting) and a nearby conventional corn field. Ideally, each field would be at least 5 acres in size and within 2 miles of each other. The switch grass and mixed prairie stands should be well established, at least 3 years old.

From May to October a team of 4-5 MSU researchers will periodically visit each site to conduct counts of singing and nesting birds, insects will be sampled by passive sticky and bowl traps, and soil microbes by taking 1 inch soil cores.

About 12 visits to each field are anticipated during the year. In the fall researchers will harvest several small areas (about 2 square yards in size) to determine the amount of plant material produced above ground.

All information will be kept confidential and participating landowners will not be identified without prior permission.

If you or someone you know is interested in participating or have questions about this project, contact: Lauren Bailey, phone: (517) 432-5282; or e-mail: [bailey65@msu.edu](mailto:bailey65@msu.edu).

### Washtenaw Land Trust Presents Two Drop-In Question & Answer Sessions

Have you ever thought about leaving a legacy for future generations? Are you curious about the tax incentives and other benefits of land protection? Then, here's an opportunity to learn about how land protection works.

Drop by anytime during one of two sessions listed below. You will have the chance to speak one-on-one with a Land Trust staff member who will help you learn more about your land protection options.

The Land Trust will be available:

**Tuesday, March 25: 6:30-8:30 p.m.**, Freedom Township Hall, 11508 Pleasant Lake Road, Manchester (near corner of Pleasant Lake & Lima Center Roads).

**Thursday, March 27: 6:30-8:30 p.m.**, Lodi Township Hall, 3755 Pleasant Lake Road, Ann Arbor (near corner of Pleasant Lake & Ann Arbor-Saline Roads).

Both events are free and open to the public.