

Visit us online:
www.campbell.army.mil/envdi



**Earth Day
2009**

Celebrate with us

May 8

8AM-2PM

Lucas & Jackson
Elementary schools
next to Airborne St

When one tugs at a single thing in nature; he finds it attached to the rest of the world. -John Muir

THE WATERDROP

River Reflections



A warm, orange glow begins to spread across the floor and my bed. In the distance I hear a robin softly calling, inviting all to wake up. I decide to break free from the covers and join the birds to watch that huge radiant ball, the sun, rise in the sky before we head to the river for a float trip.

I quickly shower, brush my teeth, wash my face and get a tall glass of water before I head outside. Ahh, the feel of the water as it quenches my thirst. I am so lucky to have water at the turn of a handle. I wonder if the river where we get our water is clean and if everyone is so lucky to have water in their house like I do? I wonder also if there is enough water for all of us, especially as the population of the world is growing?

Do you ever wonder where the water you drink comes from and if it's clean? If you were able to read our previous

issues, you know we live in watersheds and that water is recycled and transported worldwide. And that our wa-

Filthy water cannot be washed.—African Proverb.
A lake is the landscape's most beautiful and expressive feature. It is earth's eye: looking into which the beholder measures the depth of its own nature. ~ Henry David Thoreau.

ter's health is affected by how we treat the land. In other words, rivers are reflections of us. Just like a mirror is a reflection of us.

So what do you see when you look at the river? Do you see trash in the water? Do you see muddy water? Does the water smell bad? Do you see oil or scum floating on the water? Perhaps you see lots of bugs and fish in the water or

lots of different kinds of birds around the water. Do you see any bats flying above the water in the evening? Do you see trees and plants on the banks of the river or is there bare soil that washes into the river and makes the water dirty when it rains? Watershed managers and scientist ask these questions and many more to find out if the water is healthy.

When you are sick you may see a medical team such as a doctor, nurse or other specialist. Watersheds need help too. It takes a team to cure watersheds. Did you know you are part of that team? In fact you, your family and friends are very important to the health of our watersheds.

To cure sick watersheds, the watershed management team

(Continued on page 7)

Inquiring Minds...

Earth Facts:

- * The hottest temperature recorded is 136 degrees Fahrenheit in El Azizia, Libya.
- * The coldest temperature recorded is -129 degrees Fahrenheit in Vostok, Antarctica.
- * At 2,425 feet, Yosemite Falls in CA is the tallest waterfall in the US.
- * Talc is the softest mineral and is used to make talcum powder.
- * Trees are the longest living organisms on Earth.



Amazing Animals and Plants

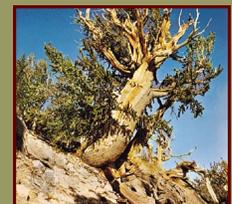
Bottle Tree: a tree in the forest of Australia with swollen trunks that store water for long, dry spells



Satin Bower Bird: Male builds a house of sticks, then decorates with shells, feathers, flowers, clothespins, jewelry, and whatever he can find. His favorite color is blue and he may even paint the inside of his house with berry juice and charcoal. Female birds are at-

tracted to his work; however, once a female has mated with the male she leaves and builds her own nest to raise her young.

Bristlecone Pine: A bristlecone pine in CA is approximately 4,771 years old.



Endangered Friends

The Truth about Bats & Rabies

By Amie Lehman

It is a common myth that all or most bats carry rabies, a virus of the central nervous system that can affect all mammals. While it is true that approximately 75% of human rabies cases are caused by bats, scientific surveys have shown that only 0.5% of wild North American bats test positive for the vi-

rus. You actually have a better chance of winning your state lottery than being bitten by a bat with rabies! However, as a precaution, you should never touch a bat (or any other wild animal), especially if it is out during the day, laying on the ground or otherwise acting tame. Humans can contract rabies by being bitten or scratched by an infected animal. Bats have very small teeth so you may not feel it if it bites you. If you see a bat or other

wild animal acting strangely you should call the local health department or animal control. If you are bitten by a bat you should see a health care provider immediately.



Gray bat



The Great Outdoors

Don't Lose the Line

By Gene Zirkle

I have always promoted enjoyment of the outdoors and fishing is certainly a great way to do that. This Quarter's article pertains to that nasty waste product called monofilament. Fishermen



Goose lost foot due to fishing line.

have long dealt with the issue of waste monofilament line and how to properly discard it. After all, when the fishing is hot you pay very little attention to where the waste line goes.

Where does all that waste line go? Monofilament line, like many man-made products, has a tendency to outlast nature. Conservative estimates give monofilament line a 600 year life cycle in the wild. That's 600

years to potentially harm fish, birds, small mammals, or any other animal that would happen upon the tangle. So what can we do? Recycle the waste line. Many retailers of fishing goods have recycle bins for your waste monofilament line. I've been to many streams in this area and have not met one without monofilament everywhere. The waste line is unsightly and degrades the overall experience. Remember the great outdoors is greater when we pick up after ourselves.



Going Local

Test Your Green Thumb

By Peggy Luensmann

Now that days are getting longer and the nip is gone from the air, it is time to start planning summer gardens. Whether you decide to plant vegetables or flowers, the key to a successful garden starts with location, soil, and timing. LOCATION: Most plants grow well if they get 8 hours of sunlight per day. The best places are usually facing south. If you find that your yard is shaded during most of the day, visit your local nursery or garden center. They will be able to recommend plants that grow well in the shade. If you live in an apartment planting boxes can be hung over a balcony railing, small

boxes can be placed along exterior steps, and potted plants can be placed on an outside table or in a south-facing window. SOIL: A weed-free soil that is full of nutrients is just as important for plants as sunlight. The next time you pass by a local nursery or garden center, pick up some bags of vermiculite, peat moss, and several types of compost. Mix ingredients in equal proportions to get a light, nutritious mix that holds water well and is completely weed free! TIMING: For plants to thrive, they need to be planted at the right time. Some vegetables, such as peas, onions, and lettuce, do best in cooler weather. These should be planted in early spring as well as late summer to early fall. Other vegetables, such as corn, tomatoes, and peppers, prefer warm weather. Plant warm sea-

son vegetables in early summer and don't forget to water! By planting several different varieties, you can have beautiful blooms all season. The University of Kentucky and University of Tennessee extension services have information to guide your planting choices.



Sources:

<http://www.squarefootgardening.com/>
<http://www.utextension.utk.edu/publications/homeGarden/default.asp>
<http://ces.ca.uky.edu/ces/>



The Savannah Post

Burn, Baby Burn

By Andrew Leonard

Early settlers to the area found open grasslands as far as you could see. What they did not realize was Native Americans had for thousands of years burned the land to create grasslands. The Native Americans intentionally set fires to drive game because they knew grazing animals like bison and elk preferred the new growth that returns following a fire. They also used fire to remove vegetation to make planting crops easier. Once settlers began building houses fire prevention became necessary. It only takes a few years without disturbance before a young forest starts to grow.

On Fort Campbell fire is an important tool for managing open areas. Open grasslands are important habitats for many species of birds, mammals, and herpitiles (amphibians and reptiles) many of which are rare since grasslands like these are not common anymore. The Army needs open areas for training and fire is cheaper than mowing. Prescribed fires are intentionally set to meet an objective or prescription. These intentional fires are sometimes called “controlled fires” since we control when they occur and when they go out. Disked strips, roads or streams are used to contain the fires. For

safety, Fort Campbell personnel must take classes to learn about burning and pass fitness tests. It takes years of training and experience to be qualified to start controlled (prescribed) fires.

Fort Campbell personnel burn about 2,300 hectares (5,750 acres) per year.



Tree Talk

Trees Tell A Story

By Steve Stedman

The age of a tree can be determined by counting the annual rings because each ring represents one year of growth. Foresters look at these rings and determine not only the age of a tree but also the “pulse” of the tree’s health.

A wide annual ring means that the tree grew significantly in diameter that year and usually indicates a favorable growing environment for the tree. Wide tree rings are the result of ample growing space for a tree in the forest, providing the tree with plenty of sunlight, moisture, and nutrients to maintain rapid growth.

Foresters carry a tool called an increment borer that is used to measure the growth

pattern in a living tree without cutting the tree down. The hollow tube of the increment borer is hand turned into the tree and produces an increment core that clearly reveals the annual rings.

From this small boring of wood, the forester can quickly evaluate the growth rate and health of a tree. If the bands gradually become closer together as the tree grows older, the indication would be that the tree’s crown is small and producing little food for diameter growth. A forester will always observe to see if this reduction in tree diameter growth could have been caused by insects feeding on the foliage, recent droughts, or even a recent fire that has damaged the bole of the tree.

Stop and determine the story that your trees are attempting to tell you about their

health and growth patterns. Your yard trees, just like you, should have routine health checkups. This routine tree “checkup” will help in maintaining a healthy and vigorous future.



Chirp Notes



Nest boxes

One of the sure signs that Spring is not too far away is the increased singing and activity in the bird world. Some birds, like eagles and owls, are already beginning to pair. Bluebirds, woodpeckers, and other cavity nesting birds are beginning to check out trees for a good nest location. Dead trees (snags) make ideal nesting locations for some of these cavity nesters. Because most people remove snags in their yards due to safety reasons cavity nesters end up with a shortage of nesting locations in urban environments.

A way to counteract the shortage is to put up nest boxes. Nest boxes come in all different sizes ranging from very small (wrens and chickadees) to large (owls and wood ducks) to accommodate a number of species. It's important for the entrance hole to be the right size. You want to attract the desired species the box was designed for, but exclude other bird species and reduce the chances of predators. Here are some other basic design features that are important for choosing a nest box:

- untreated wood (pine, cedar, or fir)
- extended, sloped roof
- rough or grooved interior walls
- recessed floor
- drainage holes
- ventilation holes
- easy access for monitoring and cleaning
- sturdy construction
- no outside perches

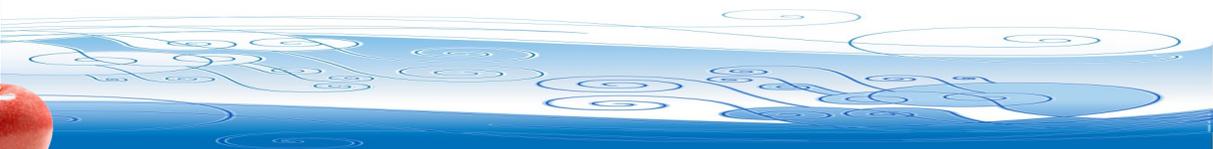


The nest box should also be durable, easy to check, and clean. Not only is it a fun activity to watch birds choose and build in a nest box you put up for them, but it is also very rewarding to provide them a home they wouldn't otherwise have! ↙

Background photo by Jean Gawalt, Dept of Environmental Conservation; www.dec.ny.gov

Earth Facts

- * 25% of all medicines in the US are derived from plants
- * Lady bugs can eat 400 aphids an hour.
- * Ever eaten tree bark? Bet you have. Cinnamon is the bark of the *Cinnamomum zeylandicum* tree.
- * 84% of a raw apple and 96% of a raw cucumber is water.



Earth Day 2009

Friday 08 May 2009

8AM-2PM

Lucas & Jackson Elementary Schools, Next
to Airborne Street



- Meet Smokey Bear, Sammy Soil and Ruby Raindrop
- Check out Electric Autos & Hybrids
- Excavate Artifacts and Learn to Knap Flint
- Try Natural Beauty—Good for You, Good for the Earth
- Air: Just How Healthy Is It?
- Check out the Bees and See How Honey is Made
- Play Treerific Jeopardy & More Games
- Visit the Ponies, Horses & Perhaps a Skunk
- Pedal Power—How Much Power Can You Generate on a Bike?



Door Prizes Include: Composter, Baskets of Eco-Friendly Products

Bike-a-thon

16 May 2009

0815 hrs at Clarksville Base

Youth route: 4.5 miles

2 Adult routes: 16.5 & 28.7 miles

POC: Beth Moore: 798-9598 / Dawn York: 798-9824



Use a paper grocery bag decorated by
our elementary students the week of
April 19th at the Commissary.



Mother Nature, the Master Recycler

Recycling Food & Plants



- * Did you know that in the natural world leaves, tree limbs, plants and food waste are not buried in a landfill; instead, they are recycled.
- * Even if you only eat meat you still need plants because the animals you eat, eat plants.
- * You can help build healthy soil by composting. Composting is recycling plants and other organic material. You then use the composted material to grow very tasty fruits, vegetables and/or beautiful flowers.
- * Did you know that you can save water by adding compost to your flower beds and vegetable gardens?
- * Learn to compost in our “You Be the Scientist” section on the last page.

Did you know the Brush Turkey in Australia uses vegetative compost to incubate eggs? Compost piles can get very warm, 40-50 degrees Celsius (104-122 degrees Fahrenheit). That’s hot!



Earth Word Scramble

Unscramble the letters below to form words found throughout this issue of “The Waterdrop”.

1. **visrer** (a reflection of how we treat the land)
2. **gassrdsnla** (home to many bird and native flower species)
3. **tretil** (Never do this, instead always place trash in a container)
4. **sopmtco** (You can make with food and yard scraps)
5. **rninnveeomt** (You need to care for it as you cannot live without it)
6. **btsa** (A mammal that eats thousands of bugs a night)
7. **twrae** (A substance you cannot live without)
8. **trahe** (Our planet)
9. **tens esbxo** (Artificial home for birds)
10. **eret nrgi** (Foresters use these to tell the age and health of a tree)
11. **rendag** (Planting one of these provides you with fresh food)
12. **ylcceer** (Do this instead of taking trash to a landfill)





Recipes

Sauteed Garlic Asparagus

Ingredients:

3 tbsp butter or olive oil
1 bunch fresh asparagus
3 cloves garlic

Directions:

Melt butter or margarine in large skillet over medium-high heat. Add garlic & asparagus spears; cover & cook 10 minutes, stirring occasionally, or until asparagus is tender. If you like your asparagus well done, reduce heat & cook an additional 10 minutes.

Lentil and Green Collard Soup

Ingredients:

1 tbsp olive oil
1 large chopped onion
1 tsp salt
1 cup dry red lentils, rinsed & drained
6 cups water

2 tbsp olive oil
1 bunch collard greens—rinsed, stemmed & thinly sliced
1 tbsp ground cumin
1 tsp ground cinnamon
2 tbsp minced garlic
1/3 c lemon juice

Directions:

Heat 1 tbsp olive oil in large saucepan over medium heat, stir in onion and salt; cook until softened and translucent, about 4 minutes. Stir in lentils, & cook for 1 minute. Pour in water, then bring to boil over high heat, then turn heat to medium-low, cover and simmer until the lentils are tender, about 15 minutes.

Meanwhile, heat 2 tbsp olive oil in a large skillet over medium heat. Add collard greens and cook until wilted, about 10 minutes. When lentils are tender, stir in collard greens and season with cumin, cinnamon and garlic; allow to simmer 10 more minutes. Stir in lemon juice before serving. Yield: 2 dozen.

Beans 'n' Greens

Ingredients:

1/2 cup olive oil
2 tbsp white vinegar
3/4 tsp salt
3/4 tsp sugar
1/4 tsp celery seed
1/4 tsp paprika
1/2 pound fresh green beans or 1 can, drained
4 cups torn lettuce
2 cups fresh spinach
1 cup shredded Swiss cheese

Directions:

In jar with lid, combine first 6 ingredients, shake well. Pour over beans; toss to coat. Let stand 15 minutes. Just prior to serving, drain beans, reserve marinade. In a salad bowl, combine beans, lettuce, spinach and cheese. Drizzle w/reserved marinade & toss to coat.

Our Footsteps Continued...

uses CPR—Conservation, Protection and Restoration.

Watershed Conservation means use water wisely. Take short showers and do not let water run while brushing your teeth.

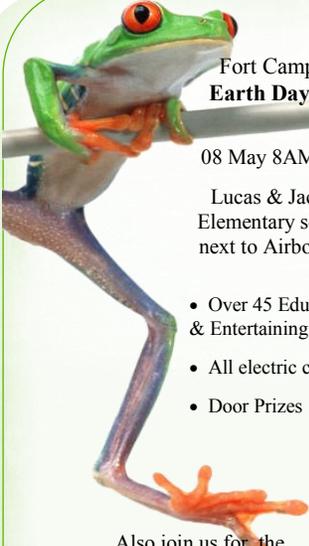
Watershed Protection means doing everything you can to keep your watershed from being polluted. Do not litter, instead help remove trash from roads and streams. You don't want to drink dirty water and neither do animals.

Watershed Restoration makes watersheds healthy. Participating in stream bank restoration projects and making sure our storm drains are clean are great ways to help our watersheds. Do not put any type of oil, soap, chemicals or dirt in the storm drain.

So the next time you are at the stream, river or lake stop and look at your reflection in the water and remember you, your family, and your friends determine if the water is clean or not. Also remember that we all live downstream. You don't want polluted water and neither does a

friend that may live downstream from you.

When it rains take a moment to watch where the rain collects and flows. Some will soak into the soil, some will run into the street and into a storm drain. Storm drains empty into the river. So trash on the street often ends up in our rivers. Remember, rivers are reflections of the way we treat the environment. What does your river reflection tell you about how you treat the environment? 

Fort Campbell Earth Day 2009

08 May 8AM-2PM

Lucas & Jackson Elementary schools, next to Airborne St.

- Over 45 Educational & Entertaining booths
- All electric cars
- Door Prizes

Also join us for the **Bike-A-Thon!**

May 16th, 8AM at Clarksville Base
Youth Route: 4.5 miles
Adult Routes: 16.5 & 28.7 miles
POC Beth Moore, 270-798-9598/ Dawn York, 270-798-9824

Do you have a question or comment for us? Please feel free to contact us. We'd love to hear from you.

Fort Campbell Conservation Branch Office

13th Street, Bldg 2159

www.campbell.army.mil/envdiv



Jeff Atkins, Chief, Conservation Branch, 270-798-9858

Gene Zirkle, Wildlife Program Manager/Wetlands/NEPA, 270-956-2738

Sharon Sanford, Conservation Support, 270-798-9825

Rick Zimmer, GIS Coordinator, 270-956-2697

Paul Waggoner, IT Coordinator, 270-956-2732

Peggy Luensmann, NEPA, 270-956-2738

Amie Lehman, Endangered Species Biologist, 270-798-9855

Dawn York, Watershed Ecologist, 270-798-9824

Daniel Moss, Avian Ecologist, 270-798-7226

Andrew Leonard, Wildlife Biologist, 270-798-9855

Danny Dulin, Wildlife Technician, 270-798-7226

Beth Boren, Agronomist, 270-798-9856

Linda Alderdice, Post Forester, 270-798-2616

Art Rioux, Timber Sale Manager, 270-956-3376

Drew Mickolay, Forester, 270-798-1533

Clayton Lanier, Forester, 270-798-2623

Steve Stedman, Forester, 270-956-3378

Bruce Franklin, Urban Forester, 270-956-2452

Richard Davis, Cultural Resources Coordinator, 270-798-7437

Richard Williamson, Archaeologist, 270-798-9104

Teresa Brown, Archeologist, 270-798-7228

Niki Mills, Archeologist, 270-798-9104

Lydia Bravard, Cultural Resource Technician, 270-798-9104

Did You Know?

Bats eat insects, pollinate flowers and fertilize plants. A single bat can eat 1,200 insects an hour and disperse seeds of more than 300 plants such as the wild banana, wild avocado, saguaro cactus and agave plants. Did you know bat guano is used in laundry detergents? A substance in vampire bat saliva stops blood from clotting and some day may be used to treat stroke or heart attack victims. Go bats!



You Be The Scientist

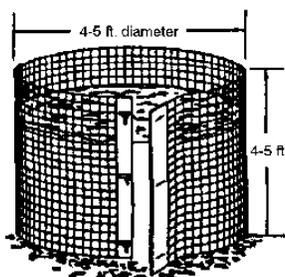
Leftovers = A Nutritious Soil Buffet

Practice a little chemistry and turn that banana or potato peel into a food source, called humus, to grow your favorite vegetable or fruit. It's easy.

Composting

Easy Compost Bin:

Purchase 16 feet of woven wire to form circular enclosure 4'X4'.



1. Ingredients:

Food scraps (fruit & vegetable leftovers, coffee/tea grounds w/paper, egg shells)
No bread, meat, dairy products or pet or human waste.

Garden waste (leaves, grass clippings) and/or shredded paper and dryer lint

Shovel full of soil or compost

Water

Oxygen

2. Directions:

Place soil or compost on bottom, then place food scraps on top of soil/compost. Next place garden waste on top of food scraps. Add another layer of food scraps, then garden waste. Continue layering until pile is about 3 feet by 3 feet.

Wet pile until it is damp, but not soaking wet.

Add oxygen by turning pile at least once a week.

3. Serve: The mixture will cook in 10-12 weeks if kept moist and turned once a week. Mix with soil or spread on top of it to add a buffet of nutrients to the soil.

