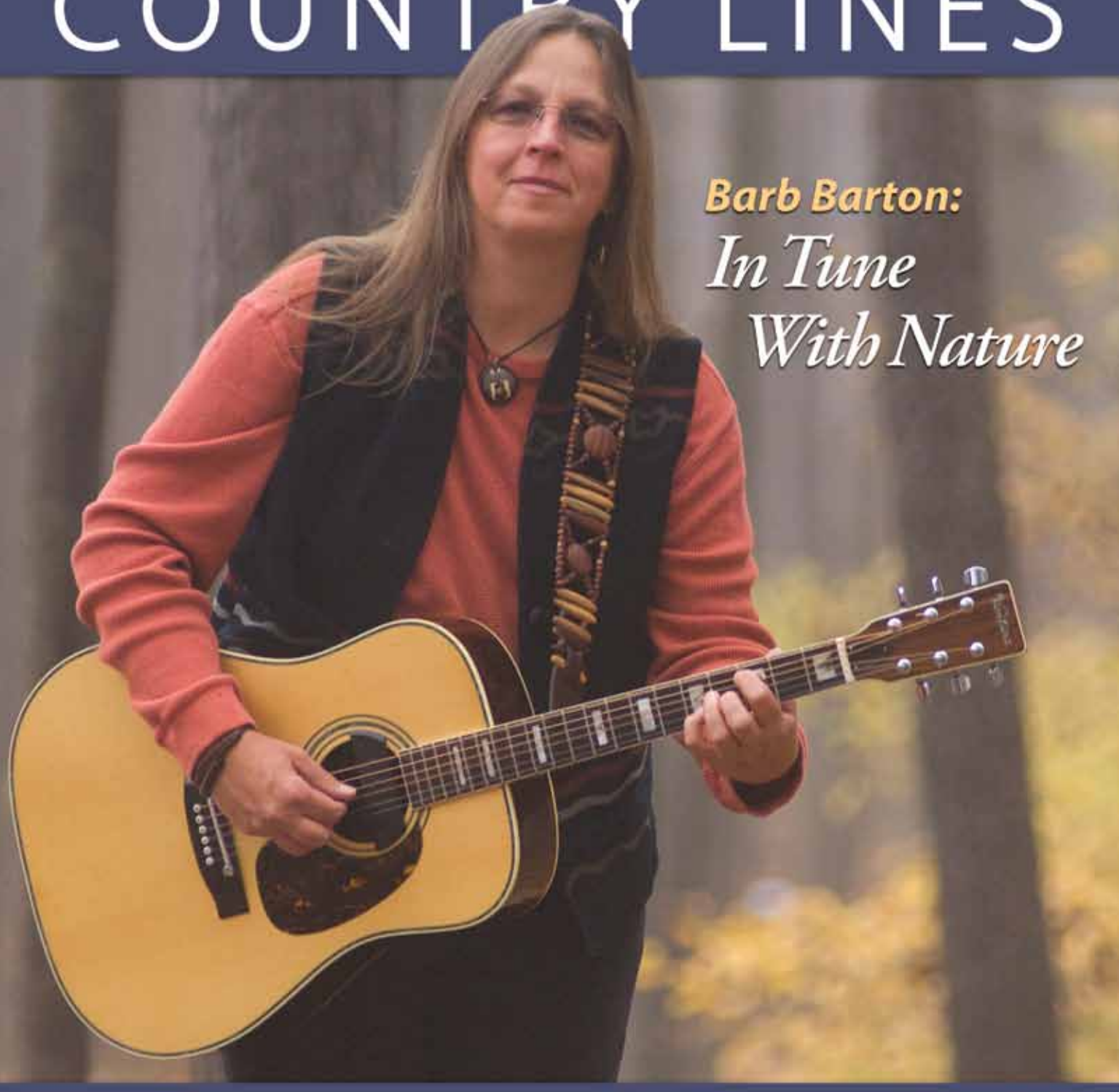
A Service of **Cherryland Electric Cooperative**

February 2012

Michigan COUNTRY LINES



Barb Barton: *In Tune With Nature*

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Michigan's Electric Cooperatives
countrylines.com

On the Cover*
Barb Barton is a popular Michigan musician, business owner and biologist who's in tune with nature.
Photo – David Kenyon

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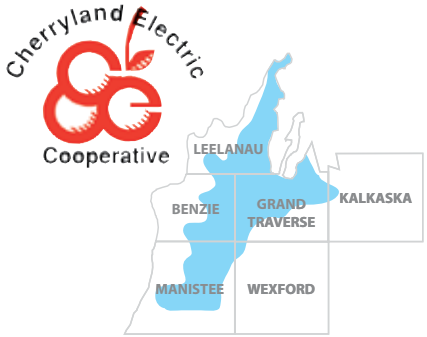
Change of Address: Please notify your electric cooperative. See page 4 for contact information.



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No Free Lunch

There is no free lunch!" "There is no free lunch!" "There is no free lunch!"—I heard this comment every single day of economics class in college more than 30 years ago.

The professor wanted to leave an impression while teaching a lesson. Dr. Palfin (see, I even remembered his name) accomplished both. The core of the simple lesson was that we give up something each time we are given something—be it free or not. If you buy me lunch, I am taking time away from another activity that could have equal or greater value.

Tony Anderson
General Manager

Energy is no different. Wind, coal, solar, nuclear, hydro and gas—*none* of them will ever provide a free lunch, and all come with external costs. The term currently being used is "externality." The Webster's Dictionary definition is "a secondary or unintended consequence." An external cost of coal is deterioration of the railroad system from high use caused by transporting coal from one end of the country to the other.

No form of energy is free; they all come with external costs. The new term is "externality."

Truck transportation and the associated break down of our interstate highway system would then be an external cost to the construction of wind or solar farms.

I have no intention of arguing the existence of external costs. They do exist. What I may want to argue is the cost associated and the extremes some scientists are going to attach external costs to forms of energy like coal.

A study I read recently included such things as rail transport deaths, cardiovascular disease from mercury, loss of property value in mining states, and even claims of retardation caused from living near a coal plant. Retardation—seriously? I am embarrassed to even have to point out the use of such a concept. How can coal be blamed as the *exclusive* cause of these maladies?

I live in a rural area of this region of ours that is predominantly tourism-based. I love my home and region, and certainly support tourism. *But*, if I were to take up the argument that tourism has external costs, it would certainly be plausible. A downturn in the economy has caused a decline in tourism. My external cost was a huge drop in my home value. There is nobody to blame but myself. I made a choice. I chose to live in this region.

Instead of arguing externalities, let's simply consider the fact that we each have a choice. We can choose a local energy provider which supplies us with a variety of energy sources resulting in a relatively stable and affordable supply of electricity. *Or*, we can choose to go "off the grid" and install windmills, solar panels and battery backup. There is nothing wrong with either choice. Each has external costs attached. Like it or not, it is really that simple.

The electric co-op industry chooses not to argue about external costs even though, given some of the claims, there is much to argue. Instead, we are choosing to move forward in search of the best alternatives to provide power for the decades to come.

Yes, this does include coal (but also wind). We can produce energy with coal *better* than we have in the past. This is where we choose to put our efforts. We are searching for long-term solutions rather than pointing fingers at supposedly scientific studies that do nothing to bring us closer to resolving our energy future.

So, when you begin to hear the term "externality," I only ask that you look at all sides of the claim and remember two things: 1) We are seeking better long-term solutions, all of which have a cost; and 2) There is no free lunch, there is no free lunch, there is no free lunch.

Leadership and Fun At Youth Summit— *Sign Up Now!*

"This was an awesome experience! I learned so much and it was a great opportunity to meet new friends I'll remember forever."
– Alyssa, 2011 Participant

miYLS.com

The definition of opportunity is, "a chance that offers some kind of advantage."

Sometimes when opportunity knocks, we do not always answer. But let's face it, we live in a very competitive world, especially for teenagers trying to get into a good college or land a good job. They certainly need all the help they can get—a way to distinguish themselves from their peers.

- Youth Leadership Summit – **April 18-20**
- Youth Tour to Washington, D.C. – **June 16-21**

Fortunately, opportunities do exist for young adults willing to step out of their comfort zone a bit. Cherryland Electric Cooperative offers an opportunity to help give young adults an edge. It's called the Youth Leadership Summit (YLS).

Youth Leadership Summit

The YLS is a unique, high-energy experience offered exclusively by Michigan's electric cooperatives. Each year Cherryland and eight other electric cooperatives select a group of eligible teens from their service territory to participate in the YLS. They meet for three days at the Kettunen 4-H Center near Cadillac to learn about career opportunities with co-ops and within the electric industry, develop new relationships, and get a chance to grow as leaders.

Ultimately, YLS is about leadership. There'll be team-building and leadership activities, and participants will learn about co-ops and how the democratic business model operates.

In addition to a great learning experience, the YLS is fun. Participants have plenty of free time to meet other aspiring young adults and participate in games, climb a utility pole, ride in a bucket truck, and talk with co-op employees and directors.

I have attended the Youth Leadership Summit as a Cherryland chaperone for the last three years. For me, it's a great opportunity to share time with and help teach these young adults. It is fun to see how particpants go from being there because "their parents made them go," to striving to show they are the best candidate to represent Cherryland on the Youth Tour to D.C. It is a treat to witness them opening up to one another and showing their personalities and leadership skills by the end of the program.

Youth Tour to D.C.

Each YLS participant then qualifies for consideration to represent Cherryland Electric Cooperative at the national Rural Electric Youth Tour to Washington, D.C., June 16-21, 2012, (youthtour.coop). Just like the three days spent at the Kettunen Center, Cherryland pays all the expenses. The trip is truly an experience of a lifetime.

Last year, the Michigan electric co-op-sponsored group visited numerous sites including the nation's Capitol, Washington Monument, Kennedy Center, Supreme Court, Library of Congress and war memorials, and they also had a chance to speak with legislators from their districts. They were joined by over 1,500 students representing electric co-ops from across the country, which provides a unique opportunity to develop new friendships.

How to Apply

To qualify, an applicant's parent or guardian must be a member of Cherryland Electric Cooperative. In addition, they must be 16 or 17 years old by June 2012. If you are interested in learning more about the YLS, or know someone who might be, visit cherrylandelectric.com or miYLS.com to apply. You may also contact me, Amanda Olds, at 231-486-9254.

Amanda Olds is a member service supervisor at Cherryland Electric.

Life's Curveballs

It tickled me to read the article "A Life of Curveballs" (Jan. 2012, countrylines.com) because I had been in the hospital in December for a weekend stay. No, I did not have a roommate, but there have been times that I did. Mike Buda's 'way with words' just got to me and I had to laugh. He has a gift! The whole illustration was funny. I needed a good laugh, and this did it. So, tell me, does Mike proofread book manuscripts? I would be interested to know if he does or knows somebody who seriously does.

Thank you for a good laugh. I appreciate his sense of humor, it was funny.

– Gail Vanden Brook

Editor's Note: *You can email Mike at mbuda@countrylines.com to find out if he's in the proofreading business.*

Nuclear Discussion

Although I appreciate all the letters written about nuclear power, one piece of the puzzle here that has been left out is the subject of nuclear waste. The waste is so poisonous to the soil and air that absolutely no one wants it in their state. NIMBY (Not In My back Yard) is the prevailing view, and for good reason.

The waste is extremely dangerous to transport, so it has stayed at the nuclear plants where it was produced. Now, decades of this waste has been building and building, overflowing the plants' storage containers and is now being stored in casks outside the plants. I have seen pictures of piles of these casks in plain view along Lake Michigan.

So, unless the problem of waste is solved, all the statistics on how safe, clean and efficient nuclear is, do not matter in the long run. Personally, I do not think this problem will be solved. It has not been solved after all these decades and decades of our best scientists and politicians trying to solve it. Also, in the process, there has been a big attempt to fool the American people into thinking that it has been or is being dealt with.

We should not build new plants, and even if we were to close all the nuclear plants in the world today, we would still have a terrible problem for hundreds of years.

Nuclear waste does not go away. It lasts forever.

– Brenda Beadenkopf, Niles/Edwardsburg

Thank you, James Benner, for your letter on the nuclear Navy. There has NEVER been an accident with the nuclear power plants on the Navy's subs and ships. In comparison, ships using diesel fuel are accident-prone and huge polluters. Nuclear waste is also a no-brainer, an invented problem. Where do we get nuclear fuel? By mining natural uranium. So just reverse the process, thinning spent fuel with massive amounts of rock (reverse mining) and cement. Then stack it up in the same uranium fields -- we may need it some day. It's also possible to recycle nuclear fuel, making it re-usable so no more uranium mining is needed. Where nuclear accidents have occurred in the U.S., they've been minor, blown out of proportion by the media and headline grabbers. (Remember that "Three Mile Island" occurred at the same time a forgettable Jane Fonda movie was released about a worst-case nuclear accident. Great publicity! Terrible nuclear accidents can happen, see Chernobyl and more recently Japan, but the human incompetence has to be truly staggering. Those Japanese plants were scheduled to be shut over a decade ago and the emergency diesel engines were originally intended to be on the top floor. No one knows, or is admitting, who decided to ignore the schedule or who moved the emergency power plant. Hey, even my pellet stove has an expected life span, had to be carefully installed, and needs regular maintenance.

On any question we always have to do the research, weigh the pros and cons, and act responsibly.

Just wondering: Have the electric co-ops and other companies considered, oh, sheep? A shepherd and dogs following the rights-of-way; nothing clears the land like sheep. Except, oh, goats!

– Beth Clemensen

Portable Heat Pumps

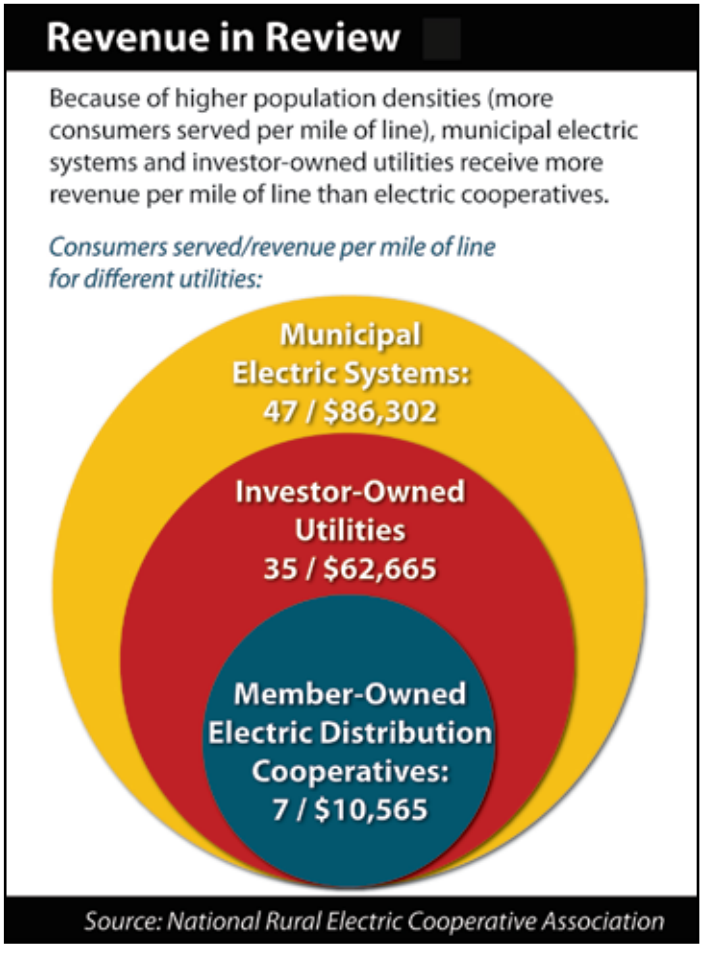
I enjoyed your article on heat pumps ("Heating and Cooling: Weigh Your Options"/James Dulley/January 2012).

You talked about a *portable* heat pump—can you tell me who makes these, and how they work?

Thanks.

– Richard Minue

Editor's Note: *You can find information on portable and other heat pumps, including suggested manufacturers and where to buy them, by visiting dulley.com. Type "portable heat pumps" in the site's Search menu, found at the top of the home page.*



TIP: Wash your bathroom mirror with shaving cream to prevent it from steaming over.

– Don Smith, Mt. Pleasant

TIP: Take a reusable shopping bag into every store you go in, not just the grocery store.

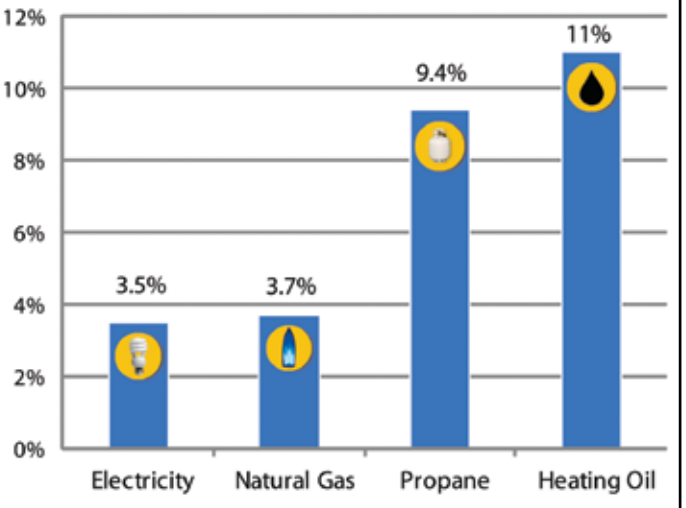
– Jen Recuz, Detroit

Share Your Tips With Readers! Please tell us, in 50 words or less, the ways you make life better, easier, healthier and more fun. These may include tips about health, finance, relationships, organizing time, energy and water conservation, maintaining your house and yard, gracious giving, recycling and re-using to create less waste, or giving to your community. We'll try to print as many tips as we can in each issue.

Email czuker@meca.coop or mail to *Country Lines* Lighter Living Tips, 2859 W. Jolly Rd., Okemos, MI 48864. Please include your name and town.

Electricity prices remain stable

Compared to other types of home heating fuel, electricity prices have remained the most stable over the past 10 years. This graph shows the average annual price increase from 2000 to 2010 for each fuel type.



Source: U.S. Energy Information Administration (EIA) September 2011 data

MECA Scholarships Offered

Each year, the Michigan Electric Cooperative Association awards two $1,000 scholarships to qualifying applicants. Individuals are chosen based on their scholastic achievement and extracurricular involvement during their high school career.

The applicant's parent or guardian must be a member or employee of a Michigan electric co-op, and the applicant must be planning to attend a Michigan college or school full-time.

Selection will be based on grade point average, character, leadership, academic achievement, extracurricular and community activities, and essay response.

Applications are available at countrylines.com; click on "Youth," email tschafer@meca.coop, or call 517-351-6322, ext. 205. Eligible applications must be postmarked by *April 6, 2012*.

Hearts At Risk

Healthy hearts face risks from many different factors: high cholesterol, obesity, diabetes, tobacco use, an unhealthy diet, physical inactivity, and secondhand smoke, among others. But another common—and often misunderstood—risk factor is high blood pressure.

One in three Americans suffers from high blood pressure, according to the American Heart Association (AHA). With February as American Heart Month, now's a great time to understand more about this condition.

Blood pressure is typically recorded as two numbers, written as a ratio: 118/75 mm Hg. The top number, ***systolic***, measures artery pressure in the arteries when a heart beats and the heart muscle contracts. The bottom number, ***diastolic***, measures artery pressure between heartbeats (when the heart muscle rests between beats and refills with blood). The AHA lists five blood pressure stages:

Normal: Systolic less than 120 and diastolic less than 80

Prehypertension: Systolic between 120-139 or diastolic 80-89

High Blood Pressure Stage 1: Systolic between 140-159 or diastolic between 90-99

High Blood Pressure Stage 2: Systolic 160 and higher or diastolic 100 or higher

Hypertensive Crisis: *(Emergency care needed!)* Systolic 180 and higher or diastolic 110 or higher.

To help diagnose high blood pressure, health care providers want an accurate picture of blood pressure to chart what happens over time. Starting at age 20, AHA recommends a blood pressure screening at least once every two years. If a blood pressure reading is higher than normal, a doctor may take several readings over time and/or have the patient monitor blood pressure levels at home before diagnosing high blood pressure. A single high reading does not necessarily translate to high blood pressure. However, if readings stay at 140/90 mm Hg or above (systolic 140 or above *or* diastolic 90 or above) over time, a doctor will likely begin a treatment program, which almost always includes lifestyle changes and often prescription medication.

To learn more, visit heart.org.

If, while monitoring blood pressure, a patient notes a systolic reading of 180 mm Hg or higher *or* a diastolic reading of 110 mm HG or higher, the patient should wait a few minutes and try again. If the reading remains at or above that level, a patient should seek immediate emergency medical treatment for a hypertensive crisis.

Typically, more attention is given to the top (systolic) number as a major risk factor for cardiovascular disease for people over 50. In most cases, systolic blood pressure rises steadily with age because of increasing stiffness of large arteries, long-term build up of plaque, and increased incidence of cardiac and vascular disease.

Helping With a Purpose

What started out as a Lenten promise for Emily Mugerian (2nd from right, above) has grown into a program that's now spreading to other cities. It's called "Lunch With A Purpose," and its simply "people helping people."

It started as a promise and ended with a purpose.

The "Lunch with a Purpose" program kicked off two years ago—in February, 2010—when Emily Mugerian decided to do something each week during Lent for her community.

Emily grew up in Lake Leelanau, where her parents Jeff and Carrie, are long-time Cherryland Electric Cooperative members. She was an honors graduate at St. Mary's and went on to Michigan State University, where she graduated with a human biology degree and is now pursuing a medical career.

She and friends like former Spartan football star T.J. Duckett, Sara Griffon and Justin Caine decided they wanted to make a difference in the lives of people in their area.

"It started as a Lenten promise and then snowballed from there," says 23-year-old Emily of the successful program in the Lansing area. "The first week, a few of us got together to make lunch at the Ronald McDonald House at Sparrow Hospital (in Lansing). The following week we met up at the Lansing City Mission with clothing donations.

"Each of us had mentioned our events to a few people and our group began to grow," Emily says. "After Lent, we continued to organize weekly events to introduce more people to volunteering. It's an awesome way for organizations to share their missions and a wonderful opportunity for people to learn about these great organizations."

That's when Lunch with a Purpose was born.

"When you're a college student or if you don't have a lot of money, you can still be a valuable volunteer," she explains. "So, each week our Lunch with a Purpose organizes a volunteer opportunity, typically during lunch time on Thursdays. We've done everything from serving lunch at soup kitchens to taking cookies to senior centers, doing lawn work at community parks and working with many different nonprofits."

Last year, Lunch with a Purpose also sponsored "Cuts for Cancer," which raised more than $21,000 for Ingham Regional Medical Center's Breast Cancer Research Center.

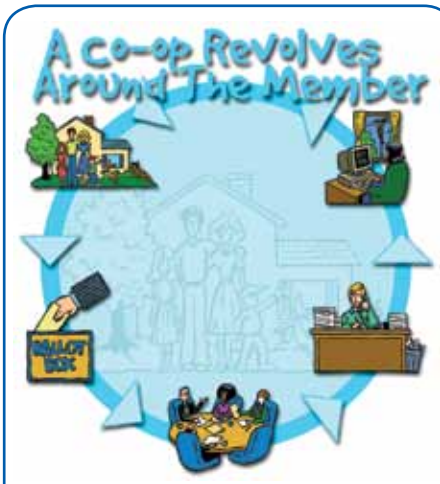
Emily Mugerian and her friends feel good about the difference they are making.

"This is all about giving back and everyone working together to make our community a better place," she adds. "I feel I learned the spirit of giving from my parents and then it was later nurtured by my high school and church at St. Mary's. I think Lunch with a Purpose will continue to grow because it reaches out to so many people."

Down the road, Emily hopes to have a medical career and live in northern Michigan. She also hopes that the Lunch with a Purpose program will continue to expand.

"It's already started in other cities," she says. "And, it keeps growing because the premise is simple: 'people helping people.'"

– Nick Edson



Co-op Principles

The following principles are guidelines by which cooperatives put their values into practice.

1. Voluntary and Open Membership
2. Democratic Member Control
3. Member Economic Participation
4. Autonomy and Independence
5. Education, Training & Information
6. Cooperation Among Cooperatives
7. Concern for Community

You Can Serve on Cherryland's Board of Directors

Any qualified Cherryland Electric Cooperative member can be elected to serve on the co-op's board of directors.

To be nominated in 2012, candidates can file a petition with Cherryland's administrative assistant beginning the first day of March and up until 4 p.m. on the last business day of March.

The term of office is three years. Two directors will be elected at this year's annual meeting, which will be held Thursday, June 14, at Wuerfel Park.

Nominating petitions shall be signed by at least 25 active members of the co-op, in good standing, and all signatures must be obtained within 60 days prior to the date the petition is filed.

Nominating petitions shall be in the form prescribed by the board and are available at Cherryland's headquarters in Grawn. The nominating petitions must specify the geographic service area for which the candidate is being nominated.

The term of office is three years. Two directors will be elected at this year's annual meeting, which will be held Thursday, June 14, at Wuerfel Park. This year's directors will represent Grand Traverse/Kalkaska counties plus one at-large position.

Nominees must meet the director qualifications set forth in the bylaws under "Section 2 of Article III." Any member interested in becoming a candidate is invited to visit the cooperative's office and learn about the duties performed by directors.

In the event no qualified candidate is nominated to fill the vacancy of a director whose term has expired, the newly elected board will appoint sufficient directors to fill the vacancies. This election will be by majority vote of the board and must be done within 60 days of its first meeting. Directors elected in this manner will serve until the next annual meeting, when the members will be given an opportunity to fill the balance of the regular three-year term.

Cherryland Offers Scholarships

STUDENTS: High school seniors whose parents or guardians currently receive monthly electric service from Cherryland and live in our service area may apply for a $4,000 college scholarship ($1,000 for each of four years).

Selection is based on GPA, extracurricular activities, community involvement and/or after school employment. A minimum required GPA is 2.75 on a four-point system. To continue receiving the scholarship, a student must maintain a minimum college course load of 12 credits per term or semester and receive a 2.5 GPA. Students may apply in three ways:

1. Complete the form at right; or,

2. Contact your high school guidance counselor; or,

3. Contact Nick Edson, communications coordinator at Cherryland, as noted below.

ADULTS: Cherryland Electric Cooperative is offering a $500 Adult Education Scholarship to one of its members.

The scholarship goes toward covering the cost of a course or courses taken in a calendar year, and will be awarded on the basis of need, grades and community service. It is a one-time award.

Members may request an application by emailing Nick Edson with their name and address to nicke@cecelec.com, calling him at 486-9222, or write to him at Cherryland Electric, 5930 U.S.-31 South, Grawn, MI 49637.

All scholarship applications are due by Friday, April 6, 2012.

2012 Student Scholarship Application Request

Name _____

Address _____

_____

_____

City/State/Zip _____

Home Phone _____

Cherryland Account # _____

Mail to: CEC Student Scholarship
5930 U.S.-31 South
P.O. Box 298
Grawn, MI 49637

Barb Barton: *In Tune With Nature*

A love of nature and the Great Lakes State is evident in everything Barb Barton does, whether she's strumming a guitar and singing her song, "My Michigan," or gathering mushrooms and other native plants.

"I've lived in various places around Michigan and spent time in the Upper Peninsula and as a resident artist on Isle Royale, and have always been in tune with nature and the outdoors," the Lansing resident says, crediting her parents and grandparents for her love of nature. "I remember my grandmother gathering mushrooms and hickory nuts and learning about their uses from her—traditions that are handed down from one generation to the next."

View Barton's products and details about The Gathering Society at wherethewildfoodsgrow.com or call 734-576-8427.

Looking back on those early years, it was inevitable that Barton's respect for nature would lead her on a path walked by Michigan's first residents and eventually result in her starting a natural foods business called Where the Wild Foods Grow. Maple sugar, wild rice from beds in the Upper Peninsula, Chaga (a black, woody mushroom with medicinal properties) and an assortment of other gifts from Michigan's forests, fields and bogs are staple ingredients in Barton's pantry.

The idea for her business came from her work in 2008 while she was an endangered species biologist with the Michigan Natural Features Inventory (through Michigan State University Extension), and helped to develop wild rice camp programs with the Lac Vieux Desert band of the Lake Superior Chippewa Indian tribe in the western U.P. "Wild rice beds have declined drastically in Michigan, and the rice camps are a way of helping return the traditions of wild rice gathering to the people," she says about the work that involves gathering and harvesting "real" native wild rice from lakes and separating kernels from the chaff using traditional techniques—like stomping on the heads in an earthen pit.

"It's an extremely labor-intensive process, but the end result is well worth the time and effort," Barton says. "When you taste the rice, you can feel the sun and hear the sounds of nature—it keeps us connected to Mother Earth."

Due to Michigan cottage food laws, the wild rice and other natural food items can be displayed, but not sold directly online. "All of the items are shown on the website, but customers need to either call or email to place an order for shipment or delivery," she says, noting that directions for use are included with several items like the Chaga fungus that's used in tea.

Barton's products are seasonal, depending upon what's available—mushrooms in spring; wild fruits and wild rice in summer and fall; and jelly, teas and maple sugar year-round.

"I'm working on a set of wild teas that will use old-time spices like crushed leaves from bee balm flowers, spicebush berries and sweet fern—it's very aromatic," she explains.

Wild mint tea and Labrador tea made from a shrub that grows in

Photos – Rhonda Dedyne

Above: Barb Barton displays some of the wild foods sold through Where the Wild Foods Grow. **Bottom:** Members of "The Gathering Society" met recently to make canteens out of gourds. Canteen gourds grow in a naturally round and flatter shape, mostly in the south and Canada, but you can buy the seeds.

boggy wetlands will be among the new items on the website along with Barton's corn cob jelly and handmade maple sugar.

"People ask me how to use maple sugar," she says, laughing and noting that the pure foodstuff is nature's original sweetener.

Barton is enlisting the aid of friends to expand her product line and encourage people to explore truly "natural" foods prepared in traditional ways. "I've learned from people like Daisy, who is from the James Bay Cree First Nation and has a wealth of knowledge, and I'm working with a local gourmet chef to develop recipes," she says. "There's a growing interest in Michigan's natural foods."

Photo – Kevin Finney

Barton harvests wild cranberries in an elm bark berry basket made by basketmaker Kit Pigeon from the Gun Lake Band of Pottawatomi. The berries are found in northern bogs, nestled in sphagnum moss.

A venture Barton started several years ago is also being revived. The Gathering Society is a group open to women of all ages who are interested in learning about and sharing information on the traditional uses of wild foods and herbs. The group meets regularly throughout the year. The January meeting included a dinner of wild foods at Barton's Lansing home, and a creative session where everyone made canteens from canteen gourds, which grow round, but also flatter in shape.

Barton also displays her love for nature in her lifelong affair with music—she has six CDs (listen at barbbarton.com or CDBaby.com) that feature traditional sounds with wonderful harmonies and her original lyrics.

"It's really about carrying on traditions and connecting people again with nature," she says.

Will Malicious Code Crack the Grid?

Threats from cyber hackers—the curious, mischief-minded, and terrorists alike—are an increasing concern for the electric utility sector, including electric cooperatives. While computer and telecommunications technologies allow electric utilities to serve consumers more reliably and efficiently, they also open up potential gateways for "cyber-tage" of critical electric systems.

While news reports about the potential for cyber attacks (including the complex "Stuxnet" computer virus) have raised public awareness about the issue, there are no documented instances of a cyber assault damaging North American power facilities. Why? In part, because utilities, including electric co-ops, started addressing these issues years ago by working with the North American Electric Reliability Corporation (NERC), the nation's electric grid watchdog, and federal agencies to update procedures, standards, and alerts that contribute to protecting the grid from physical and cyber incidents, as well as natural disasters.

However, the ever-real possibility of a hacker undermining digital technologies used by utilities has Congress, the White House, and regulatory agencies considering the right balance of cyber security safeguards and emergency response initiatives. At present, federal law does not enable the government to order utilities to take steps when an imminent threat exists.

As a result, several congressional bills have emerged that would increase federal authority during emergencies to protect "critical infrastructure" like the electric grid. Co-ops argue most of these proposals go too far in expanding Federal Energy Regulatory Commission (FERC) emergency powers. FERC already has authority to instruct NERC to develop or modify reliability standards, including those focused on cyber security.

However, electric co-ops agree that in limited cases where cyber threats are so severe and close at hand that NERC cannot issue instructions to utilities in time, a federal emergency back-stop may be appropriate until the situation is mitigated, ends, or until NERC can adequately address the hazard through standards and/or alerts. Co-ops also want federal agencies to more routinely provide actionable, timely intelligence about cyber threats and vulnerabilities to utility industry experts.

Fortunately, electric co-ops are moving forward to erect cyber defenses and fashion robust plans for addressing current and future dangers. At the same time, co-ops recognize that in a rapidly evolving cyber environment, there's no such thing as perfect security. Risk mitigation must become an ongoing process requiring constant adaptation and evaluation.

The National Rural Electric Cooperative Association's Cooperative Research Network (CRN), through its groundbreaking nationwide CRN Smart Grid Demonstration Project, has created the "Guide to Developing a Risk Mitigation and Cyber Security Plan"—a set of online tools that will help co-ops strengthen their cyber security posture with a particular focus on smart grid technologies. This effort, heralded by the U.S. Department of Energy as a model for other utilities to follow (and endorsed by the head of grid security at IBM), marks the first approach to advancing cyber security at the distribution level and recognizes that electric co-ops have pioneered a broad range of solutions to keeping electricity flowing reliably and electric bills affordable.

Source: NRECA

Avoiding AIR Invasions

Properly sealed and insulated homes lead to comfort and lower energy bills.

Photos – Blue Grass Energy

Black marks on your insulation (L) means there is air infiltration, and your insulation is doing little more than catching dust. Create an air barrier for more comfort and lower energy bills. Sealing the cracks around recessed can lights (R) with caulk can greatly reduce air flow.

We all know the symptoms of a house that's leaking air—drafty halls in the winter lead to rooms that suffocate in summer. Then there's the most uncomfortable thing of all—high electric bills.

Talk to a local energy efficiency expert (some electric co-ops have their own) and one of the first things he or she will do is ask about insulation in your house. What type do you have? Is it in the attic, walls and floors? How about the basement or crawl space?

Leaky homes usually aren't properly insulated, but it takes more than a roll of the familiar pink fiberglass to stop air invasions.

Sealing the Envelope = Zipping Your Coat

"The biggest culprit to high energy bills remains an uninsulated, unsealed building envelope," remarks Art Thayer, energy efficiency programs director for the Michigan Electric Cooperative Association. "You can lower home energy bills—you just have to identify and stop air infiltration."

A "thermal building envelope" separates you from outside elements. It's like wearing a coat: If you zip it up, it's nice and warm, but if it hangs open, you're left freezing. By properly sealing the building envelope and creating air barriers, and then installing insulation (see p. 13), you keep hot air out in summer and cold air out in winter.

Sealing your home's thermal envelope involves applying caulk and foam to cracks and gaps and correctly installing insulation. If the insulation isn't installed well, it's not doing its job. Typically, incorrectly placed insulation leaves gaps between walls and doors or windows, or where the ceiling meets the walls.

If there's a gap in the insulation, heat gets through, warns Peter Criscione, a manager with E Source, a partner with the Cooperative Research Network and division of the National Rural Electric Cooperative Association. E Source monitors, evaluates and applies technologies to help electric co-ops control costs, increase productivity, and enhance service to their members.

"It comes down to finding quality installers," Criscione stresses.

It's All About Air Infiltration

Understanding air infiltration is only half the battle. You have to find and stop the invaders.

"The first step involves putting a 'lid' on a house because heated air rises and will work its way out of the living space," Thayer relates.

To help determine how leaky your residence is, take advantage of an online energy audit by visiting michigan-energy.org or check to see if your electric co-op's website has this feature. Some co-ops also have an energy advisor you can consult, and who can determine if your home needs a blower-door test, one of the best ways of finding out how much air goes in and out of your residence every hour. If a thermal imaging camera is available, the energy auditor can pinpoint exactly where your home loses air. Typical culprits include the roof, around doors and windows, recessed can lights, attic hatches and pull-down stairs, and unfinished basements or crawl spaces.

Don't overlook the obvious—check where ceilings and floors meet the walls, too. Do you routinely have to clean a cobwebby corner? That's a good indication of air infiltration because insects like fresh air.

"What you don't see could be costing you a lot," Thayer warns.

Caulk, weatherstripping and expanding spray foam should take care of the problem areas listed above. You can also make a box of rigid foam board for the attic pull-down stairs.

Choosing Insulation

Insulation won't do any good if you don't have proper air barriers—if your house jacket isn't zipped. While loose-fill fiberglass or fiberglass batts keep heat from moving in or out of your house, they do little to stop air flow. In fact, if every single joint and crack is not sealed with caulk or expanding foam, your fiberglass batt insulation does little more than catch dust.

Cellulose, made from recycled newspapers and blown-in, provides good attic insulation because it does more to stop air flow. Foam insulation, while the most expensive, also boasts the highest R-value—the effectiveness rating of insulation—and completely blocks air.

Your co-op or local energy professional can help determine the best type of insulation for your house and help you work out a payback period on your investment. You can also check EnergySavers.gov for more information about insulation, and use their zip code calculator to find out how much insulation you need for your location.

The bottom line: "If air is getting through, your energy bills will go up and you'll be less comfortable," Thayer concludes.

– Magen Howard

Revealing R-values

Different types of insulation, ranked by R-value, exist to keep your home comfortable and electric bills affordable.

"R-value reflects the ability of insulation and other parts of your home, like windows, to resist the transfer of heat," says Art Thayer, energy efficiency programs director for the Michigan Electric Cooperative Association. "The rating depends on material, thickness and density, and a higher R-value means more effective insulation, of which multiple layers may be combined for a higher R-value."

How Insulation Works

Metals and liquids easily transfer heat, making them bad insulators. Air, however, does not conduct heat, making it a strong insulator when isolated in small pockets.

Just as fur keeps animals warm, insulation holds heat in (or out) of a building. Fur is a collection of hair—tiny hollow cylinders. Air fills the cylinders and spaces in-between. The smaller the air space in between cylinders and the more spaces there are (longer hair equals more space), the greater the insulation. Building insulation works similarly—fiberglass insulation, for example, is a collection of hollow fiberglass cylinders.

Be careful to preserve the air—the bulk of your home's protection—when installing insulation. When an installer squeezes 3 inches of insulation into a 1-inch space, critical air pockets are eliminated. For this reason, actual insulating R-values may not always match the label. Insulation must be installed correctly to maximize protection and electric bill savings.

The Value of R-Values

The first layer of insulation pays for itself fastest, saving more than one-half of the energy dollars spent on heating or air conditioning. However, as more insulation is added, efficiency gains dwindle.

Boosting the R-value of a wall from 0 to R-10 cuts 90 percent of heat loss from one side of the wall to the other. This makes an immediate difference you can feel. Adding another layer of R-15 insulation (total R-value of 25) only cuts another 6 percent of heat transmission. Further increasing insulation thickness from R-25 to R-35 helps only by a little more than 1 percent.

In some regions with several months of very cold winds, however, increasing attic insulation values from R-25 to R-35 or even R-50 can be worth the investment over your home's life. But in most seasonal climates, replacing single-pane windows saves more energy than adding insulation to the attic, floors or walls (if R-25 to R-30 is common throughout the home).

A typical single-pane window has a 0.9 R-value, but a triple-glazed pane assembly with low-emissivity (low-E) insulated coatings rates 8.3. Based on an electricity cost of 10 cents per kilowatt-hour, a home with 18 single-pane windows (4 square feet each) could waste $94.32 over three months (assuming 12 hours daily of a 40 degrees F indoor/outdoor temperature differential). A more efficient window would cost $10.20 over the same time. After a year, savings from switching out the windows could surpass $300.

Take advantage of an online energy audit at michigan-energy.org or find more insulation tips at energysavers.gov.

– Kris Wendtland

Caulk Up The Savings

Since controlling air leaks can extend the life of your home, and save energy and money, it's good to know you can seal a lot of leaks around a home's exterior with less than $100 worth of caulk.

It's possible to seal openings up to one-quarter inch between window frames and siding or around door frames. For larger gaps, add a backing material before caulking, or use a spray foam sealant instead.

Most types of outdoor caulk are sold in tubes that fit a caulking gun, but others come in aerosol cans and are best for filling gaps up to one-half inch around pipes and wires.

Caulk choices and prices vary, so be sure to read the labels and pick one that will adhere best to the materials you're sealing.

If you can, spend a little more for a premium caulk (can last 20-plus years, compared to a few years for those at a lower cost).

Caulk Like a Pro

- As a rule of thumb, you'll probably use half a cartridge per window or door and up to six cartridges for foundation work.
- Most caulks pose no known health hazards after they're fully cured, but some high-performance compounds contain irritating or potentially toxic ingredients, so read the instructions carefully and take precautions.
- Before applying new caulk, remove old caulk or paint residue with a putty knife, stiff brush or special solvent.
- Make sure the work area is dry (best done when outdoor temps are above 45 degrees), so you won't seal in moisture that can cause swelling and cracking.
- If the gap you're sealing is too wide, use a special filler found at hardware stores. Fillers are not designed for exposure to weather, so you'll need to caulk or seal over it.
- Hold the caulking gun at a consistent angle (45 degrees) and apply in a straight, continuous stream, avoiding stops and starts, and making sure the caulk sticks to both sides of the crack or seam. Send caulk to the bottom of an opening to avoid bubbles.
- Release the caulking gun trigger before pulling it away to prevent applying too much. (One with an automatic trigger release makes it much easier.)
- Don't skimp. If the caulk shrinks, reapply to form a smooth bead that completely seals the crack. If caulk oozes out, use a putty knife to push it back in.
- Caulk takes time to dry or cure, which is described in two ways. Tack-free time tells how quickly the outer surface will skin over; total cure time is that required for it to be completely stable or reach the point where no more drying or shrinking will occur.
- Don't allow pets and small children to contact fresh caulk.

Large Gaps Need Expanding Foam

- Use the correct type of spray foam for the job. Polyurethane expandable spray foam works well around pipes and gaps around the foundation and for filling cracks that caulk can't handle. It comes in aerosol cans and takes a short time to cure. It's very sticky and attaches quickly, so be prepared to pick up messes fast. Also, this type of caulk expands with so much force that it can damage window and door frames, so use a water-based spray foam specifically designed for these areas.
- To seal gaps too wide for foam, use foil-faced bubble wrap. For really large holes, cut sections of rigid foam insulation to fit and then glue into place with expanding foam before covering the area with wood or another appropriate building material.

See more ways to seal your home and save at EnergySavers.gov or TogetherWeSave.com.

– Robert Dickleman

Natural Shoreline Landscapes

Photo – Jane Herbert/MSU Extension

During the field component of training for becoming a Certified National Shoreline Professional, participants lay erosion control fabric and set coir fiber logs as wave breaks to protect the newly-constructed natural shoreline at Cadillac Lakefront Park.

Many electric co-op members either live or have a cottage on the shores of an inland lake or stream, and there's some new technology and options for erosion control called natural shoreline landscapes. This form of shoreline maintenance is good for the environment and enhances accessibility to the water for recreational purposes and can even increase property values, says John Skubinna, of the Michigan Department of Environmental Quality (MDEQ) and facilitator for the Michigan Natural Shoreline Partnership (MNSP).

Natural shoreline landscapes are an alternative to the vertical break walls and riprap construction (foundation or sustaining wall of stones or concrete chunks thrown together in deep water, or similar material on an embankment slope) typically used by property owners to control erosion. Unfortunately, those methods can do more harm than good, says Jane Herbert, a contact person for MNSP, and senior water resource educator with the Greening Michigan Institute of MSU Extension.

"Break walls are very destructive to lakeside shorelines," Herbert explains. "There are a variety of things that can go wrong when you alter the shoreline, and it can be difficult to correct."

Visit **mishorelinepartnership.org** for information and other resources, including training and conferences.

The problem with traditional break walls is that you can alter the wave action of a lake in such a way that erosion is created on either side of them, which may just be your neighbor's shoreline. Wave energy bouncing off the wall also scours the lake bottom, which negatively impacts natural feeding and breeding grounds for aquatic wildlife. "In other words," says Herbert, they're not good for the ecology of the lake."

Natural shoreline landscapes instead seek to mimic what should naturally occur at the water's edge, says Skubinna. These landscapes can consist of everything from leaving well-enough alone (which doesn't require a permit) to encouraging the natural growth of native vegetation into barriers. These barriers are constructed using biodegradable materials and a generous planting of wetland and aquatic native plants.

These techniques provide a more natural defense against the effects of wave and ice action on the shoreline. "Native plants provide a lot of amenities to the shoreline that were there before," says Herbert. "They have the rooting structure that holds these shores together to withstand waves and ice."

Native plants can also adapt to shoreline water level fluctuations, provide habitat for organisms and animals, and help reduce pollution runoff to the lake from lawns and parking areas.

Recommended species for a natural shoreline landscape are listed on the MNSP website and can be acquired from local conservation districts and some plant suppliers. The Michigan Native Plant Producers Association also maintains a listing of companies that supply native plants and seeds. Herbert says it is best to use plants native to Michigan and the upper Midwest that are hardy to your zone. She discourages moving native plants from one place to another, which in some cases is illegal.

A joint permit from the MDEQ/U.S. Army Corp of Engineers is required to build these landscapes, or for any shoreline alterations or additions. Permits for shoreline development, including break walls, can run up to $2,000; however, to encourage homeowners to install bioengineered erosion control, a natural shoreline landscape permit is only $50. For information on Joint Permits or to apply for one, visit michigan.gov/jointpermit.

The MNSP also educates and certifies contractors and provides all the information needed to construct and maintain shoreline landscapes. Starting this February, they'll offer certification classes for landscape and marine contractors to meet the needs of homeowners wishing to install them. The training is offered in Grand Rapids on Feb. 21, 22, 23 and June 6; and in Manistique on March 21, 22, 23 and June 13. Training consists of three classroom days and one day for installation. Visit the MNSP website (or call Herbert at 269-671-2412, ext. 222) for details and to enroll. There's also a listing of Michigan Certified Natural Shoreline Professionals by county if you're looking for a firm qualified to install these landscapes.

In some ways, a natural shoreline landscape is no different than any other landscaping project that relies on native plants—therefore it isn't outside the realm of an experienced do-it-yourselfer. There are plenty of resources for learning what they're all about, and helpful guidebooks include MSU's "Natural Shoreline Landscapes on Michigan's Inland Lakes," and the MDEQ's "Natural Shoreline for Inland Lakes."

The MNSP's network of specially-trained natural shoreline educators will offer workshops statewide this year for homeowners, as well. One is already set for March 9, in Clarkston, and additional workshops will be posted to the website.

Aside from certifying contractors and educating property owners, the MNSP continues to research bioengineering technology and works to encourage state policies that promote natural shoreline management.

Neil Moran is the author of "North Country Gardening with Wildflowers: A Guide to Growing and Enjoying Native Plants in the Upper Great Lakes Region."

Inside the Wolf's Den

Being in a wolf's den isn't a bad thing if it's the one built by Philip Wolf near Scottville, MI. The craftsman started his woodworking shop and store called Wolf's Den about 10 years ago and has worked with wood for 37 years.

"I knew when I was a kid that I was going to build furniture and live in a log cabin," he says. His log home now stands a few miles from the store, and because he enjoys working with wood so much, he says he feels like "I never went to work a day in my life."

Wolf says there's not enough time in the day to build things with wood, and he specializes in custom orders, especially kitchens and staircases. A staircase partially built inside a tree for a Lake Michigan home was one of his most unique projects, he says. "An open staircase is the most beautiful, and I enjoy doing them out of logs and trees—I've done a lot of rustic stairs."

He also builds bedroom and dining sets and other furniture with the help of only three employees, and claims that the wood in their furniture is very clean, finished, and "it's baby-butt smooth, even if it's made out of a tree root," he says proudly.

"Our woodworking shop differs from most in one aspect—the lack of [power] tools," Wolf says, noting that most of their creations are made by hand with old-fashioned tools. He likes the challenge, and adds, "I go into the woods, take a tree and build something out of it—from spiral staircases to one-of-a-kind log beds." Customers can tour the 23 acres nearby and choose their own tree and type of wood to be used for a custom project.

In the large Wolf's Den store, you'll also find coffee or end tables, plus other furniture and home decor items including unique mirrors, shelves, lighting, and even taxidermy.

Wolf does most of the design work himself and 80 percent of the store's items are Michigan-made, either by the Wolf team or one of over 35 other consignment artists whose differing work is displayed there. None of the artists whose pieces are for sale craft the same thing, and they come from all over the state, ranging from chainsaw carpenters to those who craft antler chandliers.

Even with the poor economy, Wolf says, "You wouldn't believe how many people come and say, 'I have never been in a store like this. It's so unique when you get so many artists together..." Artists seek him out to put their stuff in the store, which makes up about 50 percent of his business.

Currently, Wolf is crafting two kitchens, doing most of the work himself from start to finish, and has completed about 500 kitchens in his life…from design to building and installation.

Over 40 percent of his customers are from the Grand Rapids area, and the rest are from out-of-town or the state. A lot of people hear about it by word of mouth, and he's amazed that people drive a long way just to visit. And, even though business has been down a bit since 2008, he says, "It's very rewarding to be able to keep moving forward with the economy the way it is—especially with a store full of wants, not needs."

"On any given day of the week," he says, "you never know what you will find in our shop, and what signs of progress."

Photos – Wolf's Den

Above: Philip Wolf, owner of The Wolf's Den woodworking shop and store, offers unique, Michigan-made art from a variety of artists. He is pictured here with items he handcrafted. He builds with only Michigan wood, much of it cut from his own land. **Right:** A carved headboard and bed Wolf built for a customer.

The Wolf's Den is located near Scottville, at 880 W. U.S. Highway 10 and 31 (about 6 miles east of Ludington). Visit **wolfsdenmichigan.com** or call 231-757-7000.

Tell us about your favorite, or a unique, Michigan-made product. Email czuker@meca.coop or send to: *Country Lines,* 2859 W. Jolly Rd., Okemos, MI 48864. Be sure to share why you like it, or a unique story to go with it.

Got Stress? Get a Hobby!

Photo – ©iStockphoto.com

Americans are more stressed today than ever, thanks in part to a lingering financial crisis. From trying to make ends meet, to protecting relationships, to juggling deadlines, Americans are struggling to keep afloat, and it's taking a toll on their health and productivity.

We sometimes forget that kids are more stressed these days, too. In fact, a KidsHealth® KidsPoll showed that kids are stressed by school, peers and—yes, even their families.

The poll also shows that kids don't always deal with stress in healthy ways. That's why it's important for parents and grandparents to get involved, by reaching together for positive ways to cope. One powerful way is to pursue inexpensive activities that everyone can enjoy.

Hobbies Can Heal

Research shows that having a hobby you love can offer mental, physical and spiritual benefits to improve anyone's health and well-being. Collections, music, sports and other kid-friendly hobbies can distract kids from their worries and anxieties by making them focus on the here-and-now. Quiet hobbies like painting or model-building create space to think about things and be quiet for awhile.

Hobbies can also teach kids how to entertain themselves, while helping build self-esteem and a sense of competence. They can reinforce skills kids need at school and deliver many life-lessons, such as self-discipline, patience, creativity and the value of practice. Hobbies can also bring people together, leading to new friendships and stronger family ties.

Choosing the Best Hobbies

To tap into the learning and healing power of hobbies, you simply have to start.

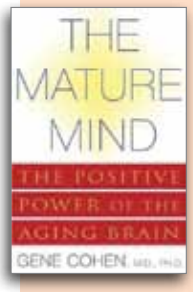
- **Watch for what interests your child.** A hobby should be something that provides pleasure. It should never be a forced burden.
- **Count the cost.** Avoid starting an expensive collection or travel sport that your family budget can't sustain.
- **Consider how much time to budget.** Aim to hit a balance between family, school, chores and hobbies. Activities are important, but equally critical is a warm and well-connected family life.
- **Choose age-appropriate hobbies.** You don't want to set a child up for failure by tackling activities that are too difficult or dangerous for their age. If interest is high, however, you might try to find a way to ease in with a safer or simpler version of a high-interest hobby.
- **Mix it up.** Introduce a new hobby as a birthday or holiday gift. Sign your child up for guitar lessons. Register her for horseback riding. You might just prompt a new passion.
- **Get involved.** Take an art class as a family. Study a foreign language and practice it at dinner (no English allowed!). Hike a trail. Enjoying some family fun that helps everyone meet a goal promotes healthy relationships.

Watch For Pitfalls

As beneficial as hobbies are, there can be some downsides if parents aren't careful. Keep the focus on health and well-being by avoiding these common mistakes:

- **Don't push the child to finish projects.** Teach him to enjoy the process; that's when you push away anger, anxiety and everyday worries.
- **Don't seek perfection.** School assigns enough work that demands perfection. Don't let hobbies pile on the pressure.
- **Don't compare your child to others.** The point isn't to master a skill; the point is to find what makes her happy and relaxed.
- **Don't worry what other people think.** Teach your child to pursue a hobby for herself alone.
- **Don't overdo it.** Be careful that in your effort to give kids lots of opportunities, you don't end up depleting the budget—and everyone's emotional energy.

By guiding kids into appropriate hobbies, parents can encourage healthy coping skills and help prepare them to tackle whatever stresses they meet throughout their lives.



Hobbies Help Grandparents, Too!

By enjoying hobbies together, families can share quality time, strengthen relationships, and improve brain health.

Gene Cohen, MD, author of "The Mature Mind: The Positive Power of the Aging Brain," says that trying new things and being creative—by singing in a choir, taking painting lessons or doing crossword puzzles or brain teasers—promotes brain flexibility and growth and even prompts our brains to re-wire, which may fend off dementia and help to maintain health. "When you challenge the brain, your brain cells sprout new connections, called dendrites, and new contact points, called synapses, that improve brain communication," Cohen explains.

***Linda Wacyk** is a regular Country Lines freelance writer, educator, grandmother and content empty-nester.*

Ice Fishing's 'Last Gasp' Nears

Ice fishing is a major draw to anglers in February, but it might be called the "last gasp" time for this popular winter sport. When the calendar flips to March, the "safe ice" season thaws to a close in many of Michigan's waters, especially in those years when a warm weather shift arrives early.

Safe ice fishing requires daily inspection of the conditions every time you venture out. Ice that's solid and firm one day can suddenly become weak or thinner when the weather shifts, or where springs or currents eat the thickness away. Taking care to use a spud to check for safe ice *each and every time* is what stands between safety and possible tragedy.

There are two times when ice anglers are eager to get out on the ice to catch game fish like panfish, perch, walleye or pike. The first prime time for many is when the ice is first formed and safe enough to walk on. The second is when the ice season nears its end. The reason is that fish, like people, have preferred temperature comfort zones.

As first ice forms, fish begin to feed a bit more, as if they know lean times are at-hand. Their systems will adjust so that they need less food and feed less often. As waters begin to warm from penetrating sunlight and thawing as spring advances, their feeding urge begins to return. Thus, early-ice and last-ice times are when fish feed more often and are more likely to respond to baits offered.

A bit of physics is at play here. As water cools to 39 degrees F, it reaches a heavier specific gravity weight and sinks to the bottom. Hence, most fish seeking warmer comfort zones are found down near the bottom. The reverse happens in the heat of summer. As top waters heat, cooler water sinks to the bottom and again that's where fish will head during the heat of day. Remember where you found all the fish last summer—that's a good place to fish in winter, too.

Panfish such as bluegills, crappies and sunfish, or yellow perch are the species that end up most often in ice angler creels. These species are the most widespread of all Michigan gamefish. (A reminder: If you want to fish for pike and walleye on inland waters, you'd best hurry up and get to it. The season will close after March 15, and not re-open until the last Saturday in April to protect spawning fish.)

If fish have a comfort zone, so do anglers, and many of them fish from shanties or 'coops' where it's sheltered and warm. But as March arrives, these shelters have to be off the ice by a certain date (see your DNR fishing guide for rules governing shanties by zone and dates. You will need a new fishing license April 1—and no 'fooling' with that.)

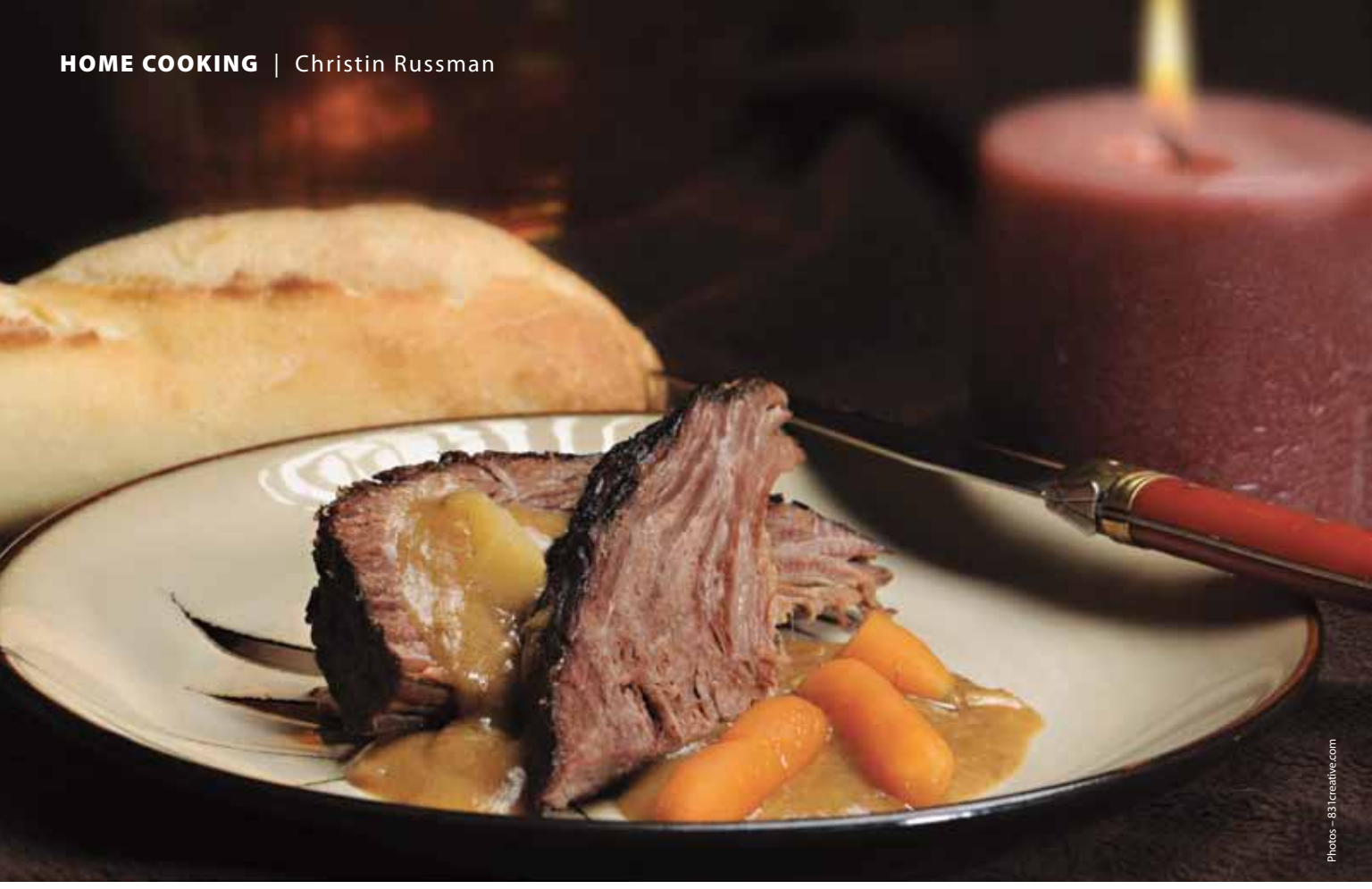
With March's thawing trend, it's also a good idea to keep your off-road vehicle or snowmobile—and especially your car—off the ice. Retrieving them from the waters can also be an expensive lesson that driving out on the ice at any time is risky. Some never learn this lesson. If your car goes through the ice, it is not only expensive to get it dragged back to land, but car insurance does not cover such loss or repair bills and you will face even more serious fines or pollution penalties.

So, don't take a chance that you can "beat the break up time." Going though the ice, man or car, might evoke your own "last gasp."

Photo – © iStockphoto.com

Sweet and delicious, the bluegill is the "bread and butter" fish for those who love ice fishing.

Don Ingle *is an avid outdoorsman and award-winning outdoors writer that submits regularly for Country Lines.*



Photos – 831creative.com

This winter, fall in love with

Slow Cookin'

Since the 1970s, slow cookers (aka "Crock Pots," which is really a brand name) have remained a popular appliance in many homes. There's almost nothing a slow cooker can't cook—from hearty roasts and stews... to even desserts. Add your ingredients and let dinner cook itself! Find hundreds more reader-submitted recipes at countrylines.com.

Slow Cooker Roast *(pictured above)*

1 lb. unpeeled baby redskin potatoes
1 lb. baby carrots
1 med. onion, diced
1 clove garlic, minced
Montreal Steak Seasoning, to taste
2½-3 lb. sirloin tip roast
1 10½-oz. can Campbell's Golden Mushroom soup, undiluted
1 c. cold water
1/3 c. flour

Soak potatoes overnight in cold water; cut into bite-size chunks. Place potatoes, carrots, onion and garlic in slow cooker; sprinkle with steak seasoning and stir. Lay roast on top. Spread soup over top of roast. Cook on low 10-12 hours or high 5-6 hours. Remove roast to cutting board. Mix water and flour until smooth. Pour slowly over vegetables; stir. Slice roast; lay over vegetables. Cook for 20 minutes more.

Mary Ellen Sequin-Adomat, Traverse City

Triple Chocolate Dessert

1 box chocolate cake mix *(pictured, p. 19)*
1 8-oz. carton sour cream
1 3.3-oz. package instant chocolate pudding
1 c. chocolate chips
3/4 c. oil
4 eggs
1 c. water

Lightly grease slow cooker. Combine all ingredients. Pour into slow cooker. Cover and cook on low 6-8 hours or high 3-4 hours. Serve with whipped cream or vanilla ice cream.

Emma Jean Bowerman, Lake Isabella

Sausage and Beans

1/2 c. sliced carrots
1/2 c. sliced onions
2 c. frozen green beans
1 lb. smoked sausage, cut into 1/4-in. slices
1 28-oz. can baked beans
1/2 cup ketchup
1/3 c. brown sugar
1 T. cider vinegar
1 T. yellow mustard
1 T. chili powder
1 T. Worcestershire sauce

Layer carrots, onions, beans, sausage and baked beans in slow cooker. Combine ketchup, sugar, vinegar and spices. Pour over beans mixture and stir. Cover and cook on high 4 hours, or on low for 6 hours.

Mary Waterbury, Fenton

Cheesy Hash Browns

1 10½-oz. can cream of chicken soup
1 10½-oz. can cheese soup (nacho-flavored for extra spice)
8 oz. cream cheese
1 c. Parmesan cheese
1 pt. sour cream
1 6-oz. can evaporated milk
2 lbs. frozen hash browns
1 6-oz. can fried onion rings

Combine soups, cheeses, sour cream and

milk in bowl. Microwave to soften. Add hash browns and combine items in slow cooker; stir. Cook on low for 6 hours or high 4 hours. When ready to serve, top with onion rings.

Mary Waterbury, Fenton

Crock Pot Meatballs

1 lb. ground meat (beef, pork or combination)
1¼ c. bread crumbs
1/4 c. minced onions
1 beaten egg
salt, to taste
pepper, to taste
1 24-oz. jar spaghetti sauce
1 14-16-oz. can diced tomatoes
basil, to taste
garlic, to taste
oregano, to taste

Mix ground meat, bread crumbs, minced onions, egg, salt and pepper, and form into 30 balls. Stir together spaghetti sauce, diced tomatoes, basil, garlic and oregano to taste. Put half of sauce mixture into slow cooker. Add meatballs and the rest of sauce. Cover and cook 3-4 hours on high or 8-9 hours on low. Use as appetizers or serve on spaghetti noodles.

Mary Ellen Wynes, Mt. Pleasant

World's Best Slow Cooker Barbecue Sauce

3 c. ketchup
2 T. cider vinegar
2 T. vegetable oil
2 T. brown sugar
3 cloves minced garlic, or 1 t. garlic powder
4 T. Worcestershire sauce
1 t. dry mustard
1 t. cayenne pepper
3 T. dry tapioca granules (for thickening)
1 t. salt

In a large bowl, mix all ingredients. Put meat of your choice in slow cooker. Pour the sauce over the meat. Cook on high 4-6 hours or on low 6-12 hours. Recipe may be doubled if the meat is large.

Donna Miller, Traverse City

Triple Chocolate Dessert

Oxtail Stew

3 T. olive oil
3½ lbs. beef oxtails, cut 1½-in. thick
1 large onion
1 T. chopped garlic
1 c. carrots, cut 1½-in. thick
1 c. celery, cut 1½-in. thick
3 T. pine nuts
1 c. dry white wine (or substitute water)
1 28-oz. can diced tomatoes
3 T. fresh, chopped parsley
1 t. fresh, chopped rosemary
1 t. fresh, chopped sage
1 t. salt
2 t. fresh ground pepper

Place olive oil in skillet over medium-high heat. Add oxtails and brown on all sides. Add meat to slow cooker. Add the onion, garlic, carrots, celery and pine nuts to skillet with remaining oil from oxtails. Sauté 5 minutes. Add all from the skillet to the slow cooker, along with other remaining ingredients. Cook on medium heat, covered, from 3½ to 4 hours. Serve over egg noodles or mashed potatoes.

Eva Braganini, Mattawan

Grandma Lewak's Beef Stew

1 lb. cubed beef
2 lg. potatoes, cubed
2 lg. carrots, sliced
1 15-oz. can mixed green beans, peas, and corn, drained
2 32-oz. cans beef broth
3 beef bouillon cubes
2 bay leaves
1/4 t. parsley
1/4 t. black pepper
1/4 t. salt
1 15-oz. can diced tomatoes
1 large onion, diced

Add all ingredients in a slow cooker set on low. Cook 10 hours.

Luke Fee, Niles

Crock Pot Chocolate Candy

2 lbs. nuts of your choice
11 ozs. milk chocolate chips
1 4-oz. bar of Baker's German sweet chocolate, broken into pieces
24 ozs. White Almond Bark

QUICK TIPS:

- A ceramic slow cooker can crack if exposed to abrupt temperature changes. Make sure to lay a towel down before placing it on a cold counter and let it cool before putting it in the fridge.
- Always use fully thawed meats to ensure thorough cooking.
- Only fill the slow cooker one-half to two-thirds full. Any more, the food won't cook properly. Any less, the food will cook too fast.
- Throw in spices the last hour or two of cooking. They will lose flavor if cooked for an extended period of time.

Put nuts in bottom of slow cooker. Place Baker's chocolate over nuts. Spread chocolate chips on top. Place almond bark over chocolate chips. Set slow cooker to low and cover. Do not stir or open lid for 2 hours. After 2 hours, stir until nuts are covered. Spoon into bites and drop onto cookie sheet covered with wax paper. Cool. Makes 30 or more.

Phyllis Rigozzi, Bangor

One-Pot Dinner

1/2-1 lb. ground beef
1/2 lb. bacon, cut in small pieces
1 c. chopped onions
2 31-oz. cans pork and beans
1 16-oz. can kidney beans, drained
1 c. ketchup
1 16-oz. can butter beans, drained
1/4 c. brown sugar
1 T. liquid smoke
3 T. white vinegar
1 t. salt
pepper, to taste

Brown beef in skillet, drain off fat and put beef in slow cooker. Brown bacon and onions; drain fat. Add to slow cooker. Stir together, adding remaining ingredients. Cover and cook on low 5-9 hours or on high 3 hours.

Ellen Martin, Sandusky

NEW THIS YEAR! Contributors whose recipes we print in 2012 will be entered in a drawing. We'll draw one winner in December and pay their January 2013 electric bill (up to $200) as a prize.

Thanks to all who sent in recipes! Upcoming: Please send in your **MEDITERRANEAN** recipes by Feb. 10, **CREPE** recipes by March 10 and **RECIPES FOR KIDS** by April 10. Mail to: *Country Lines Recipes*, 2859 W. Jolly Rd., Okemos, MI 48864; or email recipes@countrylines.com.

Co-op news and happenings

TAKE note!

Pay Online

Want to save money and pay your Cherryland Electric Cooperative bill online?

It's easy to do. You can set up your accounts to get only an email bill—no more paper bills.

To do this, access your account on cherrylandelectric.com. It will prompt you immediately after you sign in to make a decision on whether or not you want the paper bill to continue; if you do, check the box. If not, simply press "update."

Questions about the online payment can be answered by Cherryland's Member Service Department at 486-9200.

'Like' Us on Facebook!

For the latest on your co-op, visit cherrylandelectric.com and click "follow us on Facebook" at the bottom left corner of the home page. Or, search "Cherryland Electric Cooperative" from Facebook.

CHERRYLAND CARES

Help Us Give!

About 50¢ a month makes a difference to your northern Michigan neighbors in need. So far, 4,000 of you have signed up for Operation Round Up, rounding your electric bill up to the next dollar. That generosity has provided much-needed funding to dozens of local organizations in the last year. Plus, just for signing up you'll be entered to **win $50!** Sign up at: **facebook.com/cherrylandelectriccoop** or on our website at: **cherrylandelectric.com/cherrylandcares.**

Now Accepting Grant Applications

Area nonprofit agencies who are seeking financial help can apply for a grant through Cherryland Cares.

Cherryland Cares is a five-member board, made up of Cherryland Electric Cooperative members, who distribute money from Operation Roundup to area nonprofits. The next quarterly meeting of Cherryland Cares is Monday, March 19. The deadline for applications is *Friday, March 9.*

To receive a Cherryland Cares grant application or join Operation Roundup, contact Nick Edson at Cherryland. His direct line is 486-9222, or e-mail him at nicke@cecelec.com.

Cherryland's Annual Meeting Set for June

Cherryland Electric Cooperative's 74th Annual Meeting will be held Thursday, June 14, 2012, at Wuerfel Park.

The Traverse City Beach Bums, of the independent Frontier League, play their home games at Wuerfel Park, which gets its power from Cherryland.

Cherryland's business meeting will run from 5-6 p.m., followed by the Beach Bums home game that night at 7:05.

Members who attend the game will receive a free ticket and a coupon that entitles them to a ballpark dinner—a hot dog or brat, chips, and a soft drink.

More details about the annual meeting will be upcoming in *Country Lines* magazine.

You will also be able to vote for your co-op's board of directors at the meeting. See p. 9 to learn how you may also be qualified to run for a seat.

Help a kid.

One Call *231-486-9214*

or

One Click *marathon4kids.com*

helps

One Kid *Big Brothers Big Sisters of Northwestern Michigan*

WHAT IS IT? Marathon 4 Kids is a fundraiser developed by Cherryland General Manager Tony Anderson to raise money for Big Brothers Big Sisters of Northwestern Michigan.

HOW DOES IT WORK? Tony's goal is to complete 50 marathons, one in each state. So far, he has run marathons in 16 states.

WHERE DOES THE MONEY GO? 100 percent of the money goes towards serving kids in northwest Michigan through Big Brothers Big Sisters.

MORE INFORMATION? Contact Tony at 231-486-9214 or marathon4kids@gmail.com, or visit marathon4kids.com.

MARATHON 4 KIDS

Touchstone Energy

WOLVERINE POWER COOPERATIVE

SafetyNet

Big Brothers Big Sisters of Northwestern Michigan

Alfie GoAlfie.com

THE BANK OF northern michigan

DTE Energy

Improving Reliability:
Five-Year Construction Work Plan

Wolverine Power Cooperative updates its five-year construction work plan during the fall months of every year, identifying transmission, distribution and generation projects needed to serve members reliably and cost-effectively. Engineering and operations personnel from each member co-op provide significant input as the plan is drafted.

The current plan, approved by Wolverine's board of directors in October 2011, covers the years 2012 through 2016. It includes building new or upgrading 228 miles of line, two transmission substations and six distribution substations. Major upgrades at Wolverine's existing generating facilities are also addressed. The plan does not include future generating projects or acquisitions.

"The five-year work plan prioritizes projects on our system, and that may vary in a given year due to a specific need," says Danny Janway, vice president of engineering and operations for Wolverine. "For example, the plan could be adjusted from one year to the next to address load growth or new load in our members' service areas."

Line work continues to be the primary component of the plan in an effort to update Wolverine's aging transmission system. The system extends 1,600 miles across more than 35 counties in the Lower Peninsula. Transmission line projects are selected based on required industry planning standards and power flow modeling. Poles on the system that are, in some instances, more than 50 years old have served the co-op well and are targeted for replacement.

"We installed 34 miles of new line on our system in 2011 and replaced 26 miles of poles and insulators," Janway points out. "In 2012, we have 58 miles of transmission line upgrades or rebuilds planned."

Michigan's economic downturn hasn't affected Wolverine's need for planning and investing in its infrastructure. The co-op recorded a new all-time peak of 515 megawatts (MW) in July 2011, representing the combined electric demands of Cherryland Electric Cooperative, Great Lakes Energy, HomeWorks Tri-County Electric Cooperative and Presque Isle Electric & Gas Co-op. The previous all-time peak record of 490 MW was set in August 2007.

Midwest Energy Cooperative, Wolverine's newest member, currently owns its distribution system and will perform improvements on those facilities. Projects associated with Midwest are not included in the five-year work plan.

"Since 2001, we have relied on the five-year plan to establish a framework for improving service to our members," Janway says. "The plan ties directly to our mission of providing outstanding service to members through the delivery of reliable power at a competitive price."

Wolverine lineworkers upgraded a section of the transmission system between Petoskey and Boyne City in February 2011 by installing new poles and wire.

Wolverine's new Hersey transmission substation, completed in April 2011.

Protect Your Devices From Power Surges

Q: *We have many electronic gadgets in our house, and I am concerned about a voltage surge ruining them. Are there whole-house surge suppressors that will protect everything electric in our house?*

The electric meter is installed by an electrician over the top of a base-type surge suppressor.

Source – Meter-Treater

A: People often think that only electronic gadgets, such as computers and game consoles, are at risk from electrical surges. Actually, nearly every electric item in a house today has some sort of sensitive electronics that can be damaged by a surge. These include kitchen ranges, dishwashers, vacuum cleaners, air conditioners and fans.

A common cause of an electrical surge is lightning during a thunderstorm. The voltage and current spikes from just a single strike are enormous, and there are typically many in the duration of a storm. If your house and wiring experience a direct or very nearby hit by lightning, even a good surge suppressor will probably not be able to protect all electronic items.

When a storm is forecast and you hear thunder in the distance, unplug as many of your electronic devices as possible. This is actually a good idea anyway because many devices draw a lot of electricity even when you think they are turned off. However, just switching them off may not be adequate protection—a huge voltage surge can arc across an open switch and still fry the electronic components in an expensive device.

Many times, it's the repeated smaller electrical surges that damage electronic equipment. These can be generated by the switching on and off of inductive equipment (usually electric motors) in nearby businesses, or can even be generated by motors from your own vacuum cleaner, refrigerator compressor or clothes washer through your home's wiring.

It usually takes a long time for these numerous smaller surges to cause failures. One common result is that the wire and circuit board insulation slowly breaks down from each small surge and normal aging. Eventually, a wire may short-out or the electronic component begins to malfunction, and the device fails. These surges can also reduce the life of many types of lightbulbs.

There are several types of whole-house surge suppressors designed to protect all of the wiring circuits in a house. Some mount on the circuit breaker panel indoors or are built into a circuit breaker. Others are designed to mount at the base of the electric meter. Many electric utility companies, including some electric co-ops, sell and install the units that work with your electric meters. The circuit breaker panel models are not difficult to install, but I recommend hiring an electrician to do it for you.

There are differences in the protection provided by various surge suppressors. A common design uses metal oxide varistors (MOV) to dissipate the surge before it flows through the house wiring.

The MOV surge suppressors work like a floodgate. At normal voltages, the gate is closed, preventing leaks. But if the voltage gets too high, the gate opens, allowing the excess damaging current to pass to ground, therefore protecting the equipment.

If the components (including MOVs) in a surge suppressor are too small, they can't handle the surge, and they fail. Using larger components that are rated to handle more Joules (a measure of energy) allows the suppressor to safely dissipate a larger surge. When comparing surge suppressors, a higher number is better for the total energy dissipation. Clamping voltage is what's required for the "floodgate" to open—for the MOV to conduct electricity. A lower number for this is usually better.

Even though the surge suppressor protected your electronics, a large surge may burn out the MOVs. Many models have an indicator light that shows if it is still functioning. Check it regularly, and especially after a thunderstorm. In some models, the light comes on only when the unit has been damaged by a surge and needs to be replaced.

It's also important to remember that many electronic devices, especially computers and entertainment systems, have multiple connections including satellite, cable, phone or network, in addition to the power connection. Any of these can serve as a path for a surge to enter the device and cause damage. Surge suppression installed on the power line doesn't guarantee protection.

For the most sensitive devices, use point-of-use surge suppressors for extra protection. These are not expensive and make it convenient to completely switch off the power to save electricity when the device is not being used. When purchasing one of these surge suppressors, look for models that are tested for compliance with Underwriters Laboratories (UL) Standard 1449.

The following companies offer efficient surge suppressors: Eaton, 800-386-1911, eaton.com; Emerson Network Power, 800-288-6169, emersonnetworkpower.com; Intermatic, 800-391-4555, intermatic.com; and Meter-Treater, 800-638-3788, meter-treater.com.

If you have a question for Jim, please email jdulley@countrylines.com, or mail to James Dulley, Michigan Country Lines, 2859 W. Jolly Rd., Okemos, MI 48864, and also let us know which electric co-op you receive service from.

***James Dulley** is a nationally recognized mechanical engineer writing about home energy issues for the National Rural Electric Cooperative Association.*

Plan Ahead to Cut Cost of Big-Ticket Items!

Photo – Megan McCoy-Noe

Consider the real cost of using a credit card, and try to save money for big purchases instead.

Budgets are tight, and like most people you're probably counting every penny. But by planning ahead, you likely *can* afford what you want to buy.

How? By setting aside a certain amount of money regularly, you can save what you'll need *and* cut your cost.

See How Easy It Can Be

The longer you have to save for a big purchase, the easier it is. Let's say it's January and you know that by the *following* January you'd like to buy a big flat-screen TV to watch the Super Bowl. That means you've got 12 months to save. You also know you'd like to budget $1,000 for your TV, plus $60 to pay the sales tax. By setting aside a specific amount in a separate savings account, you can have the cash to shop with when your purchase date arrives.

Check the Math!

For our sample 12-month period, saving just $88.33 per month (or $20.39 per week, if you prefer) would mean you could have the $1,060 you'll need by the following January ($88.33 x 12 = $1,060). Note that earned interest isn't reflected in these calculations.

Ready to do the math for your next big buy? Chose a time frame to see how many months or weeks you have to work with, then use any internet search engine (Google.com, Bing.com) to search for "Date Duration Calculator" for help in figuring your costs.

Planning Ahead Makes "Cents"

Using credit cards may be convenient, but it's *always* smarter to save in advance for a major buy rather than charging items and paying interest for months or years to come. How much could a credit card purchase of your TV cost you? More than you may think!

Suppose you have a credit card with an annual interest rate of 15.24 percent. You'd have to pay $95.79 per month to pay off your TV, assuming you didn't charge anything else on the card. Instead of costing $1,060, your TV will cost $1,149.48—if you pay off your credit card in one year.

But there's more: The price of some items, such as flat-screen TVs, often drop over time. So if the TV price falls while you are saving, you'll pocket the amount of the price reduction, since the purchase will cost *less.*

– Doreen Friel

How to Find a Financial Planner

To find a qualified and trustworthy financial planner, the first investment you need to make involves time and effort. This means doing homework and testing the candidates to find one whose style, qualifications and ethics meet your needs. Here are some tips:

1 Decide on the services you want. Are you looking for retirement planning? Investment guidance? Insurance advice? Knowing your needs helps narrow the search.

2 Get references. Ask friends and colleagues for names of professionals they've worked with and trust—especially people with financial profiles similar to yours.

3 Look online. Search the databases of reputable national organizations that require members to earn specific credentials and adhere to ethical standards. National Association of Personal Financial Advisors, napfa.org; Garrett Planning Network , garrettplanningnetwork.com; Financial Planning Association, fpanet.org; or Certified Financial Planner Board of Standards, cfp.net.

4 Look for credentials. The title "financial advisor/planner" doesn't mean much—anyone can claim to be one. You want a professional with experience in the industry and preferably who holds the Certified Financial Planner (CFP®) designation. This certification requires extensive testing, experience and ongoing education. CFPs also pledge to serve their clients' best interests above all else.

5 Do a background check. After identifying a few candidates, request copies of their ADV Forms, Part II. Planners and advisors must file this form with the U.S. Securities and Exchange Commission, and it has detailed information about services and fees. For a public report on complaints or disciplinary action against a planner, check with your state securities regulator, nasaa.org. (To look into a securities firm or broker, use a free online tool offered by the Financial Industry Regulatory Authority at finra.org/brokercheck.)

6 Consider payment. Once you know how a planner charges—fee-only, commission, a combination of the two, or salary only—you can decide what works for you. Is it sensible to pay a percentage of your assets for annual guidance? Or, can you get what you need in two or three hours of sessions?

7 Interview. Save this step for last, so you'll arrive armed with information. The advisor should provide you with a written agreement detailing how fees are paid and what services will be provided.

Ask about the advisor's philosophy. How does he or she measure success with clients? Ask if you will be required to implement a financial plan through this advisor, or could you execute it yourself?

Finally, listen to the questions advisors ask you. Are they interested in your financial priorities and goals, personal style, and comfort levels with risk? Or do they begin to suggest products you might buy and focus on your net worth?

Once you've done the research and are satisfied with in-person interviews, you're ready to make a smart decision. You and your hard-earned savings deserve nothing less.

– Lisa Hughes-Daniel

Safety Tips for Installing Insulation

If you're planning to tackle installing home insulation on your own, safety should be given high priority. The following tips from the North American Insulation Manufacturers Association can help.

▶ **Wear appropriate clothing.** To reduce the chances of skin irritation, wear a head cover, gloves and loose-fitting clothing that covers your arms and legs.

▶ **Wear proper protective equipment.** Safety glasses and respiratory protection may be necessary, depending on your work environment. The U.S. Occupational Health and Safety Association offers guidelines in its Respiratory Protection Standard that may be helpful (osha.gov/SLTC/respiratoryprotection).

▶ **Take care if fibers get on your skin or eyes.** If insulation fibers collect on your skin, don't rub and scratch or remove with compressed air. Instead, lay tape, adhesive-side down, and then remove it gently, so the fibers are pulled from the skin. If fibers get in your eyes, never rub them—flush with water or eyewash solution. Contact your doctor if you have continued irritation.

▶ **Keep dust to a minimum.** Leave the materials in packaging for as long as possible. Use tools that create the least amount of dust, and power tools should have dust-collection devices. Put scrap materials in the trash and don't let equipment wander too far from the work site.

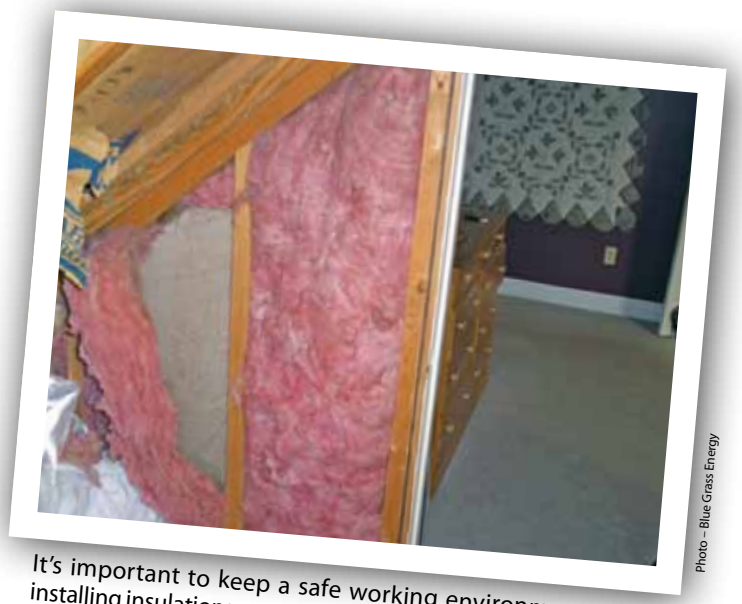
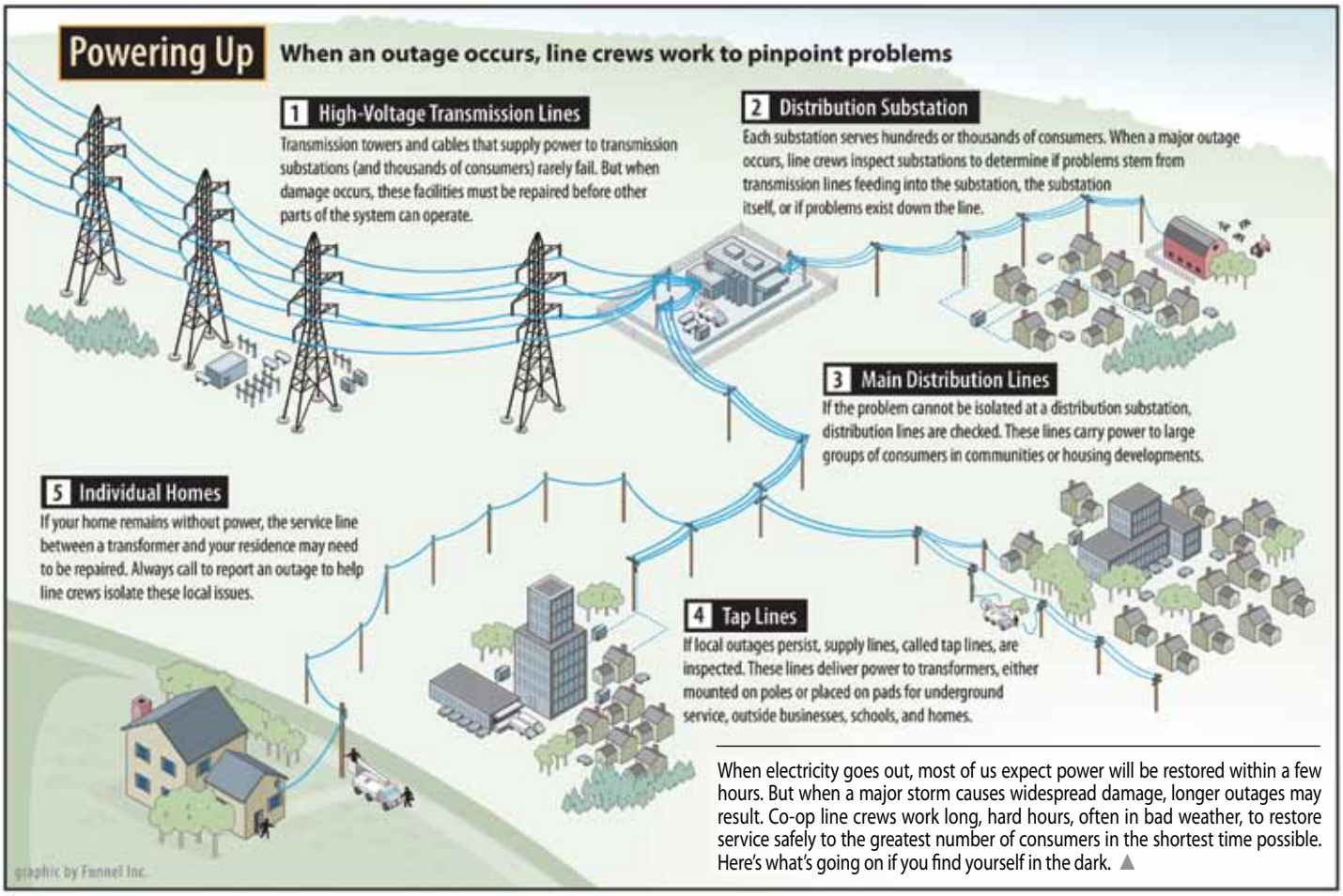


Photo – Blue Grass Energy

It's important to keep a safe working environment when installing insulation yourself—especially when your workspace adjoins living space, such as in an attic.

▶ **Maintain adequate ventilation.** Determine whether your work site needs a dust-collection system. Also, exhausted air containing fibers should be filtered before being recirculated into inside workspaces. Finally, ventilation systems used to capture fibers should be checked regularly.



When electricity goes out, most of us expect power will be restored within a few hours. But when a major storm causes widespread damage, longer outages may result. Co-op line crews work long, hard hours, often in bad weather, to restore service safely to the greatest number of consumers in the shortest time possible. Here's what's going on if you find yourself in the dark. ▲

An Apple a Day

I love apples. I don't remember my first one, but my mother says I always liked them. I like to think I got my first taste in the big garden of my grandparents, with whom my mother and I lived while my dad was fighting in the Pacific during WW II.

Maybe our early tastes of certain foods imprint a lifelong desire for them. (That may also explain a weakness for chocolate malts.) I'll always remember the time I gave our son Dan his first taste of a juicy plum when he was about 6 months old. I've never seen a more voracious eater. He grabbed my hand and mashed that plum into his toothless mouth as if possessed. He remains a big fruit eater.

My favorite apple came from a tree in the backyard of my childhood friend, Tommy Allen, who lived a block away from our house in Ironwood. The apples were yellow when ripe, but slightly green, tart and crunchy when we picked and ate them in late summer until we were full—or sick. Those apples were organic before anyone knew what organic meant. There were no pesticides to worry about, only worms, and we ate around the holes they made.

The apples were White Transparents, so named for the way the skin allowed you to see through to the flesh. The trees came from Russia in the late 1800s and the apples came to be known as Yellow Transparents here. They weren't quite as good when they were fully ripe—too soft and slightly mealy, but they made great applesauce. Some trees still exist in the U.S. and you might find the apples at a farm market, but you won't find them in your grocery store. If you have a tree, treasure it.

I figure I've averaged an apple a day over my life. Although they didn't keep the doctor away, I'm sure I'm better off for having eaten them. Their health benefits are widely known. They come in their own wrapper and are absolutely biodegradable.

What's not to like?

Well, for one thing the seeds contain arsenic, which isn't a problem if you don't eat the seeds. But some apple juice makers were apparently grinding the whole apple to make juice, so arsenic tainted some brands. You also don't want to feed whole apples to your dogs, because the arsenic in the seeds can kill them if they get enough.

Then there's wax, used in tiny amounts to provide a microscopic coating around the apple. I used to worry about it, and it's not easy to wash off. But it turns out the wax replaces the natural coating that is washed off, along with any pesticides, in processing. Coatings used on fruits and vegetables must meet U.S. Food and Drug Administration regulations for safety, and waxed fruit is required to carry a label.

Real apples are more nutritious than the ones that hold all your music.

I keep looking for the perfect eating apple. We've been getting Empires, a cross between Red Delicious and MacIntosh. But the relatively new Honeycrisp, a cross made at the University of Minnesota between Macoun and Honeygold varieties, is fast becoming a favorite. Right now, there are not enough mature trees to produce Honeycrisps, so supplies are limited and prices are high.

Maybe the Honeycrisp owes its goodness to its complexity. The Golden Delicious apple is in its 'family tree' and that apple's genome (decoded by an Italian-led consortium in 2010) was found to have 57,000 genes—the highest number of any plant genome.

Back in the '50s, apples seemed to capture a whole summer. All the sun and rain of the Upper Peninsula's short summers were distilled in those golden orbs. When we finished eating the last one, summer was done.

Now we get apples throughout the year, in dozens of varieties grown all over the Western Hemisphere and even invented in university laboratories. In Michigan alone, 20 varieties are grown commercially, from Paula Reds, available around Aug. 20, to Braeburns, available Oct. 25.

For two months we can get a continuous infusion of fresh apple goodness, and that's a good thing. Our crop ranks fourth in the nation, supports nearly 1,000 family farms, and generates over $700 million worth of business in the state. A big boost to sales came last year when McDonald's decided to add fresh apple slices to its Happy Meals.

Recent studies have shown that, unlike many fruits and vegetables, the nutritional benefits of apples remain relatively stable as long as 200 days after harvest. Those benefits are substantial, as apples land on most top 10 nutritious food lists, especially for the insoluble fiber pectin and vitamin C they contain.

So, why do apples taste so old at this time of year? They seem tougher, less crisp, and tasteless earlier than they did in the past. We used to know in spring that we were eating last year's apples, but now it seems we're eating apples from the year before. These are still better than canned apples. Anyone who likes those bland, 'homemade' apple pies made from canned apples and served in too many restaurants has never eaten a pie made with fresh apples.

For many years, there was a puzzling sign on the highway near Mount Pleasant for a market in northern Michigan. It read, "Fresh fruit, in and out of season." If only that were so.

Mike Buda is editor emeritus of Country Lines. Email Mike at mbuda@countrylines.com or comment on his columns at countrylines.com/column/ramblings

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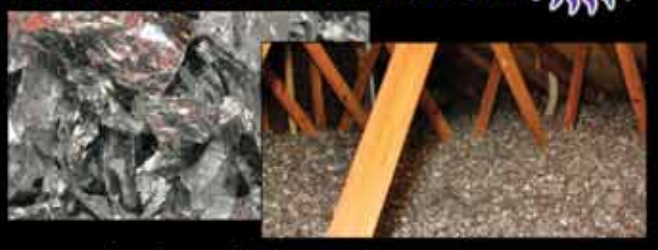

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STUDENTS!

WIN A TRIP TO WASHINGTON, D.C.

Are you a leader? If you're a high school sophomore or junior who will be 16 or 17 by June 2012, and your family receives electric service from Cherryland Electric Cooperative, you may be eligible to attend the **FREE** co-op-sponsored Youth Leadership Summit.

The fun takes place April 18-20 at the 4-H Kettunen Center near Cadillac. You'll join students from other Michigan electric co-ops for a unique, high-energy experience to help you develop leadership skills and explore career opportunities in the electric industry. Plus, you'll get a chance to learn more about your electric co-op, and even try climbing a utility pole in full lineworker gear. Students chosen to attend the YLS will automatically be considered for a **FREE** trip to Washington, D.C., June 16-21, as part of the Rural Electric Youth Tour.

Apply online or download an application at **CherrylandElectric.com**. For more information, call Amanda Olds at 231-486-9254 or email aolds@cecelec.com. Applications are due by **March 21, 2012**. *(Also, see p. 8 inside.)*

YLS

Youth Leadership Summit

PRESENTED BY Michigan's Electric Cooperatives