HOW SUSTAINABLE ARE YOU?

A look at how the people of mid-Missouri define the word

- Urban gardening: Tips and advice for starting one of your own
- Home makeover: Improve your sustainable living
- Raising hens: How to get started and build your own coop

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Dear Reader,

Columbia has a growing love affair with sustainability. Just look at the city’s recent decision to hire a sustainability director or the creation of the sustainability office at MU. Or take a look at ColumbiaMissourian.com's top referrers. Search terms such as “sustainability Columbia MO” often bring readers to the website.

So, Columbia, we’re listening.

You're interested in sustainability? Here's your guide, just in time for Earth Day.

If you're just getting into the issue, learn the basics of gardening in a pot on page 30 or what strategies there are for conserving energy, ranked in order of cost, on page 26. If you're looking to step it up, see if a hen or two might be right for you on page 14, or learn how to build your own rain barrel on page 22.

And for those who aren't quite ready to start making changes, you're in luck.

We chose to stay away from the day-to-day news. This section was created to be, well, sustainable — timeless. That's why we created this section, so you can revisit the stories whenever you need.

We know the 200 pounds of newsprint used for the print version of this section is a lot — though we use partially recycled paper and soy ink.

We encourage you to cut this section contains our how-tos and tips, but we want to hear more from you.
out anything that’s interesting to you, save it and return in a few days or a few years.

On the next page, we’ve also given you a few suggestions for how to reuse the newsprint in the print edition or from any newspaper.

For a more well-rounded perspective, you can also see how one Columbia family, the Sparkses, made their life more sustainable on page 19.

And finally, this section ends with a look at the big picture: sustainability’s political and social implications.

Do you have other tips you want to share about sustainability? Let us know at submissions@mymissourian.com, because this section is all about you, and we’re just scratching the surface of sustainability.

Enjoy!

— Roseann Moring

Moring is a senior journalism student and an assistant city editor at the Missourian.

Denise Tucker and Teresa Craig sort plastic bottles and other recyclables at the Material Recovery Facility at the city landfill.
Make this newspaper into a biodegradable planter in 10 simple steps

**Take a tree, LEAVE A TREE**

*Supplies:* newspaper, aluminum can, dirt, small plant

1. [Image of newspaper]
2. [Image of newspaper being rolled]
3. [Image of rolled newspaper]
4. [Image of rolled newspaper being shaped]
5. [Image of shaped newspaper]
6. [Image of newspaper with soil added]
7. [Image of plant added]
8. [Image of completed planter]

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Imagine the day when survivors like Becky Gabriele won’t have to fear for the lives of their daughters. Susan G. Komen for the Cure is the only breast cancer organization that has invested nearly $1.5 billion in life-saving research, education, awareness, screening, treatment and support programs.

We will keep working until we end this disease once and for all.


This space provided as a public service. ©2010 Susan G. Komen for the Cure. The Pink Ribbon is a registered trademark of Susan G. Komen for the Cure.
Yarelly Laguna, left, Benjamin Bodenschatz and Ariana Figliolo plant green beans along a wire trellis behind New Haven Elementary School on March 24. The students are part of a garden club for third- through fifth-graders.

Communities garden

Neighborhoods organize work days to educate youth and cultivate fresh food

By HAOTAO XIONG
news@ColumbiaMissourian.com

Seeing students’ excitement as they dig up giant sweet potatoes and search for strawberries under leaves is Lea Langdon’s reward for coordinating a community garden at New Haven Elementary School.

With more than 50 years gardening experience and six years of participation in community gardens, Langdon said she likes to help people get involved in community gardens. Aside from her work at the school, she’s one of the garden leaders at Claudell Lane, which is one of Columbia’s community gardens.

There are nine community gardens in Columbia where residents can sign up for a plot and garden for free. There are also 11 group-maintained gardens.

Community gardening is not just about growing better quality food, even though participants said fresh produce tastes better. Participants have said it’s rewarding because they like being outdoors and enjoy observing things growing. Community gardens also fit into the recent trend of growing and eating local food.

The Claudell Lane and New Haven Elementary gardens are among the 20 gardens affiliated with the Community Garden Coalition of Columbia and Boone County. The not-for-profit volunteer group directs potential gar-
Gardening is a lot of work. Seeding, planting and weeding require time and energy. But for many participants, the passion doesn’t fade away because of that.

Chris Olsen, an MU junior, said he liked moving away from business agriculture, which he perceives as harmful both to the land and consumers, and he gets a sense of accomplishment from growing food at the Ash Street Community Garden. His gardening experience before the plot consisted of a basil plant in a pot when he was in middle school.

It is free to get a plot, but participants are expected to take care of their gardens. Olsen said he got some seeds from the coalition and the tools he uses are provided by the garden.

“Gardening is something I’ve wanted to do since I was young. My grandparents have a garden in their backyard,” Olsen said.

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**COMMUNITY GARDENS IN COLUMBIA**

There are a variety of community gardens available to Columbians. To reserve a spot or to learn more about the gardens, go to the Community Garden Coalition’s website at cgc.missouri.org

**GARDENS PROVIDED 4,676 POUNDS OF FOOD TO LOCAL PANTRIES AND KITCHENS LAST YEAR.**

**DETAILS AND LOCATIONS**

<table>
<thead>
<tr>
<th>No.</th>
<th>Garden Name</th>
<th>Address</th>
<th>Type of Garden</th>
<th>Notes</th>
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<tr>
<td>1</td>
<td>Ash Street Garden</td>
<td>201 W. Ash St.</td>
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<td>2</td>
<td>Benton-Stephens Neighborhood Garden</td>
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<td>Reserved for group or limited community</td>
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<td>Broadway Christian Church Garden</td>
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<td>Run by and/or for a particular group</td>
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<td>Circus-Lyons St. Garden</td>
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<td>All garden plots full</td>
<td>All garden plots full</td>
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<td>Operated by Memorial Baptist Church</td>
<td>Operated by Memorial Baptist Church</td>
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<td>7</td>
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<td>312 N. Ninth St.</td>
<td>All garden plots full; waiting list</td>
<td>All garden plots full; waiting list available</td>
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<td>St. Joseph Street Garden</td>
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<td>9</td>
<td>Oak Towers Garden</td>
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<td>Garden for Oak Towers residents, owned and maintained by the City of Columbia</td>
<td>Garden for Oak Towers residents, owned and maintained by the City of Columbia</td>
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<td>Raised bed gardens for Paquin Towers residents, owned and maintained by the City of Columbia</td>
<td>Raised bed gardens for Paquin Towers residents, owned and maintained by the City of Columbia</td>
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<td>12</td>
<td>New Haven Elementary School</td>
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<td>Vegetable and native plant garden run by students and overseen by Community Garden Coalition</td>
<td>Vegetable and native plant garden run by students and overseen by Community Garden Coalition</td>
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<td>Food grown by congregation members of Beth Shalom to donate to local food pantries</td>
<td>Food grown by congregation members of Beth Shalom to donate to local food pantries</td>
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<td>Friendship Baptist Church</td>
<td>1707 Smiley Lane</td>
<td>Congregation members plan to grow food to donate to local food pantries</td>
<td>Congregation members plan to grow food to donate to local food pantries</td>
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<td>18</td>
<td>Rock Bridge Christian Church</td>
<td>301 W. Green Meadows Road</td>
<td>Food grown by congregation members to donate to local food pantries</td>
<td>Food grown by congregation members to donate to local food pantries</td>
</tr>
</tbody>
</table>

Source: COMMUNITY GARDEN COALITION

Go to our website at ColumbiaMissourian.com
“My hands are getting cold,” says Yarelly Laguna while grabbing handfuls of fresh earth to cover newly planted seeds. Laguna and other students at New Haven Elementary have access to a community garden behind the school.

After getting the 20-by-20-foot plot, Olsen said he spent three hours clearing grasses and shrubs and tearing roots out of the soil on a Sunday afternoon.

“I woke up with a sore back,” he said.

Participants also like sharing and giving advice.

After working as a natural resource engineer at MU extension for 41 years, Don Day retired last year. He and Weldon Jones started the Broadway Christian Church garden in the spring of 2007. Last year, all 48 plots were full. The garden has doubled this year, and includes around 30 new plots for refugee families from Burma and Africa.

He said if there were some empty plots, he would ask two of his grandchildren to plant there and donate the food they grow.

“I’d like the kids to learn to share what they raise and give to people less fortunate,” he said.

The Broadway Christian Church garden donated about 80 pounds of food to the food bank, he said. Langdon also enjoys the giving aspect — she helped found the garden at New Haven Elementary in 2005.

“I kept looking at the playground and thinking it looked sterile, and that we needed to grow something more than just grass,” she said.
McKelvey gives plotting advice

Q Who can apply for a plot?
A Anyone.

Q Do I need to pay for it? If I do, how much should I pay?
A No fee, though donations are welcomed.

Q How can I apply? What materials do I need to prepare?
A You can apply at cgc.missouri.org. There is a brief application there.

Q If I got a plot, is there any commitment?
A Yes. You are expected to take care of your plot throughout the season and help out with general garden upkeep such as mowing, trimming, composting and attending workdays.

Q What can I plant in my own plot? Are there any limitations?
A The choice is yours.
By SIMIN WANG
news@ColumbiaMissourian.com

Jerry Vanderpool has been reaping rewards from a new law that lets Columbia residents raise hens.

The retired farmer, who raises several breeds of chickens for show and as a hobby, uses his home-based business near California, Mo., to sell birds he doesn’t need.

“They actually give back tangible rewards, making every day seem like Easter to the egg gatherer,” Vanderpool said. “They also give nitrogen-rich compost to the gardener.”

Since Columbia legalized hens on Feb. 1, Vanderpool said he’s received numerous calls at his J&M Buzzard Farm from customers.
in Columbia interested in raising chickens. Tom Payne, manager of Orscheln Farm & Home at 2800 Paris Road, also said he has seen an increase of about 20 percent in chicken sales — prices range from 99 cents to $3.99 each — since the Columbia law took effect.

At last count, Vanderpool said, he had sold 143 hens to Columbia residents. Most of those were bantams, or smaller-sized chickens, such as Silkies, Cochins and Buckyes that are known for their gentle dispositions.

“Purchases varied from one to six birds, with most customers purchasing smaller numbers coming back for another one or two,” he said.

Conversely, about one-third of the people who came to see his chickens and learn about caring for them decided that raising hens wasn’t for them. You can buy chickens at his business north of California on Route KK or have them shipped. He prefers to show his stock by appointment, and asks interested buyers to call him to set up a meeting.

Why keep chickens?
There are several reasons why chickens have become an urban cause and have prompted cities around the country to make changes in their laws to accommodate the growing number of residents interested in raising their own eggs or meat.

Adam Saunders, board president of the Columbia Center for Urban Agriculture, keeps six hens in his backyard on St. Joseph Street, which is also the location of the center.

“The economy is very poor right now, so people are becoming more interested in growing their own food,” Saunders said.

Chickens can provide intangible benefits, too, such as

KEEPING UP THE COOP
The City Council passed an ordinance in February allowing residents to keep chickens within the city limits following certain parameters.

The ordinance requires that the chickens’ pen be enclosed on all sides and have a roof. The hens’ lay box ought to have a lip that’s high enough to keep eggs from rolling out but low enough to allow the hens to enter.

If the pen includes a grassy area, the chickens have room to both run around and relax.

Sources: COLUMBIA CITY CODE, COLUMBIA/BOONE COUNTY HEALTH DEPARTMENT, URBANCHICKENS.ORG, COLUMBIA URBAN HEN INITIATIVE

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education, networking opportunities and even entertainment. Mary Stilwell, who helped lead the push for the Columbia ordinance, said her six Orpington hens serve as a community builder.

“I meet a lot of people by having chickens, especially when kids come over to play with them,” Stilwell said. “They take their friends along, too, so I meet more people.”

Saunders enjoys taking care of his hens. “I really enjoy watching them because of their unique character, different from cats and dogs, and they are beautiful,” he said.

**Taking care of chickens doesn’t need to be hard**

“They are self-reliant creatures,” Saunders said. “As long as you give them food, water and a safe and clean shelter, they can take care of themselves.”

Chickens do have some basic needs. John Gage, 56, and his wife, Karen Mickey, 53, recently added 10 red producer chicks to their country home outside of Columbia on South Olivet Road. Twice a day, they give them food and water and clean the box the chicks live in. Gage calls these the chores of keeping chickens” and said he gets more poop than I like.”

At night, they lock up the chicks on their sunroom porch to keep predators at bay. Gage is building a concrete chicken coop to house them in a warm and safe environment.

“It’s a lot of fun, though

Adam Saunders, who works with the Columbia Center for Urban Agriculture and also studies forestry at MU, built a coop and enclosure for hens in his backyard a few blocks north of downtown Columbia. He said the hens rarely make much noise and can be maintained with hay and household food scraps.
you have to pay attention and make sure the chicken house is right,” Gage said. “You have to build fences to keep the black snakes or critters out. Otherwise, the chickens are pretty self-sufficient.”

The family is waiting for their chickens to begin laying eggs when they are about 4- to 6- months old. The family plans to buy 10 more chicks so they’ll have enough eggs to give away to relatives, friends and the food bank.

“We just want to know where our food is coming from, and this way we know what is and is not in the eggs we eat,” Mickey said. “They are raised without antibiotics or hormones, and we know they are healthy.”

They are also interested in raising the chickens as an educational tool.

“Teaching the grandchildren and nieces assures another generation will know how to take care of the land and each other,” Mickey said.

**TIPS ON RAISING CHICKENS**

Here are some tips on how to raise your own chickens, shared by John Gage, Karen Mickey, Mary Stilwell and Adam Saunders:
John Gage puts a chick back into its pen after it wandered into the yard March 25. Although they stay inside when they are small, these chicks will eventually spend their time in the pen and coop Gage built.

John Gage carries a box of 10 chicks from their outdoor pen back into his house on March 25. Gage and his wife, Karen Mickey, are raising chicks on their property to have fresh eggs and know where their food is coming from.

The coop
- Its design and structure should keep out rain, wind and predators.
- Temperature should be about 95 degrees so the baby chicks do not get sick. Heat lamps can also be used to generate heat. After six weeks, chickens do not need supplemental heat.
- Place leaves, pines, shredded newspapers, grass and straw into the coop for the chickens to peck. Don’t place white paper into the coop.
- Columbia’s ordinance states that hen owners have to construct coops out of sturdy wooden fencing and wires. Saunders suggested that owners make a coop out of recycled materials to save money.

The food
- Chickens do not have teeth, so the food should be small enough for them to consume. Chicken starters that are granulated and non-medicated are good for them.
- Chickens eat almost anything the owners feed them, including food scraps such as split peas, egg shells, parts of tomatoes and leftover meat. However, cut food into small pieces.
how GREEN is your house?

By JESSICA STEPHENS
news@ColumbiaMissourian.com

When it comes to living a lifestyle that’s kind to the environment, we all could use a little expert help now and then.

We visited one Columbia family’s home and brought along two guys who spend most of their time teaching others about living sustainably.

The experts

Mike Heimos is a stormwater educator with the city’s Public Works Department. He also used to work with Columbia’s recycling program.

Ben Datema is the student sustainability coordinator with the MU Sustainability Office. He founded the Miz-zou Dashboard project to raise awareness of energy usage.

The family

Both men visited Jay and Amber Sparks, a local couple raising two sons: Jameson, 3, and Eli, 1.

Amber is a coordinator for Opportunities in a Professional Education Network Initiative, and Jay is a bartender at McNally’s and the co-founder of the Brickwall Film Competition.

The Sparks said they do what they can to keep their home as green as possible.

Ben Datema, student sustainability coordinator at MU, explains how to increase the efficiency of the Sparks’ residence on March 26. Datema spoke with the family about its use of electricity, trying to provide practical advice.
household environmentally friendly but have found some lifestyle changes harder to maintain now that they have two toddlers.

Heimos and Datema looked at how the Sparks family lives and gave advice for simple changes that would make their home more efficient.

We looked at what the Sparks do right and where they needed improvement. Here’s what you can learn from the Sparks and the experts:

**Energy use**

**What they’re doing already:**
The Sparks try to be mindful of energy usage. They keep their thermostat set low and use space heaters to warm only the rooms they’re in. They’ve also weatherized their house to promote heating and air conditioning efficiency.

Their windows are double-paned, and their doors have weather strips, both of which prevent warm or cool air from escaping.

**What else they could be doing:**
The family leaves electronics such as their television plugged in even when they’re not in use. Datema said this creates “phantom load,” which is energy consumed by devices when they’re turned off but still plugged in.

He suggested plugging electronics into a power strip, which would require less effort to unplug when electronics aren’t being used. Datema also said there are “smart” power strips, which sense electronic devices that are not in use and turn them off.

Additionally, Datema said heaters are usually one of the biggest sources of energy use in a home. Different heating units vary in efficiency, so...
he suggested using a device that measures energy usage to determine whether it’s best to use a heater that heats the entire house or space heaters limited to occupied rooms.

Finally, Datema said, weatherizing homes is an easy way for any household to save energy and to keep down heating and air conditioning costs. He recommended the Sparks improve their home’s energy efficiency by looking at the insulation in their roof and around their water heater. Because the Sparks’ water heater is in their garage, he suggested wrapping a blanket around it, which he said “protects the hot water from the cold outside.”

Using a blanket to insulate the heater would lessen the energy needed to heat water and ultimately save money on the Sparks’ gas bill.

Recycling
What they’re doing already:

The Sparks reuse and donate clothes and toys from their children. They also only get bags from the grocery store if they know they will use them for another purpose, such as for art projects or storage. Additionally, the Sparks participate in Blue Bag Recycling, a city program that collects recyclables in designated blue bags at curbside.

Heimos said the fact that the Sparks do not buy bottled water goes a long way to prevent waste because of all the excess packaging and the petroleum that’s used to make the bottles.

What else they could be doing:

During his visit, Heimos went through the Sparks’ trash and pulled out a milk carton and a plastic cup that could be recycled. He also listed items such as pizza boxes and plastic trays in frozen dinners that many people don’t realize can be recycled. The city provides a list of what’s recyclable on the Blue Bag program Web page.

Heimos also let the Sparks know about Household Hazardous Waste collection program available residents the first and third Saturdays of each month from April to November. Residents can take hazardous materials such as motor oil and batteries from 9 a.m. to 1 p.m. on collection days to the collection facility at 1313 Lakeview Ave.

Pollution prevention
What they’re doing already:

The Sparks clean with products that are low in or free of harmful chemicals when they can, but sometimes environmentally friendly products don’t fit their budget. Additionally, sometimes using these products has an environmental trade-off. Jay said the phosphate-free dishwasher detergent they used to buy clogged their dishwasher. The plumber who fixed it told him they would need to run the water at a much higher temperature to break down that kind of detergent, so the Sparks have found that in some cases, they face a dilemma with finding the least harmful practice.

What else they could be doing:

Datema pointed out that some household items such as baking soda can also be used to clean without taking the same toll on the environment as traditional cleaning products.

Heimos suggested that if the Sparks cut their lawn to no lower than 4 inches, the grass would grow more lush without chemicals, and that thickness would lessen the amount of pollution that runs into streams.

Finally, Heimos suggested all homeowners be mindful of what they put near storm drains. Everything that goes into these drains ends up in local rivers and streams, and causing pollution runoff or clogging them with litter can affect local drinking water. Even leaves and grass clippings can harm storm drains and are the cause of most flooding, Heimos said.

Water conservation
What they’re doing already:

The Sparks run their dishwasher and washing machine when they have full loads. They also have low-flow toilets and shower heads and do not use sprinklers on their yard in the summer.

What else they could be doing:

Heimos suggested that the Sparks consider investing in a rain barrel. He said most rain barrels can be filled in a matter of minutes during a heavy rain, and the water can be used for plants.

Heimos also encouraged the Sparks to continue their habit of not using sprinklers to water their lawn. He said grass goes dormant in the summer, so using sprinklers only wastes fresh water and raises utility bills.

Final advice

The one piece of advice both experts repeated the most is to be aware that nobody will ever perfect the sustainable lifestyle.

“It’s all about practicality,” Datema said. He advocates taking a balanced approach—minimizing harm and working to support the environment. The Sparks family lives by the policy of letting simple lifestyle choices add up to a more sustainable way of life. “It’s a balancing act between being real and being ideal,” Jay said.

The lifestyle change

The Sparks family has used what they learned from Heimos and Datema to change their mentality toward sustainability issues. Amber said when she walks into a room now, she often checks for appliances that can be unplugged and that she is more likely to put extra effort into doing small tasks such as washing out jars so they can be recycled.

Amber also said the family has been recycling more now that they have a better idea of what can be recycled, and they have followed Heimos’ advice to mow their lawn no shorter than 4 inches.

Amber said she and Jay had always been aware of environmental issues, but having children has made it harder for them to maintain an earth-friendly lifestyle. Though small changes such as recycling more and using less energy matter, the biggest change in the Sparks’ lifestyle since Heimos and Datema visited is a renewed consciousness of the way little changes can add up to make a big difference.
Residents reduce water usage with rain barrels

Storing rainwater saves costs of utilities

By KERRI REYNOLDS
news@ColumbiaMissourian.com

Conservation of water, stormwater concerns and saving money are three things that might persuade Columbia residents to buy a rain barrel.

Retired Columbian Ben Londeree had these concerns, but he mainly wanted better water for his fish.

Rain barrels hold rainwater from gutters until it can be used. Columbia resident Dawn Fredrickson currently owns two barrels. Billy Polansky, also a resident of Columbia, had one at his old house.

Londeree’s garden uses water and water plants as a focal point. Tap water wouldn’t do with all its chemicals, so he sought out rain barrels. “As the rain falls, it picks up oxygen, which is better for my fish, and I don’t have to deal with treating the water to filter out all the chemicals,” Londeree said.

A system like Londeree’s, with its 10 50-gallon barrels that collect water for his garden, wasn’t cheap. “Each of the barrels cost $8 from the recycling center, and the plumbing cost almost as much as the barrels,” Londeree said. “But my main concern wasn’t about the money. It was that this was good for the environment and good for my fish.”

Fredrickson and Polansky saw their water bill go down, but they had no idea by how much. According to Polansky, he used about 20 gallons of water per week from rain barrels. With the price of Columbia water, he saved an estimated $80 a month by not
using metered tap water. “We had a garden outside at our old house, but we didn’t have a spigot outside of the building, so it was the only way that we had to water our garden,” Polansky said. “But it worked amazing for us.”

For Fredrickson, Londeree and Polansky, rain barrels aren’t about monetary savings — they’re about what is right for the environment. But rain barrels are not without their difficulties.

“Rain comes through the gutter system, and a lot of trash comes with that,” Londeree said. For the people who use one or two barrels, this isn’t a problem, because there is a screening system to filter out the leaves. With a system like Londeree’s there isn’t a surefire way to keep this from happening because the leaves overrun the screens so quickly.

“I’m concerned with the

Rebecca Spicer, right, and Julia Karll explain the purpose of the rain barrel to Kristina Hogg and Shirley Hogg at Bluestem Missouri Crafts on March 8. The barrels were painted by local artists and distributed to raise awareness about water conservation.
LET IT RAIN, LET IT RAIN, LET IT RAIN

One way to reduce water consumption is by collecting rain water in a barrel. The water can then be used for tasks such as washing your car or watering your lawn. By Joe Bradley

1 PICK A LOCATION FOR YOUR RAIN BARREL

Your rain barrel will need to be located on a flat surface under a downspout near the side of your house. It is important that the location provides for adequate runoff from the rain barrel away from the house. Consider positioning the rain barrel under a downspout that has caused stormwater damage to direct the water away from the house or near a garden if you plan on using the rainwater to water plants. You may also want to position it near the back of your house, out of view. Examine roofing and gutters to ensure the rain water is as clean as possible.

2 DETERMINE THE USE OF THE WATER

Most commercial barrels are made from watertight plastic and are 55 gallons. In order to plan how big your rain barrel will be, first determine how you will use your water.

3 DOWN THE SPOUT

Saw off the downspout at about 4 inches above the rain barrel. Use gutter attachments to position the gutter directly above the opening in the lid.

4 TOPPING IT OFF

Cut a 6-inch hole in the top of the lid, using a saw. Use a mesh screen as a filter to keep out organic materials that may drain from the gutter and eaves.

5 DRILLING THE HOLES

A Use a 29/32-inch drill bit to make a hole a few inches from the top and another one a few inches from the bottom.

B Using a 3/4 inch NPT (National Pipe Thread Tapered Thread) pipe tap, twist it in and out of the two holes.

C Screw the hose adapter into the top hole for a hose to be attached.

D Screw a spigot into the bottom hole. Make sure the spigot is turned off to prevent water from leaking out.

6 HOSIN’ OFF

Connect a hose to the hose adapter to be used for runoff when the barrel becomes full. Position the hose so that it runs away from the foundation of the house, preferably downhill.

7 BUILDING A BASE

Create a sturdy surface for your rain barrel by clearing a level piece of land and building a base out of cinder blocks.

HOW IT HELPS

Lawns need 1 to 1.5 inches of water from rain or irrigation every week during the summer to stay green and continue growing. Columbia water rates for residential households inside the city limits during the summer are $2.182 each for the first 4 ccf (hundred cubic feet), which is approximately 748 gallons. All remaining water usage is $3.055 per ccf. This is in addition to the minimum monthly charge, which depends on meter size. It takes 0.623 gallons to provide 1 inch of water to one square foot of grass.

GALLONS OF WATER

<table>
<thead>
<tr>
<th>YARD SIZE</th>
<th>GALLONS OF WATER</th>
</tr>
</thead>
<tbody>
<tr>
<td>25 ft. x 25 ft.</td>
<td>389 gallons</td>
</tr>
<tr>
<td>50 ft. x 50 ft.</td>
<td>1,558 gallons</td>
</tr>
<tr>
<td>75 ft. x 75 ft.</td>
<td>3,504 gallons</td>
</tr>
<tr>
<td>100 ft. x 100 ft.</td>
<td>6,230 gallons</td>
</tr>
</tbody>
</table>

AVERAGE RAINFALL IN COLUMBIA

<table>
<thead>
<tr>
<th>Month</th>
<th>Rainfall (inches)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Jan.</td>
<td>0.54</td>
</tr>
<tr>
<td>Feb.</td>
<td>1.21</td>
</tr>
<tr>
<td>Mar.</td>
<td>3.05</td>
</tr>
<tr>
<td>Apr.</td>
<td>2.53</td>
</tr>
<tr>
<td>May</td>
<td>3.75</td>
</tr>
<tr>
<td>June</td>
<td>1.63</td>
</tr>
<tr>
<td>July</td>
<td>2.90</td>
</tr>
<tr>
<td>Aug.</td>
<td>3.62</td>
</tr>
<tr>
<td>Sept.</td>
<td>3.81</td>
</tr>
<tr>
<td>Oct.</td>
<td>4.22</td>
</tr>
<tr>
<td>Nov.</td>
<td>1.14</td>
</tr>
<tr>
<td>Dec.</td>
<td>0.61</td>
</tr>
</tbody>
</table>

Sources: HOW STUFF WORKS, CITY OF BREMERTON, WASH., U.S. GEOLOGICAL SURVEY, NATIONAL WEATHER SERVICE, CITY OF COLUMBIA, UNIVERSITY OF MISSOURI EXTENSION, DANNYLIPFORD.COM
Ben Londeree points out the pipes that help fill his 10 rainwater barrels under his home’s deck on March 29. Londeree’s water garden is his main use for the barrels. With 10 50-gallon barrels and a 250-gallon tank, his rain barrel system holds up to 750 gallons of water at a time. In drier months, he sometimes must supplement with water from the tap.

amount of water coming in to use for my garden, Londeree said. “I can’t have leaves sitting on top of my screens, and blocking the amount of water that comes into the barrels.”

Polansky and Fredrickson also had their difficulties, but it wasn’t enough to deter them from the benefits of rain barrels. Fredrickson had trouble with too much rain and the barrels filling up too quickly, which spurred her to buy a second one.

Polansky found that rain barrels were easy to maintain but sometimes smelled a little stale.

“The barrel did have a smell to it if the water wasn’t used quickly, but it wasn’t enough to smell up the whole yard or deter us from using the barrels,” Polansky said.

Some people might think insects would be a problem when collecting water outside. Londeree, Fredrickson and Polansky haven’t found that to be the case. There are screens on the barrels to prevent insect breeding.

Londeree also had to do some foundation restructur-
ing to support the amount of weight full barrels would produce. Typically, rain barrels sit on three concrete blocks, according to Charles Laun, an AmeriCorps volunteer who helps with the installation of rain barrels. Londeree’s system is vastly more intense. “It’s a tremendous amount of weight,” Londeree said. “The traditional system wouldn’t work for my use.”

Londeree said the benefits far outweighed the draw-
backs.

“It’s about conserving water, not the amount of sav-
ings for me. I actually haven’t taken the time to see if it’s saved money on my bill,” Londeree said.

Other ways to con-
serve water

■ Fix leaky faucets and running toilets. According to the Maryland Department of the Environment, around 14 percent of residential water is wasted because of leaks.

■ Change daily habits, such as turning the water off when brushing teeth, plugging the drain when doing dishes and cutting five minutes off your shower.
Small changes can significantly increase homes’ energy efficiency

Experts practice what they preach

By ALISON GAMMON
news@ColumbiaMissourian.com

Looking for ways to cut back on bills, help the environment and maybe even earn a few bucks? We’ve consulted the professionals to give you tips and advice about how to improve your home’s energy efficiency on a budget.

For less than $100:

There are many simple things you can do to make your home more energy efficient for under $100. While the amount of money saved varies from house to house, here are a few quick fixes:

- Buy a water heater jacket for about $10. The extra insulation will help keep the water warmer and is especially useful if your heater is located in a cool place such as the basement or garage, according to David Mars, energy auditor for the City of Columbia.

- Mars said to replace or improve weather stripping on doors for about $10 to $15. It will help trap air that seeps through the cracks, helping save money on heating and cooling bills.

- If you have a fireplace, invest in a fireplace plug, suggested Travis Condict, an energy auditor for and owner of Simple Energy Solutions. An open fireplace acts like an open window, allowing air to escape. For less than $50,
you can trap some of that precious heating or cooling. **Have a larger budget to spend?**

For those able to spend more to receive greater gains, there are improvements that will help make your home more efficient while earning you rewards with tax incentives and Energy Star Rebates.

- **Air-seal your house.** Home energy auditor Kevin Johnson, who installs insulation as part of his job at Meek’s the Builder’s Choice, recommended using a spray can of insulating foam to seal up problematic areas like the attic, preventing heat loss through cracks in the foundation. Columbia Water and Light, AmerenUE and Boone Electric Cooperative offer rebates on air sealing if a home energy auditor recommends it.

- **Buy Energy Star appliances.** Energy Star appliances use less energy and water compared to regular appliances, so they can help you save on utility bills. Mars estimates that a regular fridge running continuously costs about $23 a month. A more energy-efficient one can cut your costs to about $5 a month, he said.

**Don’t have a large budget but wish you did?**

Columbia Water and Light offers its utility customers Super Saver Loans to increase the energy efficiency of their homes. The loans are financed by the Columbia Water and Light’s enterprise fund. There are two types of loans:

1. **The Basic Super Saver Loan:**
   - Homeowners can borrow up to $10,000 to be paid back over a five-year period.
   - You must take a free home energy audit. Anyone can do this without taking out a loan. It is a free service to Columbia Water and Light customers.
   - Mandatory insulation improvements must be made to receive the loan.
   - Covered items include air conditioner or heat pumps, furnaces and solar water heaters.

2. **The Home Performance Super Saver Loan:**
   - Homeowners can borrow up to $15,000 to be paid back over 10 years.
   - Homeowners must hire an approved contractor to perform an audit. The cost of an audit runs about $250 to $400.
   - The loan also requires mandatory insulation improvements.
   - In addition to the items covered under the basic loan, the Home Performance Loan also covers duct-work sealing, air sealing, windows and doors.

**Not a Columbia Water and Light customer?**

Johnson said he took out a home improvement loan from his bank. And you don’t have to take out a loan to become more energy efficient. There are many inexpensive and easy things you can do. Remem-
ber, small strides lead to big leaps toward energy efficiency, not to mention extra cash.

**How do the experts increase efficiency in their own homes?**

We asked the experts, and they shared all of their top-secret information — except it’s not top secret at all. In fact, you can call Mars at his office at 874-7325 to ask questions or for advice.

Mars does not sell products, so he can provide unbiased answers for people interested in purchasing a new product.

“We are a pro-consumer advocacy group,” he said. “We want our customers to not waste their money.”

Though he joked he’s not the person to call for advice on shirts, ties and shoes, he is what you might call a shopping consultant for energy-related items.

Mars built the 7-by-20-foot room out of recycled materials about 30 years ago for about $3,000.

“We used windows from an old porch and tile and slate we scrounged around for,” he said.

He estimates that the room contributes up to 20 percent of his home’s heat in the wintertime and also cools the house in the summer by shading a part of the south wall. He said the sunroom is a “nice getaway” for his wife and him to read or grow plants.

Condict spent about $7,000 on improvements to his home about two years ago. He air-sealed it, properly insulated it and bought a heat pump in addition to other small improvements.

“I did all the fixes,” he said. Condict took full advantage of the tax credits from his improvements; however, the federal tax incentives were not implemented then, so he did not receive those.

The improvements have already started saving him money.

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**Mars uses his sunroom as a refuge to grow various plants, including cacti and aloe vera.**

“We tell them the basics of what to look for,” he said. Mars has made many improvements to his own home. The most unique is the self-constructed sunroom.
Breaking down compost

Organic matter naturally decays in the environment, but the process can take a considerable amount of time. Placing materials in a compost pile can speed up the decomposition process by providing more ideal conditions under which the materials can break down. Composting is an inexact and forgiving process, but the result is a naturally developed fertilizer that can help your garden — rather than the city landfill — grow. By Justin Myers

HOW A COMPOST PILE STACKS UP

A successful compost pile is made up of a variety of materials. One way to ensure these materials are evenly distributed is to build the pile in layers.

BUILDING BLOCKS OF COMPOST

1. Start with a layer of plant matter — such as wood, paper, sawdust or leaves — about 6 to 8 inches thick, and moisten it.
2. Add a thin layer of material that’s high in nitrogen, such as manure, fertilizer or vegetable wastes.
3. Follow with a layer of soil or sod that’s about 1 inch thick. This provides a starting amount of microorganisms to help the decomposition process start.
4. Keep alternating layers of moistened plant matter, high-nitrogen material and soil or sod until the pile is 3 to 5 feet tall.
5. Allow the material in the pile to decompose.

CONTAINMENT ISSUES AND OPTIONS

If there isn’t enough room for an uncontained pile of compost, consider forming the pile in a compost bin. The bin doesn’t have to be built specifically for composting; just about any container will do as long as it allows air to flow through the sides.

COMPOST BIN

A compost bin can be as simple as a few pieces of lumber stacked together or a cylinder made of chicken wire or chain-link fence. If the openings in the sides are too large to keep the pile from spilling out, consider lining the bin with plastic — but be sure the plastic still has some holes to allow air to pass through.

COMPOST COMPARTMENTS

A bin with multiple compartments is useful for maintaining one compost pile while building up another. Fill one compartment with a new compost pile, and turn the pile that’s already composting by moving it from the second compartment to the third one.

ROTATING BIN

A rotating compost bin is more complicated than other types, but it simplifies the process of turning the pile as it decomposes. As with the other types of bins, however, it’s possible to make this type at home. To turn the compost pile, simply rotate the bin itself.

TO EVERYTHING TURN, TURN, TURN

A compost pile will decompose without being disturbed, but it helps to turn it from time to time — much like stirring a pot of stew — to allow the pile to compost more consistently and more quickly. Because the pile will heat up in the center as it decomposes, turning also allows the compost to heat more evenly.

IN THE END

When the pile is finished composting, the resulting compost should be dark and crumbly with an earthy smell, and the pile should have reduced in volume by 50 percent to 80 percent.

COMPOST CRITTERS

Compost piles are home to many kinds of organisms that aid in the decomposition process. Here’s a sample of what might be in a pile:

Bacteria play critical roles in decomposition. Some bacteria convert nitrogen in the atmosphere to a form that plants can absorb from the soil. Others, such as actinomycetes, break down substances that others can’t, including the cell walls of plants and fungi.

Nematodes eat both plant matter and some of the bacteria and fungi that also help in decomposition. They’re known for making soil more nutritious, though some kinds tend to damage plant roots.

Mites, centipedes and other arthropods do many helpful things, including breaking up plant matter, stirring the compost (like turning the pile, but on a much smaller scale) and eating other organisms in the pile.

Sources: MU EXTENSION, U.S. BUREAU OF LAND MANAGEMENT
A backyard is not a prerequisite for gardening

By VICTORIA GUIDA
new@ColumbiaMissourian.com

Urban gardeners find plenty of ways to make the best of living in the city. Whether you’re using containers or flat rooftops, as long as you’ve got some good dirt and enough sun, plants will grow.

Columbia gardener Mira Stoddart said gardening means knowing where your food comes from and eating healthier.

Bill McKelvey, who works at MU Extension, recommends having a garden in the ground if you can, but container gardening works just fine. If you don’t have a backyard, you still have plenty of options:

■ Five-gallon buckets: Put them on your porch or patio where your plants can feel the sun.
■ Terra cotta pots: They’re heavier and more durable, and they won’t break down in the sunlight.
■ Windowsills: You’ll see them every day and give them plenty of attention.
■ Find a friend who has space and share: Two heads of cabbage are better than one.
■ A flat rooftop: Get some good soil from the store or your own composting and make a plot. You’ll never have to worry about the plants not getting enough sun.

Tips for beginners:
■ “Think small,” said Leigh Lockhart, who owns Main Squeeze and her own backyard garden. Lockhart said one or two tomato plants is enough for a whole family.
■ Stoddart said it is important to know the appropriate time to plant and what your plants’ individual needs are.
■ Herbs do well in containers, Stoddart said, as do strawberries, salad greens and tomatoes. She said plants such as corn, green beans and potatoes are more difficult in a container.
■ If you have a backyard, make a raised bed of fresh dirt. Lockhart said backyards are often filled with clay, and young plants will not grow without good soil.
■ “It’s crazy how much dirt costs,” Lockhart said. Make your own by throwing food scraps into a container. Then, throw something organic such as leaves, mulch, wood chips, newspapers and/or cotton in with it. She said composting can either be done in a covered container or in a blocked-off section of your backyard.

Adding in red wiggler worms also helps make it into good soil, McKelvey said.
■ Water your plants often — as much as once a day during the summer, McKelvey said. Containers hold moisture less easily than the ground. If your garden is in the ground, use good mulch to help keep moisture in the soil, he said.
■ Move containers indoors during the winter, said Adam Saunders, board president of the Columbia Center for Urban Agriculture. Then move them back out in the spring.
■ Make sure your plants get plenty of sunlight. McKelvey said vegetables need at least six hours of direct sunlight, whether they are in the ground or in containers.
■ “Don’t get discouraged if you try and grow something and it doesn’t work out for you,” Stoddart said.

Conditions can be more difficult for growing from one season to the next. The Community Garden Coalition helps people with gardening needs, especially if they don’t have the experience, space or equipment or if they have a disability.

In addition, the Columbia Center for Urban Agriculture hosts workshops all season long to help with gardening, raising chickens, composting and more. MU Extension’s master gardener program also offers support for gardeners of all levels of experience and has a hotline to answer gardening questions.

“We’re all kind of locked in going to the grocery store. It’s easy and convenient and works with our busy schedules,” Stoddart said.
Green advocacy groups
- Friends of Big Muddy
  friendsofbigmuddy.org
- Coal Free Mizzou
  CoalFreeMU.blogspot.com/
- Boone County Farmers Market
  boonecountyfarmers.com/
- Columbia Farmers’ Market
  columbiafarmersmarket.org/
- Community Garden Coalition
cgc.missouri.org
- Eco Schoolhouse
  pwarichitects.com/EcoSchoolhouse.htm
- Great Rivers Environmental Law Center
greatriverslaw.org/
- Greenbelt Land Trust
  greenbeltmo.org/
- Grow Native!
grownative.org/
- Healthy Harvest Gardens
  healthyharvestgardens.com/
  Healthy_Harvest_Gardens
- League of Women Voters (Energy Matters)
lwigenstc.org/Environment.html
- Mid-Missouri Peaceworks
  midmopeaceworks.org/
- Missouri River Communities Network
  moriver.org
- The Missouri River Cultural Conservancy
  morivcc.org
- Missouri River Relief
  riverrelief.org
- Missouri Master Naturalist
  extension.missouri.edu/
  masternaturalist
- Missouri River Communities Network’s Rain Gardens
  moriver.org/raingardens/raingardens.html
- Missouri State Parks
  mostateparks.com
- MU Plant Sciences
  plantsci.missouri.edu/graduate/profdev.htm
- National Parks in Missouri
  home.nps.gov/
- Osage Group Sierra Club
  missouri.sierrachub.org/osage/
- Friends of Rock Bridge Memorial State Park
  rockbridge.missouri.org/
- Show Me Solar
  showmesolar.org
- Sustainability information and links from the U.S. Environmental Protection Agency
  epa.gov/sustainability/
- Sustain Mizzou
  students.missouri.edu/~sustainmizzou/
- MU Sustainability Office
  sustainability.cf.missouri.edu

Green spaces
- Big Muddy National Fish & Wildlife Refuge
  fws.gov/refuges/profiles/index.cfm?id=33590
- Mark Twain National Forest
  www.fs.fed.us/r9/forests/marktwain/maps/
- Pinnacles Natural Area
  mdc.mo.gov/areas/natareas/p29-1.htm
- Rock Bridge Memorial State Park
  mostateparks.com/rockbridge.htm
- Three Creeks Conservation Area
  mdc4.mdc.mo.gov/applications/moatlas/AreaSummaryPage.aspx?txtAreaID=8315

Access more information at links below

Go to our website at ColumbiaMissourian.com
How to properly get rid of e-waste

Because it should not go in the trash and cannot be taken by some recycling facilities, the map on the following page shows sites around Columbia and what they process.

ELECTRONICS COULD CONTAIN HAZARDOUS SUBSTANCES

Manufacturers release new electronic devices regularly, but getting rid of older models can cause problems if done improperly. Electronic waste might contain harmful chemicals that can be released into the environment.

Display. The backlights in liquid-crystal displays, such as those used in laptops and other flat-screen monitors, usually contain mercury; the heavy cathode-ray tube monitors used with older desktop computers contain lead.

Printed circuit board. The connectors are made up of many small electronic components with wires, or traces, made of copper. The boards often contain brominated flame retardants; parts on older boards are held with lead-based solder.

Connectors. Some connectors inside electronic devices contain beryllium or they could be mounted to printed circuit boards, and these connections in older devices might contain lead.

Batteries. Although newer, rechargeable batteries are more likely to use lithium, older batteries might contain cadmium.

POSSIBLE SIDE EFFECTS FROM HARMFUL SUBSTANCES FOUND IN ELECTRONICS

Beryllium: Exposed workers can develop lung cancer and a form of skin disease.

Brominated flame retardants: Can lead to hormonal disorders.

Cadmium: Can weaken bones and interfere with the liver and kidneys.

Lead: Can cause developmental disorders in children and osteoporosis and impaired motor control in adults.

Mercury: Can cause neurological problems such as paralysis and blindness in adults and developmental disorders in children.

Sources: UNITED NATIONS UNIVERSITY, DARTMOUTH TOXIC METALS RESEARCH PROGRAM, EMPA SWITZERLAND

Go to our website at ColumbiaMissourian.com
CITY OF COLUMBIA RECYCLING MAP

Various locations around Columbia have recycling centers for specific materials. To view an interactive map of all recycling locations in Columbia, go to ColumbiaMissourian.com

1. Civic Recycling
   3300 Brown Station Road
   Aluminum cans, bicycles, books, cardboard, glass, magazines, paper, phone books, plastics #1 and #2, plastic shopping bags, tin/steel cans

2. Best Buy
   2001 W. Worley St.
   Rechargeable batteries, CD/DVD/floppy diskettes, computers and/or computer monitors, electronic waste, ink jet cartridges

3. Patricia’s IGA
   900 N. Keene St.
   Aluminum cans, cardboard, glass, plastics #1 and #2, tin/steel cans, paper, magazines, phone books

4. The Home Depot
   3215 Clark Lane
   Rechargeable batteries, cardboard, glass, plastics #1 and #2, porcelain products, tin/steel cans, aluminum cans, paper, phone books, magazines

5. Gerbes Supermarket
   1729 W. Broadway
   Aluminum cans, cardboard, glass, plastics #1 and #2, plastic shopping bags, tin/steel cans, paper, magazines, phone books

6. Habitat for Humanity
   1906 Monroe St.
   Aluminum cans, brick, ceiling tiles, ceramic tile, concrete (bagged), construction materials, linoleum, major appliances, pallets, roofing materials, stone, windows, wood

7. Mid-Missouri Recycling
   6104 Brown Station Road
   Aluminum cans, lead-acid batteries, rechargeable batteries, CD/DVD/floppy diskettes, cell phones, computer and/or computer monitors, electronic waste, inkjet cartridges, major appliances except refrigerators, scrap metal, televisions, toner cartridges, video tapes

8. Moser’s Price Choppers
   705 Business Loop 70 W.
   Aluminum cans, cardboard, glass, plastics #1 and #2, tin/steel cans, paper, magazines, phone books

9. City of Columbia Household Hazardous Waste
   1313 Lakeview Ave.
   Aerosol cans (empty), antifreeze, lead-acid batteries, rechargeable batteries, fire extinguishers, fluorescent light bulbs, chemicals, paint, household hazardous waste, used oil

10. Goodwill
    507 E. Nifong Blvd.
    Bicycles, books, clothing, computers and/or computer monitors, eyeglasses, furniture, household items, yard items, tools, televisions

11. Salvation Army
    23 E. Walnut St.
    Bicycles, books, clothing, computers and/or computer monitors, eyeglasses, furniture, household items, yard items, tools, televisions

12. Office Depot
    101 S. Providence Road
    Rechargeable batteries, cell phones, electronic waste, ink jet cartridges, toner cartridges

13. Staples
    115 Conley Road
    Rechargeable batteries, cell phones, computers and/or computer monitors, electronic waste, ink jet cartridges, toner cartridges, plastic shopping bags

14. Downtown
    South side of Tenth and Cherry parking garage
    Aluminum cans, cardboard, glass, plastics #1 and #2, tin/steel cans, paper, magazines, phone books

15. Gerbes Supermarket
    2900 Paris Road
    Aluminum cans, cardboard, glass, plastics #1 and #2, tin/steel cans, paper, magazines, phone books

16. State Farm Parkway
    off Nifong Connector
    Aluminum cans, cardboard, glass, plastics #1 and #2, tin/steel cans, paper, magazines, phone books

17. Behind Schurz Hall, MU
    904 S. College Ave.
    Aluminum cans, cardboard, glass, plastics #1 and #2, tin/steel cans, paper, magazines, phone books

18. Dulany Hall
    Columbia College
    600 N. Eighth St.
    Aluminum cans, cardboard, glass, plastics #1 and #2, tin/steel cans, paper, magazines, phone books

19. Columbia Regional Airport
    11300 S. Airport Drive
    (not shown)
    Aluminum cans, cardboard, glass, plastics #1 and #2, tin/steel cans, paper, magazines, phone books

Source: CITY OF COLUMBIA

JOE BRADLEY/Missourian
The streets, with names such as “Spicewood Drive” and “Coral Ridge Court,” are built into a series of flats and slopes made muddy by construction and seem to end without warning. The houses are big and have decent yards, but most of them are not homes. Not yet. Children don’t play in the driveways. TVs don’t go on in the living rooms. The day before this month’s hotly-contested municipal election, FOR SALE signs in this Columbia neighborhood—that isn’t called “Steeplechase,” on the west end of the Thornbrook subdivision — far outnumbered the political yard signs that sprouted across the rest of the city.

Blame the recession, a still-struggling real estate market, tougher lending — there are a lot of ways to explain empty houses, but most of them boil down to this: We did something; we couldn’t keep up. We did something unsustainable.

Sustainability, normally thought of as solely an environmental concept, actually extends to economics and social issues. And the question of how to live a good life...
without wanting too much is a debate that extends further than building too many houses.

**What is ‘sustainability?’**

Weighing in at six syllables, it’s a mouthful.

Yet — perhaps improbably — the concept of sustainability has become a cornerstone of the ongoing debate about how we should live.

“It’s making sure that the current generation is able to enjoy a standard of living that doesn’t compromise standards of living for future generations,” said Mary Hendrickson, an MU associate professor of rural sociology, quoting one of the most commonly cited definitions of sustainability.

The term has its popular origins from a report by the United Nation’s Brundtland Commission, which advocated a balance of social, economic and environmental needs in order to achieve sustainability.

“A world in which poverty and inequity are endemic will always be prone to ecological and other crises,” the report said. “Sustainable development requires meeting the basic needs of all and extending to all the opportunity to satisfy their aspirations for a better life.”

When applied to Columbia and the rest of the world, sustainability becomes a simple word with a complicated reality.

Some see a clear imperative to live as well as possible while leaving as small an impact as possible. Often, that means preserving natural resources and cutting down on the use of fossil fuels by changing the way people do the little things: Turning off lights when not at home, hang-drying clothes instead of using electric dryers and avoiding the use of products that can’t be recycled.

Changing the big things gets a little more complex.

**Vision vs. reality**

When it comes to thinking about making the city sustainable, Adam Saunders, board president of the Columbia Center for Urban Agriculture, says the problem is attacking the problem from every angle.

During a March talk at MU titled “A Vision for Local Sustainability,” Saunders filled a dry-erase board with maps, lists, circles, charts, arrows, footnotes, statistics, equations and graphs, occasionally tossing in an illegible scribble or interrupting himself to give an impromptu “sidebar” on macroeconomics.

Saunders tackled Columbia’s food and energy supplies. “If we develop local supplies of food and energy, we’re going to be better off. That’s my underlying assumption.”

Scribble, scribble.

Saunders figured, the less energy needed to transport it and the less carbon released into the atmosphere. Technologies such as wind and solar power are coming along too slowly to wean Columbia off fossil fuels. He said we should burn wood and biomass for some of the city’s energy, which would be cleaner than coal and also help create local jobs.

The fertile land around the Missouri River could be used to grow a tree supply to help replace coal, and the plains to the north could be used as diversified farmland.

“There are distinct advantages to where we are, geographically,” Saunders said. “You gotta play to your strengths.”

The whirlwind lecture was part big-picture thinking, part controlled chaos, and for Saunders, entirely a matter of pragmatism.

“That’s the question,” Saunders said during a brief pause, slowing his voice to emphasize his next three words: “Is this feasible?”

The question of feasibility has dogged the environmental arm of the sustainability movement from the beginning. Big ideas for wide-scale change frequently run into an economic conundrum: If there’s a way to do it green, there’s probably a different way that’s cheaper and easier.

For some sustainability advocates, getting Americans to drive less has been one of the key elements of reducing carbon emissions and dependence on oil. But despite years of public awareness campaigns, history suggests cutbacks only occur when it becomes too expensive to drive — like during fuel crises when gas prices shoot up. When fuel prices fall, a lack of viable alternative fuel sources has usually meant drivers return to their old habits.

In a city such as Columbia where, not everyone can bike to work, Hendrickson sees sustainability as a concept that is subject to practical realities.

“People enter into the idea of sustainability from a number of different perspectives, and I think they just try to do the best that they can,” she said. “I think of it as a long process.”

Hendrickson said consumers who shop at local farmers’ markets might start asking questions about how food is grown. Those questions might become questions about how to support local farmers and evolve into asking about ways to support the community as a whole.

“The more you learn, the more you change and do things different,” Hendrickson said.

**The development question**

If you follow Hendrickson’s string of questions to the end — the big picture — you’ll find a political drama that has played over and over again for years in Columbia.

Missourian columnist George Kennedy coined it as the struggle between the “greens” and the “greys”: a contentious debate between “smart growth” advocates who say the city should avoid sprawl and developers who say expansion is the best way to maintain a strong economy.

Local Sierra Club conserva-
tion chairman Ken Midkiff articulated the need for green politics.

“What good does it do if a few people engage in low-impact activities like recycling if 95 percent of the population is engaging in unsustainable behavior?” Midkiff asked.

In Columbia, the local Sierra Club and others have been making the case for preserving “open spaces” by developing the city’s interior instead of expanding its boundaries. Another argument is that spread-out development is likely to mean more large houses that have to be heated and cooled, more lawns that need maintenance and more residents driving to and from work.

As for “sustainable development” — the concept envisioned by the Brundtland Commission — Midkiff called it an oxymoron. “You can’t have sustainability and development at the same time,” Midkiff said. Because the world has a finite amount of resources “you can’t sustain growth forever,” he said.

The view from Don Stamper’s desk is different.

“Here’s the problem with terms like smart growth and sustainability,” said Stamper, executive director of the Central Missouri Development Council. “It really depends on how people define it. To me, sustainability means that we have an economically progressive community that is meeting design challenges and standards in a proper way — one that is cost effective.”

Stamper — both a friend of Midkiff’s and his frequent political adversary — emphasized that the concept means more than environmental well-being; it means economic and community well-being, too.

“Social funding, health funding, educational funding has been reduced, sometimes at the expense of these smart growth ideas,” Stamper said. He sees growth as the fuel for Columbia’s economy and thinks limiting new growth would drive the cost of housing “through the ceiling.”

The arguments can be stringent and compromises tough to come by. But for the time being, the recession has put struggles between the “greens” and the “greys” on hold. When
the economy stalled, so did the housing market. It’s hard to fight over houses that are not being built.

Changing the ‘me-first’ culture

Sustainability is about more than recycling aluminum cans, carbon footprints or zoning regulations. To many, it’s about transforming a culture and finding a better way of life.

“The No. 1 stumbling block (to becoming sustainable) is the way of thinking that it’s all about jobs, it’s all about income,” said John Ikerd, who believes the economy’s “individualistic” focus on wealth ignores how much our overall well-being depends on our relationship with other people.

“We can have all the money in the world, but if we don’t have any family or any friends, or anybody that cares about you, it’s going to affect your happiness,” said Ikerd, an author on sustainability and an MU professor emeritus of agricultural economics.

Ikerd wants to change the way society approaches capitalism.

“There’s no purely economic value in doing something solely for the benefit of someone else,” Ikerd said. Economic incentives encourage people to act for themselves.

Rebecca Scott, an MU sociology professor who studies environmental justice, said people frequently respond to worsening environmental hazards by buying small things to protect themselves, rather than addressing the problem as a group.

For instance, people worried about the quality of their drinking water can buy bottled water. But buying bottled water creates a worse environmental problem, she said, by sending more plastic to landfills, and the fix doesn’t change anything about the problem of dirty drinking water.

“Environmental risk is very much associated with poverty, and so a healthy environment is something theoretically purchasable,” Scott said. If you have money, you can avoid environmental hazards such as living near a landfill; if you don’t, you might be out of luck.

If the public wants to solve an environmental problem, Scott said, people have to empower themselves by working together instead of just saving their own skins.

She used sunscreen as an older example of how people have made individual responses to public problems. “We worry a lot about exposure to sun, and so we privatized that by protecting ourselves individually with the product instead of looking at the ozone as a problem we need to approach as a society,” Scott said.

Eventually, Scott said public uproar forced companies and governments to address the ozone layer problem by limiting the emission of destructive chemicals into the atmosphere, making it one of the “success
stories” of environmental reform.

Choosing sustainability

In a society where people make their own decisions about what to buy and how to live, individual behavior still matters. Figuring out ways to shape that behavior is one of the goals of Cherith Moore, a soft-spoken student sustainability coordinator at MU’s newly created Sustainability Office.

The Sustainability Office is in the bottom level of the Virginia Avenue parking garage. Behind the cubicles, you can spot signs of oncoming sustainability projects — plastic bags for recycling, hang-dry racks for clothes — as if the office were an oversized environmental tackle box, ready for use.

Moore said the path to sustainable behavior might just be a matter of habit.

“When sustainability is the default, people just do it,” she said. “Instead of checking the ‘sustainability’ box, you have to check the ‘unsustainable’ box.”

And it’s important to her to set a strong example for students and others.

“It’s important to give them something tangible, because there’s a lot of vagueness out there.” For instance, recycling is good, Moore said, but “reducing” — driving less, consuming less, using less — would be much better.

When asked about how society as a whole could become sustainable, Moore began to answer about an “adjustment in our values” — then stopped, looking at the ceiling lights, then at her glowing desk lamp.

“Do I need this on to talk to you?” Moore asked, reaching for the lamp. Click. She turned to her computer monitor; idle, glowing pale blue. “Do I need this on to talk to you?”

Set aside the political arguments and the grand economic issues for the moment. If people really wanted to leave as small an impact as possible — if they really wanted to go for it — could they do it in Columbia?

Yes, said Moore, a 10-year resident. “If people pay attention, they’ll find they can live a fairly mainstream life — sustainably.”

“Social funding, health funding, educational funding has been reduced, sometimes at the expense of these smart growth ideas.”

DON STAMPER
Executive director of the Central Missouri Development Council
Go to our website at ColumbiaMissourian.com