

SPECIAL POINTS OF INTEREST:

- This month's Eco-Office highlights some green tips for winter.
- Upcoming Sustainability Committee meetings in Lowell: 12/18, 1/15, 2/19
- December 21: First day of winter!
- February 2: Groundhog Day!

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Single-Stream Recycling: A Yogurt Cup's Odyssey By Clair Ryan

Photo credit: www.fotosearch.com



I am a yogurt cup made of polypropylene, a.k.a. plastic #5. The day I was brought to the NEIWPCC office in Lowell, my lid removed, and my contents consumed, I fulfilled my purpose. Afterwards, I was dropped into a bin of comingled recyclables here I met bottles and jugs made from other plastics, glass jars, tin cans, and aluminum foil. Days later, my compatriots and I were whisked away by a NEIWPCC recycling volunteer

carrying a big blue bin. We were driven for several miles and then deposited into an even bigger bin. I met all sorts of new friends there; newspaper, cardboard, paper bags, shredded office paper, bottles, cans, and tubs of every color shape and size. After a few days, a large truck came for us, and that's how I came to arrive at the Cassella single stream recycling facility in Charlestown. I was just an ounce amid the 750 tons or so of recyclables that arrived there that day.

The truck dropped its load, myself included, into a massive heap surrounded by countless other massive heaps. A skid steer vehicle pushed me and my neighbors onto a conveyor belt which carried us past a line of

workers who diligently removed garbage and large items. Goodbye styrofoam coffee cup, plastic bags, and random shoe! They could not be recycled, at least not via a single stream system, so it was off to the landfill for them. Unfortunately, such was the fate of about 8 percent of the material that made it through the doors of the facility with me that day.

Having passed inspection, I tumbled down several feet from one conveyor belt onto another. At that point I was very glad that I'm made of flexible plastic and not rigid glass. Virtually no glass containers made it through transport and the first phases of sorting intact, and the sound of shattering was ubiquitous. Our next

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Tips & Tricks for the Holiday Season

By Kristen Fitzpatrick

The holidays are a magical time of the year when family and friends come together to share memories, laughs, stories, and gifts. For many of us, however, the holidays can also be a time of abundance that borders on waste and excessive spending. In

an effort to encourage eco-friendly holiday practices without compromising the magic that we look forward to each year, the following list provides some helpful tips and tricks for your holiday season.

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Photo credit: Kristen Fitzpatrick



Photo credit: www.utsa.edu

stop was a spinning drum the purpose of which was to filter out the glass shards and sort them into a separate bin. However, only large shards were effectively removed. Fragments of broken glass remain in virtually every stream of a comingled recycling operation, causing contamination. Bales of recycled paper from single-stream processes are usually too contaminated with glass shards to be used for high-quality applications like the production of recycled copy paper. Of the successfully sorted glass, only the biggest shards, which can be successfully color sorted, are ever used to make new glass containers, and this makes up about 60 percent of the glass material received by the Charlestown facility. Of the remainder, about half can be reused for other purposes, while the rest winds up landfilled.

As my trip along the conveyor belt continued, special screens of varying sizes were used to separate and divert cardboard and paper. Magnets and specialized magnetic fields were used to pull out metals, including aluminum. Lucky aluminum; it is the most valuable of all recycled materials, selling for almost \$2,000 a ton. After that it was only plastics left, and we were conveyed to the optical sorters, which are machines that use specialized cameras or lasers to determine an object's size, shape, color, and chemical composition. Once the sorter had identified my plastic type, it used a blast of compressed air to send me tumbling onto yet another conveyor belt bearing only other #5 plastics. Then it was off to the compressor where I and thousands of other #5's were pressed into a one ton bale, which is where I sit today.

Depending on market demand and the purity of my bale, I will be sold either domestically or overseas. My bale will be shredded into flakes and will likely be mixed with some virgin material to prevent degradation. Finally, the flakes will be melted down and I will be molded into some new container or item. It will be good to be useful again.

This down time as I await my new destiny has allowed me to reflect on my journey. The convenience of placing all recyclables into a single container without sorting increases the rate of recycling considerably, and this

is a good thing. However, the automated sorting conducted at material recovery plants like the one in Charlestown is not nearly as accurate as manual sorting. As a result, the bales of recyclable material produced by the plants are not as pure, reducing their market value and usability. Sometimes the only markets open to these products are overseas, reducing the energy saving benefits of recycling through international shipping. It certainly isn't a perfect system, but it's better than nothing. It is likely that technological advancements over time will increase the accuracy of automated sorting. In the meantime, eco-minded consumers should consider buying in larger sizes (e.g. one large yogurt tub with three servings uses much less plastic than three single-serving cups like me), and re-using containers whenever possible.



Photo credit: theorganizedwife.wordpress.com

Sources:

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Buy Local: Whether you are purchasing gifts, food, services or the like, consider buying local. When doing so you will reduce transportation costs and subsequent environmental impacts, while also investing in the local economy.

Children's Gifts: When shopping for gifts for the children in your family, consider purchasing something that will have a low negative impact on the environment and a high impact on their natural curiosity such as zoo or museum memberships, science kits, and live plant kits.

Gifts for Adults: When buying for the adults in our family we often think "what does that person NEED?" Without knowing, we purchase things just for the sake of having something to give, and oftentimes those things go unused. Consider gifting "experiences" this year rather than material gifts. Tickets to local performances or concerts, gift certificates to spas, money toward a local restaurant, or cooking classes or wine tastings are not always

things that people would purchase for themselves, but make great gifts!

Stocking Stuffers: Why is it that the smallest of gifts are sometimes the most difficult to buy? Far too often stockings are filled with little presents that go unused. When filling them this year, consider gifts that are both practical and useful such as oven roasted and candied nuts, health bars, chocolate covered pretzels or packets of mints or gum.

The Presentation: Wrapping paper can become both expensive and wasteful. Ever wonder what to do with all of your children's drawings that are now piled up in a box somewhere? They make for an excellent wrapping paper for grandparents, aunts, uncles and family members. And for gift tags – try cutting to size and reusing the front of last year's Christmas cards as the tags. (For more wrapping tips, check out Shelly Clark's article in this eco-office bulletin).

Decorating: To keep the decorating inexpensive and eco-

friendly, try bringing some of the outside, in. The holiday decoration on page 1 is comprised of pieces of a birch tree which fell during a storm, extra branches from the Christmas tree, as well as an old mason jar which can be found around the home. By using items that can be found around the home, and in your own backyard, you can create pieces that are unique and catered to your own holiday style!



Photo credit: Kristen Fitzpatrick

Have an Eco-Friendly Christmas By Shelly Clark

Of the 5 million tons of waste generated over the holiday season, 4 million of it is [wrapping paper and shopping bags](#). However, more people are



Photo credit: en.wikipedia.org

returning to a simpler way of celebrating the season that is festive, creative, and good for the environment. Furoshiki (fu-row-shee-kee) is an ancient Japanese tradition in which gifts are wrapped with decorative cloth. Any leftover fabric (such as cotton, silk, or nylon), a scarf or towel is folded and secured by tying the ends with a knot, ribbon or safety pin.

Furoshiki (風呂敷), meaning "bath spread," was first used in Japanese public baths. When bathers removed their clothes they wrapped

Why should you use Furoshiki?

It's more durable than paper or plastic bags.

It's multipurpose: Use it as a shopping bag, lunch box, or even home décor.

It's versatile: Wrap something as small as your hand or as big as a bedspread, regardless of its shape.

It's chic, fashionable and a wonderful conversation piece. People are pleasantly surprised to receive it instead of the usual flimsy paper wrapping. Moreover, they can use it over and over again.

It's easy: To learn how to wrap fabric, refer to the folding chart on the next page.

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Photo credit: camyology.com



them in a cloth bundle. Eventually, the custom spread and was used by merchants to transport their goods and decorate gifts.

The introduction of plastic bags in post-war Japan led to a decline in the use of furoshiki, but the practice is slowly making a comeback. In 2006, the [Japanese Minister of the Environment, Yuriko Koike](#), created a special furoshiki cloth. "I've created what you might call a "mottainai furoshiki," Koike said, "The Japanese word *mottainai* means it's a shame for something

to go to waste without having made use of its potential in full. (This) *furoshiki* is made of a fiber manufactured from recycled PET bottles ... It would be wonderful if the *furoshiki*, as a symbol of traditional Japanese culture, could provide an opportunity for us to reconsider the possibilities of a sound-material cycle society. As my sincere wish, I would like to disseminate the culture of the *furoshiki* to the entire world."

So this season let's start a new tradition. It just might catch on!

Seasonal Eating By Susy King

Winter weather in the Northeast may not allow for farmers to grow food at this time of year, but that shouldn't keep us from enjoying locally grown produce. Winter squashes are harvested in the fall, and if stored properly, can keep through the cold weather months. Spaghetti squash is an excellent example of a locally-grown product that can be enjoyed all winter long and boasts numerous health benefits. This squash is low in fat and calories, and contains folic acid, potassium, vitamin A, and beta carotene. Many people use spaghetti squash as a lower calorie, lower carbohydrate alternative to pasta. The recipe provided below is a delicious and healthy way to enjoy this food!

Spaghetti Squash with Roasted Tomatoes and Ricotta

(Adapted from *Vegetarian Times*)

Serves 4

1 2-lb. spaghetti squash, halved, seeds removed
 2 pt. cherry or grape tomatoes
 1 large onion, cut into wedges
 1 15-oz. can chickpeas, rinsed and drained
 4 or 5 whole garlic cloves, skins on
 2 Tbs. olive oil
 1 Tbs. minced fresh thyme
 1 cup part skim ricotta cheese
 Salt and pepper, to taste
 Red pepper flakes, to taste (optional)



Photo credit: steamykitchen.com

1. Set one oven rack to bottom position of oven and another several levels up. Preheat oven to 375°F. Coat baking sheet with cooking spray; fill 13x9-inch baking dish with 1 inch water.
2. Lay spaghetti squash cut-side down in water-filled baking dish. Scatter cherry tomatoes, onion wedges, garlic cloves, and chickpeas on prepared baking sheet. Drizzle oil over tomato mixture, and sprinkle with thyme. Season with salt and pepper, if desired, and toss mixture to coat with oil and seasonings.
3. Place spaghetti squash on lower oven rack and tomato mixture on top rack. Bake 1 hour. Turn off oven, and remove squash; leave tomato mixture inside oven.
4. Cool squash 15 minutes. Scrape spaghetti-like strands out of shell and into large bowl with fork. Remove tomato mixture from oven, remove skins from garlic cloves, and stir to combine. Serve spaghetti squash topped with tomato mixture. Top with desired amount of ricotta and optional red pepper flakes. Enjoy!



From the Chair: Scientific Consensus and the Climate Deniers By Dan Peckham

view of over 600 articles on climate change found that over 50 percent gave equal attention to both views – that humans contribute to climate change, and that climate change is exclusively a natural phenomenon. Only 35 percent of articles emphasized human contributions, which more accurately reflects scientific consensus.

It has been decades since climate scientists began to reach the consensus that anthropogenic sources are responsible for the earth's rapidly-changing climate, and at least a decade since people began to wonder why [public consensus hadn't followed suit](#). Almost 14 years after Time Magazine featured a memorable image of our planet in a frying pan and asked why Washington hasn't begun to take serious action on climate, President Obama's Organizing for Action is still calling out over 100 "[Climate Change Deniers](#)" in the United States Congress.

Early environmental advocates can't be blamed for thinking, "Why on earth do we still need to protest about this?!" The public's *perception* of scientific consensus is one key reason for the continued lack of unified, cohesive action around climate change – a [recent poll](#) found that only 60 percent of respondents believed that the climate is changing due to man-made causes. This perception stems in a large part from the media reporting of the issue.

Professional journalists ascribe to the idea of journalistic balance in their work. A typical news article presents both viewpoints on a given topic, but problematically often ascribes equal weight to each (without noting the general consensus of experts). A re-

Perhaps balance is the best we can ask for, though, considering that an alternative is to blatantly mislead the public. In Australia, a 2013 headline about an Intergovernmental Panel on Climate Change (IPCC) report in *The Australian* read, "We got it wrong on warming, says IPCC." The reporter stated that the IPCC had revised the climate warming rate in its models to half of the IPCC's original warming rate. The newspaper later published a climate scientist's editorial explaining that the reporter had pulled his information from another article that misinterpreted the IPCC report, but the editorial ran with five others accusing alarmist scientists of scaring the public. *The Australian* eventually wrote a one-paragraph correction noting its error, but the damage had already been done. These cursory and perhaps even insincere correction efforts in no way make up for the original egregious error. A year later, Australia's publicly unpop-

ular carbon tax was repealed in July 2014.

While the recent election cycle did not bode well for candidates supporting environmental causes, the good news is that media coverage may be heading in the right direction, once and for all. Some of the world's most powerful PR firms are [refusing to work with climate change deniers](#) or launch campaigns that deny climate change. As media coverage changes, will public perception finally align with scientific consensus?



Photo credit: <http://greenplanetethics.com>

TIME Magazine cooling headlines (top left and bottom right) are from 1973 and 1979 respectively. Warming headlines (top right and bottom left) are from 2001 and 2006. That hasn't stopped climate deniers from citing this as proof of the "climate debate."

What Kind of Christmas Tree is Most Eco-Friendly? *Adapted from [ecoRI News](#)*

A Christmas tree is often the cornerstone of a family's holiday season. But does your little green heart ever wonder which kind of Christmas tree is most sustainable?

The Artificial Tree

This is what I grew up with, and it seems like a sustainable decorating option when the same tree is used year after year. However, the truth is that most artificial tree-users replace them about every five years with newer versions. According to a [study](#) from a Canadian environmental consulting firm, an artificial tree would have to be re-used for at least 20 years in order to be more eco-friendly than buying a fresh-cut tree annually.

That is largely because artificial trees aren't recyclable or biodegradable, they deplete resources and, with most being manufactured in Asia these days,

transporting the trees leaves a large carbon footprint.

A bigger concern for families is that artificial trees can be toxic. They're typically made with [polyvinyl chloride](#) (PVC), one of the most environmentally damaging forms of petroleum-derived plastic and a known carcinogen. In addition, an artificial tree may shed lead-laced dust all over your children's gifts, since lead is often used as a stabilizer for PVC. Not so very merry, is it?

There is some good news, however. There is a newer technology where tree branches are being manufactured from polyethylene plastic (PE) instead of toxic PVC. Alicia Voorhies from [The Soft Landing](#) offers tips on where to find a holiday tree made from polyethylene.

The Natural Tree

Many people prefer the fresh scent

and magic of a real Christmas tree. Natural trees are a recyclable and renewable resource, and a Christmas tree farm offers many benefits, including preserved green space, animal habitat and soil stability.

The downside is that only 1 percent of U.S. Christmas trees are grown organically — so that other 99 percent may have been grown using pesticides. Buying your tree from a local farm offers several advantages: you're supporting a local business and you're reducing the environmental impact of long-distance transportation. Call ahead and speak directly with the farmer to learn about the growing process: some local farms may use organic practices, yet they aren't classified as an organic farm since they're not seeking certification.

The Living Tree

Although not the most popular, a living tree, with roots and all, is certainly the most sustainable option. Some things to consider when buying a living tree: choose a tree that looks bright and lively with a well-developed root ball, and choose a tree size that will work well in your yard.

Submit an article for our March spring issue!

NEIWPC staff at the Lowell office started putting together the Eco-Office Bulletin newsletter in September 2012 as a way for the sustainability committee to update the rest of the office on their activities, as well as to share news and tips on sustainable practices at the office and home. Distribution was expanded to include all NEIWPC employees in December 2012, and we are pleased that recent articles have come from staff in both Lowell and beyond. For future issues, we welcome article submissions from all employees. Please contact [Dan Peckham](#) if you are interested in contributing.

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Established by an Act of Congress in 1947, the New England Interstate Water Pollution Control Commission is a not-for-profit interstate agency that employs a variety of strategies to meet the water-related needs of our member states—Connecticut, Maine, Massachusetts, New Hampshire, New York, Rhode Island, and Vermont. We serve and assist our states by:

- Coordinating forums and events that encourage cooperation among the states
- Developing resources that foster progress on water and wastewater issues
- Representing the region in matters of federal policy
- Training environmental professionals
- Initiating and overseeing scientific research
- Educating the public
- Providing overall leadership in water management and protection