



P2Post

National Pollution Prevention Roundtable

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SALT MARSH DEGRADATION LINKED TO NUTRIENT RUNOFF

A recent study published in *Nature* revealed that salt marsh degradation on the east coast of the United States is most likely due to excess nutrients from runoff. Salt marshes, which are found near estuaries, are viewed as an important ecosystem because of the services they provide, such as stabilizing highly erodible soil. However, they have been disappearing for the past 20 years.

The study, which took place at Plum Island Estuary in northeastern Massachusetts over the course of nine years, involved adding nitrogen and phosphorous to tidal water along the marsh in realistic amounts. After a few years, the banks of the estuary began to crack and collapse. Although at first the grasses in the marsh began to grow taller and greener because of the nutrients, they produced fewer roots and rhizomes, which hold the banks in place, leading to the collapse.

This study proved that long-term degradation of estuaries is severe, and that nutrient run-off from sources such as agriculture can destroy these important ecosystems

View original article: <http://www.enn.com/ecosystems/article/45110>

LEVI INCORPORATES RECYCLED BOTTLES INTO DENIM

Levi Strauss & Co is in the process of creating its new denim collection that will utilize 3.5 million recycled bottles. The goal is to reduce the environmental impact of its products and promote recycling to consumers.

A year ago, the company launched its Water<Less collection that reduced the amount of water used in the manufacture of their clothes by 20%. This new denim line that will incorporate at least 20% post-consumer waste in each pair of jeans, is another part of their Waste<Less campaign.

The denim will include recycled PET plastic and other materials including brown beer bottles and black food trays. Crushed fragments of the plastics will be made into a fiber and mixed in with cotton fibers to make the denim. As a result, the jeans will have an undertone of the color of the bottles used.

Levi's Waste<Less collection is working to prove that quality, comfort and style do not have to be sacrificed in order to create sustainable products.

View the original article: <http://www.greenbiz.com/news/2012/10/19/levis-stitches-plastic-bottles-latest-denim-collection>

MEMBER FOCUS:

KANSAS STATE UNIVERSITY POLLUTION PREVENTION INSTITUTE INTERN PROGRAM STILL GOING STRONG

In addition to having a football team currently ranked within the top five teams in the country, Kansas State University (K-State) is also home to a successful pollution prevention intern program (Although, unfortunately, there are no BCS rankings for intern programs.). The K-State Pollution Prevention Institute (PPI) intern program began in 2006 with only four interns and one funding source. Since that time, the program, based on a similar, highly successful program of the Iowa Department of Natural Resources, has grown to this year working with eight interns from three funding sources.

Throughout the seven years of the program, K-State PPI has worked with 57 interns from five Kansas schools – K-State, University of Kansas, Emporia State University, Wichita State University and Southwestern College. Stu-

dent participants run almost the entire gamut of engineering disciplines including chemical (14), industrial (8), mechanical (11), electrical (6), biological and agricultural (5), civil (3) and architectural (2), as well as non-engineering disciplines such as biochemistry (3), journalism (1), agricultural economics (1), business marketing (1) and environmental studies (2).

These interns have been hosted by 34 companies, many of which are repeat clients. The repeat aspect is very important, of course, because it shows companies recognize the benefits of the program and consider it advantageous from an economical perspective. In fact, although K-State PPI offers a cost-share option for those participating in the program, some companies choose to shoulder the intern costs without the cost-

share option. In addition to numerous one-year participants, multi-year companies include Via Christi (6 years), Schwan's Global Supply Chain (5), Haldex Brake (3), Frito-Lay (3), Wolf Creek Nuclear Operating Corporation (3), Residence Inn (2), CST Storage (2) and Mercy Health Center (2).

Despite these numbers, or rather because of these numbers, the most important aspects of the program are the environmental results. Since 2006, these interns have identified the following potential savings:

- 61 million kWh of electricity
- 536,000 therms of natural gas
- 262 million gallons of water
- 16,000 tons of waste
- \$8.8 million in operating/disposal costs
- 45,000 metric tons CO₂ equivalent

Although these are only **potential** savings, PPI works hard to follow up with industry participants to determine how many recommendations are actually implemented. Research shows implementation rates of up to 100% for individual companies and averages as high as 67% across all of the facilities. As any of the people involved with intern programs can attest, data quality for individual companies can vary greatly, so we most frequently err on the conservative side when reporting environmental data.

Funding for the program comes primarily through EPA Region 7 in the form of Pollution Prevention and Source Reduction Grants. However, this past year, K-State PPI added an additional source of funding – the K-State College of Engineering Electric Power Affiliates Program (EPAP). For this particular source, interns

were restricted solely to projects involving electrical power. Successful completion of these EPAP projects led to an accomplishment never experienced with the K-State PPI intern program – one of the EPAP interns was selected to present to professional engineers and energy managers at the national Energy, Utility and Environmental Conference in Phoenix, Arizona, in January 2013.

Success of the K-State PPI intern program, and its sister intern programs in Iowa, Missouri

and Nebraska, makes these undertakings not only practical but fun. It is a joy to see an intern's pride and satisfaction as his or her host company actually implements a recommended project. The company certainly benefits from the reduced environmental impact, but can also be recognized regionally or nationally for its efforts. At least eight companies participating in the K-State PPI intern program have been awarded the Kansas Department of Health and Environment Pollution

Prevention Award. The K-State PPI intern program also benefits through building meaningful relationships while improving the local environment, improving business operations for Kansas industries and nurturing professional development of the student interns.

In addition to the K-State intern program, EPA Region 7 is blessed to have other viable intern programs in Iowa, Missouri and Nebraska working to protect local environments. These intern programs, as well as others throughout the country, are addressed in the National Pollution

Prevention Roundtable (NPPR) P2 intern work group, which serves as an information and resource-sharing group that supports and assists state programs with development and growth of P2 intern programs. For more information on the P2 intern work group, visit the NPPR website at <http://www.p2.org/workgroups/p2-intern-workgroup/>.

If you have questions regarding the program or if you would like to join the NPPR P2 intern work group, contact Nancy Larson, nlarson@ksu.edu, 316-660-0104 or David Carter, dcarter@ksu.edu, 785-532-4998.

Pollution Prevention:

Where sustainable practices begin!

GREEN BUSINESS PRACTICES INCREASE WORKER PRODUCTIVITY

A recent UCLA study titled "Environmental Standards and Labor Productivity: Understanding the Mechanisms that Sustain Sustainability" found that workers in companies that adopt green practices and standards are 16% more productive than the average. This is due to the increased appreciation that workers have for their workplace and the resulting

increased motivation.

Companies with green certifications boost morale and productivity, and make them more attractive for potential employees. The study also found that green companies have more advanced employee training as well as greater interaction among coworkers. There is an increased desire for young em-

ployees to work for a company that has good training, coworker interaction and a strong social conscience, making green companies attractive options.

This study determined productivity by taking a company's profits and dividing it by the number of employees in order to get the average value of production per employee. Green com-

panies had a difference of one standard deviation from the average, or 16% higher-than-average, in labor productivity. This study is an example of the economic and environmental benefits of sustainable business practices.

View original article: <http://www.enn.com/business/article/44932>

QUICK REDUCE, REUSE AND RECYCLE TIPS FOR THE HOLIDAYS

Following these tips during the holidays is environmentally and economically friendly.

Reduce:

- Use LED lights, as opposed to the traditional tree lights that consume huge amounts of energy.
- Burn more candles, turn on less lights.
- Cut back on the holiday card list, or send cards electronically.
- Make gifts! Bake, knit, paint, sew, etc.

Saves money and reduces waste!

Reuse:

- Host a Yankee swap where guests can trade lightly used items as gifts.
- Use the comic section of the newspaper as fun wrapping paper.
- Make gift tags from scraps of wrapping paper or old holiday cards.
- Use family heirlooms as ornaments, or buy them in thrift stores.

- Purchase a synthetic tree and decorations that can be reused year after year.

Recycle:

- Donate old toys and clothing or, get together with friends and give to a charity as opposed to giving gifts to one another.
- Use recyclable materials for packaging gifts.
- Purchase uncoated giftwrap that can be recycled or burned safely.

- Use a shredder to turn a Christmas tree into mulch.
- Save wrapping paper, tissue and boxes for crafts and gifts throughout the rest of the year.

For more tips:

<http://www.planetpals.com/green-holidays.html#greenings>

A MORE SUSTAINABLE WORLD CUP IN 2014

The UN has urged FIFA to have a “green” Brazil World Cup. As a result, Brazil has pledged to hold the first World Cup in which all the stadiums have green certifications. The 2014 World Cup will improve from that of 2010 by referring to a UNEP study of the South African World Cup as a starting point for improve-

ment. Brazil can learn from past events such as this to help it sustainably prepare for the 2014 World Cup and the 2016 Summer Olympics in Rio.

In the UNEP report, FIFA was criticized for not investing enough in environmental management, and was encouraged to find ways to compensate for its carbon

footprint during the World Cup. The green stadium certifications for 2014 will focus on the reuse of demolition material, efficient lighting, energy use and water management. On the bright side, the 2010 Cup’s carbon footprint was lower than projected thanks to fewer visitors than expected, carpooling and Park and Ride schemes, and efficient energy use

stadiums. As a result, we can hope for an even more sustainable World Cup in Brazil in 2014.

View original article: <http://www.mnn.com/lifestyle/responsible-living/stories/un-urges-fifa-to-do-more-to-ensure-green-brazil-world-cup>