



DOWN TO EARTH

October 2009

A joint newsletter from Durham Public Works and Durham Integrated Waste Management Advisory Committee

The Natural Step: Sustainability Principles to Help Us Think and Decide

by Ellen Karelitz

We know we are facing environmental crisis. More and more the words, “sustainability”, “climate change”, and “green” are in our conversations. And - we are taking action. Plans for wind farms, solar collectors, and battery operated cars are proposed and, in some cases, implemented. But in spite of these good intentions, there are still confusing difficulties. A wind farm is proposed in Northern Maine and is opposed by the Audubon Society. Wait! Shouldn't these two groups be allies? The problem is that all lives are interconnected. What is good for one life may not be good for another. This is true even as we strive to preserve *all* lives. So, how do we decide the right course? We can use The Natural Step Sustainability Principles as our guide.

In 1988 Swedish doctor and cancer researcher, Karl Henrik Robert set out to tackle the problem of environmental degradation. Concerned at the increasing levels of disease he was seeing in his patients, Dr. Robert decided to write a “consensus” report and send it to leading researchers, scientists, and colleagues in his country for critique. When he got the results from his peers, he rewrote the report incorporating their ideas and sent it out again. He did this 21 times, patiently considering and revising each time—until, on the 22nd try, he and his peers finally arrived at a consensus about four sustainability principles:

1. Reduce wasteful dependence upon fossil fuels, scarce metals and minerals.
2. Reduce wasteful dependence upon chemicals and synthetic substances that accumulate in nature.
3. Reduce encroachment upon nature.
4. Meet human needs fairly and efficiently.

These objectives are simple, yet comprehensive guidelines for decision making. Evaluating action and policy according to these principles would be a profound change of priorities; but the experiences of communities in Sweden have demonstrated that the result in reduced waste, increased energy production, and improved quality of life, is well worth pursuing. These successes are documented in the book *The Natural Step for Communities* by Sarah James and Torbjorn Lahti, available at River Run in Portsmouth.

U.S. citizens waste, or cause the waste of nearly one million pounds of earth materials per person per year! Less than 2% of the total waste stream are ever recycled. Only 1% of North American materials end up in products that are still being used 6 months after their sale! It is important to continually reuse product materials already in circulation before subtracting and consuming virgin materials that will be needed by future generations.

In 2007 the City of Portsmouth adopted the sustainability principles to become the first “Eco-Municipality” in the seacoast. All of the managers and committee heads in city government have received training in the Natural Step principles and how to implement them in the decision making process. The goal is to make comprehensive decisions about sustainability practices that make sense for all parties.

Here in Durham, we have a front row seat to observe how Portsmouth uses the 4 principles to support sustainability in their community. But, Durham could do more than just watch other communities move forward.

TNS CONTINUED ON PAGE 7

The Native Step

by Chuck Baldwin



When I first heard of “The Natural Step”, the image of a Native American Indian walking quietly along a narrow path came to mind. Our “native” founding fathers had a reverential respect for nature and no adverse impact on the environment for hundreds of years. Using only what they needed, the raw materials of nature were utilized to exhaustive purpose. The Earth was for everyone’s use but not “owned” anymore than the Sea or the Sky.

It’s hard to fathom how far off the path of sustainable living we’ve travelled; progressively increasing our dependence on others for all manner of products and services. Most of us have developed specialized skills and have gradually lost touch with our inner Yankee. We’re more likely to replace than repair, often purchase on impulse, and demand the maximum in comfort and convenience without sufficient regard to wasteful consequences.

In each economic cycle we reflect back on our excesses ... then begin the process anew. To become better stewards of both our economy and our planet we need to make good sustainable choices that reduce waste and our demand on energy . So, let’s put on our moccasins and imagine the world we could be walking in together.

Think beyond your household to the upstream waste created in the extraction, production, packaging, transportation and selling of all the stuff you bought. For example, the No Dirty Gold campaign explains that there are nearly two million tons of mining waste for every one ton of gold produced; that translates into about twenty tons of mining waste created to make one gold wedding ring.

Extracted from Natural Capitalism, 1999, p.81

Upstream Waste

by Heather Harvey

What is it?

Upstream waste is created during the procurement of raw materials, production, packaging, transportation, and selling of each item purchased. For every 1 garbage can of waste a resident puts out to the curb, 70 garbage cans of waste were created upstream.¹

What can we do about it?

Think about every purchase. Ask yourself ‘Do I really need it? Is there a used or borrowed version that will suffice?’ Check out the Swap Shop at the Transfer Station, yard sales, consignment, Goodwill, Habitat ReStore, online websites such as Craig’s List or Freecycle, and rentals. Buy only what you need.

Choose a product based upon longevity. Although it may be more expensive than a cheaper item, if it lasts longer,

it is cheaper over its lifetime and has less environmental impact (not replacing as often). This includes foregoing many products touting “disposable”. Look for products with recycled content, especially those with a higher post-consumer percentage.

Buy Local. The closer the product is to home the less transportation associated waste is created.

Select products that use less packaging, including buying in bulk. When buying in bulk, bring a reusable container and have the store weigh it before filling. Don’t forget to bring shopping bags. If you forget the bags, bring the cart to the car, unload, and then bag them once you are home to get them inside.

UPSTREAM CONTINUED ON PAGE 7

¹ “The Story of Stuff”, Annie Leonard.










FALL 2009

Durham Public Works News



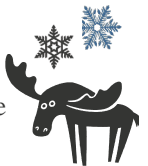
Fall Leaf and Brush Curbside Collection

-  Curbside collection of leaves and brush will begin on Monday, **November 9, 2009**. Everything must be curbside **no later than 7AM**.
-  Leaves should be placed in **paper leaf bags** (remember, plastic bags are not recyclable). Paper bags may be purchased at the Durham Marketplace, Home Depot or Lowes. Loose leaves **will not** be accepted but may be brought to the Transfer Station & Recycling Center on Durham Point Road.
-  Brush should be placed in one direction, bundled and tied with string (no wire please).
-  **Brush and limbs must be no greater than 5 feet in length and 5 inches in diameter. No stumps will be accepted.**
-  The amount of brush and limbs is limited to **one truckload per household**.
-  Cutting off small limbs from branches will help maximize each load.
-  Remember, backyard composting your leaves and brush reduces the flow of waste, while at the same time, producing valuable organic matter for the soil. It improves your soil and the plants growing in it.



Winter Weather Preparations

- * Store drinking water, first aid kit, canned/no-cook food, non-electric can opener, radio, flashlight, and extra batteries where you can get them easily, even in the dark.
- * Keep vehicles fueled and in good repair, with a winter emergency kit in each. Winterizing your car keeps it in top operating condition and also improves its safety and fuel economy.
- * Winterize your house, barn, shed, or any other structure that may provide shelter for your family, neighbors, livestock, or equipment. Install storm shutters, doors, and windows; clear rain gutters; repair roof leaks, and check the structural ability of the roof to sustain heavy weight from the accumulation of snow or water.
- * Know how to turn off your gas, electric power, and water should an evacuation be necessary.
- * Know how to reach other household members, through a common out-of-state contact, in the event that you have to evacuate and become separated.



Snow Plowing Information



Frequently, mailboxes are damaged by snow pushing against the post or box. Mailbox posts often rot at the ground and are easily pushed over. Now is the time to check these mailboxes and ensure that they are sturdy and back far enough away from the road so that snow will not damage them. Untreated wooden posts only have a life expectancy of 2 to 3 years. **Replacing a rotten post is the homeowner's responsibility. Check post conditions now to avoid damage this winter.**

If your fence is within the Town's Right-of-Way (ROW), snow banks may damage it. Most roads have a 50-foot ROW, meaning anything closer than 25' to the center of the road is likely in the Town's ROW. Any such fences, shrubs, landscaping, etc. are at risk of damage, particularly when snowfall is heavy. Such items in the Town's ROW should be moved back. Snow related damage to these items are the owner's responsibility. Please call the Department of Public Works at 868-5578 to discuss items that you may be concerned about.

If your mailbox is hit during a storm, the Public Works Department will do its best to make temporary repairs after the storm ends. If it needs replacement, we will replace it with a standard mailbox when possible.



Winter Safety Tips

- There is **NO PARKING on any Town road from November 1st through April 1st between the hours of 1AM and 6AM.**
- Be sure cars are well off the road and not in the area where the snowplows or emergency vehicles may need to turn around.
- Remember, if you are following a snowplow and can't see the truck's side mirrors, it's likely you are too close for the driver to see you.

For more winter storm information visit <http://www.fema.gov/hazard/winter/index.shtm>

Durham Parks & Recreation Department

The Durham Parks & Recreation Department is growing! The classes that we are currently offering include...

- Get Walking in Durham (general fitness class)
- USTA Youth QuickStart Tennis
- Monday Night Yoga

This fall we will start offering classes in the area of....

- Tai Chi
- Zumba
- Pilates
- Stability Ball Training
- Youth and Teen Arts and Crafts



Please stay current with all Parks & Recreation programs by reading Durham's Friday Updates, visiting the P&R website (www.ci.durham.nh.us/COMMUNITY/recreation.html) or by becoming a fan of P&R on Facebook (search: Town of Durham Parks).

For more information, contact Director Michael Mengers at (603) 817-4074 or mmengers@ci.durham.nh.us

HAUNTED TRAIL WILL SCARE ... ENTER IF YOU DARE DURHAM SPOOKFEST

HALLOWEEN NIGHT, SATURDAY, OCTOBER 31

5:30 PM TO 7:30 PM

JACKSON'S LANDING, OLD PISCATAQUA ROAD, DURHAM



PRIZES FOR BEST
HOMEMADE
JACK-O-LANTERNS
(BRING THEM ALONG)



PRIZES FOR
BEST
COSTUMES

MAKE YOUR
OWN CANDY
APPLES

PUMPKIN
DECORATING
CONTEST

SPOOKY
COLORING
CONTEST

5:30 PM: LITTLE DEVIL COSTUME PARADE

6:00 PM: HALLOWEEN PINATA PARTY

6:30 PM - 7:30 PM: ENTER IF YOU DARE HAUNTED TRAIL

OPEN TO ALL OYSTER RIVER FAMILIES
FOR MORE INFORMATION CONTACT PARKS & RECREATION
DIRECTOR MICHAEL MENGERS AT (603) 817-4074

DURHAM PARKS & RECREATION DEPARTMENT



The Seacoast Area Renewable Energy Initiative (SEAREI)

Members of the Seacoast Area Renewable Energy Initiative (SEAREI) and the Durham Energy Committee installed a solar thermal system at the home of Kevin and Sheila Gardner on Sunday August 30th. Some 15-20 volunteers from Durham and surrounding towns converged at 1 Stevens Way on Sunday morning (after postponing to allow Danny to pass by). Teams set to work to get frames installed on the roof, plumbing completed in the basement, and pipes installed to carry heat from the roof to the basement. At noon the workers took a break, and a dozen or more Durham residents stopped by to check out the action, to learn about SEAREI and solar water heating technology.

The system was completed and already heating water by 4:00 that afternoon. The Gardners have had 100% of their domestic hot water produced from solar since that day. For extended periods of heavy clouds (hard to imagine, I know), there is a backup electrical element to provide hot water.



Durham residents hear from Ann Bliss, one of the founders of the SEAREI organization.

The Gardner's are looking forward to the 30% rebate on their federal taxes this year, which will drop the price for the new system to approximately \$4,000. It is expected to pay for itself in pure monetary terms in approximately 5 years. However, this does not include valuation of pollution avoidance and the peace of mind that comes with doing the right thing, reducing our environmental footprint, and taking long, hot, showers almost guilt-free (there is the water use to consider, of course).

The first energy raiser by SEAREI members was a 2 KW photovoltaic system at the home of Kevin Beane and



Volunteers and the homeowner install one of the 50 Apricus tubes, the last step in the process.

Melinda Salazar in Durham. SEAREI is a not-for-profit organization designed to promote cooperation and affordable renewable energy systems for homeowners in the Piscataqua region of New Hampshire and southern Maine. Its mission is to prepare communities to contribute to a sustainable 21st Century by increasing the community's accessibility to renewable energy. While a young organization, SEAREI has installed two solar thermal systems and two solar photovoltaic systems since it began in June.

SEAREI is modeled after the traditional New England style "barn-raising" of neighbor helping neighbor. SEAREI was formed in 2009 by members of the Piscataqua Sustainability Initiative (PSI) in partnership with the Plymouth Area Renewable Energy Initiative.

Make a Difference

On Wednesday, September 30, Ken Baldwin, Director of Ocean Engineering, gave the latest energy presentation at the Durham Public Library, entitled "Wind, Tidal and Current Energy". The presentation was informative, interesting and well attended.

If you are interested in making a change for the better in our energy use, consider getting involved with the Durham Energy Committee. The DEC is planning many fun and interesting projects through its project subcommittee, and we welcome your interest. Contact Nat Balch at 659-6355 for more information on how to participate!

Natural Step Survey Responses

by Matthew Courtland

The Durham Integrated Waste Management Committee interviewed several Durham residents who have participated in a Natural Step Study Circle. The following comments represent what several Durham residents have to say about TNS.

IWMAC: What would you like the residents of Durham to know about The Natural Step program?

DR: For me, The Natural Step offers a kind of holistic working ‘road map’ on how to think about greening our communities so we can begin to live much more sustainably. Knowing that Sweden created the model (and book) about how to do this process, and then successfully educated their population about how to put it into practice, has been invaluable and given me a lot of hope that we can do it, too.

FG: The Natural Step is a carefully worked out way of getting the general public to understand what “conditions” we must meet to obtain a sustainable society - a goal we should all be concerned about achieving since human survival and the survival of life on earth depend on how we conduct our lives.

CN: Natural Step provides a frameworks and context and a common language that can inform all municipal decision making. We can also learn from the experience of other towns like Portsmouth and Keene who have adopted some of the Natural Step policies and practices.

IWMAC: What parts of the program are you still thinking and talking about with friends and family?

DR: We’ve all been trying to be ‘green’ for quite awhile, but attending a Study Circle expanded my understanding of sustainability on a much deeper, broader, and holistic level. I think people who learn about TNS truly understand how everything is connected and that what anyone does, positively or negatively, affects everyone and everything else on the planet.

IWMAC: Have you changed anything in your life because of the program?

DR: I shop differently, away from packaging that can’t be recycled. We don’t produce as much trash. I use cloth bags. As much as possible, I buy locally grown and produced food. We’ve powered down significantly and our electric bill is 42% lower than a year ago. I no longer use my dryer, just my clothesline. We use CFL bulbs. I doubled the size of our (organic) vegetable garden and planted 6 blueberry bushes instead of ornamental shrubs. We compost and have 3 rain barrels that we use to water the gardens. I have 6 chickens now, raised organically for their eggs.

FG: We built a small house, using wood heat. We drive small efficient cars and try to keep mileage as short a possible,. Now we are trying to cut our vacation travel in half to reduce our total green house gas emissions.

IWMAC: Would you recommend that the Durham Town Council and other Durham residents participate in The Natural Step program? Why or why not?

DR: Yes, it would be valuable for as many people as possible for as many people as possible to participate in a TNS Study Circle. For me, learning about TNS was really a rejuvenating experience because attending a Study Circle provided a great way to understand how “to get there from here”; Sweden showed us how they made their country sustainable - and their example is now being used in many other countries. It’s good to feel hopeful again after seeing Sweden’s example, and it’s good to know that TNS is so important in helping spread sustainable practices all over the globe. It was also fun to meet so many other interested and involved people as we all processed this greener, and more sustainable way to live.

FG: I certainly would recommend everyone to participate in the program, especially Town Council and residents so that they understand the ideas and can think about and contribute to solving problems the Town has in successful and sustainable ways. This is not the only way of thinking about the problems, but it is a very significant one and well worth being familiar with.

The Piscataqua Sustainability Initiative www.thepsi.net, offers workshops, study circles and activities to help teach area residents about the challenges of climate change and the solutions. A number of Durham residents have already participated in study circles and

activities but many more community members need to be involved for real change to take place. Now is the time to decide what kind of citizens and consumers we are going to be and what kind of world we will leave our children.

“I don't believe that the solutions in our society will come from the left or the right or the north or the south. They will come from islands within these organizations – islands of people with integrity who want to do something.”

Dr. Karl Henrik Robert

Think Repurpose: Before throwing something out, think if there is another use for it. Check the web for ideas: Craig's List and Freecycle are examples. If someone else may find it useful, bring it to the Swap Shop.

Some more options:

- Reusable cups/mugs/bottles instead of bottled water and Styrofoam cups.
- Use cloth napkins and towels instead of paper, even for cleaning and picnicking.
- Substitute old plates and utensils instead of paper and plastic for outside use. They are usually available at the Swap Shop or other second-hand stores.
- Reusable containers instead of plastic bags, aluminum foil, and plastic wrap. Opt for glass when possible. Glass containers like those made by Anchor and Pyrex are made in the US and are more durable with less toxins than plastic reusable containers. When dining out, bring a container instead of getting the bag, foil, and Styrofoam for the leftovers.
- Pack a lunch using washable/reusable containers.
- Re-use moving boxes instead of buying new ones. Used boxes are available and can be left at the Durham Transfer Station – ask Bonnie or Ray about them.
- Use a multi-purpose cleanser like baking soda instead of a number of different, toxic products. (Baking soda can be used in the laundry, as a scouring powder in the kitchen and bath, as an air/carpet freshener, etc. – check out the web for recipes and more ideas.)
- Compare toxicity of different products.
- Choose rechargeable batteries over disposable ones.
- Borrow books from the local library or friends. Rent textbooks or buy used. Chegg.com offers textbooks rentals and plants a tree for every book rented.
- Consider a handkerchief or bandanna over facial tissues.
- Use cloth diapers instead of disposable ones.

By adopting the Power of One philosophy, even ONE change from this list would make a difference. For more information: www.storyofstuff.com and www.earth911.com

Durham Public Works Dept.
100 Stone Quarry Dr.
Durham, NH 03824
Tel: 603-868-5578

PRSRT STD
AUTO
US POSTAGE PAID
DURHAM, NH
PERMIT NO. 1



CLEANUP- DETAILS ON PAGE 3

Skating Schedule for the Churchill Rink at Jackson's Landing 2009-2010

Public Skating:

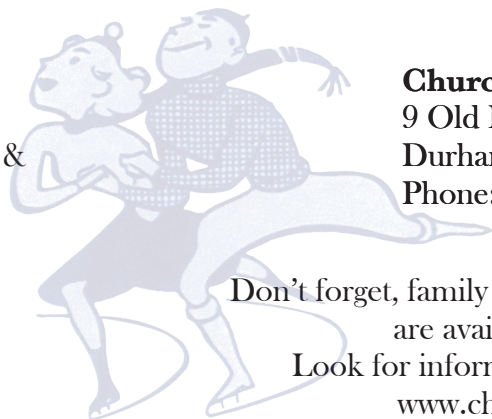
M,W,F- 2:00pm- 3:20pm

T, TH- 9:00am- 10:20am &
2:00pm- 4:20pm

SAT- 2:00pm- 3:50pm

SUN- 2:00pm- 3:50pm

Adults: \$5.00
Ages 6-16: \$3.00



Churchill Rink

9 Old Piscataqua Rd.
Durham, NH 03824
Phone: 603-868-3907

Don't forget, family and individual season passes
are available at the rink.

Look for information on our website at
www.churchillrink.com