

FALL 2012

BANGOR LAND TRUST NEWS

Bangor Land Trust Corporate Council Helps Take Care of Our Planet

For some of our Corporate Council members, conserving Bangor's wild back yard by supporting Bangor Land Trust is just one of the ways in which they take care of our natural environment. They are also finding ways to save energy and thus decrease CO₂ production that contributes to global warming. Superstorm Sandy provided a tragic and dramatic demonstration of what we can expect if we allow our planet to continue warming. And as Dick Andren outlines in his "Nature Notes" (page 7), changing temperatures will have a variable yet profound impact on our finely tuned ecosystems. We humans also depend upon rainfall patterns, climate variables that limit diseases such as Lyme disease and other tick-borne illnesses, and healthy populations of crop pollinators such as honey bees that will be affected by climate change.

Bangor Land Trust thanks our Corporate Council members for their work to take care of the health of our planet. They recognize that we all need to be concerned about where we get our energy and take care to use it wisely. Burning fossil fuels is the primary cause of the increase in carbon dioxide (CO₂) seen in the last 50 years or so. This CO₂ in turn is the primary driver of global warming. It acts like a blanket, trapping the sun's heat, and preventing it from dissipating off into space. This is a global problem, requiring global action. The work of our Corporate Council members challenges all of

us to find and implement solutions. Our local Yankee ingenuity and commitment to solving this problem are necessary ingredients in a global effort and, multiplied in many times and places, can help avoid further catastrophes.

The range of solutions implemented by our Corporate Council members is impressive and we will highlight two of them—Bangor Hydro Electric Company and Maine Distributors.

Bangor Hydro Electric Company is a leader in finding planet-friendly ways to meet our energy and transportation needs through their PowerSmart Maine energy program (more information at www.powersmartmaine.com). Three



examples of their forward-looking ingenuity are:

- Pioneering the use of electric cars. This early adoption of a new technology will help others see the advantages of this type of



Bangor Hydro's environmentally friendly Chevy Volt

vehicle and build a critical mass of consumers to support the installation of specialized charging stations to make charging faster and more convenient

- Promoting through loans and rebates the use of electrically powered air-to-air heat pumps for supplemental home heating
- Showing customers their electricity use by day and hour online, with a plan coming soon to offer lower off-peak rates which will save not only money for all customers but also energy resources. Smoothing out the 24-hour demand curve for electricity makes more

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BOARD OF DIRECTORS

President's Letter

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Dear Members,

Please consider with me the benefits of getting lost. That is precisely what our frequent trail users asked our board to do soon after we received Walden-Parke I. They told us they did not want marked trails and published maps. They liked being challenged and relying upon their own powers of observation, spatial memory, and orientation. They thought it would subtract significantly from their enjoyment if it was too easy to find their way. After some reflection, we understood the message. As a result, Walden-Parke now has the Blue Trail, - wide, mapped, and frequently marked with blue tags, - and a series of unmapped single-track trails with minimal signage, just enough to encourage users not to stray from them. For at least a year after we received Walden-Parke I, I received cell phone calls from people who were lost and wanted me to tell them how to find their way - while I was enjoying comfort of my own home! And in fact, all it took was a few words of reassurance. We haven't permanently lost anyone yet.

I've been lost a number of times on our preserves. It has never frightened me. I always know that somehow I will find my own way home. The animals in Bangor's woods are not particularly anxious to challenge people unless intruded upon. These experiences have made me think about different ways of orienting myself in woods so close to roads and houses. Should I use natural features, such as sun, vegetation, topography? Should I rely on clues from the developed area, such as traffic noise? Should I turn to man-made instruments, such as a compass or GPS? Or should I follow traces left by other humans - blazes or flagging tape? The setting sun has guided me home several times from Walden-Parke II. The Essex St traffic has oriented me in Central Penjajawoc Woods - a good thing, because I once got so turned around that I came across a stream that I was sure must be flowing uphill, away from where I thought Penjajawoc Marsh must be!

Several weeks ago I wandered for two full hours in Central Penjajawoc Woods, looking for the trail that our crew was cutting. Because some of the land had been permitted for development, it was full of orange and pink surveyor's tape, marking house lots and wetland edges, but not the trail I was looking for. So much for human-placed signs! I consulted my compass, only to find that the needle pointed to my heavy pruning shears. I finally found little piles of sawdust and followed them, like Hansel and Gretel's breadcrumbs, to where the trail crew was hard at work.

A friend of mine thinks that the best de-stressors are activities for which evolution has prepared us. These include engaging all our senses in finding our way in the woods. Furthermore, having to orient oneself in space provides healthy exercise for one's brain. In truth, I found my interludes of being lost to be very welcome respites. It's pretty special to live in a city with a wild back yard big enough to allow you to enjoy the challenge of getting lost.

With many thanks for all your support, and happy trails!

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Bangor Land Trust Corporate Council Helps Take Care of Our Planet

efficient use of our generating capacity.

By making it easier and more efficient to use electricity as an energy source, Bangor Hydro is creating an opportunity for a variety of energy generators to provide the most environmentally friendly energy – whether from combustion, solar, wind, or water.

Maine Distributors has:

- Upgraded to energy efficient lighting controlled by motion sensors, decreasing their electric bill by 30%
- Switched to heating by natural gas, which costs less and may heat with lower total greenhouse gas production than oil
- Switched to an invoicing system that uses 90% less paper
- Continued to support bottle and can redemption and recycling – keeping our roadsides clean as well as saving significant amounts of energy that would otherwise be required to manufacture these containers from raw materials.

Responsible planetary stewardship is not about doing less, but rather about focusing our creativity and ingenuity to find and disseminate new, more environmentally friendly ways to do the things we want to do. As the environmental essayist Gary Snyder said, “Nature is not a place to visit, it is home.” What sort of home we will live in depends on how we take care of it.

**BANGOR LAND TRUST’S
ANNUAL MEETING WILL BE
HELD IN FEBRUARY 2013.
WATCH YOUR EMAIL IN-BOX
FOR MORE INFORMATION.**

Tips for Staying Safe in the Woods

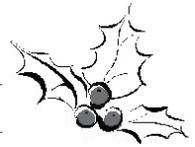
- Dress for the weather
- If exploring an unfamiliar area, start early in the day
- Tell someone where you are going
- Stay on marked trails
- Take water and a snack
- Wear blaze orange during hunting season
- Consider using a compass or GPS, and familiarize yourself with any equipment ahead of time
- Use insect repellent and tick precautions
 - Wear long pants tucked into socks
 - Wear light-colored clothing with long sleeves
 - Wear a hat
 - Don’t bushwhack or sit on the ground
 - Take a shower and examine your body for ticks when you get home

For more information about ticks and Lyme Disease prevention, please visit <http://www.cdc.gov/ticks/>

DO YOUR CHRISTMAS SHOPPING EARLY

GIVE AN ANNUAL MEMBERSHIP TO BANGOR LAND TRUST

Share your love of the land. Use the form here to send with your payment to Bangor Land Trust, PO Box 288, Bangor, ME 04402. The new member will receive a gift message from you inside their new Bangor Land Trust membership package (certificate of membership, Bangor Land Trust decal and trail information). Call 942-1010 for more information.



Name _____
 Address _____
 City _____ State _____ Zip _____
 Phone _____ Email _____

Please enroll the above at the following level:

- | | | | |
|--|-------------|-------------------------------------|-------------|
| <input type="checkbox"/> Individual/Family | \$35 | <input type="checkbox"/> Benefactor | \$500-\$999 |
| <input type="checkbox"/> Supporter | \$100-\$249 | <input type="checkbox"/> Founder | \$1000 + |
| <input type="checkbox"/> Patron | \$250-\$499 | | |

Name of Membership Gift Giver _____
 Address _____
 City _____ State _____ Zip _____
 Phone _____ Email _____
 Message _____

- Please contact me: I would like to volunteer
 I am considering a land gift or easement
 I am naming Bangor Land Trust in my will
 This gift is in honor or memory of _____



Pedal the Penobscot Supports Bangor Land Trust & Bangor Bikers

Each year's Pedal the Penobscot is better than the year before, and 2012 was no exception. An energetic 164 riders participated, undaunted by weather that threatened to be showery but in fact turned into perfect riding weather – cool enough for vigorous exercise. All our riders completed the course without any mishaps more serious than several flat tires. Everyone looked very happy with their family and friends at the Sea Dog, relaxing and enjoying the barbeque provided by Larry Killam and his crew.

The 2012 Pedal the Penobscot benefitted from the support of over 40 volunteers. In addition the Pine State Amateur Radio Club provided assistance and an extra margin of safety by riding with their radios in the sag wagons. The Husson University lacrosse teams brought great spirit and extra good feelings to the finish line.

This ride is vitally important to Bangor Land Trust: (1) rider fees and corporate sponsorships help to pay our operating expenses, (2) Pedal the Penobscot reminds our whole community that biking is fun, and an important element of Bangor's healthy outdoor lifestyle, and (3) having an e-mail list of bikers in our area allows Bangor Land Trust to send out an alert when there is an opportunity for biking advocacy. For example, in March 2012 the Department of Transportation held a hearing at City Hall about plans to repair the Webster Avenue bridge. Several Pedal the Penobscot bikers who received a Bangor Land Trust alert testified about the importance of this biking link between Bangor and Hampden.

Together with the City of Bangor, our Bangor Trails partner, Bangor Land Trust is working to implement a city-wide bicycle-pedestrian trail system and make Bangor's streets more bicycle-friendly.

Mark your calendars for next year: September 8, 2013.



Please support our Corporate Council Sponsors:



And Pedal the Penobscot Sponsors:



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Beal College
Woodard and Curran







Laura Millay and her son, Simon, doing trail maintenance.

Biologists and others have long suggested that biodiversity and wildness are good for the mind and spirit (e.g., E. O. Wilson’s “biophilia” and Richard Louv’s “nature deficit disorder”). Could there also be a connection between biodiversity and the health of our bodies—in particular, allergies and autoimmune disorders? Such a connection may seem far-fetched, but in May 2012 a study was published (Hanski et al. *Proc. Natl. Acad. Sci* 109: 8334-8339, available online) by a team of Finnish researchers,



including an award winning ecologist, molecular biologists, microbiologists, and botanists, that showed just that. They found that there was a clear association between children in Finland growing up with forests and agricultural lands within three kilometers of their house and fewer allergies. In addition, there was a clear association between a higher diversity of native plants in the yards of the homes and fewer allergies. The study even found a plausible mechanism for the effect: increased biodiversity around the homes correlated with higher diversity of a particular group of bacteria on the skin of the study participants. Those bacteria had previously been shown to lead to higher levels of a cytokine which acts to enhance the immunological tolerance necessary to prevent allergies and autoimmune disease.

How biodiversity in surrounding plants leads to biodiversity in bacteria residing on the skin is not known, but it is reasonable to think each species of plant may harbor its own cluster of bacterial species. These species are transported in the wind on dust particles or pollen particles to reach the

homes and yards where the children were growing up. Perhaps the body’s immune system needs to be exposed to a wide variety of bacterial species in order to learn to distinguish innocuous from bad ones. Without such proper “training” the immune system makes mistakes and attacks the body’s own cells (autoimmune diseases such as Crohn’s disease, rheumatoid arthritis or multiple sclerosis) or over-reacts to allergens such as in asthma or eczema (*Conservation Magazine* 13(3), pages 16-21: “Letting Biodiversity Get Under our Skin”).

Thus there may be other reasons to want diverse forests and agricultural land near our cities besides their beneficial effect on our mood. It could help to prevent the recent alarming rise in allergies and autoimmune diseases. This idea resembles and builds on the “hygiene hypothesis” first put forward in 1989: kids that grow up in “clean” urban environments are much more prone to allergies than kids that grow up in the “dirty” environments of farms. According to this hypothesis kids had the right idea when they said they wanted to play in mud puddles, roll around with the dog, or play in the woods. Parents that said their children had to stay indoors and wash often with antibacterial soaps were increasing their kids’ chances of allergies and autoimmune disease down the road!

If biodiversity in our surroundings is important for health, as Hanski et al.’s study suggests, what does that suggest about how we should live our lives? First, consider giving up the use of antibacterial soap. Second, if you have a yard, consider letting a wider variety of plants grow there instead of a plain lawn. And third, get out into wild nature as much as you can - visit the preserves of Bangor Land Trust and Orono Land Trust and the Bangor City Forest.

Let's hear it for the sun! In addition to affecting rainfall and other climate patterns, and providing breakfast lunch and dinner, skin cancer, and color to the world, the sun provides the energy to power nearly all the ecosystems on earth.

The natural progression for matter is toward increased disorder (increased entropy) - just look at my desk! It takes energy to maintain order everywhere. Living organisms and biological systems are highly organized atoms, molecules, cells, organs and organ systems. Humans are composed of trillions of cells and host to trillions more bacterial cells - all working in concert. That's what your lunch is doing - maintaining order. It is the sun that ultimately provides the energy to biological systems through photosynthesis - converting light energy (which cannot be stored) to chemical energy (which can be stored). The sun also plays another crucial role as time-keeper, alarm clock, and calendar. Organisms respond not only to the rhythms of day and night but also to day and night length.

In temperate climates especially, the length of the daylight hours varies in a regular and predictable pattern. There have been only slight alterations in this pattern for millions of years. Measuring the length of the day (or the length of the night) has evolved separately in many temperate region organisms. This periodicity allows them to time events to coincide with favorable environmental conditions for activities such as flowering, forming buds,

dropping leaves, and storing food. The sun's energy striking molecules within cells changes their chemical properties which in turn leads to a cascade of chemical (hormonal) events that result in spring flowers or fall flowers or brilliant leaf color or seeking a den for the winter. These processes in plants are fairly well understood - but not so in animals.

Many birds in our area migrate to more suitable climates in search of food and protection during our winters. Shortened day length results in chemical changes that dramatically alter the bird's physiology. These specific signal molecules change shape, and therefore function, when light energy is reduced. This results in increased fat deposits, specific orientation to star maps, increased pectoral muscularity, and changes in food preference, among other things. The specific molecules involved are not well understood at this time. All the other animals that change behaviors according to the seasons must have some molecules that are affected by the amount of energy coming from the sun at specific times. These animals are not making conscious decisions. These behaviors are determined by external light energy signals.

Climate change has affected temperature patterns but not day length. Scientists have documented certain problems for birds as the relationship between temperature (which influences the flowers and insects that birds depend on for food) and day length (which triggers migration) changes. Spring flowers and insects arrive and disappear in some areas before the lengthened day length has triggered bird migration. Internal clocks and climate may be out of whack for a while as weather patterns change. It is unclear at this point how much flexibility is built into these control systems - but we are going to find out as our planet undergoes major changes.



Bangor Land Trust is pleased to welcome Donne Sinderson as our new office manager. She came on board in early September, just in time to use her considerable organizational talents to manage our highly successful Pedal the Penobscot Road Ride. Having organized the FinishLynx Orrington 10K & Fun Run for four years, Donne is an enthusiastic supporter of community sporting events. She and her German Shepherd, Drifter, have been happily exploring Bangor Land Trust's trails.

In June 2012 we moved across the street into a beautiful new office on the fourth floor of 8 Harlow Street (the Pearl Building). The move gives us much more comfortable meeting space, as well as better storage for files and the equipment needed for our many projects. Please come visit us!



Have a
Happy Thanksgiving!

Hike, run or bike off those extra
calories on a
Bangor Land Trust trail.



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info@bangorlandtrust.org

BANGOR LAND TRUST'S MISSION:

“Protect for public benefit
land and water in the Bangor region
that have special ecological, natural,
scenic, agricultural, or recreational
significance while increasing public
understanding of the value of
land and water conservation.”



Incoming Resident Assistants at Husson University generously pitched in and moved half a ton of rocks to fill mudholes in the Northeast Penjajawoc trails. It takes a community to care for our wild back yard and our volunteers know they have truly made a difference!