CAYUGA LAKE WATERSHED

2016 i2

Network News

It takes a Network to protect a watershed.

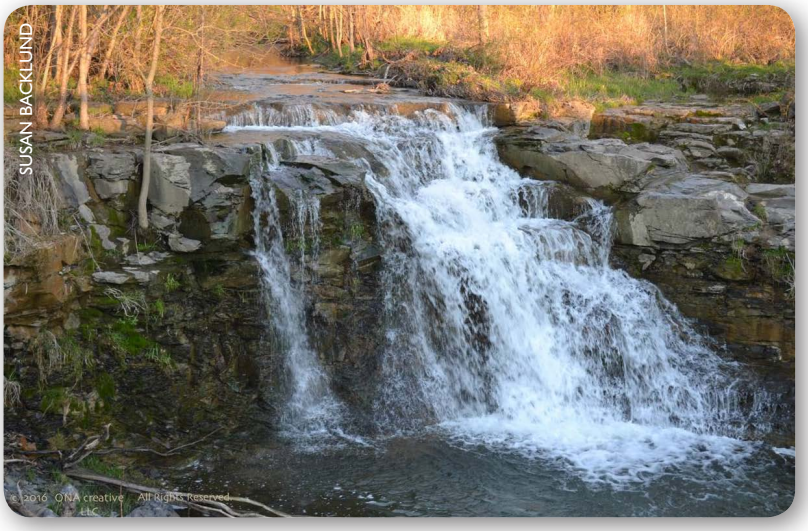
Celebrating The Magic of Water H_2O

Mel Russo *Finger Lakes area naturalist and life-long resident*

Water is a polar molecule. It has a partially negative pole at the oxygen end, and two partially positive poles at each of the hydrogen ends. This polarity of the water molecule is caused by the unequal sharing of electrons between the atoms, oxygen getting the best of it. It is for this reason that ionic substances such as table salt, phosphates, and nitrates as well slightly polarized materials like sugar and alcohol will dissolve in water.

The resulting attraction between the oppositely charged ends of the water molecules allows this substance to exist as a liquid at temperate atmospheric conditions even though this molecule is much lighter (water, or H_2O, weighs 18 amu (atomic mass units) than temperate gases like carbon dioxide (CO_2, 44 amu) and sulfur dioxide (SO_2, 64 amu). The extra, inter-molecular attraction of water molecules is also responsible for the extra energy required to change the phase of the water from solid to liquid (40 calories/gram) and from liquid to gas (240 cal/g). In the first instance, ice to liquid, the crystal lattice must be broken. In the second, liquid to steam, the molecules must be separated to a greater distance, using more energy to break the inter-molecular attraction.

Fortunately, unlike any other worldly substances, H_2O gets less dense as it gets colder than 39.2 degrees Fahrenheit, thus allowing ice to float and lakes to freeze from the top down instead of from the bottom up. Otherwise, warmer water will float as the temperature rises above 39.2 degrees, allowing lakes to stratify thermally in summer. In later springtime "summer stratification" begins with the warmest water floating to and staying on the top, upper regions of the lake (epilimnion), then layering out by decreasingly colder temperatures going towards the bottom. After this, the temperature continues to decrease, but does so uniformly and incrementally with increase unit of depth (thermocline**), until reaching the coldest water in the lower regions of the lake, known as the hypolimnion (39.2°). This is the heaviest and most dense water. The hypolimnion makes up the vast, profundal zone or bottom region of our lakes.



One of many invigorating water phenomena that can be encountered along the Cayuga Lake Scenic Byway. This waterfall is just uphill of Route 90 on the east side of Cayuga Lake, Town of Ledyard.

There is, however, a more interesting quality of this unusual, earthly substance. Nearness to trickling streams, rivers, lakes, and especially waterfalls is naturally magical to humans and probably other animals. This is because H_2O, particularly when moving, creates a type of harmless electromagnetic radiation known as "negative ions" or an "ionization" of the air in the immediate vicinity of this liquid. The presence of these infinitely tiny, charged particles in the

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The Littoral Zone

The littoral zone is that three dimensional outer, shallower region of a body of water, including the shore, where most of the life activities take place. These writings originate from the "Littoral Zone."

Celebrate our water

Embrace the Lake!

The extended springtime (succeeded by a worrisome drought in June) resulted in a lot of creek and lakefront cleanups by our volunteers and other good groups. Ithaca paddler Paul Closs and others led at least five (maybe more, we lost count) paddler community cleanups around Cayuga Inlet, Stewart Park and in the so-called Jungle area off Meadow Street. Along Dryden's Fall Creek and Virgil Creek, Network member Dave Sprout led two cleanups in May, on Pinckney Road and Spring House Road.

In the village of Aurora on the lake's east side, Network Board member Eric Devin led the Poplar Ridge Meeting of Friends for a creek and lakefront cleanup. He reports: "We had six participants and one dog for our project this year, and a member of Poplar Ridge Meeting volunteered his dumpster for the trash we collected. We got 9 bags of trash, two tires and numerous rusty metal objects. The odd item of the day was a very nice bicycle that might well have been stolen property—we're checking with Wells Security to see if it might have been reported missing. If we can't find the owner, we'll donate it to someone who can repair it and find a good new home for it."

On the west shore, our sister organization Adventures in the Finger Lakes, led by Kristen Moore, organized a cleanup on April 2 of the roadside rest area on 89 just north of Frontenac Road. A small stream flows through the site to Cayuga Lake below, and was choked with disgusting trash. Lunch was provided: Thank you Poco & GreenStar! The Network is now proud Adopt-a-Road sponsor of cleanups for this rest area, and will be working with Kristen on west shore activities. Learn about her Adventures here: https://adventuresinthefingerlakes.com/2016/ .

Early April cleanup of the roadside rest area on route 89. Thanks to Kristen Moore (center) and her Adventures in the Finger Lakes volunteers! The Network is now the official Adopt-a-Highway cleanup group here, so we'll be back!

The Magic of Water H_2O *continued from cover*

air around water invokes an uplifting sensation lending to a sense of well-being. An additional and most significant benefit is that these ions cleanse the air of positively charged particles including harmful bacteria, viruses, allergens, and spores.

So, besides covering more than 70% of the earth's surface, being essential for life, constituting 70% of your body mass, and being a unique material in itself, water is a magical substance that makes you feel good, by just hanging out with it.

Edited by Susan Backlund.

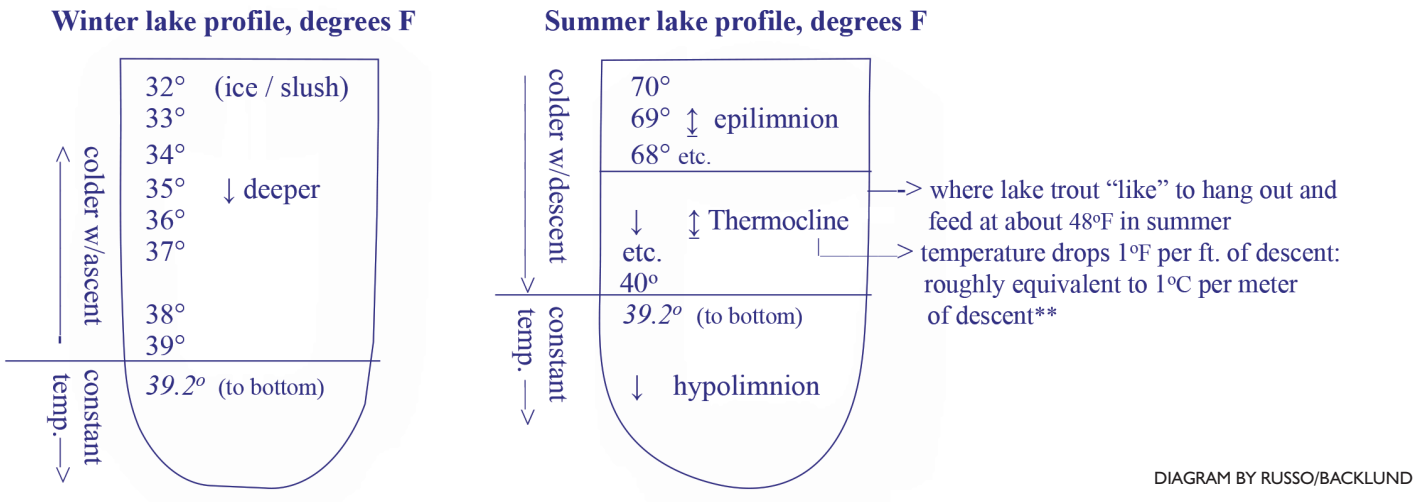

DIAGRAM BY RUSSO/BACKLUND

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The Cayuga Lake Watershed Network thanks Leigh Dezelan of Dezelan Dezign and Pioneer Printing of Lodi for newsletter production excellence.

Nutrient Cycling and Spiraling in Tributary Streams to Cayuga Lake

Maggie Passmore *environmental scientist, retired from USEPA, and fellow traveler on Planet Earth*

Tributary streams play an important role in delaying the transport of nitrogen (N) and phosphorous (P) to Cayuga Lake, thus helping to reduce nuisance plant growth and algal blooms in the lake. Stream water and sediment directly transport N and P downstream but along the way the nutrients interact with floodplains, stream banks, stream beds and biota (plants and animals).

Transport downstream is slowed down as inorganic soluble forms of N and P are continuously incorporated into living tissues of plants and animals and become part of the food chain. These food chains can have many compartments including algae, perennial and annual plants, woody shrubs, trees, bacteria, insects, crayfish, amphibians, fish, birds, bats and other terrestrial animals.

Nutrient cycling through inorganic and organic forms, which occurs simultaneously with downstream transport of water and sediment, means that the pathway nutrients follow downstream can be thought of more as a spiral than a direct line. Animals and plants incorporate nutrients for varying periods of time and then release them back into the water column when they excrete the nutrients or when plants or animals die and decompose.

A typical constrained stream reach nearer the lake with some boulders and large wood and gravel/ cobble bed load, creating small pools that retain water and sediment (and hence nutrients). Midway along Cayuga's west shore.

Sometimes nutrients are transferred from the stream system to the terrestrial ecosystem through the food web. For example, when aquatic insects like mayflies, stoneflies and caddies flies emerge from streams in their winged adult stage, some are eaten by birds and bats. Fish, salamanders and frogs may be eaten by minks, raccoons or herons.

Scientists term the distance that one N or P atom travels downstream in one cycle of uptake and release the "spiraling length." Spiraling length equals the distance an atom travels as an inorganic molecule dissolved or entrained in water or adsorbed onto sediment plus the distance traveled as part of an organic molecule after the atom is incorporated into living plants or animals. The spiraling cycle ends when the nutrient atom is released by the organism back to the water and becomes part of an inorganic molecule again.

In streams, the length traveled in the water column as an inorganic molecule is often longer than the length traveled as an organic molecule in plants or animals, but that depends on the type of animal, and how mobile they are. For example, some fish move much longer distances than aquatic insects or amphibians, but many headwater streams are seasonal and don't support fish populations.

Nutrient atoms can be cycled many times between stream water or sediment and biota before eventually reaching Cayuga Lake. Larger stream reaches (like those found in Fall Creek or Salmon Creek) are also important in nutrient cycling, but small direct-drain headwater streams are numerous in the Cayuga Lake watershed. Scientists have estimated that nutrients travel less than 100 m to a few hundred meters in headwater streams in one cycle. Even in a small direct-drain headwater stream that is only 1000 meters long, N and P atoms might be cycled 5-20 times before reaching the lake.

Many abiotic and biotic factors may affect spiraling length, including the size of the stream, the slope of the stream, water velocity, water flow, water or sediment storage in pools, sediment characteristics, nutrient concentration, interactions between surface and groundwater, season, what kind and how many plants and animals are present in and near the stream, the complexity of the food web in the stream and surrounding terrestrial area, etc.

How these factors actually affect nutrient cycling is not always well understood and the relationships between nutrient uptake and these factors can vary widely depending on the methods used and which nutrients and streams are included in experiments. However, some relationships and mechanisms are more clear than others.

For example, streams with lots of large woody debris or other grade controls like boulders and tree roots tend to form pools that trap sediment loaded with adsorbed P atoms. This means the phosphorous bound to sediments have a shorter spiraling length in streams with more complex habitat, and stay in that stream system longer, compared to a simpler channel where water and sediment flow freely.

So, in our quest to keep excess nutrients out of Cayuga Lake and the other Finger Lakes, it's important to first control the input of excess nutrients at their source through well designed on site septic systems, appropriate treatment of wastewater discharged at sewage treatment plants, agricultural best management practices for storage, handling and application of fertilizer and manure, and

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A Natural Gas Pipeline Across Dryden vs. A Shift to Renewable Energy

Pipeline would impact streams, Fall Creek, wetlands, nature preserve

Marie McRae *is a Dryden farmer, a member of Dryden Resource Awareness Coalition and of the Network, and is on the Solar Tompkins Board of Directors.*

In Tompkins County, the legislature has adopted goals for reduced energy use and carbon pollution reduction that involve a "transition away from natural gas." Achieving the goals rests on a cut in greenhouse gas emissions by 80 percent (from 2008 levels) by 2050.

In our region, as well as in many other areas of the country, new infrastructure designed to carry methane (a.k.a. "natural" gas) is one of the most insidious forms of resistance to that transition. For example, one relatively small pipeline proposed for Dryden has the potential, alone, to increase carbon emissions in the county by a volume equal to 30% of current levels. Planning for expanded infrastructure happens in private board rooms, permitting requests are made to agencies at meetings where there are few public visitors, announcements come in the form of small print legal notices or letters that arrive in mailboxes after the plans, and usually the permits, are all in line. Nevertheless, since December 2014, when New York Governor Cuomo announced a ban against fracking—the industrial activity of extracting methane from deep below our soil using the technique of high-volume, hydraulic fracturing of the rock—most New York residents are feeling comfortable that we have beaten back the dangers and are home free.

NY said NO to drilling destruction

Had we not been willing and able to say a collective NO to the fossil fuel drillers, we certainly would have seen the obvious destruction of environment, community, and local economies that has played out in other parts of the country. However there are four ways that the fossil fuel story affects us—drilling/extraction, storage systems (think about the battle over gas and liquefied propane storage in Watkins Glen), distribution systems (pipelines, rail, and over-the-road transport), and waste disposal (radioactive drill tailings, fracking fluids, and fugitive emissions, greenhouse gases among them). Of those four, only one particular method of methane extraction is banned in NY.

Not all drilling is banned, and, although currently the economics of extraction keeps the drillers operating in other places, there is no ban on moving frack-extracted gas into, and through, NY. Twenty-four hours a day, every day, it flows through the distribution system—an infrastructure that is mostly invisible to those who are lucky enough not to live in the path of a pipeline or next door to the site of a compressor station; infrastructure that will keep expanding, unless New Yorkers stand up to oppose this "business as usual" buildout.

Letters of intent in the mail

In late summer of 2014, residents along West Dryden Road in the town of Dryden received letters from the local gas distributor, New York State Gas and Electric (NYSEG), informing them that a new gas distribution pipeline was planned. Called the Freeville-Lansing Reinforcement Line, this seven mile long pipeline would carry gas for Lansing developments, but its route would be through the Dryden residents' front yards. They were welcome to attend a public meeting to get the details, and to ask questions, but the plan was in place, NYSEG said. However, many of these 100 homeowners determined they would not accommodate this increase in fossil fuel use without a fight. They understood, or learned along the way, that the pipeline would mean more air pollution, more greenhouse gas emissions (up to a 30% increase in the County by some estimates), more costs passed to consumers, and exposure to liability from events they had no control over.

The cost of the new Freeville—Lansing Reinforcement Line is projected to be in excess of sixteen million dollars. As of this writing, NYSEG has submitted to the NY Public Service Commission a rate increase request. Although this project is only one part of planned infrastructure expansion in the NYSEG-served region, the estimated added cost to each ratepayer is projected to total over nine dollars per month.

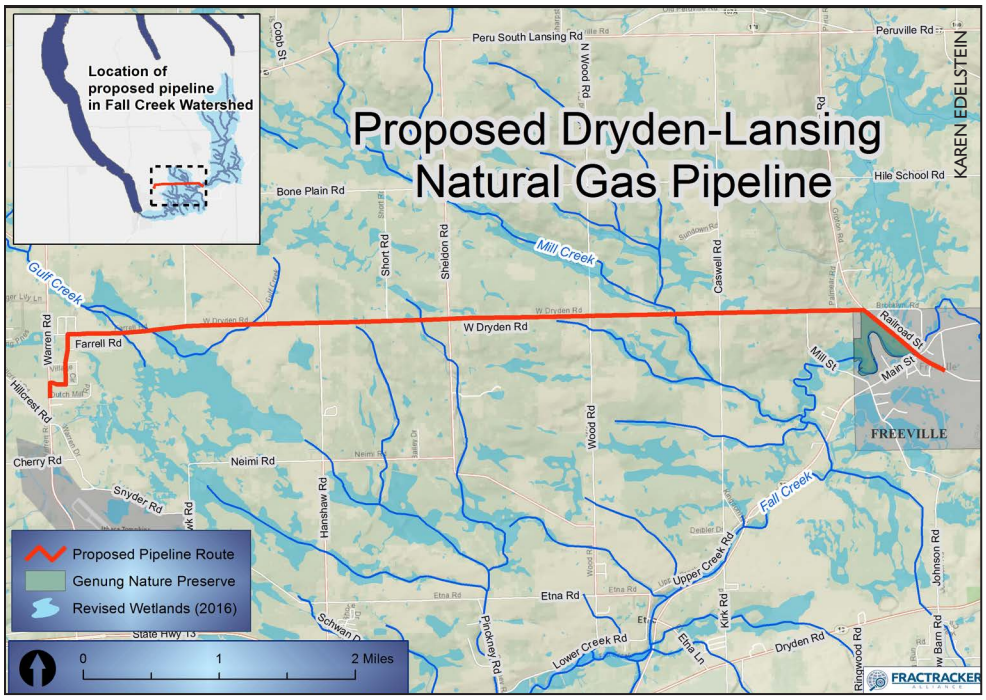
Staying just under the radar

Pipelines that carry methane can be classified into three rough capacity categories: transmission lines, distribution lines, and service lines. Transmission pipelines are, most often, those which cross state lines and fall under Federal Energy Regulatory Commission (FERC) regulations and permits. State permitting rules come into play for distribution pipelines above a certain diameter and pressure. Smaller distribution pipelines, and service lines, come under only local laws.

NYSEG's proposal on West Dryden Road is for a 10" diameter pipeline to be run at a pressure of 124 psi. That pressure is 25 or more times higher than what would be used to serve a residence, but it falls under the size and pressure limits (125 psi) that would trigger state regulations. Local agreements and Dryden's regulations are the only hurdle for the project, which will not serve residents of Dryden. To access the gas in the pipeline for use by residents along West Dryden Road, the pipe either has to be manufactured with residential connections already in place (no agreement about this has been aired), or one would have to "hot tap" the pipe after it is in the ground—an expensive and dangerous process, involving step-down pressure valves.

Homeowner concerns

Regardless of whether or not a particular home is provided with gas from the pipeline, one of the compelling worries about having a methane pipeline in your yard is



Map of the proposed pipeline in the Town of Dryden, between the Village of Freeville and Town of Lansing. This project could have adverse water resource impacts. In Freeville the pipeline crosses Fall Creek and runs along the edge of the Genung Nature Preserve. On West Dryden Road, it crosses Mill Creek, tributary to Fall Creek; and Gulf Creek, which drains to Cayuga Heights; and cuts across numerous streams and wetlands that feed into Fall Creek. This map is based on the revised Tompkins County wetlands map developed by Nick Hollingshead and the Cayuga Lake Watershed Network in 2015-6. Cartography by Karen Edelstein of the FracTracker Alliance (karen.edelstein@gmail.com). Look for a digital, full-color version of this map at www.cayugalake.org under the Issues heading.

the fact that pipelines leak. They leak when they are old, but they leak also when they are new. [see http://phys.org/news/2012-11-natural-gas-leaks-boston.html]

Leah Messinger, writing in The Guardian on March 2nd, says that "Researchers at NOAA [National Oceanic and Atmospheric Administration] report finding methane—the primary component of natural gas—leaking from the entire natural gas supply chain, from extraction to storage to transmission. The leaks can come from improperly sealed fittings, faulty valves and compressors, improperly closed hatches and many other sources, stemming from both human error and equipment failure." [from Methane Leaks Across US Pose a Much Greater Threat than Aliso Canyon, by Leah Messinger, writing for The Guardian, found at http://www.theguardian.com/vital-signs/2016/mar/02/methane-leaks-aliso-canyon-ghg-epa-edf-environmen-climate-change-gas]

Despite the recent, historic agreement between Canada and the US to cut methane emissions from their oil and gas sectors by 40-45 percent below 2012 levels by 2025, and to explore additional avenues for reducing methane emissions, in practice that will require the cooperation of hundreds of companies to check on thousands of miles of pipe and millions of connectors. It still leaves us with 55-60 percent of 2012-level emissions pouring into the air. Some of that leakage would happen in the front yards of what are currently rural homes along West Dryden Road.

When gas leaks out of a pipeline, nearby life forms—be it human, wildlife, pets, or vegetation—are exposed to methane plus small amounts of ethane, propane, butane, and pentane. These gases can be lethal, not only to humans, and not only through explosion. In big cities, one of the indications used by utility workers to find possible gas leaks is dying street trees.

Losing control of your yard

To put the Freeville-Lansing Reinforcement pipe in place along West Dryden Road, NYSEG would have to take possession (not ownership) of part of the land from each plot along the route. Such takings are historically handled through use of an "easement document" that both parties sign.

In 2014, NYSEG offered the West Dryden Road residents a "boiler plate" easement document to sign. The landowner's signature on the easement would give NYSEG unlimited rights to place not only one, but multiple gas-carrying pipelines on their property. The easement implies the pipeline would be along the road. However, residents' careful reading of the easement revealed that NYSEG would receive rights to an owner's "other lands" for the purpose of installing a pipeline and also "other rights", including, but not limited to, specific authority to remove structures by "manual or mechanical" means. NYSEG would retain these rights forever, and would have authority to sell or lease the right of way in the future. In return for a mere one dollar formality payment from NYSEG, the land/homeowner would be burdened with liability exposure (during and after construction), and would give up the right to use that part of their property for anything but lawn.

Federally regulated companies abuse private property

In Pennsylvania (originally named to designate "Penn's woods") recently, pipeline companies that need FERC approval, cut a swath (before permits were issued) through family lives. At a family-owned maple sugar bush, the pipeline company sent in a team of chainsaw wielding tree cutters. The family had fought eminent domain so the pipeline company hired armed guards to protect the men who cut the maple trees and took away a family's livelihood and their beautiful farmland. At another home, the 85-year-old landowner wrote this to his elected officials before his land was violated:

"We have a pond, streams, and wetlands, "in the way" of the proposed pipeline. Ducks, geese, herons, kingfishers, turtles, frogs, and fish have all found homes there. Our century old trees are homes for countless birds and mammals, including the endangered Indiana brown bat. Our forest is teeming with other wildlife, deer, bear, foxes, snakes, turkeys, grouse, that make their homes there. We have tried to live up to our promise made when we signed on to the Forest Stewardship (Clean and Green) program when we purchased our property in 1982." [http://saneenergyproject.org/2016/03/28/

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stephen-gerharts letter/?utm_contact=108780&utm_email=100806]

The next day his wife, trying to warn tree cutters away from the tree her daughter was sitting in as a last ditch effort to save the land, was carted off in handcuffs and jailed on $200,000 bail until the tree cutters and the operators of big machines had done their dirty work. Could a smaller version of this destruction be what faces the residents of West Dryden Road if NYSEG goes to eminent domain?

Will NYSEG resort to eminent domain?

Putting a new pipeline in the ground along West Dryden Road would require the signatures of about 100 property owners along the road. One hundred property owners who are willing, in exchange for receiving just one dollar, to have a pipeline in their front yards, to carry liability for any accident that might happen during or after construction, to have their garage or storage shed torn down if it is deemed in the way of the pipe, and to entertain the possibility of having the land torn up again in the future by either NYSEG or some new buyer of the right of way.

Mark O. Marini, representative of Iberdrola Corporation (owner of NYSEG, based in Spain) was recently quoted in the Lansing Star [http://www.lansingstar.com/news-page/12470-lansing-is-out-of-gas] saying that "the company has only obtained about half of the 100 easements it needs to proceed with construction."

Marini is further quoted as saying "[NYSEG] still wants to provide natural gas to the [Lansing] area, and is exploring options, including eminent domain..... NYSEG did consider other reinforcement options prior to this project and is currently re-evaluating based on the possible need for condemnations along West Dryden Road," Marini said.

Impacts to the Fall Creek watershed

The proposed pipeline would be constructed to run under Fall Creek, across smaller creeks and through the wetlands feeding these creeks, and would run alongside the Genung Nature Preserve in the village of Freeville. Please see the map with caption for information about potential negative water quality impacts if this pipeline is built.

Renewable energy alternatives exist now

Tompkins County's Comprehensive Plan and draft Energy Road Map state goals for energy use and pollution reduction involving "transition away from natural gas" and a cut in greenhouse gas emissions by 80 percent (from 2008 levels) by 2050. If the Dryden line is constructed, not only will methane usage, and attendant emissions, increase (the pipe can carry 700,000 cubic feet of gas per hour), but that usage will be locked in for the projected life of the pipe. Our community-wide ability to respond to global warming will be worse, not better.

Contrary to the opinion of some leaders in Lansing that the prospects for new business and housing in Lansing will suffer without this pipeline, alternatives exist right now that offer a clear path forward whereby communities can promote affordable housing, support expanding businesses, and keep our responsibility for climate stabilization. We can generate electricity without burning fossil, or bio, fuels, and we can use that electricity to power heat pumps that will heat and cool our buildings.

Everett Rogers, in his ground breaking book *Diffusion of Innovations* (1962), told us that critical mass is reached when people begin to assume that "everyone else has one." The innovators and the early adopters take up and implement an idea until the majority, waiting to see if it actually works, notices it all around them. In Tompkins County, for instance, we now have 5 percent of our rooftops adorned with solar panels. That is the highest market penetration in the state of New York, and is enough panels for the majority of residents to take notice and think—everyone else has one. The majority of folks are starting to get in line for solar energy and so our solar installation businesses are now booming.

Heat pumps do double duty

The next step in moving away from fossil fuels—installing ground- or air-sourced heat pumps for heating and cooling—also takes us toward an overall reduction in energy use. This step is a bit more difficult to implement, not because the technology is new or unproven (anyone with a refrigerator in their home has lived with a heat pump for years), but because the heat pumps now used as furnaces in the homes of innovators and early adopters are not visible to the general public.

In the life experience of most developers who build residential and commercial properties, fossil fuels are currently the business-as-usual plan, the go-to infrastructure for space heating/cooling and for domestic water heating. The same is true of most architects who design the buildings, and of most home or business owners who use them. Where available, gas pipelines are tapped into without much thought for alternatives. The majority of adopters of any technology need to see the usefulness of the innovation to themselves directly. Innovators and early adopters often minimize the role of economics and take the plunge because they see beyond the barriers. Those who follow must see some clear economic benefit before they will take the leap.

A few developers in Tompkins County, and in other places around NY, even those to whom the bottom line is more important than saving the planet, are taking the leap to retrofitting existing buildings, and designing new ones, with heat pumps. They are doing so because they have run the numbers and find that, far from costing them money, the investment will quickly start paying them dividends in real monetary returns. Homeowners, too, see a fast return on investment, particularly when heat pumps are paired with solar electric.

The tools are available, affordable, and have a proven track record. It is time for all New Yorkers to stand up and resist the "business as usual" expansion of fossil fuel infrastructure.

Let's follow the sun to a new way of heating and cooling our buildings.

For more information, view the Feb. 19, 2015 Presentation of Alternatives at Dryden Town Hall https://vimeo.com/120233933 .

Our 2016 Annual Fundraising Appeal—Please give, now!

We invite you to contribute to our Network, working every day for the health and wellness of Cayuga Lake. Thanks to a generous grant from the Park Foundation, first-time donors will have their donation (new membership!) matched. This means double your money for the CLWN! Share this appeal with friends, please.

We do this work because of our shared love for Cayuga Lake and its creeks, wetlands, streams & waterfalls. Your contributions support our website, quarterly newsletter; training volunteers to monitor creek water quality & watch for invasive species; CanYouCanoeCayuga, our family and community-friendly paddling event taking place September 11th; completing the updated Cayuga Lake watershed plan, and NEW Love the Lake Quilt project, in cooperation with Ithaca's Sew Green.

Thanks to the generous support of composer David Borden, a copy of his "Cayuga Night Music" CD is your premium for a gift of $100 or more. For a sample: https://soundcloud/davidborden/sets/cayuga-night-music

To donate, go to our website at www.cayugalake.org and click on "Get Involved" then "Contribute" or send a check to CLWN at PO Box 348, Wells College, Aurora, NY 13026 with a note in the memo for "Annual Appeal." If you are a member or recent supporter, you should have received an appeal request in the mail.

Thank you in advance for finding value in our work and for making a financial contribution to help us carry on.

Ithaca's Composer in Residence

A personal story about David Borden

Essence of Ithaca and Cayuga Lake's watershed: Mother Mallard's Portable Masterpiece Company, 1969. From left: Linda Fisher, Steve Drews, David Borden.

In 1967, Steward Hilary Lambert was on the staff of the DeWitt Jr High newspaper *The Tattler*. She and fellow reporter Eleaner (Stout) Loos were given the plum assignment of interviewing the Ithaca City School District's first-ever Composer in Residence, David Borden, then in his late 20s.

We had special one-time permission to visit David in his lair on the uppermost floor of what is today the DeWitt Mall in downtown Ithaca. Our chat in those distant days became a lifelong friendship, revisited down the decades via chance encounters on sidewalks and in the aisles of Wegman's. David and family have made their home here, and his music shines with his devotion to Ithaca, its human and natural setting, and to Cayuga Lake.

You can learn about David's pioneering work with Robert Moog's synthesizers, his continuing work with Mother Mallard's Portable Masterpiece Company (I have the first album on vinyl), his beautiful live electronic and minimalist work (we all need to listen to "Enfield in Summer", 1978); and his place in new music and contemporary classical modern music, online at http://www.cuneiformrecords.com/bandshtml/borden.html and the websites and Wikipedia pages for Mother Mallard, David Borden, and minimalist music.

For our 2016 Annual Appeal fundraiser, David has generously provided us with a (limited!) number of CDs of "Cayuga Night Music" (1993), as a fund-raising premium. First come, first served, for gifts of $100 or more. On this album you can hear the trains and traffic on the Lansing shoreline, the fireflies of summer; the icy waters of February, and the dark and the light of the seasons here. Maybe one day we can arrange a live performance down by the lake. *—HL*

CanYou Canoe Cayuga? September 11!

The Network is pleased to announce that CanYou Canoe Cayuga? (CYCC) is scheduled for Sunday, September 11th with a kick off at 10 am. This year's family and team-friendly paddling event will begin and end on the south end of Cayuga Lake in Ithaca's beautiful Stewart Park.

Thanks to a lively committee spearheaded by Ithaca paddlers including Cynthia Brock, Paul Davis, and Sally Lockwood, with event founder John Mawdsley and Network staffer Jennifer Tufano, we have a new course, new and varied paddling offerings, and a fabulous new logo from Ithaca's Iron Design + Branding.

LOGO DESIGN
IRON DESIGN, ITHACA NY

The day will include long, medium and short distance events along with sprint distances for younger kids. Canoes and kayaks will be available for rent. Food trucks including Dos Amigos, That's How I Roll Sushi, and Frozen Moments ice cream truck will be available for food purchases. Live music and a cake celebration will cap off this lake-focused event. Everyone is welcome—including teams! Registration gets you a cool race t-shirt.

Participants can register via www.paddleguru.com. More information can be found there and on the Network website. Sponsorship opportunities are also available for businesses wishing to underwrite any part of the event including the t-shirts, music, rentals, food, advertising, etc. All sponsors are listed on our website, the race page, Facebook, posters, t-shirts, email blasts, etc. Please get in touch with Jenn Tufano jenntufano@gmail.com at the Network with any questions, or to sponsor. Thank you!

The mission...

The Cayuga Lake Watershed Network identifies key threats to Cayuga Lake and its watershed, and it advocates for solutions that support a healthy environment and vibrant, sustainable communities.

PO Box 348
Aurora, NY 13026

- Education
- Advocacy
- Protection

Upcoming Events

2016 Annual & August Meeting & Picnic: August 17. ***Rain date: August 18, same time & place.*** 5-9 pm at Long Point State Park, Aurora, off Route 90. Members and supporters all are welcome to attend! Come find out more about the Network, and how you can get involved in protecting our lake and creeks. YES families!

Picnic, 5 pm: We grill hot dogs, burgers, black bean burgers, & provide fixins'. Please bring a dish, snack, dessert, beverage to share. We provide plates, cutlery, cups.

Annual Meeting, 6 pm: Report to the Membership about the Cayuga Lake Watershed Network's past year, accomplishments, and goals. Brief presentations by the Steward and Staff and members of the Board of Directors and Committee Chairs.

Election by the Membership of new and returning Board members. Three new Board members have been approved by the Board for 2016 election to three-year terms: Mel Russo (Seneca County), Neil Schwartzbach (Tompkins County) and Katherine Graham (Cayuga County). Biographical information can be viewed at our website www.cayugalake.org .

August Board Meeting, 7 pm: The Board will elect officers for 2016-7 and conduct other business. Please stay to relax, eat, drink, chat and enjoy the lake at this beautiful spot.

CanYouCanoeCayuga? September 11, at Ithaca's Stewart Park. See page 7 for details about our exciting public paddling event, now in its fifth year. To register online and learn more, click on the CYCC 2016 link under Calendar and Events at www.cayugalake.org .

The Network's Autumn Community Conference, October, TBA. A free half-day conference for the public on topical issues with lively speakers. Focus will be ongoing and emerging water quality issues—septic issues and updates and the relationship between detection issues and managing water quality. South end of the lake location, date and speakers TBA! Watch for information via our listserv *(want to be added? Send your email address to jennifer.tufano@gmail.com)* Facebook page, and at www.cayugalake.org .

Nutrient Cycling and Spiraling in Tributary Streams to Cayuga Lake

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avoiding excess fertilization of lawns.

But it's also critically important to keep streams healthy and functioning well so that natural plant and animal communities can thrive and efficiently cycle nutrients through the food web. This means we need to protect, maintain and restore natural stream and wetland habitat, water quality, and animals and plants.

For example, we should allow stream side vegetation and riparian areas to grow to their full potential as this encourages healthy and diverse plant and animal communities, leave large woody debris in streams as this encourages natural retention of water and sediment, and allow streams to access their flood plains where they are not naturally constrained by gorges.