

Susquehanna *Sierran*

June 2018



- Hemlocks
- Dragonflies
- Grey Towers
- Water
- Liquid Natural Gas Trucks
- Pollinators
- Events

EXPLORE, ENJOY, PROTECT THE PLANET



7 Steps to a Butterfly/Pollinator Garden—Michael Frys & USF&WS

1. **Choose your location:** Butterflies enjoy basking in the sun. Gardens should be planted in sunny spots, with some protection from the wind.
2. **Take a look at your soil:** Break ground to see the consistency of the soil in your yard. If you find that your soil type doesn't match the plants you'd like to plant, you might consider building a raised bed or using flower pots.
3. **Prep your soil:** If you're planting in your yard, remove the lawn and current plant cover and rake the soil. Additional dirt can be helpful no matter the location and is necessary for raised beds and flower pots.
4. **Choose your plants:** Find a nursery that sells native and local plants, and milkweed for your area. Native plants are ideal because they require less maintenance and tend to be heartier.
 - Choose plants that have not been treated with pesticides, insecticides or neonicotinoids.
 - Perennials will ensure your plants come back each year and don't require a lot of maintenance.
 - Choose a diversity of plants that bloom throughout the seasons to ensure pollinators benefit in the spring, summer and fall. This will ensure that your garden is bright and colorful for months!
5. **Choosing seeds or small plants:** Small plants that have already started growing in a nursery are simple and show early pollinator visits, especially in a small space. If you have time, use seeds and plan ahead to plant in spring or fall, giving the seeds time to germinate. Seeds can be best if you are doing a large garden as they tend to cost less. Remember to water your seeds even before you see plants.
6. **Plant your flowers and milkweed:** For small plants, dig holes just big enough for the root system. Cover the roots with dirt and reinforce with dirt or straw mulch to reduce weed growth. For seeding, spread seeds across the freshly prepared garden and cover them with dirt. Consider adding some flat rocks so butterflies can bask in the sun!
7. **Wait, watch, water and weed your garden:** It may take some time, but you will eventually see butterflies and other pollinators enjoying your garden. Make sure to weed and water your garden to keep it healthy.

Susquehanna Group

(All or parts of Broome, Chenango,
Delaware, Otsego, Tioga Counties)

Chair	*Scott Lauffer (607)341-3746
Vice Chair	*Valdi Weiderpass
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Tioga Coordinator	Erin Riddle
	* Member Executive Committee

To become a candidate for the Susquehanna Group Executive Committee for 2019, submit a candidate statement of 150 words or less to PO Box 572 Endicott, NY 13760 by November 20, 2018 or email to the Nominating Chair. The Chair will be identified by October 16 via a notification to all members with an email address on file. The Nominating Committee will create a slate of candidates by the end of November 2018, and ballots will be mailed with the December 2018 Newsletter

PO Box 572 Endicott NY 13760
<https://www.sierraclub.org/atlantic/susquehanna>



Hemlock Woolly Adelgid egg sacs on the underside of a hemlock branch at Ross Park, Binghamton.



A Hero To Save The Day?

Hope for Hemlocks — Doug Gausman

The hemlock woolly adelgid (HWA) is an invasive East Asian insect that is attacking hemlock trees in our area. The HWA was first discovered in New York in 1985 and has led to widespread hemlock mortality throughout the Appalachian Mountains and the southern Catskill Mountains. Eastern hemlocks are among the oldest trees in New York with some reaching ages of 700 years or more. The NY Dept of Environmental Conservation (DEC) has partnered with Cornell University to create a lab focused on protecting the State's hemlock trees. The lab, which is headed by entomologist Mark Whitmore, is dedicated to researching and rearing biological controls to stop the spread of the HWA. According to a recent article in The Nature Conservancy (TNC) newsletter, TNC along with Cornell University has identified a natural biocontrol solution to the HWA problem: the 'silver fly.'

This spring, the lab, the NYS Hemlock Initiative, made the first operational release of silver flies (Diptera: Chamaemyiidae), one of the HWA's most important natural predators, at Frenchman's Bluff near Elmira. The lab verified that the flies mated and successfully laid eggs, so we may hope that this natural control process may help prevent further loss of area hemlock trees. More information on HWA including identification, control techniques, and reporting possible infestations can be found at Cornell's 'New York State Hemlock Initiative' or on the DEC's website. In 2016 the Susquehanna Group helped fund the application of neonicotinoid pesticides to help preserve important hemlock trees at Spring Forest and Floral Park Cemeteries. Silver fly biocontrol may provide a non-toxic alternative.

Dragonfly Day – Jim Taft

Governor Cuomo proclaimed, and the NYS Senate and Assembly memorialized Dragonfly Day in New York as the 2nd Saturday of June. This followed (1) science revealing the importance of dragonflies in mosquito control, (2) advocacy by the Sierra Club's Long Island Group, and (3) bills introduced by Senator Kenneth LaValle and Assemblyman Fred Thiele. The Long Island Group plans related outings and educational activities. From the Group:

Dragonflies are said to be a “sentinel” species; their presence provides insights into the health and pollution levels of wetland areas. Just as canaries were used in mines to determine levels of harmful gases for miners, the presence (or absence) of dragonflies can give us clues about how degraded our ecosystems are and whether harmful chemicals or pesticides are present[1][2].

Dragonflies, similar to mosquitoes, lay their eggs in standing water. The resulting larvae (or nymph) can live underwater for up to six years, depending on the species. Dragonfly nymphs have voracious appetites and mosquito larvae are an important part of their diet – they can eat the equivalent of their body weight in food in about thirty minutes. Moreover, according to recent studies[3], mosquito larvae actually stop developing when in the vicinity of dragonfly larvae. Another interesting fact is that dragonfly nymph molt up to fifteen times before reaching the adult stage, and this is why methoprene and other pesticides are so deadly to them.

References:

- [1] Cairn N, Portland Press Herald (2013), 'Dragonfly in mud a canary in coal mine for our times'[online]. Available at:<http://www.centralmaine.com/2013/09/07/dragonfly-in-mud-a-canary-in-coal-mine-for-our-times/>
[2] Simon M., (2012) 'Dragonflies - Indicator Species of Environmental Health' [online], Available at: <http://www.earthtimes.org/nature/dragonflies-indicator-species-environmental-health/2033/>
[3] Ellis M., (2013) 'Influence of Dragonfly Larvae on Mosquito Development and Survival' [online]. Available at: <http://www.caryinstitute.org/publications/influence-dragonfly-larvae-mosquito-development-and-survival>



Outing: Grey Towers – Scott Lauffer



Grey Towers, overlooking the Delaware River in Milford PA, was the primary home of Gifford Pinchot, the first Chief (1905) of the US Forest Service. Administered by the Forest Service, it was declared a National Historic Landmark in 1963. See <http://www.greytowers.org/grounds-tours/>.

Saturday July 7. Meet 9:00 AM at the Kirkwood Park & Ride on Frances Street in Valley Park and car pool from there. From Binghamton, take Exit 2 from I-81; at the end of the exit ramp immediately merge into the left lane; take the first left onto Frances St. The car trip will be about 1¾ hours. Bring a picnic lunch and wear good walking shoes. We may stop for dinner on our return, depending on the wishes of the group.

Register by July 1. Contact me at 607-341-3746 or email lauffer.scott@gmail.com. We register in advance if we have 10 or more. Admissions are: Regular \$8, Seniors \$7, Youth \$5, Under 12 Free. — Scott

Replenish, by Sandra Postel

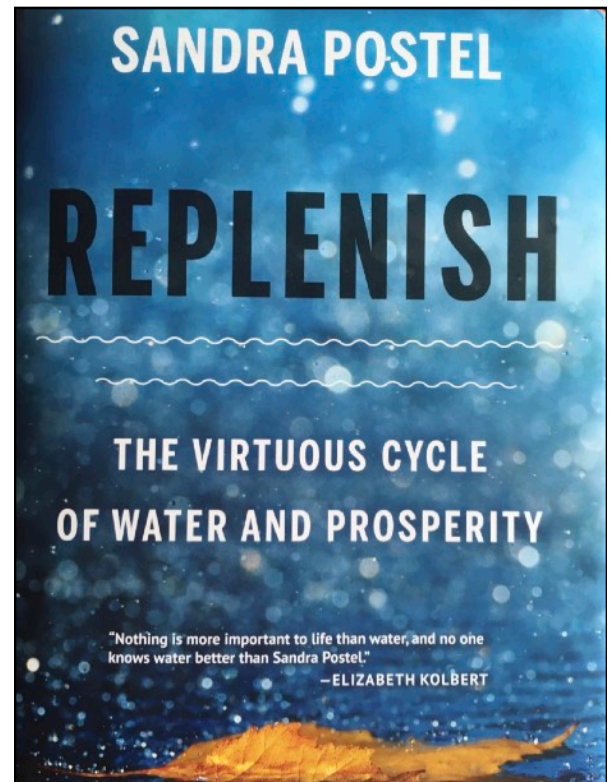
This spring, I came across Sandra Postel's hope-instilling *Replenish: The Virtuous Cycle of Water and Prosperity* (Island Press, 2017). Postel has been writing about water for decades, and is founder and Director of the Global Water Policy Project.

She has written plenty in the past about the mess we've made of water policy in the U.S and around the world, and she provides a fast-paced synopsis of that sad story early in this work. But this time out she's aiming for something different: away from fighting nature and toward working with it. Her aim is clearly to encourage further movement in this positive direction. As she describes it, the calculus of water managers is beginning to change, away from the assumption that they can, through the application of technology, bend nature to their will, and toward a recognition that natural systems have inherent value, and that we can most effectively meet human needs by working with rather than against them.

Postel uses watersheds to illuminate how acknowledging inherent value in natural systems is being put to work. "Watersheds function as nature's water factories. When operating well, they collect, store, circulate, and treat water as it flows through and across the landscape to join rivers downstream." [p. 45] Historically, we've felt free to deforest landscapes, channel rivers, and dump whatever effluent we produce into the nearest waterway, disrupting landscapes with little thought. Having acknowledged this, Postel describes a series of projects which successfully restore the viability of watersheds, and revitalize and increase the resilience of communities—from Brazil's Amazon basin to China's Loess Plateau. A riveting aspect of this is that she has been there. These are not abstract explorations of what might be done, but in-person reports of what is being done and how communities benefit.

For those of us who experienced the Susquehanna's recent floods, Postel's chapter "Making Room for Floods" brings this new way of thinking close to home. A century of "channelizing," straightening, dredging, and the draining of wetlands, has left us with a world where catastrophic floods arrive with increasing frequency, and politicians call on the Corps of Engineers to raise levees and make it stop. But they are finally encountering resistance from "coalitions of scientists, conservationists and government agencies...making the case for partially conceding this fight and giving rivers room to roam across their floodplains once again." [p. 70] In California's Napa Valley, the "Yolo Bypass" allows high waters from the Sacramento River to flow into a nearly 60,000 thousand acre flood plain, reducing the threat to down-river urban areas while restoring wetlands and allowing flood waters, which would have rushed to the Pacific, to replenish the region's precious aquifer. Note that the "community" being served here is more than a human one. The needs of the natural world, its plants, animals and diversity, are being valued and served while people's homes and businesses are protected.

This is a hope-inspiring book. Let me end with Postel's powerful closing observations: "We can choose to write a new water story. Depletion and dead zones are not inevitable. Even as dams go up, others are coming down, allowing fish to reach their spawning areas and opening up vast stretches of habitat...If the twentieth century was the age of dams, diversions, and depletion, the twenty-first can be the age of replenishment, the time when we apply our ingenuity to living in balance with nature." [p. 245]



Natural Gas, The Senator, and the Candidate—Valdi Weiderpass

Editor's note: Nothing in Valdi's report should be construed as endorsing an officeholder or candidate.



At a March 10 town hall meeting I thank Senator Akshar, express concern about climate change and our flood-prone communities, and state that in order to keep a habitable climate it is time to move to renewable energy. I point out that renewables are creating more jobs than fossil sources, even in our area, and that in addition to climate change fossil fuels pose other risks, a notable example of which is the truck transport through our community of natural gas compressed to 3600 psi in cylinders mounted in semi-trailers. (Note: trailers carry up to 11 tons of gas, with the explosive potential energy to launch shrapnel a quarter of a mile away [https://www.ctif.org/sites/default/files/2017-10/indianapolis_gas_cylinder_explosion.pdf and <https://www.indystar.com/story/news/2015/01/27/trash-truck-explodes-near-th-westfield/22394755/>]. A proposed compressor

station to load these trucks was defeated by concerned citizens in Fenton, Broome County, but trucks are on our roads carrying compressed gas from Pennsylvania. These trucks have not been adequately tested, are largely unregulated, and present safety risks. I ask the Senator if he is willing to work on legislation to improve their safety. He responds by pointing out that NY State has denied a permit for the Constitution Pipeline and that he favors a mix of energy sources.

The Senator also states there is a proposal to build huge wind turbines in Windsor and implies that urban people should consider the impositions that these projects present in rural areas. My responses here are (1) fossil fuel pipelines, which largely lie in rural areas, are a much bigger threat than renewable energy projects to health, safety and the environment, and (2) land for pipelines is commonly taken through eminent domain whether the landowner agrees or not, while land for renewable energy is commonly negotiated. Pipeline leaks cause pollution, fires and explosions that destroy homes and cause severe injuries and deaths. 2017 USA data from Wikipedia:

<u>Pipeline Type</u>	<u>Large Spills</u>	<u>Explosions/Fires</u>	<u>Deaths</u>	<u>Injuries</u>
Liquid Petroleum	14	2	2	14
Natural Gas	3	11	6	17

In one pipeline leak, 19 million cubic feet of natural gas, enough to heat 190,000 homes for one day, was released into the atmosphere.

Natural gas has over 80 times the greenhouse effect of CO₂ in the first two decades after release. Recent measurements of gas leakage indicate that rather than being a “bridge fuel,” natural gas infrastructure is actually accelerating climate change [A Bridge to Nowhere: Methane Emissions and the Greenhouse Gas Footprint of Natural Gas, Robert W. Howarth, Department of Ecology & Evolutionary Biology, Cornell University, in *Energy Science and Engineering* 2014; 2(2): pp 47-60].

At an April 21 gas-fired power plant protest in the Town of Wawayanda (Orange County, NY), Cynthia Nixon, a Democratic candidate for Governor, joins the protest and in front of TV cameras states her opposition to expansion of fossil fuel infrastructure, her support for a transition to 100% renewable energy, and her plans to have corporate polluters help fund the transition. The concerned citizens of Wawayanda, many of whom have been protesting the proposed gas generating plant for years, are thrilled to hear a candidate say that if elected, she would rescind the permits of the Competitive Power Ventures plant. After the speeches, I introduce myself and tell her about the dangers of tons of highly compressed natural gas being transported by trailer trucks on NY roads.



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She asks if the practice wasn't defeated in NY. To clarify, I say one compressor station in Town of Fenton, Broome County was disallowed after protests at a zoning commission, but the trailer trucks are still being loaded in Pennsylvania then transport highly compressed natural gas on public roads in New York State. She seems genuinely interested and concerned about this.

On the day before, April 20, candidate Nixon released a plan for addressing climate change that includes (1) transitioning to 100 percent renewable energy in the State by 2050, (2) rejecting all new fossil fuel infrastructure such as pipelines, (3) holding corporate polluters accountable and making them pay, (4) opposing the Trump plan to open up the Atlantic coast to offshore oil and gas drilling, (5) divesting from fossil fuel-related investments, and (6) upholding the Paris Agreement.

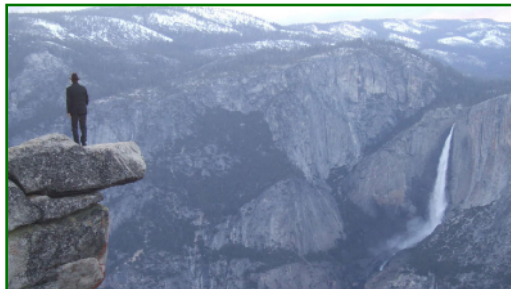
Scientists and concerned citizens are confident that failing to curtail greenhouse gases risks passing tipping points that will make climate consequences more certain, more consequential, and more expensive.

Weather and storms would become more variable leading to greater floods and droughts. Sea level rise will force abandonment or expensive barriers for coastal cities. Dodging the issue of Climate Change is neither economically nor morally justified.

Coming Events

General Meetings are open to all and held at Central United Methodist Church, 17 Nanticoke Ave, Endicott, 7:30 PM on the 3rd Tuesday of the month, with the exception of July and August.

- June 19 **Film "John Muir in the New World"** General Meeting 7:30pm. Documentary (2011, high definition) regarding Muir's life, achievements, impacts—also a reminder of America's unique and threatened ecosystems. Free.
- June 21 **Presentation: "Improving Habitat of Butterflies & Moths"** 7:00pm, Colleen Wolpert, Hubbard Auditorium, 56 Main St, Owego. Free.
- June 23 **Sierra Club Atlantic Chapter Executive Committee** hosted by Susquehanna Group. 9:30am - 5:00pm. Despina's, 20 Hawley Street, Binghamton. Delegates from all NY Groups convene to decide Chapter policies Meeting open to Club members. Includes coffee/snacks/lunch (\$15). Contact jimtaft7@gmail.com.
- June 24 **Outing: Pollinators in Wildwood Nature Preserve (Waverly)** 10:00am. Explore the fields and wetlands abundant in native wildflowers benefitting native pollinators. Free. For info contact: riddleriddle@gmail.com or 607-372-5503—texts accepted. Directions: www.carantouangreenway.org
- July 28 **WAVE (Water Analysis for Volunteer Evaluators) for children** ages 10-14 and their families. Joint project of Sierra Club Susquehanna Group and the Waterman Center. Learn about macro-invertebrates as stream health indicators. For information, contact Chris Harasta christopher.harasta@gmail.com
- July 7 **Outing: Grey Towers (Milford PA)** All day. Visit home of Gifford Pinchot, first Chief of the U.S. Forest Service. For details see page 3.



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