Susquehanna
Sierran
JUNE 2020

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EXPLORE, ENJOY, PROTECT THE PLANET

Endicott Battery Recycling Plant – Updates – Valdi Weiderpass

June 1, 2020

Building 259 (center of image with 4 turquoise windows) proposed site for SMCC battery recycling facility, Huron Campus (former IBM complex), Endicott. (Image: Google Earth)

Key developments since the March newsletter article on SungEel MCC Americas LLC's (SMCC) proposed lithium-ion battery recycling facility, planned for the Huron Campus (former IBM complex):
March 27: NY State Department of Environmental Conservation (DEC) issues a response to public comments regarding the Air State Facility (air emissions) Permit application documentation for SMCC's proposed Li-ion battery recycling facility. Not every comment was addressed.
March 30: DEC approves SMCC's application and issues the Air State Facility Permit for the proposed facility, valid for ten years.

continued next page

April: Significant public opposition to the proposed facility arises and two opposition groups form: No Burn Broome, and Concerned Citizens of Endicott. They submit objections:

1) The recycling facility has the potential to emit hazardous quantities of toxic contaminants into the air near residences and parks in the heart of the Village of Endicott (VOE).

2) The basis for the facility's estimated emissions in the permit application is a roughly 4.5 hour-long emission test at SungEel's South Korea plant on which the proposed Endicott facility is modeled, provided by the applicant, SMCC. Literature on incineration reveals that dioxin emissions can vary by up to a factor of a thousand during process upsets, such as startup and shut down.

3) DEC should have followed a more extensive review per the State Environmental Quality Review process which would have included formal public hearings. Reasons cited include zoning questions and the history of contamination from industry in Endicott.

May 4: VOE Board holds a four hour virtual public hearing on the proposed facility. Over 240 attend via electronic link or phone, with 57 people speaking in opposition to the facility and one in favor.

May 7: VOE Board votes 3 to 2 to approve a zoning change defining allowed recycling in the industrially zoned areas. Opponents submit signed petition to VOE.

May 13: Letter from Claudia K. Braymer, of Braymer Law PLLC, to VOE Board, on behalf of opposition states reasons the Board's 3 to 2 vote on the zoning change is invalid and must be rescinded or the Village would be subject to lawsuit.

May 20: DEC reopens permit asking for more data because it learns that per and/or polyfluoroalkyl substances (PFAS) in some batteries may be emitted.

Members of Susquehanna Group Executive Committee engage with Atlantic Chapter regarding the SMCC plan and seek official Sierra Club policy on lithium-ion battery recycling.

June 1: VOE Board rescinds the controversial zoning change approved May 7. Recently, interested parties and stakeholders have recommended additional actions:

1) Four-week sampling and testing by a certified third party measuring dioxins/dibenzofurans emitted by SungEel's South Korea facility, including start-ups and shutdowns.

2) Baseline air quality establishment in the immediate vicinity of Robble Ave/Clark St including concentrations of dioxins, sulfuric acid, nitrogen oxides, chromium, hexavalent chromium, and nanoparticles.

3) Yearly testing including AMESA testing (item 1 above) and looking for the contaminants in item 2, in the emissions going out of the kiln exhaust stack of the Endicott facility.

4) Obtain from SungEel MCC Americas, details on how they will prevent air emissions of nanoparticles. What measured quantities of nanoparticles are emitted by the South Korea facility?

Note: there may now be alternative, more benign lithium-ion battery recycling processes, such as that of the German company Duesenfeld, described in the following links:
https://observer.com/2019/12/duesenfeld-lithium-ion-battery-recycling-eco-friendly/
https://insideevs.com/news/420007/battery-recycling-keeping-evs-competitive-clean/

Earth Day 2020

– Scott Lauffer

Earth, teach me patience,
Like your geologic ages that stretch over eons.
Earth, teach me to be ridiculous,
Like your wonderfully weird hoodoos in Bryce Canyon.
Earth, teach me awe,
As the depth of the Grand Canyon gapes.
Earth, teach me to be reflective,
As a mountain lake on a bright summer morning.
Earth, teach me to be calm,
As the gentle falling snow covers the landscape.
Earth, teach me perseverance,
As the flood waters recede, once again.
Earth, teach me gratitude,
As you offer up a bounty of food.
Earth, teach me to seek,
As rushing waters head downstream.
Earth, teach me to protect,
As your special places cry for.
Earth, teach me to contemplate,
As a vast ocean stretching to the unseen.

Susquehanna Group

(All of Broome, & most of Chenango, Delaware, Otsego, Tioga Counties)

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* Member Executive Committee

To become a candidate for the Susquehanna Group's Executive Committee, mail by November 20, 2020 a candidate statement of 150 words or less to:

Susquehanna Group
PO Box 572
Endicott NY 13760

The Nominating Committee will create a slate of candidates, and ballots will be mailed with the December *Sierran*.

The Reason

– Jim Taft

How is it that the Club's pollinator garden at Binghamton's Confluence Park looks so good? The main reason: Sarah Hodder, project leader, master gardener, and wrangler with the City's Department of Parks & Recreation (also President of NYS Bluebird Society). See her article, next page.

Plastic trash in Antarctica?

– Doug Gausman

Would you believe that you will find plastic trash in Antarctica? An April 20, 2020 article in *Time* magazine reports that over a 6-week period, scientists on a 6-week Greenpeace survey scoured several beaches and collected about 3 metric tons of plastic debris including milk jugs, rope tangles, and even a boat fender the size of a car. It is believed the trash has come from cruise ships and fishing vessels that regularly visit Antarctica. Can't we keep any area on earth clean and free of our trash?

Insect Decline – What We Can Do At Home – Sarah Hodder

As a gardener, I sometimes hate to see “bug” damage to plants and think, “Boy, it would be nice to not have any “bugs." But having read Bringing Nature Home by Douglas Tallamy, an entomologist at the University of Delaware, I now appreciate that life cannot function without insects and other invertebrates. Among other things they pollinate profusely, and are themselves protein-packed prey that sustain birds and other life forms.

The Xerces Society for Invertebrate Conservation, and independent studies, find that insect diversity and abundance is plummeting. Ninety-six percent of North American bird species feed their young insects. More than 85% of flowering plants require pollination; in most cases this is done by insects. By extension, many species are impacted because they depend on fruits and other plant products.

Pesticides cast a broad invisible shadow over huge swaths of land. The most widely used agricultural pesticides are neonicotinoids which repel insects. A single neonic-coated seed can kill a bird the size of a Blue Jay. Most corn-growing acreage in the United States is treated with neonicotinoids.

Our immediate goal should be to stem the loss of diversity and abundance of insects and invertebrates. Two strategies are available to homeowners and gardeners:

1. Use native plants which support invertebrates which in turn support, directly or indirectly, many life forms. An excellent information source on native plants is the National Wildlife Federation's ‘Native Plant Finder’ at https://www.nwf.org/NativePlantFinder/ Search by zip code to find plants that host the highest number of invertebrates to feed birds and other wildlife where you live.
2. Use “Integrated Pest Management." IPM uses a range of safe, least-toxic methods, integrating biological, organic, cultural, mechanical and chemical options. Simply search "IPM" on the internet.

One of the many things I learned from Douglas Tallamy’s book: by simply planting any of the 90 species of Oak (genus Quercus) that occur in North America, one can have the biggest positive impact in the shortest time. Oaks support over 900 species of Lepidoptera (butterflies and moths), far more than any other plant genus.

The Susquehanna Group, Sierra Club is saddened by the passing of Dick Andrus, Professor of Environmental Studies at Binghamton University. Dick was a wonderful asset to the community, a mentor to many, a staunch advocate for sustainable agriculture and food systems, and a true educator. His colleague, Julian Shepherd states: "He was a great environmentalist, anticipating many of our concerns and actions, and changing the lives of many of his associates and students with his knowledge and commitment."

Dick was a recipient of the Lynda Spickard Environmental Award from the Susquehanna Group, recognizing his lifetime achievements. His legacy lives on and we join many in offering tribute and gratitude to a person who will be deeply missed.

photo: NY Natural Heritage Program

Hemlock Preservation Strategies – Scott Lauffer

The Susquehanna Group recently helped fund a Waterman Conservation Center program to apply the insecticide imidacloprid to old growth Eastern Hemlock trees in the IBM Glen in order to give them some protection from the invasive hemlock woolly adelgid. $4500 was needed for the treatment. The Susquehanna Group established a $500 matching fund. The goal was met. Also contributing were the Triple Cities Hiking Club, Waterman's own resources, and various individuals. Our fundraiser was done in memory of BU professor Dick Andrus who helped save the Glen from development. IBM in 2004 transferred the Glen to Waterman as a permanent nature preserve. Dick and his colleague Julian Shepherd helped identify hemlocks most in need of protection.

Hemlock woolly adelgid, Binghamton southside, 2020 photo: J Taft

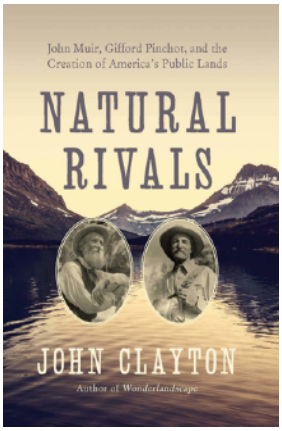
The insecticide was applied in May to the trunks of 500 trees; this method has lower by-kill than soil-drench near roots. This second treatment is expected to be effective for 5-7 years. The goal is to protect a core population of hemlocks at the Glen until a viable biocontrol is identified and deployed. Waterman is working with the New York State Hemlock Initiative (NYSHI), an effort of State and Federal agencies based at Cornell University's College of Agriculture and Life Sciences. See https://blogs.cornell.edu/nyshemlockinitiative/

A promising biocontrol candidate is a western USA genotype of silver fly whose larvae prey on adelgid eggs. Approximately 575 silver flies (half male, half female) were released near several heavily infested hemlocks at a different site in the Glen. The flies, sustained by adelgids, will hopefully reproduce, pupate, and overwinter. NYSHI will in 2021 evaluate the survival of the silver flies and their impact on the adelgid infestation.

Silver flies ready for release, May 2020

Waterman Conservation Director Chris Audette stated: "I believe there will be enough untreated/infested trees to sustain our silver fly population as well as subsequent releases. Hopefully in the not-too-distant future we'll discover an increasing silver fly population and can stop the insecticide. NYSHI will pass along some study methodology so interested volunteers can help monitor the flies and the treated trees.... Sierra Club members would be more than welcome to participate.

Natural Rivals: John Muir, Gifford Pinchot, and the Creation of America's Public Lands – Review by Chris Rounds



John Clayton's Natural Rivals (Pegasus Books, 2019) should be of interest to every Sierra Club member, because it both explores the life of Club founder John Muir, and wrestles with questions that confront us even now. What is the role of government in relation to American land? How do we balance the needs of communities against the urge to preserve natural resources? How do we preserve the nation's natural places for future generations while respecting the freedom of the individual?

Clayton weaves biographical explorations of the title protagonists into an exploration of a particular time in American history, the late 19th and early 20th centuries. The Gilded Age had witnessed rapid settlement of the American West, devastation of most of our forests, and the beginnings of an awareness that forests help balance natural systems. They lived when Americans were becoming aware that the continent had limits that were being fast approached. Both played crucial roles in initiating a conversation about these issues. Muir's perspective was fundamentally religious and philosophical. Anchored in his love for the Sierras and especially the Yosemite valley, he advocated protecting our most iconic wilderness areas, developing them for visitors but protecting them from those who sought to exploit their natural resources. He became famous as the author of lyrical essays about the high Sierras and people's need to escape the burgeoning cities to reconnect with God through nature.

While Muir grew up poor in rural Wisconsin, Pinchot was the son of privilege. He graduated from Yale, studied forestry in Europe, and took his first real job developing the forest surrounding Biltmore, the 195 square-mile estate of George Vanderbilt near Asheville, North Carolina. If Muir had grown-up knowing nobody, Pinchot seems to have known everybody. Every President since Grant had been a family friend. Fredrick Law Olmstead, the creator of Central Park, got him his first job… on and on.

Clayton describes Muir as a prophet and moral authority and Pinchot as a bureaucrat whose strong suit was getting things done. They shared a love for forests and a belief that the national government had a major role to play in protecting our most precious natural environments. For Pinchot, the key to protecting the environment was sustainable forest management. For Muir, it was the preservation of our most iconic natural environments.

At the heart of Clayton's book is Hetch Hetchy, a magnificent part of Yosemite National Park. After the disastrous fire of 1907, leaders in San Francisco were desperate to find a new source of fresh water for the city, both to provide for its growing population and to escape the clutches of a private water provider. Muir, as Sierra Club president, fought against it. President Theodore Roosevelt, whom Muir had gotten to know on a camping trip in Yosemite, and Pinchot, Roosevelt's long-time advisor on environmental issues, did not rise to his support. Writers about the American environment have widely believed that the disagreement between old friends Muir and Pinchot over Hetch Hetchy ended their friendship and demonstrated the incompatibility of their approaches. Muir wanted preservation of wilderness areas as they were. Pinchot promoted conservation of forest lands through responsible and sustainable management. From the perspective of many Sierra Club members, Pinchot emerges as the enemy.

Clayton argues, convincingly, the term 'rivals' is more appropriate than 'enemies.' Both contributed to what Clayton asserts is one of the most important accomplishments of this period, the emergence of the concept of 'public land.' Before they came on the scene, government land was used to promote settlement and development of the inland United States. Small plots were given to settlers, both immigrants and easterners, who poured into the West during the late 19th century. Larger plots were given to railroads to drive the spread of rail linkages across the country. It was tacitly assumed that all of the federal unclaimed land would be distributed in this way. Muir through his brilliant essays and through the Sierra Club he established, and Pinchot, through his mastery of the Washington bureaucracy and his friendship with President Roosevelt, paved the way for the development of our national parks, national forests, national monuments and wilderness areas. Their argument was over the definitions and boundaries of these lands. But without the dynamism of their rivalry, there might not have been any public lands to fight over.

American Chestnut (Castanea Dentata) – Mary Cronk

Roy Hopke, a forester and American Chestnut Foundation (ACF) member, recently led 2 Susquehanna Group members to a mature chestnut in Chenango Valley state park. About 15" in diameter, it may be at its maximum size as it will likely succumb to the blight. Many hikers pass this tree unaware of its rarity.

American Chestnut at Lily Lake, Chenango Valley State Park photo: Jim Taft

Until a century ago, the deciduous American Chestnut tree composed about one quarter of our eastern forests. Colonists depended heavily on it for building materials, furniture, and tools. Abundant nuts fed people and animals. The trees were home to squirrels, chipmunks, blue jays and scores of benign burrowing insects. The forest floor was enriched by its bark and leaf debris. Trees, with a lifespan of 500 years, towered to 120 feet, many with a diameter of more than 5 feet.

The species was devastated by chestnut blight, an East Asian fungal disease that arrived in the early 1900s. The chestnut had little resistance. The fungus causes a canker that girdles each tree, curtailing circulation. Everything above the canker dies. The blight spread by about 50 miles per year and by mid-century the large tracts of chestnut forests no longer existed. Infections are local, so a few sufficiently-isolated chestnuts survive. Root systems resist the fungus and grow small trees some of which reach nut-bearing age before the blight knocks them back. These are often called “mother trees” and they give hope to scientists working to revive the chestnut tree.

Two parallel efforts to save the species are underway. Since 1983, the ACF–along with scientists, universities, and some government agencies–has pursued a strategy of traditional hybridization, attempting with each successive generation to produce trees more naturally resistant to the fungus. The second approach uses transgenic modification, and is led by professors and scientists at SUNY ESF in Syracuse, in partnership with ACF. The Foundation's New York Chapter has a small plantation of chestnuts near Sherburne. See https://www.acf.org/ny/ and https://www.acf.org/wp-content/uploads/2016/09/The-Bur-Spring-2020.pdf.

Environmental Justice, Racial Justice, and Recent Events

– Georgia Kerkezis

It was difficult to write an 'environmental' piece for the Susquehanna Sierran while the country takes steps towards reopening in a global pandemic, and while peaceful protests and violent riots are breaking out against racism and police brutality. These events have overwhelmed news stations, social media feeds, and every conversation I engage in. Discussions of pollution and climate change now also include discussions of injustice. Environmental justice has sometimes been decried but I wish to cast it in a new, relevant light.

COVID-19 disproportionately affects people of color. African Americans make up 13% of the US population yet account for 26% of infections as of June 1st (1, 2). National Geographic reasons: "The environments where most live, the jobs they have, the prevalence of health conditions... have created a toxic storm of severe illness and death" (2). The CDC explains how poorer living standards are the result of institutional racism, including housing segregation which makes racial minorities more likely to live in dense areas where COVID-19 can spread more easily (3). COVID-19 has shed light on pre-existing disparities between black and white Americans. George Floyd's May 25th death in police custody highlights additional injustices of racial profiling and police brutality.

I believed I was doing enough by working to protect our planet against such things as climate change and pollution. Now I realize I also have to defend the people who inhabit it, especially the oppressed. I thought it was enough to be simply non-racist. Now I realize we must be actively anti-racist. As environmentalists, we have the chance to make this choice every single day.

Many environmental problems are also problems of injustice. We now know that environmental externalities are often dumped on people of low-income and color because they are the least able to defend themselves. For example, the National Center for Environmental Assessment found that black communities are exposed to about 1.5 times more particulate matter than white communities (4). And we know that these living conditions feed a vicious cycle of perpetuated discrimination and oppression through environmental racism.

image: Philly's 7th Ward

I don't mean to disvalue the environmental work we have done. However, I challenge all of us to reflect deeply and critically, because we have suddenly been given space to restructure our economy and our lives as society recovers from the COVID-19 pandemic and responds to fresh awareness of racial injustice. How can we make creative changes that better protect the environment and all people living in it? How can we include the voices of the oppressed in our shared battle to protect the environment? And how can we acknowledge and rectify our nation's history of oppression? True sustainability will not be achieved unless all people are included in its creation and all people's lives are made better by it.

(1) https://www.cdc.gov/coronavirus/2019-ncov/cases-updates/cases-in-us.html
(2) https://www.nationalgeographic.com/history/2020/04/coronavirus-disproportionately-impacts-african-americans/#close
(3) https://www.cdc.gov/coronavirus/2019-ncov/need-extra-precautions/racial-ethnic-minorities.html
(4) https://www.theatlantic.com/politics/archive/2018/02/the-trump-administration-finds-that-environmental-racism-is-real/554315/

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