



gosa news

Groton Open Space Association News, Spring 2016, Volume 5, No. 1

Learning to Live Together



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GROTON OPEN SPACE ASSOCIATION
Gala & Silent Auction



For info click [here.](#)

A Letter from the President, Joan Smith

Avery Farm Nature Preserve: Protected in Perpetuity!

Dear GOSA members and friends,

Thanks to the Weber family, GOSA's many supporters, and generous grants from the Town of Ledyard, the Connecticut Dept. of Energy and Environmental Protection (CT DEEP), and the U.S. Fish and Wildlife Service, GOSA joyfully closed on the Avery Farm on December 29, 2015. This scenic and ecologically diverse property and its 305 acres of outstanding water resources and wildlife habitats are protected forever. The Weber family will continue to occupy their colonial home and manage the farm's hay fields, and the public will have access to the Preserve's beautiful but discreet trails and the easy-access dirt road that runs through the property for passive recreation. As part of CT Trails Day, GOSA will be leading [a hike](#) through the northeastern section of Avery Farm North on June 5th. We hope you'll join us!

More good news! Since its inception in 1967 as the "Save the Haley Farm Committee," GOSA has been working on its own and in cooperation with local, state, and federal organizations to establish a coastal forest greenway across Groton. A 201-acre property in Groton, historically known as Candlewood Hill, is the next critical link we hope to add to this greenway. GOSA signed an agreement with CT DEEP which commits the State to purchase the property using funds from its [Recreation and Natural Heritage Trust Program](#) and commits GOSA to raise 20% of the total and serve as the property's local "cooperator" or stewardship-services provider. The property boasts a rare and significant 44-acre pitch pine forest, a spectacular rocky ridge, dramatic cliffs, scenic trails and historic quarries. Once again, we will need your support to make this acquisition happen.

Habitat restoration is another GOSA priority. GOSA is working to restore young forest habitat in carefully selected areas of Candlewood Ridge and Avery Farm with support from the U.S. Fish and Wildlife Service, USDA Natural Resources Conservation Service, and CT DEEP's Department of Forestry. Thirty-two (out of 400) acres were clear cut last fall and winter and opened up to the sun by removing mature-growth trees. The area is now being planted with hundreds of native shrubs to provide food and shelter to more than 50 species of wildlife, including the rare New England cottontail. After only one season of sun- and hopefully rain-stimulated growth, you will be amazed to see how birds, mammals, reptiles, and butterflies will return or move into the area.

GOSA's acquisition and habitat projects will be a key part of the new U.S. Fish and Wildlife Service's proposal to create the [Great Thicket National Wildlife Refuge](#) in southeastern Connecticut. Federal recognition of the coastal forest greenway will enhance our ability to protect the land, water and wildlife we all love. If you have not already sent a letter to the Fish and Wildlife Service in support of the Great Thicket proposal, there's still time! The deadline was extended to April 4th.

My best wishes to you for a Happy Spring. Enjoy the newsletter!

Joan Smith



A happy occasion at the Avery Farm closing, Dec. 29, 2015, attended by Weber Family members, GOSA board directors, and Tedford Law attorneys.



GOSA News supports the mission and purpose of the Groton Open Space Association by publishing electronic newsletters that inform the public of past, present and future GOSA activities and threats to the health of open space. GOSA News also serves as a [link to the GOSA website](#) for additional information and as a link to other key sites. Our mission is to inform and inspire the public to become actively involved. We welcome letters to the editor. Letters should be sent with the writer's name, address and daytime phone number via e-mail to: gosamail@gmail.com.



GOSA Mission and Purpose To work to promote conservation, environmental preservation, open space and recreational areas in Southeastern Connecticut. To educate the public about the value of open space, conservation and environmental preservation. To enlist public support and funding to promote, acquire or maintain open space for public use, alone or in cooperation with local, state or federal agencies, or with other nonprofit organizations. GOSA is a nonprofit tax exempt organization under IRS Section 501(c)(3).

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Membership

To join, send a check to GOSA and include your name, address and e-mail. Annual dues are \$10 per year.

Groton Open Space Association, Inc.
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An Unusual Jewel in Groton's Emerald Necklace

By Joan Smith and Whitney Adams



Pitch pine tree above east ridge Photo by Joan Smith

There will soon be a new jewel in the emerald necklace of green space crossing the town of Groton. As a result of a collaborative effort initiated and led by GOSA, the State of Connecticut will be acquiring a 201-acre property located in central Groton on historic Candlewood Hill. The property, being sold to the State by Tilcon Connecticut, Inc.¹, is located north of Interstate-95 and south of Route 184 (map at right or click [here](#) for full map.) It will provide a key link to protected open space habitats across our town.

“Tilcon,” as the property is currently called, is the next glacial ridge over from GOSA’s Candlewood Ridge property. It includes the pitch-rich heart of one of our disappearing native forests: *Pinus rigida* or the pitch pine tree. Since colonial times, wood from these forests was split to burn as candles (hence the name Candlewood Hill) and provided the pitch and timber needed for ship building, mine timbers, and railroad ties



Most of us in the Groton area have never even seen these rare pine barrens, where the soil is thin and few competing species of trees or shrubs can grow. Until recently, this site was unknown even to conservationists and naturalists, who discovered the site while hiking on a trail in adjacent open space owned by the town of Groton. Ridgetop pitch pine barrens are a particularly rare subtype; most are located on gravelly to sandy terrain. If you hike up the trail to the pine ridge, you will gradually leave behind the typical deciduous forest of the Northeast, pass through a transition zone (ecotone) and emerge onto an open, sunny savanna with widely spaced pitch pines and chestnut oaks. At over 300 feet high

and featuring winter views of Long Island Sound, the site is one of the most spectacular places in the region for hiking and natural history. Old granite quarries, unusual ridgetop wetlands, pristine streams and vernal pools will delight the hiker along the way.

GOSA first learned about this exceptional property in 2008. Now—several land acquisitions, two appraisals, expert flora and fauna diversity surveys³, and years of negotiations later—GOSA, Tilcon and the State are on the cusp of an agreement. GOSA proposes to raise 20% of the \$785,000 purchase price, or \$157,000; the remaining funds will be disbursed from CT DEEPs [Recreation and Natural Heritage Trust Program](#).

In late February, GOSA met with CT DEEP to discuss how the property will be managed by the State and to define GOSA’s role in the management of the property. As of now, the State is inclined toward acquiring the property as a “wildlife management area” with GOSA serving as a “cooperator,” or the local “eyes, ears and boots on the



Photo by Joan Smith

and bear oaks, and an understory of huckleberry and blueberry. This unique woodland is considered one of the most threatened habitats in Connecticut and the largest pitch pine barren in Connecticut.

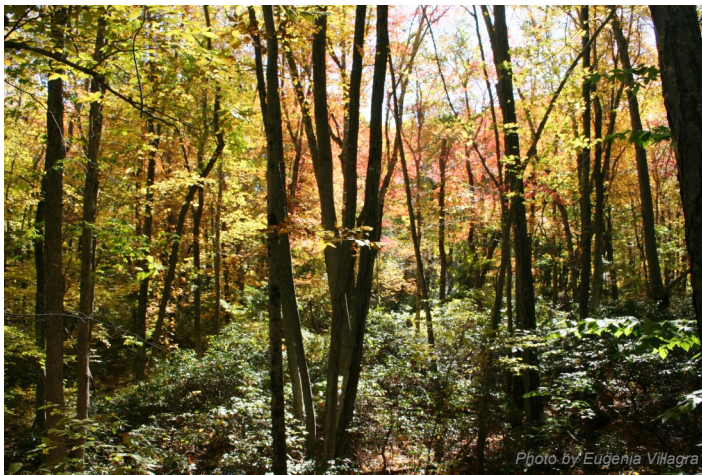


Photo by Eugenia Villagra

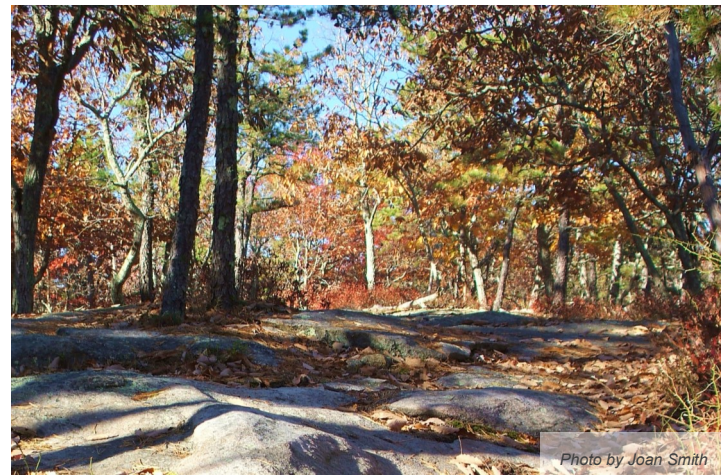


Photo by Joan Smith

As you hike up the trail to the pine ridge you gradually leave behind the more typical dark and shadowy deciduous forest of the North-east (above left), pass through a transition zone, and emerge into an open and sunny savannah with widely spaced pitch pines and chestnut oaks (above right)— an endangered ecosystem in need of protection.

ground.” Among other activities, GOSA will mark and maintain a trail and clear out invasive plants.

Dr. Robert Askins, ornithologist and professor of biology at Connecticut College, wrote that he “strongly support[s] the efforts of the Groton Open Space Association to preserve the pine ridge site in Groton...one of the most important sites for conservation in eastern Connecticut...[as well as] an important link in a green belt [see map at right] that would increase the value of a series of connected natural areas. Islands of nature surrounded by development lose much of their distinctive biological diversity over time, and the best way to prevent this is to link protected areas into greenbelts. Thus, this site should have an exceptionally high priority for conservation.”

Dr. Askins’ opinion is enthusiastically supported by conservationists and naturalists across Connecticut. The State has stepped up and GOSA will seek to engage our loyal donors and volunteers and many others in this extraordinary opportunity. Will you please help?



Photo by Joan Smith

To donate online, click [here](#). For contact info, click [here](#).

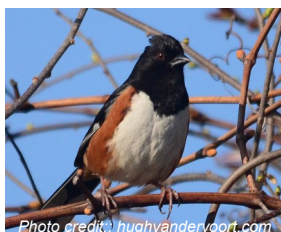


Photo credit: hughvandervoort.com
Eastern towhees have been spotted on the property.



Photo by Joan Smith

¹ Tilcon Connecticut, Inc. is a leading supplier of quality crushed stone, hot-mix asphalt and ready-mix concrete throughout Connecticut.

² For perspective on the importance of this 44-acre pine barren site, the State has put considerable effort into restoring only four acres of pitch pines in Patchogue State Forest.

³ Helene Hochholzer, a DEEP forester, visited the site and was impressed by the unusually extensive area of pitch pines. Whitney Adams, a GOSA botanist and co-author of this article, has completed a preliminary plant survey of the site. Dr. David Wagner, an entomologist at the University of Connecticut, thinks that the unusual pitch pine ecosystem may very well support a number of rare and threatened species of insects.



Tilcon, an important link in a greenway, is outlined in purple and located south of GOSA’s Avery Farm and Candlewood Ridge and north of the Sheep Farm and the Merritt Family Forest.

Shifting the Mosaic: Creating Early Successional Habitat to Conserve Species

By Syma Alexi Ebbin



Photo: Paul Fusco, CT CDEEP Wildlife Division

Grasslands and shrublands, or early successional habitat, are among the most endangered ecosystems in the United States. Conserving ecosystems rather than individual species is thought by wildlife managers to be a more effective way to protect biodiversity.

I grew up an apartment dweller in New York City, venturing into overgrown vacant lots for my slice of nature. But as I grew older, I spent many vacations backpacking with friends in the Green and White Mountains, hiking through pungent needle-carpeted trails shaded by a leafy green canopy. I remember how disconcerted I felt when I began my doctoral research in the flat expanse of the treeless lower reaches of Alaska's Kuskokwim River, a land of permafrost studded with thick stands of shrubby willow and alder, and how oddly relieved I felt as I traveled upriver to work in villages surrounded by tall trees.

Forests are important for our psyches and more. They contain a diversity of species, including plants, animals and microbes—a *biotic community*. They are point-sources of oxygen production and point-sinks for carbon sequestration. They produce harvestable timber and non-timber forest products as well as wildlife, protect watersheds and water quality, play pivotal roles in the climate system, soil formation as well as water and nutrient cycling, among other services.

So why is GOSA cutting down trees? Some of you may have shuddered at the apparent devastation of the newly clear-cut area on Candlewood Ridge as I did when I first encountered it. But there is an explanation which may help you feel less disconcerted.

Over time, most ecosystems transition from one biotic community to another, and these natural changes are called *ecological succession*. This process transformed the bare Connecticut bedrock cleared by the Wisconsin glacier 26,000 years ago into lichen- and moss-covered rocks which trapped moisture, created soil and led the way for the growth of grassy meadows, shrubby thickets and ultimately hardwood forests. These were burned and cleared by Native Americans and more dramatically by European settlers for settlements and farms, leading to the removal of about

75% of Connecticut's forest cover by 1820. These fields and farms abandoned in the 1850s succeeded into thick pine forests and ultimately into diverse stands of hardwood species, which now cover roughly 60% of the state. This mature forest, called a *climax community*, was thought to be stable and persistent, a system in equilibrium and the capstone to the successional process.

In recent decades, the idea of the climax community has given way to the concept of the *shifting mosaic steady-state system*, an ecosystem containing vestiges of all successional stages and species. Since then, additional research on non-equilibrium systems has demonstrated the importance of disturbance in fostering resilience. Strategies used to dampen or eliminate disturbance, such as fire suppression, can potentially lead to the collapse of the system as a whole. Disturbance on the other hand can enhance resilience as well as biodiversity.

Historically, the disturbances to our neck of the woods were windstorms, fires, floods, beaver activity and Native American agriculture. At present, it is mostly windstorms and (a very few) beavers left to transform our forests. Except where limited by soil and moisture conditions, and unless periodic disturbances occur, grasslands and shrublands in New England simply morph into a hardwood forest. This is why early successional landscapes and their associated wildlife¹ are gradually disappearing. In all, the U.S. Fish and Wildlife Service counts over 65 at-risk songbirds, mammals, reptiles, pollinators, and other wildlife species that depend on these types of habitats. The National Biological Service noted that grasslands and shrublands are among the most endangered ecosystems in the U.S. and recommends conserving ecosystems rather than individual species as a more effective way to protect biodiversity.

As such, the U.S. Fish and Wildlife Service has decided against listing the New England cottontail under the Endan-



Before and After These images illustrate the stages of early successional habitat creation. Left: initial clear-cut; center: new growth one year after cutting; right: shrubby growth emerges several years after cut.

gered Species Act and is moving to conserve their habitat with the creation of a new wildlife refuge – the Great Thicket National Wildlife Refuge². The idea driving the refuge is to create or maintain shrubby, early successional habitats, aka “thickets”, favored by the cottontail rabbit and the many other species of wildlife. With targeted clear cutting or coppicing³ in these areas, the extent of early successional shrublands can be expanded, thereby enhancing the available good-quality habitat for wildlife species dependent on these areas. At a recent press conference, U.S. Department of Agriculture Natural Resources Conservation Service Chief Jason Weller noted, “The decision not to list the New England cottontail shows that wildlife and working lands cannot just coexist, but thrive, in harmony.”

For several years GOSA has been actively managing many of its properties, including Haley Farm, the Merritt Family Farm, and the Sheep Farm to create and restore these early successional habitats. Active land management has just begun on Candlewood Ridge and Avery Farm, using funding and technical assistance received from the U.S. Natural Resources Conservation Service Wildlife Habitat Incentives Program, the U.S. Fish and Wildlife Service, and the Connecticut Division of Forestry. The newly created clear cut will be planted by GOSA volunteers with native shrubs and plants and soon covered in new green growth, visited by a greater diversity of wildlife, and become home to a hopefully increasing number of vulnerable early-succession dependent wildlife species. If you’d like to see the results of coppicing, please join us on May 1 at 1 p.m. at the Sheep Farm for a [Spring Outdoors hike](#). By creating shrublands and shifting the landscape’s mosaic in favor of these younger forested habitats, we are able to conserve and enhance many more species than through often controversial protection programs that target individual species.



Clockwise from top left: Wildlife that prefer shrubby habitat including the New England cottontail, American woodcock, bobcat, black and white warbler, box turtle and brown thrasher.

¹This includes species such as the New England cottontail and a suite of grassland and shrubland bird species including woodcocks, yellow-breasted chats, brown thrashers, eastern towhees and field sparrows, among others.

²This proposed refuge will have a large presence in Connecticut as well as other New England states, providing for the acquisition (in title or in easements) and management of 15,000 acres within ten focus areas encompassing over 290,000 acres in seven northeastern states from New York to Maine. Of this, 3,500 acres are targeted for acquisition in the Pachaug-Ledyard focus area, which includes Groton and lands already conserved by GOSA.

³Coppicing refers to a traditional woodland management technique practiced in England in which tree cutting fosters bushy resprouting growth to create shrubby habitats.

About the Author: Syma A. Ebbin, Ph.D., is research coordinator for Connecticut Sea Grant, faculty member of the UConn Department of Agricultural and Resource Economics, and a member of the GOSA Board of Directors.



Sidney's Corner

By Sidney Van Zandt with Liz Raisbeck

Avery Farm Nature Preserve Trails With the ink hardly dry on the signing with the Webers for the purchase of the 300+-acre Avery Farm in Groton and Ledyard, we have been busy making plans for marking trails. At Christmastime, my son Doug from Oregon helped begin the blue trail to the east and the north of the southern main gate on Lambtown Road Extension, which is now open for all to enjoy. He also recorded the red trail to the west on GPS with his phone, so that we

can begin to transfer the trail route to the town trail maps. Jenna Gosselin, head of GIS for the Town of Groton, has been incredibly helpful at adding GOSA's Groton properties' trails to the town trail maps. We are working with our GIS and GPS friends to record the lower as yet unmarked blue trail so that we can get maps printed and posted. Ditto for the Sheep Farm and the Merritt Family Forest.



Photo: Eugenia Villagra



Photo: Eugenia Villagra



Photo Source: DPNC

Habitat Restoration

Thanks to a grant of \$100,000 from the U.S. Fish and Wildlife Service a few years ago, we have accomplished considerable habitat restoration this fall through

coppicing* on Avery Farm and Candlewood Ridge. By the end of next summer, the coppiced areas that are quite barren now should have filled in with native blueberry and other shrubs, wildflowers and grasses that will be ideal habitat for the many creatures that need areas more open than thick woods to thrive. In the meantime, this spring we will be building habitat for small mammals, especially the New England cottontail, by piling up the left overs of the coppicing as well as marking trails on our new properties.

***Coppicing** is an English term for a traditional method of woodland management which takes advantage of the fact that many trees make new growth from the stump or roots if cut down. In a coppiced wood, young tree stems are repeatedly cut down to near ground level.

Volunteer! Volunteers have completed two WHIP Grants from the Natural Resources Conservation Service at the Sheep Farm to do away with invasives, continue the lower trail, extend the lower meadow as well as planting the upper Candlewood Ridge areas. We still have a lot of work to do! If you would like to get some exercise in the Great Outdoors and Make a Difference, contact me at SVanZandt3@aol.com. I am a lopper wizard, am fast becoming a habitat pile-building expert, and would love some help. Here's one event:

Come to GOSA's 20th Annual
Haley Farm
Cleanup, Greenup Day!

Bring loppers, work gloves, drinking water and liberate
a tree!

Haley Farm State Park
Saturday, April 23 (Rain date, April 24)
9 am - 2 pm

We supply some hand tools and lunch!

Sponsored in part by The Last Green Valley



Photo: Eugenia Villagra

Powerline Pole Replacement In the midst of all this activity, Eversource, formerly CL&P, decided to replace four sets of poles on Avery Farm this winter. They brought in huge equipment but found only a narrow lane to access the power corridor platforms. In order to get their machinery to the corridor, they had to widen the little lane and put in a temporary bridge across Haley Brook. They then laid a huge base for each set of new 60-foot poles. It was all extremely disruptive. Unfortunately, my favorite witchhazel that were in prolific bloom last fall had to come down. Their work done, Eversource left the area quite tidy and ready for new grasses to sprout.



National Trails Day

X-Town Hike on June 4
GOSA Hikes on June 5



The first weekend of June, GOSA will celebrate National Trails Day, a series of events coordinated in Connecticut by the CT Forest and Park Association with wonderful walks on GOSA property as well as other protected lands. We hope you will join us June 4 and 5 to celebrate open space protection in Groton, and now also Ledyard with the addition of the Avery Farm to GOSA's protected open space.



Photo: Joellen Anderson

X-Town Hike Saturday, June 4, 9:30 a.m. to 1:00 p.m.

We will meet at 9:30 a.m. at the Bluff Point State Park parking lot for registration. Please get there a little early.

This six-mile hike starts at the Poquonnock River at Bluff Point and continues through Haley Farm and across Rte. 215 to the town-owned Mortimer Wright Preserve. From there, the walk will pass through GOSA's Merritt Family Forest and on to the town-owned Beebe Pond Park, Avalonia Land Conservancy's Moore Woodlands, and "Town's End" at Beebe Cove. Click [here](#) for a X-town map.

At 1:30 p.m. a bus will meet us for our return to Bluff Point. The hike is moderately paced and of medium difficulty. Bring your own snacks and drinks. Heavy rain cancels—no scheduled rain date. Solar toilets are available at Bluff Point and Haley Farm.

Pre-registration is requested. For questions or registration information, contact Sidney Van Zandt, 860-572-5715, or svanzandt3@aol.com. Please, no dogs.

Sponsored by Connecticut Forest & Park Association, Groton Open Space Association, Avalonia Land Conservancy, and the Town of Groton Parks and Recreation Department.



Photo: Jim Conrad

Sheep Farm and Fort Hill Brook

Sunday, June 5, 10:00 a.m. - 12:00 p.m.



Meander through the forests and fields of this historic farm, visiting the old dam site and lovely waterfall on Fort Hill Brook. Two-mile hike with moderate to easy trails. Family friendly. Click [here](#) for Sheep Farm map.

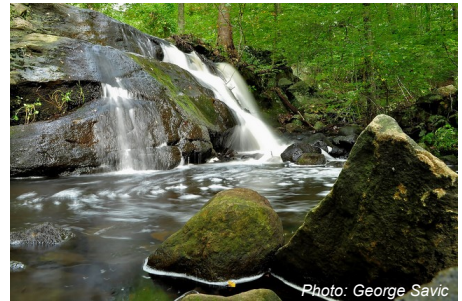


Photo: George Savic

Meet leader Sidney Van Zandt at 10:00 am at 245/255 Hazelnut Hill Road (on the right up the hill from the Pequot Health Center entrance). Rain or shine. **Pre-registration is recommended.** For questions and to register, call Sidney F. Van Zandt 860-572-5715, svanzandt3@aol.com. Please, no dogs. Sponsored by the Groton Open Space Association

Avery Farm Northeast Hike

Sunday, June 5, 2:00 to 4:00 p.m.



Photo: Eugenia Villagra

Walk down an old farm road on this newest GOSA acquisition and through the woods to Haley Brook and the beaver dam. Cross the little bridge next to the beaver dam and gaze out over the lovely pond the dam created with the beaver lodge at the far end. This walk then continues through forest and meadows and past wetlands through gently rolling terrain. Moderate to easy, approximately 2.5 miles.

Leaders Marie Olson and Anne Pierson will meet you at the southern gate of Lambtown Road Extension, immediately north of the Groton/Ledyard border. Approach from Route 184 in Groton, heading north on Groton's Lambtown Road. Use 245 Lambtown Road Ext., Ledyard, as an address for your GPS device. **Preregistration is recommended.** For questions or registration information, call Marie Olson at 860-917-2625 or email mwgoeolson@comcast.net. Please, no dogs. Sponsored by the Groton Open Space Association



Photo source: bingwallpaper.angerg.com

A Beaver Tale from Avery Farm

By Liz Raisbeck

Wayne Forsberg was not happy. It was mid-summer last year, and he and the Weber family at Avery Farm had just discovered that a family of builders had built a dam across Haley Brook, about a quarter mile from their house. The dam was a masterpiece, built by seriously skilled beavers. First they had layered a number of branches across the eight-foot wide brook and fastened them somehow to the bottom. Then they had rolled and carried stones to the site, dropping them onto the branches to hold them down—not little rocks, mind you, but big stones. After that the beavers brought in several hundred pounds at least of sticks and mud and built a sturdy, neatly executed dam about three feet high across the brook. Water was leaking through, but not much.

A lovely pond was taking shape in the woods of Avery Farm behind the dam. Shrubs and trees were now standing in the water, perhaps two feet deep at its deepest at the time. You could see small fish swimming in the pond, probably brook trout. One could imagine otters playing happily, ducks soon arriving, perhaps a heron or two.

Uh oh, thought Wayne Forsberg. While Haley Brook meanders through the woods on its way to the head of the Mystic River, it happens to come within about 50 yards of the Webers' farm pond that sits behind their 1775 farm house. If the Haley Brook beaver pond continued unchecked, a big storm could perhaps send it over the bank to mix and mingle with the Webers' farm pond. In fact, that might be exactly what those beavers intended. And then what? Could the whole thing spread up the hill and spill into the Webers' basement? This was not good.



Photo source: bingwallpaper.angerg.com



Photo by Eugenia Villagra



Photo by Eugenia Villagra

Dam built and pond created by Avery Farm's beavers

Beavers are relatively new to Connecticut. The species *Castor Canadensis* once ranged throughout North America from the far North at the treeline down to northern Florida. They had an enormous impact on the continent's ecology, being nature's primary architects of much of the nation's wetlands and ponds. It is estimated that there were more than 60 million beavers in North America before European settlement. The very first explorers of northern North America were mainly fur trappers who built Indian canoes and paddled the northern rivers trapping lynx, mink, bobcats—and beavers. This spelled doom for beavers. The voyageurs discovered a hungry market for beaver and other pelts in Europe. Beaver hats became the rage of

noes and paddled the northern rivers trapping lynx, mink, bobcats—and beavers. This spelled doom for beavers. The voyageurs discovered a hungry market for beaver and other pelts in Europe. Beaver hats became the rage of

men's fashion in the early 19th century, and westward moving settlers had little patience for the persevering beasts who killed their trees and flooded their streams. So by mid-19th century beavers were nearly extinct in North America.

And then came reintroduction in many parts of the U.S. in an attempt to halt widespread riparian soil erosion and stream degradation—one consequence of the extirpation of the beavers. The first beaver couple released in Connecticut arrived in Union in 1914. In the late 1920s and early 1930s more beavers were reintroduced. By the 1950s about 20 colonies lived in CT, mostly in the northwestern part of the state. More swam in from New York state. But once again, the beavers ran into trouble with humans. The then Ct. State Board of Fisheries and Game began a live trap-and-transfer program to settle existing conflicts. Beavers were transported all across the state and multiplied. In 1961 the state initiated its first beaver trapping permit program. In 2000 it was estimated that there were between 5,000 and 8,000 beavers in Connecticut. While this number is probably higher than at any time since the 1700s, it is low compared to the beaver population before the days of the fur trade.

Beavers only returned to Haley Brook about 15 to 20 years ago. Wayne remembers a summer back then when a beaver family had dammed up the brook farther upstream where it flows under a little bridge that carries one of the many bridle paths on the farm. Wayne would go up to the culvert every night and pull out enough sticks to make a big hole. Every morning the hole was plugged up. Neighbors up the way who rode horses on that trail pitched in to help. Between the two families they managed to keep the dam from flooding the trail all summer. And the beavers managed to keep their dam mostly intact. It was a standoff until winter when the beavers were told in no uncertain terms to go live somewhere else.

But in the late summer of 2015 the situation was more serious. Depending on how big the pond got, there could be some very unpleasant consequences. The Webers contacted GOSA, soon-to-be owners of the land that the beavers were flooding. Jim Anderson—GOSA board director and nemesis of all bittersweet vine on GOSA properties, as well as brush-clearer extraordinaire—sprang into action. With the blessing of the Groton Inland Wetlands Agency and help from a team of volunteers, Jim went up to the dam daily and tore out a couple of holes to keep the water flowing. By morning those holes were plugged with mud and sticks. The contest went on for weeks until finally, Jim said to his colleagues, “Look, I’m working 18-hour days up there but the beavers are working 24-7. We’ve got to put in a beaver-deceiver device. I’m exhausted.”

In November, the volunteers bought a 100-foot length of flexible plastic pipe and pushed it through the dam at about the height they thought would keep the pond from expanding but not drain it altogether. The goal was to find a happy equilibrium to bring about both beaver contentment and human sanity. They weighted down the pipe with cement

blocks at both ends—with chain after the beavers chewed through the rope, and then they waited. All went well for a week or so, and then the beavers expressed themselves. One morning upon arrival, the volunteers discovered that their pipe had been gnawed completely through and the dam was totally blocked—again.



To be fair to the beavers, it should be noted that beaver teeth grow continuously. If they stop gnawing for any length of time, their teeth will ultimately make a hole in their skulls. So, having built a beautifully engineered dam, the beavers were probably

The Ecological Impact of Beavers

Beavers are regarded as a keystone species in North America, which means that they have a disproportionately large impact on their environment in relation to their numbers. Prior to European colonization, beavers probably lived on every stream and small river, as well as many large rivers of the continent, creating a staggering number of aquatic habitats.

Each colony's dam building creates a pond and adjacent wetlands. These habitats attract numerous species of plants and wildlife. Frogs and salamanders and warm water fish flourish in the pond attracting wading birds and foxes. Cavities in the dying trees are home to nesting woodpeckers, sapsuckers and wood ducks. As the trees die and the forest opens up to sunlight, muskrat, mallards, black ducks, bitterns and rails may call the pond home. Numerous insects whose life cycles include a stint in the water such as mayflies and dragon flies flourish. Overall, a rich ecosystem is apt to develop around each pond.

The Connecticut cycle: When the beavers have eaten out their food supply and abandoned the site, the dam will eventually breach, perhaps even be swept away in a storm. The stream carries sediment from behind the dam out over the pond site, and a wet meadow usually develops. Shrubs and small trees recolonize the area; and butterflies and song birds such as the yellow warbler, common yellowthroat, blue-winged warbler, chestnut-sided warbler build nests in the brushy habitat. Foxes look for mice, voles, and rabbits in tall grasses. Hawks linger overhead with the same idea in mind. Depending on the topography, the area may remain a wet meadow or begin the long slow path back to a full-fledged forest.

All that nature's engineers wanted was a safe place to build their home, but what they have created is a healthy new ecosystem teeming with life and rich in diversity.

Sources:

[Beavers in CT, Their Natural History and Management, by J.M. Wilson, 2001, CT Department of Energy and Environment Protection, Wildlife Division](#)

[BBC Wildlife: Beavers, the Master Builders](#)

[PBS Nature: Leave It to Beavers](#)

grateful to discover the gift of the pipe, which they could continue to gnaw to keep those teeth under control.

Next, our trusty volunteers bought several lengths of stove pipe, which they used to cover the plastic pipe, and that seemed to do the trick until a big storm broke up the metal pipe coverings, wiped out the dam, and pushed it under the little trail bridge right next to the dam. This of course blocked water from flowing under the bridge, and water rose up and over the bridge threatening to wash it out. Weber family members and a half-dozen GOSA volunteers worked like beavers to unplug the bridge. Meanwhile the beavers, of course, rebuilt their own dam back where it had been.

The humans were now in that peripatetic state bordering on apoplexy. Sandy Van Zandt went back to the Internet and found what appeared to be a foolproof deceiver called the Clemson Beaver Deceiver® for its cradle of invention, Clemson University. The genius of the Clemson device was that the pipe was metal (duh) and it had a clever 90-degree

angle turned toward the sky on the downriver side, thrusting it up out of the water from which flowed the liberated stream. This meant that the beavers would have to climb up on top of the slippery pipe to stop the flow while carrying mud and sticks, and that was more than they could manage despite being second only to humans in their ability to manipulate and change their environment.

Having located the parts for the Clemson, the next order of business was to get them to the dam. Fall had now passed, and December was upon us. So was Christmas. Sandy's son Doug showed up for a Christmas visit and led the next charge. With some good weather predicted for the week after Christmas, Doug scrounged some large styrofoam flotation blocks, bought the Deceiver parts at a construction shop down in East Lyme, and hauled the load by truck as close as they could get downstream of the dam. On December 29th the parts were loaded onto the styrofoam, and Jim and Doug, wearing chest waders, floated the material up to the dam. Sandy had turned up a metal dog crate, which Doug ingeniously attached to the upstream pipe end to keep beavers and debris out of the pipe. Wayne Forsberg provided his tool shop for putting things together. The crew poked the pipe through the dam a little below where they thought maximum pond height should be, weighted it down at both ends—no easy task—and plugged in the L-shaped end downstream. Voila! The water flowed briskly through the pipe and up and out, making a little fountain at the top. Beavers deceived at last! And it only took four months!

American Beaver (*Castor canadensis*)

Largest North American rodent

Weight: 30-68 pounds

Length: 24-36 inches

Life Span: 24 years average in the wild

Attributes: Powerful hind legs and webbed feet for swimming; human-like front paws for carrying, stripping bark, packing mud; broad flat hairless tail for steering, balance, and food storage; scent glands for marking territory; additional glands for maintaining water resistant fur; powerful teeth and jaws that can take down a tree two to three feet in diameter

Breeding: Monogamous, produce two to six kits a year. Mate in Jan.-Feb., kits born May - June. Colony in winter consists of adult pair, 2-4 kits from previous summer and 2-4 kits from previous year, which are pushed out of the colony in the spring before new kits born.

Diet: Herbivores; prefer willow bark and smaller twigs, birch, aspen, alder; wetland and pond plants like water lilies, pond weeds and sedges.

Activity: Beaver dams as long as 300 feet have been observed. A colony will likely chop down 300 trees in a year and can gnaw through a three-foot cottonwood tree in a matter of hours. When the area near their lodge is divested of food and building material, they will abandon their lodge and move to a new site with good food supply.

Shelter: The colony builds a lodge in the pond rising four to eight feet out of the water. It is 20-40 feet across at the base and has at least two pond entrances up into a vestibule and a main living room. The family keeps a cache of tasty branches outside the lodge for winter food.



Photo by Eugenia Villagra

Considering the magnitude of this beaver-deceiving project, one wonders about the millions of beavers all over the country driving human neighbors to near insanity. Sandy VanZandt no doubt spoke for all who worked on this project and thousands across the country when he said, "I am really in awe of beavers. They just don't stop! I've never seen anything like it!"

Editor's Note. *Liz returned to Avery Farm to check on the Beaver Deceiver wondering, was it still deceiving? Indeed it was! She interviewed a local resident she met by the dam. Continued on page 12.*

A Conversation with Beverly

Beverly was sitting on the bank looking at the dam on her hind legs with her little front paws holding something close to her chest, and her broad flat tail tucked underneath her. Every now and then she swiped a paw across her face and whiskers, in a quick grooming gesture.

“Beverly, what are you doing?” I asked.

“I’m listening.”

“For what?”

“For a trickling sound. Have to repair the dam if we hear that trickle.”

We were both looking at the upright pipe of the beaver deceiver on the down-stream side. It was pouring forth a *lot* of water on this 45-degree day, just five days after a six-inch snowstorm. There was a loud sound coming from the pipe, but it was not a trickling sound.

“So how did you and your family pick this spot?” I asked.

“That’s pretty obvious. Upstream there’s a broad mostly flat area that would make a great pond. The brook right here is pretty narrow, so the workload of the dam is manageable,” she said. “Those are the upsides.”

“And the downsides?”

“Well, there are no willow trees here. That’s our favorite food. We have to make do with swamp maple and birch mostly. If we can find some willow somewhere else to bring here, by the time the trees in the pond die and we’ve chewed up all the near-by trees, we’ll have dropped enough willow sticks in the mud that they’ll sprout up a nice little willow forest around the pond. And also—there are too many humans around here,” she muttered.

“So where are you and your family living this winter?” I asked.

She pointed a sharp-clawed paw over the pond.

“Can’t you see our lodge over there?”

“That big pile of sticks and skinny tree trunks?”

“That’s it. It’s hollow inside. Quite a trick to build a nice



round roof that doesn’t collapse. It’s very cozy from our body heat and there’s room for all six of us. We have two entrances for safety, and we keep our cache of tree branches for food submerged next to it. Since we don’t hibernate, the trick is to bring in enough branches in the fall to last the whole winter. Otherwise, we have to go food hunting in the winter.” Beverly shivered. “That’s dangerous, especially if the pond is frozen and we can’t get back into our house easily. We’re safe in the water, but on land?” Beverly shivered again. “Coyotes.”

At the risk of asking a stupid question, I ventured timidly,

“What is the dam for, really?”

Her beady eyes glared at me.

“Well, we couldn’t survive the winter without our lodge, and the lodge has to be in flat water, so it doesn’t get washed away by the brook. We have to have a pond. Ecco! The dam!” I wondered where she had learned Italian.

Just then Beverly spotted a trickle of water coming out of the dam.

“Gotta go!”

Off she hustled, disappearing along the edge of her newly minted pond. In a few minutes she was back, trekking through the muck on her hind legs with a huge wad of mud pressed to her chest. She slapped it down on the trickle and pushed it hard in among the sticks with her nose. The trickle retreated.

“It’ll take a few more wads to stop that,” she said. “See you later!”

The End...maybe.

About the Author: Liz Raisbeck is retired from a 25-year career in Washington, D.C. as an environmental policy advocate for National Audubon Society, National Parks Conservation Assn. and other national environmental organizations.