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Battling Beavers To Prevent Flooding

BY KENDRA BOBOWICK



Enlarge image

Dan Holmes of Holmes Fine Gardens reaches for a section of pipe used in a beaver mitigation project, which should promote waterflow while allowing beavers to thrive at Cavanaugh Pond without flooding surrounding areas. The fencing behind him is also part of the project. — Bee Photos Bobowick

Straining to reach a length of plastic pipe, Dan Holmes leaned forward but was momentarily stuck in the mud. After a brief struggle with thick sediment at the bottom of Cavanaugh Pond, he freed his feet from the silt.

He spent a few days this week up to his waist in waters and wetlands where beavers generally construct their dams that cause flooding along Newtown Forest Association's 14.9-acre pond and property on Echo Valley Road. Nearby Hanover Road and McLaughlin Vineyards off of Alberts Hill Road also flood due to beaver activity.

Power-drilling screws into lengths of pipe, Mr Holmes pieced together a beaver mitigation project aimed to promote water flow in the area of a culvert previously dammed and clogged with wood debris set in place by the industrious animals.



Enlarge image

On August 23 Dan Holmes, background, stands thigh-deep in the Newtown Forest Association property at Cavanaugh Pond off Echo Valley Road where he constructed a beaver exclusion with help from Bolivar Pacheco, also in the water, and Marcial Manendez, standing on the shore. The Newtown Forest Association consulted site engineers Amy S. Greene Environmental Consultants, Inc, which specialize in these issues.

Constructing a beaver exclusion area near the culvert, Mr Holmes explained, "The beavers can still do their little lodges, but this will allow safe passage of water so the upper and lower ponds won't flood."

Newtown Forest Association President Bob Eckenrode said, "We are trying to coexist with our hardworking fur family." When the ponds flood, the water spills onto Echo Valley and Hanover Roads, Mr Holmes said. "It has been destructive," he added.

The NFA received a \$7,500 grant from the Iroquois Community Grant Program, used toward the beaver "exclusion." An informative kiosk (not yet in place) explaining the project, habits, and habitat of the beaver family will follow. The NFA worked with site engineers Amy S. Greene Environmental Consultants, Inc, which specialize in these issues, and also consulted with representatives from the Connecticut Humane Society.

The environmentally engineered project aims to "promote beaver activity without destroying anything."

Water passing from pond to pond flows through an old culvert installed beneath a raised railroad bed, for which the cement trestle footings still border the street.

According to the NFA's website at NewtownForestAssociation.org: This property is split down the middle by a raised, now abandoned railbed that was created in 1885. When the railbed was installed in 1885 the pond was to be split and connected by an underground tunnel that was six foot by eight foot,

made of cut stone and masonry. Within the raised railbed is a fieldstone dam and spillway originally built in 1867.

To the northern side of the railbed is a five-plus acre lake suitable for fishing. To the southern side are approximately five acres of wetlands, shallow ponds, and vernal pools. Five additional acres of woodlands surround the property.

Also according to the NFA information, in 1989 the NFA cleared the north and south pond connecting tunnel after years of continually having to clear beavers. A grate spanned the culvert to prevent beavers from building in the tunnel.

On August 23 as Mr Holmes, with help from Bolivar Pacheco and Marcial Manendez, connected piping, he also pointed out a larger mesh fence in the water and secured to the bottom of the pond, creating a perimeter around the culvert and set roughly 20 feet from its opening. From the culvert he attached the piping and ran it below the surface out past the grate. The design is meant to maintain water flow and deter beaver activity near the tunnel.

"It's not pretty, but the beavers can do their thing and cars can still get by on the road," said Mr Holmes. "It's a cool idea, the first time for me."

Newtown Forest Association Treasurer Guy Peterson said, "If this works, we can apply similar methods at our other properties where beavers persist."

A History

According to NFA information provided by Mr Peterson, the Cavanaugh Pond property is thriving with wildlife, including beavers. The property is open to the public for passive recreation such as bird watching and other wildlife observation, fishing, and hiking. In addition, the abandoned railbed and tunnel represent a glimpse at Newtown's rail history and man's engineering ingenuity.

Over the last 30 years the presence of beavers here have required minimal annual maintenance by the NFA, however, as with all good things — change happens.

The beavers from time to time blocked off the tunnel, which increased the ponds' size and their habitat. While in most situations the NFA lets nature take its course, the tunnel blockage had created a public safety hazard, with periodic localized road flooding.

Using grating to cover the tunnel entrance was not a solution, given the beaver population. The beavers not only plugged up this tunnel, but also plugged up a secondary overflow pipe, which ultimately raised the water level more than six feet, flooding Hanover Road. In addition to several hundred volunteer hours, the NFA was required to hire a contractor with a specialized excavator to reach into the water and lift out the debris at the tunnel entrance and unearth the first 25 feet of the tunnel to clear the tunnel of obstructions. The low volume of water flowing through the tunnel and its rough fieldstone surface permitted the beavers to float logs through the grating and to carry logs into the tunnel from the outflow side of the pipe that make it easy for the tunnel to become obstructed.

The temporary grating required regular maintenance, which became costly. The NFA had spent more than \$4,000 to clear the blocked tunnel during the summer of 2009.

This Summer

Helping the NFA during the summer months with projects including work at the Cavanaugh Pond property were Robby Eckenrode, Stephen Ashbolt, and Dan Lawrence, who are each college students majoring in either forestry management and/or environmental sciences.

Mr Peterson said they helped with stewardship of all properties, assisting resident caretaker Steve Maksel. Although much of the work was invasive species removal and property maintenance, they also conducted site inspections over most properties to add signage, identify maintenance needs, identify if invasive species have spread to these properties, evaluate tree and shrub species of interest, and more.

The interns were invaluable to the NFA this summer, said Mr Peterson.