

The BEAVER DEFENDERS



Jimmy Redmond assembles a flow device for the Borough of Wenonah

February 2013

Beavers are as much a part of the waterway as the water itself.

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Happy New Year!

February 2013

by Sarah Summerville

Making tracks

As the old adage goes, take only pictures and leave only footprints. Recently, we got a little snow (far too little for me) - two inches one night, then a dusting two nights in a row with accompanying sub-zero temperatures, so it was a winter wonderland here at the Refuge for a bit. The first week of February lead me down some interesting paths. I wandered out of the house on a frozen morning to briefly check on the wood pile and found myself an hour later deep in the woods following tracks.



When I explain to others the reason the Refuge was created, I often get a perplexed look of disbelief that its primary mission is to “provide an inviolate sanctuary for indigenous plants and animals of the Pinelands”. Or something to that effect. Basically, any creature within the boundaries of this haven is safe from persecution of any kind.

What? Just for animals and *plants*? It wasn't a playground made for humans to use? The by-product of this first function allows well-behaved humans to explore and enjoy the refuge through *passive* recreating. Taking only pictures and leaving only footprints.

Being one of those well-behaved bipeds (most of the time) I was delighted to be doing just that in the cold slanting shafts of brilliant morning sunshine. Using

my identification books, I read the footprints left in the snow like sentences on a page. They told many different, but interconnected stories of intrigue, adventure, danger and delight, all written by different authors. Time warped as I tried to reconstruct the past.

The clouds pushed through abruptly and under a low leaden winter sky. I walked along a snowy path cradled on one side by a forest of large, dark bare trees bent protectively overhead, and on the other by soft reddish bushes that fringed the frozen crusty pond. Surrounded by evidence of winter follies and forays, the story was written before me. Rabbit and squirrel tracks interlaced at the trail head where the open grassy slope squeezed down into a moss and snow mottled linear strip. The prints crisscrossed each other in an intimate chain, though the explorers probably never saw each other. As I walked along watching, listening and poking around, tiny sparrows darted in and out of the low, lacy brush along the icy shore, delicately picking hidden seeds from the dry grasses, fluttering and floating just steps ahead of my heavy snow boot pace.

Evidence of a fox appeared on the path from the ice. I followed his tracks back to find that he had come across the frozen pond from the north. Once on the path, he trotted here and there smelling his own story, nosing and digging into the cover, looking at the same

tracks that I was now reading - those of his unsuspecting prey; but perhaps they had been onto him the whole time.

frozen beaver dam, there was a 12" diameter hole in the ice where an otter had broken through to come topside. The dark water lapped at the jagged edges of ice. The unseen current was swift below me, below the white stillness where I stood. Gazing upstream, I could see other holes, every hundred feet or so, where she had popped up to look around and get air. Her tracks at this hole showed where she had slipped up and out of the frigid water, slid along the snow and glided out onto the open ice. It looked like she had been playing hockey, slipping and sliding around on her own personal rink. Otters always know how to have a good time.

The path curved away from the open pond, and as it traversed deeper into the quiet forest I met a small flock of gregarious ruby crowned kinglets. Their sweet demeanor allowed me within arm's reach of where they were dancing in and out of the laurel and high bush blueberry plants. Under the protection of the quiet winter woods, I found and followed turkey, raccoon and opossum tracks (which look like little stars). I think, according to the field guides, I followed a skunk for awhile, as well as a small herd of very lucky deer who made it through hunting season.

I didn't see that our beavers had been out after that snowfall, but I could see the new sturdy white outline of their homestead far upstream. Local beavers have been busy elsewhere this winter, though. We were called back to both Wenonah and Haddonfield to consult on beavers damming and flooding



**Frank Eggert and Jimmy Redmond
unload the trailer**



Connecting the pipes

conservation areas in the Mantua and Timber Creek watersheds, respectively. Fortunately, after conferring with us, both municipalities have decided to install flow devices instead of trapping out the resident beavers.

Following the step by step instructions from Beaver Solutions' DVD, *The Best Beaver Management Practices*, the Wenonah flow device was assembled by Jimmy Redmond and taken down into the Mantua Creek floodplain. We quickly discovered why Mike Callahan, of Beaver Solutions, does not install

flow pipes in January. We were frozen out (or rather frozen in), and between the frozen creek, rainfall, flooding and tide schedules, and then vandalism, Wenonah's installation has been put on hold indefinitely.

In the meantime, Haddonfield's conservation area at Crow's Woods got their busy beavers back. Several years ago, the damming and flooding problem was solved by extending the length of the wooden boardwalks to accommodate the extra water. But now their new dams are causing problems for a neighboring golf course at the 16th hole pond. We met with the city Commissioners, the golf course and our old friend Butch Brees and came up with a brilliant idea. The golf course will fund a flow device installation in Crows Woods which will be built and installed as an Eagle Scout project for a Boy Scout in Troop 65. We, of course, will consult. Win, win, win, win, win, win. I think that's how many wins we get out of this project. I guess in this instance we will take only pictures and leave only piping.

Busy, Busy Beavers, by Bill Duhart, 02/06/13 from the Haddonfield -Haddon Township Patch

In a scene that could have been straight out the cult golf movie classic, *Caddyshack*, an official of an exclusive club this week cried foul about some nuisance rodents ruining his golf course.



closest to the golf course and not injure the beavers. She said state law prohibits relocating beavers and they can only be trapped if a municipality plans to euthanize them.

She also stressed that beavers may appear to be a nuisance, but they actually play an important role in maintaining waterways.

In this instance, the exclusive club is Tavistock Country Club and the municipal entity it's appealing to for help is the borough of Haddonfield.

Greg Jacobs, the assistant superintendent at Tavistock, urged borough officials this week to help him take action to alleviate flooding on his 16th green because of water backing up from up to five dams the busy beavers have made since recently reappearing in the waterways near Haddonfield's Crows Woods.

Brees said the dams have also flooded two foot bridges in the Crows Woods Reserve but a third, larger bridge is still accessible. It was not immediately clear if the bypass project will lower water levels around the flooded foot bridges.

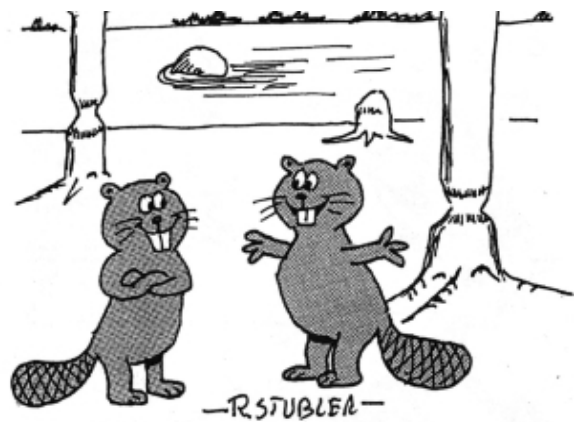
But unlike sinister methods used in *Caddyshack* to rid the golf course of gophers, the solution to this problem will do no harm, and will likely do quite a lot of good. Jacobs supported a plan from local conservation activist, Butch Brees and environmentalist, Sarah Summerville, to install a bypass to drop the water level near the dam backing up into Tavistock.

Summerville said beavers are common throughout the state and new colonies form all the time. She said when the creatures are 2 years old they are pushed out of their parents colony and forced to start their own. She said even if local officials planned to euthanize the beavers, which they do not, other beavers would likely take their place.

"They've raised the water level near Evans Pond by 18 inches," Brees told the borough's Board of Commissioners during a meeting Monday.

The solution: a 15-foot plastic tube to filter water past the dam and back into the pond. Materials cost about \$700 and Summerville said it would make an ideal project for a local Eagle Scout. Jacobs said Tavistock is willing to pay for the materials in what he described as a win-win situation.

Summerville, an official from the Unexpected Wildlife Refuge, Home of the Beaver Defenders in Newfield, explained the system would bypass the dam that is



"I'M THINKING AFTER I BUILD THE DAM I'LL BUILD A CLUBHOUSE AND OPEN A 18-HOLE GOLF COURSE, AND..."

The State of the Beaver Conference 2013, by Heidi Perryman

The conference was such a gathering of wonderful creativity and determination that I've been waiting for it to settle in like turbid waters that aren't ready to drink. Contacts were made, paths were crossed, and stories were shared and understood. It seemed like there were more like minds gathered in one place than I have ever seen on the topic of beavers. More than the last conference, when ODFW was still in the formative stages of understanding why beavers were good news. The word is definitely out.

Take, for example, Paul Henson's stunning recommendation that beavers become one of the nationally recognized "Surrogate Species" which is being submitted for public comment here. We'll talk more about this idea and what you can do to help, but it is a country wide policy change that would make an unmistakable and breath-taking difference in every possible way.

Leonard Houston started the conference right away with brilliant observations about beavers being the only recovery tool that made a difference in disasters from Mt. Saint Helen's to Cherstevenobyl. His comments were made with such simple elegance that I asked to post them here, and this is how the conference began.

Within this strangely pastoral setting the animals go about their business, sometimes finding uses for what we've left behind. The wolves rise up on their hind legs to peer through the windows of houses, looking for routes to the rooftops, which they use as observation posts for hunting. Eagles build nests in fire towers. Deer, elk, bison and wild horses flourish in abandoned farm fields.

As to the beavers, they have shown an amazing resiliency to some of the worlds most cataclysmic events, in large surpassing sciences understanding of what we call sustainable habitat. Beavers, forced out


decades ago when the landscape was engineered for collective agriculture, have already undone much of man's work converting polluted swamps to free flowing rivers and restoring one of central Europe's great marshlands.

Did you feel it? That prickling chill of gooseflesh telling you that things are changing – indeed HAVE changed? And that for those poor folks that don't yet recognize that beavers are the saviors that will champion their waterways, restore their salmon, protect them from drought, and shield the worst effects of climate change — the day is fast approaching when just about everyone will be worried about beavers.

We are on the right side of history in this and if humans live long enough to notice, it will only be because we understood that beavers everywhere are worth a dam.

Thank You for Another Year of Patrol!

Yet one more deer hunting season concluded in zone 25 with the close of January. The weather was kind to us patrollers this year, with warm days and cold nights, very little precipitation, and thankfully we had no incidents to speak of and no injuries to report. Thanks to Maryann, Dave, Judy, Jan, Paw'La (who was baptized that day - brrrr), Chris, Pat, Candy, Greg, Julie, Jenn, Julian, George, Leona, Theresa, Bob, Jean Dave and Gene. Extra special thanks go to those who gave extra rounds: Moe, Freya, Anne, Clint, Roger and Jimmy. The time you volunteered, the concern you share, and the support you provide to the Refuge is so very appreciated.



Ann and Clint in red

Each, and every one of you has a special place in the heart of the Director.

Eagle Scout Project at Wildlife Sanctuary Protects trees from Beaver Damage, by Tim McCarthy
10/23/12 from wickedlocal.com

A North Andover Eagle Scout, promoted to the elite rank just last month, worked over the summer to preserve the natural beauty of the Ipswich River Wildlife Sanctuary in Topsfield.

Daniel Zeheb, 16, spent a week last July at the Ipswich River Wildlife Sanctuary in Topsfield working to protect more than 60 trees from damage by beavers. The project was the final step in attaining his Eagle Scout ranking. He earned the rank and badge in September during his Court of Honor ceremony at Trinitarian Congregational Church in North Andover.

Zeheb worked alongside family and friends to wrap chicken wire around trees surrounding the South Esker and Beech Island trails, two of the most commonly walked paths surrounding the wetlands. "This is a place I like to visit and walk," Zeheb said. "I wanted to protect the trails."

Beavers munch on the trees as a source of food but end up damaging the aging trees in the process. Wire installed by Zeheb and his volunteers will discourage the beavers eating the aging trees and finding other, younger trees.

Andrew Prazar, education coordinator for the sanctuary, said the wire "beaver barriers" are useful for maintaining the ambiance of the park.

"It's a balance of aesthetics and conservation," he said, noting many of the trees are up to 80 years old.

Prazar said Zeheb had approached him around May with his barrier project. Many other Eagle Scouts throughout the region have offered services for the

Sanctuary, but Prazar said he appreciated the forethought Zeheb had already put into his proposal.

"It's always nice when someone comes to us with a project in mind," he said. "He came with a very well prepared plan. It was a very independent project which we appreciate."

The wire is expected to last about a decade before it needs to be replaced.

The Ipswich River Wildlife Sanctuary, part of Mass Audubon, consists of about 12 miles of trails and eight miles of the Ipswich River.

Zeheb said he wanted to finish his Eagle Scout project before entering his junior year at North Andover High School this fall, as he'd be enrolling in a number AP and honors courses. He eventually wants to pursue a science-based career for the future.

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(Congratulations to Daniel on successfully attaining the exalted rank of Eagle Scout! However, we recommend that you use heavy gauge welded wire to wrap trees to protect them from

beavers. Beavers can push chicken wire around easily making it much less effective. For more information

on tree wrapping and other beaver friendly solutions, visit our website at www.unexpectedwildliferefuge.org)

Oregon Coast Project Lets Beavers Restore Habitat, by Keely Chalmers, from KGW.com, 01/09/13

SEASIDE, Ore. -- They call themselves beaver believers, but don't get them confused with the football fans. The group is taking on a first-of-its-kind project to restore nature using 80 acres of farmland in Seaside, a natural wetland and rare Sitka spruce swamp.

Back in the 1940s, it was a horse farm owned by Hollywood actor Tab Hunter and Don Drysdale. The trees had been cleared and a creek diverted and cut off with a huge berm. The North Coast Land Conservancy now owns the land.

Instead of taking months, using heavy excavators and hundreds of thousands of dollars to build the dams necessary to restore the area, the group spent about \$60,000 and six days to remove the berm. They are leaving the rest of the work to beavers in the area. The group knew there was a beaver colony nearby and thought if they offered the animals a new home they would come. They did.

"We did just a few discreet actions moving just a little bit of dirt around, but designed and set up so the beavers will respond to what we did and improve on it and basically complete the project." said project ecologist Doug Ray.

The group did some research and learned that beavers actually do a much better job than humans on habitat restoration. "There have been studies that have shown that pools created by beaver dams hold significantly more fish than pools created by humans," said Celeste Coulter, stewardship director for the North Coast Land Conservancy.

But not all want to leave it to the beavers. Dave Langlo lives next to the project site and worries the beaver dams will increase flooding on his property.

"We didn't flood at all until they started introducing beavers back here," explained Langlo.

But Ray said the beavers will actually do the opposite and reduce flooding, all while restoring nature in a uniquely natural way.

Beavers in Winter,

by Hope Sawyer Buyukmihci 1994

When poplar leaves have turned from green to gold, the beavers know that the sap is down and it is time to harvest. One fall I watched the winter food pile grow, as beavers felled trees, cut them into lengths, and towed them to a spot next to their loge, where they anchored the first ones in bottom mud.

Water is life to a beaver, and without hesitation they plunged head first with butt ends to jam them into the mud. I saw a branched end twitch and whirl as a beaver maneuvered underwater to get the big end of a log firmly planted. At times part of the beaver's flat tail thrashed above the water's surface as he worked.

When the food pile was finished, it consisted of a huge supply of interlaced logs and branches - big logs at the bottom, with branches and leafy twigs piled to above the waterline. Other trees than poplar were mingled in - swamp maple, wild cherry, oak, willow and sassafras.

At about the time food gathering was finished, the beavers started to make their lodge snug for winter. From the bottom they brought up muddy debris. Carrying it clasped under their chins they walked on hind feet up the sides of the lodge, to plaster, repair and

fortify. Only at the very top did they leave the traditional airhole of crossed sticks with no mud added.

No sooner had the lodge been readied for winter, when first ice formed, bringing another job. The beavers had four kits that year. Born the first of May, they were seven months old when they saw their first ice. One kit, Fluffy, was more eager than the others. I had often seen him helping his father while the other kits were playing. When the annual job of ice-breaking began, Fluffy was there to help.

One frosty November morning Greenbriar, the father beaver, came swimming up the channel, his progress marked by the crack and tinkling of broken ice. I watched as his head bumped the thin ice from below.

As the ice broke, it made a glassy tent over his head. He raised his head high, letting the ice shatter, then placed his front feet on the unbroken portion ahead and pressed. It broke, letting him down with a splash.

He proceeded thus, breaking ice as he came, until he reached the dam on which I was sitting. Paying me no mind (for he knew and trusted me), he turned and went back down the channel, systematically breaking

ice along the other side, to widen chunks of floating ice and there was Fluffy, ready to help. He too tried to break ice from underneath, but he was not strong enough.

Next he rose and pressed ice with his small hands, but it would not give way. He tried several times, then with a flourish of his tail he dived under his father and swam ahead, down the channel already opened. For 15 minutes I watched as Greenbriar resolutely opened his channel while Fluffy capered around him in the icy



water, trying now and then in vain to break ice as his father did . Once in a while he did manage to break off a section.

Whiskers, the mother beaver, helped with this job too, as she did with everything else, and both beavers kept the water open as long as they could break through the ice. Once the ice became too thick, they retired to their lodge, and I did not see them until an occasional winter thaw which allowed them to come out. Beavers do not sleep the winter away as do hibernating animals. They go to their food pile regularly, bite off pieces of wood with its succulent bark and return to the warmth and dryness of their quarters, under a frozen roof, and above water level. There they live their family life, somewhat curtailed by the weather, but enjoyable nevertheless.



In New Jersey, winter thaws are frequent. Whenever the ice became thin enough to break, beavers emerged. Sometimes they climbed onto the ice carrying a bundle of waterlily roots, which they ate at the ice's edge, ready to leap into cold depths if danger threatened. At other times they ventured into the snow to gnaw on fresh twigs. Often they brought up debris from the bottom and walked with it up the sides of their lodge, making muddy paths in the snow.

At ice breakup each spring, it has been good to see the beaver family come out in force, rollicking and healthy, with shining eyes and glossy fur, after their long confinement. Evidently they have learned a tolerance and adaptiveness that any family might envy.

Politics ought to be the part-time profession of every citizen who would protect the rights and privileges of free people and who would preserve what is good and fruitful in our national heritage. - Dwight D. Eisenhower

Restoring Waterways is Crucial, OP Ed by Jose Serrano and John F. Cavelli, January 11, 2013 from Crain's New York Business

The tristate area is only beginning to recover from the destruction wrought by Hurricane Sandy. As we assess the damage and how we prepare for a future storm, it is worth noting that work by local communities, government and nonprofit groups to restore and stabilize the city's local waterways may well be part of the answer.

Nowhere is this better typified than in the tremendous strides that have been taken to restore the Bronx River. Neglected for much of the 20th century, it is now a national model for reclaiming urban rivers, thanks to a joint effort of the federal government, the Bronx Zoo and dedicated local groups.

The river named for local merchant Jonas Bronck in the 17th century supported such a density of beavers that Europeans flocked to the area to acquire their pelts. New York City enshrined this symbol of its economic growth in its official seal. But while the beaver's image was preserved, the animal itself disappeared as the city grew.

With the arrival of factories and freight rail during the industrial era, Bronx residents were separated from this onetime oasis. As autos and associated highways further divided the borough, the river became a

typically devalued urban water resource—pollution-choked, devoid of life, with no visible future.

By the 1970s, the South Bronx had the lowest per capita green space in all of New York City and a disproportionately large number of industrial plants. Local activists began efforts to clean up the river as a way to combat the polluted and concrete-covered environment, but they were stymied by a lack of resources.

Funding finally began to flow in the late 1990s via a unique partnership between federal and local governments, local citizens and nonprofits. The environmental cleanup results speak for themselves: many acres of river habitat restored or preserved, 7,000 students instructed, 1,500 educators trained, the reintroduction of the once-native alewife fish, and the removal of tons of trash.

Some 3,000 people canoe on the river annually today. Thousands of others come to enjoy the new riverside parks, bike paths and green spaces. Yet as the city comes to grips with the devastation brought by Sandy, there are other benefits to a well-managed local waterway system that we are only beginning to appreciate.

The restoration of the floodplains in the lower Bronx River and the reconstruction of riparian habitat along the rest of the river helped to blunt the impact of the storm in nearby neighborhoods.

Oyster restoration work by groups like Rocking the Boat protects—and could further protect—urban shores from storm impacts by solidifying our natural infrastructure. Oyster beds can slow powerful waves and, working with marshes, sand bars and other features of the coastal landscape, provide greater stability and defense to shorelines.

We saw that during the 2004 tsunami in Southeast Asia, wetland and mangrove systems provided

protection both to coastal communities and local fisheries. Likewise, coastal wetlands along the Gulf of Mexico served as a critical buffer against the storm surge during Hurricane Katrina.

Wetland restoration projects in the Bronx, Jamaica Bay and Jersey City seem to have survived Sandy with minimal damage. Mayor Michael Bloomberg's PlaNYC wisely commits upwards of 1.5 billion dollars in the next two decades to natural, or “green,” infrastructure.

Coastal ecosystem restoration offers multiple additional benefits, from supporting commercial fisheries dependent upon healthy coastal ecology to addressing climate change as marsh sediments and vegetation fix atmospheric carbon.

The National Oceanic and Atmospheric Administration, a longtime supporter of initiatives to restore the Bronx River, could lead the way now by studying and reporting on the specific benefits that accrue to areas that reinforce their natural infrastructure to protect against extreme weather.

In the meantime, the Bronx River cleanup provides a national model for a new federal Urban Waters initiative designed to stimulate local economies, create jobs and protect Americans' health by revitalizing waterways in underserved areas. The return of two beavers suggests that restoration is now taking on a life of its own.

Securing local habitat for wildlife and the enjoyment of the public is essential work. But Sandy's devastating surge reminds us that this work could now be more critical than ever in protecting our city from the storms that many climate experts now predict will hit our shores with growing frequency.

Rep. José Serrano represents the Bronx in the U.S. Congress, and directed more than \$30 million in



federal funds to the Bronx River cleanup. John F. Calvelli is executive vice president for public affairs at the Wildlife Conservation Society, which managed the grant from the National Oceanographic and Atmospheric Administration that supported Bronx River restoration and education efforts.

Leave it to Beavers: A South Jersey Refuge Expands,
by Tom Wilk, from New Jersey Monthly, 11/27/12

To find Unexpected Wildlife Refuge, as it's called, you have to go off the beaten path—literally. Accessible only by a narrow dirt road, the refuge in South Jersey has extended its hospitality to beavers and other animals for more than half a century.

The 767-acre refuge is home to a single beaver colony consisting of a mother, father, three yearlings and three kits. They are an industrious bunch. The beavers have built dozens of small dams along the Main Lake Branch, which empties into the Great Egg Harbor River.

Hope Sawyer Buyukmihci and her husband, Cavit, founded the refuge in 1961 as a haven for South Jersey wildlife and plants threatened by increasing development and loss of habitat in the region. Originally 85 acres, the refuge has grown to 767 contiguous acres of fields, forests and wetlands in Buena Vista Township and Buena Borough in Atlantic County, and Franklin Township in Gloucester County. Over the past decade alone, 200 acres have been added using grants from New Jersey's Green Acres program, says refuge director Sarah Summerville.

Beavers were nearly extinct in New Jersey in the early 20th century due to excessive trapping. Bob Considine, press officer for the state Department of Environmental Protection, says beaver populations here and throughout the country have been restored through "protection and reintroduction efforts." It's a good thing. Beavers provide many benefits for the environment and people, says Summerville, including the conservation of water, control of soil erosion, prevention of floods, and habitat

improvement for other wildlife.

The beaver population at Unexpected Wildlife Refuge is just the right size for the "carrying capacity" of the preserve, says Summerville. "We are happy with the number of residents here as long as they are comfortable and safe," she says. "During drought years the beavers have relocated completely off the refuge to safer downstream areas where there was more water. They come back when conditions change to favorable."

In addition to drought, beavers are threatened by natural predators, such as wolves, coyotes and bears. But the biggest threat occurs when beavers get too close to settled areas. "Threats to beavers would be mostly from humans when [the beavers] take up housekeeping in the 'wrong' place and flood roads and septic systems," Summerville explains.

Trapping was halted to protect beavers, but since 1970 New Jersey has issued up to 200 recreational permits to trappers each year in order to help control the population, Considine says. The state's Division of Fish and Wildlife does not have a population estimate, he says, adding, "Beavers are more numerous in the northern half of the state, which is dominated by their preferred food: hardwood trees." However, they have done well when trapped and transferred to rural areas in South Jersey.

Beavers are not the only attraction at Unexpected Wildlife Refuge, which has 10 miles of hiking trails. Other species that can be observed include white-tailed deer, red and gray foxes, coyotes, river otters, bald eagles, bluebirds and osprey.



“All visits are by appointment only,” says Summerville. Guided tours are given for groups of up to five people, and maps are available for those who wish to explore on their own. The refuge is rustic; parking is limited; just an outhouse is provided.

Summerville, who lives at the refuge, began serving as director prior to Hope Buyukmihci’s death in June 2001. She edits *The Beaver Defenders*, a quarterly publication that Buyukmihci began in 1971. “A beaver is to befriend—and to defend,” Buyukmihci wrote in one of the earliest issues. The refuge lives up to that standard today.

For Summerville, work equals joy. “It’s like no other experience to see a tiny new beaver kitten,” she says. “It will make you hold your breath.”