

CARING FOR OUR BEAVERS AND ROADS PROJECT

HISTORY & GOALS

Beavers, once almost completely extirpated, have now returned to their natural landscape where they dam moving water to create ponds and wetlands. While they were gone (while their proverbial backs were turned!) humans built roads and farms and houses in their habitat. Unfortunately, what is habitat for a beaver (lowlands with rivers and streams) is wonderful development land for roads and houses and agriculture. That wondrous busy-as-a-beaver activity, so beneficial to innumerable species, can cause just as innumerable problems for humans with their roads, driveways and crops. Methods used to control beavers often focus on removing dams (repeatedly), or trapping and killing the beaver to remove it (extreme). Both methods are ineffective short-term solutions. Anyone who understands beavers knows that a new beaver will always once again take up prime beaver habitat.

Water flow management devices provide a non-lethal and long-term solution to solving human-beaver conflict situations. These devices are an ideal solution to coexistence.

Therefore, the aim of this project is two-fold:

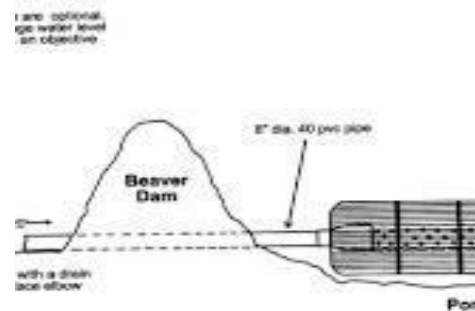
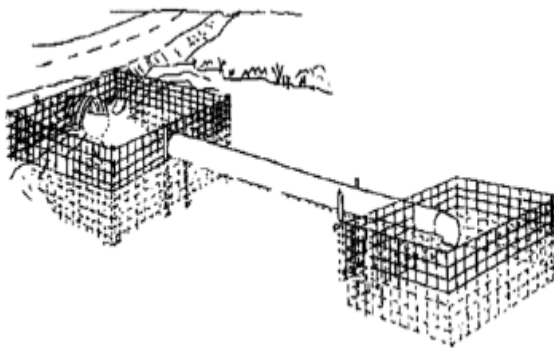
- 1) an opportunity to co-exist happily and safely with an important keystone species
- 2) save our town quite a bit of money on road maintenance while protecting the quality and safety of our roads



Beaver Deceiver™ Device installed at a culvert in Charlotte



Beaver Deceiver™ Device installed at a beaver dam in Charlotte



Illustrations of culvert and beaver dam devices from "Working with Beavers: USDA Forest Service

PROJECT OVERVIEW

The Huntington Conservation Commission (HCC) would like to facilitate the installation of 1 water flow management device at one of the town's most troublesome beaver-culvert sites: Pond Road. We would also like to obtain a beaver consultation for a very complicated beaver complex on the Taft Road, which will likely require another water flow device.

STEP 1 INFORMATION GATHERING

To that end, about a month ago, we initiated a discussion with our road foreman, Jonathan, and our town administrator, Adam. It was Jonathan who identified the 2 Huntington sites. Jonathan and Adam were both familiar with these devices. Jonathan had seen one in action in Shelburne and Adam had learned about them at a recent road maintenance presentation. Our beaver project team discussed some initial ideas and then took a field trip out to see several sites in Monkton and Shelburne where culvert and dam flow through devices had been installed.

STEP 2 CULVERT MAINTENANCE COSTS

The HCC, with the assistance of Adam and Jonathan, obtained an estimate of the overall costs that are currently generally being expended to maintain/ clean out the culvert grate at the Pond location. Here are the numbers:

Culvert Maintenance Costs

Site	# times cleaned/ year	# road crew workers	# hours	Total hours (crew x hours)	Average hourly rate	Estimated Annual Cost
Pond Road	15	3	1.5	4.5	\$ 28	\$ 1,890
Estimated Machinery Gas Cost*						\$ 434
Total Estimated Maintenance Costs						\$ 2,324

*The excavator uses 1.5 gallons of diesel per hour. The machine is run for 1 hour per cleaning so that is 15 hours per year. So 15 hours X 1.5 gallons = 22.5 gallons X \$3.88/gallon = \$87.30
The excavator needs to be transported by truck every time so that is a 10-mile round trip X 15 trips/year = 150 miles per year. Estimating a 0.7 gallons used per mile X 150 = 105 gallons X \$3.30/gallon = \$347/year.

The total is approximately \$2,324 per year.

STEP 3 OTHER TOWN'S EXPERIENCES

Shelburne-We visited the site of a Beaver Deceiver in Shelburne and met there with Paul Goodrich, Highway Superintendent. (Jonathan told us that he'd visited this Deceiver as part of a water flow device presentation some years ago.) The device was installed by Skip Lisle because beavers were blocking the culvert on a daily basis causing constant work for the road crew. Now, with the device, the culvert no longer requires daily or even routine maintenance. It is not even checked monthly. Road crew checks on the device "if they are in the area." They have had no problems with the blocked culvert since installation. The road crew makes sure that the top of the device is kept clear. The main concern was cost as it came from the road budget.

Starksboro – Corresponded by email with Jennifer Lovett, member of the Conservation Commission. Skip installed a Beaver Deceiver on Baldwin Pond earlier this year to resolve a problem with an old man-made dam that beavers were clogging. The project took two days and was paid for by Protect Our Wildlife. The dam is on private property. The Deceiver has functioned perfectly so far. The beavers have stopped trying to block the dam and the pond has not flooded.

Charlotte – Spoke over the phone with Claudia Mucklow of the Conservation Commission, also a member of the Charlotte Park & Wildlife Refuge Committee. They installed a Beaver Deceiver 6 years ago. The beavers had blocked a culvert at the junction of Greenbush Rd and the Railroad line. Flooding was occurring there and the railroad wanted the situation fixed urgently. The CCC first contacted the state baffle program even though they'd heard that the Fish Wildlife

Department (FWD) devices were somewhat ineffective, clogging up too easily. Tyler Brown of FWD visited and recommended trapping the beavers. The CCC wanted to see if a different solution was possible and contacted Skip Lisle who said he could fix the problem with a Deceiver. Skip built the culvert device quickly, in 2 days. Initially, the railroad was upset and wanted the Beaver Deceiver device removed because they'd had a different location in mind. After negotiation, the railroad allowed for a trial period and the device worked perfectly. The deceiver was paid for by a private donor in Charlotte. Road foreman Hugh Lewis ("Junior") was very helpful and supports the devices. He facilitated access to the spot for the Deceiver installation by excavating out all the beaver waste products so Skip could get in there. About 2 years ago the CCC invited all the road commissioners from surrounding towns to an informational meeting. Skip gave a presentation. Afterwards, everyone visited both the Charlotte and Shelburne Deceivers.

Monkton – We visited several sites in Monkton with working Beaver Deceivers, one through a beaver dam on private property and two at town culverts. John McNerney, member of the Selectboard, hosted us for these visits. The Deceiver through the dam was critical to saving a road in Monkton that is a crucial main thruway. Every time there was a heavy rain event, because of the beaver dam on the private property, the water backed up upriver completely covering the road and the road would be closed to traffic for up to a week. Now, after installation of the dam, because the road is so low and the wetlands are so naturally full, the water may still back up but drains quickly and road closures, if they happen at all, last a day or less. The two town culvert devices work perfectly and require little to no maintenance. John has known and worked with Skip Lisle for 15 years and highly recommends him.

STEP 4 DEVICES

HCC reached out to the designer/installer of the "Beaver Deceiver"™ device, Skip Lisle, to ask the price of the culvert device (materials plus cost to install).

We were quoted the below amounts:

Pond Rd -	\$4,000	(culvert Beaver Deceiver device)
Travel -	500	(conservative estimate of mileage expenses and possible lodging as Lisle lives in Grafton, VT)
Taft Consultation	<u>\$ 200</u>	(Lisle to examine Taft Road beaver complex re possible water leveler device)
TOTAL	\$4,700	

Cost Effectiveness

Skip Lisle's devices are estimated to last for 30 years. Over 30 years, the estimated cost of keeping the culverts clear under Huntington's current system would be approximately \$70,000 (not adjusted for inflation and not including the cost of replacing the current grates), versus the installation cost to the town of \$1,300 (see requested town investment below). The Beaver Deceiver might need to be checked about twice a year, and require minor tidying up (e.g. 1 hour, 1 person, twice a year @ \$28/hr over 30 years would be \$1,680). So the full comparison of the cost over 30 years would be: \$70,000 current VS \$2,980 Deceiver.

STEP 5 FUNDING

After collecting this background information, we now have a proposal to put before the Selectboard regarding the purchase and installation of a water flow management device for Pond Rd (and a Taft Rd consultation), and how these would be funded.

The HCC is suggesting the below method for paying for the device and consultation

Town	\$1,300
HCC	\$ 400
Eddy Foundation	\$1,000
POW *	<u>\$2,000</u>

TOTAL \$4,700

Reasoning behind the town amount: The devices would save the town approximately \$2,300/year. As about 70% of our town budget is highway expenses, these savings free the road crew from the repetitive job of clearing out clogging debris around culverts in order to attend to more valuable road maintenance tasks. The flow devices may need minor maintenance (at about \$56/year), but other towns have indicated this is completely different from a constantly recurring fully-plugged culvert.

*Protect Our Wildlife (POW) has recently received a \$40,000 grant to provide towns in Vermont with funds to install beaver water flow management devices. They previously had a grant for \$20,000 and installed devices in 8 towns in Vermont. Based on their experience, their funds are restricted to devices installed by Skip Lisle because of better quality of construction and longevity.

CONCLUSION

The Huntington Conservation Commission, the Town Administrator, and the Road Foreman all support moving forward with this project. It makes both fiscal and environmental sense, and right now we have solid potential funding sources for more than half of the total cost.

ABOUT SKIP LISLE

Skip Lisle has a Master's Degree in Wildlife Management from the University of Maine. His broad specialty is the history and significance of beaver-created wetlands. He began his professional career in 1995 working for the Penobscot Indian Nation in Maine. There he invented the Beaver Deceiver™ culvert device and the Pond Leveler dam device. These two devices allowed the Penobscots to become the first large landowners (owners of 127,000 acres) to have all their 334 miles of roads beaver-proofed non-lethally.

Skip's focus is to educate the public about beavers and to advocate for better beaver management. By preventing the need to kill this remarkable keystone species, his devices have indirectly created thousands of acres of rich wetlands that also have significant hydrological and aesthetic value. By protecting **critical infrastructure and** properties in a long-term, reliable manner, they have also saved society thousands of dollars.

When not involved with beavers, Skip has served on many boards including being a Selectman for six years in his hometown of Grafton, Vermont.

In Skip's words, "I consider our products to be the bare minimum that has any chance of working (for many decades, in fact) without constantly being cleaned and replaced, and without endlessly killing beavers. 'Killing' is the worst possible approach if the goal is to end the problem while protecting and creating great ecological (wildlife habitat), hydrological (e.g., flood control) and aesthetic (wildlife viewing) values...our products represent fantastic investments that can reliably end these costly conflicts while quickly and repeatedly paying for themselves."

The Beaver Deceiver website (<https://beaverdeceivers.com/>) has a lot more information about Skip and the devices.

References:

Beverly Soychak, Vermont Beaver Association, (802) 349-3968, <https://www.vermontbeaverassociation.com/>
Case Study: Andover, NH – attached (from <https://beaverdeceivers.com/case-studies>)