

Leave it *to a* Beaver

HOW A RODENT TAUGHT ME A
LESSON ABOUT RESILIENCY

“THERE IT IS!” I said triumphantly. Peering through the dense brush I could see the lodge. I quickly turned around to Ellen Bergan, Land Stewardship Assistant, and encouraged “Only a little bit further.” We were weaving our way through a thicket of sycamore, red maple and buttonbush exploring a section of the preserve that is normally inaccessible. The plunging temperatures had frozen the quagmire which allowed us to get deeper into the wetland without getting stuck in the muck. This was a massive lodge that must have taken years to build and possibly been in use for decades. The beavers had chosen a spot

along the old drainage ditch close to ample food and far from the beaten path. As we worked our way closer to the pile of peeled logs and mud, I noticed a shimmering above the dome. Heat rising from the log home was a sure sign someone was inside. In my mind I imagined the beaver family huddled together, prepared for the long winter and eagerly anticipating a new generation to the colony. Suddenly, a high-pitched screech pierced through the silence and caught my attention. I quickly scanned the horizon and found an adult bald eagle perched in a snag a few hundred yards beyond the lodge. A light snow



The beaver lodge at Beanblossom Bottoms Nature Preserve. *Chris Fox*

had begun falling and the stillness was so intense I could hear the flakes tumbling from the sky. The sun was beginning to set but I lingered a bit longer to soak it all in. I breathed deeply the cold crisp air and contemplated all the pieces that had to fall into place in order to make this moment possible.

Prior to the explosion of the fur trade that would nearly eliminate the North American beaver (*Castor canadensis*) from the planet, it is estimated that there were more than 60 million spread throughout the continent from Canada to Mexico. By some estimates,

that number could have even exceeded 100 million. Since beavers are ecosystem engineers, each one of those colonies, which consists of the adults, young kits and yearlings, would create and maintain a wetland complex which in turn supported an entire ecosystem. Beaver-created wetlands are among the most biologically diverse and productive ecosystems in the world so it is no wonder that the beaver is often referred to as the quintessential keystone species. A species that supports a whole host of other species ranging from large animals, such as moose and trumpeter swans, all the way down to



A beaver climbs out of a box after being parachuted into a remote area by the Idaho Fish and Game Department around 1950. *Idaho Department of Fish and Game*

small macroinvertebrates which are important food for many species of amphibians and fish, like trout and salmon. And not least of all, the wetland plants that depend on a semiaquatic freshwater environment that a beaver pond creates.

While we now realize that beavers are valuable members of the natural community, prior to this understanding they were nearly trapped to extinction due to the value of their fur fueled mostly by a fashion trend. In the early part of the 19th century, the demand for the fur pelts reached epic levels with the increased popularity of the beaver hat in Europe and the near extinction of their native European beaver (*Castor fiber*). So great was the fever for beaver pelts that it was

a major driving force in the exploration of the west. Meriwether Lewis in July of 1805 while exploring the Missouri river basin near present day Montana wrote “[Captain Clark] saw a number of beaver dams succeeding each other in close order and extending as far up those streams as he could discover them in their course towards the mountains.” Yet, by 1843 when John James Audubon traveled nearly the same route in search of mammals to paint for his latest project, he could not find one beaver. Like so many other once abundant species, the beaver, in a relatively short period of time, was nearly gone and with it disappeared millions of acres of wetlands as dams failed and flooded meadows became eroded streams. The impact to the landscape from the loss of beavers and their wetland complexes is so often overlooked and undervalued in the natural history of this country. In the eloquently written award-winning book, *Eager: The Surprising, Secret Life of Beavers and Why They Matter*, author Ben Goldfarb explains so clearly the



impact beavers had on the land and how they helped shape the continent. As Goldfarb explains, “The truth is beavers are nothing less than continent-scale forces of nature, in large part responsible for sculpting the land upon which Americans built our towns and raised our food. Beavers shaped North America’s ecosystems, human history, its geology.”

Luckily, there have been individuals along the way that understood the importance of beavers and worked to protect and in many cases bring them back. One of the early beaver supporters was Enos Mills, naturalist and author, who in 1913 wrote a book about beavers and proclaimed, “A live beaver is more valuable to mankind than a dead one.” Over the years, beavers have gradually mounted a comeback thanks to the early supporters and the lack of demand for their fur. Their recovery was aided in some case through reintroductions including a rather unique approach taken in Idaho. In 1948, biologist Elmo Hetter was trying to figure out a way to get beavers deep into the backcountry. Travel by mule and horse had proven unsafe and ineffective. One day Hetter had the idea to use a surplus of parachutes from WWII to air

drop the beavers using special boxes that opened once safely on the ground. The crazy idea worked and 75 beavers were successfully reintroduced to the wilderness. According to Geriann Albers, DNR biologist, the first reintroductions took place in northern Indiana in 1935 using beavers relocated from Michigan and Wisconsin, minus the parachutes, of course. Recently, I spoke with Bill McCoy (retired refuge manager for the Patoka River National Wildlife Refuge and current Sycamore Board member), he told wonderful stories about the impact beavers have had on the refuge over the years. He explained that the refuge is listed as a globally Important Bird Area (IBA) by the National Audubon Society and one of the factors that led to this designation is the presence of breeding Prothonotary Warblers on the refuge. These cavity nesting warblers are breeding on the refuge because of the abundance of dead trees with abandoned woodpecker nests which are created through flooding caused by beaver dams.

Today, beavers are becoming more and more common throughout much of their historical range. In fact, they have become so common in some





areas they have created a new threat for themselves. Turns out that beavers and humans prefer similar areas to live. Like us, they prefer flat and fertile valleys with slow moving streams. In the absence of beavers, we had built roads, bridges, farms and homes in many cases directly on top of beaver meadows and right where the beavers would want to live. Once the beavers returned, it was only a matter of time until their water-filled world impacted ours. But, where there are problems there are always solutions. Thankfully, there is a growing movement to help protect beavers and also solve these problems. These energetic and passionate protectors proudly call themselves the “Beaver Believers”. These dedicated individuals have helped relocate problem beavers, created devices to reduce flooding caused by dams and worked tirelessly to educate the public about the benefits of beavers. As Goldfarb states, “Beavers are so important because there’s practically no ecological problem that their ponds and wetlands can’t help us solve. They create habitat for endangered fish and wildlife, capture pollution, restore degraded streams, prevent both drought and flooding,

sequester carbon, and dampen the landscape against wildfire.” Kent Woodruff, USFS Wildlife Biologist and Beaver Believer, said “In the beginning, we viewed beavers as a commodity belonging to us. Today, I think we need to view beavers as part of a community to which we all belong. If we do, together we’ll be part of the solution.”

I remember the day when I first began to truly see the beaver as part of the community to which we all belong and it was transformative. It was a cold, grey February afternoon and I was squeezing into my well-worn and mud crusted chest waders. My objective that day was to access damage to the boardwalk at Beanblossom Bottoms Nature Preserve from a recent storm. The frustration of frequent flooding and the ensuing repairs had me seriously considering removing all the obstructions in the ditches and drainages, including several large beaver dams.

As I began shuffling through the waist deep muddy water, I knew this would be a challenging walk and I hoped my waders and I were up to the task. Slowly navigating through the flooded forest I could feel the frigid temperatures radiating through

my insulated waders as I worked my way closer to the boardwalk. Luckily, the effort needed to push through the cold water helped warm me against the chill. The deeper I went into the wetlands the deeper my concerns grew. I looked around in all directions and all I could see were trees and water. When I arrived at the boardwalk and saw the damage my heart sank. The boardwalk including all our supplies and tools were completely submerged. It was a disaster and I felt defeated. "How could this happen?" I cried out! And then out of the corner of my eye I noticed some movement about 20 yards away. Perched on the top of a small mound of soil, remnants of an old dug out farm pond and the only dry ground insight, was a large adult beaver. As I turned to get a better look, the furry mammal silently slipped into the water. It

quickly swam directly towards me with such grace and ease. Before I realized it, the curious creature was within a few feet of me. I am not sure which one of us was more surprised by the encounter.

Mesmerized, I watched as this semiaquatic rodent floated right up alongside me staring back with those dark eyes. It seemed so perfectly adapted to this harsh world. I noticed the small ears sitting on top of the rather large head and the nose curiously sniffing the air yet



The sun sets over a new beaver dam at Sam Shine Foundation Preserve. *Chris Fox*

capable of closing while being submerged for upwards of 15 minutes without a breath. When it lifted its head I could see the orange-colored teeth, literally fortified with iron, which allow it to continuously chisel its way through trees and limbs. Barely visible in the murky water were the small dexterous, front feet with long claws powerful enough to dig channels and burrows yet nimble enough to pick up small rocks and vegetation for dam building. Churning the water as it swam by were those webbed, duck-like rear feet that can propel it at Michael Phelps speeds. Trailing behind it was that signature broad, flat tail that is the beaver equivalent of a Swiss army knife serving as rudder, kickstand, seat, warning signal and fat storage device. And finally that brown waterproof fur, perhaps its most remarkable feature, with more hair in a postage stamp patch of skin than on a person's head. Ironically, that fur which was meant to insulate and protect the beaver, nearly lead to its extinction.

As I looked at this fascinating creature, I realized every part of it was made to live a life in this environment. And this environment, the very wetland in which I was standing, was made possible because of this creature. Then just as suddenly as it began, it was over. The beaver, either satisfied I posed no threat or bored with me, silently swam off and disappeared into the flooded wetland. Disappointed the experience was over but grateful to have witnessed it, I looked around with a new perspective. No longer did I see destruction and chaos but instead saw a perfectly functioning wetland doing exactly what a wetland is supposed to do. As I began making my way back to the truck, I thought about this experience and a smile came across my face. I realized that I had just been taught an important lesson about the resiliency of nature, and maybe on a deeper level the resiliency of life, all by a rodent. Leave it to a beaver!

“In every walk with nature, one receives more than he seeks.”

-JOHN MUIR
