

Acton WildAware  
Beacon Article

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## Beavers

During this summer's drought, Acton has benefited from beaver-engineered wetlands. According to Mass Audubon, the flooding caused by beaver dams can recharge and maintain groundwater levels, and provide flow to streams even during droughts. Beavers alter their habitat to ensure their safety by building dams to form ponds. The wetlands they create provide habitat resources for reptiles, amphibians, birds and mammals-and benefit humans. Although the result of their engineering is evident, beavers are not commonly seen because they spend most of their time in the water, and work through the night at felling trees to construct and repair their dams and lodges.

The Massachusetts Institute of Technology mascot is Tim (MIT spelled backwards) the Beaver. "MIT chose beavers a century ago as mascots because, like MIT students, they were skilled engineers and nocturnal workaholics", (Jennifer Weeks, smithsonian.com, March 15, 2010).

As North America's largest rodent, beavers can grow to 3-4 feet long and 40-95 pounds. Beavers have four long front teeth (incisors), that grow continuously, driving them to chew wood to wear them down. Even when they have built a home and have plenty of food they keep gnawing. The back of the teeth are softer and wear down faster which creates wedge chisels that are very sharp and effective in gnawing and felling trees. In between the beavers' front and back teeth is a long gap with flaps of skin that actually separate the front and back of the mouth, allowing them to gnaw wood without swallowing splinters and water. Beavers eat the inner bark of trees, twigs, leaves, roots, shrubs and water plants. They eat some parts of trees and use other parts to build their lodges and dams.

When a beaver selects a tree to fell, it begins by gnawing a circle of marks into the trunk, chipping away at the wood until it takes on an hourglass shape. It is thought that beavers will intentionally direct the tree to fall toward water where the fallen log can be floated into place. Working together beavers also push and pull logs into the water. After the tree falls, the beaver goes to work again, gnawing off the branches.

Beaver dams are walls of sticks, stones and mud built to span a stream and trap water flow. Construction begins by pushing rows of sticks into the stream bed. Then rocks and mud are piled onto the sticks to weigh them down. Tree branches, grasses and water plants are pushed between the sticks, and more mud is packed in so that water cannot flow between the sticks.

Cone shaped beaver lodges are sturdily built and include underwater tunnels and entrances. They are dry shelters for beavers to warm up and to raise their young. Beaver kits are born looking just like little adults, with thick fur and sharp teeth. They are able to see, hear, and

walk immediately. At first their mother spreads her own oil on the kits to waterproof them as they learn to swim in the tunnels of the lodge. At one month of age kits can search for food; at one year they help care for the newborn kits and work at cutting down trees; At two years they leave the lodge, find mates and build new lodges.

Beavers' industrious ways can present problems: flooding and tree loss. Water Flow Devices have been installed at Heath Hen Meadow and Guggins Conservation Lands to help control flooding issues caused by beaver dams. The long pipes are submerged, which muffles the gurgling sound of flowing water that triggers beavers to repair and rebuild, allowing a bypass of the dam which is left intact and does not jeopardize the pond. To protect trees, Mass Audubon advises surrounding the trunk with 4-foot galvanized garden fencing (2"X4" mesh) leaving a few inches of space between the fencing and the tree.

Resources:

Several informative books available at Acton Memorial Library Children's Department: Beavers, by Gail Gibbons; Beavers, by Marie Schuh; Beavers, by Aaron Frisch; Beavers, by Melissa Gish; The Beaver, by Sabrina Crewe; Beavers and Other Rodents, by Meish Goldish

Mass Audubon:

<http://www.massaudubon.org/learn/nature-wildlife/mammals/beavers>

Mass Wildlife:

<http://www.mass.gov/eea/agencies/dfg/dfw/fish-wildlife-plants/mammals/beavers-in-massachusetts.html>

Environmental Protection Agency publication-America's Wetlands: Our Vital Link Between Land and Water

<http://nepis.epa.gov/Exe/ZyPDF.cgi/200053XX.PDF?Dockey=200053XX.PDF>

*Paula Goodwin is a member of the Acton Conservation Commission who introduced WildAware with Acton Natural Resource Assistant Bettina Abe. WildAware is a program sponsored by the Town of Acton Natural Resources Department that began in September and will continue through the summer of 2016. The purpose of WildAware is to educate the community about the existence and habits of wild creatures, and the goal is increased community awareness of shared habitats. For information, call 978-929-6634 or send email to [nr@acton-ma.gov](mailto:nr@acton-ma.gov).*