

DOWNSTREAM

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MDC Division of Watershed Management

Wildlife In Suburbia; Not The Neighbors Kids - by D. Clark

All wildlife species require a few basics to survive. Food, water, cover, and places to raise young all must be available. Collectively these things can be lumped together and called habitat. Habitat can be defined as the physical and biological surroundings of an animal. Habitat needs vary from species to species. Habitat quality can also vary with area size, proximity to other types of habitat and proximity to human development. These factors help decide how many of which species can live in an area.

Impacts of human activity on habitat can be dramatic. Viewed from above, suburban areas tend to look similar. Houses and small clumps of trees dominate the landscape, with an occasional, isolated park or state forest, and all is further divided by a network of roadways. Undeveloped areas look almost opposite in appearance. Uninterrupted habitat (forest, thicket, grasslands) punctuated by swamps, lakes and rivers. These two landscapes look very different through the eyes of wildlife. Some species see suburbia as

paradise, others will run the other way. The change from open space into a suburban setting may spell disaster for some animals, but others benefit.

Most of these "edge species" favor boundaries between two habitats (i.e. forest/field). White-tailed deer are a perfect example of a species able to capitalize on this fragmented habitat. Deer populations, once low in Massachusetts, have increased in eastern parts of the state. Suburban communities provide plentiful food (gardens, shrubs), places to hide (parks, woodlots), and few predators. Other species such as raccoons, foxes, skunks, opossums, coyotes, crows, blue jays, red-tailed hawks, garter snakes, toads, and many insects coexist very well with humans. While it is true some species thrive in a suburban setting, it is still important to be aware that overall, development reduces wildlife habitat and limits biodiversity. In this issue of Downstream however, we'd like to introduce you to a few of the creatures that may live a little closer than you might think. ♠



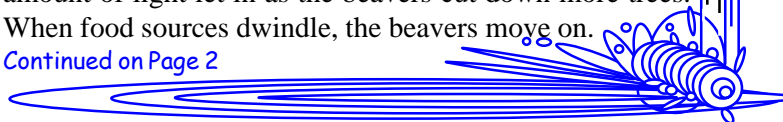
Beavers; The Basics on Their Life and Times - by P. Packard

Beavers (*Castor canadensis*) are large semi-aquatic rodents found in most of the U.S. and Canada. They are historically important because early trappers explored many major river systems searching for valuable beaver pelts. Beavers are well known today because of the wonderful wetlands they create or the havoc they wreak (depending on your point of view). These mammals are instinctively attracted to the sound of running water. Using mud, rocks, and vegetation, they work as a team to build a dam that raises the water level and expands habitat. Food preferences include the bark, leaves, and twigs of aspen, maple, alder, willow, and birch trees. Within the flooded area, they build a lodge and cache food for the winter. Each year, 2 to 4 fully furred kits are born in the lodge, and they can swim after 10

days. After about 2 years, young beavers leave the colony and search for suitable habitat of their own. The beaver population, estimated to be about 80,000 in Massachusetts, has increased steadily since 1996 due to reduced trapping, little disease susceptibility, and few natural predators.

Many insects, plants, amphibians, birds, and mammals utilize wetlands created by beavers. Eastern newts, snails, ornately colored leeches and dragonflies abound. Reeds, cattails, rushes and other aquatic plants supply muskrats and other small mammals with food, shelter, and habitat. Moose feed on new plant growth stimulated by the increase in the amount of light let in as the beavers cut down more trees. When food sources dwindle, the beavers move on.

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Loons On The Loose; The Not So Distant Cry- by D. Clark

The common loon (*Gavia immer*) often inspires thoughts of pristine northern lakes surrounded by wilderness. It's true that loons inhabit such areas in Maine and Canada, but they can also be seen and heard right here in Massachusetts. Listed as a species of special concern by MassWildlife's Natural Heritage and Endangered Species Program, about 22 pairs of loons currently nest in the state on 7 bodies of water located in central Massachusetts. Most of the loon pairs (17) are on the Quabbin and Wachusett Reservoirs.



Life History

Loons are fairly large birds, averaging 8 pounds at maturity. Their size, striking plumage, and wistful call make them easy to identify. Loons primarily eat fish, and depending on the lake or reservoir, they spend the summer subsisting on perch, sunfish, smelt, trout, and minnows. In winter, loons move to the coast where they eat herring, rock cod, flounder, and various crustaceans. Loons are uniquely adapted for the water; except for nesting, they will spend their entire lives in water. With legs set far back on their body, they are good swimmers, but poor walkers. Diving under water to catch fish, Loons feed by sight alone, and are able to maneuver quite quickly in pursuit of their prey.

Loons typically nest in June, and lay 1-2 eggs. The pair takes turns incubating the nest for about a month. In Massachusetts, it appears that the most common reason for nesting failure is either rising water levels (flooding the nest) or falling water levels (stranding the nest). At first, young loons will stick close to the adults and may even be seen riding on the back of an adult. These free rides help the chick to save energy, stay warm, and provide protection from predators.

Research and Management

Management and protection of common loons in Massachusetts is a high priority. The Metropolitan District Commission Division of Watershed Management (MDC/DWM) is responsible for managing the Quabbin and Wachusett Reservoirs, and in turn, helps to manage the loons on these reservoirs. Loon population monitoring assesses reproductive

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Beavers, Continued from



The pond eventually drains, leaving a wet meadow or shrub swamp which ultimately matures into a forest.

In response to the growing number of beaver related complaints, state legislators passed an emergency bill in 2000, allowing local Boards of Health the right to issue a permit giving removal of beavers, or the altering of water levels, in situations that pose a threat to human health. Water flow devices may be installed to lower water levels in areas where beavers are flooding septic systems, wells, buildings, or croplands. A licensed trapper may remove beavers during the trapping season. Individual trees may be protected using heavy gauge wire. MassWildlife, (508) 792-7270, has informative booklets that address flooding problems. The Humane Society, (617) 734-8997, also offers help to citizens having beaver conflicts.

Long term solutions to the current beaver issues will be difficult to address as legislators, health officials, and the public try to sort through the legalities and personal emotions. Inevitably, a solution will have to be found to mitigate damage by beavers as well as to preserve the habitats they create. ♪ Paula Packard is a Wildlife Technician for the MDC/DWM

Further Reading

If you'd like to know more about...

Beaver:

Jackson, Scott and Thomas Decker, Undated. *Beavers In Massachusetts Natural History, Benefits and Ways to Resolve Between Beavers and People*. UMass Cooperative Extension and MassWildlife.

Langlois, S. Decker, T., 1997. *The Use of Waterflow Devices in Addressing Flooding Problems Caused by Beaver in Massachusetts*. MassWildlife

Loons:

Klein, T. 1985. *Loon Magic*. Northwood Press, Inc. 163pp.

DeGraaf, R. M. and M. Yamasaki. 2001. *New England Wildlife: Habitat, Natural History and Distribution*.

Coyotes:

Bekoff, M. 1978. *Coyotes- Biology, Behavior, and Management*. Academy Press Inc. Boulder, Colorado.

Parker, G. 1995. *Eastern Coyote- The Story of Its Success*. Nimbus Publishing, Halifax, NS.

Fisher:

York, E. *On the Fisher Trail*, Massachusetts Wildlife, Winter 1996.

Buskirk, S. 1994. *Martens, Sables and Fishers, Biology and Conservation*. Comstock Publishing Association.

Coyotes; Not Just on the Range Anymore

- by P. Packard

When Europeans settled North America, coyotes (*Canis latrans*) were only found in the western half of the continent. By the 1920s, they had expanded their range north into Canada. As they spread from west to east, coyotes successfully interbred with wolves to produce the larger coyotes found in Massachusetts and throughout most of New England. This hybridization between wolves and coyotes has attributes of both species, resulting in a heavier, larger animal (35-40 pounds) capable of hunting white tail deer as well as having an increased social structure. As coyotes expanded their range, their natural competitor, the wolf, was being extirpated as agriculture and housing produced a lot of "edge habitat" where forest and open areas meet – perfect habitat for coyotes!

Historically coyotes have been hunted, trapped, shot from planes and poisoned, yet their populations remained strong. Studies have shown that coyote ovulation rates are influenced by food availability. By reducing their numbers, food was made more readily available for those existing animals. During times of plenty, litters may contain as many as 17 pups! Other factors that limit or regulate population numbers include proportion of females breeding their first year, parasites, disease, conflicts between individuals, and man. In central Massachusetts, coyotes will feed on hares and rabbits, small mammals, deer, fruit, domestic animals, berries, and carrion. Their numbers are highest in semi-agricultural areas. These animals may kill sheep, calves, and other farm animals if given the opportunity. To keep losses to a minimum, farm animals should be either brought in at night or fenced in an area inaccessible to coyotes. Cats should be kept inside whenever possible! Since we have provided them with good habitat and there is little fear of predation by their natural enemies, coyotes are here to stay. 💧

Loons, Continued from Page 2

success and survival. The MDC/DWM also has taken steps to help with the loons' success. This year, 3 artificial nesting rafts were deployed on Wachusett Reservoir, two of which were utilized. Rafts have also been deployed and used in past years on Quabbin Reservoir.

In 1999, the MDC/DWM, MassWildlife, New Hampshire's Loon Preservation Committee, and Biodiversity Research Inc. initiated a study to capture, band and assess mercury levels of Massachusetts loons. Some scientists speculate that elevated mercury levels in loons could have dramatic negative consequences for long-term loon reproduction. Since 1999, 15 adult loons and 7 juvenile loons have been captured and studied. Blood and feather samples were collected for analysis of mercury and other contaminants.

In summer 2002, the MDC/DWM, along with Biodiversity and the Loon Preservation Committee, hopes to launch an in-depth study of loons on MDC/DWM reservoirs, and it awaits funding approval. Specific goals include:

- 👉 Weekly monitoring of territorial pairs of common loons to ascertain reproductive status and success.
- 👉 Capture and color-mark loons for remote monitoring of individual reproductive performance and movements.
- 👉 Collect blood and feather samples from captured loons for contaminant analysis.
- 👉 Construct a management plan that addresses territory-specific requirements.
- 👉 Establish a volunteer long-term monitoring network coordinated by the Loon Preservation Committee.

If successfully funded, the MDC/DWM will seek volunteers to participate in the long-term monitoring program. If interested, please write to the address on this newsletter, including your name, address, phone number and availability during the summer. 💧 Dan Clark is the MDC/DWM Wildlife Biologist.

And Another Thing... by J. Taylor



"Do you hear voices?"

Downstream is produced twice yearly by the Metropolitan District Commission/Division of Watershed Management of The Commonwealth of Massachusetts, and includes articles of interest to residents of the watershed system communities. Our goal is to inform the public about Watershed Protection issues and activities, provide a conduit for public input, and promote environmentally responsible land management practices.

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The Fisher, a Small but Impressive Neighbor - by P. Packard

Fishers (*Martes pennanti*), members of the weasel, or mustelid, family, are found in Massachusetts. These 3-18 pound mammals were nearly eliminated in the 1800s in the U.S. and Eastern Canada due to trapping, logging, and farming. In the 1930s, the logging boom ended and farmland was abandoned. Fishers favor forested areas, and these changes brought reestablishment into much of their former range. They are more and more common and may sometimes even be seen in daylight hours.



a hen house, they kill enough prey to both satiate themselves as well as saving some for later. Since they cannot carry all the hens back to their den, some are left behind. This trait while understandable, tends to upset anyone who has had the misfortune of having their poultry house raided by a fisher.

Fishers are opportunistic hunters and can catch animals as big as themselves. They eat snowshoe hares, carrion, small mammals, berries, nuts, plants, and even porcupines. These predators have a reputation of being voracious, ruthless killers, partially because of "henhouse syndrome." When finding a large, easily accessible food supply, such as that of

There are definite benefits to having an established fisher population. Fishers are one of the few species that successfully prey on porcupines. At one time, it was believed that fishers killed porcupines by flipping them over and attacking their vulnerable underside. Newer technologies have enabled biologists to observe that fishers kill porcupines by persistently attacking the porcupines face until it is fatally wounded. Amazingly, few fishers are killed by porcupine quills. This demonstrates the fishers importance in providing a unique and vital predatory role in the ecosystem. 💧

We value the contribution your well cared for land provides and welcome the opportunity to work with you. Please send us questions or comments which we will address in subsequent newsletters, or contact us if you wish to learn more about programs and assistance available to help landowners. Our address is shown below.

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