



501-C-3 at Southwick's Zoo, 2 Southwick Street, Mendon, MA 01756

**PROTECTING MY EARTH:  
LOCALLY THREATENED HABITATS (MA)  
FACTS & FIGURES**



*“Protecting My EARTH” is an environmental education program offered by EARTH Ltd. to help students learn how to take better care of their community and their planet.*

## KEY TERMS AND DEFINITIONS

- **Conservation:** a careful preservation and protection of something; especially planned management of a natural resource to prevent exploitation, destruction, or neglect
- **Habitat:** the place or environment where a plant or animal naturally or normally lives and grows
- **Ecosystem:** everything that exists in a particular environment
- **Endangered:** a species in danger of becoming extinct
- **Extinct:** no longer existing
- **Threatened:** having an uncertain chance of continued survival; likely to become an endangered species
- **Vulnerable:** easily damaged; likely to become an endangered species
- **CITES - Convention on International Trade of Endangered Species of Wild Fauna and Flora:** an international agreement between governments effective since 1975. Its aim is to ensure that international trade in specimens of wild animals and plants does not threaten their survival. Roughly 5,600 species of animals and 30,000 species of plants are protected by CITES as of 2013. There are currently 181 countries (of about 196) that are contracting parties.
- **IUCN - International Union for the Conservation of Nature:** world's oldest and largest global environmental organization, with almost 1,300 government and NGO Members and more than 15,000 volunteer experts in 185 countries. Their work focuses on valuing and conserving nature, ensuring effective and equitable governance of its use, and deploying nature-based solutions to global challenges in climate, food and development. IUCN supports scientific research, manages field projects all over the world, and brings governments, NGOs, the UN and companies together to develop policy, laws and best practice.
- **IUCN Red List of Threatened Species:** provides taxonomic, conservation status and distribution information on plants, fungi and animals that have been globally evaluated. Accepted internationally as informational resource, but completely independent from any local, national, or international laws and regulations.
- **Endangered Species Act (ESA):** Act passed by US Congress in 1973. Its purpose is to protect and recover imperiled species and the ecosystems upon which they depend. It is administered by the U.S. Fish and Wildlife Service (FWS) and the National Oceanic and Atmospheric Administration (NOAA).
- **Massachusetts Endangered Species Act (MESA):** Enacted in 1990 to protect rare species and their habitats by prohibiting the "Take " of any plant or animal species listed as Endangered, Threatened, or Special Concern by the MA Division of Fisheries & Wildlife.

## MAJOR CAUSES TO LOSS OF BIODIVERSITY

- H Habitat loss and destruction
- I Invasive species
- P Pollution and Pesticides
- P Population growth (human) and Pet trade
- O Over-hunting and Over-collecting



### What are the main causes of biodiversity loss?

There are many threats to our natural world, which include:

#### HABITAT LOSS AND

This is one of the greatest threats to biodiversity. Habitat loss is directly linked to human induced pressures on land.

DESTRUCTION

#### IN ECOSYSTEM COMPOSITION



ALTERATIONS

Assemblages of species and their interactions with their ecosystems is critical for not only saving the species, but also for their successful future evolution. In the event of alterations, either within species groups, or within the environment, entire ecosystems can begin to change. Alterations to ecosystems are a critical factor contributing to species and habitat loss.

#### ALIEN SPECIES

INVASIVE

The introduction of exotic species that replace local and native species is cited as the second largest cause of biodiversity loss. Alien invasive species replace, and often result in the extinction of native species. The annual economic damage caused by invasive plant and animal species is estimated to be in the region of US\$ 1.4 trillion.

#### OVER-EXPLOITATION

Over-hunting, over-fishing or over-collecting of a species can quickly lead to its decline. Changing consumption patterns of humans is often cited as the key reason for this unsustainable exploitation of natural resources.

#### POLLUTION AND

Biological systems respond slowly to changes in their surrounding environment. Pollution and contamination cause irreversible damage to species.

CONTAMINATION

#### GLOBAL CLIMATE CHANGE

Both climate variability and climate change cause biodiversity loss. Species and populations may be lost permanently, if they are not provided with enough time to adapt to changing climatic conditions.

UNEP, 2010

## ENDANGERED SPECIES BY THE NUMBERS

### IUCN RED LIST (AS OF NOVEMBER 2015)

	Described Species	Evaluated Species	Percentage Evaluated	Threatened Species
<b>Mammals</b>	5,515	5,502	99.8%	1,197
<b>Birds</b>	10,424	10,424	100%	1,375
<b>Reptiles</b>	10,272	4,669	45%	944
<b>Amphibians</b>	7,448	6,460	87%	1,994
<b>Fishes</b>	33,200	14,462	44%	2,271
<b>Invertebrates</b>	1,305,250	17,516	1%	4,201
<b>Animal TOTAL</b>	<b>1,372,109</b>	<b>59,033</b>	<b>4%</b>	<b>11,982</b>
<b>Plant TOTAL</b>	<b>310,442</b>	<b>20,755</b>	<b>7%</b>	<b>11,233</b>
<b>GRAND TOTAL</b>	<b>1,682,551</b>	<b>79,788</b>	<b>5%</b>	<b>23,215</b>

### CITES (AS OF OCTOBER 2013)

	Appendix I*	Appendix II**	Appendix III***	Total
<b>Mammals</b>	300	501	45	846
<b>Birds</b>	154	1,278	25	1,457
<b>Reptiles</b>	80	673	40	793
<b>Amphibians</b>	17	126	3	146
<b>Fishes</b>	16	87	0	103
<b>Invertebrates</b>	63	2,162	22	2,247
<b>Animal TOTAL</b>	<b>630</b>	<b>4,827</b>	<b>135</b>	<b>5,592</b>
<b>Plant TOTAL</b>	<b>301</b>	<b>29,592</b>	<b>12</b>	<b>29,905</b>
<b>GRAND TOTAL</b>	<b>931</b>	<b>34,419</b>	<b>147</b>	<b>35,497</b>

\*Appendix I: lists species that are the most endangered and are threatened with extinction

\*\*Appendix II: lists species that are not necessarily now threatened with extinction but that may become so unless trade is closely controlled

\*\*\*Appendix III: list of species included at the request of a member that already regulates trade in the species and that needs the cooperation of other countries to prevent unsustainable or illegal exploitation

### ENDANGERED SPECIES ACT (AS OF MARCH 2016)

	United States <sup>3</sup>			Total Listings (US and Foreign)
	Endangered	Threatened	Total Listings	
<b>Mammals</b>	75	23	98	375
<b>Birds</b>	77	20	97	335
<b>Reptiles</b>	15	24	39	128
<b>Amphibians</b>	20	15	35	44
<b>Fishes</b>	92	70	162	184
<b>Invertebrates</b>	211	45	256	279
<b>Animal TOTAL</b>	<b>490</b>	<b>197</b>	<b>687</b>	<b>1,345</b>
<b>Plant TOTAL</b>	<b>733</b>	<b>165</b>	<b>898</b>	<b>901</b>
<b>GRAND TOTAL</b>	<b>1,223</b>	<b>362</b>	<b>1,585</b>	<b>2,246</b>

### ENDANGERED SPECIES – MASSACHUSETTS

#### MASSACHUSETTS ENDANGERED SPECIES ACT (AS OF FEBRUARY 2012)

	Endangered	Threatened	Special Concern	Listed Total
<b>Mammals</b>	11	0	3	14
<b>Birds</b>	11	7	11	29
<b>Reptiles</b>	8	5	2	15
<b>Amphibians</b>	0	2	2	4
<b>Fishes</b>	4	2	4	10
<b>Invertebrates</b>	31	25	48	104
<b>Animal TOTAL</b>	<b>65</b>	<b>41</b>	<b>70</b>	<b>176</b>
<b>Plant TOTAL</b>	<b>154</b>	<b>63</b>	<b>39</b>	<b>256</b>
<b>GRAND TOTAL</b>	<b>219</b> <b>(17 FE, 4 FT)</b>	<b>104</b> <b>(3 FT)</b>	<b>109</b> <b>(0)</b>	<b>432</b> <b>(24 FE or FT)</b>

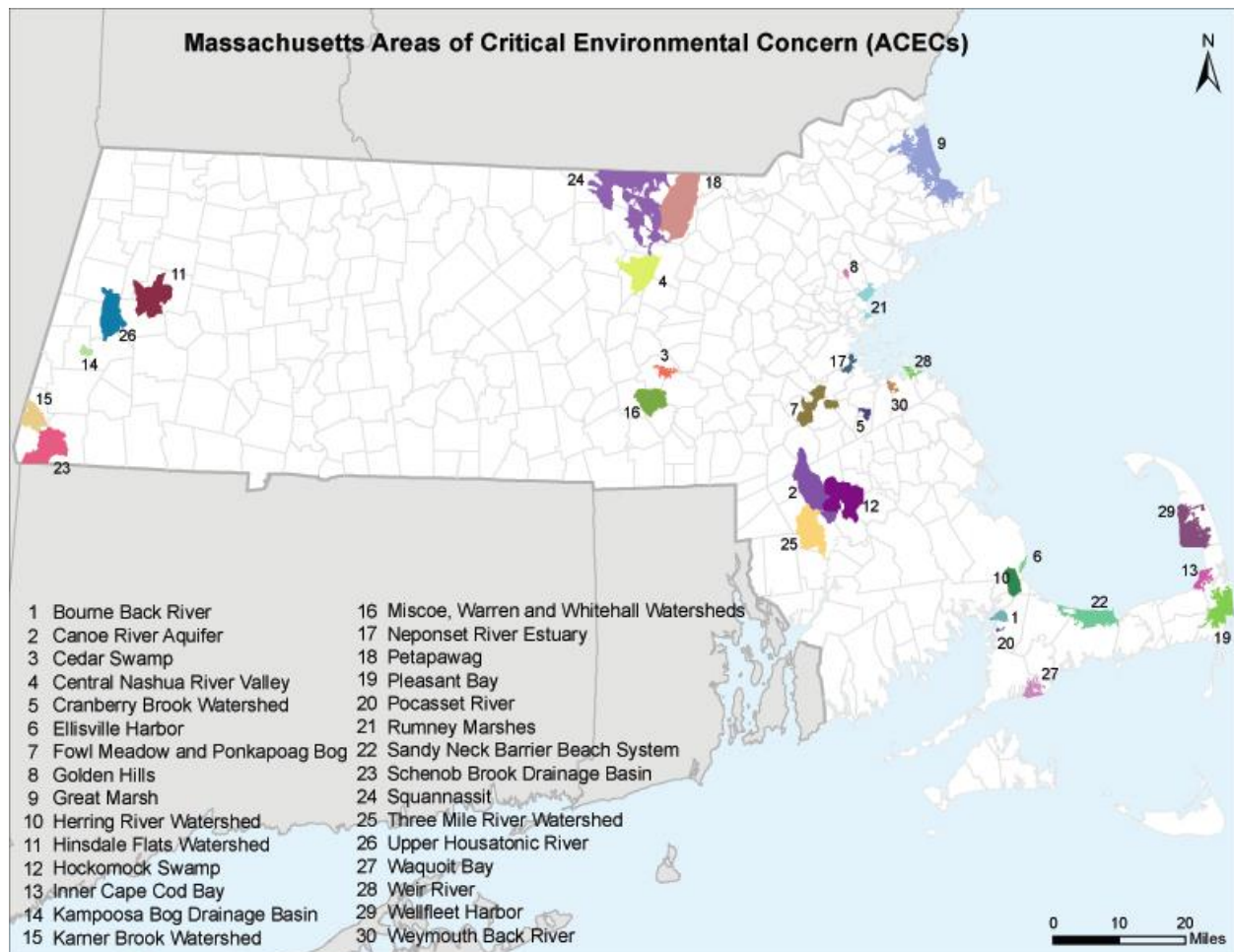
**FE** = species listed under the U.S. Endangered Species Act as **Federally Endangered**

**FT** = species listed under the U.S. Endangered Species Act as **Federally Threatened**

## MESA ANIMALS IN NORTHBOROUGH

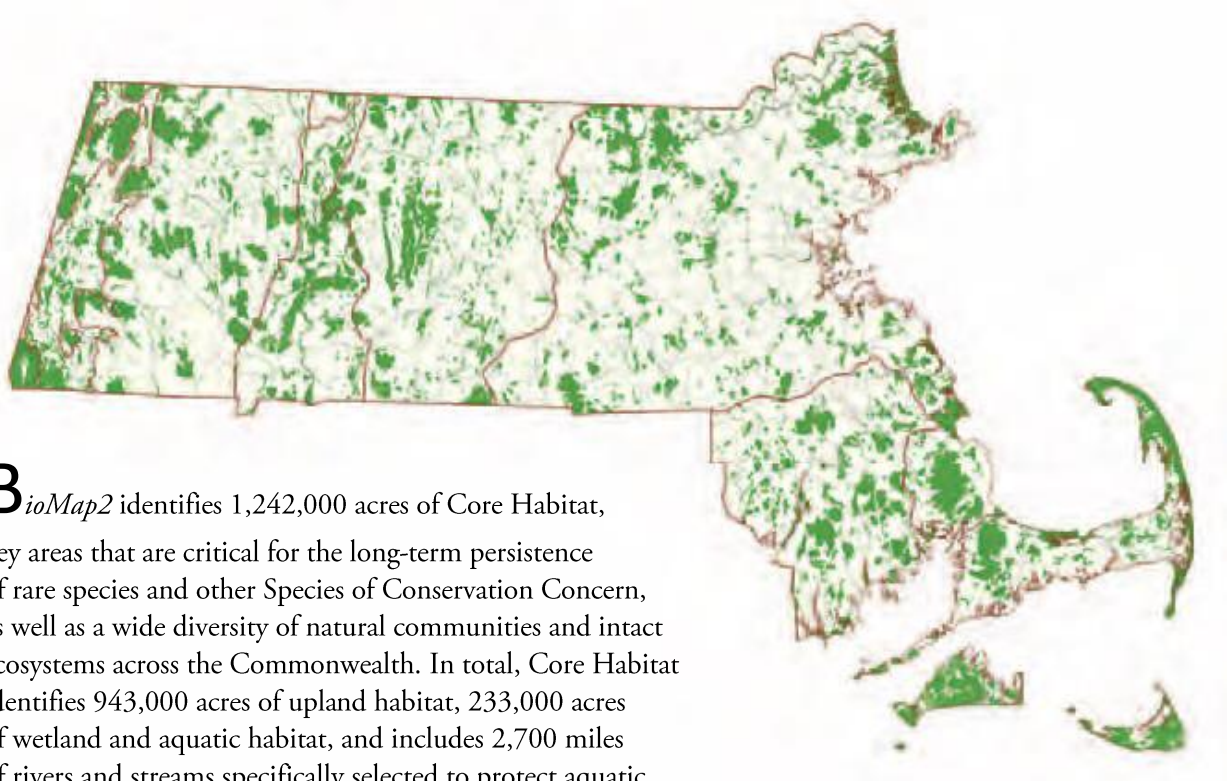
<b>Taxonomic Group</b>	<b>Scientific Name</b>	<b>Common Name</b>	<b>MESA Status</b>	<b>Most Recent Obs</b>
Amphibian	<i>Ambystoma laterale</i>	Blue-spotted Salamander	SC	2011
Plant	<i>Arabidopsis lyrata</i>	Lyre-leaved Rock-cress	E	1951
Bird	<i>Botaurus lentiginosus</i>	American Bittern	E	1981
Beetle	<i>Cicindela duodecimguttata</i>	Twelve-spotted Tiger Beetle	SC	1944
Beetle	<i>Cicindela purpurea</i>	Cow Path Tiger Beetle	SC	1944
Reptile	<i>Glyptemys insculpta</i>	Wood Turtle	SC	1993
Plant	<i>Platanthera flava</i> var. <i>herbiola</i>	Pale Green Orchid	T	1946
Bird	<i>Vermivora chrysoptera</i>	Golden-winged Warbler	E	1986

## PROTECTED AREAS IN MA



<http://www.mass.gov/eea/agencies/dcr/conservation/ecology-acec/>

## PROTECTED AREAS IN MA



**B***ioMap2* identifies 1,242,000 acres of Core Habitat, key areas that are critical for the long-term persistence of rare species and other Species of Conservation Concern, as well as a wide diversity of natural communities and intact ecosystems across the Commonwealth. In total, Core Habitat identifies 943,000 acres of upland habitat, 233,000 acres of wetland and aquatic habitat, and includes 2,700 miles of rivers and streams specifically selected to protect aquatic species and ecosystems.

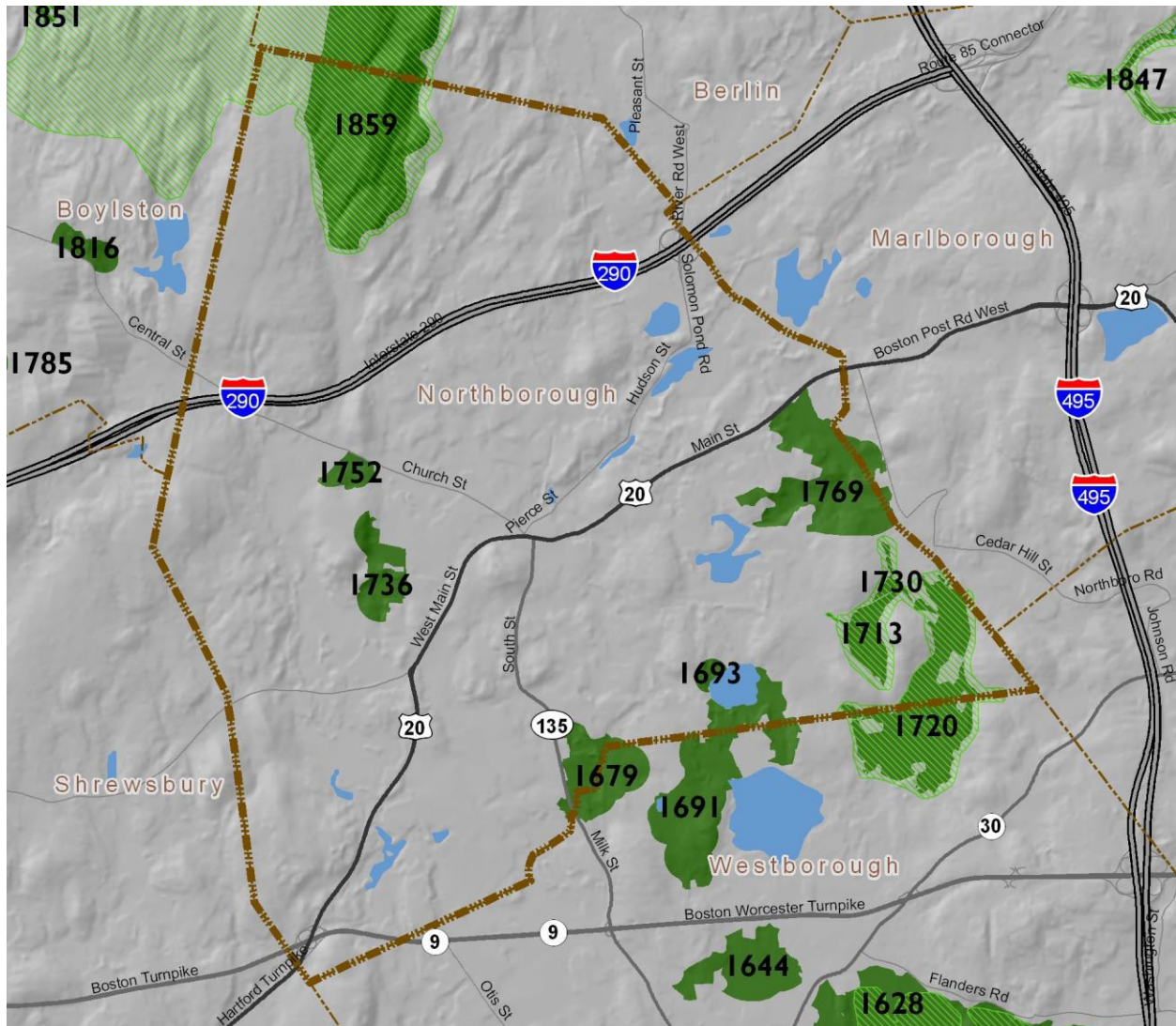
Core Habitat specifically includes



- o 256 Plant species
- o 111 Invertebrates
- o 50 Birds
- o 15 Reptiles
- o 7 Amphibians
- o 9 Mammals
- o 36,000 acres of High quality vernal pool habitat
- o 325,000 acres of Forest Core
- o 93,000 acres of Wetland Core
- o 220,000 acres of Aquatic Core
- o 94 Priority Natural Communities

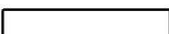
<http://www.mass.gov/eea/agencies/dfg/dfw/natural-heritage/land-protection-and-management/biomap2/>

## NORTHBOROUGH - *BioMap2*

Northborough lies within the Southern New England Coastal Plains and Hills Ecoregion, an area comprised of plains with a few low hills. Forests are mainly central hardwoods with some transition hardwoods and some elm-ash-red maple and red and white pine. Many major rivers drain this area.



-  BioMap2 Core Habitat
-  BioMap2 Critical Natural Landscape

1 Mile  




### Town Overview

Total Area: 11,996 acres (18.7 square miles)

Human Population in 2010: 14,155

Open space protected in perpetuity: 2,368 acres, or 19.7% percent of total area

*BioMap2* Core Habitat: 1,152 acres

*BioMap2* Core Habitat Protected: 573 acres or 49.7%

*BioMap2* Critical Natural Landscape: 903 acres

*BioMap2* Critical Natural Landscape Protected: 582 acres or 64.4%.

### Summary of *BioMap2* Components

#### Core Habitat:

- 1 Forest Core
- 3 Wetland Cores
- 6 Species of Conservation Concern Cores
- 2 amphibians
  - Four-toed Salamander, (*Hemidactylium scutatum*), Non-listed SWAP
  - Blue-spotted Salamander, (*Ambystoma laterale*), SC

#### Critical Natural Landscape:

- 1 Landscape Block
- 1 Wetland Core Buffer

### Elements of *BioMap2* Cores

This section lists all elements of *BioMap2* Cores that fall entirely or partially within Northborough. The elements listed here may not occur within the bounds of Northborough.

#### **Core 1679** Species of Conservation Concern

Blue-spotted Salamander     *Ambystoma laterale*     SC

#### **Core 1691** Species of Conservation Concern

Blue-spotted Salamander     *Ambystoma laterale*     SC

Four-toed Salamander     *Hemidactylium scutatum*     Non-listed SWAP

#### **Core 1693** Species of Conservation Concern

Four-toed Salamander     *Hemidactylium scutatum*     Non-listed SWAP

#### **Core 1713** Wetland Core

#### **Core 1720** Wetland Core

#### **Core 1730** Wetland Core

#### **Core 1736** Species of Conservation Concern

Blue-spotted Salamander     *Ambystoma laterale*     SC

#### **Core 1752** Species of Conservation Concern

Four-toed Salamander     *Hemidactylium scutatum*     Non-listed SWAP

#### **Core 1769** Species of Conservation Concern

Blue-spotted Salamander     *Ambystoma laterale*     SC

Four-toed Salamander     *Hemidactylium scutatum*     Non-listed SWAP

#### **Core 1859** Forest Core



## Endangered Timber Rattlesnake Conservation Includes Introduction on Quabbin Island

The Timber Rattlesnake is listed as an Endangered Species in Massachusetts and has experienced the greatest modern decline of any native reptile. It is a high conservation priority species for the Division of Fisheries and Wildlife, (MassWildlife) the agency with the legal responsibility and mandate to conserve endangered and common wildlife species. Currently, there are only five populations of Timber Rattlesnakes in the Commonwealth. As part of an overall conservation strategy, MassWildlife is proposing to establish a small number of rattlesnakes on Mount Zion, a large island closed to the public at the Quabbin Reservoir in central Massachusetts.

Native to Massachusetts, the Timber Rattlesnake has lived here continuously long before European settlement. Humans are the greatest threat to the Timber Rattlesnake. While killing or disturbing this snake is a serious criminal offense, these acts, combined with road mortality, continue to be major factors that contribute to the rattlesnake's imperiled status. The proposal to establish a small discrete population of Timber Rattlesnakes at the Quabbin Reservoir has evolved out of the need to have at least one location in Massachusetts where this native endangered species will avoid people.



Snakes used for this project will be offspring of Massachusetts snakes. Juvenile snakes will be headstarted in captivity by the Roger Williams Park Zoo in Providence, RI for two winters allowing them to grow large enough so that they will have the best chance of surviving to adulthood. While rattlesnakes are perfectly good swimmers, this island is large enough that they would have little motivation to swim away. Even if the snakes did swim, they would pose no measurable risk to the public, considering rattlesnakes have long lived in popular state parks and wildlife lands heavily used by people elsewhere in Massachusetts.

Throughout human history, snakes of all types have been feared, maligned, and persecuted. Because the Timber Rattlesnake is venomous, people express understandable concerns for their safety and the safety of family members and pets. As a venomous snake, the Timber Rattlesnake certainly has the potential to be dangerous, but the reality is that there has been no public harm. Timber Rattlesnakes are generally mild in disposition and often rattle their tails to alert animals and people. Wild bites to people (who don't deliberately handle or disturb a rattlesnake) are extremely rare. Most modern bites occur as the result of irresponsible (and illegal) activities that involve handling or harassing the animals. The latest antivenin treatments have greatly reduced the danger even if a person is bitten.

The Division of Fisheries and Wildlife, the agency with the legal mandate and scientific expertise is working hard to ensure that this imperiled and fascinating snake does not finally disappear almost 400 years after European settlement.

**Learn more: [Mass.gov/dfw/timber-rattlesnake-conservation](http://Mass.gov/dfw/timber-rattlesnake-conservation)  
[Mass.gov/dfw/timber-rattlesnake-facts](http://Mass.gov/dfw/timber-rattlesnake-facts)**

### The Timber Rattlesnake in Massachusetts History



The Timber Rattlesnake figures prominently in the Commonwealth's early history as a symbol of strength. In 1622, Chief Canonicut of the Narragansetts sent arrows bound in a rattlesnake skin (likely from the Blue Hills) to Governor Winthrop as a challenge for war. The Governor returned the rattlesnake skin filled with powder and shot with a message of defiance. The familiar Gadsden Flag with a coiled Timber Rattlesnake and the words "DON'T TREAD ON ME" was designed in 1775 for use in the American Revolution and was later used by the Continental Marines.

[www.mass.gov/masswildlife](http://www.mass.gov/masswildlife)

Division of Fisheries and Wildlife

Field Headquarters, One Rabbit Hill Road, Westborough, MA 01581 (508) 389-6300



# Living With Wildlife

## Suburban Wildlife in Massachusetts

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Photos by Bill Byrne



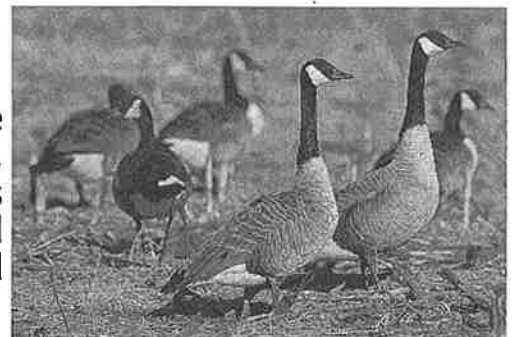
Massachusetts has many wildlife species that do well living near people. These are relatively common animals such as skunks, raccoons, gray fox, red fox, coyotes, wild turkey, black bear, fishers and more...

These species are attracted to human dominated landscapes because they are highly adaptable, opportunistic feeders that are energy efficient. By highly adaptable we mean that they can easily adjust to changes in their environment. Opportunistic feeders in that most are generalists eating a variety of plant and animal material including food left around by humans. They

are energy efficient in that when given the choice between a meal that has to be chased or one that is easily found in a backyard, they will always pick the easy meal. Everything these species do is related to the availability of food.

Here are some simple rules for living with wildlife that are attracted to areas near humans. These rules will help your surroundings become less attractive to wildlife species and may prevent conflicts with wildlife from arising.

- 1) **Don't feed wildlife!** Direct feeding can alter an animal's normal behavior. Problems occur when animals habituate to humans through a prolonged period of direct and/or indirect feeding.
- 2) **Keep all trash around your yard contained and picked up.** Do not put your trash out for pick up the next day unless it is in a sealed container that wildlife species cannot get into as many wildlife species are most active at night.
- 3) **Keep compost in a container that allows the material to vent but keeps wildlife from getting into it.**
- 4) **Do not feed pets outdoors.** This attracts wildlife right to your door.
- 5) **Do secure your pets.** Although free roaming pets are more likely to be killed by automobiles than by wild animals, there are wildlife species like coyotes that view cats as potential prey and dogs as competition for mates and food resources. For the safety of your pets, keep them restrained at all times.





- 6) **Do remove bird feeders especially if problem wildlife species are seen around the feeders.** The seed in birdfeeders can attract many small and medium sized mammals (squirrels, chipmunks, mice) these, in turn attract animals that prey on squirrels, chipmunks, mice, et cetera. If possible, try to find a birdfeeder that does not allow seed to spill onto the ground.
- 7) **Close off crawl spaces under porches and sheds.** Wildlife will use these areas as dens for resting and raising their young.
- 8) **Do protect livestock and produce.** Wildlife species will prey upon livestock. There are techniques for protecting livestock from predation. Fencing can be useful in keeping wildlife out of certain areas. It is a good idea to clear fallen fruit from around fruit trees in the fall so as not to attract wildlife species.
- 9) **Don't approach or try to pet wildlife.** Don't provoke an encounter by moving too close to a wild animal or by restricting its free movement.
- 10) **Do educate your neighbors.** Pass this information along since your good efforts could be futile if neighbors are purposely or unintentionally providing food or shelter for wildlife.

The wildlife species that thrive in suburban environments are among the most adaptable and most interesting animals. Inevitably there are occasions when conflicts arise. If you experience property damage or if an animal appears ill, contact the closest *MassWildlife* District Office or Westborough Field Headquarters during business hours. If a problem requires immediate response contact local public safety officials or the Massachusetts Environmental Police at 1-800-632-8075.

June 2013



For more information contact **MassWildlife** at:

**Western Wildlife District, Dalton:** (413) 684-1646

**Connecticut Valley Wildlife Dist., Belchertown:** (413) 323-7632

**Central Wildlife District, West Boylston:** (508) 835-3607

**Northeast Wildlife District, Ayer:** (978) 772-2145

**Southeast Wildlife District, Bourne:** (508) 759-3406

**Field Headquarters, Westborough:** (508) 389-6300

or visit our website at [www.mass.gov/masswildlife](http://www.mass.gov/masswildlife)

**MassWildlife** "Balancing the needs of wildlife with the needs of people."



## MassWildlife Pocket Guide to MA Animal Tracks

Track Pattern		
	White-Tailed Deer 2 1/2" - 3"	Moose 4 1/2" - 5 1/2"
	H:  F:	H:  F:
	Dog 2 1/4" - 4"	Coyote
	H: 2" F: 2 1/4"	H: 1 3/4" F: 1 1/2"
Track Pattern		
	Red Fox	Gray Fox
	H:  F:	H:  F:
	Bobcat 2"	House Cat 1 1/8"
	H:  F:	H:  F:
Track Pattern		
	Otter: 3 1/4"	Fisher: 2 1/4"
	H:  F:	H:  F:
Track Pattern		
	Mink: 1 5/8"	Weasel: 1/2" - 1"

### Tracks Not To Scale

Tracks will show considerable variation depending upon conditions of ground (snow, mud, dust, sand, etc.) and movement of animal.

F: Front Track  
H: Hind Track  
T: Tail marks may be present



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	H:  F:	H:  F:
Track Pattern		
	Otter: 3 1/4"	Fisher: 2 1/4"
	H:  F:	H:  F:
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## CAMPERS!

### You're In Bear Country

**Black bears are wild animals — keep them away from your campsite!**

**Maintain a clean campsite.** Put *all* food and cooking gear away at night or when you leave your campsite.

**Put food scraps and fat drippings in closed containers,** not in the campfire.

**Don't cook or eat in your tent.** Keep food and cooking gear separate from your sleeping area.

**Store your food and cooking gear securely,** either in a closed vehicle or an airtight bear-resistant container. Coolers are not bear-resistant.

**Or, hang your food** at least 10 feet off the ground and five feet out on a limb that will not support a bear's weight.

**If a bear does not immediately leave after seeing you, food smells may be encouraging it to stay.** Place food items inside a vehicle or building. Stay in a vehicle or building until the bear wanders away.

**Never feed bears. Ever.**

**Learn to**

## HIKERS!

### You're In Bear Country

**Normal trail noise will alert bears to your presence and prompt them to move without being noticed. But, what should you do or know if you encounter a black bear on the trail?**

**Keep your distance.** If you find yourself close to a bear, talk to it in a calm voice and slowly back away.

**Know that black bears are cautious of people and usually will leave the area, even when confronted.** Black bears rarely attack humans.

**Be aware that black bears will sometimes "bluff charge"** when cornered, threatened, or when trying to steal food. **DON'T RUN** from a charging bear; speak calmly and slowly back away.

**Never feed bears. Ever.** Doing so creates bear behavior that threatens public safety and ultimately leads to the death of the bear.

**Learn to live with bears!**

**MassWildlife**



# Moving Wildlife is Harmful

*(...and ineffective  
...and illegal)*



Photos © Bill Byrne, MDFW

- Never move an animal because you think it would be better off somewhere else.
- The animal may try to return to its original area and is likely to be hit by a vehicle or otherwise killed while trying to return.
- A relocated animal will have a more difficult time finding food, water and shelter in an unfamiliar area. If those are hard to find or not available, the animal will probably die.
- If food, water and shelter **are** available, chances are the area is already home to other members of the same species. They will not welcome the newcomer.
- If the relocated animal is carrying a disease, it may spread that disease to other animals in the new area.
- If your area is attractive to this species and you move an individual out, others will simply move in.
- If the animal being moved has lost its fear of humans, moving it simply transfers the problem to someone else.
- If there is a problem, moving the animal does **NOT** address the *cause* of the problem. If the *cause* of the problem is not addressed, it will re-occur.

**Contact DFW for suggestions about *preventing and resolving* conflicts with wildlife.**

**(508) 389-6300**

**[www.mass.gov/masswildlife](http://www.mass.gov/masswildlife)**

*Commonwealth of Massachusetts*  
**Division of Fisheries & Wildlife**



## HOW CAN YOU HELP?

- Protect wildlife habitat
- Create pollinator gardens
- Reduce threat of invasive species
- Keep pets inside
- Don't buy illegal animals or animal products
- Support zoos, animal sanctuaries, and wildlife reserves
- Recycle and reduce energy and goods consumption
- Dispose of trash properly
- Participate in local clean ups
- Minimize use of herbicides and pesticides
- Put decals on windows to deter bird collisions
- Slow down when driving
- Fundraise
- Join a conservation organization

**EDUCATE YOURSELF AND ENCOURAGE  
OTHERS TO LEARN!!**

## REFERENCES AND ADDITIONAL RESOURCES

- Conservation International: [www.conservation.org](http://www.conservation.org)
- Center for Biological Diversity: [www.biologicaldiversity.org](http://www.biologicaldiversity.org)
- US Fish & Wildlife: [www.fws.gov](http://www.fws.gov)
- Massachusetts Fish & Wildlife: [www.mass.gov/eea/land-use-habitats/](http://www.mass.gov/eea/land-use-habitats/)
- CITES: [www.cites.org](http://www.cites.org)
- IUCN Red List: [www.iucnredlist.org](http://www.iucnredlist.org)
- The World Bank: [www.theworldbank.org](http://www.theworldbank.org)
- National Audubon Society: <http://web4.audubon.org/educate/>
- Save Our Species: [www.sospecies.org](http://www.sospecies.org)
- ARKive: [www.arkive.org](http://www.arkive.org)
- US Environmental Protection Agency (EPA): [www.epa.gov](http://www.epa.gov)
- Natural Heritage and Endangered Species Program:  
<http://www.mass.gov/eea/agencies/dfg/dfw/natural-heritage/>
- <http://www.mass.gov/eea/agencies/dfg/dfw/natural-heritage/species-information-and-conservation/town-species-viewer.html>