

## New England Wildlife Center Indoor Nature Trail / Self-guided tour

1) Welcome to the New England Wildlife Center. This organization is dedicated to caring for sick, injured and orphaned wild animals while using the process of veterinary medicine and the natural history of wildlife as a vehicle for educating students of all ages. We are a stand alone non-profit that has no affiliations or subsidies from other larger agencies or government.

2) The Thomas E. Curtis Wildlife Hospital and Education Center is a LEED (Leadership in Energy and Environmental Design) building. Although we have not yet been awarded our certification, we expect to receive it by the end of this year. The concept of LEED is administered by the Green Building Council of American which is a federal government trust trying to shift the process of new construction to an environmentally friendlier, safer and more efficient system.

The monitor in front of you measures the amount of electricity that the roof of our building generates from the sun's light. This is just one of the many green features designed into our building to make our new facility environmentally friendly.

Other features include:

- 1) The building is steel frame, 80% of which is recycled metal.
- 2) The floor you are walking on is made from a paper product and not a petroleum product.
- 3) The sink cabinet to your right like all the other cabinets in the building are made from wheat board not wood (it takes a year to grown a field of wheat; it takes 60 years to grow a field of trees).
- 4) 90% of the building is touched by natural daylight thereby decreasing the need for artificial lighting.
- 5) The external windows open and close giving the occupants of the building control over the room-by-room microenvironments.
- 6) The external shingling and clapboard is made from a cement board (another green building material (cement is more durable than wood products, and take fewer and cheaper natural raw resources).
- 7) Overhead lighting in the building brightens and dims as needed to keep a comfortable light intensity at low energy demand.
- 8) There are many more green features in and around the building like locker room showers, bicycle racks, a small building footprint, water-based low petroleum solvent paints, no urea formaldehydes, gravel driveway to allow water seepage and runoff, etc. etc.

3) Through this window you are looking into the **Noisy Baby Ward** of the Jane Carlee Wildlife Hospital. In here babies who make a lot of noise and baby animals that don't seem to mind the noise are cared for.

This mostly includes songbirds like robins, starlings, house finches, house sparrows, orioles, crows, grey squirrels, skunks and raccoons. Baby songbirds need to be fed every half hour from sun up to sun down, while most baby mammals like round the clock feedings. These feeding schedules are ideal but do not parallel human work schedules. Our interns and staff start feeding at 7:00 a.m. and continue regularly till 7:00 p.m. Fragile animals are given special care as needed throughout the night. Most animals that are going to thrive do so with these types of feedings.

You will see the noisy baby room staff using syringes and special dietary formulas to feed the individual animals. Caretakers know when an animal is hungry because the patient gapes (begs) when the nest box is jostled. Songbirds stick their widely opened mouth straight up for the parent's beak (in this case a syringe) to poke down into their throat where the food is placed. A hungry baby songbird eats its weight in food every day.

We are lucky that we have pre-made dietary formulas to feed, because mother and father songbirds have to collect, bug by bug, seed by seed the food that their babies eat. Imagine collecting hundreds of grams of mosquitoes everyday to feed your nest of baby birds. And you get to catch them only with your mouth! How long would that take?

Nevertheless, songbirds are much better and much cleaner than we are at feeding their babies. They have the advantage of caring for only 3 or 4 at a time, we sometimes have 100 to 150 at a time. By law we have to keep feeding records on each animal, while parent songbirds have no red tape to follow, yet.

4) This is the Quiet Baby Ward. Quiet baby animals are cared for in here. These include cottontails, opossums, morning doves and chipmunks. Of all the animals that we care for, perhaps Cottontails are the most difficult to raise to an age where they can be released into the wild. Experienced rehabbers report that cottontails will die when one caretaker is replaced by another caretaker. That is how great their stress levels are in captivity.

There are several important things to know about cottontails if you are trying to save their lives. The first is that cottontails survive better in the wild than in captivity. As unfortunate as it seems to see a helpless bunny in the yard, its not going to survive in captive care any better than it is in the wild. Also, cottontail mothers visit their young only once or twice a day to feed them. She does not defend them; she protects them by locating herself away from the nest. She also protects the species by having 5-7 babies 3 to 4 times a summer. The outcome of all this is that only two of her babies has to survive in her lifetime of 3 years to keep the population stable. What a nation! 2 out of 75 babies! And her success rate may be better than ours!

The other important feature of cottontails is that they are reasonably self-sufficient when their eyes open. When the eyes open they begin to hop away from the nest because they now can see to eat their own food – fresh grass, clover, chicory, plantain and dried stems and seeds, which is all around them. Their wonderful camouflage and their incredible ability to be still protects them best from predators. So leave bunnies alone whose eyes are open. They are not in need of mom anymore. And if its cats that are bothering them then chase the cats away or better get them indoors.

5) This is the Enrichment room, which by all rights is probably better called the wet room. In here baby waterfowl and seabirds are raised. This is also the exercise room for the adult animals who need tubs of water to stretch, bathe, preen and eat. Waterfowl are among the messiest and dirtiest of creatures. It is no wonder they live in ponds, rivers and oceans where the water can constantly bathe them. Our baby ducks, geese and swans are cleaned two to three times a day and they probably still look dirty!

Baby ducks, geese and swans are born able to feed themselves. (No table manners taught here) so they peck, fling and splash their food all around like it was a big, fun feast and food fight. In spite of their messiness they are some of the most appealing animals in the Center.

6) Across from the wet room is the Medical Ward. This is where animals that are on medications, or are sick and injured are housed. You may see any of about 225 species of animals in here—from snapping turtles to hummingbirds, ground hogs, pigeons, gulls, hawks, owls, weasels, foxes and on and on.

Most animals that come to us in need of medical or surgical care are here because they have been hit by a moving vehicle, dragged in by the cat or injured by people doing yard and housework.

Our success rate in caring for these broken animals is about 50%. So that means half of the animals admitted die, and about half are released back to the wild. We are probably best viewed as a MASH response unit. When an adult wild animal is in bad enough shape to be caught, it is in pretty rough condition. Our goal is to patch up, and correct problems so that animals can self-reliant again so they can go back to the wild.

**7)** At this station you are looking into the Surgery Ward. On your right is a table that holds the anesthesia machine. This is a square block with glass, metal and hoses. This is the instrument that delivers gas to the patient's face through a cone-shaped mask. This gas is what keeps an animal asleep and not feeling pain when we work on them. Oxygen flows from the wall outlet into the square machine where it flows over a liquid bath of isoflurane. Anesthetic gasses evaporate quickly into the oxygen that flows from the machine down a clear tube to the cone-like mask that has a rubber bag attached to it. When a patient breathes in they inhale gas which goes to the lungs, into the blood stream and to the nerves of the body. When the patient exhales spent anesthetic, carbon dioxide and other ambient gasses are gently vacuumed from the facemask down a tube and into the wall outlet.

These walls are not magic so the gases come and go through tubes to our basement. The oxygen tube goes to a closed situated below the art side of our front lobby. That's about 100 feet from here. In that closet there are people-sized tanks of pressurized oxygen. They are packed when new with oxygen at 2000 pounds per square inch. The vacuum tubes go into the wall and directly down to the basement to a vacuum pump that is bigger than three people in a bear hug. If a surgery is taking place you will see that the people directly involved are wearing gloves and masks, and perhaps gowns and hairnets. This is to protect the patient from germs and the operators from germs too.

**8)** This is our Reptile Ward, actually our turtle ward. When we designed the building this was originally the place we intended to care for sick and injured snakes, turtles and lizards. It has transitioned into a turtle ward, well, because there are so many turtles in there. Almost all these turtles were other people's pets before they came to us.

The big turtles are Sulcatas, also called Spur-thighed tortoises. When people get them as pets they are small like the size of a plum. And, of course, people feed them and they get bigger and bigger and bigger. In fact, Sulcatas are the second largest turtles on earth; they can get to be 150 lbs. And they can live to be 150 years old.

Wow! These turtles are only 20 lbs.! How much bigger will they get? So you see why we turned the room over to them. The people who gave them to us did so because their families kept complaining that the household furniture was never in the right place. One day the sofa would be in the living room, and the next day it would be in the kitchen where the turtle had accidentally pushed it or pulled it.

There are 5 species of turtles in this room. Besides the Sulcatas there is an Eastern box turtle, a Malaysian box turtle, a Chinese box turtle, and a 3-toed box turtle. All these were other people's pets before they were given to us. The message here is that if you are thinking about getting a turtle for a pet; think about how it will fit in with your life 10, 15, 20 or so years from now.

**9)** This is a room where owned animal ("pets") can be boarded. For \$10 a day we will take care of your pet while you go off and have fun on some exotic vacation. If you would like to board an animal with us, please call Elaine Mahoney, Hospital Administrator at 781-682-4878 X117.

Right now we have a Broad-winged Hawk named Broadway boarding with us. Broadway was hit by a car in May of 2006 and badly fractured his wing – so badly it would not have healed. But Broadway, being a tough bird and also willing to get along with people, was spared and the veterinary staff of the Center amputated her left wing. She is doing well and will soon become an educational resident.

The veterinary staff of the Center in addition to caring for the thousands of animals seen here also provide veterinary care to the South Shore Science Center animals and to the animals of the Museum of Science in Boston – the only American Zoological Association accredited museum in the United States.

**10)** You are now downstairs on the first floor of the Center. In front of you is the animal kitchen for the Center. There are two other human kitchens in the building. One is on the main floor (Floor 2) for the Catbird Cafe and the other is on the third floor for the interns and staff of the Center. This animal kitchen is designed to provide

diets for about 225 different species of wild animals. There is a walk-in refrigerator and walk-in freezer that rivals some of Boston's best restaurants.

**11)** This is the Betty Hill Turtle Pond. This 800-gallon tank was installed in the home of Mr. Raffi Wechsler who then lived in Somerville but now lives in Iceland. When he moved to Iceland the tank and its inhabitants permanently moved to the wildlife center.

It looks like the building was designed to have the turtle tank in it, but was in fact a happy accident. The space and the place fit the tank well. In this tank there are about 10 turtles and about 40 fish. It is hard to believe because it looks like a couple of turtles...period. Many of the tank's inhabitants are well-camouflaged and are seen only after some quiet inspection. There is one celebrity in the tank and that is "WuWu" a southern soft-shelled turtle. He's the star because this tank was originally built for him and he is also the most inquisitive member of the crew. His shell is built in much the same way as other turtle shells (that is, bone built from expanded ribs covered with skin) except his skin layer is soft and fleshy not thin & scaly. WuWu is about 45 years old. Other turtles in this tank include Diamond back Terrapins, Red-eared sliders, African Side-neck turtle, and map turtle. An identification and information guide to these turtles lies on the bench, unless someone has stolen it.

**12)** Admission Ward. This is where animals are checked in for care. The process starts with a member of the public or an animal care officer bringing an animal to us. We do not go out and rescue animals. This is a function we leave to the Animal Rescue League, the MSPCA, animal control officers and the public.

We have people fill out paper work that describes their address and contact information, and then as much information about the animal as possible. We are trying to help the animals as much as possible but we are also collecting formation in case we need to contact someone about a public health problem. For instance, if a person brings in a fox that has scabies – a skin infection of mange mites that is also contagious to dogs and people – and we discover this, we can then call the person who brought it in and caution them.

East patient requires paperwork, because each patient is treated as a single animal, and for the most part can be tracked individually through the care process. (Sometimes baby birds or squirrels are combined into a "family" nest, and individual identities are lost to nest identities.)

A licensed veterinarian examines all animals. The veterinarians prescribe the diagnostic and therapeutic plans. The day-to-day care of animals, foods and medications are given by student interns, professional animal caretakers and veterinary technicians.

Once an animal is admitted and examined it is assigned to a particular animal care ward. Animals that are too sick or injured or have readily identifiable and highly contagious infections are euthanized. AngelView Pet Cemetery in Middleboro, MA very kindly disposes of dead animals through cremation.

**13)** You are now on the elevator to Floor 3. This is a "green" elevator that means that it runs by old-fashioned weights and pulleys and not by modern hydraulic fluids and pistons. Green technology is best thought of as the best construction practices of the last 3,000 years, not as something new-fangled and fancy. Some very old practices are still the very best and the least harmful.

**14)** Welcome to the Weezie Nature Center.

**15)** This end of the Weezie Nature Center is dedicated to the study of comparative anatomy and physiology. We use the raccoon as the basis for all of our comparisons. As the title of the subject says it is comparing (and contrasting) the different parts of animals to one another. How does the foot of a raccoon look compared to the foot of a human, elephant or lizard?

Why do we use raccoons as the basis of our comparisons? Well there are two main reasons

- 1) The first and most important is that raccoons are really cool. They are Native American animals that live in most of the common habitats of the continental United States. The east coast and especially New England is where there is the greatest population of raccoons. Raccoons love vernal ponds, and estuaries, and woodlands, and backyards.

Raccoons probably live very near where you live. They have a similar biology and body form as you. We don't have bushy tails and fur all over our bodies, but we can relate to the raccoons life and biology more than we can to a spider crab walking along the ocean's bottom.

Raccoons, like us, are omnivores. In fact raccoons have similar food preferences to humans and that is why raccoons and people often spar. They'd like a piece of what we've got. So they move into our sheds, garages, attics, and barns and raid our garbage, gardens and larders.

Raccoons have an incredible sense of touch in their fore paws. They have as many sensory nerves supplying their hands as we have supplying our eyeballs. Wow! What a sense of touch! Imagine being able to feel something as well as you can see it! That nickel in your pocket would feel like a glorious sunset.

The other reason we have chosen the raccoon to compare skeletons, x-rays and biology is that this area of the center was given as a gift to us by two people who adore raccoons. They too feel that raccoons are cool and that as native wildlife of America are a symbol of American ingenuity, freedom, and intelligence. So take a few minutes to enjoy raccoons. They are truly a biological wonder.

**16)** This is a video microscope. You are welcome to use it carefully. There are slides on the table that you can put on the microscope stage. Turn on the video monitor, the microscope and the camera. The gooseneck camera fits over the ocular of the microscope and by fussing with the camera focus and the microscope focus you can get good images of what is on these slides. If you need help, ask a volunteer or staff member.

**18)** There are an assortment of reptiles and vertebrate arthropods housed here. None of these have been actively acquired by the Center, but rather have been accepted as donations by people who no longer can care for them as pets. You are allowed to take some of these animals out of their cages if you have the assistance of an authorized volunteer or staff member. Please ask before handling.

**19)** This cabinet and area is dedicated to the study of zoonotic and vector borne diseases. Zoonotic diseases are diseases that are shared by humans and animals. Such diseases include rabies, scabies, salmonella, campylobacter, and West Nile Virus. Vector borne diseases are diseases that are transmitted from one animal or human to another by an insect or other vector. Vectors include mosquitoes, spiders, ticks, etc. Vector borne diseases include West Nile Virus, eastern equine encephalitis, Lyme's disease, etc. A vector borne disease can also be a zoonotic disease, like West Nile virus and eastern equine encephalitis.

We hope you enjoyed your tour. If you have questions, find one of the volunteers or staff. We hope you will come back soon and visit the café, the gift shop and/or the Nature Center.