

FALL/WINTER 2012-2013

SANCTUARY

THE JOURNAL OF THE MASSACHUSETTS AUDUBON SOCIETY



All Through the House

The ecology of dwellings

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Keeping Our House in Order

Writing my last column for *Sanctuary* magazine in an issue devoted to the ecology of the house got me thinking of this leadership transition as akin to a homeowner who is readying her beloved house to be occupied by someone new. Very soon I will be turning over the keys of leadership to my successor.

As I extended this metaphor, I began to inventory the rooms of the house and what they represent about the organization. Without a doubt we have a strong structure, built on a solid foundation and capable of weathering storms as well as the winds of change. The foundation is built on Mass Audubon's mission and values, and long history of conservation.

Responsibility for keeping our house in order starts with the Board of Directors, which has legal, financial, and fiduciary obligations to oversee the work of the organization. Composed of up to 30 members and a Chair, our Board represents a broad range of backgrounds and interests: some deeply involved at our sanctuaries; many with education, science, financial, business, or legal expertise. Most Board members have been on the Council, an advisory group of about 100 people reflecting a range of connections to Mass Audubon—birders and land protection advocates, policy wonks and local activists. The Board serves without compensation and gives generously of their time, knowledge, and personal financial resources—keeping in mind knowledge of our past, opportunities of the present, and needs of the future.

Good housekeeping is also the responsibility of our wonderful staff. Over the years Mass Audubon has been the beneficiary of extraordinary people with a passionate commitment to the mission. They provide exceptional program opportunities, carry out ecological management, conduct scientific studies, protect land, monitor rare birds, work on pressing public policy issues, take care of our membership, pay our bills, and raise the resources we need to accomplish our work. Also incredibly important in Mass Audubon's household are our volunteers who take on a range of activities and responsibilities and extend Mass Audubon's reach in ways that deepen our conservation impact. And we are so grateful as well to all of our members and contributors whose generosity and commitment allow us to advance our mission.

As I prepare to turn my keys over to the new President, I am thankful for the opportunity to have shared the house with such talented and dedicated Board members, colleagues, volunteers, and Mass Audubon members. Collectively, we have kept the house in good order, and I am deeply grateful to everyone for being such inspiring roommates all these years. Thank you.

Laura Johnson, President

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The harnessed cat (see page 13).

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Mass Audubon works to protect the nature of Massachusetts for people and wildlife. Together with more than 100,000 members, we care for 35,000 acres of conservation land, provide school, camp, and other educational programs for 225,000 children and adults annually, and advocate for sound environmental policies at local, state, and federal levels. Founded in 1896 by two inspirational women who were committed to the protection of birds, Mass Audubon has grown to become a powerful force for conservation in New England. Today we are respected for our sound science, successful advocacy, and innovative approaches to connecting people and nature. Each year, our statewide network of wildlife sanctuaries welcomes nearly half a million visitors of all ages, abilities, and backgrounds and serves as the base for our work. To support these important efforts, call 800-AUDUBON (800-283-8266) or visit www.massaudubon.org.

A Dog of Singular Intent

There are three species of rat in New England: the black rat, the Norway rat, and the wood rat. The latter is a now-rare native that generally prefers forested areas away from houses. It is distinguished from the other two by its furred tail and the fact that, in contrast to its fellow rats, it is fair-minded. It likes to decorate its nest with shining objects such as coins or wedding rings but will graciously leave a gift to replace the stolen item—a pebble, for example.

The black rat is more of a rogue. It favors seaport towns and docks, and is the rat that was responsible for the spread of the black death in the 14th century. The Norway rat is the common city rat of sewers and streets, although it can also be found in the country, around barns and farmyards. A few years ago, a Norway rat took up residence under the floor of a glassed-in conservatory at our house that serves as a dining room. The other resident animal in our house at that time was a dog, a Jack Russell terrier, a breed known for its boundless energy, its singular perseverance in the face of a mission, and the fact that it despises rats. Perhaps needless to say, the presence of these two species in more or less the same quarters did not bode well for the rat.

Said rat arrived at our house in the dead of a cold winter and selected a crawl space beneath the dining room for its living quarters. We could see him from time to time, feeding like a chipmunk beneath the nearby bird feeder, and, from the perspective of the breakfast table, he didn't look particularly evil or vicious. He had a healthy brown coat and appeared to be nothing more than a benign wild animal, but the persistence of the dog inevitably led to an ill-fated course of events.

Inasmuch as this particular dog was a Jack Russell, once he smelled the rat, he became obsessed. He lost interest in the primary pleasure of his small life—food—and took up the cause, moving into the dining room. He posted himself above the rat's resting places, whining and scratching the floor. He would leave from



Oliver scanning for rats from his watchtower

© JOHN HANSON MITCHELL

time to time, eat quickly, and then return to his work. We always knew exactly where the rat was under the floor since the dog would move to different spots around the room, snuffling and scratching. He actually began to lose weight—such was his obsession. So we had to act.

In order to preserve the health of our guardian companion animal, we had to do something.

I set out a live trap, but the rat was too smart to enter. I blocked all the holes that would allow access to the foundation and jammed the trap in the exit and entrance he appeared to be using. Somehow he got around the obstacle.

I staked the dog near the feeder, which suited him perfectly. He stood guard all day long, staring intently and whining at the rat hole—which, of course, alerted the rat that this was not the best of times to come out and feed.

Finally, I gave up and bought a regular rat trap.

I caught the rat the next morning and immediately regretted what I had done. He had been, enfin, a healthy wild animal, just trying to get by. Nevertheless, I reasoned that we alien Cro-Magnons got here in North America ten thousand years before he did and were therefore more native than he—Norway rats did not arrive in the New World until the late 17th century.

That was not the end of the dog and rat saga, however. I calculated that our guard needed what human psychologists refer to as “closure.” So with the Jack Russell leaping at my waist to get at his prey, I carried the lifeless rat to a clear spot in the yard and flung him out across the icy snow. He skidded along as if fleeing, pursued by the dog, who caught him, gave him a death-dealing shake, and tossed him aside, his mission accomplished.

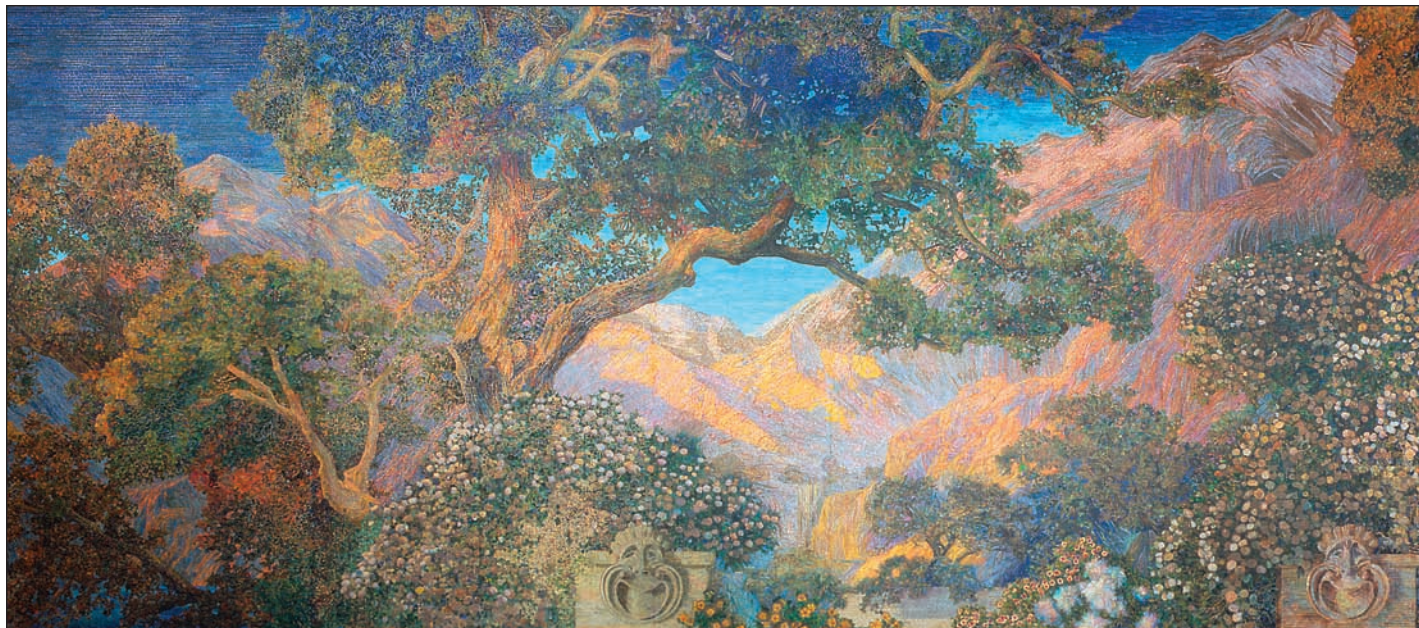
I never told him it was not he who had killed the rat.

JHM

Outside In

Musings on the human tendency to invite images and materials of nature into our dwellings

by Teri Dunn Chace



*The Dream Garden, favrile glass mosaic (15 x 49 feet)
designed by Maxfield Parrish (1914), produced by Tiffany Studios (1916).*

To this day, the thing I remember most about a business trip I made many long years ago was the fact that there was something startling about the environs. Not the Nashville, Tennessee, location, which could easily have been anywhere else in the United States, or the Embassy Suites Hotel quarters, which are basically the same everywhere. I attended several mind-numbing days of presentations and sales pitches in airless, windowless meeting rooms. Included was a sprawling trade show nearby, in an airless, windowless convention hall with all the charm and atmosphere of a pre-fab warehouse.

At some point we were granted a brief recess, and I fled with a friendly colleague to what appeared to be a bright, airy spot: a lush, vegetation-lined terrace, where we sipped cold sodas at a little café table. I began to notice that the shade trees were growing in large tubs. But it was not until a bird flitted by and perched in a flowering hedge opposite us that I roused from my torpor and exclaimed to my companion, “Are we indoors here, or out?” Had we inadvertently managed to venture outside, or were we in an atrium of sorts?

The fact that neither of us could readily answer my question was exceedingly disconcerting. We set our moisture-beaded glasses down on the small table and

spent several long minutes squinting uneasily around us looking for walls, windows, doors, or ceilings. A bird would not be loose indoors, right? Was this natural or fluorescent lighting? Surely we had found what we craved, a “real” rather than artificial retreat from the oppressive, stale interiors of the proceedings and hotel?

Our confusion lingers in my memory now, as I ponder other cleverly designed interior spaces I’ve encountered over the years. Embassy Suites Hotels, just like successful grocery stores and upscale shopping malls and fancy apartment lobbies, are designed environments. We might not consciously realize it, but our impressions, relative comfort, and behavior have been studied and are being accommodated, catered to—or, you might even say, manipulated—by architects and interior designers.

Being oblivious to our surroundings, giving it no thought whatsoever, may be a naturally human tendency, until some surprise or anomaly makes it feel all wrong. The flight of that lone bird in the hotel atrium (for it was indeed an atrium, with exceptionally high ceilings) was, for me, an eye-opening moment.

That interiors can be and are designed at all had not been on my personal radar until that day. To what purpose was that tall atrium, with its pampered plants and confined, or lost, bird? Obviously, it was designed to sup-

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Decorative images such as these carnations by Pierre-Joseph Redouté were popular in the eighteenth and nineteenth centuries.

ply refuge and comfort to visitors, which, upon reflection, it certainly did.

But although humans have brought the outdoors in to supply refuge and comfort since time began, with how much success have we done so? How do we do it? Why do we do it?

In ancient Greece, it has been observed that windows on dwellings and public buildings deliberately framed views. In fact, we often use windows much the same way in modern times. The broadest of our framings are the sliding glass doors onto the patio, back deck, or backyard, in homes from California to Massachusetts, from London to Quebec.

But, why don't we put the sliding glass door on the front or even the sides of our homes or apartments? An interesting question. Even the terraces of long-ago Greece and various European countries tend to be positioned to capture a pleasing view, while simultaneously preserving a sense of seclusion. Perhaps, then, it is a human tendency to make our relatively small abodes feel larger or grander by—to use the language of the designer—"borrowing a view" while minimizing the ability of others to see in, so we might enjoy privacy or at least the illusion of it. A more personal in-scale connection with nature is made possible when this balancing act is successful.

If a home lacks a pleasant aspect, then the tendency is to work with whatever is out there, whether it is a neighbor's farm, the panorama of the countryside, or rooftops beyond. Ancient Rome offered a different template for this approach to bringing the outside in: consistently, its larger homes and villas turned their backs to the streetscape and opened generously onto courtyards, walled gardens, and atriums, often featuring fountains or pools. This idea is really no different from modern-day Florida's upper-middle-class subdivisions, with their screened-in indoor swimming pools at the back of every McMansion. Even the condo on the 34th floor in Manhattan with its little fire escape or wee balcony can provide a spot for a cluster of potted plants.

Lacking such amenities as scenic beauty, sufficient natural environs, or adequate light, interior design can still provide the impression of a connection with nature. Back in ancient Rome and Pompeii, murals on indoor walls were popular in homes, restaurants, schools, baths, and public buildings. Entire luxurious flower gardens, farms, and other rural scenes, groves, rivers, and lakes—with or without animals, birds, and people—were commonplace depictions. Livia, the third wife of Augustus Caesar, commissioned an ambitious one on all four walls of a large underground room. The effect was cool, soothing, and not at all claustrophobic, thanks to its realistic décor. Such a scheme broke down the distinction between outdoors and indoors and provided a pleasing, reassuring, attractive environment.

Fake or real, these attempts to create a semblance of a pleasant, attractive, natural environment can nourish a sense of continuity, accord, balance, and beauty.

This same impetus to bring the outside in is what causes today's college student of modest means to put up an Ansel Adams poster of a Sierra Nevada mountainside in the dorm room or Donald Trump to hire a trompe-l'oeil artist to create a realistic forest mural on a guestroom wall. (Trompe-l'oeil means "to deceive the eye," but very often we are willingly deceived by a good artist.)

Nor are we limited to embellishing interior walls. Many homes have living plants within, whether it's a few potted herbs on the kitchen windowsill, an orchid in the living room, a Boston fern in the bathroom (where it can enjoy the shower's contribution of humid air), or a big potted ficus or philodendron in the front hall. Even if we are neglectful or think we have a "purple thumb," there are many tough plants that can survive despite us and even bloom in typical indoor environments, especially if they are of tropical origin, which many of our common houseplants are. These plants can tolerate limited light and warm air, provided we stop by occasionally with the watering can and perhaps a mister.

Once upon a time, in Victorian England, the desire for verdure indoors led to a mania for glasshouses and conservatories (for those with the means to build, fill, and maintain them) and—on a smaller scale—Wardian cases and terrariums. These were valued for the warmth, beauty, color, novelty, and touch of nature

they brought to the environment, especially for urban dwellers. When fashions changed and such indulgences were deemed unhealthy (all those organic smells and sights!), some enthusiasts simply made sure that access was from an outside rather than interior door. These days, given the adequate money, inclination, and available space, there are marvelous, energy-efficient greenhouses and conservatories that can be added onto the home and filled with greenery and suitable furniture. Voilà, a personal indoor retreat.

Last spring, I was struck by a *New York Times Style Magazine* article featuring the enchanting Los Angeles cottage-size home of filmmaker Doug Aitken. Silk-screened drapes and walls are liberally adorned with spangles of realistic-looking, shimmery green leaves, creating a transition to the lush hedges and vines growing beyond, just outside. In an alcove where natural light streams in from a skylight, there's an impressive tiered garden of succulents. As I admired the photos, it was easy for me to see that his design ideas made the small house feel bigger as well as warmer and more welcoming. His girlfriend remarked, "For me, this is an organism—my dream house, where the materials and the architecture don't intrude on the nature around it." Indeed, they have been fused.

Aitken's botanical drapes remind me not to forget wall hangings, shower curtains, towels, rugs, and even the flowery contact paper on the shelves in the kitchen. In the distant past, many a dark, dank castle room or hallway benefited from tapestries—large fabric creations that helped warm up an interior with their pleasant images. Thus, we acknowledge yet another benefit of bringing nature images inside: sometimes the outdoor world is forbidding, unsafe, unattractive, or even simply covered with snow for months on end. Looking at plants and their brightly hued flowers and fruits, not to mention birds or other creatures, is bound to lift dampened spirits.

Common to mainly decorative items like tapestries, paintings, and even today's paper posters is the added virtue of such things being portable. So carting them along with you wherever your life and fortunes take you provides and protects a personal sense of continuity. Frequently, such things are not daily-life images of what we see when we look out our windows. Instead, these portable images preserve our memories or our aspirations. For instance, I treasure a photo I once took in the Tuscan countryside of jaunty red corn poppies in the dappled shade of a gnarly old olive grove. I can look out my windows if I want to see where I am; I can look at this picture if I want to revisit that fondly remembered far-off place.

But what about the images of nature with which we have no obvious personal connection at all? What if that college student with the Ansel Adams poster has never been west of the Mississippi? What about the urban loft in a downtrodden Dorchester or Somerville neighborhood adorned with stylish Andy Warhol prints of endangered animals? What inspired my mother-in-law to hang a print of plush white



Louisiana Tanager, Scarlet Tanager from Birds of America by John James Audubon

peonies on her apartment wall in Florida, a part of the country where no peonies grow? Maybe the student dreams of mountain peaks and rushing streams while slogging through an Eastern college campus full of cinderblock classroom buildings and boring industrial landscaping. Maybe the Warhol prints bring bold, expansive, "wild" energy to an otherwise daunting, boxy, built environment. Maybe, simply because the white flowers match the white sofa, the elderly woman savors a pleasing sense of harmony in her small abode.

And what, really, is the point of having houseplants, and even bringing them with you when you move to a new home? As I've mentioned above, rarely are they plants that could prosper outdoors. Their identities are different from garden plants, native plants, familiar weeds, farm crops, forest trees—anything that's found outside the door. Usually, their role in our lives is not to connect us literally to our local landscape. Instead, like the Victorian glasshouses, they create the illusion of an indoor landscape of retreat and sanctuary. As natural organic things, they offer us balance in...what is the word I want here?...texture? demeanor? atmosphere? Our tables, shelves, floors, and windowsills are enclosed, manufactured, artificial, and rigid; our houseplants are alive. Perhaps surrounding ourselves with living things reminds us to, well, breathe. To restore the peace often masked by the stresses and artifices of modern living.



The roses of Redouté were among the favorite floral prints of the wealthy.

Some people, and for all I know the interior designer responsible for the Nashville Embassy Suites Hotel, choose to take all this a step further and add a pet bird, lizard, or aquarium to enhance an indoor environment. Of course, it's not practical to add truly wild animals, and biting insects and tunneling rodents are not invited either! If we really wanted to live outdoors in nature, we would. Most humans want and need a roof over their heads. So inviting the outdoors in is a selective, even cautious, process.

Yet when we decorate our domestic environments with natural images and materials, we are expressing a range of deep, primal needs: order, adventure, hope, continuity, security, memory, beauty, vitality itself. When we do this, we are declaring, consciously or unconsciously, that we want to live in this world. Our built environment may be anything from contrived to dehumanizing to bland, if we do not connect with or honor the unity, intricacy, and intimacy of nature.

Teri Dunn Chace is a frequent contributor to Sanctuary. She divides her time between Cape Ann and Upstate New York. She wishes to acknowledge the helpful information from Interior Landscapes: Gardens and the Domestic Environment by Ronald Rees.

Natural Beauty in a Book

The Museum of American Bird Art at Mass Audubon (formerly the Visual Arts Center) in Canton is featuring an exhibition of one of the rarest of ornithological books, *Illustrations of the Nests and Eggs of Birds of Ohio*, which was published from 1878 to 1886. Titled *Nests, Eggs, Heartbreak & Beauty*, the exhibition will run through January 13, 2013.

Historically, beautiful books of original natural history subjects have adorned many a living room and library in collectors' homes. Fewer than 25 copies of this 19th-century book are known to exist, and the one in the exhibition, recently donated to Mass Audubon, was the personal copy of Howard Jones, the author. This volume contains unique material, including a hand-drawn gilt title page, and inscriptions that identify the artist and colorist of the plates.

"People have been asking me how we'll organize an exhibition around a single bound book," says Amy Montague, director of the Museum of American Bird Art. "The answer is, with a lot of help." Joy M. Kiser, author of *America's Other Audubon*, knows where related items are located and has shared her connections, making fascinating objects available from lending institutions. These include an original lithographic stone used to print the downy woodpecker nest, on loan from the Ohio Historical Society, and two unbound subscription parts that belonged to Theodore Roosevelt—a friend of Mass Audubon's first president, William Brewster. Also borrowed for the exhibition are three framed original pages owned by private collectors, as well as a first-edition John James Audubon engraving of a Ferruginous Thrush (Brown Thrasher), which was one of Audubon's rare images depicting a nest, lent by Graham Arader of Arader Galleries in New York.

For more information contact the Museum of American Bird Art at Mass Audubon, 963 Washington Street, Canton, at 781-821-8853.



The Hot Line

It turns out that Mass Audubon's Wildlife Information Line is a good indicator of changing wildlife population trends in the state.

by Thomas Conuel

The caller to the Massachusetts Audubon Wildlife Information Line (WIL) wanted to know what to feed a fawn in her bedroom.

"Why do you need to feed a fawn," Linda Cocca inquired? "And why is it in your bedroom?"

Linda Cocca has been answering the phone and responding to email pleas for wildlife guidance for 23 years. The caller had spotted the fawn in a field along the roadside one early evening, scooped it up, brought it home with her, and kept it in her warm bed all night. And now, the next morning, she wanted to feed the fawn.

Bats in the attic, bears in the backyard, mice in the cupboard, woodpeckers assaulting the exterior of homes. And those ubiquitous pesky squirrels, both red and gray, raiding bird feeders and in particularly fraught moments sliding down the fireplace chimney and invading the living room, all inspiring pleas for guidance from homeowners who are reluctantly sharing space with wildlife.

Linda Cocca keeps a journal noting some of the more plaintive calls she receives and the locations of the calls. Before the advent of the Internet and the age of online information, the WIL was available five days a week (it went from five to three days a week in 2010) and averaged about 5,500 calls a year. Now that the Mass Audubon website features a Living with Wildlife section, as well as taped messages that provide answers to the most common questions, the wildlife line averages about 3,500 calls and emails per year. The busiest months are May and June, which is when calls about baby birds out of the nest, and birds building nests in hanging plants and porch light fixtures, come in. The least busy month is November.

In the spring and fall come the calls about woodpeckers drilling holes in wooden clapboards or shingles, and drumming on aluminum siding of homes. A downy woodpecker is the usual suspect, though hairy woodpeckers, pileated woodpeckers, and northern flickers all pitch in to annoy suburban homeowners.



© BILL BYRNE

Striped skunks

In the past, one of the most common calls in spring concerned chimney swifts because of their preferred nesting sites in chimneys. Now the species, sometimes called the flying cigar for its long and narrow shape, is in decline. There are no definitive answers to explain what is affecting chimney swift populations, but some scientists postulate that with spring arriving earlier as a result of global warming,

aerial insect populations essential to the bird may be peaking at the wrong time and are thus not in synch with the chimney swift's migration and nesting. Others speculate that changes in chimney design, with covered, narrow flues, and chimney liners with smooth interior surfaces, as well as the capping of many old chimneys, are making it increasingly difficult for the birds to nest.

Bats also once dominated the Wildlife Information Line inquiries. Callers wanted to know what to do about bats in the attic, bats in the walls, and bats just being bats and gliding through the evening sky in pursuit of mosquitoes, mere fractions of an inch above the caller's head? Sadly, the bat calls are now rare because of a devastating plague known as white-nose syndrome that has swept through the colonies (see page 9). In the years before the outbreak, the WIL received eight to ten bat calls a week. Now the total bat calls are down to maybe ten calls for an entire summer.

By contrast, the calls about bears in the backyard have remained steady—despite the growth of the bear population in the state. Once somewhat rare, the black bear has thrived in recent years as New England continues to change from farmland to mature forest—prime black bear habitat. In 1970, according to state wildlife officials, there were about a hundred bears in the state, most in the western part. In 2005, there were 3,000. Wildlife officials now estimate that there are 5,000 black bears in the Commonwealth, most of them west of the Connecticut River.

But encounters with black bears are increasing as the black bear population stretches to the east even as



White-tailed deer

Young Wildlife Belong in the Wild

White-tailed deer fawns and their mothers have a bond that forms during the first day of the newborn's life, according to MassWildlife biologist David Stainbrook. So the doe always recognizes her fawn and can leave for hours at a time to feed while the young curls up in a wild haven where it remains safe from predators thanks to its spots and coloration for camouflage and its lack of scent. Since the mother visits sparingly during the first two months, mainly visiting the fawn (or fawn twins) to let it nurse and then leaving once again to avoid detection, a fawn is often alone. But that doesn't mean it's abandoned.

Anyone who sees a fawn should let it be—its mother will return. And if you find out that a fawn has been mistakenly removed from the wild, take it back as soon as possible. Fawns have been successfully reunited with their mothers, even when they've been returned as long as five days later. "Once fawns reach about eight weeks old and are able to outrun predators," says Stainbrook, "they no longer have to rely on hiding and can spend all of their time with their mother."

Whatever a fawn's age, rest assured, mama deer knows its whereabouts and its needs.

Metropolitan Boston's human population pushes to the west, a sure formula for unplanned bear and human encounters. Most bear sightings are of young males wandering in search of mates and territory. Some of that new bear territory includes the Worcester area, suburban Boston, and several towns in the southeastern part

of the state. Residents call to report bears sitting in the backyards of suburban homes, snacking on seeds liberated from bird feeders, or turning over garbage cans in search of a tasty morsel.

Many of the bear callers hope that Mass Audubon will offer up a surefire way to deter the bears and protect their feeders. "We don't," says Linda, adding that there is no way to protect bird feeders from bears.

In her years of responding to calls and emails at the wildlife line, Linda has noted some changes as the state's population spreads out farther from Boston and its suburbs as fields and farms are developed. Two-thirds of the calls come from east of Route 495 and from the suburbs of Boston, but calls from the west are increasing, especially in and around Worcester and Springfield. Befuddled homeowners are grappling with nature in their backyard and intrusions such as foxes under the garage or porch, aggressive wild turkeys, raccoons in the attic, and baby birds out of the nest.

The subjects and types of wildlife calls vary from year to year, season to season, and region to region in the state. When it comes to wildlife intrusions into the home or the yard, the perennial favorites remain the same: squirrels, both red and gray, white-footed mice, woodpeckers, and raccoons.

This year, the calls concerning foxes under the porch or garage are up. "I tell them to enjoy the foxes and their kits," Linda says. "Foxes tend to be nonaggressive. They'll scamper around and get their babies out of sight when you approach."

But that's not the advice Linda gives the coyote callers, a species on the increase in Massachusetts. Coyotes are wary and won't approach a human, but she advises people not to approach them. Stay inside and keep the family pets inside too, until the coyotes move on.

Linda's expertise on the wildlife helpline comes from years of tutelage by some of the legends at Massachusetts Audubon: Jim Baird, former vice-president (now retired), Chris Leahy, longtime naturalist and tour leader; and Wayne Petersen, director of the Important Bird Areas (IBA) program.

About that caller with the fawn in the house looking for guidance on what to feed it. Linda explained that fawns, lying on the ground, appearing alone, are not orphans; the mother is nearby but does not want to call attention to her helpless offspring by standing close to it. The coloration of the fawn's coat (white spots on tan) appears as dappled sunlight on leaves, making the fawn difficult to spot. Linda advised the caller to return the fawn immediately to where she found it, but she would hear none of it.

Not everybody is receptive to reasonable guidance when it comes to dealing with wildlife, though the Wildlife Information Line continues to offer advice to anyone inquiring.

Thomas Conuel is a field editor for Sanctuary magazine.

A Calamity for North America's Bats

White-nose syndrome has killed millions of bats in the past six years.

by René Laubach

In what may well be the only disease to ever target hibernating mammals, white-nose syndrome (WNS) has, in a mere six years, decimated bat populations in eastern North America. For instance, the number of thumb-sized little brown bats—once very common—has plummeted to the point that some states such as Vermont are affording it endangered species status. In fact, no mammalian disease in recorded history has been so thorough and rapid in its spread. Hibernating populations have fallen between 90 percent and nearly 100 percent in affected caves and mines where the overwintering species spend six months of every year.

Named for the telltale, fuzzy, white fungal masses on the snouts and wing membranes of hibernating bats, WNS is estimated by the US Fish & Wildlife Service to have killed 5.5 to 6.7 million bats since it was first found in February 2006. From Howe Cave near Albany, New York, the fungus has now spread to caves and mines in 19 states and four Canadian provinces. Although researchers are constantly learning more about this disease, which has been compared to medieval Europe's black death and the American chestnut blight of the early 20th century, much still remains to be discovered.

Geomyces destructans, a fungus that thrives at low temperatures and high humidities, is the culprit in this mass die-off, but the exact mechanism by which it kills bats is still somewhat murky. It is believed that the fungus is passed from bat to bat through direct contact or through contact with a surface contaminated with the fungus. Laboratory experimentation has shown that *G. destructans* cannot survive temperatures above 68 degrees. Unfortunately, hibernating bats require temperatures between 40 and 45 degrees in order to slow their metabolic rate and subsist off of the few grams of stored fat fueling their hibernation. *G. destructans*' fungal threads enter the bats' skin through glands and pores, causing tissue destruction. But that by itself is probably not enough to kill the animal outright.

What's perhaps more diabolical is that the fungus inflicts sufficient irritation to rouse the bat from its deep slumber, causing it to fly aimlessly about, thereby burning up the life-sustaining fat reserves it depends upon for survival until spring reemergence. Boston University bat researcher Thomas Kunz believes that hibernation suppresses a bat's immune system, making it vulnerable to the fungus.



Little brown bat

© RENÉ LAUBACH

Interestingly, the fungus has now been found in Europe as well, but European bats do not succumb to WNS the way that American bats have. It is another case of an invasive exotic organism wreaking havoc upon defenseless natives ill-equipped to deal with an invader. In contrast, European bats, it is assumed, have had years, perhaps millennia, to develop a resistance to it. Which begs

the question, How did the fungus that causes WNS make its way to North America? Scientists surmise that a cave explorer inadvertently transported the fungus to the US on shoes or clothing shortly after visiting a European cave.

The effect has been catastrophic. The Indiana bat and the gray bat, both already federally endangered before the advent of the disease, are now even more vulnerable to extinction. In all, nine species of bats have been affected, some more than others. Should WNS make its way to western North America, the results could be equally horrific (the fungus has been detected as far afield as western Oklahoma).

In the East, the disease may well have run its course since vulnerable individuals—the vast proportion of the population—have already died. The survivors may be endowed with an as-yet-unknown immunity to white-nose syndrome. Unfortunately, the fact that long-lived cave bats reproduce so slowly—averaging only one young per year—almost certainly means that decades will pass before bat populations can assume anything resembling their pre-WNS levels.

A July 2012 study published in the online journal *Ecology Letters* holds out a glimmer of hope that some species may have already begun to adapt to WNS by roosting singly in caves rather than in their more characteristic tight clusters, thus making them far less likely to pass the fungus to a healthy animal. Good news indeed, but it may be too little too late, at least for the foreseeable future.

And what will the effects of this massive bat die-off be? Bats are credited with saving the nation billions of dollars by curtailing potential crop damage by eating moths that, as larvae, consume a significant portion of our farm crops. Unfortunately, it may have taken a true biological calamity like white-nose syndrome in order for us to fully appreciate this formerly much-maligned group of creatures.

René Laubach is director of the Berkshire Sanctuaries for Mass Audubon.

Animal Catchers

Wildlife invasion of houses is common enough to require state-licensed control agents.

by Karl Meyer

Fox kits in the foundation; bats in the attic; a ball of water snakes on the patio—Who you gonna call?

In the Bay State your best bet may be a Problem Animal Control (PAC) agent. Approximately 150 licensed PAC agents currently operate in Massachusetts, according to Don Reynolds, an agent who works out of his home just south of the Quabbin Reservoir in Ware. All Massachusetts-certified PAC agents must take a trapper education course and pass a written exam on wildlife habitats, wildlife capture and handling, and animal welfare. Beyond this, agents must carry the necessary licenses for hunting and the use of traps and firearms to work with the “problem species.”

A snapshot of the PAC agent job description is prominent on the Massachusetts Department of Fish & Game’s website: “PAC agents may harass, take, and destroy, or may release or liberate on-site...certain non-

domesticated reptiles, birds and mammals the actions of which have or are endangering the life and health of humans or domestic animals....”

But, as evidenced by the female raccoon cub climbing comfortably about a large, shaded cage in Don Reynolds’ backyard on a hot July afternoon, the job is not just about trapping and dispatching animals.

“I rescued her from a chimney this morning,” he says.

This cub, weighing perhaps 3 to 4 pounds, appears agile and healthy. By law, any animal Reynolds traps must either be put down or transferred to a rehabilitator. He’s hoping to find a room at the inn for this one. She makes a little trilling sound like a gray treefrog then reaches for Reynolds’ extended finger with a leathery-soft handlike paw. “I called down to the rehabilitators in Springfield this morning,” he says, “but there isn’t room at the moment.”

That situation is not unusual, according to Reynolds,



Raccoon family

© BILL BYRNE

who seems to have a word-of-mouth reputation as a compassionate animal control guy. “He doesn’t kill them [baby raccoons], which is what a lot of the agents do,” says Dee Howe, founder of Urban Wildlife Rehabilitation of Springfield, Chicopee, and Westhampton. Rehabilitators do all their work for free, Reynolds notes. They care for young and injured animals, and, whenever possible, release them back into the wild. Reynolds says that he adds an extra fee on the front end for services involving young animals. He then passes the extra on as a donation to cover the costs rehabilitators incur.

“A lot of people are pretty free about putting animals down instead of coming up with a solution that benefits both,” Reynolds says. “My goal, unless the animal is very sick or badly injured—or an extreme nuisance—is to find a way to give it a second chance.” This is not to say that Reynolds doesn’t dispatch animals when a situation calls for it: “If I’m told an animal needs to be put down, I’ll do it.” He has used his CO₂ unit on adult animals perhaps four times in 12 years.”

Reynolds remembers an emergency four years ago. A beaver had backed up a stream and caused a flood in an adjacent horse paddock. In that situation, he used a conibear trap, which ultimately dispatched the 65-pound beaver.

Reynolds’ grandpa was a mink farmer in Pelham, so as a youngster Reynolds learned much about the realities of working with and capturing the lightning-quick creatures—animals that would bite and often slip from their pens. Reynolds’ other grandfather was something of a woodsman, who often brought home orphaned animals and taught young Don Reynolds how to care for them.

Reynolds holds a BS in Wildlife Management Resources from UMass, and came to his current vocation at midlife, earning his degree a dozen years back. Prior to that he’d done helicopter medic work out of Westover Air Reserve Base, and then spent fourteen years as a pharmacy technician at the Department of Veterans Affairs. There, he developed acute chemical sensitivity, which forced him to leave his job in the late ’90s. That propelled him back into wildlife studies and renewed work with animals. It’s work he clearly loves, despite recently having to give up the part of the job requiring ladder work due to a progressive muscular disorder.



© BILL BYRNE

Red foxes

“Reynolds is my right-hand guy when it comes to snakes” says Carol Hepburn, longtime Animal Welfare Officer for the town of Amherst, “I’m good, but just not with snakes.” Hepburn often will recommend Reynolds to people with various animal problems. “He’ll come right away,” she says, “and he’s relentless at getting the job done.” What Hepburn also likes is Reynolds’ approach to the captured wildlife: “He’ll take and relocate them. It’s not all about killing.”

In Massachusetts PAC agents may release captured animals into the wild—on the premises where they were caught. And, as the Department of Fish & Game website stresses for citizens who may abhor nature encroaching on their built environments, “The mere presence of wildlife doesn’t constitute damage or injury.”

A skilled outdoorsman, Reynolds hunts deer in the fall, but only to consume what he brings in. “I’m happy whether my day produces something or not—it’s still a day in the woods.” He’s also clearly happy solving people’s gnarly wildlife problems, some that crop up quickly. This spring he got a call from South Amherst in late May. A woman on a two-week vacation heard from a neighbor about foul smells and lots of animal parts scattered across her yard. Reynolds arrived to find a mother, father, and 10 red fox kits cavorting in the yard, oblivious to his presence. “They’d gotten under the deck and burrowed a den beneath the house foundation,” he says.

Reynolds returned and crawled in several feet under the deck near the foundation, “I could hear the parents snapping their jaws at me,” he says. So he quickly attached several vials of coyote urine beneath the



Red squirrels can be among the worst house invaders.

planking, and when he came back the next morning the foxes were gone.

Reynolds then collected two trash bags full of animal body parts, which included pheasant, turkey, squirrel, a small terrier, and a cat. "I salted the area with lime to remove the smell," says Reynolds, "then put down Shot-Gun® repellent to keep them from returning."

And then there are the customer responses that test a PAC agent's skills. In August, two years ago, he got a call from a woman who found bat guano on her attic floor. They scrambled up the narrow, pull-down stairs. "I don't know where it's coming from," the customer said. Reynolds might've liked to take back his next words, but he pointed his flashlight skyward and noted, "There are twenty of them above your head right now."

With that, the owner screamed, startling the bats and putting them to flight. She continued screaming as more and more little brown bats took wing, "Bats were flying everywhere," he says. "I had to keep picking them out of my shirt." Finally, the customer bolted, and—clunk!—slammed the hatch behind her. It was 15 minutes before she would open it again.

When things quieted, Reynolds returned and went to

work—netting and releasing bats to the outside air, and attaching little scent bags of Bat Away to the attic's louvers to prevent re-entry. The compound is anathema to bats, leaving a burning sensation in their mouths. Then Reynolds installed a one-way door for any stragglers to exit through. He talked the owner through a list of recommendations for keeping bats from reinhabiting her dark, inviting, bat nursery, then returned to remove the one-way bat door a few weeks later.

Nine times out of ten, homeowner-wildlife conflicts are the result of humans moving into animal habitat or inadvertently helping create conditions that attract animals. In another incident in South Amherst, homeowners had built a coy pond in the middle of their deck. The pond's cultured fish attracted some unwanted visitors. Guests were over at the house when Reynolds took the distress call: a ball of northern water snakes was writhing in the middle of the deck pond.

The scene was reminiscent of an Old Testament plague. "The female was about three feet long," says Reynolds. "There were maybe 16-foot-and-a-half-long males crawling over her." He could see perhaps four inches of the female's head and a bit of her tail.

The guests retreated to the deck's screened-in hot-tub gazebo. Everyone watched, riveted, as the female water snake dragged the whole living tangle to the edge of the coy pond. There, Reynolds waited with his snake tongs. He clasped the female behind her head, and then carefully worked an open snake hook around what was roughly the center of the serpents. Slowly, he lifted the mass of entwined reptiles and lowered it into a cage about two feet around, then walked them out to a swamp on the

property and released them.

The deck party resumed.

These days the bulk of Reynolds' work involves baby animals—including quite a few skunks. He's only been sprayed once, when a person stepped in "to help." Though sometimes it may take a week to solve the most difficult home invasion, most often he gets the problem fixed in under three days, "I've always been very successful," says Reynolds.

Reynolds' work is as much about dealing with humans as it is about capturing problem wildlife. "I enjoy going out and meeting people," he says, "and, through correcting the problem, I get to teach them about prevention." Once an animal family gets established inside the premises, easy home remedies may not work for the do-it-yourselfer. It could be time to bring in a professional.

Writer Karl Meyer of Greenfield is a member of the Society of Environmental Journalists.

A list of Massachusetts PAC agents is available, by region, on the MassWildlife website: http://www.mass.gov/dfwele/dfw/wildlife/pac/pac_agent_index.htm.

The Long Catwalk

Our house is a very very very fine house, with two vicious predators in the yard.

by Gayle Goddard Taylor

When Diane Wald gets ready to take her pet, Ziggy, for a walk, there's little drama. No racing around to vent pent-up energy, no grabbing the leash, and certainly no barking. That's because Ziggy is a house cat. You might say he's all purr and no prance.

Outfitted with a harness, Ziggy doesn't strain at the leash, but, in the dignified manner of his kind, he strolls his usual route, stopping to sniff the usual landmarks and leave his calling card, twitching (never wagging) his tail at the sights and sounds. For up to an hour, Wald and Ziggy methodically explore the yard and woods (see this link: <http://vimeo.com/32409220>).

"He loves it," says Wald. "I discovered a special cat-walking jacket he couldn't back out of and it worked like magic. He began walking like a dog."

Once a stray, 10-year-old Ziggy wasn't content indoors initially and kept trying to bolt through the door. Now that he is getting regular leashed walks, that behavior has disappeared. Wald, who works for the Massachusetts Society for the Prevention of Cruelty to Animals (MSPCA), says that she chose to keep her cats indoors out of fear of the many perils facing cats outdoors, from diseases to cars and coyotes. But she also knows that cats are a major cause of bird mortality and she doesn't want Ziggy contributing to the death toll.

It's a long road cats have traveled from fearsome prehistoric predators to small soft felines that are content to wander at the end of a leash. But, according to researchers, it is a path that cats themselves chose to follow.

It is theorized that dogs began their association with us much earlier than cats, when the less fearful of the wolves began frequenting hunting camps to snatch scraps of food. The hunters may have found wolves useful as sentries, warning humans of other predators, and began provisioning them. Eventually, these wolves would hang around for the hunt. A mutual relationship developed, and humans eventually started selecting among wolf pups for tameness.



© DIANE WALD

Ziggy is harnessed and ready for his walk.

Carlos Driscoll and his colleagues at the National Institutes of Health discovered that the cat didn't begin showing up in human settlements until people began transitioning from hunting to agriculture—roughly 12,000 years ago in the Fertile Crescent of the Middle East—and that stored surplus crops were very likely the lure. It would be inevitable that these storehouses would attract rodents, which meant it was also only a matter of time before wild cats discovered that storage depots made rich hunting grounds—a situation that would not only be tolerated by these early farmers but encouraged. And like wolves, only those more tolerant of human activity and noise would have taken advantage of the bounty.

"Cats have never had any utility whatsoever," says Driscoll. "I'm a cat person and I get a lot of flack for saying that, but cats don't do anything for us. People will say, 'Well, they hunt mice, but cats were hunting mice before they were domesticated.'"

Cats have retained their original hunting behaviors—which allow them to make a living on their own, from rural fields to city alleyways. That self-sufficiency, while good for the cat, has been a disaster for songbirds.

The extinction of 33 species of birds worldwide, primarily on islands where shorebirds and seabirds nest, has been attributed to cats. And in the United States, cats kill hundreds of millions of birds annually. Flightless birds, such as rails, ground nesters, and migrating birds, exhausted after a trip from their wintering grounds, are particularly vulnerable.

"In this country, it's potentially a problem we could really solve," says Mass Audubon's Chris Leahy, "especially if people would realize that their cats would live longer and healthier lives if they were kept indoors."

Not all cat owners agree. That was illustrated last

spring in Concord where town meeting goers rejected a proposal that would require pet owners to prevent their cats from roaming outdoors. The issue was raised by a woman whose backyard bird sanctuary was regularly invaded by her neighbor's free-roaming cat, which would scale her six-foot fence to pick off the songbirds. A separate article requiring that the town establish guidelines on "responsible pet ownership" failed on a tie vote.

In fact, there is no dearth of such guidelines already in existence. The American Bird Conservancy (ABC) is conducting a Cats Indoors campaign to educate the public about cats and birds and has compiled a fact sheet at its website (www.abcbirds.org/cats), along with a brochure outlining ways to keep erstwhile outdoor cats happy about being indoors.

Steve Holmer, director of the ABC, says that the annual bird death count attributable to cats is staggering, even estimating only one bird per cat per month times the 80 million domestic cats in the United States. Granted, not all of these cats are outdoor cats, but



© BARRY VAN DUSEN

Easy-to-catch robins often fall prey to cats.

include feral cats, which add up to 50 to 100 million, and the numbers get astronomical.

The MSPCA is also making the case for cat owners to keep their cats inside. Bird predation is only one of the reasons. In fact, cats are subjected to a host of dangers, including diseases and parasitic infections lurking in the environment. This is one of the reasons indoor cats live nearly three times as long as outdoor cats.

One organization that has approached the problem of feral cats head-on is the Merrimack River Feline Rescue Society (MRFRS), headquartered in Salisbury. A decade ago, a colony of some 300 feral cats found good eating in the restaurant dumpsters along the city's waterfront. Eatery owners weren't thrilled when cats sat outside restaurant windows, staring at diners enjoying their lobster dinners.

With the assistance of two local veterinarians, the MRFRS began a trap, neuter, and release (TNR) effort by setting up 14 feeding stations—and traps—around the city. Kittens were placed in foster care for future adoption while adults were sterilized and earmarked. Two mobile spay/neuter clinics drove to area towns for free clinics. In early 2009, the last cat from the Newburyport feral colony died.

"It's a societal issue and we're not sure how to resolve it," says MRFRS President Stacy LeBaron. "We know we need to make sure that there are appropriate options for surrendering a cat."

The presence since the early 2000s of a no-kill open-admission shelter in the area is thought by LeBaron to have helped reduce the number of abandoned cats. Also helping is a "bridge program" the MRFRS operates for cat owners, providing up to three months of fostering for their pet until they resolve their living situation. In fact, the majority of street cats today are what LeBaron calls "the quasi-owned" indoor/outdoor cats.

Like the MSPCA and the ABC, the MRFRS implores cat owners to keep their cats indoors, make sure that the felines wear identification, and above all have them spayed or neutered. An entire feral colony can be founded by just two fertile cats—she calls them Adam and



Eastern bluebirds: cats also catch less common and even endangered species.

Eve—that manage to find each other. "My objective is to make sure if Adam and Eve ever do meet they're spayed or neutered," says LeBaron.

The practice of leash walking, as with Ziggy, apparently isn't a new phenomenon. Petersham resident Jim Baird, former vice-president of Mass Audubon, adopted his cat, Cinder, as a kitten two decades ago and kept him indoors from the start. Cinder was allowed to lounge in the yard on a long line attached to a metal pole secured into the ground.

"He loved it," says Baird. "He'd lie under a big spruce tree and watch everything that went on. People think they're doing their cats a favor letting them out loose, but they're not. Cinder lived to the age of 16 and never ate a single bird."

Given the fact that cats decided to cast their fate with human beings some 12,000 years ago, it looks like they will be with us for a long time. They are not, in other words, an endangered species. Many species of local birds are, and the domestic cat is the one major bird predator that we can control.

Gayle Goddard-Taylor is a field editor for Sanctuary magazine.

Little Miss Muffet's Lament

*"Do you realize that if I didn't eat them, bugs would get so numerous, they'd destroy the earth?
Spiders are really very useful creatures."*

Charlotte, *Charlotte's Web*, E.B. White

by Michael J. Caduto

I recently became more acutely aware of the long-term impact of insects, spiders, and the like in a house. In the process of restoring a 212-year-old brick farmhouse this past summer, we had to remove layers of ill-begotten walls and ceilings in order to expose and repair the original components of the structure. The final stage of this effort was to vacuum every nook and crannie in the roof slopes, walls, and eaves to remove the debris left behind by more than two centuries of nonhuman habitation.

We two-legged mammals build palaces for these six- and eight-legged invertebrate callers, providing pockets of living space and ample stores of food. We heat these spaces in winter, cool them in summer, and keep them dry year-round. Then, when our wild neighbors have the audacity to move into these inviting abodes, we frequently, instinctively, kill them on sight.

Amidst the nests of wasps, mud daubers, and mice were countless spiderwebs of untold age.

Some webs were woven while the United States and Great Britain

battled during the War of 1812; others while the Union and Confederacy fought the

Civil War. Some spiders snagged their prey as Lindbergh made his inaugural transatlantic flight in May of 1927; and still others while the astronauts of Apollo 11 became the first humans to walk on the Moon in 1969.

Spiders had obviously had a long history in the old farmhouse, and I was the interloper.

Few creatures elicit stronger emotional reactions than spiders, as illustrated by the fabled response of Patience Muffet of Little Miss Muffet fame. Some attribute the nursery rhyme to her stepfather, Dr. Thomas Muffet, a physician and entomologist who was the first to write a compendium of the insects of Britain in the 16th century. Although Patience most likely grew up surrounded by all manner of living and mounted specimens, the verse says that she fled when a spider appeared.

J.R.R. Tolkien couldn't resist the literary allure of spiders in his *The Lord of the Rings* trilogy. Spider lore reaches a climax near the end of *The Two Towers* when, deep in the shadowy subterranean passages of Tórch Ungol, the giant spider Shelob ambushes Frodo Baggins and Sam Gamgee on their way to Mount Doom. This archdruid of arachnids uses her thick silk to wrap up Frodo like a Hobbit hot pocket.

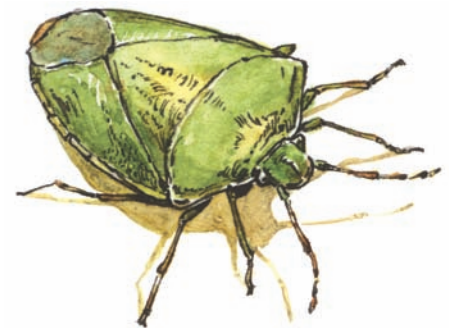
Is Shelob the night sweat of a dream that many people fear? Or is she our way of assuaging our guilt over how we act when we find spiders suspended in our own lairs, as we squash, strike, stab, flush, or engage in any number of other creative ways to execute them? Or does she represent a tangled web of these emotions?

Some Native American traditions honor a figure known as the Spider Grandmother, and the best-known "good" spider in Western literature is Charlotte of E.B. White's *Charlotte's Web*.

Charlotte is an orb weaver, but the common house spider, *Achaeareanea tepidariorum*, is in the family known as comb-footed spiders—due to the serrations on the hind feet. A quarter-inch long, the spider has a yellow-brown cephalothorax (combined head and thorax) and gray to black legs. It constructs a web of disarray that's suspended from the corners of ceilings, under furniture, and in other recesses. When a mosquito, silverfish, housefly, or some other food is captured in one of these "cobb webs," sticky silk is used to pull the hapless prey deeper into the spider's lair and to wrap it tightly. Then the prey is injected with a powerful enzyme that liquefies its organs so that the spider can suck them up. Several brown egg sacs are produced per year, each of which contains up to 400 eggs.

A number of ant species can be found in the house, ranging from black and brown to red and yellow, and from one-eighth to one-fourth inches long. Some ants live outdoors and venture inside in search of food while others nest in walls and other protected spaces. Except for carpenter ants, which tend to riddle the frames of houses, most species are harmless and nondestructive. Still, the sight of a swarming ant colony alarms.

When the colony matures, the reproductive males and the queen grow wings. Queens are two to three times the size of others in the ant colony. Once a male mates with the queen, it dies. After the queen has mated, she loses her wings and starts a new colony. Other females in the ant colony, which are sterile and wingless, spend their time making the nest, foraging,



defending the colony, and taking care of the young. Ants can be controlled by keeping a house tight and clean, wrapping food, composting organic wastes, washing counters thoroughly, and cleaning recyclable containers.

Ants are in the same insect order as wasps—the Hymenoptera. As a group, wasps have gained a bad rap because some species in this genus are quick and aggressive on the attack, such as yellow jackets and bald-faced hornets. Fortunately, the relatively docile paper wasp is the most common species. This brownish, narrow-waisted insect is less robust than its aggressive cousins and is wont to buzz anyone it perceives as a threat rather than inflicting a sting. The nests are made from fibers that are scraped from exposed unpainted wood and mixed with saliva as a kind of glue.

Recently, while balanced up on a rooftop scraping and painting a dormer, I found myself in the aerial path of a sizable colony of paper wasps. A steady squadron flew in and out of the soffit vents by my head, buzzing loudly to warn me off. Sometimes an individual landed on my face or neck and crawled around ominously while I was perched—with a paint can in one hand and a brush in the other—with no way to shoosh the wasp away. To avoid confrontation, I was forced to allow the wasps to creep around on my skin while trying to quell my nerves and exude an air of calm.

Each springtime, after the queens have overwintered in attics, walls, and windows, they emerge into the light and look for a sheltered place to start a nest. The best way to control wasps is to caulk up and screen off openings in walls and roof crevices. At our house, if wasps nest in a place that conflicts with our comings and goings, I wait until a cool morning (below 50 degrees Fahrenheit) when they are inactive. Then, wearing thick gloves, I knock the nest off into a pail of soapy water.

Houseflies may not sting like wasps, or bite like some spiders, but they inflict a form of mental torture, careering around ones head and ears like airborne bumper cars and landing on the hot surfaces of lightbulbs like six-legged kamikazes. The adults feed by spitting saliva onto decaying organic matter, which liquefies the medium so the flies can lap it up. Clusters of 100 to 150 eggs are

laid in decaying trash and excrement. Larvae, called maggots, form small, brown, oval pupal cases from which the adults emerge.

Individual houseflies often overwinter in the cracks and crevices of houses, but the cluster flies enter buildings en masse during the cold season, from about September through April. Unlike darting dronelike houseflies, cluster flies are larger bungling aerialists. Come spring, they head outdoors to lay eggs in the soil.

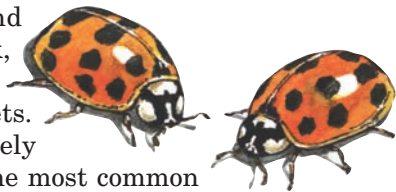
Ladybird beetles, or ladybugs, are cute and colorful. Their glossy shells, adorned with brightly contrasting hues, are designed to warn predators of the yellow, toxic chemical, hemolymph, within. Many ladybugs prey on harmful insects such as aphids, mites, whiteflies, and scale insects while others consume mildews and plants.

Our native ladybugs frequently overwinter in the leaf litter at the bases of trees and shrubs, but some will enter the house in autumn, attracted to shelter in the divers and sundry corners and cracks. Non-native Asian ladybird beetles were introduced into the United States to control aphids and other plant pests. Larger than our domestic species, they come in colors that vary widely, ranging from 19 black spots on a red background to two red spots against a black shell. Hundreds or even thousands can congregate in a house.

Another invasive that was introduced from Asia in the 1990s is the stink bug, which has now spread to more than 30 states. These shield-shaped, inch-long creatures have a coppery, bluish, metallic pattern on the back. Although they don't bite people, stink bugs do suck the juices of many fruits and vegetables such as apples, peaches, green peppers, and corn. As winter approaches, these substantial odoriferous insects come inside, leaving many homeowners at wit's end.

Almost everyone has an adverse reaction to one form or another of the six-legged or eight-legged creatures that share our houses. It's how we react to the "undesirables" that's important. At least Little Miss Muffet had the humanity to run away from the spider that sat down beside her, rather than squish it underfoot.

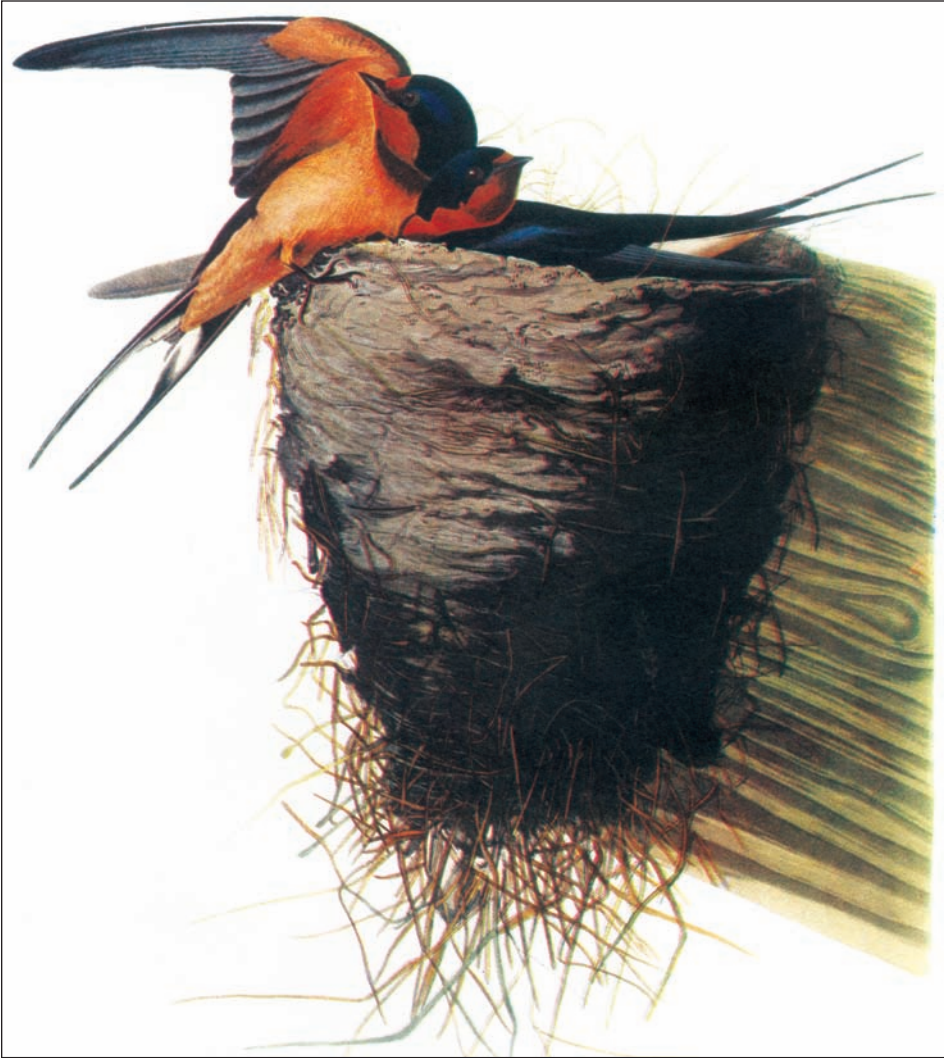
Michael J. Caduto is coauthor of the Keepers of the Earth series. His website is www.p-e-a-c-e.net.



Old Barns and their Birds

The loss of old barns in the last thirty years has meant fewer nesting areas for birds such as the barn swallow and cliff swallow.

by Wayne Petersen



JOHN JAMES AUDUBON

Barn swallows

I was fortunate to have a delightful old barn practically next door to the house where I grew up. The barn was equally suited for boarding horses, entertaining active little boys, and affording shelter to scads of field mice. It also provided a perfect nesting site for barn swallows. I spent many a summer's day jumping from the old barn's loft into the hay below, or watching and listening to the animated chatter of the barn swal-

lows as they visited their mud nests that were plastered to the heavy wooden beams supporting the barn's roof high overhead.

By midsummer, the phone wires on my street were regularly lined with young barn swallows recently fledged from this grand old barn.

I never gave that barn much serious thought in those days. It was merely a fun place to explore or play when it was too hot to be out in the sun. As for the barn swallows, I always knew of other similar places close to my home where barn swallows were annual summer residents.

Now, in 2012, those old barns and at least two swallow species—barn swallow and cliff swallow—may be fading from the Massachusetts landscape.

The history of land use in New England has been told many times, but germane to the current story is the fact that as farming and agriculture slowly diminished in many areas so, too, did large barns, open fields, and various other vestiges of an agrarian way of life.

As recently as 30 years ago barns, out buildings, old mills with tall chimney stacks, and even old houses that peppered the landscape all regularly hosted nesting avian species. Barn swallows nested in the rafters of open barns, cliff swallows nested under the eaves on the outside of barns, chimney swifts glued their twig nests to the inside of old-style chimneys, and com-

mon nighthawks routinely nested on flat gravel roofs in urban areas.

Today, fewer of these old structures exist and others have been sufficiently modified to render them unsuitable for many of their avian inhabitants. In some cases, small changes in how we manage the buildings that remain can improve conditions somewhat. For example, simply keeping barn doors and windows open during

nesting season or refraining from capping older chimneys may actually help some of these beleaguered species find suitable nesting localities.

Unfortunately, the decline in the numbers of some of these familiar species is more than anecdotal. In a careful examination of the best scientific information available, Mass Audubon's 2011 *State of the Birds* report revealed some disturbing trends. Since 1980, the populations of such relatively common and widespread species as the barn swallow, cliff swallow, and chimney swift have registered declines in Massachusetts and across the Northeast region.

Though these bird species are still relatively numerous in Massachusetts, information derived from the USGS Breeding Bird Survey indicates that chimney swifts and barn swallows both have declining populations in many areas in the United States and similar studies in Canada mirror these trends. Particularly alarming are trends shown by common nighthawks and cliff swallows. The Massachusetts *State of the Birds* report revealed that these species are seen in far fewer places than before; the number of atlas blocks occupied by cliff swallows declined by 54 percent between Breeding Bird Atlas 1 (1970-1979) and Breeding Bird Atlas 2 (2007-2011), and common nighthawks declined by 75 percent during the same period. These are powerful statistics and troubling trends.

Obviously, an important question to ask is: What is accounting for these downward spirals? Since all of these species rely heavily upon human-made structures for nesting, one plausible explanation is that a reduction in the number of appropriate nest sites could be putting significant pressure on their populations. Equally pernicious are concerns about a potential decline in the populations of aerial insects.

We are not alone in witnessing declines of birds that

depend upon these insects as a food source. In Canada's first-ever *State of the Birds* report released in June, swifts, swallows, and nightjars were identified as declining more than any other species group in the country—nearly 85 percent since 1970.

In response to these disturbing trends, Mass Audubon has initiated a citizen science-driven project called the Big Barn Study to examine the conundrum of declining numbers of swallows. Because the steady disappearance of suitable barns and other structures for nesting may be one link to shrinking barn and cliff swallow populations, we developed a simple protocol to encourage volunteer observers to visit a barn, bridge, or overpass of their choosing and sample the site three times between May 25 and July 8.

Findings and other related data are entered online through a simple web-entry form. Through this study, our scientific staff will address a range of questions including: Why are certain sites used by birds and others not? What are the characteristics of landscapes where nesting takes place? Can we identify changes over time that may have contributed to swallow declines?

We just completed the pilot season of the Big Barn Study with great success, thanks to the dedicated efforts of citizen scientists across the state, and look forward to involving even more volunteers and partners as we move ahead. So if you have an old barn on your property, or know of one in your neighborhood, please think about checking it out in May 2013.

For more details contact Kim Peters at 781-259-2145 or go to: www.massaudubon.org/bigbarnstudy/.

Wayne Petersen is director of the Important Bird Areas program for Mass Audubon.



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The Reclaimed Cottage

Rehabbing an old house is a green alternative to tearing it down.

by Ann Prince

It makes sense for dwellings to blend in not only with the natural surroundings but also the human-made landscape. Old homes seem to have an organic relationship to the site where they were constructed while new homes are oftentimes built to maximize indoor amenities and have little or no connection to the local environment.

This difference can have far-reaching implications regarding neighborhood aesthetics and the flora and fauna of the location, ultimately affecting the state-of-mind of the occupants who live there—whether or not they're aware.

Teardowns, unfortunately, occur all too frequently. Demolitions snuff out quaint period residences, usually also obliterating the natural setting encompassing the house when the lot is cleared for a replacement. In general the scenario is not particularly favorable. The original house, usually one of a kind, gets leveled and the debris is carried off to a landfill somewhere, and the trees are clear-cut to facilitate easy construction—in short, the whole site is bulldozed to make room for a “bigger and better” model.

This was about to occur across the street from where I live. A developer had purchased a 1907 two-storey summerhouse—according to local lore put up by its first owners as a duck hunting lodge. His plan was to raze it. The cottage was among the oldest in the neighborhood. The interior was more or less a shell and the pine floors were decidedly canted; but the yellow-gold exterior with its unique novelty siding looked to be in shipshape—more or less sturdy and pretty much square. Furthermore, the cottage was a landmark of sorts since plenty of folks have memories and stories to tell about seasonal visits there over the decades.

The speculator was offering a “builders package.” The concept displayed on the website was a boxy characterless pseudo-colonial and two-car garage that for all intents and purposes would have taken over the entire less-than-fifth-acre lot. The contractor was already getting quotes to remove every single tree including beau-

tiful branching red oaks, many-trunked gray birches, two towering cottonwoods, and a line of hundred-year-old eastern red cedars edging the property, some of which had died but were still standing. Several magnificent specimens remained very much alive.

A past owner pointed out the location of a stud inside where eleven people had signed their names on Labor Day weekend 1909, indicating the day that they planted the cedars. Their activity, way back when, showed their affection for the site and their foresight in planting a native species that would thrive in the sandy soil



© EMMETT CRONIN

1907 cottage slated for demolition in 2011

there. One can only wonder whether they realized the value to birds. Those female cedars still thriving are covered with bright-blue berrylike cones that draw cedar waxwings (thus the bird's name), robins, catbirds, and mockingbirds. To keep a record of the documented summer's-end planting day, my daughter photographed the notation and signatures.

Our section of this late-18th-century summer-retreat subdivision is intact, and this house is like a center-

piece of the intersecting blocks, standing tall and narrow just feet away from a prominent corner. Even though all the neighboring homes are now year-round dwellings, the feel of a summer community endures with one-of-a-kind cottages; a collage of mainly native trees and shrubs; patches of easy-to-cultivate (but-not-invasive) antique varieties of blue iris, snowball hydrangea, and miniature roses; not to mention old-time mailbox rows; dirt, gravel, or seashell pull-ins; detached one-car garages that look more like shingled woodsheds or small workshops; and even endemic wildflowers such as starflower and pink lady's slipper in the most unspoiled lots.

Fortunately, the builder never did demolish the unique cottage. For whatever reason he was willing to flip the property at a small profit, so we purchased it for the price of a lot and hired an architect and contractor to oversee the renovation.

The "historic adaptation," as the architect calls it, began with a specific objective: to preserve the existing

yard, repurposing materials that had to be removed, incorporating recycled or sustainably harvested elements, and attempting to buy items for the restoration within the US. The closer to the source, the better. Attaining these aspirations turned out to be easier said than done, but it all came together, thanks in large part to many a talented and willing carpenter, plumber, mason, electrician—the so-often-unsung heroes of masterful construction.

The updated building code not only requires strict energy-conservation features but also, in this particular location, reinforcement to withstand 110-mile-an-hour winds. Old lumber taken out initially was reused to wrap metal beams incorporated to meet the structural requirements. The new appliances comply with Energy Star standards, and the state-of-the-art on-demand heating system is highly efficient, as are the windows and insulation.

The large dead cedars were straight and sound so they became the pillars for the farmer's porch, and period bubble brick from the original fireplace, which crumbled when the house was lifted to pour a foundation underneath, was salvaged and integrated into the design of the new masonry along with a reclaimed rough-sawn mantle.

Important elements were constructed of recycled materials, in recognition of the concept that the loop is only complete if collected used materials are in fact made into something new. The surprisingly aesthetic dark brown decking for the front porch and back stairs is made of recycled plastic. In lieu of quarried granite or some other stone, the kitchen and pantry countertops are made of recycled glass—an exquisite eco-alternative that will be extremely beneficial as green options gain in popularity. The natural-looking blue-gray tiles on the mudroom/laundry floor are also recycled. Further, the cabinets are built using alder, a domestic hardwood that grows quickly and is harvested sustainably. The timber comes in "clear" and "rustic," the latter highlighting pretty imperfections in the alder.

While the restored retreat wouldn't qualify for any official ecological building certification, Reuse, Repair, Recycle, Reclaim is an apt theme for the entire process. A blend of historic preservation and going green was the basis for all of the work. The architect summed up the project simply: "It saved part of the heritage of the town."

Ann Prince is associate editor of Sanctuary.



A new life for the cottage with many green features

unique features of the structure and the rustic lodge-like character. This included the dovetailed corners where the novelty siding meets on the exterior and the wooden décor of the interior, as well as pine floors that would be leveled, refinished, and matched in a small addition with planks the same width through custom millwork.

Another principal intention was to be as green as possible—preserving the lovely natural features of the

The Political Landscape Homes for People and Wildlife

by Jennifer Ryan

Nature is the perfect architect for wildlife living quarters. But when humans move in with standardized zoning and developments that alter the natural architecture, things go wrong. Habitat loss is now ranked as among the greatest threats to native species. But one of the reasons so much habitat is lost is the design of the developments that are created. Bigger houses on bigger lots means more sprawl.

And houses are getting bigger. Over 47,000 acres of natural land was developed between 1999 and 2005 in Massachusetts, and 87 percent of the land lost was as a result of residential development. Lot size increased by 47 percent from 1970 through 2004. This inefficient use of land is costly, both economically and environmentally. In recent years, it has become evident that the market for oversized homes is saturated while the housing needs of many people are not being met.

If you take away the cookie-cutter approach and consider each site in terms of the natural locale, it's possible to design a house to meet the needs of both nature and people. For animals, for example the American toad, changing local zoning can improve its chances for survival.

The usual recipe for housing developments that spring up in woods and fields involves clearing a plot of land and crowding in as many houses as will fit, and then naming the development and roads for what used to be there. The flaws are not solely the fault of the developer, who is often following what the local rules require while making a respectable return on the investment.

But local land use rules present many challenges for species such as the box turtle. Large lots with wide sterile lawns lead to a loss of natural woodlands that these turtles require for survival. Wide road widths in these massive new developments, double sidewalks, and vertical curbing are obstacles and safety hazards for the turtles.

But with a little imagination, alternative residential designs can help protect and connect local wildlife habitats. The concept is simple. Rather than have houses spread out in the middle of large lots, which results in high construction and maintenance costs as well as habitat destruction, put the houses closer together and make



© DORI SMITH

A well-located house

the roads narrower. And instead of many large yards requiring weekly watering and mowing, provide attractive but smaller yards along with common areas of land for people and wildlife.

Communities can adopt conservation subdivision design or open space residential design that promote design flexibility, protect water and sensitive habitat areas, and reduce the municipal costs of maintaining roads and other infrastructure. Under this alternative process, the first step is to identify conservation areas in the potential development and remove them from the development zone. Then, place houses in the remaining area to maximize residents' enjoyment through access to open space and preserving views; align roads and trails on the site to provide pedestrian and vehicle access; and then, finally, draw the lot lines around the homes.

Once the development is occupied, simple changes in maintenance, like mowing open fields only at the time of year when the turtles, toads, or grassland bird species aren't there, can make a big difference. It's residential design that includes open spaces.

And who wouldn't prefer living in an area where there are views, trails, and the quiet that comes from smaller roads and forest nearby?

See www.massaudubon.org/shapingthefuture for more information.

Jennifer Ryan is Mass Audubon's former legislative director. She is a conservation biologist.

Poetry

Edited by Wendy Drexler



Barred owl

The Fire Bird

by Robin Chapman

So much rattle and banging I think
the squirrels are chasing each other
on the roof or flinging themselves
at the feeder in some November frenzy
of eating or breeding till finally,
I stop to really listen: quiet, then

rattle and flutter, then quiet again,
echoing through the woodstove's
double-walled stovepipe—some
panicked creature's heart pounding
between flight and freeze.

I go downstairs to find small eyes
and beak peering out from behind
the firebox glass, come to the other side
of the dark funnel of creosote and ash
through which it battered its way
falling out of the sky,

slide open the room's window door,
turn the fireplace lock, stand aside
to loose the shocked and dusty sparrow
into the larger jail of house, where
it flies, wildly bashing into window

after window, collecting itself
among geraniums, fig trees, rubber plants
until at last it finds the open door,
exits to the feeder, risen up from ash
and fear to feast again—or so I thought,

though now that its fluttering knock
has come a fourth time in the week,
with a nod and perch on woodstove door
for survey, swift exit out familiar path,
I'm more intent on netting for the chimney
than on the mythic, risen phoenix.

Robin Chapman's most recent books are Abundance (2009) *and* The Eelgrass Meadow (Tebot Bach, 2011). *She is the recipient of the 2010 Appalachia Poetry Prize. Her poems have appeared recently in* Alaska Quarterly Review, Prairie Schooner, *and* Wilderness.

Listening to a Barred Owl on the First Night in the New House

by Christopher Locke

He doesn't really care who
cooks for you, or anyone else
for that matter. He's not
interested in my glass
of chardonnay pin-pricked
with moisture beside me as
I write this in bed, or the fatted
roll of skin I peeled away from
my dinner of buttery salmon.

The truth is, all he wants
is to pong his question up
to that white talon of moon
piercing the clouds, and then
back down to me, my window
open to a heat wave since
gone, cool dark air creeping
over a sill in need
of its final coat of paint.

Christopher Locke has received grants in poetry from the Massachusetts Cultural Council and the New Hampshire Council on the Arts. His poems appear widely; End of American Magic was published in 2012 by Salmon Poetry, and Waiting for Grace and Other Poems is due in April from Turning Point Books.

At Our Sanctuaries Cabin with a View

by Ann Prince



The rental cottage at Pierpont Meadow Wildlife Sanctuary

In the words of a prominent central Massachusetts conservationist, who resides in a humble home from which she can look out at birds, wildflowers, and the lovely local wooded landscape, “I would rather have a view than be the view.” Her modest hillside residence is well camouflaged—the stonework on the outside blending in with the rocky terrain.

The seasonal rental for Mass Audubon members at Pierpont Meadow Wildlife Sanctuary in Dudley is also a small subtle structure sited perfectly so that occupants can take part in observation of the beautiful outdoors. The camp-in-the-forest invisibility, the way the cottage almost hides on the hill, is peacefully

inviting. Subdued by brown shingles and lichen-green trim, the secluded getaway visually dissolves into the forest overlook high above Pierpont Meadow Pond.

While the accommodations within are comfortable with a furnished interior including two bedrooms, a kitchen, a bath with shower, and a dining/living room, the true lure of a weeklong stay is the chance to enjoy the surrounding 300 acres of meadow, woods, and lake front. In mid-July Ron Wolanin, Mass Audubon Regional Property Director for the Central West Sanctuaries, led my son, Noel, and me for a hike around the sanctuary. Since Ron creates, clears, maintains, and improves trails, he knows the lay of the land—not to mention having a broad knowledge of the birdlife and other natural attributes of the area.

“When you come to a property,” he says, “you should be able to walk it for a least half an hour.” So he always carefully considers enriching visitors’ exploration when he designs a sanctuary trail system.

First Ron brought Noel and me down to the beaver pond, which was swarming with dragonflies, edged by cattails and sedges, and covered by lily pads and blooming water lilies. Then we took the Meadow Loop Trail where a nesting yellowthroat, a masked warbler that favors the habitat along the field edge, was

calling *wee-chee-te, wee-chee-te, wee-chee-te* from its perch on a gray birch. Declining songbird species such as eastern towhees and brown thrashers also rely on this scrubby open-field edge next to beaver-enhanced wetlands.

Since the field is mowed once a year, later in the season, uncut long lissome grasses and tall vibrant wildflowers lit up the landscape, attracting fritillaries to the dark pink swamp milkweed and monarchs to the black-eyed Susan. Tiny airborne amberwings, our smallest dragonflies, were searching for insect prey and alighting momentarily on leaves or blades of grass.

After making a half-circle along the meadow margin, we cut across to the

Waterfront Cottage for Rent

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Sanctuary
in Dudley

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for more information.



Pierpont Meadow Pond

Woodland Loop and entered a pine and mixed hardwood forest of maples and oaks with an understory of witch-hazel and shadbush. Then the George Marsh Trail—named for the donor whose generosity allowed establishment of the sanctuary—brought us down to the lake. From there we saw a little islet halfway to the opposite shore, clear water sparkling with early-afternoon sunshine, and an eastern kingbird that was fly catching over the lake.

Renters who wish to investigate the lake further—to see the beaver lodge, pass the time fishing, or watch ducks and herons—can use the canoe that's available, and a little beach provides access for swimming. For more information on cottage rental, call the Central/West Regional Property Office at 978-464-2712, extension 8702, or email: central-properties@massaudubon.org.

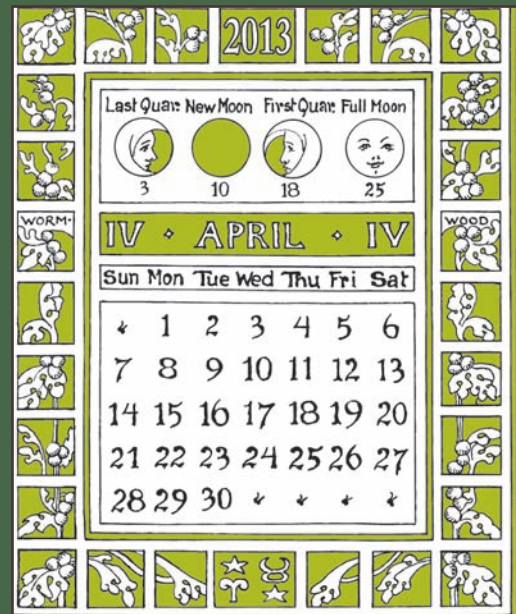
Ann Prince is associate editor of Sanctuary.

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Violaceous euphonia, Trinidad

INTERNATIONAL TOURS

Colombia: February 10-20, with Elissa Landre

India: February 14-28, with Robert Buchsbaum

Belize Birding: February 28-March 8

Botswana Birding and Big Game Safari:

March 11-22, with Dave Larson

Panama Canopy Tower: March 8-16, with Sue MacCallum

Birding in Southern Costa Rica: March 8-16, with Christine Turnbull

Trinidad's Asa Wright Experience: March 17-24, with Jeff Collins

Bhutan Birding in Buddhist Himalaya: April 12-30, with Bill Gette

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Bosque del Apache and the Rio Grande Corridor, New Mexico:
January 8-14, with Bill Gette and Alison O'Hare

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Nantucket Winter Weekend: January 12-14, with
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Cosponsored with Drumlin Farm

For more information, contact Ipswich River, Topsfield, 978-887-9264

Birding Plum Island: January 23-24

For more information, contact Wellfleet Bay Wildlife Sanctuaries, 508-349-2615

Birding the Rio Grande Valley and South Texas Coast:

February 20-28, with René Laubach and Bob Speare

Cosponsored by Wildwood Camp

For more information, contact Berkshire Sanctuaries, 413-637-0320

Maine Coast Birding Weekend: March 16-17

For more information, contact Drumlin Farm, 781-259-2206

Birds and Blooms of the Texas Big Bend Country:

April 24-30, with René Laubach and Doug Williams

Cosponsored by Stony Brook Wildlife Sanctuary

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Mass Audubon
Protecting the Nature of Massachusetts

If You Feed Birds— Mass Audubon Needs Your Help

During the weekend of February 2 and 3, 2013, we invite you to note the number and diversity of birds visiting your bird feeder. Fun for novice and experienced birders alike, Focus on Feeders helps to raise awareness and furthers our efforts to protect wildlife and wildland across Massachusetts. Ask others to join in because the value of the bird data increases with the number of reports. All participants will be entered into a prize drawing.

Report forms are available on our website at www.massaudubon.org/focus and at many of our wildlife sanctuaries statewide, or request a form by email at focusonfeeders@massaudubon.org.



2012 Most humorous photograph: Bottoms Up! by Chris Steel

Please report your observations to Mass Audubon
by February 28, 2013.

SCHOOL VACATION WEEK PROGRAMS

BOSTON NATURE CENTER
Mattapan, 617-983-8500
February Vacation Week
February 19-22

BROAD MEADOW BROOK
Worcester, 508-753-6087
February Vacation Week
February 18-22—9 a.m.-3 p.m.

BROADMOOR
South Natick, 508-655-2296
February Vacation Week
February 19-22—9 a.m.-3 p.m.

CONNECTICUT RIVER VALLEY
Easthampton, 413-584-3009
February Vacation Week
February 19, 20, 21, 22—9 a.m.-3 p.m.
Sign up for one or all four days

DRUMLIN FARM
Lincoln, 781-259-2206
February Vacation Week
February 18-22
Full- and half-day programs for children in grades K-8

HABITAT
Belmont, 617-489-5050
February Vacation Week
For grades K-6
February 19-22—9 a.m.-3:30 p.m.

March Vacation Week
For grades K-6
March 18—22

IPSWICH RIVER
Topsfield, 978-887-9264
February Vacation Adventure Days
February 19-22

MOOSE HILL
Sharon, 781-784-5691
December Vacation Days
December 24, 26, 27, 28, 31
February Vacation Days
Island Life:
February 18, 19, 20, 21, 22

SOUTH SHORE
Marshfield, 781-837-9400
February Vacation Week
February 19-22—9 a.m.-3 p.m.
For children ages 5-11

WACHUSETT MEADOW
Princeton, 978-464-2712
February Vacation Days
February 18-22—9 a.m.-3 p.m.
For children ages 5-11

WELLFLEET BAY
South Wellfleet, 508-349-2615
February Vacation Week
February 18-22—9 a.m.-2:30 p.m.

MAPLE SUGARING PROGRAMS

BLUE HILLS
Milton, 617-333-0690
Blue Hills Maple Sugar Days
March 9, 10—10 a.m.-4 p.m.

BOSTON NATURE CENTER
Mattapan, 617-983-8500
Maple Sugaring and Winter Trees
February 23—10:30 a.m.-noon

DRUMLIN FARM
Lincoln, 781-259-2206
Sap-to-Syrup Farmer's Breakfast
March 16, 17

IPSWICH RIVER
Topsfield, 978-887-9264
February Flapjack Fling and Sugaring Tours
February 23
Breakfast Times:
8:15, 9, 10:15, 11:15 a.m.

Tour Times:
9, 10, 11 a.m. and noon
Please visit our website for more information
Rent a Sugar Maple Bucket
Bucket rental: February 9
Includes special tree-tapping program
Maple Sugaring Weekend Tours
March 2, 3, 9, 10, 16, 17—tours at 10 a.m., 12:30, and 2:30 p.m.
Maple Sugaring School and Scout Group Tours
February 12-15
February 26-March 8

MOOSE HILL
Sharon, 781-784-5691
Maple Sugaring Festival
March 10, 16, 17—11 a.m.-3 p.m.
Tours start every 15 minutes

Call the individual sanctuaries for more information, fees, and to register.
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Habitat in Belmont
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Lawrence in Lawrence
Moose Hill in Sharon
North River in Marshfield
Stony Brook in Norfolk

Western & Central MA

Arcadia in Easthampton
Broad Meadow Brook in Worcester
Pleasant Valley in Lenox & Pittsfield
Wachusett Meadow in Princeton

Information for summer 2013 will be available in mid-January at www.massaudubon.org/camp.
All of our camps are ACA accredited or working toward accreditation (for those that are new).



Birding Programs

BERKSHIRE SANCTUARIES

Lenox, 413-637-0320

Birding the Rhode Island

Coast: Sachuest Point

December 1—8 a.m.-6 p.m.

BOSTON NATURE CENTER

Mattapan, 617-983-8500

Winter Backyard Birding

December 15—10:30 a.m.

to noon

BROAD MEADOW BROOK

Worcester, 508-753-6087

Birding by Ear

March 19—7-8:30 p.m.

BROADMOOR

South Natick, 508-655-2296

Owl Prowls

November 2012-March 2013

CONNECTICUT

RIVER VALLEY

Easthampton, 413-584-3009

Winter Crows

February 3—2-6 p.m.

Eagles at Quabbin

February 9—10 a.m.-1 p.m.

DRUMLIN FARM

Lincoln, 781-259-2206

In Search of Winter Raptors

January 17

HABITAT

Belmont, 617-489-5050

Bald Eagles and Snowy Owls

Field Trip

January 26—8 a.m.-2 p.m.

IPSWICH RIVER

Topsfield, 978-887-9264

Birdwatcher's Getaway for

the Day Winter Series

Fridays, once a month,

January through May

Wingmasters Presents: North

American Birds of Prey

January 27—11 a.m.-12:30 p.m.

JOPPA FLATS

Newburyport, 978-462-9998

Wednesday-Morning Birding

Every Wednesday—

9:30 a.m.-12:30 p.m.

Preregistration not required

SOUTH SHORE

Marshfield, 781-837-9400

Snowy Owl Prowl on

Duxbury Beach

December 22—9-11 a.m.

Owl Prowl at Daniel Webster

December 22—5-7 p.m.

WACHUSETT MEADOW

Princeton, 978-464-2712

Owl Prowl at Daniel Webster

February 16—5-7 p.m.

All ages welcome

WELLFLEET BAY

South Wellfleet, 508-349-2615

Birding Cape Cod

Every Friday from mid-

September through mid-May—

9 a.m.-noon



Family Programs

BERKSHIRE SANCTUARIES

Lenox, 413-637-0320

Bird Banding Demonstrations

December 8, January 12,

February 9, and March 9

BOSTON NATURE CENTER

Mattapan, 617-983-8500

Snowshoe Adventure

February 3—2-3:30 p.m.

BROAD MEADOW BROOK

Worcester, 508-753-6087

Holiday Nature Crafts Open House

December 8—1-4 p.m.

Owl Prowl

January 19—6:30-8:30 p.m.

BROADMOOR

South Natick, 508-655-2296

Owl Festival Live Animal Show

February 2—3-4 p.m.

CONNECTICUT RIVER VALLEY

Easthampton, 413-584-3009

Owl Moon

January 19—5-7 p.m.

DRUMLIN FARM

Lincoln, 781-259-2206

Stone Soup and Bread

January 11—3:30-5 p.m.

IPSWICH RIVER

Topsfield, 978-887-9264

Big Woods Hike

*November 18—departs every 15 minutes
from noon-1:30 p.m.*

Winter Solstice Lantern Walk

December 15 and 16—4-6 p.m.

Vacation Week Family Fun Days

Predator Party:

December 27—1-2:30 p.m.

Parent/Child Build a Bird Feeder:

December 28—1-2:30 p.m.

Survivor: *December 29—1-2:30 p.m.*

Groundhog Day Extravaganza

February 2—1-4 p.m.

JOPPA FLATS

Newburyport, 978-462-9998

After School at Joppa

November through December—

3:30- 5 p.m.

Let's Save the Sea Turtles: *November 28*

Come to the Coral Reef: *December 5*

Travel to the Twilight Zone: *December 12*

Ascend into the Abyss: *December 19*

For children in grades 1-4

MOOSE HILL

Sharon, 781-784-5691

Sunday Saunter

December 16—3-4 p.m.

WACHUSETT MEADOW

Princeton, 978-464-2712

Winter Open House

January 19—1-4 p.m.

Storm date: *January 20—1-4 p.m.*

WELLFLEET BAY

South Wellfleet, 508-349-2615

Sea Turtle 911

Saturdays in late November

and early December.

Call the individual sanctuaries for more information, fees, and to register.

For a full listing of Mass Audubon programs and events, visit our online catalog at www.massaudubon.org/programs.

Curious Naturalist

The Ecology of the Cat

Illustrated by Gordon Morrison

Wild domestic cats are so common that they have now become an important participant in the local food chain. Below are the things they eat, and the things that eat them.

What they eat:



Garden birds: According to recent estimates, nationwide cats kill hundreds of millions of birds each year.



White-footed mouse: This common native can be a pest in houses during autumn and winter. One of the most common prey of cats.



Vole: Along with moles and shrews, this rarely seen but very common rodent is a favorite prey of cats.

What eats them:

Red-tailed hawk: Will sometimes snatch a cat, as will other large predatory birds.



Coyote: A relative newcomer to suburbia. Has a wide diet, including berries and mice, but will consume a cat if the coyote can catch the feral feline.



Fisher: Another recent arrival to suburbia (actually a former resident, now returned). Fishers do eat cats, but they are probably blamed for more cat deaths than they are actually responsible for.





Massachusetts
Audubon Society
South Great Road
Lincoln, MA 01773

Non Profit Org.
U.S. Postage
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Permit # 55
Burlington, VT



Outdoor Almanac Autumn/Winter 2012-2013



© GORDON MORRISON

November 2012



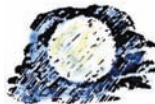
November 15 Late-migrating raptors such as rough-legged and red-tailed hawks are migrating.

November 18 Field crickets move into country houses.



November 23 Watch for red dragonflies over sunny meadows on warm days.

November 26 Watch for stink bugs in your house.



November 28 Full Moon. The Beaver Moon.

November 30 Watch for robins in wild cherries, dogwood, sumac, and viburnum.



January 18 Watch for fox and bobcat tracks.

January 26 Full moon. The Wolf Moon.

January 30 Great horned owls begin to nest about this time. Listen for their hooting from deeper woods.

February 2013

February 2 Groundhog Day. Drumlin Farm's resident woodchuck, Ms. G, will predict an early spring if she doesn't see her shadow; a longer winter if she does.

February 10 If there's a snowmelt, look for traces of tunnels dug by voles and shrews.

February 13 Skunks emerge to mate about this time of year. Listen for their squabbles late at night.

February 17 Starlings begin their spring whistling about this time. Listen also for the spring songs of chickadees and titmice.

February 20 On warm sunny days, look for signs of snowfleas at the bases of tree trunks, like a sprinkling of pepper on the snow.

February 21 Watch for jumping spiders around windowpanes.

February 23 Slow-moving cluster flies appear in old houses.

February 24 Maple sap begins running. Watch for little icicles at the tips of sugar maple twigs.

February 25 Full moon. The Raccoon Moon.

February 28 Skunk cabbage sprouts in swamps.

December 2012



December 6 Bluebirds and robins feed on Virginia creeper berries.

December 7 Witch hazel blooms, the last flowering shrub to blossom. Look for the small yellow flowers in woodlands.



December 19 White-footed mice move into houses around this date.

December 20 Watch for Asian ladybugs on windows.

December 21 Winter solstice.



December 25 Look for evergreen Christmas fern in the snowy woods.

December 28 Full Moon. The Cold Moon.



February 17 Starlings begin their spring whistling about this time. Listen also for the spring songs of chickadees and titmice.

February 20 On warm sunny days, look for signs of snowfleas at the bases of tree trunks, like a sprinkling of pepper on the snow.

February 21 Watch for jumping spiders around windowpanes.

February 23 Slow-moving cluster flies appear in old houses.

February 24 Maple sap begins running. Watch for little icicles at the tips of sugar maple twigs.

February 25 Full moon. The Raccoon Moon.

February 28 Skunk cabbage sprouts in swamps.

January 2013

January 1 Begin the New Year with a winter walk.

January 3 Watch for pine grosbeaks and redpolls in evergreens and birches.

January 12 Look for the bright stems of red osier dogwood along stone walls and roadsides, like Spanish dancers against the snow.

January 14 Stoneflies bask on exposed rocks near running water.



March 2013

March 5 On warm days watch for flights of mourning cloak butterflies, among the few hibernating insects.

March 7 Salamander migrations begin about this time. Watch for them crossing roads in wooded areas on the first warm rainy nights.

March 8 Watch for paper wasps in the house.