FALL/WINTER 2011-2012

SANCTUARY

THE JOURNAL OF THE MASSACHUSETTS AUDUBON SOCIETY

Law of the Land

How the country was drawn, quartered, and privatized

The American Narrative

The way in which a society chooses to regulate land is a fundamental expression of its underlying belief system. Here in the United States, the right to own and control land is an element of our basic rights, protected by the Constitution. Our founding fathers brought from England a conviction that protecting rights in property was an element of safeguarding liberty. Furthermore, knowing that one's property was free from government interference was key to expanding commerce. After all, "throwing off the yoke of tyranny"—i.e., England and the king—was largely about being able to expand the economic success and opportunities of the colonies.

With regard to land, the uniquely American narrative has been largely shaped by a country with abundant natural resources and a sense of nearly unlimited opportunity to put them to productive use. As our history illustrates, however, productive use easily becomes unsustainable. By 1900, it became obvious that natural resources could not survive endless exploitation. Nonetheless, the notion that there would always be more land and enough of it to satisfy all our demands on it was deeply imbedded in our sensibility.

Achieving the American Dream, popularized in the 20th century, had as a central tenet the aspiration of property ownership. "A man's home is his castle" and beware government regulations. But competing with this concept was the premise that in a civil society one's neighbors should not suffer because of one's choices in use of property. This tension between individual rights to land ownership and societal rights to be free of the negative effects is what makes land use law so interesting.

We see our legal system constantly balancing the rights of the individual with the expectation to preserve the common good. This may seem relatively well established in some cases—such as zoning to divide industrial and commercial, and residential uses—but it gets more difficult when a use of property has generalized impacts on water and air quality, habitat and endangered species, and a myriad of other values we share.

The debate has deepened further to ask the fundamental question of who—or what—has rights to object to property uses. Christopher Stone's seminal essay written forty years ago asked: "Should Trees Have Standing?" And Supreme Court Justice William O. Douglas wrote this opinion in 1972: "The critical question of 'standing' would be simplified and also put neatly in focus if we fashioned a federal rule that allowed environmental issues to be litigated…in the name of the inanimate object about to be despoiled, defaced, or invaded.… protecting nature's ecological equilibrium should lead to the conferral of standing upon environmental objects to sue for their own preservation."

This issue of *Sanctuary* explores many of these questions—certainly timely at a point in our history when we are witnessing very contentious debates about the rights of individuals, the rights and obligations of government, and the overarching need to achieve a balance.

Laura Johnson, President

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At Dawn of Day

STAFF

Cover: Top of the Hill
Frank Vincent DuMond, c. 1906. Florence Griswold Museum, Old Lyme, CT.

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FEATURES

DEPARTMENTS

Purple Sun, Honorable Mention 2010 Photo Contest

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Robin Hood in America

It was springtime in Nottingham and all through Sherwood Forest the bluebells were in bloom and the woods were alive with the song of the cuckoo, thrush, and wood pigeon. On this particular day, there came riding through the overarching oaks and beeches a certain knight in black armor, his lance lowered and his visor cocked up on his forehead. As he rounded a bend, the knight saw, pulled across the track, a cart loaded with a barrel of wine and two rough-looking chaps accompanied by a portly monk in nut brown robes. The knight reigned in his Friesian stallion and snapped up his lance.

"Clear the way, hedge pigs," he shouted. "By what right are you here in the King's forest? Account yourselves."

The goodly friar took it upon himself to engage the knight in a debate on the matter of access.

"But my liege, we are in fact the legal residents of Sherwood Forest," he said, "and we reserve the right to question any man who passeth this way."

"And from whom dost thou hold this right, if I might be so bold as to inquire?" asked the knight. He was clearly unimpressed by his adversaries.

"Of one Robin Hood, a gentleman of whom ye may have heard," said the friar.

"I have indeed heard of the man, who has not? But never have I heard the term 'gentleman' applied to said knave. Moreover, I believe that this forest belongs to King John—the trees, the underwood, and also the streams and the boar and the deer to boot."

The goodly friar stepped forward and held up his hand, index and middle finger raised as if in benediction.

"True," he said, "this wood is the realm of the king, but *Deo volente*, the forest is also the domain of Robin Hood."

The knight adjusted his visor and chuckled cynically.

"And how came this to pass?" he asked with mock formality.

"Explained plainly, Sir Knight, my argument runneth thus. God may have bestowed this forest to King John, but *de facto* God did also grant these lands to Robin Hood. Likewise to all people hereabout. That is to say, we hold this land by divine right. The King, being human—and hardly divine—is beholden also to the Almighty; and being human and therefore profane hath no more rights than any man who walks the earth as far as the use of Sherwood Forest is concerned."

❦

This little exchange—a scene pieced together from various ballads, minstrel songs, plays, and novels—represents the heart of the argument of the whole body of the Robin Hood story cycle: the question of the use of land. It is a dispute that began long before Robin Hood and one that has carried on ever since his time. It involves, along with the unequal distribution of wealth, one of the most basic conflicts of the human experience, the control of land, which until fairly recently in history was one and the same with the control of capital.

In Robin Hood's time, the late twelfth century, there was indeed a great deal of strife among the king and the commoners and barons over the use of formerly common land. The issue was rooted in land controls known as the Forest Laws, a new system established by William the Conqueror in the late eleventh century. The crown in those days (and still today, in theory) owned all of England, including the deer and the boar and the salmon in the streams. But until William's Forest Laws were instituted, the peasantry was able to utilize what was known as the vert and venison, that is, the plants and animals of the forest. In fact, the deer and the boar, the berries, nuts, and mushrooms, were a major resource for the cottagers and villeins of feudal England. For 500 years after the arrival of William the Conqueror, the populace resented and, as with Robin Hood sometimes resisted, the king's edicts.

Robin was not the last of the forest rebels. Over the centuries, as laws of the land evolved, other Robin Hood like figures have arisen to preserve the public access to common land, and more recently to protect, by whatever means possible, the local ecosystems.

Here in the Americas, a 200-year-long running battle with the native people, known as the Indian Wars, was fought over more or less the same issue that Robin Hood dealt with—eviction from commonly held lands. And in the United States, where the doctrine of private property was definitively established in the Fifth Amendment of the American Constitution, the resistance continued.

In the eighteenth century in Maine, a group of homesteaders were threatened with eviction by distant landholders; and in reaction, calling themselves The White Indians, rose up to defend their use of the land. The same thing happened along the Hudson River in the nineteenth century, when a band of local farmers known as the Calico Boys countered the feudal dictates of the vast holdings of the Van Rennselaer family.

But it was in the late 1960s and early 1970s that some of the most radical Robin Hood like environmental activists rose up in defense of natural resources. Inspired in part by Edward Abbey's popular 1975 novel *The Monkey Wrench Gang*, David Foreman and a group called Earth First! used industrial sabotage as a means of protecting land. Other back-to-the-land environmentalists such as Doug Peacock, who was the model for one of Edward Abbey's characters, took to the woods and lived side by side (more or less) with grizzly bears. Julia

Robin Hood and His Companions

Butterfly Hill, in one of the more extreme and imaginative acts of environmental resistance, lived in a redwood tree for more than two years in order to save it from foresters.

But it was the father of them all, Edward Abbey, who was the most Robin Hood like of them in spirit. In his arguments for the preservation of the southern Utah wilderness, he argued, as did Robin Hood, that uncultivated land should be the property of all people. "Keep it wild," he said.

Robin Hood, were he with us now, would surely understand.

JHM

Rights of Use

Native American resource rights and stewardship

by Michael J. Caduto

"I set out on this ground, which I suppose to be self-evident, 'that the earth belongs in usufruct to the living…'"

—Letter from Thomas Jefferson
to James Madison, proposing a provision
for the Bill of Rights, September 6, 1789

In April 2011, a shellfish officer was arraigned in Plymouth County Superior Court and accused by a member of the Mashpee Wampanoag tribe of having denied the plaintiff his "aboriginal and usufruct rights as a Native American." The Wampanoag stated that, by citing him for shellfishing illegally, the officer had denied him his Native American treaty rights to hunt and fish.

Some words are fulsome and satisfying as they roll off the tongue, but they rarely live up to expectations when plumbed for depth and historical weight.

Not so with *usufruct*, whose roots sprout from the Latin *usus et fructus*, or "use and enjoyment." It speaks of the right to employ someone else's property for one's own benefit, and for a time, without altering the nature of that property.

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Black bear—a source of food for the Eastern Woodland Indians

The legal issues behind this conflict underlie two divergent views of resource use that began when the first Europeans arrived in the Americas more than 500 years ago. Over time, the English view of land as commodity has prevailed, supplanting the traditional Native American perspective that land was shared by a community, and that the use of natural resources was connected to long-term stewardship.

Pre-European native villages consisted mostly of extended families that lived close to the best sources of food. Many localities were eventually named for their association with food or some other natural resource. In the city of Warwick, there is still a village at the head of Narragansett Bay called *Apponaug*, which means "clambake," or "seafood cooking." *Pokanoket* in Plymouth County means "at the cleared lands." Communities may have owned, or controlled, the land, but families held the right to hunt, harvest berries, gather birch bark, grow food, and undertake the full range of subsistence activities. When Native Americans traded land, they only exchanged these

usufruct rights for a period of time. There was no such thing as trespassing because ownership was shared.

The cyclical nature of wild foods and gardens meant traveling to different locations in different seasons. Summers were spent living near large community gardens, and winters in the best hunting grounds. Parents who lived in villages that were within several days journey of the seashore often left the children with grandparents and ventured forth on coastal forays to fish and gather shellfish. These provisions were preserved, brought home, and added to the family's food stores.

When garden soil became depleted, or when game was scarce in a family's hunting territory, horticultural activities and hunting were relocated to new grounds. Over time, as the resources recovered, activity would once again shift back to the replenished areas. This combination of seasonal cycles, punctuated by periodic relocation to allow the land and resources to recover, was key to the sustainable land use practices of New England's native peoples. It was a seasonal form of local sovereignty within a regional homeland.

Families relied on the plants and animals in their respective territories for survival, and this encouraged wise stewardship practices. Holding the land itself in common strengthened relationships between families and bands throughout a particular region. The widespread practice of exchanging gifts further forged close ties and bound the peoples of a community to one another in personal relationships and political alliances.

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Blueberries combined with bear fat was an important winter staple for the native peoples.

Hunters closely observed the plants and animals within their territories and gained an intimate understanding of the members of each species. They could often tell which animals were weak or healthy, which were young or old, and even whether or not a doe was pregnant.

This detailed knowledge enabled each family to maintain strong breeding populations among animals they hunted. Archaeologists have discovered that some villages practiced wildlife management by hunting male deer almost exclusively; the remains of white-tailed deer at some ancient Abenaki homesites in western Maine show a near-complete lack of bones from females.

Special care was taken to leave animals alone when they were raising young during the summer, a time when fishing was the main activity. Wasteful killing was taboo. In native cosmology, animals possessed individual lives, families, and spirits; the people believed that wildlife formed communities and cultures with their own fates and destinies.

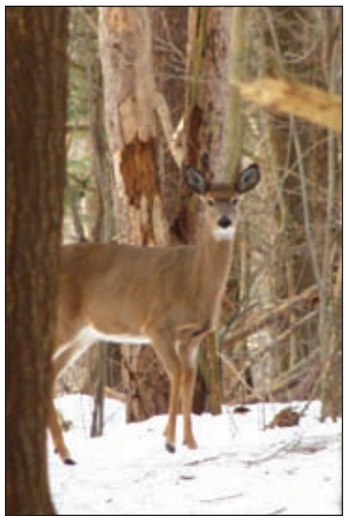
The seasonal movement of native peoples was shrewdly used by early colonists to lay claim to vast tracts of land. Fallow fields, forests, and other environments that were not surmised to be actively used by local indigenous populations at that moment in time were deemed vacant or abandoned, and thus free for the taking. This occurred despite more than 14,000 years of postglacial habitation by the ancestors of the people who would come to befriend the Pilgrims in 1620.

In 1628 King James signed the Royal Patent of the Massachusetts Bay Colony, which held that Native Americans could only be granted title to land by the English Crown, or by one of the colonies acting as an agent of the Crown. A veneer of legal justification for this policy was laid down in three transparent layers, based on the fact that John Cabot had "discovered" the land during his voyage of 1497-1498; that Natives had not practiced agriculture nor "subdued" many of the lands in question, as stipulated in Genesis 1:28; and finally that, since the King was the first monarch to establish colonies here, he had the right to claim ownership of the land.

Under this doctrine, with the exception of "improved" agricultural land, indigenous peoples did not "own" any of their ancestral lands. Some Puritans even referred to the devastating smallpox epidemic of 1617-1619, which killed 90 percent of the Native Americans living in Massachusetts Bay, as a "myraculouse plague"—a sign

that God had cleared the land of heathens for the Puritans to inhabit.

Ironically, much of the land that colonists claimed had not been "improved" by Native Americans was not at all in its natural state and had been altered for generations. Indians had burned extensive swaths of land to keep down the underbrush and create deer browse and encourage the growth of berries and other foods and medicinal plants. The clearing also discouraged swarms of biting insects, made travel easier, and enhanced lines of sight around villages for safety. As a result of this and other indigenous land management practices, Europeans stepped ashore to find parklike forests, expansive prairielike grasslands, extensive gardens, and a regional mosaic of habitat in various stages of growth, ranging from fresh clearings to mature forest—a landscape of diverse food and cover that attracted many of the prime animals for hunting.



© JOHN GALLUZZO

White-tailed deer

In addition to the fact that native peoples had indeed made many ecological "improvements" to the land, the weak reference in Genesis that was cited by the Puritans was easily outdone by a pointed admonition found in Leviticus (25:23), which makes it clear that people do not own Creation. The Lord spoke to Moses on Mount Sinai and said, "You will not sell the land in perpetuity because it is mine. You come to live in this land as strangers and sojourners with me."

Indians had burned extensive swaths of land to keep down the underbrush and create deer browse and encourage the growth of berries...

In the early 1630s, Roger Williams was the most prominent non-native to challenge the King James Patent. He also disagreed with Governor John Winthrop's policy of *vacuum domicilium*, which held that title could only be claimed to land that was occupied and had been improved for crops, cattle, and other enterprises.

Williams accurately claimed that the courts and the King's grants couldn't be used to allocate land, which belonged to Native Americans, who were the only ones who could sell the land. Williams asserted that the native peoples were only exchanging usufruct rights and not title to ownership of the land itself. Colonists were simply being granted the right to use the land for planting, hunting, fishing, and gathering. The Puritans expelled Roger Williams from Massachusetts Bay Colony for espousing these views. Undeterred, Williams formed a new settlement, which eventually became the state of Rhode Island.

The British Proclamation Act of 1763 recognized that Native Americans held legal title to vast territories, ranging from the Appalachian Mountains and Hudson Bay to the Mississippi River and the Gulf of Mexico. But in 1839 the Crown Lands Protection Act diminished Native land rights and ownership to usufruct alone: permission to hunt, fish and forage, gather firewood, and so on. Nevertheless, colonists still had to negotiate with Native Americans if they wanted to settle on native lands, based on the precedent set in 1763.

Despite the shifting legal and economic strands in the web of Colonial-era land ownership, which emphasized assigning deeds to individuals, agreements with the Indians had in fact granted only usufruct rights on property that was owned collectively by native communities. Since survival depended on the sustainable use of the soil, as well as maintaining healthy populations of plants and animals, usufructuary encouraged wise stewardship.

In his landmark book *Changes in the Land*, William Cronon observes that, whenever and wherever Native Americans discovered significant resources that benefited the many—such as prolific spawning grounds, large flocks of turkey, and herds of deer—those resources were shared no matter whose "territory" they were found in. "Property rights," says Cronon, "…shifted with ecological use." The sharing of food and goods strengthened kinship ties, alliances, and friendships and made sure that everyone's needs were met.

When provisions depended on the hard work of a hunter in a particular place and time—such as the winter activities of big game hunting, or setting trap lines and snares—those resources were divided up among hunters and families.

After nearly 400 years under the English system of property rights, of buying and selling land as an economic commodity rather than for its ecological values, we have depreciated much of our natural inheritance. The market economy has fragmented environmental and social connections: no bonds are forged with the plants and animals, nor with the growers and artisans, when we purchase food at a supermarket rather than hunting, growing, or gathering it with our own hands.

The traditional indigenous relationship with the land is ecologic rather than economic. A journey back to a future version of *usus et fructus* could inspire a contemporary paradigm for the use, care, and enjoyment of the natural world—embracing resource stewardship as we seek to live sustainably by balancing human needs with those of the plants and animals, air, water, and soil.

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From Commons to Castles

How land in the Americas came to be drawn, quartered, and privatized

by Nini Bloch

In 2002, the USDA recorded that 61 percent of the nation's 2.3 billion acres lay in private hands, while federal, state, and local governments, and Indian reservations held the rest. Every square inch of the nation is owned—and has been mapped and surveyed; only an estimated 3 to 5 percent of the nation's land has escaped some sort of human disturbance. Home ownership thrives in the suburbs, with 71.5 percent of households owning a home, according to a 1995 report of the Harvard University Joint Center for Housing Studies.

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Study for a Wild Scene

For the majority of indigenous tribes in precolonial America, the earth was part and parcel of their cosmology. In their view, they did not own the land—nor did anyone else. Although the right to use the land was something that they traditionally traded, land was not a commodity to be bought and sold.

By contrast, when European explorers first "discovered" the Americas, they declared whichever piece of the continents they laid their eyes on as *terra nullius* (belonging to no one, or no man's land) and promptly claimed the parcel for their respective monarch. According to Western doctrine, land ownership was entrenched in divine monarchies that got their power from God. Kings owned land, but everybody else, from nobles down to serfs, were tenants who paid rent in personal service (as soldiers, for instance) and/or in kind (as grain or sheep).

Here in North America, for better or worse, land ownership evolved from divine prerogative to everyman's right and was gradually woven into the very fabric of the culture. Private land ownership was a legal construct that had a profound effect on the landscape of the New World and ran roughshod over the cultures and lives of its indigenous inhabitants.

The concept that *anyone* could actually own a plot of land absolutely (*in fee simple* as the legal term phrases it)—and then sell it, restrict access to it, determine its use, and pass it on to heirs—emerged from European feudal systems that were slowly unraveling in the fifteenth century. Originally, titled nobility held property they had received from their king in return for their loyalty and other services. "Holding" property, however, was not the same as privately owning it, a fact that the Magna Carta tried to counter by restricting royal rights of appropriation and guaranteeing (in later versions) that no man "whatever estate or condition he may be" could be deprived of property without the "due process" of law.

In a labor-intensive agrarian society, the feudal system ensured stability and a livelihood for its most vulnerable citizens, but it was prone to severe abuse and generated rebellions across Europe. In England, after William the Conqueror took over in 1066, the use of wildlands by the peasantry was severely restricted. By the 1300s, a third of southern England was off-limits, designated Royal Forest. In the failed Peasants' Revolt of 1381, sparked by an abusive tax collector, peasants demanded, among other things, that they be allowed to *buy land* and to use Royal Forests. Ultimately, the top-down feudal system of controlling land and its tangle of obligations did not stand the test of time.

Within two centuries of the Norman Conquest, both the disposition of land and the obligations of tenants

Ten Pound Island

gradually moved away from strict feudal practice into the commercial realm. It became legal to sell land and to pay a landlord in rents (either cash or in kind), removing the onus of "personal service." The English monarch, for example, granted the Massachusetts Bay Company use of the lands under this rental system, which theoretically afforded the Puritan "tenants" more flexibility and brought rental into the cash economy. By the late seventeenth century, philosopher John Locke argued that working on a plot of land to make it productive conferred ownership. In his *Second Treatise of Civil Government* of 1690, he championed the right of every man to own land. He admitted that God had "given the earth…to mankind in common," but "[a]s much land as a man tills, plants, improves, cultivates, and can use the product of, so much is his property. He by his labour does, as it were, inclose it from the common."

Locke believed that there was enough land to go around for all who would work industriously to "improve" it. And at the time in Europe, there were a lot of desperate landless people. In the British Isles, for example, during the enclosure movement and the Scottish Highland Clearances, landowners fenced off the commons to graze sheep or to consolidate fields for larger, more modern farms. In the process, they evicted peasants, and sometimes whole villages. A large portion of these uprooted souls fueled the labor market during England's Industrial Revolution. But the cities were crowded, and many landless victims emigrated to America.

During this same period, the technology to map and survey large areas of land developed, thanks to a measuring device that enabled more accurate descriptions than the old metes and bounds method that relied on often impermanent landmarks. A square measured plot is easier to view as a commodity and simpler to sell. Furthermore, surveying land also was a method of controlling it.

In the New World, the English crown granted charters and delegated governance authority both to corporations (like the Massachusetts Bay Colony and the Hudson Bay Company) and to individual proprietors like William Penn to settle the land. Originally run from England, the Massachusetts Bay Company moved its corporate "offices" to these shores. With the Atlantic between the corporation and the crown, English laws held less sway, allowing the colonists—and even the Indians—to directly petition the General Court in Massachusetts to buy land.

In the southern US, ship owners or landowners hungry for labor for tobacco plantations used a system known as headrights to amass large holdings. In Virginia, for every indentured servant or slave a shipowner brought over to clear and work land, the Virginia Company granted 50 acres. After five to seven years of working off the debt, an indentured servant could buy unimproved land on credit from which to make a living for his family. Surveys and record keeping were often sloppy, and the system allowed speculation. Nevertheless, this mode of land acquisition became the model for much of the westward expansion.

The headrights system allowed the recipient to site his property as he saw fit on any reputedly unclaimed land. This unfettered form of land ownership without government controls and with total reliance on the individual rather than a community spawned both the image of the rugged frontiersman and a host of edicts against illegal squatters who took Lockian philosophy to heart. Eventually, however, as the Indians receded westward before the advancing tide of new landowners, the colonists welcomed the buffer that the frontiersmen provided.

With the signing of the Treaty of Paris in 1783, the new United States held all the current US land east of the Mississippi—and was an estimated $40 million in debt. Land was its new currency. The new government was eager to encourage immigration to expand the economic base and to sell land to raise revenues. As a first step, in 1795, Congress authorized the survey of the Western Territories. Disregarding any natural topography, the government laid out the vast area in six-mile-square townships, which were subdivided into 640-acre sections. In the decade between 1790 and 1800, the number of white settlers living between the Appalachian Mountains and the Mississippi quadrupled to 400,000.

The headrights land grant was only the first scheme to lure colonists to settle the New World. In 1819, in a move to make owning land more affordable, the government dropped the price per acre of federal land to a mere $1.25 and, in 1832, reduced the minimum parcel to 40 acres. By 1841, Congress legitimized the claims of squatters to own land with the passage of the Preemption Act, which allowed adult men, widows, and heads of households who squatted on federal property and continuously labored for at least five years to "improve" it to own that lot at $1.25 per acre, without a deed or title. A further refinement, the Homestead Act of 1862 included, at the end of the process, an actual deed. By 1853, the government had secured the entire landmass of what was to become the Lower 48 and opened it to homesteaders. In all, from 1862 to 1934, the government granted 1.6 million homesteads, privatizing 420,000 square miles, or a tenth of the nation's total land area.

While the act was a boon to farmers, it came at the cost of millions of acres of Indian reservation lands. The final blow to maintaining communal Indian land occurred with the passage of the Dawes, or General Allotment, Act of 1887, which divided all Indian lands into single-family plots that the head of the family could sell at will. By flying in the face of the Indian culture of consensus, the act broke the traditional culture of the Indians, which in a sense was the point. Washington viewed the establishment of private property among the tribes as the primary civilizing force.

The whole course of manifest destiny was summoned up by a singular sentence uttered by a bureaucrat at the time: "The common field is the seat of barbarism." The comment illustrates how far public thinking had evolved not only from the Indian view of territory as a giant commons whose bounty was shared among the tribe but also from the feudalistic system of organizing villages around a common with the manor and the church, ringed with agricultural fields and then pasture that the peasants farmed communally.

The romanticized image of the homesteader's rugged individualism, self-reliance, and grit, and social Darwinism's view of human society as survival of the fittest, didn't have a place under such communal systems. Those carefully surveyed six-mile-square townships did not have commons; nor do today's suburbs. Instead, the view among homesteaders and suburbanites alike is that one's home is one's castle, to do with as one pleases.

Along with commons, however, often disappeared any sense of stewardship of the land. Feudal commons survived because estates regulated how they were used. The commons were subject to rudimentary rules of land use. It was in the lord's—and everybody else's—interest to practice sustainability. Today, groups like the Sage Brush Rebellion despise government intervention in the form of land use regulations and zoning codes that restrict what they can do with their property. They advocate for privatization of all public lands, which would allow them to exploit the resources as they wish—for grazing, logging, or mining.

Dogwood Blossoms

Countering the Sage Brush Rebellion is an opposite movement to return to the concept of the sustainably managed commons. Roman law actually mandated the sharing of certain "common" resources including air, water, and the sea. Justice William O. Douglas, in his 1972 dissent in *Sierra Club vs Morton*, argued that since a "ship has a legal personality," so should a river or a ridge "that feels the destructive pressure of modern technology and modern life." Hence a river should have standing to pursue a suit. Although The Sierra Club lost that particular case, environmental groups gained standing to sue corporations and agencies if a single organizational member could show potential harm. The principle is in wide use today to protect wilderness lands.

At the local level, there are encouraging signs of moving away from destructive land ownership. Some developers are returning to more commons-centered plans, and towns, organizations, and citizens increasingly are investing in buying and finding ways to protect parcels of land they consider valuable.

We cannot undo the ravages of viewing land as a mere commodity, but acting on a greater reverence for the public commons can help mend the damage.

Nini Bloch is a writer who covers field science, environmental topics, and animal behavior.

The Colossus of Zoning

Many of our current land use laws have emerged from a single legal decision that took place back in 1926.

by Thomas Conuel

A deeply divided US Supreme Court pondered a vexing Constitutional question. On one side, a conservative faction of justices cited the iron-clad inviolability of the US Constitution and its guarantee of due process and private property rights, spelled out in the 14th Amendment, prohibiting state and local governments from unjustly depriving citizens of life, liberty, or property. On the other side, progressives on the Court stood firm in their belief that the Constitution was a malleable document, intended by its creators to offer guidance in a changing world, but not inviolate. It was the duty of government to protect its citizens against circumstances and events the Founding Fathers could not have imagined, much less anticipated. Such was the case before them. Several swing votes on the Court listened to both arguments and were persuaded finally by the oral arguments and legal briefs put forth by a heretofore unheralded local attorney representing the village of Euclid, Ohio, a suburb of Cleveland.

All this sounds very much like a modern-day clash between anti-government Tea Party activists and liberal advocates. But in fact the debate took place in 1926 and was the nation's first legal test of a new concept called zoning. By November 22, the US Supreme Court finally passed what was to become the central land use law of the country, elevating the public good over private property rights, a finding that has stood now for nearly 85 years. Following the decision, the formerly unfamiliar term zoning became part of the popular vernacular.

© ANN PRINCE

1907 cottage in a 1897 subdivision

Euclid vs Ambler brought a cast of vociferous, battle-ready combatants to the Supreme Court to argue over the right of a local governing body, the Euclid Village Council, to regulate land use in that community—a 16-square-mile farming village when it was incorporated in 1903, but now abutting a mighty engulfing neighbor, the city of Cleveland.

When Ambler Realty Co. challenged Euclid, a fast-growing and changing suburb, over the right of the town to determine land use by setting zones for residential, commercial, and industrial use, and by issuing height and use restrictions for each zone, the ordinance drew quick opposition. Millions of Americans were already living in zoned cities and towns, but now Ambler Realty, along with other real estate developers, was asking a question that moved all the way to the Supreme Court for a definitive answer: Can a city or town deny property owners the right to use their land as they wished providing they were not creating a nuisance?

Public and private nuisance controls had long been a part of land use laws and—along with trespassing laws, selective fees, and restrictive covenants—somewhat protected landowners from the intrusions, follies, and bad behavior of their neighbors. But this was different. This was not a nuisance law, but rather an attempt by local officials to plan and control land use in the community by using a comprehensive set of regulations to determine the character and population of their village.

Euclid, like many other cities and towns in early 20th-century America, was trying to balance growth in both residential and business use while maintaining its status as a suburb for middle-class homeowners, free of the noise, pollution, and, yes, flood of immigrants that characterized metropolitan Cleveland. The village had already imposed height, area, and use regulations for the general health, safety, and welfare of its citizens prior to its zoning ordinances. But nearby Cleveland was booming, its industry and commerce bulging outward, threatening to destroy the residential landscape and character that originally drew many to quiet Euclid.

Euclid pushed back. The Village Council adapted Ordinance 2812, a municipal zoning ordinance, in November 1922, dividing the village into six classes of use ranging from U1 (single-family homes), U2 (two-family homes), to U6 (industrial and manufacturing dis-

1920s cottage in a residential development

tricts). A business, for example, could not be in the U1 residential zone. A group of Euclid property owners quickly banded together and hired Newton D. Baker, a former Secretary of War and a prominent lawyer in Cleveland, to head a legal challenge to zoning. Ambler Realty, which in 1911 had purchased a parcel of undeveloped land in Euclid, joined this group and, in May 1923, filed a complaint in federal district court challenging the Euclid zoning ordinance.

In June, in an attempt to head off the court challenge, Euclid modified the zoning ordinance with three amendments designed to placate the aggrieved landowners, including expanding the industrial and manufacturing district to include Ambler's 68-acre parcel.

That didn't work, and the lawsuit landed in court where in January 1924 Federal District Judge D.C. Westenhaver, a business and social acquaintance of Newton Baker, ruled in the landowner's favor, invalidating Euclid's new zoning ordinance. Euclid challenged the decision and the case headed to the Supreme Court.

Few thought at the time that Euclid's attempt to zone its land had any chance before the usually conservative Supreme Court, led by Chief Justice William Howard Taft, the former President of the United States. But the Court also had a faction of famous progressive dissenters, Justices Oliver Wendell Holmes, Jr., Louis Brandeis, and Harlan Fiske Stone, and the judges immediately split on the Constitutional issues.

Looking back through the spyglass of time, it is probably accurate to postulate that Euclid's zoning ordinance would never have drawn the attention of the US Supreme Court if not for the passionate belief in zoning of a member of the Euclid Planning Commission, a local attorney named James Metzenbaum. He was obsessed with protecting the character of the village from the sprawl of messy Cleveland, partly, at least, as a tribute to the memory of his recently deceased young wife, Bessie. Metzenbaum and Bessie had spent the early years of their union in great contentment in the quiet community of Euclid. When Bessie died unexpectedly in 1920 while on a trip to Florida, James Metzenbaum was devastated. To overcome his grief and melancholy, he threw himself into the zoning battle, hoping to preserve the character of Euclid. In this, he found able help in one of the nation's first city planners, Alfred Bettman, among the founders of what we now call city and regional planning, at that time in the 1920s a new and uncharted field.

It was near the end of the Progressive Era in the United States, a period of social activism, reform movements, and Constitutional Amendments—a time of great faith in government solutions to large problems. The Progressives for decades trumpeted the belief that government, if cleansed of corruption, could and should help the people: the more the better. The Progressive Era in the first two decades of the 20th century brought the federal income tax (16th Amendment); the direct election by popular vote of US senators, ending corruption associated with their elections by state legislators (17th Amendment); Prohibition (18th Amendment); and women's suffrage (19th Amendment). There was a surge of sentiment in the land that government should be involved in the lives of its citizens striving to better the lives of all.

Seen in this historic light, zoning was an idea that grew from earlier attempts at land use reform. In 1916, the New York City Board of Estimate and Apportionment adopted a Building Zone Plan that came from the earlier work of a commission chaired by Edward M. Bassett, considered by many as the father of zoning. The plan proposed regulating the height of skyscrapers in the city, along with other regulations, as a way of correcting the shortcomings of traditional land use laws under common law. In 1922, the US Department of Commerce, inspired by the New York City ordinance, produced a model zoning document, the Standard State Zoning Enabling Act (SZEA), which thousands of communities across the country used as a basis for passing their own zoning ordinances.

By 1921, some 20 states had authorized local cities and towns to pass zoning laws. Zoning could be a government solution to all sorts of social and economic problems that frayed the big cities. Small and midsize cities and towns could push back the blight of big city life. They could decide what type of community they wanted to live in.

But there was a downside to zoning laws, negatives that many say are still with us. Zoning laws can be used to exclude others, the undesirables, the immigrants, the poor; they can be manipulated by local officials to gain unfair advantage in land use, perhaps by forcing out competition; they favor narrow local interests and planning over regional interests; and they dictate a local and subjective vision of what is good, beautiful, and of historic value.

Banning nuisance industries and limiting the height of buildings is obviously good and acceptable, but creating residential enclaves for a fortunate few is different, and stretches the limits of government power. Who decides when local zoning laws step over the line?

The Supreme Court heard the first oral arguments in *Euclid vs Ambler* in January 1926. James Metzenbaum,

Early twentieth-century suburban house

the grief-stricken local attorney and member of the Euclid Planning Commission, represented the village of Euclid while Newton D. Baker, the famous and influential attorney, a true luminary not only in Ohio but nationwide, led the legal team representing Ambler Realty. The Court, led by Chief Justice William Howard Taft, immediately became tangled in the complexities of the case.

Metzenbaum, who had never appeared before the Supreme Court, feeling outmaneuvered by Baker in the early going—particularly by Baker's argument that zoning was unconstitutional because it was an unreasonable restriction on private property—was desperate to file an additional legal brief refuting some of Baker's arguments. He later told the story of how, trapped on a slow-moving train in a snowstorm between Washington DC and Cleveland, he wrote a telegraph message to Chief Justice Taft requesting more time to file an additional legal brief. He wrapped several dollar bills around the message and tossed it to a railroad worker shoveling freight cars out of a nearby snowbank, yelling instructions to send the message immediately. Somehow Taft received the telegram and granted Metzenbaum the additional time needed to file his legal brief. After pondering the legal arguments in the new brief, the court remained sharply divided and Justice Taft ruled that the case be reargued in the fall.

That fall, after the case was reargued, one of the Court's lesser known justices stepped forward to help craft a compromise opinion. George Sutherland, named to the Court in 1922 by President Warren G. Harding, and usually associated with the conservatives on the Court, took the arguments of Metzenbaum and Bettman and fashioned them into the premise that before the Euclid zoning ordinance could be declared unconstitutional, it must be shown to be "clearly arbitrary and unreasonable, having no substantial relation to the public health, safety, morals, or general welfare." In the 6-3 decision that resulted, and for which Sutherland wrote the majority opinion, the Court stressed a pragmatic approach to property rights—the police powers of local governments trump the property rights of landowners unless those local ordinances are arbitrary and unreasonable.

Sutherland, as noted by Michael Allan Wolf, in his fine book, *The Zoning of America*, wrote in his opinion that "while the meaning of Constitutional guarantees never varies, the scope of their application must expand or contract to meet the new and different conditions which are constantly coming within the field of their operation." For example, traffic regulations, which before the widespread use of the automobile would have been considered arbitrary and unreasonable, were now a necessity. Nuisance laws used in the past could not keep up with fast-paced change. Sutherland added this memorable line: "A nuisance may be merely the right thing in the wrong place—like a pig in the parlor instead of in the barnyard."

On that day in November 1926, when the Supreme Court ruled in favor of zoning, there was coverage in several newspapers, including *The Washington Post*, *The New York Times, The Wall Street Journal*, and, most in depth, *The Cleveland Plain Dealer*. But there were no howls of protest and little realization as to how this decision would change the country.

The scope and force of *Euclid vs Ambler* would grow in time, encouraging the emergence of suburban living but bringing also the realization that, by limiting private property rights, the Court had opened the door to land use and environmental restrictions and regulations designed to protect public health, safety, and the general welfare. Local governments could and should enforce most of these regulations, but when the public welfare was threatened other larger government agencies might step in.

It is no stretch to say that without *Euclid vs Ambler* the landscape of this country would be vastly different, and government agencies, such as the Environmental Protection Agency, would either not exist or would function in a much-attenuated fashion. Today, some still blame the ruling for failing to safeguard individual rights while encouraging misguided regulations in the name of environmental and land use controls.

James Metzenbaum, the local attorney, who won such a surprising victory before the Supreme Court, never again argued a case before the nation's highest court, nor did he seem to relish his, and Euclid's, victory. A local newspaper columnist noted that Metzenbaum spoke often of the sadness that filled his life even years after the death of his beloved Bessie, who had inspired his fight to protect Euclid's quiet suburban character.

He died on December 31, 1960, at 77 of an apparent heart attack while trying to push his car out of a snowdrift. He had just finished visiting Bessie's mausoleum at the Lake View Cemetery, a green oasis of historical, horticultural, and architectural treasures on 285 acres off Euclid Avenue in East Cleveland, a quiet part of the city, but close to the urban sprawl still reaching out from the inner city toward nearby Euclid.

Thomas Conuel is a field editor for Sanctuary *magazine.*

Finding Naquag

The many names of land

by Joe Choiniere

By this deed Joseph Trask alias Puagastion of Pennicook, Job alias Pompomamay of Natick, and Simon Pitacum alias Wananacompan of Wamasick, Sosowonow of Natick, and James Wiser alias Qualapunit of Natick for the sum of twenty-three pounds, conveyed to Henry Willard, Joseph Rowlandson, Joseph Foster, Benjamin Willard and Cyprian Stevens, a Certain Tract of Lands, meadows, swamps. Timbers, Entervailes, containing Twelve mile square, according to the buts and bounds, as followeth, viz:

The name in General being ***Naquag****, The South Corner butting upon Muscopaug Pond, and running North to Quenibeck and to Wonketopick, and so running upon Gte Wachusett which is the North Corner, so running nor west to Walamanumpscook, and so to Quaquanunawick a little pond, and so to Asnaconcomick Pond which is the norwest corner. And so running South and so to Musshauge a great swamp, so to Sasaketasick which is the South corner. And so running East to Pascatickquage and so to Ahampatunshauge a little pond, and so to Sumpauge Pond and so to Muscopauge Pond which is the East Corner.*

From a deed dated December 22, 1686

In 1686, 144 square miles, a chunk of land known by its Nipmuc name, Naquag, "upper corner of many waters," was "sold" by the native Nipmucs to a group of Massachusetts Colony proprietors for 23 pounds. A copy of that deed now resides in Princeton's Historical Society archives. To read it is to step way backward to a place and time when land and water were intertwined.

There are thirteen Native American place names defining Naquag's boundaries in this deed, and most are related to water features. Even the place of the fish weirs at the cataracts was originally called Wenamesick, or "fish basket."

The excitement I experienced when I first read these names remains ever palpable. The words alone drew me to explore the bounds as described and to further range across Naquag in general, looking for evidence of how the land has changed in its metes and bounds over 325 years. In many ways, Naquag has changed little; or at least it has now returned to its former state, a land of valuable and protected waters. In the deed Naquag is first and forever immortalized in print as a place, not just a list of measurements. It is a real landscape full of life, celebrated in the beautiful lexicon of place names.

This evocative description of the land might be considered vague by our standards, yet it was crystal clear to the native elders who knew Naquag in 1686. The Nipmuc intention was to share, not sell, these lands, which were used primarily for seasonal fishing, hunting, and gathering—that is, to retain rights encoded within their very different worldview of the Native American. Within 25 years, however, there were no more salmon. They had been overfished downstream in the Connecticut River and blocked from their spawning migration by dams installed as early as 1735 on the Ware River, some of them at the ancient weir known as Wenamesick. English settlers had fenced and taken over land, investing a lot of sweat equity in an entrenched agriculture while quickly pushing out the seasonal hunter-gatherer lifestyle and the source of sustenance it had provided.

Some historians consider this and other local Native American deeds of this time period to be shared agreements: The Indians considered the land an entity to be used in common, and most deeds reserved the native peoples' right to hunt, fish, plant, set up their seasonal homes, and use the trees for firewood. It appears that in some cases the English were well aware of the Indian intent to share the land without giving clear title.

Whether an outright sale or shared arrangement, the 98,000 acres of Naquag had a value you certainly couldn't buy, lease, or rent today for the modern-day equivalent of 23 pounds in 1686 (about $60,000). Fortunately for us, Massachusetts' status as a Commonwealth and in particular the drive to protect drinking water resources has meant that a large share of Naquag is again available for many of the activities once practiced by its original peoples.

Certain of the Naquag deed place names exist on maps of today and can be visited; a few others can be

Naquag waters

Joe Choiniere examines an eighteenth-century witness stone at the corner of three Naquag towns.

divined from context and might still be located on the ground; and others must be conjectured using various published translations of the native Nipmuc place names.

Wachusett, "the place of the great hill," has long been known as central Massachusetts' highest point of land and one from which all of Naquag may be seen. The deep waters of Asnacomet Pond in Hubbardston are enticingly easy to find. Other places are more obscure. Muscopaug Pond in Rutland fits well as a south corner, but its distance from Wachusett is only seven miles, far shy of the twelve miles described in the deed. Muscopaug, likely referring to "muskrat" or possibly "medicine," might fit any number of other ponds. And Sasaketasick, "place of snakes," should lie somewhere near the farthest corner of the town of Barre, but could also be found at the steep outcrops of Raccoon Hill. Walamanumpscook, "at the rock standing in the red paint place," seems impossible to find. I can only hope that it somehow finds me!

The Nipmuc, also known as "freshwater people," ranged over much of central Massachusetts and had already deeded portions in the earlier 1600s, including the Lancaster "Nashaway" block; Tantiusques, the land around Sturbridge; the Black James deed, which covered the Webster Lake area; and the Quinsigamond Plantation in Worcester. Perhaps all of Massachusetts was mapped in a physical language that ranged from high hills to places between rivers, lead mines, waterfalls, and gigantic beaver ponds.

I view Naquag the way the Nipmuc did: a land connected to my local woods and also via place names engendered by my own experiences—the moose hill, for example, one of many small bumps in the glacial outwash terrain where moose find spring shelter and where a yearling moose succumbed in winter in an unfrozen boggy seep. There's a "giant stone pile made of potato-sized rocks," a "red oak over four feet in diameter," and "ground where edible fiddleheads grow." "Redstart stop" is along an old country road where habitat is perfect for hearing three of these birds sing at once in summer.

Naming the land by its attributes is a way of integrating it with our aesthetic, physical, and overall well-being. Many of these names are translated by some authors as "the place of," so Wachusett becomes "the place of the great hill" where the mountain resides. It is a different concept hard to understand without connecting to the landscape personally. The mountain defined as a place where the mountain is evokes a sense of the land being alive.

Thanks to Queen Anne's War and other distractions (remember that the US didn't exist in the late 1600s), little was done with Naquag until William Ward surveyed the tract in 1715 for heirs of the original proprietors. He appears to have kept more closely to the original 12 miles square provision of the deed rather than the native place names of Naquag.

I have mechanically drawn Captain Ward's boundaries, and the result is a rhombus or parallelogram, but it is not "twelve miles square." This surveyed land was named Rutland, a town that still exists as the "central town of Massachusetts," even boasting a central tree. Rutland is now reduced to a quarter of its original size, and new adjacent towns have been created out of Naquag: Barre, Hubbardston, Princeton (in part), Oakham, and Rutland, which finally creates a diamond with sides in the range of twelve miles, give or take a mile and certainly within the range of the intended bounds.

Today one walks in Naquag under old and new names. If I walk down the hill to Canesto Brook, the "pickerel place," and move up or down the ice, I walk in both new and old, but each is valued for the same reason—water.

The primary goal of the preserves within the tract is water protection. Various rules apply within different sections—hunting, fishing, and trapping are allowed in some areas. One may canoe, walk, and snowshoe, and I assume pick mushrooms and gather wild plants in others. In other words, one may engage in many of the activities that were once so important in Naquag, including catching salmon in Asnacomet Pond. Parts of the watershed are also authorized for ripping around on gas-powered machines year-round. Forestry management in the guise of watershed protection and wildlife enhancement is also practiced.

Newer forest management policies, championed by Mass Audubon and The Sierra Club, have designated a forest reserve of 1,000 acres to remain forever uncut. And an even newer technique goes back to the old sharing concept of the Nipmuc, a new cooperative designation for 62,000 acres in this area as an IBA, Important Bird Area, nominated by Mark and Sheila Lynch and centered almost directly on Naquag.

These destinations are certainly the most fitting tribute one might make to its original inhabitants. Without question to make use of this water for millions of citizens is a worthwhile goal: to respect it, to cherish it, to understand how the water derives from the land itself. Treasuring this landscape is a necessary objective; as in 1686, it still needs to be shared.

Joe Choiniere is property manager at Wachusett Meadow and Broad Meadow Brook wildlife sanctuaries.

The Fate of Private Land

How to save land before it's too late

by Gayle Goddard-Taylor

The two friends often would meet at the entrance to the rolling fields to walk the land. Few if any other people were there. This was private land, but the landowner was gracious enough to allow them access. In spring they would bring their binoculars to catch sight of colorful migrating songbirds. In winter they'd strap on snowshoes and decode the language of tracks left overnight in the snow.

And so it went for years. Until one day, the two friends arrived at the gate to find a large sign, "Future Home of Paradise Estates." A giant gash in the earth, gushing umber soil, extended into the fields and beyond. The bulldozer could be heard growling its claim to the land on the far side of the hill.

The landowner, who had always wanted to see her property preserved, had died without acting on her intentions, and her child, deeply rooted on the West Coast, sold the land.

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Fort Rock, on public land, Littleton

This scenario is hardly unique. Across Massachusetts, the elderly owners of large undeveloped parcels of land are frequently faced with often painful decisions about what should happen to it after their death.

"People often have visions of protecting their land," says Don MacIver, a longtime member of the Littleton Conservation Trust. "But then they forget to do anything about it."

Although there have long been a range of options for land conservation, they often aren't widely understood. Many landowners believe their only choices are donating their land or placing a conservation restriction on the whole parcel. It often proves a wrenching time for landowners who want to see the land preserved yet also hope to bequeath something to their children. Furthermore, the children may disagree about what should happen with the land.

The horizon for property owners facing such decisions is much wider than many realize. In recent years, as land conservation has gained greater traction at the state level, so too have the interests of those owning such parcels. The ways in which a piece of property can be both conserved and still provide a fair return for its owner are legion; in fact, conservation has almost become a matter of customization.

Although preservation options can be tailored any number of ways, they could be seen as having only a handful of major themes, or "strings," says MacIver. They include the following.

An outright gift (or fee interest) of the land to a nonprofit or government conservation group, either local, regional, or statewide, or to a municipality—or any combination of those entities. In addition, an endowment might be established to pay for the property's continued protection through ongoing stewardship. A gift of land can either be made during the owner's lifetime or as a bequest.

The owners can seek a conservation restriction (CR), a provision that usually protects the land against development and preserves scenic or natural features while allowing it to remain in continued private ownership. In order to be a perpetual CR, a conservation restriction must be approved by the town and by the state's Executive Office of Energy and Environmental Affairs (EEA). The CR agreement explicitly establishes what uses are permitted and prohibited in order to protect conservation values present, and the landowner often receives tax benefits in the form of property-tax reduction and/or income-tax deductions. A CR can be as customized as a landowner wishes. "Say you have someone

Reminder of local agricultural heritage preserved in a stone wall.

who has acquired a lot of land and three children who probably won't be coming back to the area," says MacIver. "You could divide the land into thirds, each of which has a conservation restriction on it but each of which also has one lot that can be developed."

An agricultural preservation restriction (APR) is a close relative of a CR, with a primary purpose of keeping land in continued agricultural use. The state authorizes the Department of Food and Agriculture to purchase the APR from the owner, who also realizes reduced property taxes. The farmer may also donate the APR to the state or to a land trust.

If the owner wishes to sell the property at fair-market value, he could offer "option to purchase" to the town or a land trust or partnership of conservation groups, thereby allowing them time to marshal the funds to purchase the land. The land would have to have significant environmental value to interest conservation groups and would be even more attractive if it abutted other already-protected land.

The owner might also agree to a "bargain sale," selling the land—or interest in the land—for less than market value to a governmental body or conservation group. Here, the difference between the fair-market value and bargain sale price would be tax deductible as a charitable contribution.

Yet another option is an "installment sale," in which case the title to the land is transferred at the time of the first payment, but subsequent payments are made over a specified period of time, giving the seller a predictable income stream.

An owner could arrange a "reserved life estate" with a conservation organization or municipality so that she can continue to live on or farm the property for the rest of her life. Upon the owner's death, the full use and ownership of the property reverts to the organization or town.

A "limited development" option allows a property owner to offer land that has special environmental significance to a conservation group but reserve a portion for development or sale for development. Sometimes this option is chosen when a conservation organization is unable to purchase the entire parcel.

Sometimes a landowner sees his neighbor adopt an innovative conservation arrangement and realizes the same situation will meet his needs. The impetus for land conservation will sometime arise from statutory changes—for example, when Massachusetts first passed the CR statute, a flurry of activity resulted. Similarly, when the IRS clarified tax statutes regarding land donations in the mid-1980s, it generated another wave of land conservation.

Another tool, the Community Preservation Act (CPA), allows municipalities to conserve open space (as well as preserve historic resources and provide additional affordable housing) by enacting a surcharge of not more than 3 percent of the tax levy against real property. Towns must adopt the CPA by ballot referendum. As of this date, 148 communities in Massachusetts have adopted the CPA.

"The CPA has helped communities protect a lot more land than they otherwise would have been able to," says Irene Del Bono, who reviews conservation restrictions for the EEA. "It also has generated gifts from private citizens and companies that see a town close to meeting its [fundraising] goal and decide to step up to the plate."

A landowner who chooses to conserve his land in some way will often realize tax benefits, the size of which will vary. Federal conservation tax incentives reward landowners—in the form of expanded charitable income-tax deductions—for donated and discounted conservation restrictions.

"From a tax-treatment perspective, donations are considered to be all gift, while discounted "bargain" sale transactions are considered to be part gift and part sale," says Bob Wilber, director of Land Protection for Mass Audubon.

Prior to the existence of these federal incentives, landowners could deduct only up to 30 percent of the adjusted gross income and had only six years to "use up" their deductions. They can now deduct up to 50 percent (100 percent for farmers) and have sixteen years to take advantage of it. While this measure was enacted temporarily and renewed several times, it is set to expire December 31 of this year. Efforts are ongoing to make it permanent.

Tax incentives have proven a powerful conservation

tool, as much as tripling the average number of CRs completed in a given year. Wilber says that it is critical that transactions involving the fee interest—the land itself—also be allowed to qualify for these incentives. As it stands now, with CRs being the only interest qualifying for these benefits, the huge volume of CR transactions includes some for which the organizations holding the CRs either don't have the capacity or the commitment to adequately steward these restrictions. Another drawback of this limitation is that sometimes a CR isn't a viable option for protecting a given piece of land but acquisition of the land is.

"Oftentimes the best prescription for protecting the resources present on a given tract is for a conservation organization to own and manage the land rather than having it remain in private hands," says Wilber. "That's why there's a strong push to have fee interest qualify for these expanding federal incentives."

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Intermittent stream in Cobb Woods, Littleton

Adding impetus to the push is the fact that Massachusetts may be at the edge of a potentially massive sell-off of environmentally significant privately held land. E. Heidi Ricci, Mass Audubon senior policy analyst, says that there are approximately 39,000 family forest owners who hold ten or more acres. Half of these landowners are 65 or older.

"We'll be seeing a big turnover in land ownership in the next twenty to twenty-five years," Ricci says. "And many people, when surveyed, just aren't aware of the options available to them, or the alternatives for estate planning. That's why there's a big push on by land trusts to reach out to people."

Over the past four years, $50 million in state funding has been dedicated annually to land conservation. In fact, during that time, some 75,000 acres of land have been preserved and 52 urban parks have been created with the help of this funding.

Despite trying economic times, Massachusetts has continued this financial commitment every year. Getting through the grant process, however, takes time and expertise, and the grant funding may not always be enough to meet a landowner's asking price. Sometimes a local land trust lacks the expertise to structure a deal that meets the goals of both parties. That's when statewide and regional land conservation organizations, such as the Essex County Greenbelt Association (ECGA), can help.

"Collaborations between local and regional land trusts work quite well," says Ed Becker, executive director of ECGA. "The local trusts bring an intimate knowledge of their communities while regionals often provide more experience in structuring deals, and frequently more financial resources. It's a nice synergy."

These kinds of partnerships can result in deals that benefit both the landowner and the conservation groups. Becker calls one such option a "belt-and-suspenders" agreement—an arrangement that splits a conservation restriction between the local and regional trust. Or the regional trust may hold fee interest and the conservation restriction may go to the local trust.

Some arrangements can become quite complicated in order to satisfy all parties. But MacIver advises landowners and trusts to keep things as uncomplicated as possible. He recalls one particularly tortuous conservation project that involved a property owner and his heirs, all of whom had different visions for the property. A long list of restrictions was finally devised, with the local trust spending countless hours accommodating all wishes. What emerged were five major documents, each 40 pages long.

"Simplicity has a lot going for it," MacIver says.

And then there are those deals that produce welcome surprises. Irene Del Bono's favorite story involves a collaborative effort by the Department of Conservation and Recreation (DCR) and locals in which Mount Watatic in central Massachusetts was acquired from a cell tower company. A few years later, a DCR agent was investigating a recently acquired marsh and discovered it harbored a rare dragonfly that requires a high-elevation habitat after emergence. That elevation proved to be the summit of nearby Mount Watatic.

"Without even knowing it," Del Bono says, "we preserved the ability of this endangered dragonfly to complete its life cycle."

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

Origins of the Land Ethic

A thing is right when it tends to preserve the integrity, stability, and beauty of the biotic community. It is wrong when it tends otherwise.

Aldo Leopold (1887-1948)
"The Land Ethic," *A Sand County Almanac*

by Ann Prince

Aldo Leopold's collection of essays, *A Sand County Almanac*, published in 1949, is a culmination of his lifework observing nature, studying land and its relationship with wildlife and human beings, and experimenting with the management and restoration of ecosystems. His close familiarity, profound knowledge, and committed philosophy of nature have had a revolutionary influence on land protection.

A new film, *Green Fire: Aldo Leopold and a Land Ethic for Our Time*, narrates—through those who knew him and many who have followed in his footsteps—a progression of events in his life and the concepts he formulated over time that shaped his thinking. With clarity and magnificent cinematography, the documentary demonstrates the manner in which Leopold contributed to our understanding of the environment, emerging as a luminary in an era when few individuals had such a holistic approach to conservation.

According to William H. Meadows, president of The Wilderness Society, "[Leopold's] land ethic was a philosophical leap."

Aldo Leopold's daughter, ecologist Nina Leopold Bradley, who was in her nineties as the documentary was being filmed, said that it took her father many decades to understand how interwoven human beings are with the land. She expressed her surprise and gratitude that interest in her father, his work, and writings is still growing. The film introduces the viewers to "The Shack" and its surrounding land on the Wisconsin River in Baraboo, Wisconsin. The small rustic dwelling on a peaceful landscape with mature trees and grassland was a dilapidated chicken coop set on eroded virtually lifeless farmland when Leopold bought it in 1935. Leopold and his wife, Estella, and their five children rebuilt the coop with found objects to create a little seasonal refuge and planted nearly 50,000 trees over a quarter-century. "Acts of creation are ordinarily reserved for gods and poets, but humbler folk may cir-

The Shack in 1936, just one year after Aldo Leopold bought it along with 140 acres of "worn-out" farmland on the Wisconsin River, Sauk County, Wisconsin

cumvent this restriction," wrote Leopold. "To plant a pine, for example, one need be neither god nor poet; one need only to own a good shovel."

Today the land is a florid green paradise and unrecognizable from its condition 75 years ago. The Shack and its restored habitat overlook the Wisconsin River and symbolize Leopold's belief system and legacy.

Raised in Burlington, Iowa, Leopold began at an early age to record his observations. At 11 he was monitoring all of the bird nests in his yard, using opera glasses for binoculars. This was the beginning of his phenological record keeping, which he maintained wherever he lived over many decades—first and last blooms, migrating birds' arrivals and departures, tracks of mammals large and small.

As a boy Leopold watched the destruction of land: prairies being plowed up, forests being cut down, and soil erosion on a large scale. He later wrote: "Man always kills the things he loves. And so we pioneers have killed our wilderness."

A great aspiration of Leopold's was to live on the land and not spoil it.

Leopold studied at the Yale Forest School and began his career for the US Forest Service, mapping land and implementing wildland protection, watershed conservation, and wildlife management. Destruction of habitat soon became evident to him as he traveled the countryside. "We abuse land because we regard it as a commodity belonging to us," he wrote. "When we see the land as a community in which we belong, we may begin to use it with love and respect."

Leopold looked for ever more innovative ways to conserve the land and to convince those profiting from its natural resources to treat it with gratitude and responsibility.

Green Fire focuses on the direction and purpose of his work—and his uncompromising conviction that it is essential to address human-land relationships as well as all elements of an ecosystem: soils, waters, plants, and animals. He concluded that understanding, not control, must be the goal when managing a biotic system.

Leopold founded and chaired the first wildlife management department in the country in the 1930s and '40s. Game Management 118 required no textbooks, only binoculars and field attire and a classroom that consisted of the nearby fields, swamps, and woods. As had Leopold, the students learned by direct interaction with nature and observation of wildlife. The students he taught, and each of his five children (all of whom became professional scientists and ecologists) were just one portion, albeit significant, of his legacy toward an earth ethic.

The film's title, *Green Fire*, refers to an encounter that Aldo Leopold had with a dying wolf early in his career. At the time he and his coworkers killed predators, thinking that would leave more deer and other prey for hunters. The "fierce green fire dying in her eyes" that he witnessed as the wolf perished made a lasting impression on him. Only many years later did he fully understand that the green fire represented all that is wild and must be saved for a healthy biosphere.

"Only the mountain has lived long enough to listen objectively to the howl of a wolf," he wrote. If we can heed Leopold's words, perhaps we too can "think like a mountain."

Ann Prince is associate editor of Sanctuary *magazine.*

The Shack in the present day and its adjoining property, which was restored as a vibrant landscape of conifers, hardwoods, and prairie by the Leopold family

To learn more go to: www.aldoleopold.org/greenfire.

Notes From the Real World

Strictly Off-limits

by Chris Leahy

The distinguished Russian ornithologist I had arranged to meet at the Hotel Rossiya just off Red Square was not what I had expected. Defying the image of the jowly unsmiling Soviet bureaucrat in a bad suit familiar from Cold War television news footage, Vladimir Flint was cut in the Scandinavian mode—tall, fair, and handsome. He wore well-tailored tweeds and an expression of suppressed humor, as if acknowledging a shared forbidden joke. Nevertheless, our first meeting in Brezhnev-era Moscow began with a scene from a third-rate spy movie.

As I opened the door of my room, Professor Flint brushed past me with barely a nod and went directly into the bathroom. Emerging with a towel, he took a chair from the writing desk, climbed onto it, and stuffed the towel around the overhead light fixture (and presumed microphone). He then climbed down, offered his hand, broadened his little smile just slightly, and in impeccable English said something like: "I am Vladimir Flint. Now we can talk."

Over the next few years, as I traveled around the USSR, this kind of contradiction—living stereotypes of the communist system (mostly unpleasant) constantly collided with much more sympathetic realities of Russian life unsuspected by most people in the West. That a naturalist and tour leader employed by the

Altai Mountains, Siberia, UNESCO World Heritage Site

Massachusetts Audubon Society should find himself visiting the remotest corners of the Soviet Union (too intriguing!) is best explained by the conjunction of two phenomena. By the late 1970s, Mass Audubon had established itself as a successful pioneer of what is now known as ecotourism and had developed high-quality natural history travel programs involving hundreds of clients in many of the world's great wilderness areas. At the same time, the declining Soviet economy was starved for capital and was looking for any means of acquiring high-value western currencies.

As a not-for-profit, Mass Audubon was presumed not to be harboring unwholesome capitalistic motives, and yet held out a promise of delivering much-needed tourist dollars to the struggling superpower. We were invited to be among the first westerners to explore the USSR's extraordinary system of strictly protected nature reserves and to assess their potential to accommodate birdwatchers and other nature lovers.

Extraordinary system of nature reserves? In Russia?

I was as surprised as anyone—and skeptical. What little news Americans heard about the Soviet environment in those days involved devastating pollution resulting from unbridled industrial development. But at that first meeting, Professor Flint unrolled a large map and explained the history of the *zapovedniki*.

The usual translation of *zapovednik* today is "scientific nature reserve," but this captures little of either the spirit or the function of these protected lands. The word carries a sense of sacred lands, national heritage, and perpetual protection from disturbance. In concept, a zapovednik should be of landscape dimensions, encompassing entire ecosystems so that, no matter what happens upstream or in the next mountain range, the ecological integrity of the reserve will not be compromised. This means of course that zapovedniki tend to be expansive—often exceeding 1,000 square miles in area, with the largest exceeding 16,000 square miles in the Russian Arctic.

The truly unique aspect of these strictly protected areas, however, and the one least likely to appeal to the American mind-set, is the virtual exclusion of people. Only scientists, naturalists, rangers, and such staff as might be required to manage the modest field stations and help the researchers with their work were permitted access to these pristine samples of Palearctic paradise. And the "strictly" part of the prohibition of access to ordinary comrades was no joke: the rangers were armed.

This exclusion of the Soviet public from what legally became the people's land after 1918 is of course a philosophy close to the opposite of that followed by the founders of the national park and national wildlife refuge systems in the United States. And for Americans thoroughly schooled in anticommunism, the zapovednik system would seem merely typical of the autocratic deeply repressive regime. In fact, however, the concept of creating vast, undisturbed, strictly protected reserves arose toward the end of the czarist era. It was based on concepts of biological conservation that were ahead of their time; and, from the perspective of a 21st-century world still struggling to strike a workable balance between protecting the natural world and meeting the needs and desires of a still-increasing and ever-more-prosperous human population, it deserves a measure of understanding and respect.

The man usually credited as the founding genius of the zapovednik concept was a soil biologist, V.V. Dokuchaev. His core idea was that the reserves were in essence ecosystem-scale control plots that, once thoroughly studied, could be used to measure ecological change as the rest of the landscape was settled and used for extraction of resources. The first reserves were set up in the 1890s in the Russian steppes, which were rapidly falling to the plough, their native grazers hunted to near extinction around the same time that the American prairies were being converted to agriculture and the bison herds decimated. Around 1910, I.P. Borodin, director of the recently established Bureau of Applied Botany, lobbied for the creation of a system of zapovedniki across Russia, encompassing every natural biological community in the country.

Perhaps the most surprising chapter in zapovednik history chronicles the critical involvement of V.I. Lenin in the broad implementation of the system. By all accounts Lenin had a strong commitment to conserving Russia's natural heritage, and in 1921 he signed sweeping legislation officially establishing the zapovednik system. The same comprehensive environmental legislation created a system of national parks, hunting reserves, and natural monuments with varying degrees of protection and providing recreational access to complement the exclusivity of the zapovedniki. The park system even foresaw the rapid expansion of cities in the rush to modernization and established urban parks and greenways, many of which are maintained to this day. Of course, it cannot be overemphasized that protection at the stroke of a pen of tens of thousands of square miles of tundra, forest, and steppe was greatly facilitated by the nationalization of private property following the Bolshevik Revolution that brought Lenin to power. It was undoubtedly the greatest conservation "taking" of all time.

No one—including the dozens of scientists and naturalists who I was privileged to meet during my peregrinations around wildest Russia—would claim that the zapovednik system, much less environmental protection in the USSR as a whole, has been an unalloyed success. Just as in the US, shifting political winds, economic pressures, and, since Perestroika, popular movements in Russia have at times favored expanding and strengthening conservation measures and at other times conspired to erode them.

The horror stories reported in the West about pollution of every conceivable form pale against the full reality. And in the frantic shift to a market economy in the 1990s, government salaries for zapovednik workers dried up, many rangers were forced to leave their posts,

and some of the irreplaceable biological treasure contained in the great reserves was converted from natural heritage to "resources" by poachers and newly minted capitalists.

Remarkably, however, the zapovednik system has remained largely intact and operating much as it was intended to do from its inception.

Many of the scientists, naturalists, and rangers remained fiercely protective of the magnificent refuges that in many cases had been their homes through several generations and fought off the desecrators and profit seekers despite personal impoverishment. More surprising perhaps, a great many citizens of the Russian Federation, far from resenting the fact that they were shut out of some of their most spectacular landscapes, understood the value of strictly protected land and in some cases raised funds to support the zapovednik system and even to create new reserves.

It would be impossible to replicate a zapovednik system in today's world, so pervasive is human disturbance over the face of the planet and so resistant are nations to "locking up resources" in the face of their rapid depletion. As testament to their uniqueness, many have become World Heritage Sites or Biosphere Reserves. And while one can with justification condemn the manner of their creation, the zapovedniki have become not simply monitoring sites for the benefit of Russian agriculture but the greatest collection of undisturbed natural landscapes on earth—where the worst of humanity's matricidal urges must be checked at the gate.

Chris Leahy holds the Gerard A. Bertrand Chair of Natural History and Field Ornithology at Mass Audubon.

Poetry

Edited by Wendy Drexler

Tundra swan

Morning, Jamaica Pond

by Suzanne E. Berger

The swan is a white star drifting
across the onyx pond,
the phosphorescent neck
curving between the black altitudes of trees,
in the held silence of balance:
bird in the shroud and bunting of water.

On the roadway, drivers stare from their
bright wild cars,
glassed inside their confused galaxies,
as this one white piece
falls into place, so silently,
this swan
gathering no speed at all,

in the low firmament of the pond.

Suzanne E. Berger is the author of two volumes of poetry, *Legacies* (Alice James Books) and *These Rooms* (Penmaen Press). She teaches poetry writing at Lesley University.

First Things

by Holly Zeeb

I unwrap the garden
from its thick covering
of salt marsh.
Like shrugged-off clothes
the hay falls in clumps on the hill.
Air—a silk scarf—mingles
wind chimes with children's voices
wafting from the brook below.
Under the strokes of my rake
the soil tingles as I rub
the tired, naked back of winter.
In the promising light
my body settles in
to its rhythmic chore—
a mutual awakening
of sleepers.

Holly Zeeb's chapbook, *White Sky Raining: Poems of Memory and Loss*, will be published in early 2012 by Finishing Line Press.

The Political Landscape

The Zoning Reform Bill

by Christina McDermott and Heidi Ricci

In many ways, Massachusetts is a leader. We have the first constitution, we started the American Revolution, and our clam chowder can't be beat. However, one way that we fall behind is in how we manage land use and development. Although many of our environmental laws are precedent setting, including the recently enacted first-in-the-nation law to zone Massachusetts ocean waters, when it comes to land-use regulation we have some of the most confusing laws in the country—laws that work against the interests of communities, developers, the environment, and the economy.

Zoning is a planning technique used by local governments, and enabled by state statute, to designate different types of land uses. Typically, zones are mapped to separate incompatible areas. Examples of land use zones are agricultural, commercial, industrial, residential, and mixed residential-commercial. Zoning and subdivision rules control many aspects of development, including the height of buildings, land area required, setbacks, road design, and drainage.

Massachusetts has some of the weakest and most outdated land use laws in the country. The state laws that set the framework for local planning and zoning are often unclear or deprive cities and towns of authority. There are three main aspects of state law that need to be changed: there must be consistency between master planning efforts and their supporting local zoning laws; the current rubber-stamping of subdivisions with road frontage, called Approval Not Required, or ANR, must be stopped; and grandfathering provisions must be tightened.

Oftentimes, local zoning bylaws are outdated and don't support forward-thinking master planning efforts. For example, many communities do not allow for smaller residential building lots or conservation subdivision design despite master plans seeking to cluster development and protect open space.

Another issue is subdivisions of land on existing roads through the ANR process. If a parcel of land has access to an existing road along a required minimum length, it is exempted from subdivision control law. The planning board must automatically approve ANRs, and does not get to weigh in on important issues such as driveway placement or drainage, as it does when dealing with a subdivision plan creating new roads. Grandfathering limits the ability of communities to update their standards for development by allowing development to proceed under the previous requirements for up to eight years after the community changes the zoning.

Mass Audubon and our partners have been working on legislation that would address these issues. Known as the Zoning Reform Bill, it is the first major updating of the Commonwealth's planning/zoning and subdivision control laws in over 35 and 50 years, respectively. Mass Audubon worked with the Patrick administration on its zoning working group. The bill would encourage communities to adopt or update their local master plans and give them tools for implementing land use regulations consistent with those plans, while eliminating restrictions on "smarter growth." It would support the application of new strategies such as natural resource protection zoning and provide communities with incentives to plan according to state sustainable development principles. The bill would consolidate and reorganize the current laws, making it easier for cities and towns to move forward with smart sustainable projects. The new legislation would also help developers receive prompter decisions and offer more zoning and permitting consistency across the state.

So once communities are given the proper zoning tools, what should they do with them? According to Mass Audubon's 2009 *Losing Ground IV,* Massachusetts is actually protecting more land today than we are developing. Great news, but we still have a long way to go. Houses being built today are bigger and more energy intensive than ever, and many rural communities and watershed areas are threatened by sprawling patterns of development.

Extensive areas of many communities are zoned for lot sizes of one acre or more. This promotes sprawl that consumes and fragments large tracts of land. Wildlife habitat and other open space are taken over by lawns and driveways, and conventional subdivision zoning leaves little room for flexibility. Alternatives are available to place development on land most able to support it while protecting areas with high natural resource values. The proposed reforms would promote wider adoption of such options.

Smarter zoning means a better quality of living for people and wildlife. We have the tools; let's use them to build a future that can sustain us.

Heidi Ricci is senior policy analyst in Mass Audubon's Advocacy Department, with 25 years of experience advancing the protection of forests and water resources across Massachusetts.

Christina McDermott is assistant to the director of Public Policy and Government Relations.

Birding Programs

BERKSHIRE SANCTUARIES
Lenox, 413-637-0320
Birding the Massachusetts South Coast
December 3—8 a.m.-7 p.m.

BROAD MEADOW BROOK
Worcester, 508-753-6087
Owl Prowl
January 21—6:30-8:30 p.m.

BROADMOOR
South Natick, 508-655-2296
Full Moon Owl Prowl
January 6—7:30-9 p.m.
Preregistration required

CONNECTICUT RIVER VALLEY
Easthampton, 413-584-3009
Winter Crows
February 5—2-6 p.m.

IPSWICH RIVER
Topsfield, 978-887-9264
Birderwatcher's Getaway for the Day Winter Series
January through April—once a month on Fridays
Eagles & Owls
January 8—8 a.m.-noon
February 5—8 a.m.-noon

JOPPA FLATS
Newburyport, 978-462-9998
Wednesday-Morning Birding
Every Wednesday—9:30 a.m.-12:30 p.m.
Gulls Workshop
January 13 and 14

OAK KNOLL
Attleboro, 508-223-3060
Owl Prowl
January 20—7-8:30 p.m.

SOUTH SHORE
Marshfield, 781-837-9400
Introduction to Birding Cohasset: The Other Entrance to Wompatuck
December 3—8-10 a.m.
Introduction to Birding Plymouth: South Plymouth's Ponds
December 17—8-10 a.m.

WACHUSETT MEADOW
Princeton, 978-464-2712
Owl Prowl
February 18—5-7 p.m.

WELLFLEET BAY
South Wellfleet, 508-349-2615
Birding Cape Cod
January through March—Fridays—9 a.m.–noon

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.

Family Programs

BERKSHIRE SANCTUARIES
Lenox, 413-637-0320
Bird Banding Demonstration
November 19, December 10, and January 14—10 a.m.-noon

BROAD MEADOW BROOK
Worcester, 508-753-6087
Holiday Nature Crafts Open House
December 10—1-4 p.m.

BROADMOOR
South Natick, 508-655-2296
Owl Prowl for All Ages
December 17—4:30-6 p.m.
Preregistration required

CONNECTICUT RIVER VALLEY
Easthampton, 413-584-3009
Owl Moon
January 28—5-7 p.m.

DRUMLIN FARM
Lincoln, 781-259-2206
The Gingerbread Man
December 8—3:30-5 p.m.
Sap-to-Syrup Pancake Breakfast
March 17 and 18

HABITAT
Belmont, 617-489-5050
Winter Solstice Celebration
December 17—1-3 p.m.

IPSWICH RIVER
Topsfield, 978-887-9264
Big Woods Hike
November 20—two-hour guided hikes starting every 15 minutes from noon-1:30 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.*
Winter Shelters: *December 29—1-2:30 p.m.*

JOPPA FLATS
Newburyport, 978-462-9998
Merrimack River Eagle Festival
February 11—8:30 a.m.-4 p.m.

MOOSE HILL
Sharon, 781-784-5691
Tap a Tree
March 5—1:30-2:30 p.m.

OAK KNOLL
Attleboro, 508-223-3060
Vernal Pool Night Hike
March 16—7-8:30 p.m.

WACHUSETT MEADOW
Princeton, 978-464-2712
Winter Open House
January 21—1-4 p.m.
Snow date: January 22—1-4 p.m.

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.

Already dreaming about camp next year?

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With 17 day camps from the Berkshires to the Cape and Islands, and Wildwood, Mass Audubon's overnight camp

wildwood

there's something for everyone. Information on summer 2012 will be available in January on our website www.massaudubon.org/camps.

MAPLE SUGARING PROGRAMS

HABITAT
Belmont, 617-489-5050
Sugaring Celebration
March 17—1-3 p.m.

IPSWICH RIVER
Topsfield, 978-887-9264
Weekend Sugaring Tours
March 3, 4, 10, 11, 17, 18—10 a.m., 12:30, and 2:30 p.m.
School & Scout Group Tours
February 14-17, February 28-March 2, and March 6-9

February Flapjack Fling
Breakfast Times: *February 25—8:15, 9, 10:15, and 11 a.m.*
Tour Times:
February 25—9, 10, 11 a.m., and noon

MOOSE HILL
Sharon, 781-784-5691
Maple Sugaring Festival
March 11, 17, 18—11 a.m.-3 p.m.; tours every 15 minutes

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.

SCHOOL VACATION WEEK PROGRAMS

BOSTON NATURE CENTER
Mattapan, 617-983-8500
February Vacation Week
February 21-24

BROAD MEADOW BROOK
Worcester, 508-753-6087
February School Vacation Week
Feb 20-24—9 a.m.-3 p.m.

BROADMOOR
South Natick, 508-655-2296
February School Vacation Week
February 21-24—9 a.m.-3 p.m.
Preregistration required

CONNECTICUT RIVER VALLEY
Easthampton, 413-584-3009
February Vacation Days
February 21-24—9 a.m.-3 p.m.

DRUMLIN FARM
Lincoln, 781-259-2206
February School Vacation Week
February 20-24
For children in 4th through 8th grade

HABITAT
Belmont, 617-489-5050
February School Vacation Week
Tremendous Trees:
February 21—9 a.m.-3:30 p.m.
Incredible Insects:
February 22—9 a.m.-3:30 p.m.
Snow Science:
February 23—9 a.m.-3:30 p.m.
Predator or Prey:
February 24—9 a.m.-3:30 p.m.
For children in grades K-3
Adventurers:
February 21-24—9 a.m.-3:30 p.m.
For children in grades 4-6
March Exploration Week
Tremendous Trees:
March 20—9 a.m.-3 p.m.
Incredible Insects:
March 21—9 a.m.-3 p.m.
Snow Science:
March 22—9 a.m.-3 p.m.
Predator or Prey:
March 23—9 a.m.-3 p.m.
Finding Your Way:
March 24—9 a.m.-3 p.m.
For children in grades K-5

IPSWICH RIVER
Topsfield, 978-887-9264
February Vacation Adventure Days
February 21-24

OAK KNOLL
Attleboro, 508-223-3060
School Vacation Week
CSI Oak Knoll, Nature Detectives:
February 21
Making Tracks: *February 23—9 a.m.-3 p.m.*

SOUTH SHORE
Marshfield, 781-837-9400
School Vacation Week
February 21-24

WACHUSETT MEADOW
Princeton, 978-464-2712
February School Vacation Days
February 21-24—9 a.m.-3 p.m.
For children ages 5-11

WELLFLEET BAY
South Wellfleet, 508-349-2615
Vacation Week Programs
Kid Adventures: *December 28–30*
Kid Adventures: *February 20–24*

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

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US TOURS

Gay Head to Chappaquiddick—
A Martha's Vineyard Weekend: January 13-15
Cosponsored by Drumlin Farm
For more information, contact
Ipswich River Wildlife Sanctuary, 978-887-9264

South Texas Rarities: February 24-March 2
For more information, contact Drumlin Farm, 781-259-2206

Death Valley and Mojave—
Photography and Natural History:
March 10-17, with Bob Speare and John Green

Birding the Lower Rio Grande Valley
and South Texas Coast:
March 11-19, with René Laubach and Doug Williams
For more information, contact Berkshire Sanctuaries, 413-637-0320

New Mexico—Rio Grande Lowlands to
Rocky Mountain Highlands: April 25-May 3, 2012,
with René Laubach and Bob Speare
For more information, contact Berkshire Sanctuaries, 413-637-0320

Southeast Arizona—Where Hummingbirds Abound:
April 27-May 4, with Carol Decker and Scott Santino
For more information, contact
Ipswich River Wildlife Sanctuary, 978-887-9264

Pacific Northwest Birding: June 4-15, with Wayne Petersen

INTERNATIONAL TOURS

Amazon Riverboat Exploration in Peru:
January 27-February 5, with Christine Turnbull

Tanzania Birding: February 2-14, with Wayne Petersen

Ecuador—Birding the Andes and Amazon:
February 27-March 11, with Dave Larson

Honduras—Copan and Cotingas:
March 1-9, with Bill Gette

Peru Tambopata and Amazon Birds:
March 1-11, with Elissa Landre

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

Galápagos Adventure: April 13-22, with Gary Clayton

Belize Teen Adventure: April 15-21, with Bob Speare

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Email: Travel@massaudubon.org

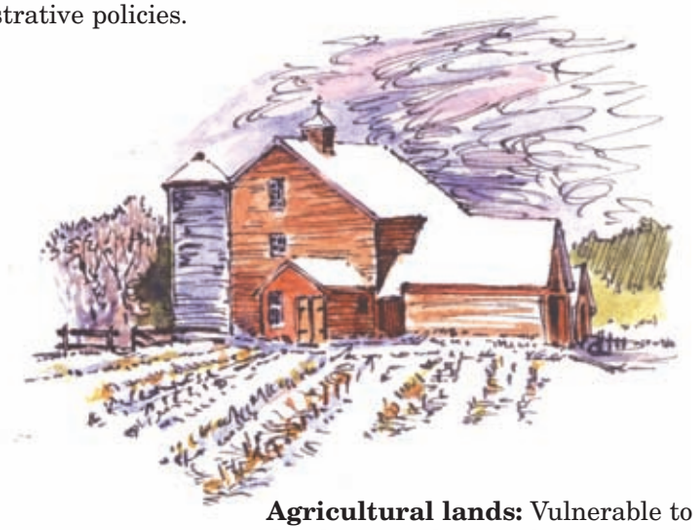
Curious Naturalist

Protected Lands

Illustrated by Gordon Morrison

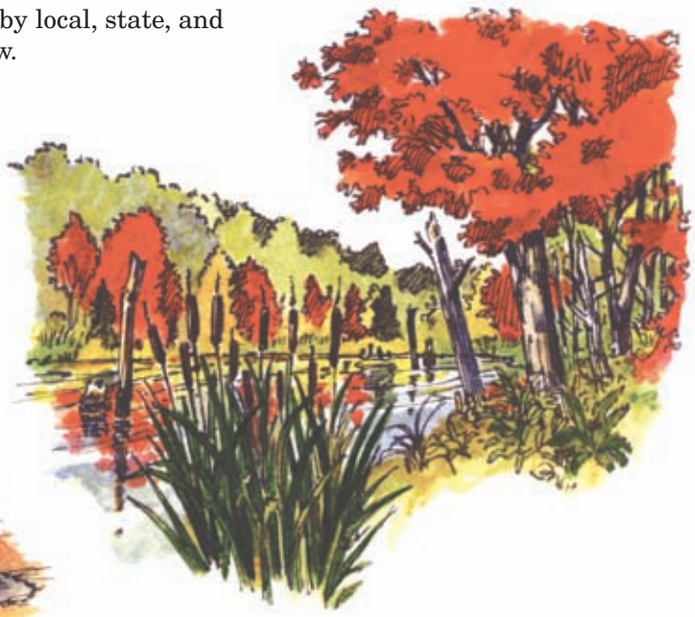
While a vast amount of land in Massachusetts is private property, a range of different habitats are now protected through a variety of sometimes hard-won legal restrictions, tax breaks, general laws, and regulations. Over 1.2 million acres are conserved in the state through public and private efforts. Below are a few examples.

Old-growth forests: Protected by state administrative policies.



Agricultural lands: Vulnerable to development, but can be protected by deeds, state programs, and local conservation agencies.

Wetlands: Salt marshes and other coastal wetlands are protected by local, state, and federal law.



Vernal pools: Some are protected, but critical upland habitat around them is not.

Swamps, or treed wetlands, and freshwater grassy marshes are both protected.

Massachusetts Audubon Society
South Great Road
Lincoln, MA 01773

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Outdoor Almanac Fall/Winter 2011-2012

November 2011

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

November 18 Crickets collect under old boards and loose stones.

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

November 25 New moon.

November 26 Milkweed pods are still bursting; watch the fields for drifts of seeds.

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

December 2011

December 6 Bluebirds and robins feed on Virginia creeper berries.

December 7 Look for the small yellow flowers of witch hazel in woodlands.

December 10 Full moon. The Cold Moon.

December 13 Hibernating mammals have disappeared by this date. Chipmunks, skunks, opossums, and raccoons may still be abroad.

December 20 Check inside the woolly leaves of mullein for sheltering insects.

December 22 Winter solstice.

December 24 New moon.

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

January 2012

January 1 Begin the New Year with a winter walk.

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

January 9 Full moon. The Ice Moon.

January 12 Look for the bright stems of red-osier dogwood along stone walls.

January 14 Look for stoneflies basking on exposed rocks near running water.

January 18 Watch for fox and bobcat tracks.

January 23 New moon.

January 27 Great horned owls begin to nest about this time. Listen for their hooting from deeper woods.

February 2012

February 2 Groundhog Day.

February 7 Full moon. The Hunger Moon.

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

February 17 Titmice and chickadees sing their spring songs; starlings begin their whistling.

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

February 21 New moon.

February 23 Purple finches begin singing their spring songs.

February 25 Maple sap begins running. Watch for little icicles at the tips of sugar maple twigs.

February 29 Leap day; skunk cabbage sprouts in swamps.

March 2012

March 5 Watch for mourning cloak butterflies.

March 7 Look out for salamanders crossing roads on the first warm rainy nights.

March 8 Full moon. The Windy Moon.