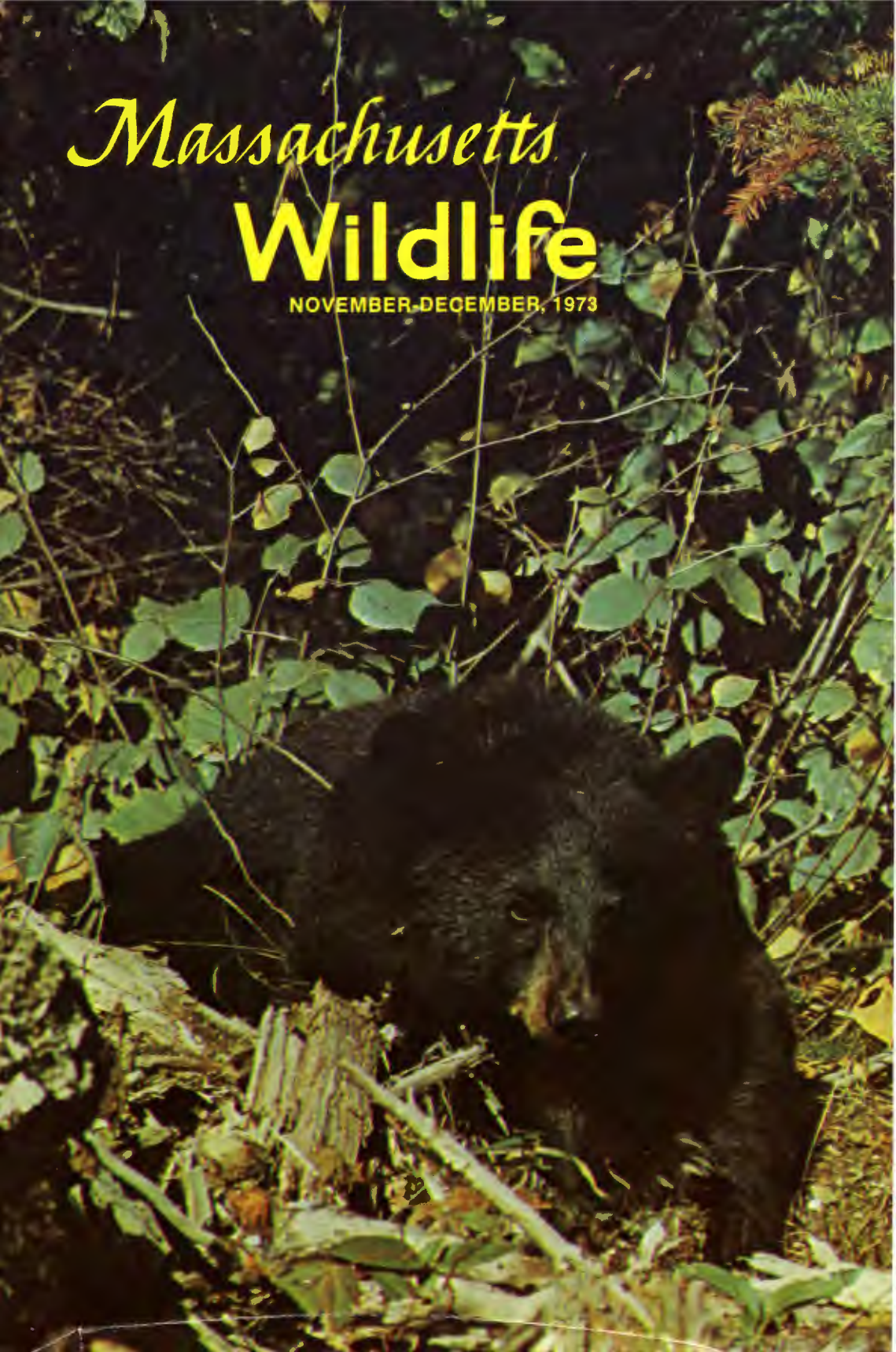
Massachusetts Wildlife

NOVEMBER-DECEMBER, 1973



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NOVEMBER-DECEMBER, 1973 **VOL. XXIV NO. 6**

IN THIS ISSUE

THE COVER: Once nearly extirpated in Massachusetts, the black bear is presently making a startling comeback, and the Fish and Game Division has taken some important steps in the management of this "new" resource. Story on page 10. (photo by Jack Swedberg)

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THOREAU'S OTHER MESSAGE

IN this issue our lead article delves into the character of a man who, perhaps as much as any other American, has helped mold our environmental ethic. Thoreau, like his protegé Aldo Leopold, had the unique ability to write about nature with a scientist's precision and a poet's sensitivity.

Yet today Thoreau is better remembered for his role as social reformer than for his role as poet-naturalist. As America braces herself for re-entry into the real world of finite resources it seems particularly appropriate to review a few of the timeless recommendations on the economy of living made by this master in the art of life.

Thoreau could not have known to what extent his dual roles would be connected 111 years after his death. The wide-ranging resource shortage that America faces today — on which we have bestowed the incomplete label "Energy Crisis" — is very much the business of environmentalists, sportsmen, and fish and wildlife managers; indeed, it is the crucial business of every person with the sense to worry about the environment that supports him. If these folks have been harping on the subject of late it is because everything man takes from the earth must be taken with the knowledge that the life systems Earth supports will inevitably be affected.

For the sake of *word* economy, let's limit our discussion to the energy part of the resource crisis. When we squander energy, that means that we must obtain more energy, and when we obtain more energy, that means we must: 1. drill for oil off our coast which — regardless of how many environmental safeguards are developed — increases the danger of more oil spills and resulting environmental catastrophes like the one experienced at Santa Barbara; 2. strip-mine coal, a practice that has resulted in the actual *removal* of vast areas of land together with every bit of flora and fauna they supported, and the severe acid pollution of surrounding watersheds; 3. build more nuclear power plants with their constant thermal and radiation discharge and the chilling threat of serious malfunction; 4. build more air-polluting fossil-fuel plants like "Four Corners"; and 5. mine oil shale which promises all the nasty symptoms of strip-mining together with Lord knows what else.

We could continue, but the point is this: energy conservation is in the best interests of America from both a social and environmental point of view (if one insists on separating the two).

Thoreau, who devoted a considerable portion of his short life to scolding 19th-century society for its complicated living habits, wouldn't know where to begin today. "The luxuriously rich," he observed, "are not simply kept comfortably warm, but unnaturally hot; they are cooked, of course a la mode."

Having built his sturdy 10- by 15-foot Walden house, plastering the walls for heat economy and installing a wood stove that, with three or four sticks, could bring the temperature up to 65° in 20 minutes on a chill winter morning, he wrote the following: ". . . If one designs to construct a dwelling-house, it behooves him to exercise a little Yankee shrewdness . . ."

Like the improvident grasshopper we have fiddled into midwinter. One hopes that our enlightenment will not be too harsh, but, before spring, Thoreau's appeal for simplicity may begin to make very good sense to all of us.

James M. Shepard, *Director*

Walden, *Then and Now*

by Ted Williams

Photography by Jack Swedberg

HAVING severed my emotional ties with perch, pickerel and pumpkinseeds, possessing only a hardware-store fly rod, machined Japanese flies and an uncertain, Liza-Doolittlish aptitude for proper trout talk schooled into me by elder salmonid snobs, I trundled a metal canoe out to Walden Pond on opening day, 1963.

Thoreau was then just one more accomplice in the weekly conspiracy to sabotage Saturday fishing, but this weekend I'd slipped away, leaving Henry's works unopened under a desk draped with tangled leaders. I was to discover later that, if he'd known about it, he would have congratulated me for my truancy.

Had he shared a seat in the canoe with me that April morning he might have palled and politely suggested that we repair to the Concord River where we could, with some certainty, beguile a score of chivins. I don't think, though, that he would have been shocked. He was too perceptive not to have seen it coming. Even when he lived beside Walden from July 4, 1845 to September 6, 1847 in the sturdy little house he built for himself back from the north bank, the watershed was in the midst of violent change. The year before, the Fitchburg Railroad had gouged its way along the southwest shore, gobbling chestnut trees for ties. His wanderlust will excuse his occasional fits of romanticism in describing such wilderness-wrecking innovations as the railroad and telegraph. More frequently he would lapse into somewhat cranky mutterings: ". . . I cross [the railroad] like a cart-path in the woods. I will not have my eyes put out and my ears spoiled by its smoke and steam and hissing." ". . . the woodchoppers have laid bare first this shore and then that, and the Irish have built their sties by it, and the railroad has infringed on its border . . ." And Thoreau speaks wistfully of the old days on the pond "when it was dark with surrounding forests . . ." and ". . . all alive with ducks and other water-fowl, and . . . there were many eagles about it."

Above: painting of Thoreau as a young man.

Opening days at Walden Pond, essential ingredients in my later betrothment to

We who have inherited Thoreau's pond have squandered the treasure that he found there, and it is a matter of national pride that we recover at least a part of it.

small-brook fishing, are busy affairs where each of roughly 4,000 anglers retreats to his little corner of the 60-acre kettle hole for a few hours of "quiet desperation" and, very likely, several "grunt-in'-sized" rainbow trout. I participated contentedly enough, with an innocence born of suburban living. With numb knee wedged against rod butt, I threaded through an armada of rubber rafts, rowboats and canoes, taking care not to come closer than a cast-and-a-half to the shore brigade strung around the pond as tight as Christmas-tree popcorn.

My reading of *Walden* had been casual to say the least, but I had gleaned enough to know that when H.D.T. used to pick up his cane and go "a-fishing" he was seeking something in addition to fish, and, while the fish were there in abundance in 1963, that "something" had decidedly vanished.

It wasn't the fishermen's fault of course; it was just a symptom of the age they lived in. Fishermen, to their lasting credit, do not gravitate toward cement. This, together with the fact that I must count myself among them, makes me much more kindly disposed to angling crowds than to, say, bathing crowds. On a "good" Saturday or Sunday, acknowledges Reservation Superintendent Joe Lenox, 20,000 people come to Walden. In warm weather many gather on the beach, often overflowing into theoretically forbidden Thoreau Cove. While individually they may all be delightful souls, collectively they are a howling, uncontrollable whirlwind of humanity replete with barking, fighting dogs, shrieking children and motorcycles, and loud radios. One good thing about people, however, is that if you wait long enough they will always go away. Cement, on the other hand, is distressingly permanent.

Walden's eastern shore is a study in cement. Bathers are accommodated, on the waterfront, by two immense cement bathhouses fashioned after Normandy shore implacements and sandwiching an even more immense cement maintenance building. In addition to such prankish inscriptions as "Somerville is terrific," the dazzling white walls bear these captions in large black letters — **"MEN," "WOMEN," "TOILETS."** From the wide cement pier the buildings rise like fangs from the pine-needled earth. Cement walks lace the hillside, cement ramps with wide cement steps wind off to parking lots, cement walls line the shore. The County, who awarded the contract for the lavish complex when it took over the reservation in 1922, has been periodically scolded by Thoreauvians for "overdoing it a bit." And there is currently a growing desire within the County-appointed Walden Advisory Council to swap a removable wooden pier for the cement one, remove the buildings from the beach, and, if necessary, construct more modest and harmonious facilities on the other side of Route 126.

It is indeed tragic that pilgrims to this national historical shrine must have their expectations so rudely doused in the tawdry cheapness of the 20th century. Yet, despite the crowds and the cement, Walden in 1973 is in far better shape than many equally beautiful ponds that were not blessed with an eloquent bard to sing their glories to America. White Pond in Concord — one of Thoreau's favorite but little-publicized retreats, a miniature Walden in almost every respect — is today irretrievably house-bound.

Walden's water is about as pure today as it ever was. If you walk clockwise around the shore, a point mercifully blots the beach complex from sight and for a moment, if you shut out the groan of the big trucks on Route 2 and don't look down at the raw, foot-broken banks bleeding dirt off into the pond, you can almost imagine yourself back with Thoreau in the 1840's.

Nearly everyone involved with Walden now agrees that something has to be done to control its use. Superintendent Lenox has received letters from as far away as California, written by earnest seekers of solitude eager to learn the going rates for shore lots and second-row shore lots. He has no doubt that if the County were suddenly to toss Walden into the slathering jaws of the developers, the pond would be promptly ringed with cottages ten rows deep. People will wallow in wilderness, like elephants in a shallow water hole, until nothing remains but dust.

Left: three views of the beach complex. Bottom right: Walden from the path, walking clockwise from the beach. There is plenty left worth saving.

"Walden is overused and worn to death by the very people who like it most," laments Mary McGrath, Curator of the Thoreau Lyceum in Concord.

Roland Wells Robbins, the archaeologist who in 1945 tracked down the site of Thoreau's house and discovered its remains, is active in the Walden Pond Restoration Committee (an arm of the Council), a board member and former president of the Thoreau Society and a trustee of the Thoreau Lyceum; he pulls no punches in discussing the problem.

"We've had 50 years of undiscipline," he says. "It's not a question of just stopping; it's a question of going back. Walden must be *restored*.

"The worst problem is erosion. I walked around the pond with a Sierra Club bunch the other day and it was just awful! I couldn't believe it."

Last July 4, the anniversary of the day Thoreau set up housekeeping, Robbins visited Walden.

"It was terrible, just like Coney Island," he fumes, "people packed into Thoreau Cove, motorcycles revving up in the water, dogs fighting. I couldn't find a security guard."

Superintendent Lenox has a reputation for being tough with seasonal employees. And for this he is often disliked by those who have determined not to work. Although the County backs him up on every personnel decision, it is often difficult and frustrating for one to direct the activities of an individual who, if displeased with your direction, will threaten to sick his rep on you.

Joe is especially frustrated by the lack of adequate police protection and feels that if he had it half the County's troubles would be over.

"This is 1973," he says with a resigned shrug, "and who are you going to get to prowl around the Walden woods at 3:00 A.M. for $2.50 an hour? Would you do it?"

Even the most ardent environmentalists and dogmatic Thoreauvians in the Council would hate to see an admittance fee, for, not only would it fly in the face of Thoreau's freedom ethic, it would defy the stipulation made by the descendents of Ralph Waldo Emerson when they gave the land to the County 50 years ago.

One proposal that appeals to many, in-

cluding McGrath, Lenox and Robbins, is the rerouting of Route 126 to the back of the trailer park (built around the turn of the century when an equally unsightly pavilion by the railroad bed was being torn down). There is currently uncontrolled access from Routes 126 and 2, but under the new plan there would be no parking along Route 2 with a buffer zone between it and Walden; and access from Route 126 would be carefully monitored. When parking lots were full, cars would be admitted garage-style, one in for each one out.

To repair the shocking bank erosion, the Walden Restoration Committee has hired R.A. Gardner Associates of Cambridge, highly respected landscape architects. Bruce Tsuchida, one of the firm's planners handling the case, points out that bank stabilization will be difficult and expensive but, by all means, possible.

Steep banks of loose glacial till are literally falling into the pond, held back here and there by railroad-tie buttresses which sadly resemble stairways and are frequently used as such. The worst areas might be planted in such natural "no trespassing" signs as horse brier so that earth-retaining plants might have a chance to get a grip on things. Tsuchida is currently compiling a list of local flora so that the plants used for the job will: 1. grow well; and 2. preserve something of an authenticity.

One sticky problem the firm faces is restoration of the area to the right of the regular swimming beach where, in 1957, the County began a $50,000 project in which another bathhouse was to be constructed and a new beach and road carved out of the wooded shore as the first in a 15-year program of similar "improvements." Although a worldwide outcry was raised and the hastily-organized "Save Walden Committee" succeeded in obtaining a cease-and-desist order, a significant amount of damage was done and the reclamation ordered by the court was never properly carried out. The loss to heavy machinery of at least 125 large trees has resulted in some of the worst bank erosion on the pond's two-mile perimeter.

Very likely our trumpeted technological advances would not surprise Thoreau so much as the drastic reordering of natural balances that has occurred since he knew Walden. Of course he would groan at the general scarcity of fish and wildlife due to widespread habitat destruction, but his possible reaction to some of the other changes are fun to speculate on.

Deer were almost unheard of in Concord during Thoreau's time; if he wanted to see one he had to go to Maine or New Hampshire. Now they are seen regularly in the new forests that cover the old farms. Thoreau would have toasted sportsmen for their self-imposed harvest regulations that helped make the recovery possible. And on learning that the wild turkey, which disappeared from Massachusetts three years after he left Walden, had been re-established through a sportsman-funded program, he might have repeated his *Walden* observation that ". . . perhaps the hunter is the greatest friend of the animals hunted, not excepting the Humane Society."

The old American chestnut that brushed his door is gone as is just about every other adult chestnut tree on the continent, all claimed by a foreign blight. And the introduction of such species as red pine, Norway maple and red spruce would have provided several pages of journal copy. Thoreau's "pigeons" were passenger pigeons; ours are European rock doves. Today, he would definitely see his pond "profaned by wing of gull," for this bird, thanks to our sloppy dumping habits, is presently not just a *sea*gull but a *land*gull. Canada geese would not only be "frequent in spring and fall" but would nest along the pond through the summer, leading their broods off into the woods on weekends. The colorful pair of mallards, immigrants from the West, which were on the pond as recently as November 10, 1973 might have inspired him to verse, if a throng of starlings, drab

(continued on page 15)

first day on The Hill

by Monty Montgomery

Illustrations by Russ Buzzell

Monty Montgomery is an outdoor writer with a fresh style and a new message. Monty Montgomery writes for the Globe.

Is there a morning among long forgotten mornings when autumn was the smell of frost-burned grapes, the cold blue of a mare's-tailed sky, the crunch of dry leaves and the heady expectation of your first hunt?

IT was an October morning in Cambridge, and the crispness in the day was belied by the sullen brownness of the air filled (as it still is) with automobile exhaust and (as it was then)* with high-sulphur oil from the apartment and university heating plants.

There was none of that New England fall foliage I had read about, just a few plane trees and French horse chestnuts turning sombre brown to match the sky.

Leaves lay on the brick sidewalks like someone had kicked them already.

It was then I decided to go hunting, and I believe, trying to remember it now, that I decided to go woodcock hunting, which was rather surprising because I had never seen a woodcock, never heard a woodcock, and only knew one person in the Cambridge universe who had ever been woodcock hunting.

On top of that I didn't have a hunting license, a decent pair of boots, or a shotgun. All I had was a certain knowledge that I knew a place to go hunting that looked absolutely perfect for woodcock, whatever they were.

Or so I told my friend, Ralph Mosher, who is now a teacher at Boston University, then, like me, working at the Harvard Graduate School of Education, which was not exactly a rod and gun club. Ralph, in one of those small destinies that make the difference between success and failure, was not only willing to go woodcocking, but had an extra shotgun, one of those obscure, cheap, Belgian double twelves that manage, as it turned out, to shoot like an advertising writer's dream and look like something you would buy at a garage sale. So he, who had shot woodcock in New Brunswick and Nova Scotia, let me, who knew of one hillside in New England that wasn't posted, be the guide for our first Commonwealth of Massachusetts semi-organized woodcock shoot.

Like most city dwellers, we had no idea that there were hundreds and thousands of acres of unposted woodcock and grouse cover in Massachusetts. But I did know my one place, and we motored out the Turnpike, got off at the Sturbridge exit on a ground-foggy Saturday morning and found our way to The Hill.

The Hill is the old settlement of Brimfield, the place they tried to farm until the dry northwest winds drove them down to the valley. There are only three houses left of the original dozen around the old common, and except for one dairy farm, nothing is left of the agricultural lands. There is a photograph of Brimfield taken in the 1860's, and The Hill and everything on the landscape is under cultivation. The only trees in the picture are a few scattered shade trees and tiny, half-acre, woodlots adjacent to the houses.

The hill had been planted to wheat, then to apple orchards, and except for the three dairy pastures, it had gone back to oak, bramble and popple.

*and is again, Editors

photo by Jack Swedberg

What we did not know, that Saturday morning as the ground fog lifted to the point where it blanketed The Hill itself, was that we were to walk into the loveliest flight of woodcock either of us has seen since in Massachusetts, and that (it is some eight years ago, now) we had arrived on an October morning when the grouse population was at its peak.

I especially did not know these things; I was the one who had never seen the birds before.

Wise men would have waited until the fog lifted another thousand feet and cleared The Hill. Genuine woodcock hunters would have brought their pointing dogs.

All we had brought was a pair of shotguns and that sweet urge from our boyhood to be in the woods again.

It was enough.

Woodcock whistled away from underfoot, disappearing at 30 feet into the ground fog, twisting behind the oak trees. Beneath the single white pine (and it has happened a dozen times since) ground-roosting grouse leapt into the sky with a screen of green needles between us and them, thundering away towards the bramble patches at the edge of the most recently abandoned mowing. That day, as has happened since, we turned one grouse out onto the old mowing, and I, scarcely knowing what it was I had come for, unpracticed at wing-shooting since a day, years before, on doves in a hot desert valley, dropped a single cock bird onto the down-lying grass.

Woodcock lay beneath every poplar grove especially, it seemed, where the bright green of late brambles threaded through the understory timber. Dogless, we flushed them between us, and held shots, behind us, and turned and fired wildly into the sound and disappearing sight of the flight birds. The second best shot of the day was ruined when the flushed bird flew into an oak branch and stopped while I continued to swing and fired with a timing that might have been perfect if only the bird had flown as truly as it intended.

The best shot of the day came at the end, dispirited, working back to the car, and raising a single bird and turning on it with nerves turned vibrant by a dozen misses and shooting without thinking, still bent under a deadfall, not seeing the shotgun, seeing only the bird and watching it tumble down without knowing that you had fired.

That is all I can truly remember of the first day on The Hill. There were other days with more luck, but fewer birds. Days when we met someone as hungry as we were for the sound of wings and the smell of powder and took them there. Days when we met a man who lied and said he owned The Hill and ordered us off, and the day we met the man who did own The Hill, or at least the access to it, and he allowed as how we could hunt there.

Days when a rare stocked pheasant cackled, and rarer days when we pinned one down where the hedgerow ran out and he could not sneak any further and flushed and three of us fired six shots and never touched a feather.

Days when crossing and recrossing The Hill we did not turn a grouse, and the day I flushed one and was alone and followed it for five flushes, and discovered I was as lost as if I had parachuted into Newfoundland, and walked miles to a road and hitchhiked back to the bottom of The Hill with a farmer running a tractor over to his uncle's mowing, sitting on the fender, clutching a shotgun with one hand and the mower bar carrier with the other.

We have learned a lot since then, enough to get in an argument with our betters about what really makes good woodcock cover (poplars are better than alders, southwest hillsides are only good in

the afternoon, start carrying your gun with both hands when you get to a place where there's some green stuff under the trees), but if there is one thing we have learned it is that the woodcock is a bird worth knowing well, and hunting for itself.

I know of no bird, nor any way to hunt, that has the potential of bringing men closer together. It is especially true when hunting with a pointing dog, but nearly as true when out jumping birds with a friend (perhaps because this is the way I began, I insist that it is so).

It is not necessary, as it is with pheasants, to go roaring off after a dog on a running cock, or to separate and block the ends of hedgerows or go off in mutual pursuit of a bird glimpsed sneaking into a swale.

It is possible, in the world of woodcocking, to take turns flushing the pointed bird, or to amble through the woods, knowing that at least some of the birds will not flush until you step on them, that friends hunting side by side who trust each other will take the reasonable shot.

I have met men who were rightly proud of their dogs. As Pat Palmer of Acton would say, "there are more good men than there are good dogs." But, all in all, I have found the good men equally rare. Star, Pat's lady setter (I'll fight a man that calls her "bitch,") is as rare as they come, but no more than Nelson Amaral, who showed me every decent cover he knew on Martha's Vineyard, tried to get me in position on every firm point, and gave me his birds at the end of Columbus Day, 1971.

Al Flagg, also of Acton, still going strong and still finding new covers in Middlesex County, something nearly as difficult as finding quahogs in Illinois, and his red Vizsla blending into the scrub oak and sumac in November, hard to see on one of its unclassic belly-down points. Al has shown me a few new covers every year, and this year there's a new Vizsla to worry about, a year and a half old, with a family reputation to uphold.

Woodcock hunting has another virtue, one that becomes more important as the years go by in urbanized Massachusetts . . . the birds are never found in front yards or garden patches, or ditches alongside country roads.

I commend to you sometime driving a Middlesex County road on the opening day of woodcock season and trying to find a hunter. Parked cars you will find, or an occasional group of hunters bringing a dog back to the road, but it is as nothing compared to the opening day of pheasant season, when every unposted field reveals the bobbing fluorescent orange hats of any army of highly visible hunters.

The woodcock, like his brother of the hillsides, the grouse, has the virtue of being impossible to raise in captivity, and therefore impossible to find except in his own chosen places, far from the public eye.

He is, and always will be, a very private bird, coming and going on the winds of autumn, sought out in dark alder swamps that their owners have never walked, on hillsides too bebrambled for a cow, beyond boot-breaking rock slides that surround a poplar grove.

He is, with the grouse, the bird of our secret lives, on fall mornings when we leave the house early and return late, clothes torn and face scratched by miles spent in what a non-hunter would call the most God-forsaken parts of the state, but what we know, you and I, to be the loveliest, rarest, and finest unmanaged, uncultivated, and unknown pieces of land in the world, simply, woodcock cover.

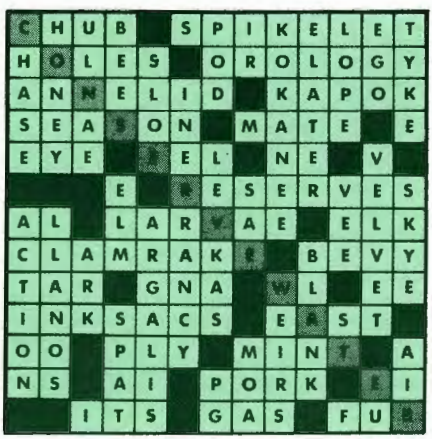

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photo courtesy of U.S. Fish and Wildlife Service

Bay

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"THE Virginia deer . . . now scarcely exists in New England south of the forests of Maine and Northern New Hampshire . . . The bear, the panther, the gray wolf . . . have become similarly restricted. . . The same is true of the beaver. . . Not many years will elapse before many of them will become practically extinct . . . their former existence being merely a matter of history." So lamented noted naturalist J.A. Allen nearly a century ago.

Today whitetails roam the Massachusetts woodlands from Nantucket to North Adams, beavers build their mud-daubed dams across streams in 10 counties, and the yelp of the "new wolf" echoes across our western forests. Another former resident, the black bear, has recently reasserted his presence in Massachusetts. The history of Bruin from precolonial times until the present and his status in the Northeast is the subject of a current Fish and Game Division study.

Popular belief depicts the primeval forest of southern New England as a trackless wilderness, vast and impenetrable. This view overlooks the influences of the Indian whose activities had considerable impact on natural forest succession. In addition to a ceaseless search for firewood

State Bruins — Past and Present

By James E. Cardoza
Assistant Game Biologist, MDFG

hem go?
hem come back?
y?

and the clearing of land for agriculture, the eastern tribes commonly set fire to the woodlands. This seemingly destructive action actually benefited the Indians by improving visibility, driving game and encouraging grasses and shrubs beneficial to wildlife.

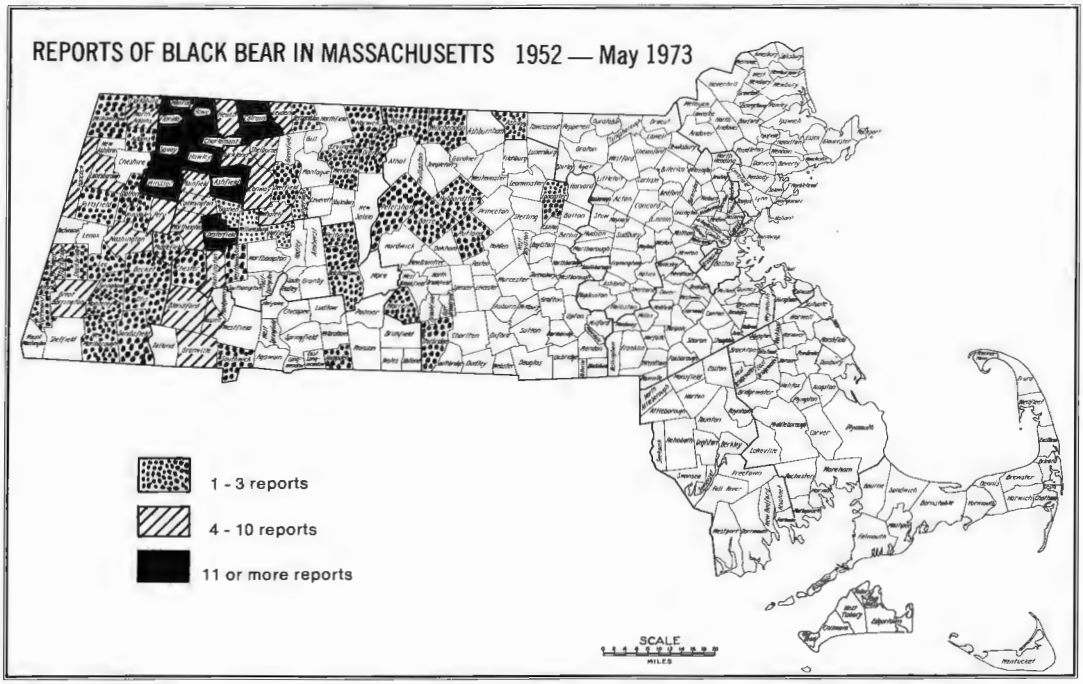
Most fires occurred along the Connecticut Valley and in the eastern part of the state around Massachusetts Bay. They had the effect of maintaining the forest in an open, almost parklike condition. Thomas Morton, a trader at Wollaston, wrote in 1632 that, ". . . the savages are accustomed to set fire of the country in all places where they come; and to burn it, twize a year . . . and this custome of firing the country is the means to make it passable, and by that meanes the trees growe here and there as in our parks and makes the country very beautifull and commodius."

The fires retarded forest succession, thus influencing diversity and quantity of woodland plants and wildlife. The uplands of southern New England (except the mountains) were probably covered with oak, hickory and chestnut, generally fire-resistant species. The more sensitive maple, beech and hemlock were restricted to moister regions or ravines. Brushy plains of scrub oak were found in present-day Bristol County, and natural grassy meadows occurred along many streams. The open oak forest with its bounteous mast crop benefited white-tailed deer and wild turkey, both of which flourished. The black bear, too, was locally abundant through most of primitive Massachusetts, though we have no records of bear occurring south of northern Bristol and Plymouth Counties. Bear provided the red man with furry robes for sleeping and shelter, meat for nourishment, and grease for muscular aches and insulation against the cold and damp.

Bears were tracked to their winter dens and speared as they lay dormant, chased into water and brought to bay when they swam beyond their depth, and trapped in deadfalls of tilted logs.

Bears soon caught the notice of the early European settlers. In 1634 William Wood states: "For Beares they be common, being a great blacke kind of Beare, which be most feirce in Strawberry time . . ." E. Johnson observed in 1633 that the Ipswich River ". . . betakes its course through a most hideous swamp of large extent . . . being a great harbour for Beares."

As the settlers increased so did the settlements, and increasing numbers of Colonials began to scratch out subsistence plots in locations further and further removed from the Puritan government at Massachusetts Bay. This patchwork clearing of the land had the initial effect of encouraging fruit-bearing shrubs. This, coupled with a decrease in acorns and hickory nuts as the forest was logged, brought man and bear into contact. The planters soon learned what the Indians knew — that bears made good robes and stew; and the bears soon learned that the white man's corn and pigs were especially tasty. Judd's comment in the *History of Hadley*, was typical of the times: ". . . bears were much less hurtful than wolves and wildcats, yet . . . especially when acorns and nuts were scarce, bears



Author points to claw marks of black bear who scaled this western Mass. beech in search of nuts.

destroyed pigs and sheep, and devoured soft corn." Faced with this additional threat to their livelihood, the settlers reacted swiftly, placing bounties on bears. Bear hunting, too, was a popular pastime. Captain Phillips of Ashfield killed 29 in one season, and Moses Leonard of Greenfield claimed a lifetime record of 150.

Such unrestricted persecution could not help but affect the status of the black bear in Massachusetts, and as primitive farms grew into settlements and settlements into towns, bear populations faded.

By the 1700's, bear were on the run, and the steady decline accelerated as agriculture burgeoned. In the east bear were still seen in Melrose in 1735, Easton in 1747 and a 400-pounder was taken in Lynn in 1759. But these were among the last sightings in this section of the state. The *last* bears in Woburn and Wilmington were killed in 1735 and 1760 respectively. Harvard students related the hounding of a bear into the Charles River in September of 1754, and bears disappeared from the Great Ipswich Swamp shortly after 1757. Farther west, John Montague shot a treed bear in Hadley about 1788 (long after bear were supposed to have disappeared) and hauled it into town atop a load of corn, a shaggy spectacle for rustics to gawk at.

Agricultural clearing continued until the early part of the 19th century and by 1830 had reached a peak, with nearly 80

percent of many southern New England counties deforested.

The bears of the western counties suffered accordingly. They were gone from Royalston by 1829, Ashfield by 1831, and Warren by 1834. Ebenezer Emmons reported to the State Legislature in 1840 that: "The Bear is a stranger in most parts of this State, and probably far more common on the Hoosic Mountain range than in any other part. . ."

With such advents as the California Gold Rush, the Industrial Revolution and the Civil War, much of the rural populace left the rocky New England farmsteads. The bears of Massachusetts were at their low point. Yet a few persisted in the mountains, no longer pursued as crop destroyers and too few for organized hunts. Time passed; farms crumbled, and the forest gradually reclaimed the fields. The bears began to return.

By the 1930's they were being sighted sporadically in Hampshire County and in northern Worcester County. In 1953 the Division of Fisheries and Game afforded the black bear some measure of protection. For more than three centuries it had been relentlessly persecuted. Now, however, it was given the status of a game animal, to be taken only during a 10-week season — from October to December.

In 1969 two Bay State bruins received nationwide publicity when their roadside antics in the Town of Florida stirred speculation that they were "drunk" on fermented apples. As usually happens when animal behavior is equated with human behavior, public curiosity and interest were aroused. Soon people were voicing concern that Massachusetts bears were being overharvested. The fact that the two controversial bears were not drunk but were probably tame and had been illegally released (see *Massachusetts Wildlife*, January-February, 1971) did not mitigate the legitimate criticism that we really had no idea of the status and distribution of bears in Massachusetts. Consequently, a public hearing was held in April of 1970 at which time the five-man Fish and

Vermont Department of Fish and Game photos by Bob Candy (above) and Charles Willey (below)

A black bear roots in a rotten log for ants and grubs. Below: a large adult eyes camera warily.

Game Board decided to restrict bear hunting to one week in November by permit only, to establish weapons limitations and to require that all successful hunters present their kill to the Division for brief biological examination. In addition, the Division initiated a cooperative study with the University of Massachusetts on the history and status of black bear in the state (to be published in 1974 as a Division research bulletin). The study was later expanded to include the adjacent states of Rhode Island, Connecticut, New Hampshire and Vermont.

An immediate effect of the new regulations was a decrease in the number of bears killed. Although checking was not mandatory at the time, we know, through voluntary reports, of nine bear taken in 1969 — most of them incidentally by deer

photo courtesy of U.S. Bureau of Sport Fisheries and Wildlife

Sow with cubs.

hunters in December. In 1970, with 214 applicants and the season for the first time not coinciding with deer week, no bear were harvested. In 1971, with 200 applicants, again no bear were harvested. In 1972, with 421 applicants, one bear was taken. Two bear have been shot illegally, in 1970 and 1972. In the second instance the offender was apprehended and prosecuted.

The regulations and attending publicity also brought about an increase in reports of bear sightings which were helpful in determining bear distribution. To date we have records of 449 bear noted on 366 occasions in 73 towns for the period 1952 to 1973. Most of the reports came from Franklin County (148), followed by Berkshire (124), Hampshire (59), Hampden (18), Worcester (16), and Middlesex (1).

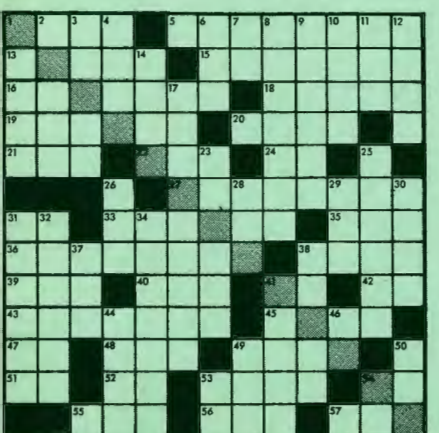
Early findings in our bear study indicate that there has been an upward trend in bear numbers in Massachusetts since the early 1950's. This, together with an increase in outdoor recreation, has increased the chances for man-bear confrontations. An especially deplorable incident occurred in Clarksburg during September of 1973 when a sow and her three cubs were treed by barking dogs. Understandable curiosity on the part of hundreds of onlookers soon degenerated into unnecessary harassment which peaked with the irresponsible squirting of the bears with fire hoses.

Hopefully, regrettable incidents like this can be avoided in the future. As human populations swell, man and bear will meet with increasing frequency. Public attitudes will be a prime factor in determining whether or not the black bear remains a part of the Massachusetts wildlife community and whether his interaction with the human world is termed *contact* or *conflict*.

ACROSS

1. Fallfish.
5. A small spike bearing few flowers.
13. Burrows or dens.
15. The study of mountains.
16. Earthworm or leech.
18. Extremely buoyant material obtained from the fruit of the silk-cotton tree.

Answer on page 9



19. An adjustable harvest control used in modern wildlife management.
20. To pair.
21. Peregrine's most well-developed sensory organ.
22. A catadromous fish native to Massachusetts, especially active at night.
24. Compass reading (abbr.).
27. Land set aside for fish and wildlife (pl.).
31. First name of an infamous prohibition booze baron.
33. Caterpillars.
35. Second largest antlered animal in North America.
36. Tool used in digging mollusks (2 wds.).
38. A group of animals or birds, especially larks or quail.
39. A sailor.
40. Any of numerous small, winged insects, especially one that bites (first three letters).
41. Waterline (abbr., naut.).
42. Environmental Engineer (abbr.).
43. Cuttlefish's ink-ejecting organs.
45. On your right as you face north.
47. Shotgun load for deer.
48. To beat; tack (naut.).
49. An aromatic herb of the genus *Mentha*.
51. Opposite compass points.
52. A three-toed sloth.
53. Meat of the razorback.
54. East Indies (abbr.).
55. Belonging to *it*.
56. Fuel for lanterns and stoves.
57. Adaptive mechanism for conserving body heat.

DOWN

1. To hunt.
2. Bee food.
3. Bone of the forearm (pl.).
4. Pollinating insects.
6. A group of seals.
7. Iridium (chem. sym.).
8. Landlocked strain of sockeye salmon introduced in Onota Lake, Pittsfield.
9. A click beetle.
10. A slow, easy gallop.
11. Self.
12. A low-bred dog.
14. The blackthorn shrub.
17. The state of being free from error.
23. A Greek island.
25. Furry skin covering a growing antler.
26. Tree yielding a wafer-like samara.
28. Society of Automotive Engineers (abbr.).
29. Flying formation of Canada geese.
30. Smallest, lowest-set terrier.
31. Moving parts of a shotgun or rifle.
32. Flat, treeless plains of South America.
34. Wild sheep with curved horns.
37. Flat-bottomed boat or scow.
38. Cartridge loaded with powder but no projectile.
41. Fish traps.
44. A young oyster.
46. Bright red bird with striking black wings (init.).
49. Large, flightless, extinct bird.
50. Propelling force of certain pellet guns.
53. Postgraduate (abbr.).
54. Europium (chem. sym.).

(continued from page 5)

European replacements for his beloved bluebird, did not dampen his mood first. The gaudy rooster ringneck (imported from China) that might visit his cabin for sweet corn on a frosty weekday morning would possibly make it easier for him to accept the near-total extirpation of the bobwhite quail in Middlesex County. He could still find "the great mud turtles" and "tortoises,"[1] and, if the traffic on Route 2 would shut up long enough, he might, with a bit of luck, still hear the drumming of a partridge. No doubt he would tip his cap to the now-abundant raccoons for their ability to capitalize on the very throw-away culture that had erected its chicken-coop houses on the sticky earth of their former stream-side haunts. And if he chanced to find a road-killed 'possum some misty spring night he might conclude that it had been brought north by a run-away slave, perhaps one that he had pointed in the direction of the North Star. One can almost hear Thoreau launch into a tirade against human greed so graphically evident in the slick pesticide salesmanship of the agri-chemical axis whose PR proficiency has played a part in bringing about the near extinction of the fish hawks (ospreys) that used to "dimple the glassy surface of Walden."

In the pond itself, drastic changes have taken place, some obvious and recent, some subtle and older than Thoreau himself. Thoreauvians sometimes speak wistfully about "preserving Walden's natural balance," though that balance was hardly natural in Thoreau's day. Wherever humanity steps, inevitable shock waves travel the length and breadth of the biota.

"I have seen at one time lying on the ice pickerel of at least three different kinds," writes Thoreau. There could only have been two — chain and redfin, though their hybrid might explain the "third." Because Thoreau was an excellent observer, we can, with a fair degree of safety, postulate that chains and redfins were present in 1845-47. Chain pickerel could occur naturally in Walden's clear, sterile water; but redfins, which inhabit the grassy tea-colored deadwater of lowland acid streams, probably could not. If they were there where did they come from? Possibly the Concord River — ideal redfin habitat and a known bait-collection center for the legions of ice fishermen who pounded Walden through the 19th century. Also, there were then, as there are now, those who delighted in playing musical chairs with resident fish populations; Walden redfins might have been the fruits of some farm boy's experiment.

There is a more plausible explanation for the third pickerel than the hybrid hypothesis. Thoreau describes it as "golden colored . . . remarkably deep . . . but peppered on the sides with small dark brown or black spots intermixed with a few blood-red ones, very much like a

1. *Thoreau called just about every turtle, "tortoise," but was here most likely referring to painted turtles. "Great mud turtles" were snappers.*

A Budliner whisks past Walden's southwest shore.

"What's the railroad to me?
I never go to see
Where it ends.
It fills a few hollows,
And makes banks for the swallows,
It sets the sand a-blowing,
And the blackberries a-growing,

but I cross it like a cart-path in the woods, I will not have my eyes put out and my ears spoiled by its smoke and steam and hissing."

— Walden

Typical bank erosion at Walden.

"The surface of the earth is soft and impressible by the feet of men; and so with the paths which the mind travels."

— Walden

trout." As no pickerel of this description exists, it appears that Thoreau was describing a chain, redfin or hybrid suffering from black spot[2] — a common parasite (though not especially prevalent in pickerel) that encysts just under a fish's skin, leaving no visible mark, so that it is nearly impossible to distinguish from natural pigmentation.

When the State surveyed Walden in 1905, no pickerel of any species were found; and they haven't been seen since. Their demise may well be explained by the lack of suitable breeding habitat. Pickerel spawn shortly after ice-out over flooded vegetation. About the only possible spawning area in Walden would be Hubbard's Pondhole, a small swampy bay off the big cove on the north shore.

In particularly dry years, Hubbard's Pondhole would be cut off from the main pond. If a severe drought persisted long enough for brood stock to live out their normal lives in deep water, pickerel would be eliminated from Walden. Add to this the facts that 1. pickerel are short-lived (chains rarely make it past their third year) and 2. beginning in 1880 Boston recorded 30 years of subnormal rainfall, and a believable hypothesis begins to emerge. Thoreau's mutually supporting claims that Walden pickerel were not abundant and grew to a large size indicates that the intensive ice fishing hastened their decline.

"There have been caught in Walden," writes Thoreau, ". . . perch and pouts, some of each weighing over two pounds, shiners, chivins or roach *(Leuciscus pulchellus),* a very few breams, and a couple of eels . . . also I have a faint recollection of a little fish some five inches long, with silvery sides and a greenish back, somewhat dace-like in its character . . ."

From his description the "perch" had to have been yellow perch, "eels" were American eels and "pouts" brown bullheads. But we begin to run into trouble with "shiners, chivins or roach." Thoreau might have punctuated his sentence more clearly. Were all three one and the same — *Leuciscus pulchellus?* Were "chivins" another name for "roach" and distinct from "shiners"? Or were all three separate species?

"Roach" and "bream" are names for two old-world cyprinids, larger versions of North America's golden shiner. Yet golden shiners, fallfish and certain sunfish are all called "roach" locally. To further muddy the water, sunfish are also called "bream," and "kivver" (which sounds like it could be a derivative of "chivin") while round whitefish — a species not presently native to Massachusetts, but which does occur in Lake Winnipesaukee and conceivably could have found its way into the Concord River via the Merrimack — are called "chiven."

In *A Week on the Concord and Merrimack Rivers* we discover that "roach" and "chivin" are the same fish: "The chivin, dace, roach, cousin trout, or whatever else it is called . . . is always an unexpected prize." And in *The Maine Woods,* Thoreau describes catching "roach" with

---

2. *Or "black grub." The adult worm lives in the intestine of a fish-eating bird such as a loon or kingfisher. Eggs enter the water with feces. A free-swimming form then finds the body of a snail, develops within, leaves the snail as a tiny tadpole-like form, penetrates a fish and encysts. A bird eats the fish, and the cycle starts again.*

brook trout in a coldwater tributary of the Penobscot: ". . . alternately the speckled trout, and the silvery roaches, swallowed the bait as fast as we could throw in . . ." Any brook trout fisherman will now recognize "chivins" or "roach" as fallfish ("chubs"); and, checking through the dusty fish volumes of the 19th century, it turns out the *Leuciscus pulchellus* was one of the earliest taxonomic names used for the species. Interestingly enough, when Thoreau wrote of the "circular heaps half a dozen feet in diameter by a foot in height, consisting of small stones less than a hen's egg in size" that lent "a pleasing mystery to [Walden's] bottom" he was presenting a near-perfect description of the communal nest of the fallfish. He dismissed the notion that they had been built by Indians, and, with an uncanny good guess, suggested that they were "perhaps the nests of the chivin."

Also in *A Week* we learn that "bream" are sunfish, and the weedy environs of the Concord River, where he observed their nests, would indicate strongly that those sunfish were pumpkinseeds. Thoreau had closely examined Concord River "bream" — to the point where he had allowed them to nibble his fingers and had actually lifted them gingerly from their element (a feat that sounds like a fish story to those not familiar with kivver I.Q.'s). While Walden is much better habitat for redbreast sunfish than for pumpkinseeds, the difference between the two species is so striking that Thoreau surely would have remarked on it had he found redbreasts in Walden.

Perhaps a hundred different species of small silvery fish are called "shiner." But in several instances Thoreau refers to "*the* shiner." His description in *A Week* — "a soft-scaled and tender fish . . . with its small mouth and nibbling propensities, not easily caught" — at once brings to mind the golden shiner. The taxonomic name Thoreau assigns to his shiner, *Leuciscus chrysoleucus,* almost rules out any other possibility. *Leuciscus* currently designates a larger group of new- and old-world chubs but has occasionally been used by early authors to describe the golden shiner. In addition, the specific name of the presently accepted *Notemigonus crysoleucas* (Mitchill) differs by only two letters from Thoreau's "*chrysoleucus.*" Golden shiners are found in Walden today and there is no reason to believe that they are not the descendents of the fish Thoreau knew. Since goldens prefer thick vegetation over mud bottoms and have traditionally been popular pickerel bait, it might well be that they were introduced by fishermen in the early 1800's.

Perhaps the little dace-like fish "with silvery sides and a greenish back" was the killifish. There aren't too many possibilities left. The species exists in Walden today, and there is no record of its introduction.

Thoreau recorded in his journal, November 14, 1847, "I hear that Gardner Heywood caught a trout [brook trout] in Walden Pond the other day and that it weighed five pounds." He adds in a footnote, "Speared it about a week ago, and saw another not quite so large. Henry and John Bigelow put a couple into the pond some ten years ago, were these the ones?" Probably they were not because, unless the Bigelows imported a long-lived Canadian strain, which seems farfetched, the stocked fish couldn't have lived much more than four years. Perhaps the original fish managed to spawn; perhaps the

Division-stocked rainbow trout taken in Walden April 15, 1944 by A.H. Kleinberg of Arlington. (photographer unknown)

Bigelows stocked others (they stocked quite a few in "Green Pond on the Marlborough road"); perhaps a tiny but natural trout population had been there all along and was gradually flickering out; or perhaps Heywood lied.

In any case brook trout spawning habitat, if it existed at all in Walden, was extremely limited. Trout eggs cannot survive unless continually oxygenated by moving water. Walden is a water-table pond with no inlet or outlet. While the influx of ground water is probably not entirely uniform over the bottom, it does not appear to be concentrated in any one area. While Thoreau found evidence of some measurable flow when he observed thinner ice in one area and watched his axe handle 25 feet down "gently swaying to and fro with the pulse of the pond" a more sophisticated survey on September 28, 1968 failed to detect any movement whatsoever.

Although we will never know Walden's *natural* fish makeup, we can say, with some confidence, that when Thoreau fished it, these species were present: chain pickerel, redfin pickerel, yellow perch, brown bullhead, American eel, pumpkinseed sunfish, banded killifish, golden shiner, fallfish, and perhaps brook trout.

In 1968, the Fish and Game Division treated Walden Pond with rotenone — a short-lived toxin that breaks down the blood vessels in gill tissue — and planted smallmouth bass and trout[3] (mostly rainbows, a few browns and brookies) to take a significantly larger percentage of the space occupied by a stunted and largely ignored panfish population. Fisheries crews recovered pumpkinseeds, yellow perch, killifish, white sucker, brown trout, rainbow trout, smallmouth bass, smelt, bluegill and yellow bullhead.

The first three species, as we have seen, had probably been there for some time, smelt were the result of eggs planted by the state in 1943 and 1944, white suckers were probably introduced to Walden by fishermen as Thoreau observes that ". . . there are no suckers . . .", and the rest were brought into Massachusetts and stocked — the last two with such unlikelies as Pacific salmon (sockeye and chinook), landlocked salmon, white perch, and black crappie — during a period when the science of fisheries management was just a gleam in an angler's eye.

The fact that no brown bullheads were found doesn't mean much; the species is notorious for surviving reclamations, often burrowing into the mud at the first whiff of rotenone. It is somewhat surprising that no golden shiners turned up, for they have been observed since.

Reclamations, it should be noted, are almost never complete. Three years after treatment, fisheries biologists observed yellow perch, pumpkinseeds, golden shiners and killifish. Given a few years, these species will once again populate to the point where they hobble their own growth and the growth of bass and trout.

A gill-net survey last July revealed good survival among spring-stocked rainbows and excellent smallmouth growth and reproduction. Capitalizing on the fantastically rich crayfish crop, many three-year-old bass had reached lengths of 13 to 16 inches. (In Massachusetts the average length for this age class is 9.5 inches.) Walden smallmouths proved to be in the best condition of any checked in a sample of 216 ponds.

Would Thoreau approve of the recent management of the Walden fishery? Some scholars say he'd scowl at such tampering with nature. But once he understood that it was not a juggling of species so much as

3. *The Massachusetts trout program is basically a put-and-take proposition. Due to a lack of natural spawning habitat and damage to water quality through pollution and watershed development, trout reproduction in Massachusetts ponds is practically non-existent.*

Left: the sketch of Thoreau's Walden house made by his sister Sophia as it appeared in early editions of Walden or Life in the Woods. Above: Thoreau's house today (in Concord) as reconstructed by Roland Wells Robbins, the man who discovered location and remains of original. Below: Robbins (left) and author discuss Walden as it was and as it is, in appropriate atmosphere of replica Thoreau house.

a *re-juggling* and once he'd compared the fishing then with the fishing now, his expression might change.

Walden's perch and shiner populations seem to have been stunted even in Thoreau's time. Looking down through 30 feet of clear water he would watch "the schools of perch and shiners, perhaps only an inch long." And on moonlit nights as he drifted over Walden playing his flute or fishing for horned pout he would suddenly find himself "surrounded by thousands of small perch and shiners, dimpling the surface with their tails." It is interesting to note in his writing that whenever he really wanted a mess of fish he'd hoof it over to the Concord River.

Thoreau was not a sentimental protectionist, but a practical scientist who would have appreciated the good sense inherent in modern fisheries management. His entire experience at Walden was a well-calculated, well-monitored experiment in living.

He probably would have been enchanted with the beauty, flavor and astonishing fighting ability of the smallmouth bass. Yet, while the rainbow trout bears a tempting resemblance to his adored chivin — that "cupreous dolphin" of a fish — it seems unlikely that he would have allowed himself to get too excited about it simply because just about everyone else in the U.S. has. Ed Emerson observed in his friend Henry ". . . a certain enjoyment in taking the other side for the joy of intellectual fencing." Thoreau was constantly preparing little satchel charges for the establishment that make his writing so timeless and so refreshing — statements such as, "I have lived some thirty years on this planet, and I have yet to hear the first syllable of valuable or even earnest advice from my seniors." and "As for the Pyramids there is nothing to wonder at in them so much as the fact that so many men could be found degraded enough to spend their lives constructing a tomb for some ambitious booby, whom it would have been wiser and manlier to have drowned in the Nile . . ." and the especially alarming, ". . . all *news,* as it is called, is gossip, and they who edit and read it are old women over their tea."

Our Walden is as unlike Thoreau's as his was unlike the Walden of the Colonials. Whatever his reactions to the 20th century might be, he would agree with the philosopher that all things — including the water and the land he loved — are in motion, that the only constants are human greed and human goodness and that the spiritual Walden that his writing illuminates "of all characters . . . wears best and best preserves its purity."

Man and the Balance

"The permissive society breaks down because, in the natural scheme of things, by the cold mandate of the universe itself, there is no permissiveness, only a system of invisible disciplines, from the law of gravity to the law of supply and demand, from the inexplicable phenomenon of birth to the undeniable fact of death."

—Bruce Hutchison

RUSSIANS EXECUTE KILLER-POACHER

The hunting season had ended on the waterfowl marshes of the Oka River when three unarmed wardens arrived to investigate reports of shotgun fire. Two armed men fled. The wardens pursued and in a confrontation with the poachers two of the wardens were shot, one fatally. On being apprehended, the killer was tried and promptly executed by a firing squad.

"EXTINCT" MAMMAL RESURRECTED

A small desert mammal, the Amargosa meadow vole, which was believed to have become extinct 50 years ago has been found alive and thriving in small, swampy areas along California's Amargosa River.

NATIONAL AND STATE WILDLIFE FEDERATIONS OPPOSE "INSTANT CITY"

The Massachusetts Wildlife Federation and its parent organization, the National Wildlife Federation, have voiced strong opposition to Carabetta Enterprise's planned massive development of the Warren and West Brookfield area, one of the most wildlife-rich and beautiful pieces of wilderness left in Massachusetts.

In a letter to the Secretary of Housing and Urban Affairs, NWF Executive Vice President Tom Kimball urged that Carabetta's preapplication for assistance to develop the area be denied.

In his letter Kimball stated that the development plan was "deficient, as follows: 1. There is no assurance the proposed new community would improve economic conditions by attracting any significant amount of new industry to the area, even if the townspeople wanted to. The economic incentive to establish a business in such an outlying area would be slim. '2. Social welfare of the entire area would be adversely affected if population climbed to 20,000-30,000 without the addition of new industry. The revenue required to provide such public services as water, sewage treatment and disposal, transportation, education, safety, health, and recreation would most likely have to be derived by increasing existing tax rates. That would work an economic hardship for residents already concerned about large taxes. 3. Quite aside from the effect increased public services would have on tax rates, it is obvious that the large community would have a significant detrimental effect on environmental quality and the conservation of natural resources. Almost certainly, water quality of the area's streams would be degraded. Air quality would likewise suffer — especially if, and when, new industry were brought in. Unquestionably, valuable fish and wildlife resources would be lost with the depletion of already-scarce habitat and with the other adverse effects which a burgeoning society has on wildlife. For example, some valuable trout fisheries would probably be destroyed. We are enclosing, for your information and use, an excellent article extracted from the March-April 1973 issue of *Massachusetts Wildlife*. . . The article describes quite clearly the plan's impact on trout streams, deer habitat, and the sanctuary which the area presently affords other forms of wildlife, rare or nonexistent in more populated sections of the state.

"Also, we are deeply concerned about any proposal which would effectively urbanize a rural area and impose other drastic changes on its residents, regardless of their views. In this instance, it appears the plan would result in a purely artificial growth pattern springing mainly from high-pressure advertising and promotion, not from the legitimate needs of local residents for additional housing, commerce, or employment. Our concern is sharpened by a developer who apparently has been reluctant to work openly with the public . . .

"The National Wildlife Federation urges you to deny Carabetta's preapplication for assistance to develop Warren, Massachusetts. We will appreciate being advised of your decision in this matter."

An autumn doe, already in winter coat, tenses as she approaches photographer's blind. In the mid 1800's Thoreau had to go to New Hampshire or Maine in order to see a deer, but today whitetails are seen regularly in the new woods that cover the old farms of Lincoln and Concord. Other changes in the area's "ecology" have not been as fortunate. (See story, page 2.) photo by Jack Swedberg

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