The New York State

Conservationist

December-January 1955-56

State of New York Conservation Department

A Merry Christmas to all

We see that The Moon is for sale. Choice parcels, anyway. According to *The New York Times* there's a concern on Long Island which will give you a quitclaim deed to selected lots in the Crater of Copernicus (a highly desirable lunar location) and all they cost you is $1 per acre. It seems there's a real Moon Boom under way, so better get your order in early. What a dandy last-minute Christmas present for Mother-in-law.

Or for your sporting friends, because it says in the fine print that your deed entitles you to sporting privileges in areas adjacent to your lot. So far as we know there is no life on The Moon at present on account of it's really chilly up there and you have to bring your own oxygen. But those are minor problems that any good real estate agent ought to be able to solve by moving in a suitable climate, moving The Moon, or some other simple device. The *real* problem is going to come when we have to decide what kind of life to get started up there.

The controversy over the Lunar Stocking Project is going to be a dilly.

Shall we have the fox? No, he might eat a pheasant. The coyote? No, he might eat a deer or a hare and so might the bobcat—so no bobcats either. No otters or loons (they eat trout) and no beaver because they foul up a lot of trout streams. The mink and the 'coon would probably have to be blackballed because when streams are low they catch a lot more fish than fishermen do. And suppose you plan to have a garden on your lunar lot: you won't want any deer or rabbits or woodchucks around. If you're going to raise chickens, no weasels. And how about the squirrels that raid birds' nests, the mice that eat holes in blankets, the bears that raid camps, the porcupines that kill trees, the hawks and owls that hunt night and day for almost anything they can catch—how many of them will make the grade?

Sure, we can cross the bridge to The Moon when we come to it. But here's a problem that brings The Moon right down to Earth: Assuming the dominance of Man in the Animal Kingdom, what other animals is he going to permit to live in his realm? How shall they live, how many if any, and where? Those are questions that bedevil Conservation Departments right here and now.

Our feeling is that they *all* belong. The Lord giveth and The Lord taketh away, and who are we to say that this animal is good or that animal bad when the animal is simply behaving according to his nature? Sometimes, of course, we have to step in and alter the natural balance in our own interests—as with the coyote or the rabid fox—but those of us who have to take such action hold no grudge against the animals involved.

In fact, we go farther: We wish a Merry Christmas to the fox *and* the pheasant, to the coyote *and* the hare, and to all the other animals that are competing for an existence on our planet. Most of them had American ancestors long before we did.—Editor

The New York State

Conservationist

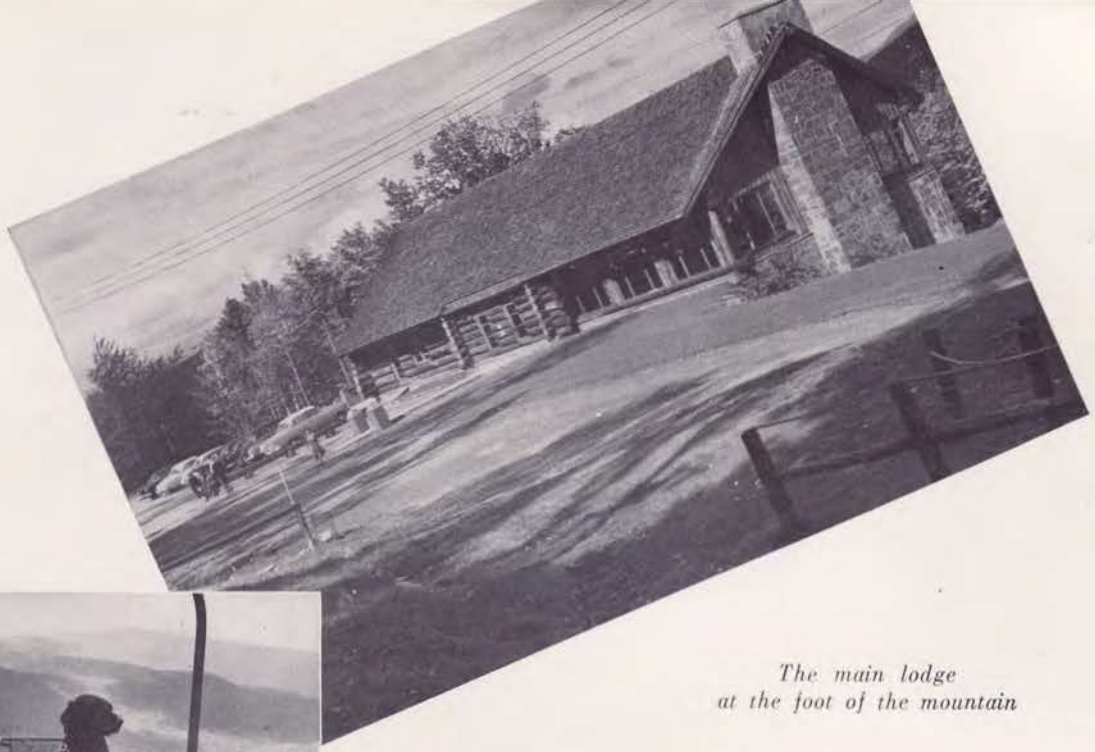
DECEMBER-JANUARY, 1955-56

Contents

VOLUME 10 NUMBER 3

TO SUBSCRIBE. Print your name, street address, zone and state. Send with $2 (check, money order or cash at senders' risk) to *The Conservationist*, Room 515, Arcade Bldg., Albany 1, N. Y. Three years for $5. Single copies $.50. NO STAMPS, PLEASE.

The Conservationist is an official publication of the N.Y.S. Conservation Dept., published every two months at the Department's offices, Arcade Bldg., Albany, N. Y. No advertising accepted. Subscription rate $2.00 per year. Entered as Second Class matter July 24, 1946 at the Post Office at Albany, N. Y. under Act of March 3, 1879. Printed in U. S. A.



The main lodge at the foot of the mountain

Who says it shouldn't happen to a dog?

Belleayre the Year 'Round

The chair lift operates Summer and Winter

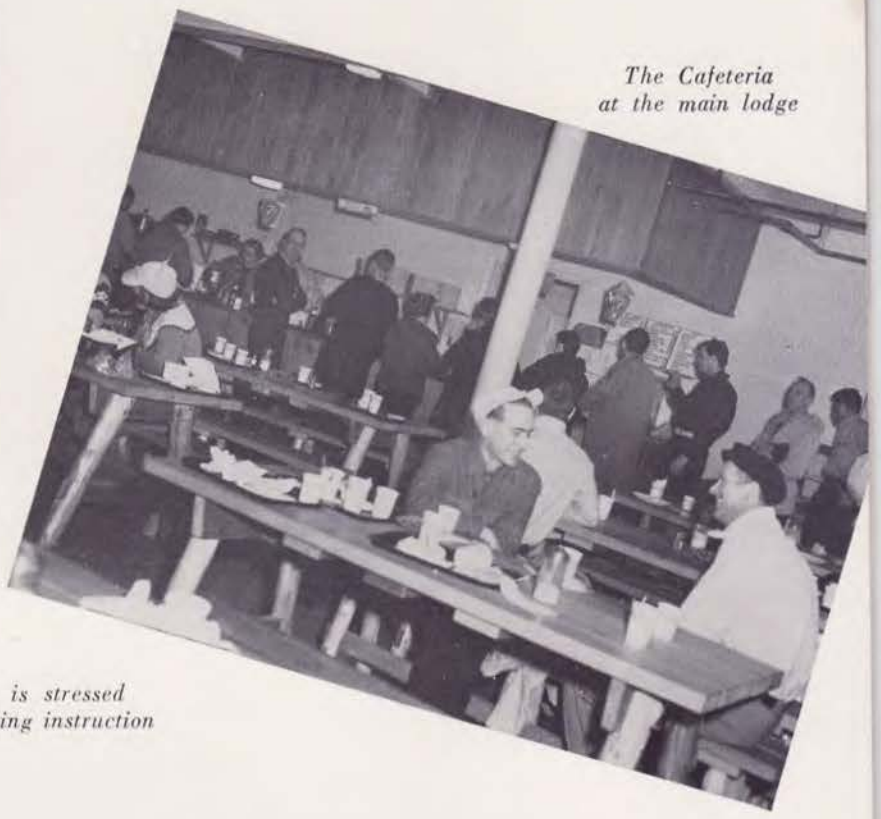
MOUNTAIN climbing is made easy the year around at our Belleayre Mountain Ski Center. In Winter skiers are whisked uphill by rope tows, a T-bar lift and New York's only chair lift. After the snow has gone, the tows and T-bar are put in mothballs, but the chair lift continues through the Summer months and early Fall to carry sightseeing passengers up and down the mountain. In the last twelve months some 100,000 persons have taken advantage of these facilities.

During Summer months, the chair lift operates at a leisurely pace. Its riders include visitors from every state, organized camp groups, infants who ride in parent's arms, an occasional nonogenarian, crippled persons and even a few blind people. They all seem to derive pleasure from standing on the mountain top feeling the cool, fresh breezes blow away city stuffiness, and merely gazing out on the forest covered mountains.

Operated by the Conservation Department, Belleayre is located in the Catskill Park of the Forest Preserve. By New York State Thruway to Kingston or Saugerties it is a mere three hours from New York City and only a couple

The Summit Shelter
ct the terminus of the chair lift

Safety is stressed
in all skiing instruction



The Cafeteria
at the main lodge

of hours from the Capital District. Pinpricking its location, Belleayre is off Route 28 at Highmount, between Pine Hill and Fleischmanns.

Belleayre was opened to the public in January, 1950. It came into existence as a result of a State constitutional amendment permitting the cutting on Belleayre Mountain of 20 miles of ski trails and the development of "necessary appurtenances." Prior to the amendment, there was considerable worriment about desecration and despoliation of the Forest Preserve. Nevertheless, even with its paved access road, parking area, rustic shelters, lifts and sweeping trails, Belleayre still fits harmoniously into the Forest Preserve. In fact, with 2,000 and 3,000 persons besieging the mountain in a single day, the most vocal cry presently is for further expansion of facilities.

Belleayre is a development to which people return time and again. Skiers in particular have a proprietary interest in the ski center and are forever offering their free services for all kinds of off-season and on-season tasks. Summer visitors, especially those with a European background, exclaim about the beauty of the Catskills and how the mountains remind them of the Black Forest in Germany. Late Summer brings in large groups of hay fever sufferers, whose sniffles disappear and rheumy eyes clear. Toward the end of September, when Fall foliage is approaching a fantastic, effulgent beauty, a new group of visitors arrives to ride the chair lift to the summit and hike across neighboring mountains. And along in November the cars of brightly clad hunters dot the parking lot, but the chair lift is then (fortunately for the deer population) closed.

These last few years it has been interesting to note a definite increase in the wildlife population at Belleayre. Openings made in the hardwood forest for the now grass-covered ski trails have undoubtedly served the wildlife as a super-market. Deer are a common sight. Bear tracks are seen occasionally. Raccoon, woodchucks, gray squirrels, rabbits, weasels and ruffed grouse are fairly abundant. Porcupines are too plentiful; believe it or not, they'll climb the steel chair lift towers and chew the rubber sheave liners. Why, no one knows. (Incidentally, although Belleayre has not been set aside as a game refuge, Department rules prohibit shooting within 1,000 feet of the lifts or other facilities.)

Belleayre has the distinction of having the highest base elevation of any ski center in the East—2,500 feet above sea level. From this point the chair lift rises almost 800 feet. With such an elevation, snow is reliable. Last Winter produced 112 days of skiing—with a couple of weeks of unrecorded skiing in November.

In its few short years of operation, Belleayre has helped change the economic life of many surrounding communities. Where formerly hotels and boarding houses closed their shutters upon the arrival of Winter, they now remain open and do a thriving business; in fact, the Winter season is now as long or longer than the Summer season, and from a business viewpoint is not discounted. It follows that snow reports have become a lively topic of conversation.

BELLEAYRE has not only helped its neighboring communities, but, with its year 'round operation as a recreational and scenic attraction, has managed to operate at a profit to the State.

—ARTHUR G. DRAPER,
Principal Park Superintendent

"The Growler"

Shooting on Great South Bay

by F. R. Buckley

4 O'CLOCK in the morning, black and bitter cold. The boat trembled, coughing. We backed out of our mooring and chugged down the inlet of the Bay Shore docks. The Great South Bay of Long Island loomed broad and dark before us. I shivered, the wind fresh over the bowsprit, and made my way to the shelter of the cabin. My wife was at the stove, heavy-eyed, waiting for the coffee pot to boil. I checked my gun by the kerosene lamp and smeared grease over the barrels.

"I see 'em!" John yelled from the deck.

Rushing out I asked where, but the Captain poured cold salt water on our enthusiasm. "Them's nothin' but shelldrakes and butterballs." He spat. The Captain was pitting his naked eye against John's huge Navy binoculars, yet there was no question as to who was right. All I could make out against the lead sky were a few straggling wisps, as if the Bay's hair were blowing loose. Ducks, rising and settling down again in predawn nervousness. At a thousand yards, the Captain could tell you what the ducks were feeding on. His 60-odd years of market gunning, guiding and general roistering about the inland waterways from Long Island to Florida were the equivalent of an outdoors Ph. D.

"The Growler" (background), "white" boat (center) and decoys

Many times on hunts he told me about the old days, the days when one professional quit gunning ducks in disgust after having personally killed five hundred in a morning. "There was *some* ducks, then," the Captain used to say, sweeping his hand across the flat skillet of the Bay. Brant and broadbill and redhead hove to there back to bill in great rafts of thousands of birds, feeding on the abundant eel grass and other vegetation and trading back and forth in clouds, looking for room to pitch in.

In '95 and '96, or thereabouts, the first warning came. The ducks seemed to have disappeared, gone, poof like puffs of smoke. The huge battery rigs (floating coffins, they were called) cost plenty to set out. They no longer paid their way. Many market gunners, the old Captain would ramble on, went out of business and sold or broke up their outfits. Only a few hung on, grimly unbelieving that the great plenitude of ducks from the North would ever stop swinging in during the Fall, piling up from the South again in April.

They were half right. The ducks did come back, about as many as ever, still enough, however, to raise the water level of the Bay with the weight of their bodies.

Five o'clock, now. Bay Shore was a scattering of dim lights behind us. Ahead we could just about catch the flicker of the Fire Island lighthouse. *The Growler* plugged along at a scant six knots. We had moved precious few ducks.

Things were changing by the turn of the century, I mused. The passenger pigeon took a trip to nowhere, and only its memory was left to die with those who had seen its hordes. As to the ducks, Fall and Winter it was bad enough, but the real killer was Spring shooting. Imperceptibly at first, and then precipitously, the ducks declined until their numbers fell so alarmingly that Spring shooting was outlawed in 1902 and limits progressively smaller were imposed.

That's just about where my father-in-law comes in. A booming fifty, he's gunned the Great South Bay since he was knee high to a Canada goose. He remembers the great days when a limit of 25 birds had just been ruled, and that limit seemed a pretty cautious measure in the face of feathered multitudes that made the Bay creak with their feeding calls. But then he too saw the birds, in 20 short years, get fewer and fewer. By the time of his last battery shoot, in 1933, the water chopping over the low lip of his cell, threatening to flood and sink him any second with the load of lead decoys and their weights, he was losing his taste for slaughter. He knew then that gunning as he and the Captain had seen it was over.

Pretty soon the time of the 25 limit

seemed like halcyon years. The eel grass disappeared in 1930 from the Bay. Redhead left it, perhaps forever. Brant became so scarce it was hardly worth the trouble. Only broadbill remained faithful in any numbers, but there just weren't enough of them any more to make up for the sharp reduction in other species.

I listened to the bells. Five-thirty. Butterballs zipped across our bow, little blips on the surface as they scudded past.

Came War II, and most of the great rigs disappeared. The market hunters died off, one after another. Some few wealthy men who could afford the cost of hundreds of decoys, a "white" boat and a Bay boat continued to rig out on a crisp November morning. But more of them gave up, said gunning was through, and sold their decoys to antique shops.

It was lighting up a bit, the rims of the horizon paling like a frost line against the gray-black waters and slate of a sky. The wind was swinging around from the southeast, agitating the waters into waves which thumped and splattered against *The Growler*. I peered into the cold gloom, wiping clear a spot in the briny wind-shield, but I saw nothing. My father-in-law chatted with the Captain, reviewing bygone hunts and discussing the day's prospects.

"Harrison," he said, taking a cast along the East Islip shore line with his binoculars, "remember the time we sat off Islip, with ice putting beards on the stool, and . . . Judas Priest!" he broke off excitedly. "Look at that!"

Towards the East, hundreds of black specks lifted from the waters, flew a thousand yards, settled again. Brant. They had returned.

The last two years had seen the eel grass reappear as mysteriously as it had gone, and the brant were staging a comeback. Broadbill shooting was still so occasional that brant were rapidly becoming a staple during their short open season. Right now, they were shoaled up where we couldn't go in the big boat. We were forced to lie off a considerable distance from the flightways they used between feeding grounds. But shore gunners, we knew, were in a worse fix. They could not get out anywhere near the brant, and at least we would have the benefit of a stray bluebill, an occasional whistler or butterball.

We headed East as far as we could go, the shore line of Cherry Grove lying off to starboard like a gray crust on the water. It was 6 o'clock.

"Reid, you and John get ready!"

We needed no urging. All around us brant were moving. Against the paling sky we could see smatterings of broadbill speeding West. From Fire Island rose occasional handfuls of black duck setting out for the mainland. Down in the cabin

John and I dropped a box each of No. 4s into shell containers, donned layers of sweaters and a windbreaker, and topped everything with a snow-white parka

On deck, the Captain was cussing everything into commotion, begging my wife's pardon as a few choice epithets slipped out. My wife and father-in-law were pitching overboard brant and broadbill stool as fast as they could. On a hunch, John and I grabbed the four goose decoys and threw them into the "white" boat, a narrow, rowboat-type craft that just fits two men lying down. Like our parkas, it was snow white.

The decoys were laid out so that they described an arc bending away from the shore line. John and I were dropped upwind of the stool, leaving a space of about 20 yards. This interval of water encouraged curious ducks to stool. Downwind, and somewhat to the right of our boat, we launched the goose decoys.

At first nothing happened. We lay there and shivered, salt spray bucking over the low rim of our boat and freezing on our whiskers. I watched *The Growler* splutter away from us and anchor several hundred yards out. I knew that from her cabin, as in battery days, somebody kept a constant watch on us through binoculars, looking to see if we got a shot or raised our guns horizontally in the distress signal.

John and I scanned the horizon. Nothing. Brant moving in the distance. Broadbill passing us in the East, miles away. Our eyes ached as we stared into the glare of the rising sun.

I started to dream, wondering idly why it was that ducks seemed to mistake us for a chunk of ice, didn't mind the glistening white. Particularly broadbill. Years of experiment had proved to my father-in-law that the birds never saw the men or the boat, passing right over without giving a thought, decoying in like chickens. All except for . . .

A dig in my ribs! I was just about to say, all except for widgeon, and here six of these canny ducks were giving us that cautious look-see so typical of them, circling and circling and circling our stool, undecided. I thought sure they would take alarm, although we held our breaths and moved not a muscle. All of a sudden, as though some safety signal had flashed green in their heads, they piled in.

We sat up, guns slapped to shoulders. The little boat bounced in the choppy waters. Cramped as we were, shooting was awkward. But four cracks of gunfire and three ducks kicked convulsively among the stool.

We lay back, terribly pleased with ourselves. Our eyeballs were sore from staring into wind and sun; nevertheless, we kept them busy combing the horizon.

I heard a sound like a bunch of old crones gossiping and it was my turn to dig John in the ribs.

Brant. A raft of hundreds moving our way. We sat tight, praying the water would not throw our boat too high and ruin the illusion that we were a block of ice. They kept coming, until I knew that if they got any closer they would bump into us.

Up we went. But the brant, looking huge with their great wingspread, were actually almost out of range, and the entire raft turned with hastened wingbeats and excited cacklings. One bird out of those many seemed to make too wide a turn. Perhaps, just maybe, he was in range. I let go with my left barrel. The brant shuddered, but he kept going. I was furious with myself for having taken the chance, but then the bird crumpled, a hundred yards distant.

The Growler got under way, going first for the brant, which was rapidly being pulled to shoal waters by the tide. They recovered the brant with a long net, picked up the widgeon and then took us on board. My wife and her father jumped into the ice boat for their turn at gunning.

While we drank hot coffee, gobbled chowder made from clams the Captain had scooped up with his tongs, my wife and her father went to town. We could hear an almost constant battering from their guns. I knew my father-in-law had got his limit when his Winchester 12 ceased to boom out as a bunch of broadbill set wings and sailed over. Only my wife's light double saluted them. A miss.

They waved to us, and John and I changed places with them. We had added a mallard and two coots to the total when John whispered: "Judas Priest, geddown!"

I sank into the hard bottom of the boat. For I too had heard that *harrumph* of Canada geese. Just between the brim of my white hat and the rim of the foot of the boat, as we rocked down on the waves, I could see three Canadas lumbering towards us. They were a mile away, but unless they swerved, they would pass directly over our decoys.

At half a mile they looked as huge as cargo planes. At a quarter of a mile they were bigger than our intercontinental

bombers. Our hearts stopped. Our trigger fingers froze to trigger guards, thumbs nervous on safeties. They kept coming.

When it looked as if they were going to run us down, I nudged John. Up we went!

They were *too* close! We had overcompensated for their huge size. Practically past us, making us swing to the right (almost an impossible maneuver for two people to accomplish in the tiny ice boat) we both missed with our first barrels. The geese could not have been fifteen yards away. On our second barrels, I caught one goose in the body (I could see his feathers flatten) while John caught the same bird square in the head and neck. He fell without a flutter. I wheeled around to the left, hoping to catch a goose going away, jamming a shell into my barrels. I let one fly, but as I did so I realized how deceptive was the speed of these monster birds. They were already out of range.

The Growler's horn jeered at our bungling, and we hunkered down out of sight in our shame.

By ten o'clock the breeze petered out. Flat calm. Broadbill, which had been moving to the West like a dust storm, only singles and doubles giving us a play, had disappeared from the skies. The shooting was over.

We tallied up. One goose, three broadbill, three widgeon, one mallard, one brant, one black duck, one bufflehead, two sea coots and one shelldrake. Quite a bag! And from shore gunners we had heard practically nothing.

AND shore shooting can't match the excitement and fun of open water shooting. This type of gunning is within reach of anybody. The syndicate that ran the rig from which we got such a nice bag is composed of a broker, a greenhouse man, a sugar executive from the West Indies, a garage mechanic. Each individual contributes his share. The garage mechanic not only takes care of the engines; he made the goose decoys. My father-in-law is handier with tools than most professional carpenters; he repairs woodwork and is the acknowledged master chowder-maker. Others contribute in money, time, equipment.

This type of gunning—a test of skill and knowledge for the specialists—is practiced in many places on the eastern seaboard and is open to anyone who takes the time and has the ambition and patience to assemble a rig and to wait out many long days when weather makes it impossible or just plain useless to set the stool out. It is by no means a sure thing. Sometimes they won't stool; often they are missed. The day of the market gunner is past, but the day of the sportsman still lies ahead.

Lake Access Sites

A New Program to Meet the Public Need

RAPIDLY increasing human population, industrial expansion, suburban and resort development, improved transportation and super-highway construction, more leisure time and the discovery by new thousands each year of the rewards of hunting, fishing and just being out-of-doors—all these factors are combined to confront landowners, sportsmen and the Conservation Department with one of today's most vexing problems: How to meet the public demand for lands and waters on which to hunt, fish, hike, camp or just plain take it easy, and, at the same time, alleviate the pressure upon privately-owned lands of the State.

Frankly, the Conservation Department does not yet have a completely satisfactory answer to that problem. But we have moved a long way toward the solution through the development of new and better parks throughout the State, expansion of trails and campsites on Forest Preserve lands and adoption of a multiple use philosophy in regard to State Forest and Game Management lands.

A pioneer program in this effort involved the acquisition of perpetual fishing rights from private landowners on top-quality trout streams in New York. To date, such rights have been purchased on 828 stream miles, and the program continues—an invaluable guarantee of public trout fishing opportunity now and in the future.

In recent years, a similar problem of public access has arisen on a number of our lakes (including even some of the largest) where shore front property is at a premium for cottage sites and other private development. The problem has been magnified by the tremendous increase in sportsman ownership of portable fishing boats and outboard motors. The full use and enjoyment of these lakes for fishing purposes depends on the availability of access and boat launching sites. To meet this need, the Department has begun a program for the acquisition of public boat launching sites on our more heavily fished waters.

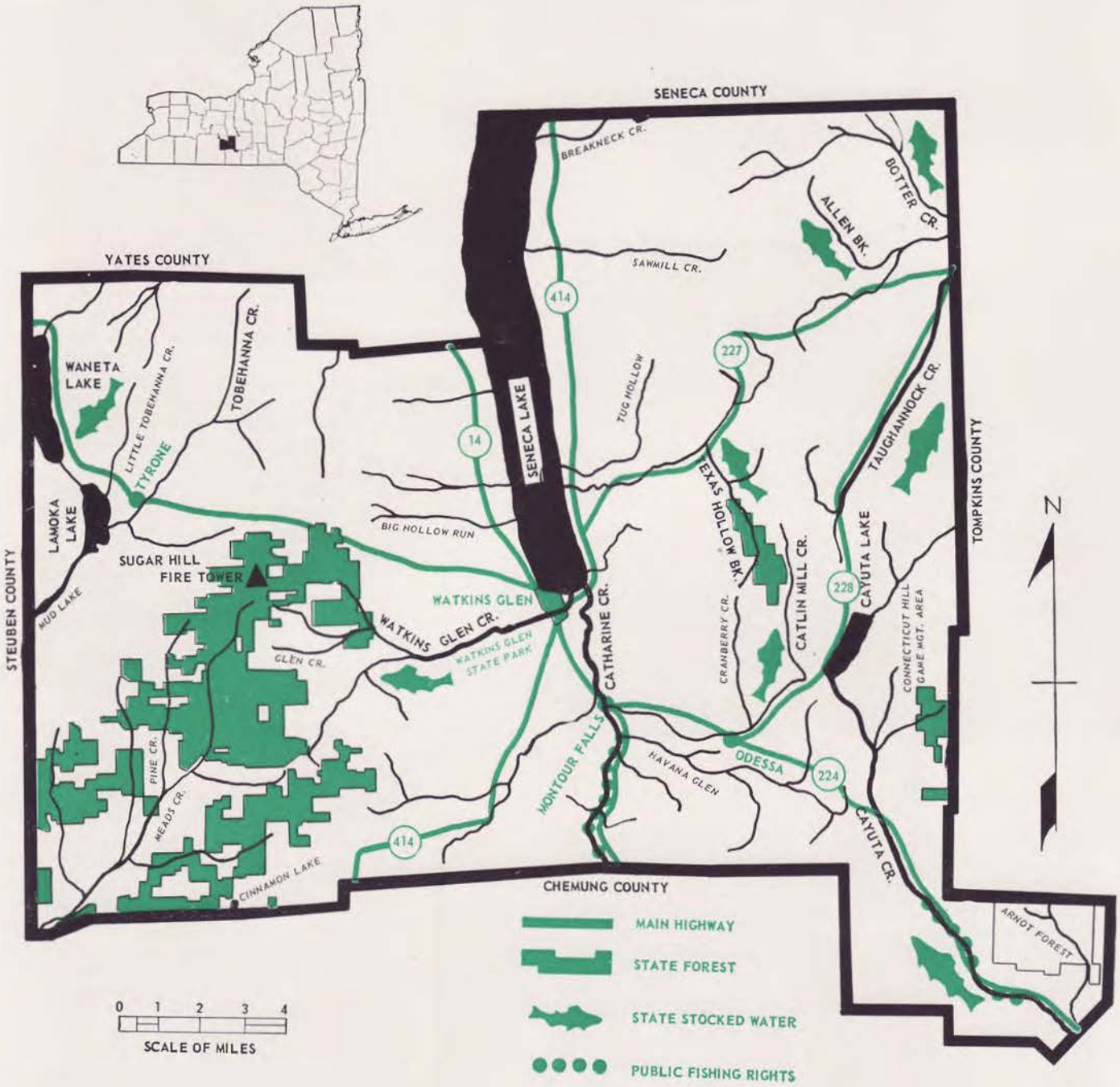
Thirty-three possibilities on ten different waters have been investigated. But it takes some time to acquire satisfactory boat launching sites because of the limited availability of properties suited for the purpose, the high price of shore front property, and the problems involved in obtaining title.

The first public boat launching site was, however, acquired, developed and put into operation on Canandaigua Lake on August 13th of this year. This site is located in Sucker Brook, an inlet to Canandaigua Lake, near Red Jacket Park in the City of Canandaigua. The development consists of a ramp for the launching and loading of boats from trailers, a log docking for the landing and loading of boats, parking space for 30 cars and trailers (or 60 cars without trailers), receptacles for the disposal of refuse, and an access road from Route 20. The site and the entrance to it are well marked by signs. Thanks are due the City of Canandaigua for making this site available by lease to the Department for development.

The Canandaigua site is just the beginning. The Department is in the final stages of acquiring similar property on the north shore of Oneida Lake and is negotiating for another site on the south shore of that lake. We are also investigating possibilities on other lakes. And we hope that several additional boat launching sites will be put in operation during the course of the next fishing season.

—W. MASON LAWRENCE,
Asst. Director, Div. Fish and Game

Schuyler County



N. Y. S. Conservation Department Offices

District Forester	5 E. Steuben St., Bath
District Game Manager	Corners Community Center, Hanshaw Rd., Ithaca
District Fisheries Office	383 E. Main St., Rochester
District Game Protector	1201 Press Bldg., Binghamton

Farm Service Offices

Schuyler County Soil Conservation District	**Co. Court House, Watkins Glen**
Schuyler County Agricultural Agent	**105 Ninth St., Watkins Glen**

—Roy Irving.

Adirondack Hotels

An early Blue Mt. Lake House. Last was razed this Summer for Museum. Merwin's cabin at left will hold hunting and trapping exhibit

Tupper Lake House offered rest, fishing and boating

There was croquet at the Taylor House, Schroon Lake, for the "athletic"

Chester Hotel, Chestertown, favorite stopping off place to interior

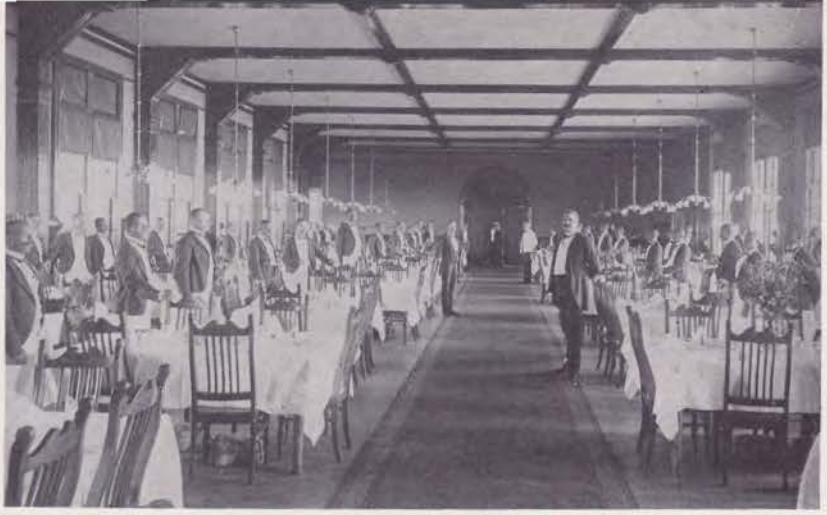
DURING the latter part of the 19th Century and the early years of the Twentieth, there flourished in the Adirondacks a "summer civilization" unique in the history of the resort business. In those years about 200 hotels, catering to approximately a quarter of a million persons per year (most of them of more than substantial means), sprang up in the newly discovered wilderness. "Monstrosities of architecture" to many people, they nevertheless provided luxuries and comfort that—except with regard to plumbing—are seldom equalled today. Furthermore, they stood (and a few still stand) as monuments to native enterprise. It was no easy task to build them, and once built it was no easier to fill them with guests. But the hotels were built, and the guests filled them up.

As you will see from the pictures on these pages, the great hotel of this era was an imposing structure and almost invariably a conspicuous part of the landscape. It offered what in those days were luxurious facilities—no matter where found. It advertised a menu featuring trout and venison and the finest wines; rooms with fireplaces and perhaps a bath; steam operated elevators; gas light generators (the first hotel in the world to install incandescent bulbs was the Prospect House); bowling alleys; steam heat for autumn weather; two story outhouses; orchestras for chamber music—and rooms at from $5 to $45 per day.

Access to these establishments was usually difficult. Long trips by stagecoach were a standard requirement, although many of the now defunct Adirondack railroads delivered their quota of wide-eyed tourists.

Now, of course, all this has changed. Most of these fabulous Adirondack hostelries have either been burned to the ground (they were without exception highly inflammable) or have been razed to make way for other accommodations —such as motor courts, trailer camps, and all-weather hotels. And now, of course, the resort trade is no longer dependent upon the stagecoach and the wood burning locomotive; we have the automobile and the airplane.

—ROLAND B. MILLER



Luxuriant resorts like Hotel Champlain had similar dining rooms and big staffs. Cuisine of many was fabulous, wine cellars offered guests only the finest

All old Adirondack hotels provided porch scenes such as this at Sagamore House, Long Lake. Guests were the elite

Silas Call's Hotel, Sayville (now Lake Pleasant). Note three-seated stage. Dude ranches were unknown then but guests went to and from fishing spots on horseback

Loon Lake House parlor. Lavish balls and masquerades were frequent

A room in St. Hubert's Inn, Keene Valley. Ideal for reading, writing and relaxing

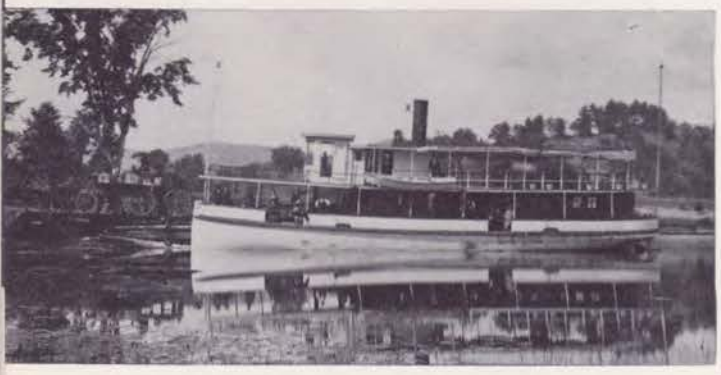
This unidentified orchestra could have played at any of a score of resorts

Adirondack Hotels (Continued)

Wells House, Pottersville, in 1907. This old hotel is one of few still in business

Prospect House, Blue Mt. Lake, first in world with incandescent lights; also had bowling and shooting gallery

Stage leaving Paul Smith's in 1880. Site now is college, including well known School of Forestry



Steamer brought guests to landing . . . and continued to Leland House, Schroon Lake

Wells House, Pottersville, in 1912. Guests on a motor tour pose for a picture

Air Age Conservation

EARLY this year, pilots and passengers landing at the Cornell University-Ithaca airport, were puzzled by the sudden appearance of a large number of ponds in the area immediately around the airport. The 500-odd acres occupied by the airport itself is surrounded by over a thousand acres of University land not needed for airport purposes. The area is partially wooded, partially farmed through leases to nearby farmers—and partially abandoned. For years it has been used occasionally by Cornell graduate students in their field work for thesis problems, because it has a wide variety of habitat.

Credit for the discovery that this area offered outstanding possibilities for waterfowl developments goes to Ben Bradley and John Whelen of the Conservation Department, who are always on the alert for favorable sites for the building of wildlife ponds under P-R (Project) 48-D. The relatively level topography which made the area choice for the airport was also the characteristic which made it desirable for development.

We soon found that the University had no other plans for the greater part of this land, and the administration was glad to grant permission for it to be used as a wildlife management research, demonstration, and teaching area. State game men with P-R 48-D proceeded with surveys and found that an unusual variety of wildlife marshes could be built at favorable costs. So in the Fall of 1954 three marshes were constructed with water areas ranging from 3.9 to 26.8 acres, together with 24 "potholes" which averaged about an acre each. These small potholes (as you know if you are a careful reader of this magazine) are an integral part of the State's 48-D program, developed to take advantage of the many sites where a small pond, usually less than an acre, can be developed to supplement the waterfowl breeding territory afforded by the larger marshes. The potholes of the Prairie Provinces of Canada have been long known to be the most productive waterfowl region in the continent, and ours in New York are simply man-made replicas of the same thing.

During the Summer of 1955, an additional marsh to flood 8 acres was constructed, so that in 1956 (when for the first time the water will be let in) we shall have 28 individual bodies of water covering over 70 acres developed for wildlife. And this area is only three to five miles from the University campus.

Many observers, hearing of the plans and seeing the marshes already developed, have wondered about the effect on wildlife of the dozens of daily landings and takeoffs of airplanes ranging in size from privately owned "Cubs" to the DC-3's and Convairs operated by Mohawk. The airplanes, we can state with certainty, cause little or no disturbance to the wildlife. One of the marshes is actually so close to the end of the main runway that the 'planes in landing and taking off roar over it only a few hundred feet up, but this same marsh of 3.9 acres produced one brood of wood ducks and one brood of black ducks during this year (its first year after construction) and it has frequently harbored groups of resting and feeding waterfowl of several species, including even Canada geese, which have paid no attention to the airplanes. It seems clear that the various species of wildlife, even the shy and retiring black ducks, quickly became accustomed (to the point of boredom) with the regular flights.

The area is still in the formative stages, but its proximity to the University and the diversity of its wildlife make it sure that it will be exceedingly useful in the teaching of several courses, especially wildlife management. It has several tracts of woodlands, of which the largest, although only partially on University property, is a solid block of 600 acres. These wooded areas are the haunts of many deer, rabbits, ruffed grouse, and woodcock as well as a large variety of non-game species. Pheasants are common in the open areas, and mourning doves abundant. One of the particularly interesting discoveries this Spring was that a very large population of Wilson snipe frequented the area until so late that it seems probable this species nested there. No young were found, but the adults were seen continuously through the May, June and July period when they should have been nesting. During the migration period in May they were so abundant that one could stop anywhere on the area at dusk and hear three or four snipes performing their characteristic courtship flight and uttering their "winnowing" sound.

At least two of the marshes have borrow pits behind the dikes which are deep enough to make them suitable pounds for growing minnows. This will fit in not only with the research being conducted in the Department on minnow culture, but will no doubt provide food for the many fish-eating birds which have already been seen visiting the area, and make the whole tract more interesting to ornithologists.

The construction program encountered one snag which has been found here and there in the State during similar wildlife pond construction, and unfortunately it involved the largest marsh of the group—one that will be 26 acres plus when flooded. When the dike for this marsh was completed and a head of water began to develop, it was discovered that a deeply buried old stone drain passed below the dike and was permitting the water to leak out far too rapidly. It had, therefore, to be drained completely and the 1955 season was devoted to uncovering and filling the old drain. But even this misfortune makes the area valuable for demonstration!

THE Cornell University Department of Conservation is very fortunate to have such a valuable, diversified, teaching and research area for wildlife work within ten minutes of the campus, and is particularly appreciative that the State Conservation Department was able to install so many valuable waterfowl developments. This co-operation has already paid off in adding much excellent wildlife habitat, and in years to come will pay off still further in better-trained professional wildlife men.

Though the development on the area began only last year, we have already instituted systematic censuses of both upland and marsh wildlife, stocked three of the areas with minnows, made experimental plantings of a dozen species of valuable wildlife food plants, and prepared an aerial photo mosaic and a cover map of the entire area. Future generations of wildlife students at Cornell will continue such field activities and will gain much excellent field experience in the process.

—GUSTAV A. SWANSON

More About Wild Turkeys

The 1953 Summer and Fall releases of wild turkeys were almost complete failures. While this may have been in part the result of the absence of a mast crop in 1953, the disappointing results so far from the 1954 Summer and Fall releases has led to the decision to hold all birds for Spring release—and to hold some toms for nearly two years before release—so as to have the latter in full breeding condition.

This year, about 200 turkeys were released in March in the forested portions of Allegany, Steuben, Delaware and Broome counties, and in March, 1956, approximately 550 turkeys will be liberated in the same counties. Cattaraugus County, which was stocked in 1952-53 and also last year, will be observed to determine whether the turkeys have really taken hold, and whether they are likely to attain huntable numbers without annual "shots in the arm."

WE stopped the Jeep and climbed out to follow some tracks in the snow which led across the road and into an overgrown meadow. As we approached a clump of brush, 11 great dark forms arose with the ease and grace of a covey of quail and flew back across the road toward the shelter of a red pine plantation, their bodies glistening bronze and green against the clear Winter sky. These were wild turkeys, and two or three of them carried aluminum leg bands, indicating that they had been released previously here in Allegany State Park by the Conservation Department. The unbanded members of the flock were undoubtedly young of the previous year.

The attempt to re-establish the wild turkey in New York was begun in November of 1952 with the release of some 200 birds. Additional releases were made in Allegany Park and elsewhere in Cattaraugus and Allegany counties in March of 1953 and 1954.

The best indication of successful re-establishment of this species is probably the production and rearing to maturity of broods in the wild, and every effort has been made to get records of as many turkey brood observations as possible. The total area over which the releases were distributed included southern Cattaraugus and southwestern Allegany counties, as well as parts of Sullivan and Delaware counties in the Catskill region. Obtaining a significant number of first-hand brood observations over such extensive areas would have been beyond the best efforts of the limited Department personnel available for the work, and the help of local residents was sought. Return post-cards were sent to selected local people living near the release sites outside Allegany Park in the two Southern Tier counties at two-week intervals throughout the Summer of 1954. The return portion of the card requested the answers to certain questions regarding details of any brood observations made. Nearly 80 per cent of the cards were returned, and the quality of the reporting was generally excellent. Without this fine co-operation on the part of the general public, survival and reproduction data on these releases would have been scant indeed. Two nest, nine brood and 25 adult turkey observations were reported.

The help of State Park Rangers, other park personnel and park visitors was sought for information as to the survival and brood production resulting from turkey releases within Allegany Park. Report forms were mimeographed and a supply of them, together with an explanation of their purpose and a suitable receptacle for completed forms, was placed in the cabin rental offices and park employee headquarters. Fifty-eight completed forms were turned in as of September 1. Thirty-seven of these were records of brood observations. Here again,

Turkey hen sits complacently on the nest

Just one short of a dozen turkey eggs

the quality of the data was very good. Our thanks are certainly due the authorities, employees and visitors of Allegany State Park for the very valuable help given us in what would have otherwise been an almost hopeless task.

The fact that these wild turkey releases have survived to produce significant numbers of broods in the wild provides a sound basis for hope that the species may indeed become re-established as a stable wildlife population of our State. But there are several factors the possible effects of which are difficult to judge. Human populations have increased, forest habitat has diminished and the American chestnut, formerly a staple diet item, has disappeared since wild turkeys last inhabited southern New York. The turkey is apparently an omniverous feeder, however, and under New York conditions utilizes a wide variety of green feed, insects and wild fruit and seeds. In any case, during two Winters of observation no evidence of undernourishment has come to light.

During the Winter of 1953-1954, 13 range units in and near Allegany Park were covered several times on tracking snow to get estimates of the number of birds in each unit. Lack of experience with turkeys made it difficult for workers to judge the size and extent of winter range units. However, it seems probable that the number of turkeys per square mile of range approached that which is judged to be maximum for the West Virginia range*.

Late Winter estimates were again made on the same areas in 1954-1955, and a slight decline from the previous year was noted. No significant evidence of loss through predation or other causes was found. This suggested the possibility that a significant number of birds—roughly equivalent to the total 1954 young of the year plus a few adults—might have moved out from the Park range due to population pressure. Reports of banded birds released in the Park being seen in the vicinity of Jamestown, 15 or 20 miles to the west, indicate that turkeys from the Park and vicinity may be extending their range in that direction.

Reports from Park personnel, campers and local residents show that again in 1955, probably 25 to 30 turkey broods were produced in the Park and adjacent areas. Three broods were reported from western Allegany County in 1955. Steuben County areas were stocked for the first time in early April of 1955, and 10 broods were seen during the following Summer. One adult turkey observation was made in Yates County and two in Chautauqua.

It is still too early to judge the prospect for successful re-establishment of this species in its former New York range. The last releases were made in Allegany Park in the Spring of 1953, but substantial reproduction and survival was evident both in 1954 and 1955. No releases were made in Cattaraugus County range adjacent to the Park after March of 1954, but there was, nevertheless, an increase in the number of broods reported in 1955.

The turkeys have made their best showing to date in southern Cattaraugus County. The range in this region consists of extensive areas of hardwoods, interspersed with small stands of conifers and abandoned fields. The supply of clean water is unfailing, and the creek bottoms (where the birds usually winter) contain an abundance of blue beech, hard hack and black cherry—all important winter foods. The density of the human population is low. These characteristics appear, at this time, to be the most important in distinguishing suitable from unsuitable turkey range under New York conditions.

It is not only in its ability to make the best of the available food supply that the turkey appears to be a tough and resourceful bird. In the Summer of '54 one of the Park Rangers saw a red fox jump into the brush from the shoulder of the road, and stopped his car to investigate. As he did so, a turkey emerged from the grass where the fox had disappeared and ran across the road into the woods, apparently uninjured. Turkey feathers, but no blood or skin, were strewn for 30 feet along the roadside. Perhaps the fox would have killed this bird had he not been interrupted—but perhaps not. A few tail and contour feathers have been found upon several occasions when a close search of the surrounding area revealed no further clues. It seems probable that in these instances the turkey survived an initial attack by a predator and escaped.

We have other records of the turkey's ability to take care of itself. A 17-weeks-old turkey was attacked, apparently by a pair of foxes, the evening of the day it was released in March, 1953. Although hurt and unable to fly, this bird managed to travel over 300 yards under constant attack before being pulled down. Another large male was seen in the Spring of 1954, proudly strutting before two females, with all but one of his tail feathers missing. And the day after the releases in Allegany Park in March, 1953, the writer was following a turkey track in the snow while checking initial survival at the release sites. The track ended in a scattering of feathers and a few spots of blood. Wing streaks in the snow indicated that this bird had been attacked and cut by a large winged predator (probably a great horned owl) the previous evening. The turkey was found, in a very weak condition and soaking wet, standing in two or three inches of water in a nearby stream. He had evidently tried to fly after being attacked, and had floundered into the water. The banks being about 10 feet high and very steep, he could not get out and had probably spent the night standing in the water in near-freezing temperature. He was picked up, still bleeding slightly from a wound on his back, and placed on dry, bare ground under a hemlock. A few handfuls of corn were placed nearby. Late that afternoon, he arose when approached and moved off, obviously in good shape, and the corn was gone.

EXPERIENCES such as these excite the admiration and respect of those who have worked with this rugged and courageous game bird. They are also a tribute to the personnel of the Sherburne Game Farm for the degree of "wildness" they have managed to retain in the turkeys they have reared. If, as seems more than possible, the species becomes re-established as a permanent wildlife population in New York, it will surely prove a match for any hunter's skill.

—STACE ROBESON,
Game Research Investigator

* "Wild Turkey Management in West Virginia"—Conservation Commission of West Virginia—Bulletin No. 2.

Erie Canal Project

"A PLEASANT spot where a boy, his family or his neighborhood gang can find plenty of room to fish in waters that are clear and productive." This is the dream of many a New York State community. The sportsmen of Onondaga County can point with pride to such an area, planned and developed entirely through the initiative and energies of local sportsmen.

Behind this accomplishment is a story of over three years of planning and concentrated volunteer work by members and friends of Onondaga County sportsmen's clubs. After a number of meetings with Conservation Department and Department of Public Works officials, an unused two and one-half mile section of the Old Erie Canal just north of Fayetteville was picked for improvement and a permit was obtained from Public Works to develop the area.

Then the real work began. The first big job was the removal of brush along the towpath road. Then the towpath was repaired and gravelled. Later a parking lot was built and 24 "fishing spots" were cleared of trees and brush that lined the shores of the old canal. Sand bag dams were installed at each end of the section to be improved, and later these were replaced by permanent plank weirs that permit drainage of the project section without affecting other sections of the canal. These weirs also tend to prevent coarse fish from re-entering the project area.

Then the area was drained and all the junk, garbage and debris accumulated over the years was cleared from the bottom and trucked away. The small pools of water which remained after drainage were poisoned under the direction of Fisheries District personnel and all carp and other coarse fish removed. After all the junk and obstructions were cleaned out the area was reflooded.

In all, 20 work sessions were held. A total of more than 1,500 man-hours of labor was contributed, without accident. Largest turnout was about 100 men. Almost all tools and materials were donated by local merchants and contractors; at least 50 truckloads of junk and debris were removed from the canal bed; many large piles of brush were cut and burned; over 5,000 lbs. of carp were removed and buried; sixteen truckloads of gravel and 25 truckloads of fill were required to rehabilitate the towpath and create a parking area; total of 5,750 sublegal and over 175 legal black bass (mostly smallmouth), 350 two-pound bullheads, 135 legal walleyes and about two dozen northern pike were stocked in the area under the direction of the Conservation Department's Bureau of Fish.

Finally, with the installation of two 4x8 foot entrance signs and 100 small signs explaining fiishing regulations, the project was ready for dedication and, most important, for the fishing pleasure of youngsters and oldsters alike. Today, the "Erie Canal Project" is concrete proof that local sportsmen's clubs and conservation groups, under the right leadership and guidance and with a worthwhile project in mind, can really make an impressive contribution to the welfare of the community.

—JOHN A. WEEKS,
Asst. Game Research Investigator

Carry

A new lake is made

A NEW lake is now available to the public for fishing, hunting and general recreation. It is the Carry Falls storage reservoir on the Raquette River in St. Lawrence County, about twenty-three miles south of Potsdam.

The reservoir is part of a large hydro-electric power development now being built by Niagara Mohawk Power Corporation. Recently, the company completed the steps necessary to make the reservoir perpetually available and accessible to the public. In addition, the Company is constructing roads and large parking lots at either end of the lake and has given permanent easements to the people of the State of New York so that these facilities will always be open to the public. Each of the parking lots will have wide ramps leading into the water so that fishermen may easily launch or recover their boats.

The work has been planned and carried out with the purpose of making the new waterway as available as possible to as many sportsmen as possible. Because Carry Falls is a storage reservoir, the level of the lake will necessarily vary as water is released to regulate levels of the river and reservoirs downstream. Under average conditions, Carry Falls will be at maximum depths in April, May and June and at minimum depths in November and March when the reservoir is emptied to provide storage space for heavy run-offs of seasonal rains and melting snow.

The storage reservoir was constructed to provide a more even flow of the Raquette River. It has created a body of water seven miles long surrounded by wooded hills. The reservoir extends generally north and south and can be reached from the north by way of State Highway 56 and the old Colton-Long Lake (Hollywood) road, part of which is now covered by the reservoir. Niagara Mohawk has constructed a road from this old highway to a parking lot at the dam where there is space for fifty cars.

To reach the reservoir from the south, drivers can take Route 56 from Sevey and turn right on the old Colton-Long Lake road which extends two miles to the shore of the lake. The Town of Colton has abandoned this portion of the old highway but Niagara Mohawk has granted the public a permanent easement over the route and has built 700 feet of road from the old highway to the upper parking lot.

Falls Reservoir

available to the public

As a result of the granting of these rights-of-way and construction of roads and parking lots, fishermen and hunters will have easy and full access to a new body of water. They can also go by boat, water levels permitting, to a large area of previously inaccessible State-owned wooded land along the east side of the reservoir.

GENERAL

Carry Falls Reservoir was built in 1951 and first filled in 1952. At present a study is being conducted with the help of Federal Aid moneys to determine the effects of impoundments on the fish and fishing in this section of the Raquette River

PHYSICAL FEATURES

Area: 6,470 acres, when full
Bottom: Mud, sand, gravel and boulders; very uneven, stumpy, no weed beds

WATER CHARACTERISTICS

Color: Light brown
Transparency: Fairly good
Oxygen: Generally satisfactory
Alkalinity: Low; water soft

HUNTING

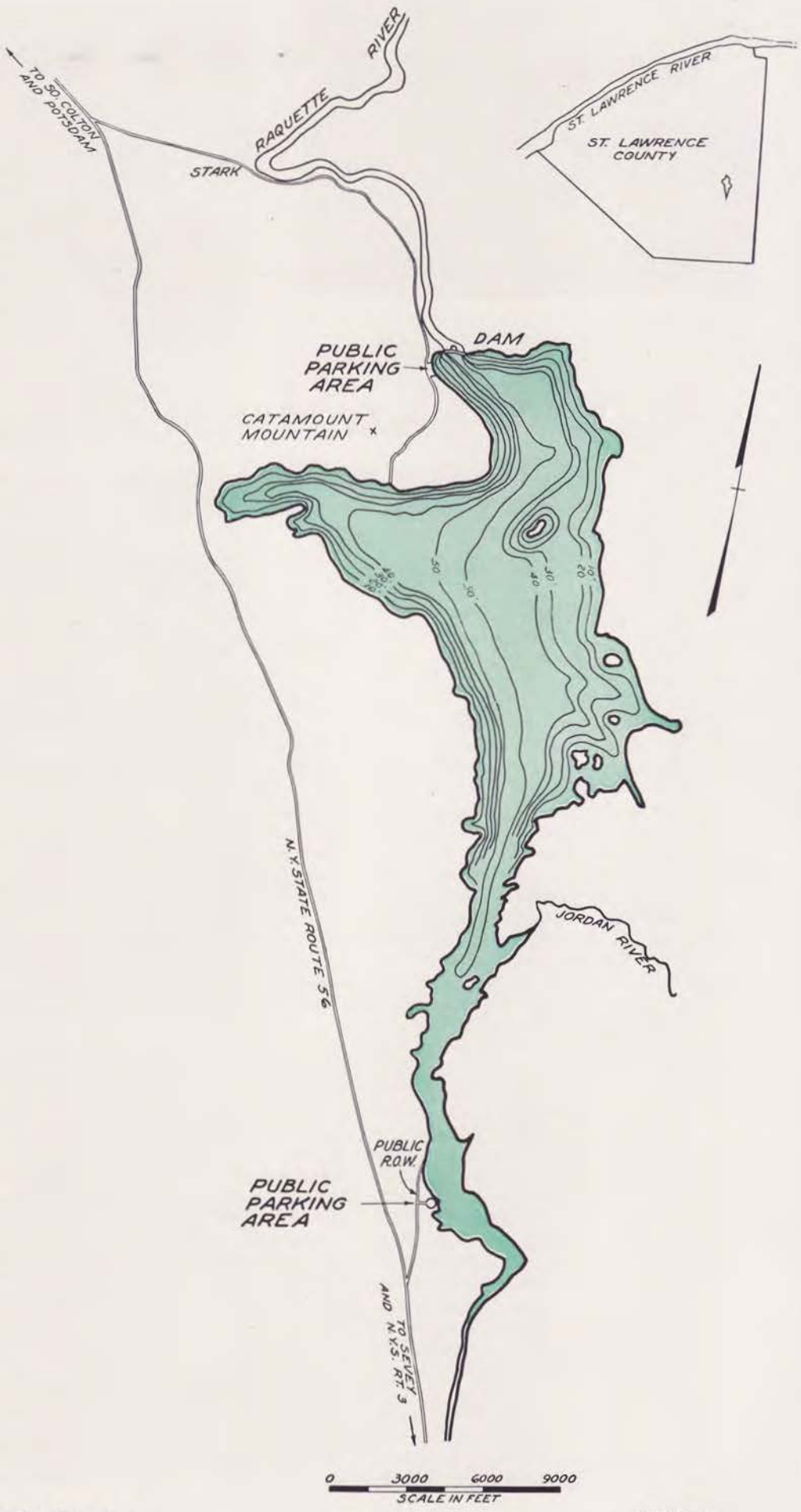
Excellent for deer; mostly park land in vicinity of reservoir; some State land available

FISH AND FISHING

Smallmouth Bass: abundant
Northern Pike: Common
Pikeperch: Fairly common
Bullheads: Abundant
Yellow perch: Common
Rock bass: Common
Suckers: Common
Cisco: Rare
Minnows: Very common

Most of the species listed are generally distributed throughout the reservoir. Smallmouth bass (up to 1½ pounds) and northern pike (up to 4 or 5 pounds) provide moderately good fishing; a few walleyes (pikeperch) are caught. Bullheads are caught in fairly large numbers, although the average size is small (about 7 inches)

Some fishing (particularly for bullheads) is done from shore, but the reservoir is best fished by boat. Fishermen must bring their own boats; no boat liveries are available. Fishing can be done in the lake-like surroundings of the main reservoir or in the swift-flowing, bouldery inlet river —D. G. Pasko



Opening the outlet

Spraying crew on pond

Shore, inlet spray equipment

A New Deal for Pitchfork Pond

by Frank H. Morrison, *President, Tupper Lake Rod & Gun Club*

In a recent issue of THE CONSERVATIONIST, *there appeared an article in the Letters section about how many hunting clubs purchase or lease unposted lands and as soon as they have title to such lands, they slap up posting signs. We have had the same situation up here in the North, but I believe that when just the opposite occurs, then that story should also be told.—F. H. M.*

A YEAR ago last February the Tupper Lake Rod & Gun Club hit upon the idea of putting back into first class shape a pond that at one time had been a very good trout fishing water. This is Pitchfork Pond, located in the Township of Altamont, County of Franklin and approximately two miles from Tupper Lake along the old New York and Ottawa Railroad bed. This project had been brought up before and had been discussed many a time, and each time nothing had been done about it. But at a meeting one night in February the question was discussed with Game Protector Clarence Savard and he readily accepted the job of liaison officer between the Rod & Gun Club and the Conservation Department in Ray Brook.

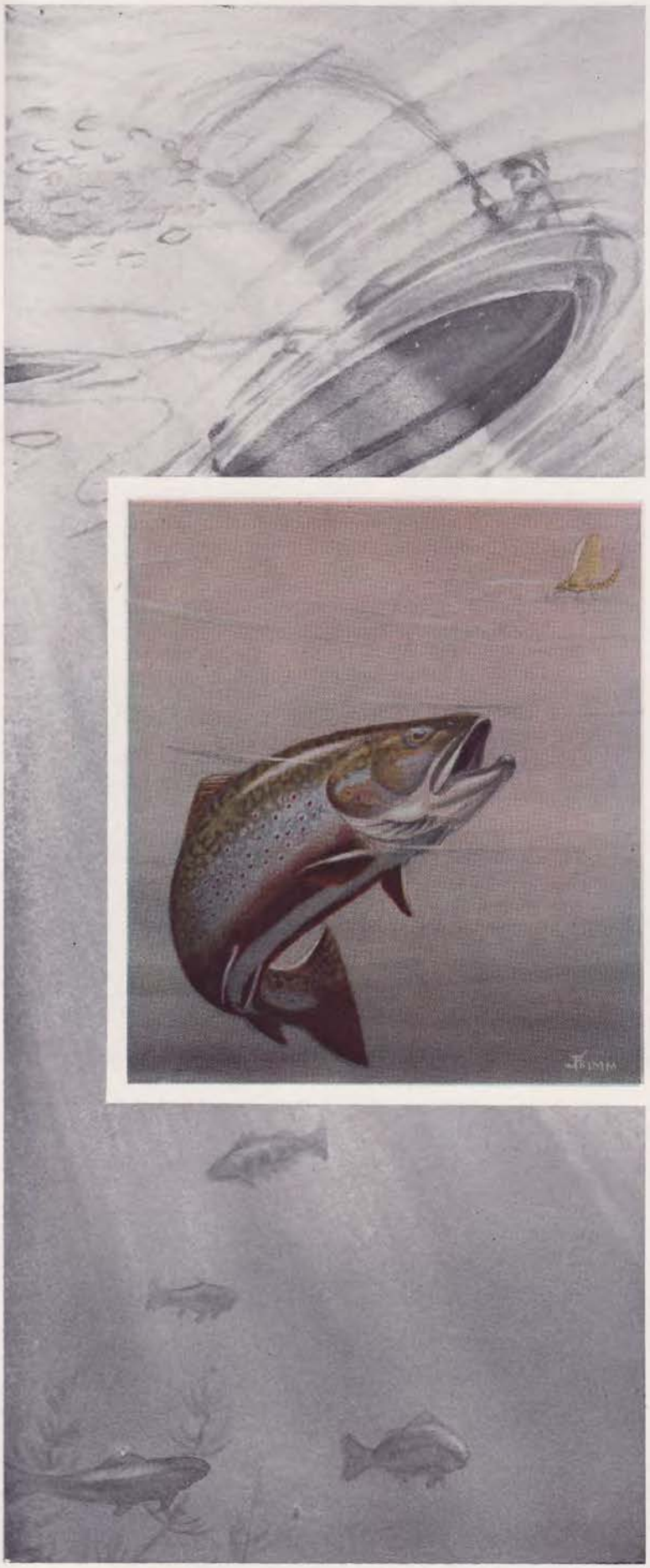
Protector Savard met with Robert Zilliox, District Fisheries Manager, in the Adirondacks, and secured all the information necessary to start the wheels in motion. Mr. Frank B. Willson, Resident Manager of the International Paper Company in Glens Falls, was contacted inasmuch as most of Pitchfork Pond was on International Paper Company land, and written permission would have to be obtained from the company before the pond could be opened to public fishing for a specified number of years. Mr. Willson agreed to present our case to the other landowners. (It seems that the land was owned jointly, the other two owners being Whitney Industries, Inc. and the P. Moynehan Estate.) Correspondence went back and forth between the Club and the landowners for a period of about three months. There were many arguments pro and con, but soon the correspondence reflected a positive trend, and on the basis of this trend, Mr. Zilliox had a survey team come in and make a survey of the pond. The results showed that the pond was loaded with trash fish and would have to be reclaimed (poisoned with rotenone) before any restocking could be done.

Not too long after the survey, the contract between the Conservation Department and the landowners was drawn up by the Club and submitted for the approval of the landowners. Much to our pleasure, it was returned to us with the following signatures affixed: For International Paper Company, L. J. Kugelman; Whitney Industries, Inc., Kenneth A. Reid; and for the P. Moynehan Estate, Harold P. McConnell.

Once again Bob Zilliox, Protector Savard and members of the club went over the survey report. It was found that the water level of the pond would have to be brought down about two feet due to the fact that under existing conditions large areas of swampland were flooded; if the pond level could be brought down, the swamp areas would dry up and the cost of poisoning would be reduced. One of the club members made contact with the officials of both the Town of Altamont and the Village of Tupper Lake informing them of our plans and they agreed to co-operate 100 per cent. Members of the club went ahead and by hand opened up the dammed outlet of the pond. Four days later, the Town of Altamont and the Village of Tupper Lake provided a steam shovel, a dynamite man and a grader—and in co-operation with members of the club the outlet of the pond was *really* opened.

The problem was to *keep* it open. The local Game Protector, Clarence Savard, gave permission to one of the club members to live trap the beaver in the pond for transplanting to other waters. The beaver would dam up the outlet each night and it would be necessary for some club member to break out the dams each night and each morning. We tried putting out kerosene lamps, but it just seemed to give the beaver more light to work by. But finally the beaver were live trapped and the dams blown up, and everything seemed to be in readiness.

It had been arranged to let the club know when the actual poisoning would take place so that we could co-operate with the Conservation Department in getting this job done. The day of poisoning arrived and about 15 members of the club, as well as a couple of members from our Auxiliary, showed up to help. The Department trucks were unloaded and the boats put into the water, alongside the three boats the club had on hand. Mem-



bers of the club were outfitted with ponchos and Indian pumps for shore and inlet spraying. The Conservation men set up their spraying equipment and split up, taking members of the club in the boats with them. The job was started.

About lunch time the ladies of the Auxiliary that were on hand brought out sandwiches, milk, cookies, etc. to feed us. Although most of us had brought along our own lunches, the time spent out in the open just about doubled our appetite, and we demolished the ladies' offerings in no time.

It was just after dinner when the first fish came to the surface. There was one big yell. We had been looking and looking, but what with a slight wind and cold water, the time necessary for the rotenone to produce results was a bit extended. Soon, however, the top of the water was covered with perch about 6 inches long and every now and then a big sucker would wiggle its way up to the top and then dive down again.

Just prior to the poisoning, the outlet of the pond was filled in by hand to retain the poison. The outlet was permanently filled in with gravel this Spring, in addition to the material that was put in last Summer.

The poisoning operation completed, a testing was made of the pond on the 21st of January, 1955, when live trout were put into a wire cage and submerged for 48 hours without any ill effects. So the pond was stocked* and was ready for trout fishing by the opening of the trout season this year.

OF course it's impossible to mention the name of each individual who helped out in the project, but I wish I could. However, I do wish to bring out the fact that with the right amount of co-operation, the landowner, local clubs, town and village officials and the Conservation Department can work hand in hand to bring about results that will benefit the community as well as the State.

We have been told that we are one of the few clubs to actually help out with the poisoning of a pond. Of that we are proud. However, we were prouder yet to have worked with the type and caliber of men who represented the Conservation Department on this project.

---

* Pitchfork Pond was assigned a stocking policy of 2,325 Fall fingerling brook trout annually. Due to the fact that the pond had not cleared in time for planting in the Fall of 1954, an initial stocking of 2,325 brook trout averaging 7¼ inches was made on April 21, 1955. Trout were from the Department's Saranac Inn Hatchery, where Foreman Charlie Deuel arranged in advance with the Tupper Lake Rod and Gun Club for stocking on the 21st. In conversation with Mr. Morrison on July 21, 1955, Mr. Morrison mentioned the fact that many successful anglers enjoyed fishing Pitchfork Pond this season.—Bob Zilliox

The Arnot Conservation Leadership Training Camp

Actual practice in working the soil builds confidence

NO youth group in the country is in a better position to practice conservation than the 4-H. These are the boys and girls (60,000 4-H'ers in New York) who live on farms and in rural communities across the State. In a relatively few years these same young people will be farming our land and will be responsible for much of the constructive conservation dealing with land, forest, and wildlife.

How to influence thousands of members in the more than 3,000 4-H clubs scattered throughout the State was a challenge. It was easy to recognize the problem; not so easy to solve it. A conservation training center appeared to be the essential first step. Where to hold it, how to staff and finance it and what kind of a program to offer were the next questions to answer.

Fortunately Arnot Forest, a 4,000-acre tract of wooded and open land, administered by Cornell's Department of Conservation, was begging to be used. The area was ideal. On this site, 18 miles from Ithaca, were two small, run-down but useable buildings, the remnants of an old C.C.C. Camp. They could serve as a mess hall and assembly room. With the encouragement of L. R. Simons, then Director of Extension, a committee went to work. The Director made available a little extension fund money and this, plus $700 from the New York State Farm Bureau and 4-H Federations, made it possible to begin work on the camp site.

From the start it was agreed it would be a work camp, because "learning by doing" is the basic objective of the 4-H Club program. So two 4-H boys, from 14 to 21 years old, who have successfully completed a conservation project, are each year invited from each county. The basic aim is to encourage practical conservation on the farm, and to develop young leaders to inspire and teach the 4-H members in their own communities.

Each boy joins one of the three conservation work groups—soil and water conservation, forestry, or wildlife conservation—and stays with his group all week. (This arrangement seemed necessary to permit enough specialization to be of practical value.) The actual use of surveyor's instruments, the building of diversion ditches, and many other soil conservation practices are offered. In forestry sessions the boys practice the care and use of woods' tools, learn to identify trees, how to measure their lumber yield, how to make an inventory of a forest crop, how to control forest enemies, how to manage natural and planted stands, and how best to use farm woodland crops. The wildlife group learns the habitat requirements of fish in streams and ponds and how to improve them, how to trap furbearers, properly prepare the pelts and how, in a selected area, to improve the habitat for wildlife.

A typical day begins with bugle call at 6:30 a.m. and breakfast at 7—followed by tent clean-up and inspection. From 8 to 2 o'clock the boys with their instructors work in the woods, the fields, and the streams located on the Arnot Tract. Lunch is delivered to the groups in their work areas, to allow as much time as possible for getting things done. At 2:30 p.m. the entire group gathers for one hour's instruction on such general subjects as woods fire-fighting; gun care, use and safety; woodchippers and power saws; irrigation and the like. From 3:30 to 5:30 p.m. is the free choice activity period in which the campers try their hand at trap-shooting, fly-tying, archery, fishing, swimming, and so on. From 6 to 7 p.m. astonishing quantities of well-prepared food are eaten. Seven to 8 p.m. finds boys at softball and other sports.

The evening program runs from 8 to 10 o'clock and brings an outstanding speaker on some important phase of conservation, followed by some of the best conservation movies available. Multiply

Getting their feet wet but improving wildlife habitat

Tonawanda Sportsmen's Club cabin during construction

this daily program by six and you have it. The group works, eats, and lives conservation daily for a week. They like it.

The finale of the camp program comes on the last morning when a tour to the workshop areas of each group is made by all the camp membership, staff, parents, and others interested in the program. Stops are made at each workshop where the boys responsible explain what has been done and why it is important in the overall conservation picture. This is a convincing tour and judging by the way the boys tell their story, they have learned their lessons well.

MANY people have donated thought, time, and fun to the project. Their names represent many co-operative agencies: The New York State Conservation Department, Agricultural Extension Service, Cornell Department of Conservation, Federal Soil Conservation Service, U.S. Fish and Wildlife Service, the New York State College of Forestry, Ithaca Gun Company, and others. Camp scholarships have been furnished many of the boys by Cotton-Hanlon Lumber Company of Odessa, Federal Cartridge Company, the Finch, Pruyn Company of Glens Falls, Kiwanis clubs, Soil Conservation districts, sportsmen's clubs and others.

Does this "learning by doing" process really pay off? This was the eighth year for the camp and during this time approximately 400 farm boys, averaging age 17, have attended. Nearly every county in the State now has at least a few of these young leaders with a working knowledge of conservation. We now find former campers working in conservation projects all over the State, as counselors and teachers of conservation in 4-H and other camps, and others on Conservation Committees in counties which promote the program that way. One boy established a conservation camp of his own for ten- and eleven-year-old club members. Another camper got intensely interested in muskrat "ranching" at camp and has sold several of his neighbors on this idea of using otherwise waste land. Most of them are busy putting good conservation practices to work on their home farms. And all of them can talk intelligently about the facts of conservation.

Training in woodlot management increases farm profits

Perhaps it was some of this leadership in the counties that stimulated a second important phase of improving the camp facilities. The areas developed by the boys have proved an excellent laboratory for other conservation workshops. One is that held for teachers each year since 1949. This particular one was developed under the leadership of Dr. E. L. Palmer and supported by the New York State Conservation Council. This group now uses the Arnot Conservation Training Center to learn about conservation and transfers the knowledge gained to the classrooms.

Another group (also sponsored by the State Conservation Council) is using the camp as a workshop for the sportsmen themselves. So, the Training Center now serves adults as well as youths.

The Spring of 1954 saw an important step toward improvement of the camp facilities. The Federation of Sportsmen's Clubs of Niagara County volunteered to pay $400 for materials and enlisted volunteer labor to put up a modern cabin designed to house eight campers. Six sportsmen and seven 4-H Club members, five of whom had attended camp, came down from Niagara County and built the cabin in a day. The second cabin was sponsored by the Tonawanda Sportsmen's Club, also from Niagara County. It too was built in a day by 12 club members plus six 4-H members.

When camp opened last August, five more cabins were realities. Material for number 3 was a personal donation from Ryan Norton of Great Valley. It was put together by older 4-H members and leaders from Allegany, Chautauqua and Yates counties. Number 4 was a composite gift of materials and labor from the Federations of Sportsmen's Clubs in Cattaraugus, Allegany, Steuben and Chautauqua counties, and from the Allegany and Steuben County Soil Conservation districts. Number 5 was financed and erected by the Erie County Sportsmen's Alliance in memory of Ted Strang, a beloved Game Protector of Erie County. Number 6 came into being when the Waverly Sportsmen's Club provided funds for material, then furnished the labor for building. J. Arnold Hammerle, a New York City sportsman, donated the price of material for cabin number 7 after becoming interested in the project at a Sportsmen's Workshop held in the Arnot in June. Again Niagara County sportsmen and 4-H'ers responded with labor.

THERE you have it. A lot of interest and enthusiasm on the part of many people and organizations have, we believe, made this a most worthwhile program. It's a project that money alone couldn't buy, and an omen that Arnot Forest, with its great potential for conservation leadership training, may become even more important as a state-wide center for this purpose.

—D. B. FALES
Associate State 4-H Club Leader

Notes on The Catskill Hare

by Arthur B. Flick

ALTHOUGH there is only one species of varying hare, *Lepus americanus*, there are two species of people who hunt them—the smart hunters and the dopes. I plead guilty to being one of the latter group, and will go so far as to say I am a bigger dope than most, simply because I hunt them more.

Because the varying hare is found only in certain parts of the country, a brief description of the animal might be in order. Although he is more often called "snowshoe rabbit" or "white rabbit," he is not a rabbit at all; he is a true hare. He is a very precocious rascal, running around when he is only a couple of days old, and unlike the cottontail (which is bald at birth and does not open its eyes for nine or ten days) the hare has his eyes open at birth, and he is fully furred. In the Summer his coat is brown, but his Winter pelage is snow white, at which time the only dark spots on him are his shoebutton eyes and a small darkish spot on the tips of his ears. In our part of the country (the Catskills) he starts to turn color along about November, and he certainly is a queer looking beast when he is part brown and part white. During the period when he is "putting on his winter overcoat," it has been my experience that he is just about the dumbest animal there is, and why they aren't all cleaned up by predators at that time is beyond me. When the transformation is complete, however, they are pretty slick customers, particularly when running ahead of dogs, and many hunters contend they have more tricks in their bag than a red fox.

Although his "home" seems to be wherever he happens to stop, the varying hare has very decided ideas on the type of cover he wants to live in. Personally, I have never found any hares below 1,500 feet elevation, and more often than not they seem to be in places well over 2,500 feet. Although on occasion they are found in open woods, that rarely happens down here in the Catskills. Mostly they like the thick evergreens, and they seem to show a very strong preference for balsam and spruce—the thicker the better. In fact, apparently there is nothing they like better than a balsam swamp, which unfortunately we don't have around here. Where such cover does exist, the hare hunters can often drive right to the swamp, get out of their cars, and start hunting. They are the smart hare hunters, but we in this section are not so fortunate.

Because he is pretty much a "northern animal," Mother Nature has equipped the hare with very large hind feet, resembling miniature snowshoes, which enable him to run on top of the snow regardless of the depth; thus the nickname, "snowshoe rabbit."

In New York, our season doesn't open until after December 1st. By that time the color transformation from brown to white is complete, and what with our average snowfalls, it is an unusual Winter when the hunter gets a chance to hunt a white hare on brown ground. That's probably just as well; a white hare really shows up under such conditions. And too, although they are extremely difficult for a dog to run on snow, most any dog that can run cottontails seems to have little difficulty with hares on bare ground.

As mentioned before, the hare is very partial to balsam swamps, but if there are no such swamps, about the only place you will find him is very close to the *tops* of the mountains. The only exception to this seems to be in some very large areas where the State has reforested many acres of spruce. When these trees are planted, they are set out six or eight feet apart, and by the time they have grown to about 12 feet the cover is so thick it's hard to walk through—which makes a fine place for hares.

This little white spook (and that's what he is like on snow) is one of the gamest animals ahead of a dog. Unlike a cottontail, he will very rarely hole up, and it takes a mighty good dog to stay with him; he's a past master at making bums out of dogs. Many hounds that are really good on cottontails just cannot run hares, and even an experienced beagle that is accustomed to trailing them will have his bad days.

In order to run hares, a dog must, of course, have a good nose; unusual guts; and a real ability to make up losses without giving up. And too, hares do a tremendous amount of running during the night, usually "sitting down" some time around dawn. Because their feet are so heavily furred, they are what we call "cold footed," and seem to leave very little scent in the snow, so it takes a dog with a lot of perserverance and know how to start them. Naturally, on occasion, a dog will jump one, but in most sections where they are hunted to any extent, you would have pretty slim pickings if you had to depend on the hares jumped by either the dogs or the hunters.

Actually, the only sensible reason I can give for hunting hares, is the love of hearing hounds on trail, and with good ones you generally get lots of music, for our big footed friends will run just so long as a dog is smart enough to stay with them. However, our biggest trouble is getting enough foolish people

together for a hunt. After all, not too many people are stupid enough to want to do their hunting on mountain tops.

Because they do so darn much running at night, a very few hares in an area make a tremendous number of tracks, so if you try to hunt on a snow that is only a couple days old, it is ten times as hard for a dog. You wouldn't mind that if you just got out of your car and started hunting, but for us it means a climb for at least an hour before we even get into hare territory. Obviously then, the time to hunt them is on a brand new snow. A perfect condition is when it snows until about 2 or 3 a.m., for then every track you find is good, and it doesn't usually take long to start your bunnie.

With our season opening in December, it almost always means cold weather, and although it may be only around 15 when we start out, by the time we get up where the hares are, it may be pretty close to zero. Of course, for such hunting it is necessary to wear plenty of woolen clothes, and the big trick is to get on top with a minimum of perspiring, but it is always the same old story —we start out at a reasonable pace, trying to keep reasonably dry, but soon get going faster and faster, having a natural desire to get up into the hare country as soon as possible. The result is that when we do get there, we are all sweating like butchers. After you have stood for an hour in near zero temperatures, being soaking wet with perspiration after your climb, it isn't long before you think rigor mortis has set in.

When a good track is found by any of the hunters who are spread out, the dog is of course put on it (if the dog hasn't hit a track first) and then the fun begins. Normally, a hare will make one or two pretty good circles, much like a cottontail, coming back fairly close to the point where he started. The size of the circle seems to depend pretty much on how fast the dog pushes him. With a slow trailer, it has been our experience that the hare will make a comparatively small circle, but with a fast dog, a much larger one—often taking the dog out of hearing. If one of the hunters is fortunate enough to be in the right place on the first or second circle, ending the chase, all is well. But if not, then ten to one you are in for some trouble, for a seasoned hare will then start trying to mess the dog up. I might add, the effort is generally successful. Almost invariably, they will run in either their own or another hare's tracks, and lots of times in the dog's or hunter's tracks. When the snow is deep, such tactics really give a dog a bad time, for when they run, the snow of course falls into the tracks, making it that much more difficult for a dog to get any scent.

Please bear in mind that practically all our hare hunting is in small balsams and spruce, often too thick to walk through, and on the tops of the mountains all the trees are stunted. With snow laying on the branches, you can readily appreciate that you can't get a very good look at our white friend when he does come running by. And too, you never know just how far a hare may be running ahead of the dog. If the dog happens to be right on his tail, your chances of seeing your quarry are naturally better, but if the dog happens to be a minute or two behind him (as is often the case) the hare may run past.

After a dog has been trailing a hare for a couple of hours, your chances for a shot are not too good, because by that time things are so messed up that it is tough for a dog to stay with him. Invariably when a dog is not pushing him hard, due to having had to make up a loss which may have taken a few minutes, the little white fellow is still going on his merry way, and when he realizes the dog is not hot on his tail he will start giving a hound the business. Very often, you know by the sound of the dog's voice that "whitey" is headed right for you, so up comes the gun, and you're all set for the big moment. But does the so-and-so show up? No. Instead of continuing on his course, just about the time he gets to where you are, he decides he has had enough of that foolishness, turns, and then takes a good big jump to either the left or right, and after running for a few yards, starts hopping around, making very small circles, just messing around, finally heading off again, quite frequently running in just the opposite direction.

Although their normal jump is not much longer than a cottontail's, when they are trying to mess up a dog, I have seen them take jumps that measured four paces. I'll never forget one of the smartest tricks I ever had pulled on me by a hare. A new snow had fallen during the night, and apparently had stopped a couple of hours after midnight. The day was just about the most perfect you could ask for, not too cold, and not a bit of wind, which is most unusual after a storm. Even though I couldn't get any of the boys to go, it was much too nice a day to pass up, for I knew my dog could start and run well any hare that had made a track after the snow had stopped falling.

Shortly after getting into hare country, my dog was hunting off to my left when I came to a track that of course stood out like a sore thumb in the new snow. I was pretty sure it wouldn't be more than a minute before the pup had him going. I called to him, and as all of you rabbit hunters know, an old experienced dog can tell by the tone of your voice whether or not you have something good. He came a whooping, saw the track, stuck his nose in it once and took off, barking cold trail and undoubtedly running the track more by sight than by scent. In just a couple of minutes, much to my surprise, he stopped barking and the next thing I knew he was back.

There just wasn't a reason in the world that he couldn't run that rabbit, and I knew from past experience he was anything but a quitter. I talked kind of mean to him, and put him back on the track again. He took off on it, but the same thing happened, and although he was gone a few minutes longer, he came back with a funny expression on his face, as though to say, heck boss, I just can't figure this one out.

Much to my disgust, I took the tracks, and after going up the hill about 500 yards, there was no more track. The dog had milled all around from that point, trying to pick it up, taking short circles as a dog does in trying to make up a loss, but there just wasn't any further sign of the hare. The dog had come up the track to that point twice, so it wasn't possible to tell from the signs just what had happened, but I did know that the bunnie hadn't suddenly sprouted wings. I decided to go down both sides of the track to try to dope it out. As the cover to the left looked better, I went that way, walking about 30 feet to the left of the tracks, and sure enough about half way between where I had first hit the track, and where the dog had lost it, there were his signs going straight away. Right then and there I went back on his tracks to see just what had happened. From where I first saw the track, that smart aleck had run in a straight line up to where the dog had lost him, turned around, and took long jumps back into his other tracks for a distance of a couple of hundred yards or so, after which he took an unusually long jump to the side, and went on. Apparently, at the point I first hit the track, he was just about ready to "sit down" for the day, and was trying to hide his tracks. Pretty cute for a so-called "dumb bunnie."

For some reason I have never been able to figure out, there are days when hares won't come back anywhere near the place where they were started. We had one such day this past season, starting five of them, and in each case they took the dogs in a straight line, right out of hearing, doing their circling on another mountain, for we could just faintly hear the dogs once in a while, much too far away for us to follow. Not one of the five came back. This does not seem to happen during the early part of the season, but it is a frequent occurrence after mid-February. That is getting pretty close to their breeding season—which might be the reason for this behavior. It is a known fact that male hares will travel for miles at breeding time, leaving one mountain and going to another, and it is quite possible that rabbits that act thus are travellers and are only too anxious to get back to their own back yard when a dog starts them. An experienced hare hound in such cases will leave the track after about an hour, or when he realizes the rabbit is not coming back to where the hunters are. Yet the same dog will never deliberately leave a track when the hare is running in an orthodox manner. It gets your goat to climb to 3,900 feet or better and run into a condition like that. Strangely, or rather unfortunately, we have our best hunting on Slide Mountain, which is 4,204 feet, and Hunter Mountain, a mere 4,025 feet. No, there are no roads up them, not even a ski tow, so we suckers have to hoof it all the way.

You never know what you're going to find up there, either. Quite frequently, we have a nice fall of rather wet snow in the valley and it looks like a swell day for a hare hunt. But when we get on top, we find that what fell up there is a very powdery business, more like sugar. As a rule when this condition exists the temperature on the mountain is around zero or below, and I have yet to see a dog that can run worth a darn in the stuff. They don't seem to get any scent in it, and apparently it gets up a dog's nose, giving him a bad time. And too, quite often we leave the valley where maybe four or five inches of snow has fallen—certainly not enough to require snowshoes—only to find when we get on top there may be between a foot and 18 inches inches, which all adds up to tough going without 'shoes. Conditions like those really give a dog's backside the heartburn.

Those of you who don't know these game little animals may wonder what you have after you have killed one. I'm afraid the answer to that one is, "*not much.*" Although they look quite large as rabbits go, they are pretty much all frame, with little meat and no fat. Their color makes them look a lot larger than they are, for despite their appearance, it takes a darn large one to weigh over four pounds. And from the standpoint of eating they're not anything to brag about; for my money I'd a good deal rather have a cottontail in the pot. Their meat is quite dark and course as compared to their smaller cousins, and because some of them eat quite a bit of balsam, you will occasionally run into one that is a bit on the strong side.

SO why go through all that to hunt them? I don't know. However, there are a few things you are always sure of when you go up on the mountain to hunt hares: (1) A good sweat walking up; (2) after standing around in that condition for a half hour or so, you'll be like a dog trying to shiver yourself warm; (3) lots of snow down your neck from the evergreen branches; (4) cold feet, that's for sure; (5) a good appetite, for frozen sandwiches are not so palatable; (6) a good thirst, for there is rarely water on top of the mountains, and eating snow just makes you that much more thirsty; (7) a resolution never to hunt hares again (same to be broken when you get the next new snow); (8) you'll be so darn tired at the end of the day that you won't even feel like taking it out on your poor wife when you get home.

Hare hunters are dopes.

The Indian in His Environment

by Dr. William A. Ritchie, State Archeologist,
*New York State Museum and Science Service**

BECAUSE of the great range of physical varieties, languages, social and cultural systems found among the Indian tribes of North and South America, it is almost impossible to make specific statements applicable to all. Furthermore, so many changes have taken place within each of these categories (as well as in the physical environment) over the probably more than 20,000 years that man has occupied the New World, that we shall be obliged to limit our observations here to the Indian occupants of the northeastern area during the past few thousand years.

In referring to the Indians' environment, we must clearly distinguish between this term and the mere physical setting, since the environment of any group of people is that part of their physical world with which they have the knowledge and skill to cope; in other words, it is defined for them by their culture. Thus the abundant sources of flint of our natural area are little known or used today, while prehistorically they were of vital significance to the Indians as the chief source of their tool and weapon material.

Paleo-Indian stage—?—5000 B.C.

From the earliest times, the Indians of the Northeast satisfied the primary need for subsistence by a combination of activities based on fishing, hunting and collecting. Much later, simple hoe tillage was added to this pattern. The opening chapter of our drama is difficult to decipher through the obscuring shadow of an estimated minimum of some 7,000 years, but to this first (or Paleo-Indian period) we attribute the distinctive fluted points occasionally found on the surface in our region (see figure 9, center spread). So far, in New York State they have not been discovered in association with other stone artifacts, but a single site of this kind is known in three northeastern states — Pennsylvania, Vermont and Massachusetts. Nowhere in the eastern United States, however, are Paleo-Indian implements found with the bones of the animals they were used to kill. In the southern Great Plains, the American Southwest and northern Mexico, the case is very different, for in those areas fluted points have well established connections with an extinct Pleistocene or Ice Age fauna (including the mammoth, mastodon, camel, horse and bison) dating back, in some cases, at least 10,000 years.

Archaic stages (circa 3500-1000 B.C.)

In New York, the clearly recorded archeological story begins about 5,500 years ago, on the recently devised radiocarbon scale,* with the first influx of what we call Archaic period hunters. These were soon followed by other, and different, groups. For at least 3,500 years these nomadic or seminomadic bands camped along the wooded waterways, on swamp margins, and at advantageous spots along the coast. We believe their temporary settlements of bark or mat covered houses (figures 40, 45) were small and rude; their political, social and religious organizations simple. In general, such a way of life exists even today among the Algonkian speaking Montagnais, Naskapi and Wabanaki tribes of the Northeast. From the rarely preserved skeletal remains of the Archaic peoples and more abundant implements we infer marked physical as well as cultural differences among the major groups.

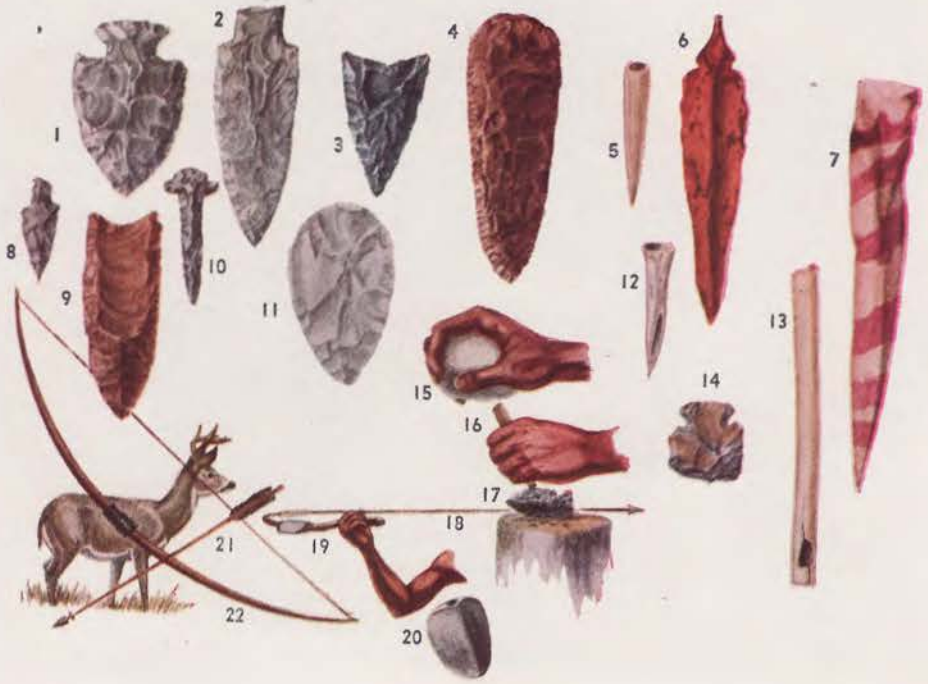
An annual cycle of life seems to have prevailed. During the Spring run of fish the bands gathered along stream rifts, a notable locus of this kind formerly existing at Brewerton, on the Oneida River, where some of our most important archeological finds were made. Large marshes, like Montezuma and the district surrounding the foot of Cayuga Lake, were much frequented (as our excavations prove) to exploit the Spring and Fall migrations of waterfowl, as well as the more permanent aquatic life consisting of fish, muskrats, turtles, frogs and even snakes. Winter camps were certainly established in sheltered forest tracts in the vicinity of springs and streams, while the shallow bays of lakes, large rivers, and the sea coast were environmentally well suited to the fishing techniques which employed the barbless bone hook, straight bone gorge, barbed harpoon, and net—the latter inferred from notched stone sinkers and presumed bone net-weaving tools (see figures 23-30, 48). Traps and weirs certainly existed, leaving few traces, the largest and oldest having been found in digging deep building foundations in Back Bay, Boston.

Perhaps somewhere in the muck may still remain examples of the dugout boats (figure 36) which these Archaic fishermen must have employed. We have found many of their stone axes, adzes and gouges (figures 32-35), and other tools so necessary to forest adapted cultures (figures 10, 14, 31, 50), but as yet nothing so perishable as the doubtless abundant articles fashioned of wood, bark, fibers and leather.

(continued on page 26)

* Published by permission of the Director, New York State Museum and Science Service. Journal Series No. 10.

* A method recently devised by University of Chicago scientists to determine the age of organic materials from their radioactive carbon content.



HUNTING ARTIFACTS

1. Corner-notched flint spear, or dart point
2. Stemmed flint spear or dart point
3. Triangular flint arrow points
4. Knife blade made from jasper from eastern Pennsylvania
5. Drilled deer antler arrow point
6. Native copper spear point. Copper from Lake Superior region
7. Paint-decorated bone dagger
8. Narrow-stemmed flint dart point
9. Fluted spear point made of Pennsylvania jasper
10. Flint drill point
11. Ovate knife of white flint or chalcedony
12. Bird bone arrow point
13. Bird bone whistle (game call?)
14. Corner-notched flint skin or wood scraper
15. Hammer stone
16. Antler flaker
17. Side-notched point under construction by indirect percussion flaking
18. Dart for atlatl
19. Atlatl, or throwing stick, with weight
20. Atlatl weight, or bannerstone
21. Arrow, possibly made of ash wood
22. Bow, possibly made of hickory

Some Prehistoric

of

FISHING ARTIFACTS

23. Bone fish hook on Indian hemp line
24. Bone gorge or straight fish "hook"
25. Detachable barbed antler harpoon point with line hole
26. Detachable barbed bone harpoon point with line hole
27. Fish net of Indian hemp
28. Notched flat stone fishnet sinker
29. Gorge on Indian hemp line, showing method of baiting
30. Two piece fish hook; shank wood, point bone
31. Native copper axe. Copper from Lake Superior region
32. Grooved stone axe
33. Ungrooved stone axe, or celt
34. Stone gouge
35. Beveled stone adze
36. Pine wood dugout, shaped by burning and chopping
37. Charred stump, showing method of felling trees by burning base and chopping
38. Northern pike, one of the most common food fishes caught

DOMESTIC ARTIFACTS

39. Baked clay pottery vessel (later form)
40. Mat-making needle of deer rib
41. Corn husk mat
42. Cylindrical stone pestle for use in hollow wooden mortar
43. Muller or hand grinding stone
44. Shallow stone mortar with corn. Also used for grinding acorns
45. Elk antler punch probably used for working bark
46. Carved stone cooking pot made of steatite or soapstone. (Chip was replaced by drilling holes and lacing.)
47. Late type clay pipe
48. Bone needle used for making nets or snowshoes
49. Bird bone awl used for leather work and basket making
50. Beaver incisor used as wood chisel
51. Deer skin placed under mortar to catch ground meal

Indian Artifacts New York

DECORATIVE OR CEREMONIAL ARTIFACTS

52. Necklace of native copper and whelk beads and ornamented with stone pendant
53. Native copper ear ornament
54. Engraved stone gorget or breast ornament
55. Marine shell and elk canine necklace
56. Black bear claw—core ornament. Outer portion decayed and missing
57. Wolf canine ornament
58. Bear canine ornament
59. Elk canine ornament
60. Bear molar ornament
61. Great horned owl claw-core ornament. Outer portion lost through decay
62. Bone end or epiphyseal cap, possibly from a bear, used for ornament
63. Tubular bird bone beads
64. Stone beads
65. Bone comb for decoration
66. Reconstructed box turtle dance rattle
67. Clay pipe with bear effigy with copper eyes (late prehistoric)
68. Carved soapstone bird effigy pipe
69. Bones buried in red ochre. Pigment believed to be a saver of the soul

(continued from page 23)

When the edibility of shellfish became known in later Archaic times, the numerous places along the coast where oysters, clams, scallops and whelk could be gathered were soon discovered and are today marked by accumulations of shells, known as kitchen middens. Inland, the tougher and today neglected *Unio* (fresh water clam) became a source of food, perhaps by transference of the idea of eating shellfish on the coast, since the *Unio* remains occur on even later sites.

Much ingenuity and skill were likewise exercised in hunting—as the stone, bone, antler and occasional native copper weapons testify (figures 1, 2, 4, 6-8, 11, 13, 20). Ignoring the important differences which have been defined for specific cultures of the Archaic (for which see the writer's professional monographs and papers), the hunters of this period pursued their game chiefly with the dart or short spear, hurled with the aid of an atlatl or throwing stick, to which was sometimes affixed (to provide momentum) a notched or drilled stone weight, inappropriately termed a bannerstone (figures 18-20). The armament of the dart consisted of a chipped flint, or more rarely a bone or antler point, variously fashioned according to patterns current in different times and cultures. Some of these are illustrated in figures 1, 2, 8. Thrusting spears with larger points also served the hunter, but the bow and arrow seem to have been unknown until a much later time. In later Archaic cultures, at least, dogs of large and small breeds were sufficiently esteemed as companions of the hunt to be given careful burial with or near their owners. And we can be sure that traps and snares had wide usage, although they have all disappeared without a trace, save perhaps for what may be considered carved antler trap sticks, bearing rude representations of animal heads. At least one of these suggests a bear, and we may surmise that these effigies served a magical purpose.

From later prehistoric times to the present, we know that certain Indians in the Northeast shared in a reverential attitude toward the bear and conducted ceremonial observances which have been traced to northern Asia. An important food animal of the boreal zone, the bear became the center of a ritual complex involving the manner of its killing, eating, and even the disposition of its bones—all done in order not to offend the spiritual keeper of the bears, who might then withhold the supply of this game.

This example of Indian ritualism, one of many that could be cited, serves to illustrate the tremendous difference between the respective views of the Indian and the white man toward the natural and supernatural worlds. To the white man, with his Mosaic traditions, the earth and all it contained of plants and animals —and also the celestial system in which it moved—were expressly created for human use. Only man was a being with spirit, akin to that of his Creator.

But the Indian, in common with many other preliterate peoples, conceived of no essential distinction between himself and the rest of nature in which he lived. He attributed supernatural qualities of spirit and power to lower animals, as well as to plants, and even to inanimate objects (figure 69). He responded to a consciousness of unity with nature, with which he identified himself in kind, if not in degree, in a manner culturally comprehensible only to a few so-called mystics in our present society.

If most of the intangible aspects of the Indian's culture—religion, language, social organization, etc.—have escaped us, and only the more durable portions of his material possessions have survived, we are less at loss to account for the kinds and relative quantities of the game taken, since, along with the catching and killing devices in the refuse middens are the discarded bones of mammals, birds, fish and other animals. In the particular localities where food resources were abundant by virtue of natural conditions, repeated temporary human habitation (or more rarely, semipermanent residence) resulted in the accumulation of cultural debris, more or less well preserved by the alkaline medium of the ash content. We learn from such deposits that the primitive dietary tolerated such (to us) unappealing species as the red and gray fox, wolf, mink, marten, lynx, wild cat, mountain lion, eagle, great blue heron, great horned owl, box turtle and various snakes—to mention only a few of the larger forms. Since, however, the bones of these animals were much used in the making of implements and ornaments, we cannot be certain that they were not hunted primarily for this purpose (figures 57, 61, 66). But when a bone is split or broken, evidently for the extraction of the succulent marrow, we feel safe in listing the species among the food resources.

It is of interest to note that the whitetail deer, black bear and beaver were among the favorite food mammals, with the deer far in the lead. The wild turkey was apparently the most sought after of the larger birds, although duck, goose, and swan remains are also common in some sites. Their bones, too, found wide employment in tool and ornament manufacture (figures 5, 7, 12, 13, 16, 49, 55, 56, 58-60, 62, 63, 65).

The well known voracity of the northern pike probably accounts for the frequency of his sharp-toothed jaws among the remains of fishes (figure 38). On some sites the fin spines of the bullhead tell us that this humble and easily caught species predominated. And the sucker, pike-perch, black bass, brook trout, sturgeon, salmon and several others have also been expertly identified.

The nature of the animal remains sometimes provides an important clue to such interesting matters as the season of occupation of the site and possible local conservation practices, while in addition, the archeologist's data furnished by such remains are of use to students of zoology and ecology.

To the all-protein diet supplied by the hunting and fishing activities referred to, a starch constituent was added by the consumption of certain wild plants. So few floral vestiges have resisted decomposition that we shall refer only to the acorn, the charred hulls of which occur on some sites along with the stone utensils used in reducing the kernels to meal. These utensils consist of shallow mortars and hand stones or mullers, and of long cylindrical pestles which presumably indicate that the hollowed tree-trunk mortar, so well known in later cultures, was already in use in our area in the earliest Archaic stage (figures 42-44, 51).

Since acorns from all of our oaks contain varying amounts of bitter and toxic tannic acid (the black oak group having a higher percentage than the white oaks),

the process of leaching must have been known to these early peoples, as was the case among the ancient Indians of California. Roasting or boiling of the hulled nut meats (either before or after pulverizing) and followed by thorough washing in baskets, was doubtless the method employed. Inasmuch as these people had no pottery (the use of baskets is conjectural), boiling was certainly accomplished by the laborious method of heating stones and dropping them into perishable vessels of bark, wood or other materials. Shattered stone "pot boilers" are common on most sites.

Late in the Archaic period, some of the eastern Indians learned the manufacture of steatite or soapstone pots (figure 46). Even before the dawn of the Christian era, however, these stone vessels began to be supplanted by rude varieties of baked clay pottery. The absorbing story of the subsequent development in our area of pottery, and concurrently of smoking pipes of stone and clay, is too long and complex to relate in this brief generalized account. (Figures 39, 47, 67, 68.)

Woodland stages (circa 2500 B.C. to historic times)

When and how our eastern Indians acquired their knowledge and skill as farmers are problems high on the agenda of the archeological investigator. We are confident that in most sections the use of pottery preceded the raising of such storable food products as maize and beans, which is fundamental to a relatively stable pattern of life. It is only when we reach, in our long and involved sequence of Indian occupations in New York, the cultural stages of what is termed the Late Woodland period that we come upon extensive quantities of carbonized crop foods. The earliest radiocarbon date yet obtained for such a site (which, incidentally, we excavated near St. Johnsville in the Mohawk Valley) is approximately A.D. 300. These sites represent the remains of extensive villages, marked by the post-mold patterns of small round houses, and by deep bark or grass-lined storage pits. The whole assemblage is often surrounded by the evidences of a stout stockade, and is perched on a hilltop for further security. Hunting, fishing and the gathering of wild foods—roots, nuts, berries, etc.—were still relied upon, as is shown both by refuse and the artifact content, which now definitely includes the bow and arrow (figures 3, 5, 12, 21, 22). This mixed economy survived down into historic times among the Algonkian and Iroquoian speaking tribes of our area, and we are quite certain that its roots go back into the Middle Woodland period cultures, particularly since on current archeological evidence, corn of a very primitive sort was already known in the Southwest around 3,000 B.C.

Certain of the ceremonial attitudes of the earlier hunting cultures have already been referred to. It is of interest to observe that these same reverential attitudes carry over into the agricultural complex and are well recorded for the Iroquoian tribes. Thanksgiving ceremonies and first fruits sacrifices formed an important part of the later Indians' annual cycle. We may say, in sharp contrast to the white man's way, that the Indian trod lightly through his natural environment, merging himself sympathetically into the world of living and even non-living things. This feeling for nature seems almost to have disappeared from our way of life, with its central emphasis on economic values. The deeper emotional levels of response to wildlife, woods and waters still exist, apparently, in some among us, and they are basic to a true feeling for conservation.

The Indians' regard for the land provides us with additional insight into aboriginal philosophy, which was at the farthest remove from European concepts. This is a fact which underlies the numerous difficulties of land transfer during the colonial period: Indian ideology conceived of the land, together with the life-sustaining animals, vegetables and minerals it supported, as supernaturally given for the common use, hence not subject to personal ownership and transfer. Privileges of land use rested with tribe or village, and apparently more than one tribe might synchronously utilize the same large tract in peaceful co-existence, while the removal of a band for a number of years seems to have relinquished even their temporary claim to these holdings. As has recently been argued convincingly, the family hunting territories of the northern Algonkians seem to have been an adaptation to the special conditions imposed by the European fur trade.

These contrasting attitudes of whites and Indians toward the "earth mother" serve once more to emphasize their diverse world views, which we may attempt to express in a final generalization. The goal and purpose of the average Western man centers on the technological domination of his environment; its mastery and control. Seldom is he willing to leave any part of his natural world unmolested. He suffers a cultural compulsive to "improve" everything. He seeks unceasingly to alter the world of nature to conform with his culturally patterned ideals of utility, and he customarily phrases these ideals in economic terms.

The Indian, on the other hand, was content to adjust himself harmoniously into the scheme of nature, to its seasonal cycles and mystically conceived order of life. His sensitive awareness of the ecological relationships existing between plants and animals and their habitats, and the acuity of his perceptions, have often been remarked with wonderment by observers of our race, who attributed them erroneously to qualitative differences in sense perception. Their true source, however, lies rather in evaluative differences of a purely cultural origin.

It is probable that the Indian knew and loved the world of his environment in a way that few white men, reared in the competitive, exploitative and possessive traditions of Western civilization, can ever comprehend.

Blister-rust canker on white pine producing spring spores which may infect currant and gooseberry bushes

(a) Summer stage. Spores are produced that spread the disease to other bushes.
(b) Fall stage. Spores are produced that spread the disease to white pine trees.

Blister Rust

WHITE PINE is a native evergreen familiar to almost everyone who has spent any time out-of-doors in the eastern counties of New York State. Its five-needled clusters and picturesque form are easy means of identification and from Lake George northward its dense groves characterize much of the landscape along the route traversed by Highway U. S. 9. The lumberman knows white pine as the best softwood timber of the region, and most of the sawmills in the eastern Adirondacks are dependent upon it.

Fifty years ago nobody had ever heard of a serious disease of white pine in North America. But 40 years ago it was considered on its way to extinction, along with the American chestnut. It was in those ten intervening years that the deadly fungus disease, white pine blister rust, became established throughout the range of white pine in the northeastern states and eastern Canada.

This disease was introduced into North America on white pine seedlings which were imported from Europe during the period 1890-1910 to supply the suddenly increased demand occasioned by a general reforestation movement; it eventually became established wherever five-needled pines grew—whether in New England, the Southern Appalachians, Idaho, California or British Columbia.

A peculiarity of blister rust (and for that matter of most "rust" diseases) is that it needs two different kinds of plant for the completion of its life-cycle. Blister rust cannot spread directly from one pine to another but must live for a while on its alternate host plants, currants and gooseberries, which are known in the trade by their generic name of "ribes." The first blister rust infection discovered in North America was found on cultivated ribes at Geneva, New York in 1906. The bushes were immediately destroyed. The fungus, however, was again found in 1909, this time on imported white pines. And during that same year blister rust was found to be present in seven northeastern states.

After infection had been found on white pine, immediate steps were taken by State officials to locate and destroy all infected pine and to eradicate all ribes growing within 500 feet of pine areas where blister rust infection was found. This action delayed somewhat the further spread of the disease, but in 1913 it was very evident that blister rust had spread to our native white pines, and by 1915 all hopes of eradicating the disease were abandoned. Control measures were then formulated which would prevent serious damage to our pine forests. Usually, when a tree disease becomes widely and strongly established, eradication is impracticable, and we must learn to live with the disease and reduce losses by application of direct, local methods of control. This was true with white pine blister rust.

In this connection, it should be noted that *native* tree diseases are often curbed by natural conditions, so that losses are usually limited to individuals or groups of trees, whereas *introduced* diseases are most often free from the natural controls afforded in their native habitat. So diseases in a new environment, when conditions are favorable, often become epidemic and destructive.

Today blister rust in varying degrees of infection is present in almost all of the natural and planted pine areas in New York State. The main factors governing the amount of infection in pine are (1) the number of ribes growing within infecting distance of the white pines, and (2) favorable climatic conditions. Optimum conditions for infection of pines occur during cool, foggy or misty weather. Thus the greatest number of infected pines will normally be found in the hilly or mountainous areas, along streams or around lakes where temperature and moisture conditions are more favorable for the germination of pine-infecting spores.

Blister rust found a favorable habitat in New York with its moist climate, plenty of white pine of all ages, and an abundance of wild currants and gooseberries located conveniently in proximity

White pine near currant and gooseberry bushes are in danger of becoming diseased.

Red Currant

Gooseberry

to the pines, so that the spores produced on the one could be easily transmitted to the other. Its dependence on ribes, however, proved its undoing, as spread of the disease can be stopped by uprooting and destroying all host plants within infecting distance of the pines.

Experience gained over a number of years has demonstrated that while the infecting range of the spores from ribes may vary considerably under different forest conditions, a zone 900 feet wide around a stand of white pine, free of ribes, usually gives adequate protection to the pines. Under optimum infection conditions, however, limited pine infection may occur from ribes, located a mile or more away. One such instance was recently found in Schoharie County on a 12-acre, 8-year-old white pine plantation, where a brief examination indicated that approximately 12 per cent of the pines were infected with blister rust. It was determined that infection took place during 1951, but no source of infection was located within a radius of one mile around the planting. Therefore we believe this infection to be the result of long distance spread under optimum infection conditions of high humidity and strong prevailing winds.

WHILE the half dozen wild species of ribes are responsible for most of the infection on native pine, the most dangerous carrier of blister rust is the culti-

First stage of blister rust showing on branch

vated European black currant, *(Ribes nigrium)* which is considered to have been largely responsible for the establishment and rapid spread of the disease in the Northeast and has been declared a public nuisance in New York State under Section 57-a of the Conservation Law.

Ribes eradication work is carried out by small crews, usually one to three men, who are thoroughly trained to locate and destroy ribes growing within the control area. Individual or scattered ribes are hand pulled and hung in trees or on stonewalls to die. Concentrations are more effectively destroyed by spraying with a solution of 2,4,5-T and water, applied to the foliage and stems of the bushes.

Control work has progressed rapidly under a joint co-operative program between Federal, State and County governments. Today maintenance of control has been established on 80 per cent of the total control area involved in New York. "Maintenance of control" is a term used to express a condition wherein ribes have become so scarce through the performance of control work (or because of natural factors) that danger from blister rust will be negligible over a period of ten years.

Because of new pine areas becoming established due to planting or natural restocking, it will be impossible to attain a maintenance-of-control-status on 100 per cent of the total control area in the State. However, within a very few years 90 per cent or more of the total area involved will be in this category. At that time only a low cost maintenance program will be needed to keep these areas continuously safe for the production of white pine.

The question: Has the cost of blister rust control been justified in terms of results obtained? That question has often been asked by professional foresters as well as by the general public, and the answer is certainly in the affirmative. The expense of protecting a forest crop from pests (as in the case of agricultural crops) is a matter of protecting an investment; the principal difference is in the length of time between seed-time and harvest. The fact that this period, in a stand of pine, may extend over some 60 years, has made it economically advisable for public agencies to lend technical and financial assistance in combating the disease of blister rust.

–Fred U. Sievers

Advance stage showing on pole-size pine

A Package Deal for Woodlands

Foresters of the New York State Conservation Department in co-operation with Clinton County Soil Conservation District directors have inaugurated a unique woodland thinning service. Guiding a two-man crew employed by the District, good results were obtained in 1955 getting work done for $25 an acre. Initial observations show the chemical methods used were several times cheaper than attainable with mechanical methods.

Seven farmers co-operating with both the FPA and the Clinton County Soil Conservation District tried out the service. All reported complete satisfaction.

The way it worked: Junior Forester Floyd Olcott and S.C.S. Conservationist Barker Hopkins went into a huddle with the S.C.D. directors about the critical stuation on something like 400,000 acres of the county's farm woodlands. The main trouble, they figured, was a growth rate being held back by too many trees competing for the same soil moisture and light. They also knew that cost sharing under the Agricultural Conservation Program was available for thinning them out.

They wondered if farmers would go for a package deal—the labor, the materials and supervision all wrapped up in one service. The farmers *did* go for it. At $25 an acre, advantages were readily seen. Olcott supervised work on 36 acres, marking trees to be removed. Trees girdled and painted with a sodium arsenite solution died within two weeks' time.

Farmers who elected to take the dead trees out found the sticks readily peelable for pulpwood which could be sold at Ticonderoga for $17 a cord. Or, with the dead trees left in the woods, the thinning operation might still be considered done. Surviving trees will grow at a much faster rate and volume per acre will greatly increase.

With white pine reserves dwindling at a critical rate, a step has been taken in the right direction. Clinton County, according to foresters, has one of the Northeast's finest potentials for growing this high quality wood.

Olcott plans to work with Clinton County woodland co-operators on a similar program during 1956. Other New York counties may soon follow suit as requests for information about the services have been widespread.

—Barker W. Hopkins,
U.S. Soil Conservation Service

International Duck Banding

SINCE ducks are international in their distribution and migratory habits, proper management and intelligent hunting regulations depend upon close cooperation between federal, state, and Canadian provincial agencies all along the flyways from breeding to wintering grounds. In the United States, waterfowl flyway councils with State representatives in each flyway have been set up to work with the federal agencies in promoting fact-finding studies and to advise on federal waterfowl hunting rules.

During the season of 1954-55, the National Waterfowl Council sponsored a co-operative duck banding program on the breeding grounds in Canada and on the wintering grounds in the United States to secure more information on the ducks moving through the flyways. For the Atlantic flyway, states in the East contributed men to eastern Ontario, Quebec, Labrador and the Maritime Provinces in Canada to help with breeding ground banding, and to the southern states (primarily Maryland and Florida) for wintering ground banding. In addition, each state in the flyway was assigned a minimum quota of ducks to be banded locally. Since this program would benefit the entire flyway, all the states in the Atlantic flyway were requested to contribute technicians to supplement the limited number of biologists in Canada and in the Federal Fish and Wildlife Service available for this work. These technicians were to train local personnel who would carry on the program in following years. In this way, a small investment from the States would produce dividends over a period of years.

An extensive banding program in New York State was initiated in 1947 to obtain information about the ducks moving through the State. The first objectives were to determine the breeding grounds, the wintering grounds, the flight routes, and the concentration areas used by these ducks. This information enabled the State to locate refuges and public hunting grounds in the most strategic places.

But practically all band returns are reported by duck hunters. Obviously, their reports cover ducks shot during the Fall, and very few returns have been obtained from the breeding grounds. The program suggested by the Council was aimed at supplementing the banding work which had been in progress in New York State since 1947 by banding on the breeding grounds, thus sampling the breeding success each year. By plotting the returns from these stations to the wintering grounds, New York and the other states in the flyway would have better information concerning the number of ducks that could be harvested, and also concerning their origin.

As New York's part in this program, three men were sent to Canada to operate banding stations. Two stations were set up and operated—one near Oshawa, the other at Amherst Island, both in the Province of Ontario. During the Summer of 1954, 2,016 ducks were trapped and banded at these two stations: 614 black duck, 596 blue-winged teal, 308 mallard, 221 pintail, 136 wood duck and 141 miscellaneous ducks. Early returns from this work indicate that most of the ducks produced in this area pass over New York State, but do not stop here. (One blue-winged teal banded at Oshawa was taken in Coronie, British Guiana, and a pintail banded at the station was taken in Great Inagua, Bahamas Islands.) Most of the returns to date are for ducks taken in Canada, primarily in Ontario. But others have been received from Michigan, Ohio, New York, Maine, Maryland, Virginia and the Carolinas.

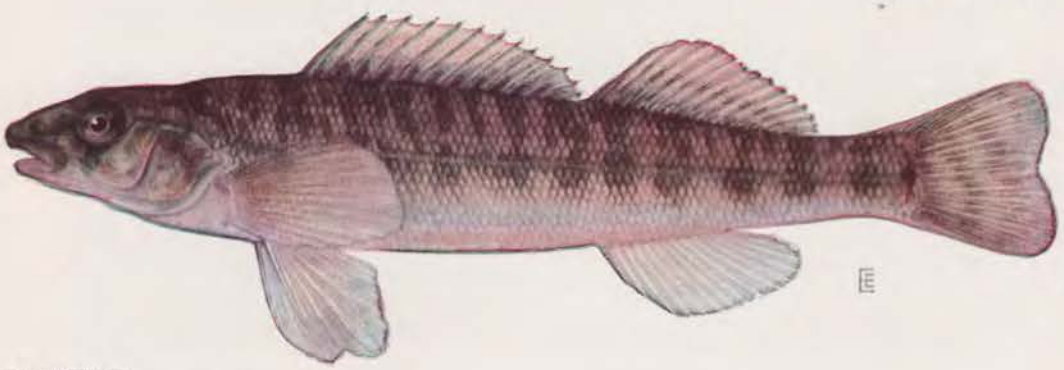
A portion of the ducks shot in the Atlantic flyway are raised in New York. The State also provides wintering grounds for diving ducks, many of which are raised in the Prairie Provinces of Canada. In order to meet New York's quota, trapping was carried out on some of the major concentration points in the State—during the Summer and Fall for marsh ducks, and during the Winter for diving ducks. As a result of these operations, 5,526 marsh ducks were banded: 3,006 black duck, 1,237 mallard, 877 wood duck, 142 blue-winged teal, 53 pintail, 111 Canada geese and 100 of other species. (For diving duck banding, see accompanying article by Benson.)

Pursuing this co-operative banding program to an important wintering area, the N.Y.S. Conservation Department sent a waterfowl technician, Rolla Parker, to Maryland to operate a banding station during the Winter of '54-'55 in Chesapeake Bay. A total of 2,073 ducks were banded: 725 lesser scaup, 426 canvasback, 41 redhead, 19 greater scaup, 19 ringneck, 444 black duck, 180 baldpate, 124 mallard, 4 pintail and 91 others.

No returns have yet been received from these ducks, as they were banded after the hunting season. However, returns next Summer and Fall may indicate the source of these birds in Canada. Returns from the diving ducks banded in previous years in New York State indicate that these birds nest in the Prairie Provinces; and it is hoped that some of these birds will be trapped this Summer in co-operative banding between the Midwest and the Prairie Provinces of Canada. That would give us more information than could be obtained from banding only on the breeding grounds.

—DON SCHIERBAUM,
Game Research Investigator

the back of the book



LOG PERCH
Percina caprodes (Rafinesque)
From adult female 3-13/16 inches long

"Murdocks"

On page 40 of our October-November issue, we ran a letter from a Frank J. Keefel, Jr., in which the writer inquired about "murdocks." He said he had heard that they were excellent bass bait in Lake Erie—but what is a "murdock" anyway?

We answered as follows: "No doubt we have a sharp reader who knows what a 'murdock' is. But personally, we're not that sharp."

When the magazine came out with this correspondence in it, it became evident that we should have checked further right here in our own Department. Shortly after the magazine was distributed in this office we received a memorandum from C. W. Greene, Chief of our Bureau of Fish, which contained the following:

"With relation to the question on 'Murdocks,' this is the common name (or a slight deviation from it) used along Lakes Erie and Ontario and the St. Lawrence River to describe one of the darters—specifically the log perch, *percina caprodes.* Fishermen in this area call this fish 'modock' or 'modoch'. (See page 176 of the 1928 Survey Report).

"This just goes to show you that you don't know our own strength.

"Log perch are often mistaken for young walleyed pike. They get to be 4½-5 inches long, maximum. They are hardy on the hook and are reported to be very effective bait, especially for bass."

To wrap up this question, we show the "murdock" above—in four colors.

N. Y. Fish & Game Journal

The July, 1955 issue of THE NEW YORK FISH AND GAME JOURNAL (the Conservation Department's semi-annual fish and game research and management publication) is off the press. This most recent edition of the biologists' "trade bulletin" carries forward the Department's policy of providing opportunity for fish and game technicians to report in detail upon their research studies.

Included among papers published in this most recent issue are: "Definition of Game Range Divisions in New York," by Ralph H. Smith; "Preliminary Studies of Menhadden and Their Mass Mortality in Long Island and New Jersey Waters," by James R. Westman and Ross F. Nigrelli; "Deer Weights as an Index of Range Conditions on Two Wilderness Areas in the Adirondack Region," by C. W. Severinghaus; "Effect of Size at Planting on Survival and Time of Down-stream Migration of Atlantic Salmon in a Tributary of Lake George," by John R. Greeley; "Certain Aspects of Waterfowl Hunting in New York as Indicated by Bag-check Data for 1953 and 1954," by Donald D. Foley; "An Electrical Surface Device for Carp Control and Fish Collection in Lakes," by Howard A. Loeb, and "Some Observations on the Breeding Behavior of Deer," by C. W. Severinghaus.

The New York Fish and Game Journal is available at $1.50 per year; 75¢ per copy. Address the editor: Robert W. Darrow, N. Y. Conservation Department, Albany, N. Y.

Magic in conservation

A 20-year-old Cornell junior, the "Mandrake of Conservation," will visit about 65 New York State high schools this Fall and Winter to sell conservation with magic.

David Hanselman, a member of the International Brotherhood of Magicians, will use the customary magicians' tools of silk scarves, a magic can, and 36 by 54-inch fold-up panel screen to demonstrate good and bad examples of conservation.

Hanselman's tour is aimed at supplementing the social studies and science emphasis on conservation in the high school curriculum. The young magician's equipment, which includes 600 feet of electrical wiring, took 100 hours to construct. He devised most of it himself.

A major in wildlife conservation, Hanselman is presenting the 45-minute program in high school assemblies as a special undergraduate project. His technical adviser is Prof. G. A. Swanson, head of the Cornell Conservation Department.

Using magic, Hanselman will explain renewable resources such as forests, soil, and water—and non-renewable resources such as petroleum and coal—by making silk scarves disappear. He will demonstrate protected and unprotected watersheds by filling a red can with water, then upsetting it with only a trickle of water coming out. (The trickle of water from the magic can will illustrate how water should be permitted to flow gradually from soil to stream.)

Forest management via magic will be demonstrated with three scarves—each representing a tree. One scarf, which will represent the potentially best tree, grows from 12 to 36 inches during the trick, while the other scarves disappear.

Reported black bear take

(1918 to 1954)

The hunting of black bears in the forested lands of New York has, in general, been coincidental to deer hunting, yet the killing of a black bear by a big game hunter has for years caused more excitement than the killing of a deer. Many big game hunters in New York report that they have wanted to kill a bear for many years and would pass up the opportunity any day to kill a deer if they could take a bear instead.

The reported bear kill has never been large. From 1918 to 1954, it ranged from a low of 24 (1943) to a high of 324 (1919). During this 37-year period, the 10 years with the highest reported takes are as follows:

1919—324	1953—195
1920—232	1918—189
1922—222	1926—184
1954—219	1929—170
1950—197	1949—169

The taking of any black bear, regardless of age, was permitted through 1933. In 1934, however, bears under one year of age were protected in all counties with an open season except for Essex and Franklin. In these two counties, cub bears were legal through the hunting season of 1936, but in 1937 the "cub bear law" became state-wide and has remained in effect to date.

The reported black bear kill on a regional basis for the years 1949 through 1954 shows the Adirondack take increasing from a low of 43 in 1951 to a high of 160 in 1954. The low kill of 1951 may not be indicative of the population trend, however, because 105 and 109 were reported taken in 1949 and 1950.

The reported take from the Catskills shows the same trend as that of the Adirondacks, while the reported kill in western New York bear range has remained low except for 1951.

The factors which influence the taking of bear are not fully understood. Some believe that the long term trend of the reported kill does not reflect the trend in the population. It is known, for instance, that inclement weather may cause the early hibernation of bears so that they are not available to the hunters. This might be particularly true in the Adirondacks but it can hardly be considered a factor tending to save bears from hunters in the Catskill and western areas of the State. However, the reported bear take state-wide between 1930 and 1948 averaged about 77 per year. Since then the take has averaged about 166. This appears to be a sustained increase in reported take of more than twice that of the earlier period.

However, the accuracy of the reported take of black bears from the big game tag is questionable. Actual kill surveys in 1954 showed that only 53.7 per cent of those killing a bear in the Adirondacks reported while in the Catskill and western regions of the State, 80.0 per cent of those killing a bear made a report. It is quite obvious that the reported take as tabulated does not result in an accurate tabluation of the total legal harvest of black bear.

It is proposed, therefore, that this year and in the future, the field checks of recent seasons be continued to determine, regionally, the percentage of bear killed that are actually reported to the Department. Then, the total legal take of bear can be calculated and this much more accurate figure used as the official report of the bear take.—C. W. SEVERINGHAUS, *Game Research Investigator*

New record for black bear

The biggest recorded black bear ever shot in New York State fell to a North Creek man, William Waddell, this year on October 25, the first day of the Northern Zone big game season. This huge bear, that would have tipped the scales, when alive, at close to 600 pounds was taken in the "Irishtown" area of Essex County between Minerva and Olmstedville.

The dressed weight (on State-inspected, feed store scales at North Creek) the day after it was killed was 540 pounds—including heart, lungs and liver. Visceral and blood weight loss was estimated to be approximately 60 pounds.

There's no doubt that Waddell's bear is a new record for the State. Previous high was a 532-pound bear taken in 1938 by Jean Mose of Saranac Lake—and that was live weight, as was a 530 pound Catskill bear taken in 1919 near Tunis Hollow, Ulster County by Dave Fairbairn.

Additional measurement statistics on Waddell's bear are:

9 feet from tip of hind foot to tip of nose; 6 feet, 3 inches around shoulders; 3 feet, 5 inches around neck; 1 foot, 4 inches from tip of nose to between ears; 8 inches between ears; 2 feet between shoulder blades; and 8 inches—length of front foot; 9½ inches length of rear foot.

A better conception of the hugeness of this bear can be gained by reference to the accompanying picture. Waddell, posing next to his trophy, is 6 feet, 1 inch tall and weighs 220 pounds. The gun he is cradling in his arm and the one with which he shot the bear is a three-barrel affair—double barreled 12 gauge shotgun mounted over a single barrel .32-.40 caliber rifle. Made by the Three Barrel Gun Company of Wheeling, West Virginia, it's probable that it's about as rare in the Adirondacks as 600-pound bears.

Waddell reports that he met up with the monster face to face with only 50 feet separating them—but this didn't worry him because bears, under such circumstances, are supposed to turn tail and flee. Trouble is, this one hadn't read the script; he stood his ground. So Waddell lined him up over his three-barrel gun and felled him with one head shot from the .32-.40. To make sure, he added two slugs from the 12 gauge double, loaded up again and hit him with another shot from the rifle barrel. Then he sat down and wondered what would have happened if he had only wounded the bear with the first shot.

Rabies

Conservation Department biologists in charge of the co-operative Rabies Control Program report that as of October 31 State Trappers operating through south-central New York had this year taken a total of 2,343 foxes. During October alone the 15 State Trappers employed under this program accounted for 259 foxes from the control area.

Meanwhile, the State Department of Health has reported a state-wide total of 437 certified cases of rabies for the year —including preliminary reports for the month of October. Animals stricken by the disease were: Cows 198, foxes 147, dogs 34, cats 32, raccoon 15, horses 4, sheep 3, skunk 2, pig 1, otter 1.

Selected bibliography

In this issue we had hoped to commence publication of a list of books on conservation and natural history—a sort of "do it yourself guide" for the thousands who write to this Department all the time asking for information about birds, fish, mammals, insects, shells, etc., etc. To accomplish this we asked a number of recognized authorities to recommend reference books in their own fields of specialization. They did—and the reference list grew even beyond our hopes. It also grew beyond our ability to organize for publication beginning in this issue. So this is to assure all those who co-operated to build the reference list that it will start in the February-March CONSERVATIONIST.

Purity standards for the Hudson

The State Water Pollution Control Board, whose program of watershed pollution abatement was reported upon in THE CONSERVATIONIST for October-November, 1955, has recently announced approval of a detailed plan to clean up pollution in the Hudson River.

The section of the river covered in the abatement plan runs from the northern limits of Westchester and Rockland counties to its confluence with the Mohawk River at Troy. The waters of this section of the river were classified by the Water Pollution Control Board last year. The next step will be to arrange conferences with the individual polluters to discuss means of clearing up the pollution problem.

The plan lists 21 governmental units, 20 industrial firms and 8 institutions which are violating standards set for the water, and describes detailed programs for improving the situation.

Starting at the northern limits of the Westchester-Rockland line, and extending to Chelsea, in Dutchess county, the Board's plan provides for a "B" water classification (suitable for bathing). From that point to the southern end of Esopus Island (in the vicinity of Hyde Park), an "A" classification (suitable for drinking water) has been set, and from that point to the southern end of Houghtaling Island near New Baltimore, the river is again classified as "B." From there to the confluence with the Mohawk River, the classification is "C" (suitable for fish life).

Copies of the plan have been sent to all persons who attended the hearing, all local health department officials and each of the pollution municipalities and agencies.

Under the Water Pollution Control Law, members of the Board and persons responsible for pollution have the responsibility of seeing to it that polluting wastes are treated so as to bring the receiving waters into compliance with the standards of quality which have been established. It is expected that conferences will be started within the next few weeks to discuss the individual pollution plans with the various localities and industries charged with pollution.

The rabbit cycle

Again this year rabbit hunters in Albany, Columbia, and Rensselaer counties are asked to contribute about one minute of their hunting day to help with a study aimed at learning how the rabbit "cycle" works. This "cycle" is so named because about every ten years rabbit abundance falls off drastically. It then recovers slowly, reaches a peak, then tumbles again. The causes of these declines are not well understood, and to attempt to counteract the decline is like trying to build a television set without knowing how or why the picture appears on the screen. However, because of the development of new techniques for studying rabbit populations, it is hoped that some light can be shed on the mechanics of a cycle from decline to recovery. Data obtained would furnish background information for efforts to prevent or modify the cyclic losses—*rabbits that the hunters do not get!*

One of the new techniques used, which makes it possible to probe into the details of fluctuations in rabbit abundance, is as difficult to explain as the workings of a television set. Suffice it to say, though, that if the proper tools are available it is possible to divide the hunting season rabbit population into two component groups: Adult breeders and the young of the year. Moreover, the latter group can be further separated according to the month of their birth. Since in most setsons these young of the year make up about 75 per cent of the total huntable rabbit population, their survival largely determines the success or failure of the hunting season.

The key to success in this study is the co-operation of hunters. Without their help it is impossible to gather the "tools" to do the job. The "tool" in this case is the humerous, or upper foreleg bone, located just below the shoulder blade. If a sufficient number of these bones can be collected, each identified by the *date when collected and locality where taken*, then it is possible to age the rabbit population as indicated above. A bare minimum of at least 100 bones is needed from each of the three counties each month. While this number represents a tiny fraction of the number shot and would seem to be an easy quota to meet, experience the past two years has been most disappointing. Despite widespread publicity and distribution of collection envelopes through sportsmen's clubs, as few as 12 bones have been collected in an entire county for a whole month—totally inadequate for the needs!

Your Conservation Department wishes to stress the following points to those who enjoy hunting rabbits:

1. The objective of the study is to cut down on rabbit losses which occur outside of the hunting season. In other words, by co-operating with us you are helping to improve your sport. 2. As indicated, it takes only about one minute to cut this bone out of a rabbit carcasse, jot down the *date* and *locality* where taken, and mail the bone and the information to the Conservation Department. 3. Cooking and freezing do not affect the age indicator, so the rabbit can be eaten before the bone is contributed. Only *one* bone from each rabbit, please, and where dates taken are different for more than one bone contributed, identify separately. 4. Special collection envelopes will be provided upon request, or will be sent on receipt of bones sent in ordinary envelopes or packages.

The rabbit population is currently at a peak. Past history indicates that it is due to decline again. If insufficient information is gathered now, we must wait another ten years to reach a comparable stage in the rabbit cycle. We urgently request your co-operation.

Great Lakes fisheries

Last year and this, in three rapid steps, the United States and Canada accomplished more to provide needed research and ultimate management of the valuable, and ailing, Great Lakes fisheries resource than had previously been accomplished during a half century of conferences and half measures. These steps were:

(1) September 10, 1954 — United States and Canada signed Great Lakes Fisheries Convention. This provides for joint action by the United States and Canada in the field of fishery research and elimination of the predatory sea lamprey in the Great Lakes. To carry out this task, both governments agree to establish a Great Lakes Fishery Commission of three appointees from each country. The Commission may recommend to the governments, on the basis of research findings, measures to make possible the maximum sustained yield of Great Lake fisheries. The Commission will have, however, no regulatory powers.

(2) October 11, 1955—the Convention on Great Lake Fisheries entered into force this day upon the exchange of ratifications in Ottawa by the United States and Canada. The Convention brings under a joint United States-Canada conservation regime the greatest fresh-water fisheries in the world.

(3) October 18, 1955—representatives of the eight Great Lakes States (including New York) and of the U. S. State Department met in Washington, D. C. to work out preliminary arrangements for participation of the states in the Great Lakes Fisheries Commission program.

Oneida Lake

Oneida Lake in north-central New York is famed on several counts. It's the largest body of fresh water lying wholly within the State; it's rated as one of the most fertile lakes in the northeast and it normally provides some of the best pike-perch and bass fishing to be found anywhere—with a liberal bonus thrown in of yellow perch, bullheads, silver bass and catfish.

With such an array of game and pan fish, one would expect fishing to be good —and it is, almost always. Fishing slumps in other lakes are taken as a matter of course but when the "doldrums" hit Oneida there's grave concern in the land; 1954 was such a year. It was as though a plague had hit the lake. Disgruntled anglers wrote in to the Department giving us their views—in no uncertain terms. We stocked "too many" fish; we stocked "too few;" Oneida Lake, which is a part of the Erie-Barge Canal system was being ruined by the Department of Public Works by holding the water level too high; pulling it down too low. All the fish had gone down the canal and over the dam. The lake had been taken over by gizzard shad. The eel flies hadn't hatched, etc., etc.

And, so it went through the Spring, Summer and Fall, but then came the first skims of ice and the faithful unlimbered their tip-ups, certain that early Winter ice fishing would reverse the trend. They were wrong. Minnows wriggled on the hooks night and day—to no avail. Fishing effort finally dropped to near zero and the "Old Timers" allowed it was the worst fishing in their memory.

Then came April — the trap-netting season when the Department's hatchery men at Constantia round up pike-perch breeders to be stripped. A gloomy and cynically muttering committee of Oneida Lake anglers were on hand at the hatchery to administer last rites. "I told you so's" got stuck in their throats, however, for the fish scows docked loaded to the "gunnels" with bigger than average pike-perch. And when the 1955 fishing season got under way, lingering prophecies of doom were drowned out by limit catches and comments by the "Old Timers" again of "best fishing I ever saw;" "The best in 25 years."

Well, we don't have the answer on Oneida as yet, and it's probable that there is no single answer to what goes on here. Rather, we expect a whole series of factors influence fishing in Oneida as they do in other waters. One thing is quite certain, however, and that is that the almost unbelievably good fishing of 1955 will be forgotten by many fishermen when the next "low" in the cycle comes along. It isn't hard to find out when fishing is poor but we would also like to hear from fishermen when and where it is good!—A. C. Petty, *District Fisheries Manager*

Advisory Committee on conservation

On October 18, 1955, Secretary of Agriculture Benson announced the establishment of an 18-member Advisory Committee on Soil and Water Conservation. Committee appointments were made on the basis of a broad range of soil and water conservation interests geographically spread throughout the Nation.

In establishing this Committee, Secretary Benson said: "The soil and water resources of the United States are of basic importance to the structure of our national economy. From these resources come our food, most of our clothing and much of our shelter. How well we protect and improve these resources in the years ahead will have a direct bearing on our standards of living in the towns and cities as well as the farms and ranches of this Nation. Modern soil and water conservation means applying the necessary measures on the land for continuous, sustained use without abuse. It involves proper land use, protecting the soil against erosion and other forms of deterioration, maintaining soil productive capacity, rebuilding eroded and depleted soils, protecting and improving forests and farm woodland, improving grasslands, conserving moisture for crop use, reducing flood and sediment damage, planning and treating entire watersheds, improving the quality and regularity of water yields and income—all at the same time. The practical attainment of conservation objectives involves the use of scientific knowledge in soils, engineering, agronomy, forestry, biology, geology, economic and other agricultural and related sciences."

This, we think, is a fine statement of policy; one which can and should be endorsed regardless of political affiliations; one which we hope will effectively guide the Committee in encouraging co-operative action by the many state and federal agencies dealing with natural resource planning and management.

Ray Burmaster retires

On October 29, 1955 Conservation Department associates and sportsmen gathered—120 strong—at an Elks' Club dinner in Saranac Lake to honor District Game Protector Ray Burmaster on his retirement after 40 years of service with the Conservation Department.

Ray was first employed by the Department as Game Protector in Erie County, Buffalo Division, in 1915. Upon promotion in 1920 to District Game Protector, he was transferred to Saranac Lake. He will celebrate his 70th birthday on January 19—at which time he and Mrs. Burmaster expect to be located in their new home at Ormond Beach, Florida.

Erie County Deer Case

ON February 28th, 1955, Protector Robert B. Kauffman of Eden received a telephone call from a farmer living in the Town of Concord, Erie County, advising him of a dead deer which he believed to have been shot with the aid of a light.

Protector Kauffman called on the farmer and after examining the deer was satisfied it had been killed with a .22 calibre rifle. He made arrangements with the farmer to call him immediately in the event he heard shooting at night or if he might be suspicious of strange automobiles in the area.

On the evening of March 6th, 1955, at about seven-thirty p.m. Protector Kauffman received a telephone call from the farmer who stated that a strange car had been driving back and forth at a slow rate of speed. He had not heard any shots but was quite confident something was wrong. He had sent his teen-age son out to obtain the license number of the car. It was a bright, clear night with about one inch of snow covering the ground. The boy was able to get the last four numbers from the license plate and described the car as sand-colored—about a 1946 model.

After receiving this information Protector Kauffman checked along the highway and found where a deer had been dragged through the snow to the road and apparently loaded into a car. He then followed the tracks of two men to a place where he found the remains of two deer which had been freshly dressed out. After checking the tracks of tires at the point where the deer had been dragged to the highway and the tire tracks where the boy had attempted to get the license number of the car, Protector Kauffman was convinced that the sand-colored car was the one involved.

On the following day, March 7th, 1955, Protector Kauffman and Protector John Hassett came into the branch office and told me the story up to this point. They also advised me that they had checked auto licenses in Cattaraugus and Chautauqua counties but were unable to come up with anything which seemed to fit the description of the car. After a short discussion the two Protectors went to the Buffalo Police Department and with the wonderful co-operation of Lieutenant Wagner of the License Bureau they ended up with a list of approximately 30 cars which they intended to check.

The first license which they checked covered a car belonging to one Joseph M. Martin, age 37, of 15 16th St., Buffalo, N. Y. Upon arriving at that address the Protectors saw the car parked on the street and noted deer hair and dried blood on the rear portion of the car. They also saw a spotlight lying on the front seat of the car.

After ringing the doorbell several times without an answer, the Protectors were of the opinion they had been spotted in their uniforms, and for this reason no one would answer the door.

It was now approximately five-thirty p.m. and as I walked into my home in Clarence (after being at the office all day) I received a telephone call from Protector Kauffman. Very quickly he brought me up to date on the investigation. It was then decided that I should meet the Protectors and in civilian clothes go to the door of the house on 16th St. By the time I arrived at the 16th St. address and we had made our plans, it was dark. We felt sure someone was in the house, as it was lighted up. The car with the deer hair, dried blood and spotlight was still parked on the street.

Upon ringing the door bell a man opened the door. After greeting him with a "hello," I asked if his name was Joseph Martin. As soon as he said "yes" I identified myself and immediately asked him if he wanted to tell me the true story of the illegal taking of deer. He said he knew nothing about any deer and attempted to close the door. But in a couple of minutes he was willing to talk. At this point I called Protector Kauffman to the door and we were granted permission to enter Mr. Martin's house. He took us into his kitchen and showed us the carcase of one deer which he was preparing for the freezer. He was willing to tell us everything, except that he was very hesitant as to disclosing who was with him. But after a short time he informed us that Leonard J. Carfley, Sr., age 38, of 231 Trenton St., Buffalo, and Leonard J. Carfley, Jr., age 18, of the same address were with him on the night in question and that they had the other deer which was involved. Mr. Martin then turned the venison and the jacklight over to us, for which he was given a receipt. He also offered to accompany us to where Carfley worked.

We immediately made the call on Mr. Carfley. After identifying ourselves and stating the purpose of our calling, Carfley told us the complete story of what happened on the night of March 6th. He then accompanied us to his home and turned over the carcase of the other deer. He also turned over the .22 calibre rifle which was used in the illegal taking of the deer. We gave him a receipt for the venison and the gun.

After obtaining signed field statements from the two men it was agreed that they would appear at the Buffalo branch office on the following day for the purpose of making a stipulation settlement. They made their appearance at the appointed time and after a lengthy talk it was agreed that Mr. Martin and Mr. Carfley Sr. would settle by stipulation for $500 each. The men requested one week in which to raise the money and this was granted them. At the end of the week they appeared at the office on schedule but had failed to raise the amount of money which had been agreed upon. It was then that I accepted a stipulation settlement in the amount of $400 each.

The venison was turned over to a charitable institution, the .22 calibre rifle was sent to the Albany office, and the spotlight is at the branch office.

—E. B. LARKIN,
District Game Protector

"The Welfare State"

We are indebted to *The Daily Telegram* of Worcester, Mass. and to Myron M. Johnson of its editorial staff for this bit of ornithological whimsy:

KINGBIRD: The convention will come to order.

BLUE JAY: I suggest the absence of a quorum.

CROW: You mean the People's Quorum?

KINGBIRD: As most of you know, last January the National Audubon Society, after making a survey, accused us birds of hanging around where there is food given to us, instead of making our usual trips south. The charge against us is that we are relying on the welfare state.

JAY: This may be only a temporary condition.

CROW: It's a long, long way to Temporary, but my heart's right there.

CHICKADEE: I don't fly south anyway. Dee, dee, dee, dee, dee! I like it here. I'm a resident.

CATBIRD: I'll go along with Henry Clay. I'd rather be right than resident.

ROBIN: I can't see why we are accused of living off the welfare state. I certainly work hard enough. I have my

radio program from 4 to 6 every morning. Then I'm on television from 5 to 7 each evening. Between times I dig worms. I enjoy their rich, built-in, juicy goodness. Yum, yum. Nutritious, too. You see—

JAY: Robin talks a lot of that commercial jargon since he's been singing for radio and TV.

ROBIN: I do a lot of singing all right. But I do a lot of other work during the daytime. I have a dominating wife.

CATBIRD: Is there any other kind?

JAY: That's an old one. I heard Victor Moore say it years ago in one of his shows. Can't you say something original?

CROW: I saw a movie once, in which one of the actors was Original Owen.

CATBIRD: Who cares about origins? I prefer bananas to origins. But I like cold origin juice for breakfast.

WREN: Wee-a-wee, wee-a-wee, wee-wee!

KINGBIRD: Stop that singing. This is not a concert.

CROW: I'm a firm believer in wren control.

FLICKER: A survey by the United Nations says that the idea of the welfare state is growing more popular, all over the world. What if some of us do live on handouts from humans?

JAY: Right. And what is so wonderful about humans anyway? Last month General Groves, the big shot in science, said, and I quote: "The problems that are confronting the world today were created as a result of the advances in technical and scientific knowledge of modern man." Let that sink in. Yet "bird brain" is a term of scorn.

BALTIMORE ORIOLE: I concur. We birds have no wages, no hours, no profits. We make no progress, but we get along all right. And we are consistent. We don't brag about the virtues of hard work and discipline and self-reliance, and then strain ourselves to make sure that our children will have things easy.

CATBIRD: Some ball team you got there, Oriole.

ORIOLE: Shut up!

KINGBIRD: To business. We can at least adopt a resolution.

CROW: Some of my ancestors fought in the American Resolution. Comes the Resolution.

OWL: I have prepared a statement for the press, as follows: "The birds examined the problem fully and were in complete agreement on the need of honor, honesty, integrity, justice, fairness, and fair play. They agree to meet at a later date to put these principles into effect."

KINGBIRD: The chair will entertain a motion to adjourn.

Adirondack Museum

Construction of an Adirondack museum at Blue Mountain Lake was begun this Summer by the Adirondack Historical Association. Built on the site of the former Blue Mountain House, it will command that famous view overlooking the three Eckford lakes—Blue Mountain, Eagle and Utowana.

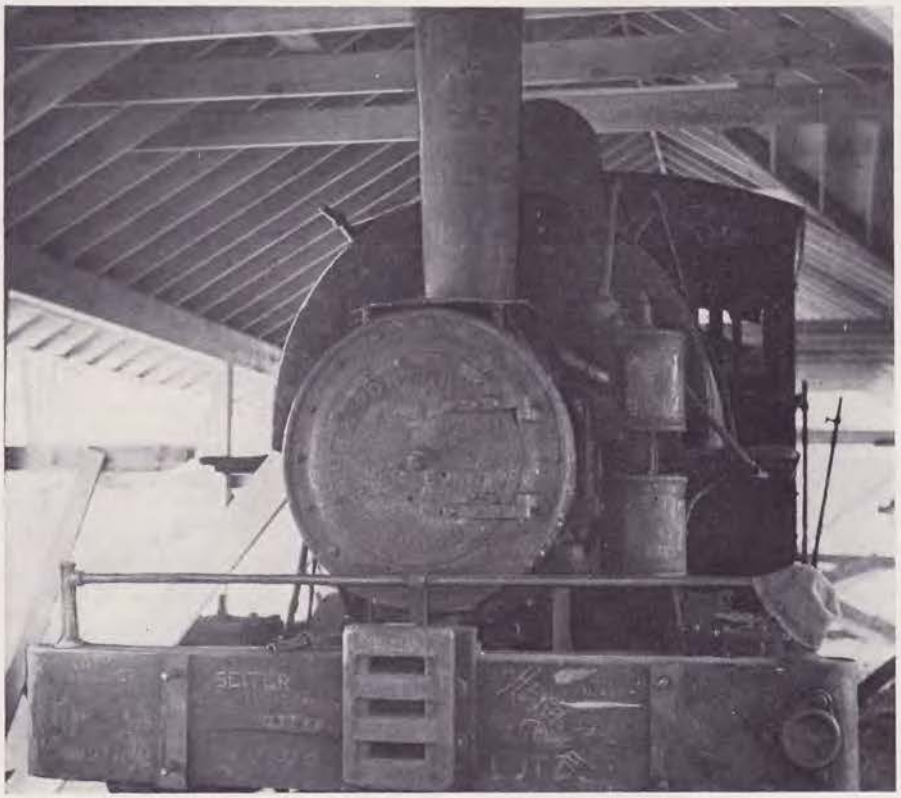
Main theme of the Museum will be the history of man in the Adirondacks, to be shown by dioramas, by photographs (of which the Association possesses a notable collection) and by other means, including a large contour map of the mountains and lakes of the region.

The main building will be fireproof, of stone and brick with a slate roof. There will be two principal rooms, one 50′ x 36′ and the other 33′ x 36′. Researchers will find a workroom and library in this structure, on the site of the old Blue Mountain House. Incidentally, razing of the old Blue Mountain House was intriguingly done; a cable was put around the building, then a powerful tractor was coupled on—and the old structure came tumbling down like matchwood.

One aspect of the development of the Adirondacks that will receive attention is lumbering; another is life in the early hotels; still another is Adirondack travel in its various phases. In nearby buildings, old carriages and watercraft will be on display, as well as an old steam locomotive and passenger car that ran from 1900 to 1929 on the Marion River Carry Railroad, seven miles from Blue Mountain Lake. This line, 1,300 yards, was the shortest standard gauge railroad in the world. The locomotive is a duplicate of those in service at the turn of the century on the elevated railroads in New York City, while the car is a horsecar of the old Brooklyn Rapid Transit Company.

Near the new Museum building is one of the oldest log cabins in the Adirondacks; built in 1876 by the late Tyler Merwin as an annex to his hotel. The cabin will house a hunting and trapping exhibit.

It is planned to open the Museum in the Summer of 1956. The Adirondack Historical Association—as noted above, the prime mover of this enterprise—was founded by W. L. Wessels (see THE CONSERVATIONIST, June-July, 1949) under a charter granted by the Education Department of the State of New York by an act of the Legislature.—ROLAND B. MILLER



Locomotive from the old Marion River Carry Railroad which will be restored and exhibited in a simulated ticket office-station building at the new Adirondack Museum

Notes On "Wilderness" Deer

This massive rack is from 4½ year old buck from Western New York's flourishing deer herd.

4½ year old buck taken from "Wilderness Area," Herkimer County, exhibits spike on right, "Y" spike on left—both less than 6 inches long. Typical antlers for many older bucks in Adirondack Interior Areas.

This 2½ year old Albany County buck on good range, plenty of food, produced very respectable rack.

Approximately 5 per cent of the 2½ year old bucks taken within Adirondack "Wilderness Areas" had antlers less than 3 inches long; some with no antlers like that shown here—only pedicels upon which antlers might have grown.

In startling contrast is this 1½ year old, 9 point Southern Tier buck taken in Steuben County.

This head is typical of 50 per cent of all 1½ year old Adirondack "Wilderness Area" bucks—spike horns less than 3 inches long.

LAST year's special "two-deer" season in "wilderness" areas of the Adirondacks was designed to attract more hunters into remote country to harvest a surplus of deer built up during a series of mild winters. Prior surveys in these areas had indicated the presence of a deer population far in excess of what the range could support in even an average Winter. The accuracy of these surveys was reflected in the size and condition of the deer taken from these areas during last year's special season.

During this special season game technicians secured a great deal of information on buck and doe weights, fecundity of does, age composition of the herd, and antler growth of bucks. With regard to the latter, the accompanying pictures illustrate the influence on antler development resulting from over-browsing and resultant malnutrition of deer within these "wilderness" tracts.

Antler development of bucks, however, is only one of several "yardsticks" for measuring the quantity and quality of deer browse and resultant welfare of the deer heard. The average size (weights) of deer taken from poor as compared with good range is an equally valid criterion. During the 1954 season game men weighed and aged antlered bucks taken within the Adirondack "wilderness" tracts. The average weights of 1½- and 2½-year-old bucks from these tracts was 95.2 pounds. In contrast, bucks in these same age groups from Southern Tier and Western counties of New York averaged 120.0 pounds—approximately 25 pounds heavier. Even in the Adirondacks there was a marked difference in weights of "wilderness" bucks and bucks taken from adjacent areas:

AGE	BUCKS FROM "WILDERNESS" AREAS	BUCKS FROM ADJACENT ADIRONDACK RANGE
1½ years	83.6 pounds	95.5 pounds
2½ years	115.5 pounds	125.2 pounds
3½ years	135.8 pounds	142.6 pounds
4½ years	148.4 pounds	166.8 pounds
5½ to 10½ years	146.1 pounds	154.4 pounds

* From "An Analysis of the 1954 Special 'Wilderness' Deer Season in the Adirondacks," by C. W. Severinghaus, Game Research Investigator.

Chenango Carp Drive

DURING the Winter months some sports-minded people like to watch basketball games, others prefer to bowl, while still others like to hunt or fish; but in Chenango County there is a group which indulges in a very special kind of Winter sport—snatching carp and suckers through the ice. The hardy individuals who comprise this band think that this is tops in Winter sports.

Enthusiasm runs high and from the time of the first skim ice over the streams in early Winter, the urge to begin operations rises to fever pitch. Scouts go out during the week to test the ice and line up the spots for the week-end "drives." Recruits for the crew aren't difficult to find and organization of the expedition consists merely of spreading the word concerning the rendezvous point and time of meeting.

The sections of streams chosen for snatching are areas of relatively slow moving water with depths of two or three feet. This is the type of water that carp and suckers find to their liking. Snatching is permitted by the Department under Section 218 of the Conservation Law, and in streams the species that may be taken include suckers, mullet, carp, bullheads, and eels. The snatching season in streams is from November 1st to April 30th.

The equipment needed is simple and anyone so inclined can become a participant with little or no cash outlay. The principal weapon is the snatch hook—which can be of commercial origin or, as is more often the case, of home workshop design. It is quite similar to a gaff used for landing large fish except there are more hooks (usually from two to four) spaced equidistantly around the business end of the handle. The handle is usually about three or four feet in length and composed of some strong, light material well suited to lightning-fast action in the water. (One ingenious snatcher made the hooks out of coil springs salvaged from the seat cushion of a junked car.) The hook points are kept filed and honed to a needle sharpness for most effective results. A wooden frame about 18 inches square constructed of 1″ x 4″ stock or similar material, placed over a hole cut in the ice, completes the snatcher's equipment—except perhaps for a pair of hip boots, which come in handy when the water starts to rise on top of the ice. (A combination of thin ice with too many people on it sometimes causes this to occur.)

The "beaters" or "drivers," of which there are usually from two to four, depending upon the width of the stream, arm themselves with an axe and a light maul or tree limb. As one would suspect, the purpose of the drivers is to scare the fish so they will swim under the holes cut by the snatching contingent. The first drive at each location is always made in an upstream direction so that roil in the water caused by the disturbance of the drive will drift downstream and not obstruct the view of the snatchers. A second drive may then be made from upstream.

When the snatching party arrives at the stream some of the members volunteer to act as drivers while the remaining characters arrange themselves in a line across the stream and begin to chop holes in the ice. After the large block of ice is removed a piece of window screening facilitates the removal of small ice particles. Then the wooden frame is placed over the hole to facilitate kneeling and resting during the operation. And if you are lucky and the ice doesn't sag very much, this will keep you out of the water.

In the meantime the drivers have walked down to a point about a hundred yards or so below the snatching line. By this time they are impatient to get started and shout appropriate advice to the slower hole choppers. When it appears that the last hole has been readied a shout from the drivers, "Get on your holes," snaps the snatchers into position. (One might compare this to a row of West Point freshmen "assuming the position" except that in this case the "position" is somewhat exaggerated.) Actually this ostrich-like posture, with eyes close to the water, enables the man to peer down into the water in quest of the fish stirred up by the drivers.

The drive begins as the driving party moves forward, thumping and pounding on the ice. One man with a single bit axe walks ahead and alternately chops small holes and pounds on the ice. A man follows him with a "puddling stick"—a tree limb or other piece of wood with which he stirs below the surface in an effort to rout out the fish. All of this is accompanied by much shouting and loud admonishment to the snatching line. (Any relaxation or lack of attention by a snatcher during the operation results in quick reprimand from the drivers.) Shouts of success are heard as fish are hooked and tossed flopping on the ice. As the driving party reaches the snatchers, action tapers off and a decision is then made as to whether a second drive will be made downstream or whether a different section will be tried. If someone saw a big one go upstream, then in all probability the snatchers will reverse their positions and point their posteriors upstream as the drivers come down. In any case, the drives are seldom dull, and even when snatching is slow someone may break through a thin spot in the ice—to the great amusement of the rest of the party.

FOR the past several years, winters in Central New York have not been kind to snatching enthusiasts, since stream ice of suitable thickness has been either totally lacking or of short duration. Continuous cold weather for a considerable period is required to produce safe ice for this sport. We hope for better weather this year, because aside from the sport afforded by this activity it certainly is desirable to harvest a fish crop that might otherwise be wasted. And such a harvest makes the water more suitable for game fish. It all adds up to good conservation, and good fun.

—A. C. PETTY,
District Fisheries Manager

Letters to The Editor

Zoning for game

Gentlemen: Am inclosing a clipping from *The Schuylerville Standard*. Read it over, and get a faint idea of what the people in this vicinity think of the split zone idea. Would also like to send along a few remarks made here by all my customers, but the mailing laws forbid. Can't get conservation ideas across by antagonizing whole blocks of folks who have control of the land.

Might think over the idea of barring hunters from outside the restricted area, during the time the season is split. Ramifications, sure; howls, sure; but more fair and more apt to make friends for conservationists than the present method.

Bill Sheffer, Stillwater

Sir: In regards to your zoning laws and season dates, I am inclosing a clipping which might be of interest to you and the Conservation Department. It shows that over 7,000 acres of land will be posted.

It seems to me, that in regard to small game, the present zoning laws could be no worse. Everyone else around here feels the same way. This problem has been discussed and is being discussed at all sporting goods shops. The following points have all been generally approved of:

1. That October 1st is too early for the Northern Zone season to open.

2. There is too much of a time lapse between Northern and Southern zones opening dates.

3. That public hunting is on the way out, due to terrific increase in posted land against same.

4. That the easiest and most sensible way to overcome problems is to open small game seasons everywhere at the same time.

In reference to Point 4, everybody I ever spoke to was willing to take a set-back in opening date for the Northern Zone. Why not open zones in the middle of October? I say let's give the game and landowner a break and not create a battle ground in the Northern Zone for a whole month or so.

Fred Kmen, Saratoga Springs

Dear Sir: Why can't the Conservation Department move the North and South boundary line back where it was for years. Why the change? We used to have lots of "Free Country" to hunt and fish on, but not any more—due to the change.

The farmers are up in arms and I don't blame them. Hunters coming at them in all directions. Some have no regard for the farmers' rights and even destroy their property.

I know if the Department made a survey of this section during the first two weeks of the hunting season they would see my point of view.

Charles Ford, Saratoga Springs

• *In answer to the above complaints, please see future issue.—Editor*

Conservation assistance

Gentlemen: I would like to know where to find some information on conservation practices in regard to a recently timbered woodlot that my neighbor and I have just bought in Oswego County, about 6 miles north of Redfield.

We plan to construct two cabins in the area, using them primarily as Summer weekend and vacation spots, and probably as hunting headquarters in the Fall. But we are especially interested in applying good conservation practices, both as concerns trees and wildlife. We understand that the State will send out an expert to mark which trees should be culled and which should be kept for future development; if so, can you tell me how to make arrangements for such a visit?

We are also interested in making some sort of a dam on the property, so that it can be stocked with fish. And in the next few years we would like to arrange to plant some evergreen trees, and would like to know how to go about this operation.

Any advice you can give us on getting started toward good conservation habits will be greatly appreciated.

John P. Messerly, Fayettesville

• *You'd be in our District 6 forestry district. Address our Forester at Box 31, Lowville. He probably will sign you up as a Forest Practice Act co-operator, working up a silviculture management plan for you. He can also put you in touch with the right field men on the dam project. He also can tell you how to get seedlings for reforestation work. Our District Forester or Forester may have a backlog of requests for service, so allow him a little time.—R.B.M.*

View from a fire tower

Dear Sir: I like my State of New York, I like its mountains and I like THE CONSERVATIONIST, which tells me so many interesting things about them. However, I have a small criticism which I send to you because you will know where to send it in turn.

Our family spent some vacation at Augur Lake this Summer near Keeseville. Desiring to more greatly enjoy the scenery, we climbed Pooqui-Moosi (the natives call it Poco Moonshine) Mountain one day to get a look from the tower.

It was disappointing to find neither a telescope nor a map in the tower. We saw what we saw but knew little about what we were looking at. In answer to my inquiry, the young man at the cabin just below the top told me that no glass was provided for that lookout.

It seems to me that the few additional dollars required to put a glass and a map in the tower would be justified by making the fire watcher more effective—if for no other reason. Certainly if the State can afford to build and maintain and man the facility it can afford the finishing touch.

John K. Robinson, Syracuse

• *In checking with the District Ranger, who later contacted the Observer, I am informed that there is a map at Pok-O-Moonshine tower. If the Observer was not actually in the tower at the time of your visit, it is very possible that he had the map covered or down in the cabin with him.*

Concerning binoculars: While we attempt to furnish these in as many of the towers as possible, our losses from breakage and theft, particularly the latter, have been exceedingly high in recent years with the result that at present these are lacking at several of our towers.

Concerning the maps at the towers: We have found from past experience that they are extremely perishable due to climatic conditions. You will be interested to know that we have a project underway at present for the construction of 46 tower maps to be permanently mounted in plastic for our Adirondack towers. We plan to have these completed and installed by the beginning of the next fire season. Similar maps have already been installed in 15 of the Adirondack towers this season.—S. J. Hyde, Superintendent, Forest Fire Control

Help from the Department

Gentlemen: I am interested in learning where I must obtain a permit to stock my pond with fish. The pond was built primarily for a wildlife refuge, for muskrats, and duck breeding. I understand it is possible to have ponds registered with the Conservation Dept. Could you give me more information on this subject? Could you give me any information on where posters of a nature similar to those used on State or Federal wildlife preserves could be purchased.

The wildlife pond on our place is a part of a conservation project which my family pursues as sort of a hobby. In addition to our pond we are completing the planting of about 25 acres of mixed species of evergreen with the entire area surrounded by multiflora roses, and other wildlife shrubs.

In view of this, there are problems coming up from time to time that I would like to be able to get expert advice on, and I would appreciate it very much if you could give me the name and address of one of your Conservation Dept. men living in the Niagara area.

Donald W. Croop, Wilson

• *That's the way to do it—get in touch with one of our District men. Mr. Robert F. Perry, 513 Terminal Building, Rochester is the District Game Manager for your area. Dr. U. B. Stone is in charge of our District Fisheries office at 383 East Main Street, Rochester. The latter would be the one to contact on your pond stocking project. Our District Forester is located at 335 East 3d Street, Jamestown. Please feel free to call on any of these for advice and service.—Editor*

Freak antler?

Dear Editor: The deer I got last Fall had a small set of antlers, but rather unusual I thought. On one side the points grew up and on the other they grew down, nicely shaped.

Was it a freak? Or is there some explanation? Perhaps, there have been many others, but I never saw one before. Am interested.

Marge Guyette, Canton

• *It's possible that your unusual deer antler was caused by injury. Sometimes when the antlers have been fractured on one side, the whole beam may turn and lop over; healing would continue so long as enough of the velvet was left to sustain a flow of blood through it. We would have to see the antler, however, to determine definitely whether there was a fracture.—R.B.M.*

"Murdocks"

Dear Editor: Since the first issue in '46 I've resisted temptation to write to "Letters to the Editor" many times. But the word *murdocks* was too much, hence this epistle. This is the first time I've heard or seen any reference to a murdock in this section of the country. However you should receive many replies if you have sharp subscribers in and around the Kane section of Pennsylvania.

To answer reader Keefel's question: (1) A murdock is nothing more than a feather minnow sometimes called a murdock minnow: (2) They can be found in various sizes and patterns in the fly boxes of fly fishermen who have enough experience to know a good thing when they see it; (3) There is no closed season on them. They are available all year if you are lucky enough to know a fly tier who knows how to tie them.

I understand that the credit for tying the first murdock belongs to the late John L. Cliff who was one of the first fly anglers in the section around Kane, Pa., and who manufactured flies, leaders, and rods on order from anglers. This heritage was passed on to his son Bud Cliff who has expanded it. So, if you do not know a local fly tier who can supply you, you might be able to get some from Bud Cliff. They are used with and without a spinner.

B. J. Kane, Saugerties

Dear Sir: In reply to one of your subscribers' question of "what is a Murdock and is it a good black bass bait?" It certainly is, but he has spelled the name of this bait fish incorrectly.

In the Western New York area, Niagara River and Lake Erie especially, it is nicknamed the "Modock." Its true name is the Log-Perch (*Percina Caprodes*) and it is a member of the darter family, reaching a length of 8 inches. It is caught mostly in baited wire traps, but may also be caught on very small hooks baited with small worms. It is by far the best black bass bait at this end of the State, especially after about August 1st. In fact, this bait accounts for the biggest share of large bass taken from these waters by the "drifting" method of fishing.

James Kovacsev, Sec.,
Grand I. R. & G. Club, Inc.

Iron ore

Dear Sir: I wonder why the author of the article on mining and prospecting in New York State (Feb.-March, 1955) does not mention the old iron ore deposits in upper Westchester and Putnam counties. As recently as the 1890's there was a blast furnace at Cold Spring, New York and the ore for this furnace was hauled down to the river from mines located within the boundaries of the present Fahnestock State Park (where I used to hunt partridges when I was a boy). The development of the iron and steel business around Pittsburgh and Chicago made the operation of these old mines uprofitable, but some of the ore must still be there.

T. S. Fillebrown, Woodstock, Vermont

• *These old mines once contributed significantly to the iron and steel industry of our country, but at the present time—and for many years back—they have been inactive. The ores were comprised largely of magnetite, a magnetic iron oxide mineral, occurring disseminated in relatively small lenses within the ancient crystalline rocks of the Hudson Highlands. Most of the ores were considerably lower grade than the hematite ores of the Lake Superior region and cannot compete satisfactorily under present economic conditions. The magnetite ores are susceptible to magnetic concentration, however, and it might be that at some time in the distant future they will once again be loked upon as potential sources of iron.—J. J. Prucha*

A friend indeed

Gentlemen: I herewith return your renewal notice addressed to me, together with my check for $5 to cover a three-year subscription at the new rate.

Having in mind that you circularized me some time ago for the purpose of securing my renewal at the old annual rate of $1, I should explain that I purposely did not take advantage of this offer for the reason that your magazine is definitely worth at least $2 a year. I read each issue from cover to cover.

Martin H. Buecking, Buffalo

Note on Carp

Dear Sir: Just a note of observation and a question regarding same. Sunday, September 18th my partner and I were shooting carp with bow and arrow. We were using a boat, 8-12 feet from shore, and in shallow water. Through the afternoon we shot five carp, varying in weight from five to eight pounds. Of the five, two were full of roe and the eggs were about the size of number 8 shot.

Is this a normal situation? Do carp spawn year around, or has our unusually warm Summer caused this?

Arvo H. Efraimson, Syracuse

• *Examination of the fish would disclose whether or not this is an abnormal situation. Probably not, however, as carp are early spawners and the roe would be pretty well developed by late Fall. Spawning usually is from about May 1st into July.—R.B.M.*

Memorial lean-to

Dear Editor: After reading the article by Mr. Byrne (in the August-September issue of THE CONSERVATIONIST) on the Walter Biesemeyer Memorial Lean-to and commentary on the fine work done, I feel that the readers should see this excellent lean-to. I knew Walter Biesemeyer for only a short time but have seen some of his work as an architect. I know that the work of Ranger LaPine and his men would have been accepted by him with full approval. They did a fine job and the photos show a bit of their skilled woodcraft.

Frederick R. Johnson, New Rochelle

Record deer heads

Dear Sirs: The photo of the world's record white-tail deer in your June-July issue aroused my curiosity. Enclosed you will find some photos of a white-tail deer I killed in Schoharie County: it dressed 226 lbs. and has 13 points. I wonder where I could get the head measured, etc.?

You stated that any head measuring 140 inches is in the record class. That has me wondering about the head I have mounted. The main beams are approx. 28" and the longest points approx 13". I would be glad to hear from you and will furnish you with better photos or any more information you would like to have.

Harold McDuffee, Fort Plain

• *We are sending you a score sheet which you may fill in and return to us. (We send such a sheet to anyone who thinks he might have a record head.) If the figures you supply on this sheet seem to indicate that you've really got something in the record class, we'll check further.—Editor*

Etc., etc.

Dear Editor: The color plates in your magazine are a source of joy (my publishers can't afford them in my books) but of course everyone interested in conservation feels as I do that the name of the magazine is the most absurd misnomer that could well be imagined. I believe I mentioned before that it should be called THE HUNTING AND FISHING GAZETTE, since it is a sportsmen's journal, published for the purpose of encouraging killing and not conservation.

Conservation of forests seems to interest you, but did you ever publish an article on conservation of wildlife? I doubt it. You should get a copy of ARANSAS, Conservation in Action, from the Superintendent of Documents (15¢) and see what a publication is like which devotes its space to conservation, and incidentally learn what is generally meant by conservation.

I doubt that any other publication purporting to be devoted to conservation would be found carrying such articles as The Deer Rifle, Gun Dogs, Game Habitat, Small Game Hunting Prospects, etc., etc.

If you had the courage to publish this letter you would find everyone in agreement with it who approves of conservation.

Ida M. Mellen, D.Sc., Brooklyn

Rhododendron

Dear Sir: E. W. Littlefield, on p. 37 of last year's Dec.-Jan. CONSERVATIONIST, p. 37, says, "... In the lower Catskill area, and in Sullivan and Orange counties, rhododendron is very common and is in fact somewhat of a nuisance in the woods."

If the rhododendron is somewhat of a nuisance in these places, I wonder if it would be possible to get permission to collect half a dozen or a dozen young specimens for transplanting to my residential lo: for ornamental purposes? If so, can you tell me what I should do to get such permission, and where the spot nearest my home might be where I could be permitted to do such collecting? (Of course I would expect to have to travel some hundred miles or more.)

Ward Madden, Hicksville

• *It is not necessary in New York to obtain permission from any State authority to collect plants on private land, as you will see from the enclosed reprint from* THE CONSERVATIONIST *entitled "To Pick—Or Not To Pick."*

Picking plants of any kind from public lands (as you will further note from the reprint) is prohibited under any conditions. There would, however, be nothing to prevent your taking plants from any private land where you could obtain the owner's permission.—E. W. Littlefield

Monster mink

Dear Sirs: Recently, while reading over some of my old CONSERVATIONISTS, I came across an article about mink. In the article it stated that the average mink of this area would weigh around 2 or 3 lbs. and that a 4-lb. mink was unusually large. While trapping last Winter ('54-'55) I caught a male 5-lb. mink which stretched 35¾". It was caught in the Schoharie Creek in this vicinity.

As this seems very large (according to the above statements) I would like to know if catches of this size occur very often, and just how they compare with our western and southern mink.

Murray Karker, Central Bridge

• *A big mink in New York State is in the 3½-lb. class. A 5-lb. mink is a whopper anywhere.—Editor*

Filling the cavity

Gentlemen: Please send us THE CONSERVATIONIST for one year. Check enclosed.

We first discovered your magazine in a dentist's waiting room, and looking through its first-rate articles and pictorial material, forgot all about the ordeal ahead.

Mr. and Mrs. Henry Misrock, New York 14

• *If we can make you forget that ordeal, we feel we've really got a good product.—Editor*

Algae control

Gentlemen: I would greatly appreciate receiving a chemical formula for algae control in a swimming pool—also sources where this may be obtained.

Arthur Wiesenberger, Pound Ridge

• *Try the Chipman Chemical Co., Inc. of Bound Brook, N. J., makers of insecticides, fungicides and weed killers. They have a comprehensive bibliography of references on the control of aquatic plants, including algae. Address their research division.—R.B.M.*

Case of the missing ducklings

Dear Sir: Last year I had two pairs of Mallard ducks which nested on my property here in New Canaan, and they raised broods totaling sixteen ducklings. During the couple of months after these little birds were hatched I began to lose them one by one, until by the time they had grown to a reasonable size we only had about six or eight left.

I set traps for snapping turtles, and also one of the humane animal traps (thinking either a mink or a weasel might have been responsible) but caught nothing.

It has been suggested to me that the damage may have been caused by either muskrats or very large bullfrogs. Can you tell me if, in your opinion, either one of these could have been responsible, and if so, could you suggest a remedy?

T. Ferdinand Wilcox, New Canaan, Conn.

• *Probably neither bullfrogs nor muskrats, but very possibly disease (duck malaria) if in a black fly area where black, wood ducks or mergansers were present as parasite reservoirs. Large bullfrogs are of course known to gulp down a small duckling, but in Connecticut, I don't think they are likely to grow this large!—E. L. Cheatum*

Albino porky

Dear Sirs: The enclosed photo is of an albino porcupine shot Sept. 12, 1955. Female; weight 20 to 25 lbs. This animal had pink eyes; all the quills and guard hair and even the claws and bottom of its feet were white. Its tail sticks up because it stayed bent in the tool box where it was held for safe keeping.

Bertrand Beaubriand, Morrisonville

Warblers

Editor: My brother, John K. Lovell, of Yonkers, who is a subscriber of your excellent magazine, recently sent me two copies. As a member of the Audubon Society I was especially interested in your April-May number with the illustrations of many, many Warblers, most of which I have never seen out here with the possible exception of the Orange Crowned. Two members of that large family, however, do not appear in your groups and I am wondering if they don't travel so far east as New York?

The Audubon Warbler with yellow crown, yellow breast and rump spot visits us in quantity from late Fall to early Spring, and the Townsend Warbler, generally singly, is also present more sparingly. This latter looks a little like what you name the "Golden-Winged" Warbler except that its black mask seems larger.

These birds, because of their coming here in Winter, we have always imagined came from the North; in fact my Peterson's Field Guide says that they breed in Canada whither they presumably go from here, returning in the Fall.

Mrs. L. O. Kellogg, Carmel, California

• *The two species of Warblers you mentioned, the Audubon and the Townsend, are both restricted to the western part of this country, only rarely found east of the Mississippi River The Audubon Warbler looks very much like the Myrtle with a yellow instead of a white throat. The Townsend Warbler does resemble the Golden-winged Warbler with the addition of a black crown and black streaks on the sides. The species shown in the paintings represent those that are normally seen in New York State. Hybrids and accidental visitors were not included, because of limited space.—H. Wayne Trimm*

Schroon Lake salmon

Dear Editor: I understand that you desire reports on the catching of salmon in the State inland waters. While fishing at the north end of Schroon Lake last Monday, May 31 I caught a salmon while trolling rather fast, on top, using light "spinning" tackle. It weighed 3½ pounds and was 22" in length and was a female.

In its stomach was a 4-inch perch which had not even started to decompose. The salmon was silver with black spots, rather small mouth and the tail was square. Scale samples are enclosed herewith. If this was typical of salmon as to fighting ability and food, *lets have more salmon!* Absolutely "out of this world."

Robert L. Marx, Schenectady

• *The scales show 5-winter marks; also show that 1955 growth had resumed. The first two years show slow growth, normal in hatchery or stream. This fish could have been either from natural spawning or survival from planting. At end of second year growth changed to a rapid rate—normal when salmon drop down into Schroon Lake. This fish probably spawned at end of 4th and 5th growing seasons, as the scale shows two spawning marks (partial absorption of scale margin.)*

Your record of a 4-inch perch in this fish is of considerable interest.—John R. Greeley

Sea gull in trouble

Dear Sirs: I thought the enclosed picture might be of interest to you. This sea gull was found floating next to the dam in the Sacandaga Reservoir (Conklinville) by Arthur Brown. As you can see the gull has a jointed-action casting plug hooked through its beak. While trying to free itself from the plug it caught both feet on the other set of hooks. So as I see it, every time it moved its feet it only succeeded in pulling its head under water. Eventually it drowned.

William B. Frasier, Hadley,
Game Protector

Goldenrod and the State Seal

Dear Sir: The second cover of the Aug.-Sept. issue shows the various seals of the State. It so happens that I have a commemorative spoon, dated 1904, with the present seal (No. 9) beautifully engraved on the handle—which is sterling silver. The bowl is plain and gold plated. Beneath the seal is a spray of what looks like goldenrod. Was that the State flower of that date? Now that the rose is official, perhaps I have a collector's item!

Mrs. Mildred Farley, Wanakena

• *School children on Arbor Day of 1891 selected the rose as the State flower, with the goldenrod being accorded second choice. Perhaps you have a collector's item.—R.B.M.*

Guns on parkways

Dear Editor: Will you please advise me if there is any truth in the following: It is illegal to transport any firearms in a car even if the firearms are unloaded on any state parkway. A violation of this law makes the firearms subject to confiscation.

The story is going around that a hunter was arrested on the Taconic Parkway during the hunting season of last year and his rifle confiscated.

Bernard Berman, Brooklyn

• *Not so. For example, a hunting party leaving New York City could pack their guns into an automobile, drive upstate over the Taconic Parkway or any other parkway, then having arrived at the place where they intend to hunt, load up their guns and start hunting.*

There is, however, a prohibition against the carrying of firearms within a State Park. *And it is contrary to State law to carry a* loaded *gun in a car at any time—except for a properly licensed pistol or revolver.—Editor*

Correct us if we're wrong

Dear Sir: Normally, I do not send letters to editors when a supposed error is noticed. However, in the commentary in answer to a query regarding aerial photographs (page 47, Aug.-Sept., '55) reference is made to Professor Spurr of the *University of Minnesota.* If I am not mistaken, I believe Prof. Spurr has been at the University of Michigan since 1952. As a former Michigan student, I feel I must point this out. Correct me if I am wrong.

1st Lt. William Zayanchkowski,
APO 503, San Francisco, Calif.

• *That's right, we're wrong.—Editor.*

Sneezeless areas

Dear Sir: Could you give me any information on the pollen free areas of New York State? Are there any booklets available either from the State or any private source you know of? I am interested mostly in the ragweed season Aug. 15 to Sept. 9.

Harold H. Scott, Niagara Falls

• *The New York State Health Department would have information on the pollen count in the various areas of the State. Address their Division of Laboratories and Research, New Scotland Avenue, Albany, N. Y.—R.B.M.*

New friends

Gentlemen: I am enclosing money order in the amount of four dollars ($4). Please send THE CONSERVATIONIST to the following, for one year: Norman Ellsworth, 480 Van Norman Street, Port Arthur, Ontario; and Earl F. Beebe, Post Office Box 25, Fort William, Ontario.

It may be interesting for you to know that your magazine was brought to the writer's attention by Miss Thelma Busselle of Regina, Saskatchewan, who is employed by the Provincial Department of Conservation.

Earl F. Beebe, Fort William, Ont.

Duck stamp for woodcock?

Gentlemen: Some of the fellows here are having an argument about whether or not you need a duck stamp to hunt woodcock. We have made inquiries at several places and so far we have four affirmative answers and six negative answers. So I am writing to you to set us straight.

Stanley J. Pasek, Grand Island

• *No stamp required—just a hunting license. —Editor*

Adirondack house boat

Dear Editor: In THE CONSERVATIONIST, Aug.-Sept., 1955 (page 19) there is a picture "Raquette Lake, South from Pine Knot."

To me it looks like Raquette Lake south from Pine Knot and the object floating in the lake is a house boat formerly owned by Collis P. Huntington. It is now the property of the State Teachers' College at Cortland and the upper structure is still in very good condition. The picture probably was taken about 1899.

Arthur L. Howe, Director,
Huntington Memorial Camp

Browse lines

Sirs: Enclose photo which may be of some interest. It shows rather severe deer browsing of white cedar, a little on birch and red pine, but the various spruces in the vicinity are untouched. This photo was taken this year just north of the branch road (from Rt. 9 at Schroon River to Tahawus) and the view is southward. Part of Sands Pond can be seen.

This is a Winter deer yard on a southern exposure of hillside between red pine and spruce plantings, both of which give the deer cover. Snow has prevented the deer from browsing upon 1 to 2 feet of the lower branches of the white cedar. But "in between" has been heavily browsed, so that a distinct "browse line" is evident.

Although a bit of red pine has been eaten, the extent is less than has occurred upon the white cedar. However, white pine does not seem to have been touched.

A. Walton, Bellerose

Forked Lake campsite

Dear Editor: Unaccustomed as I am to writing to editors, I am compelled to get off some words about Forked Lake Public Campsite in the Adirondack region. A few years ago my family and I visited this campsite and were delighted with it. This Summer we visited it again, enjoyed our stay immensely, but were dismayed at some new rules or policies which in our opinion spell ruin for this attractive spot.

It seems that the campers are now expected to bury their own garbage, disposing of all combustible materials in the fireplaces and interring only the incombustible remains. This ruling, presumably intended to save some money, ignores a few essential and elementary facts, namely:

(1) The American public has amply demonstrated that in the aggregate it's pretty sloppy. An awful lot of the garbage doesn't get burned or buried—it's just tossed in the woods, where it draws bears and flies, and the whole mess torments the more fastidious campers. (2) Forked Lake is founded on rocks and surrounded by rocks. You can't go on burying even clean tin cans and bottles in such ground year after year without destroying the woodland character of the campsite.

I don't know who invented the setup at Forked Lake Campsite, but I and my family would like to offer him the sincerest of compliments—he must have done a good deal of woods camping himself. Here one can feel as though he is actually camping, rather than feel as though he had joined a beach club as at most other public campsites. Only the bare essentials of sanitation and fire control are provided, the facilities for each campsite being complete in themselves almost as they would be in an isolated camp, and these is generally enough space between sites to provide a reasonable degree of privacy. The essential thing is that the woodland character of these campsites is preserved, and in our opinion they should be kept that way by providing surefire arrangements for disposal of garbage and refuse *elsewhere.*

How best to accomplish this I cannot say. I do not know how the cost of maintaining this type campsite compares with the others; I should think it would cost less, but even if the cost were higher, is there any reason why the service charge could not be adjusted as necessary to provide adequate service? Further, to insure proper cleanup of each site and eliminate deposits of cast-off iceboxes, etc., would it not be possible to require a security deposit, returnable at departure, if the site is left clean, neat, and unencumbered by the camper's inventive genius (which may not appeal to the next party!)? There may be legal obstacles to this last one—I wouldn't know about that.

One other point, although I hesitate to mention this important but delicate subject: They ought to dig the holes deeper under those "Chic Sales," or move them oftener. Enough said.

Comment from other Forked Lake habitues would be very welcome, and some reconsideration by the Conservation Department would be even more welcome.

Lastly, may I offer my humble opinion that the Forked Lake idea is so good that it should be extended to other places. It gives one woodland camping without some of the heavy work, and at the same time the camping is better controlled than it would be if parties were scattered through the woods "on their own." We're all for it.

John H. Kelly, Katonah

• *My idea in developing the Forked Lake area was that it would appeal to real campers and lovers of the woods because of relative difficulty of accessibility. That seems to have been proven correct.*

With reference to the matter of disposing of garbage and other wastes, the water transportation involved would make this rather an expensive service for the Department to take on. It was our hope that persons using Forked Lake, being accustomed to camping under real woods conditions, would find it no great hardship to take care of their own waste materials by burning and burying. It may very well be that this has not worked out as we hoped, and that it will be necessary for the Department to organize this service. Some time this autumn we will make a thorough inspection of the Forked Lake area, and after that has been done we will be in a better position to determine if installation of the service is necessary at this time.

Steadily increasing demands for camping facilities in the Adirondack region, and the lag of our appropriations behind this demand, makes it necessary for us to spread the available funds pretty thin, and we hesitate to go into additional services unless they are vitally needed. Yet, we greatly appreciate your interest in Forked Lake and your taking the trouble to write us about it.—W. D. Mulholland, Superintendent, Camps & Trails

Lands and men

Dear Sir: Somehow I had missed the editorial and article in Feb. and March issue of THE CONSERVATIONIST regarding "Rebuilding Land and Men" until I noticed letters quoted in the April issue from readers. I have since read both articles and found them most interesting and constructive.

There is little doubt in my mind that your ideas have a lot of real merit for New York State and its citizens. I therefore sincerely hope that the program you propose will be used at least on an experimental basis in our State.

I will see that other citizens here read your article. But can I help in any other way in getting something started?

E. B. Gill, Glens Falls

• *Your support, and the support of other public spirited citizens, is what we need most. Thanks.—Editor*

Swaintabs

Gentlemen: In your June-July 1955 issue, at page 6, appears an article entitled "To Kill With Chemicals." In it you speak of "Swaintabs." I have a forest plantation of 20,000 young pines which badly need thinning out and this looks like a good way to do it. Can you tell me where I can obtain the "Swaintabs" in this locality or elsewhere, and the prices per quantity.

Charles S. Wilcox, Rochester

• *"Swaintabs" can be obtained from: Forest Lab. Associates, 121 High St., Exeter, N. H. The price is $6.00 per thousand. (It should be remembered that these tabs are poisonous, and should be handled with care.)—Editor*

Freak head

Dear Sir: This is a white-tail deer that I took last year (1954) the first day of season. A friend told me to send you this picture for your magazine. The fellows call this the freak deer.

Frank B. Church, East Otto

• *The position of the brow point is distinctly unusual, but the Department has records of similar heads.—Editor*

Fulton Chain salmon

Dear Sir: Enclosed is a picture of a salmon taken from 7th Lake on July 29. We weren't quite sure about the species but with the help of the June-July CONSERVATIONIST everyone agreed it was an Atlantic Salmon. Here are the measurements: length—19½"; weight —2 lbs. 11 oz.; girth—11".

I caught him while trolling with a Mirro-Lue on the south shore of the lake about 8:00 o'clock in the morning. Being a vacation fisherman it was quite a thrill as he broke water two or three times. If all salmon fight the way he did, I'm all for it.

W. A. Rahn, Marcy

• *This is definitely an Atlantic salmon and an exceptionally well-proportioned one—a small head and large body.*

This fish originated from an experimental plant of yearlings from Rome hatchery in tributaries as described in June-July CONSERVATIONIST. *If you should catch any more salmon in the Fulton Chain it would be helpful to have scale samples for detailed study of growth-rate, and I am enclosing several scale envelopes. However, the photograph is just about as useful in that it indicates this was a fast-growing fish. This information is much appreciated and we now have several definite records that salmon from this experimental planting have done very well. This stocking will be expanded.—J. R. Greeley*

Bird banding license

Dear Editor: I'm very much interested in bird banding for reasons of research. Do I need a State license?

Leonard Shields, Brooklyn

• *Yes, and no, but you also need a federal license. Write to Mr. Allen Duval, Patuxent Research Refuge, Laurel, Maryland. (These licenses are not easy to obtain and neither are the State's.)*

Woodduck nest boxes

Gentlemen: Could you tell me where I could obtain a half dozen woodduck nesting boxes and instructions for situating them?

Mr. Seagears' article in the June-July issue reminded me that back in 1927, during a fishing trip in the Catskills, a fly tier down there told me that due to the scarcity of woodduck he had had to substitute feathers from some Chinese duck in tying one of his favorite patterns. He thought that the likeliest place to find woodduck at that time was in the West Canada Lake.

Since the place I have in mind for erecting the boxes is only a few miles from there, perhaps I shall have luck in attracting a pair.

William E. B. Boardman, Cohasset, Mass.

• *We don't know of any place where you can buy woodduck nest boxes already made. Possibly, however, you could arrange with your local Boy Scout Troop or some other agency to build some for you, and we enclose a reprint of an article from this magazine which tells how they should be built and installed.—Editor*

Bird refuge

Gentlemen: I would like to inquire about the law (if there is such a New York State law) on setting up a bird refuge.

My home is just outside of Syracuse, and I have about two acres of land: with four neighbors there is a total of about five acres, well shrubbed and with good cover. Fifteen years ago we had a wonderful variety of song birds, but today we are about down to robins and cats.

Will you please advise what is the law, and what rights does one have, in destroying hunting cats.

We have a good flock of pheasants in the neighborhod, but even they are not immune, for I have seen a cat kill a half grown pheasant.

Carl E. Thomas, Syracuse

• *Judging by your letter, no legal authorization is required to establish such a refuge. If you feel it necessary to do so, you can simply post your property. As to predatory cats, we enclose a reprint of Section 205 of the Conservation Law.—Editor*

Polygonum cuspidatum

Dear Sir: Your article "To Kill With Chemicals" is of great interest. I am waging a losing war with a grass or weed—sort of bamboo. Spraying leaves and painting of stalks gives a temporary kill. How about Swaintabs with sodium arsenite? How do you apply to roots or stalks, and where can I purchase same.

W. L. Wessels, Blue Mountain Lake

• *I suspect that the weed with which you are having trouble is the Japanese fleeceflower* (Polygonum cuspidatum). *The native species of the genus Polygonum are called smartweed or knotweed. This Japanese species is indeed a rugged weed and will take a lot of effort to exterminate.*

I don't think that an application of poison to the stem would be the answer, even though the stems do appear big enough to seem like bamboo. I would suggest rather that you apply a spray of 1% 245-T in water. This should be sprayed on the foliage and stems to the point of drip, so that it runs down and soaks everything. This should knock down most of the present growth and should go a long way toward killing the root system. A couple more sprays next Spring might be enough to completely eliminate it. But these patches are sustained by an extensive mat of roots and it will take a good deal of doing to get rid of this underground part.—D. B. Cook.

Long Pond Mt. fire

Dear Sir: Enclosed are some photographs I took on Friday, August 5 at the Long Pond Mountain fire. You are welcome to use them.

Timothy Williams, Piseco

Sir: If you are interested in photos of the Long Pond fire of this August, I have several, and a friend has a few. We were on that fire and will be glad to let you have same gratis.

Theobald F. Clark, Jr., Speculator

Slip delivery of wood

Dear Editor: We were very much interested in the pictures on page 42 in your issue of October-November, 1955, showing parts of our slip delivering wood in the South Branch of the Au Sable River, above Upper Jay. The one showing the wood falling into the River passes over the highway leading to Keene, which is now a State road. The other, of course, is taken only about a half-mile or so from the lower end of the slip.

For your information, I am sending with this two photographs. One is interesting in that it is taken well up the upper end of the slip coming down through a valley from which fires removed all trees. The stumps shown were spruce, which were cut after they had been killed. This slip was about 8½ miles long and, of course, followed a stream all the way. It is also interesting in showing that the only lumber used was double thickness of 1"-boards, all supports being cut on the job.

The other photograph shows the slip that we built. It started at the foot of the slide on the East side of Whiteface Mountain and delivered the wood into the West Branch of the Au Sable River at High Falls.

You will note that the spray is *ahead* of the sticks—caused by the spout being so steep at this point that the wood tried to go down faster than the water wanted it to.

The last slip that we built was for taking wood from the West side of Whiteface Mountain, started at the summit of the pass, delivering wood into the River above Wilmington. This slip was 3½ miles long. The pond now at the Toll Gate on the Whiteface Highway was suggested by a pond built by us for floating purposes, furnishing wood to the slip.

We drove about 10,000 cords of wood a year down this slip, this wood being piled in the Winter in the pond and all over the ground at this point, then driven of course after the ice was out of the river.

So far as I know, we were the first to drive wood by this method, which was suggested to the writer by the long small flumes furnishing water to the placer diggings in California.

Henry G. Rogers, Vice President,
J. & J. Rogers, Company, Au Sable Forks

Hunting licenses

Dear Sir: I recently was discharged from the U. S. Navy, and when I tried to get a hunting license I ran into a little trouble. It seems that as long as I am under 21 years of age I can not buy a hunting license unless I have an N.R.A. certificate or last year's hunting license. Seeing that I was not around for a couple of years, I was not able to buy a license since 1952.

I had to get my N.R.A. certificate, but I think there should be some provision in the present law that would give ex-service men a right to get a new license on their last license. Certainly any service man has had a lot more training in handling fire arms than what you can get from a few hours of instruction from the N.R.A.

Thank you for printing this if you think it is important enough to rate printing.

Paul J. Manny, Poughkeepsie

• *Certainly it's important enough. But some mistake was made in not issuing you a hunting license. The law does not require your hunting license for the previous year; a license for* any *previous year is sufficient.—Editor*

Fish stocking and duck ponds

Dear Editor: About the farmer (or any property owner) who takes down his posted signs until after his streams have been stocked: I feel that all posted land should be required to be registered with the Conservation Department so that there will be no stocking of privately-owned streams.

And those privately-owned duck ponds paid for with tax money: It should be required that they remain open to the public for at least ten years. Public tax money for private duck ponds is getting pretty raw.

George V. Curtis, Clay

• *If any landowner or farmer takes down his posting signs in order to get his stream stocked—and then puts his signs up again—that stream is listed as being posted and in no further stocking is done in following years. As to the duck marshes being constructed by the Department, the landowner must agree to post them as a refuge for ten years. In other words, neither he nor any one else is permitted to shoot there.—Editor*

Conservation exhibit

Dear Editor: At the recent Chautauqua County Fair our club had a conservation exhibit. It received so much favorable comment that I thought I would let you know about it.

Featured this year was a wildlife pond. This indoors model, 8'x16', was constructed by John Wunder, District Game Manager Dick Hyde's assistant. There were the pond, surrounding hills and a running stream all presented in the model. Hardwoods were on the hill top, a reforestation plantation on the slope and a multiflora fence separated the woods from the cultivated fields. Through the corn fields miniature hounds chased a rabbit, while in the woodlot doe and fawn and a 'coon looked on. Living grass made up the pond banks, and fields.

The pond had live minnows, crabs and a small frog. There were marsh grasses, cattails, reeds, a woodduck house and a muskrat house. On the back and side walls surrounding the pond were mounted specimens of the types of wildfowl and animals that are attracted to such a pond: Beaver, muskrat, mink, weasel, 'coon, rabbit, squirrel, woodduck, mallard, black duck, teal, snipe, woodcock.

Four glass fronted tanks set into a knotty pine wall contained the three types of trout found locally and the fourth tank held warm water fish—muskie, callico bass, sunfish, bullhead and black bass. These indoor displays were set off with pine boughs supplied by our District Forester. (The Forestry Division also had a display in the same building; we helped each other out on our displays.)

Outside we had a display that consisted of a large cement tank (sunken) which contained live fish, beaver, and three kinds of wild duck and a pair of Canada geese. There were pens of pheasant, representative of the 385 raised and released by our club this year, a pair of fawn, two red fox, two 'coon. Here again small evergreens and boughs supplied shade and decorated the place.

Superintendent Ray Norton of the Pendergast Hatchery supplied the warm water fish, and his men, Art Redband and Mark Pue, brought over 500 pan fish that were used for a children's fishing contest that drew 640 contestants. Our club handled this contest and $100 was given to the lucky anglers. Naturally, without the help of District Game Manager Hyde and his assistant, John Wunder, and Clare Phillips of Randolph Hatchery (supplying trout) and Ray Norton (supplying warmwater fish) we would not have had much of a display. Not to mention District Forester Whalen's greenery.

For the third straight year public opinion has voted our exhibit the outstanding display at the Chautauqua County Fair. Our thanks to all of those who assisted. A swell gang.

Ray Frasier, Dunkirk,
Pres., Northern Chautauqua
Conservation Club, Inc.

• *Others planning conservation exhibits might get some good ideas from this letter. —Editor*

Jiggers et al

Gentlemen: I would like to see you run an article in THE CONSERVATIONIST on the jigger, (red bug) or whatever they are called—the pest that burrows into your skin and leaves an itching sore. An enlarged picture of the bug would be interesting, although it wouldn't help anyone.

I picked up a nice bunch of these bites in the Harriman State Park while sitting on a rock ledge. My thoughts were only of rattlers. I have also contacted jiggers in Orange County.

Did we always have these bugs, or did they come north like the opossum? And if you should some time feature a story on jiggers, you might throw in some ticks too; on eastern Long Island they present a real danger.

Donald W. Palmer, Oradell, N. J.

• *Now there you have an idea. We'll see what we can work up in the way of an article. Thanks.—Editor*

4-H conservation

Dear Sirs: We have very much enjoyed THE CONSERVATIONIST and found it very useful. At present my son, Gary, (age 12) has begun the Conservation Project for 4-H. He planted 1,000 evergreen trees in the Spring, and 90 per cent lived. Three specimens were exhibited at the Niagara County Farm and Home Days, and he was first winner on these. Now he needs to make a scrapbook on tree specimens, and we would like any information on identification of trees.

Mrs. Robert L. Stevens, Akron

• *To help him in his study of tree identification we are enclosing a bulletin, prepared by the Extension Service at Cornell, which describes a number of the more common trees in New York.—Editor*

Credits

First cover, Edmund Emshwiller; second cover, Wildlife Management Institute; page 2, 3, Fred Chambers, Commerce Dept., Werner J. Kuhn; 4, F. R. Buckley; 5, 17, 20, 21, 22, 23, 24, 25, 26, 27, 31, 36, 4th cover, H. Wayne Trimm; 6, Morris Otis; 7, 14, Roy Irving; 8, 9, 10, Seneca Ray Stoddard, Arthur J. Tefft, Earl McGuirk; 11, Gustave A. Swanson; 12, Trimm, Stace Robeson; 13, Robeson; 15, Niagara Mohawk, Irving; 16, F. H. Morrison; 18, 19, D. B. Fales; 28, 29, College of Forestry, Geneva Experiment Station; 30, Pierce & Brygger; 32, Ellen Edmonson, David Hanselman; 33, Wm. Waddell; 34, Nick Drahos; 35, McGuirk; 37, Adirondack Museum; 38, Chambers, McGuirk; 39, A. C. Petty; 3d cover, Clayt Seagears.

The Inside On The Outdoors Series

Feline Flying Saucer

INCREDIBLE, but somewhere in this most heavily populated State there still may exist what possibly is the world's rarest mammal—the Eastern Panther.

This feline flying saucer has been subject of a fascinating free-for-all controversy since the 1890's when apparently the last panther was killed in the Adirondacks. The current crop of eye-witness reports, however, is bigger, better and has gained wider publicity than ever.

Newspaper accounts of this big American lion in New York have become so persistent that folks in at least four widely separated counties seem to take it for granted that pumas now promenade their precincts. The following reports, clipped at random in 1955, are typical:

"Cougars Stalk Norwich Area, Attack Horses"—*Syracuse Post Standard*, Sept. 18; "Chenango County Sheriff . . . Plans To Track Down 'Panther-Like' Cats Menacing Livestock Throughout County . . ." —*Bainbridge News;* "Sheriff . . . Plans To Enlist Aid of Professional Hunter To Track Down Cats With Pack of Cougar-Hunting Hounds"—*Windsor News*, Oct. 20; "Panther Which Terrorized Washington County Areas No Hoax"—*Troy Times Record*, Oct. 7.

On Nov. 24, the *Catskill Examiner-Recorder* named three hunters who sighted "and carefully examined through binoculars . . . what they definitely described as a panther" near the Albany-Greene county line. "Schoharie County sportsmen will be interested to learn" this, the paper added, referring to a coincident crop of panther stories from that area.

Of all this business, three things appear certain. The first is that the many reports of *black* panthers are either hogwash or tricks of light. This beast is merely a color phase of the Asiatic and African leopard and we don't have any. The second is that if *all* the people saw what they said they saw, we'd now at least be knee deep in catamounts. The third is that nobody has produced a *carcass delecti* in New York in some 60 years.

Four points still remain for affirmative debaters:

1. Of the hundreds of "eye witness" reports of panthers in this State, a few of them just can't be shrugged off. Competent observers know what they saw—and that's it.

2. We *do* have in this remarkable State of 14 million people some adequately large pieces of wild country, formerly used by panthers, where they still *could* hang out today, unseen. We'll take a little bet that we have some Adirondack areas which haven't been traversed by Man, at least in Winter, for 20 years—not even by a wandering fisher trapper. Not even by a guy with a Geiger.

3. The last panthers east of the Mississippi are in south Florida and possibly Louisiana, biologists have long believed. At least they're too far away to expect a visit. But now we have authenticated track records (Journal of Mammalogy, Aug., '48) apparently of one or more small colonies in New Brunswick which is nearer to the Adirondacks, as a panther walks, than New York is to Buffalo. Not that anybody has reported seeing a cougar hereabouts with corns. These nearby colonies must be considered significant, however, since some of the larger mammals, the records show, occasionally do take off on cross-country junkets for Old Home Week far away.

4. Three members of New York's "extinct" list (THE CONSERVATIONIST Feb.-March, '48) *have* reappeared. Also, the coyote, which we apparently never had at all, has moved in from the West and has set up housekeeping. One State trapper alone has accounted for 58 to date.

The elk—long, *long* time no see—that is until a surprised New York deer hunter, crawling around some wild Adirondack ledges on the Northwoods Club property, Essex County, on Oct. 30, 1946, killed a young bull dressing out 528 pounds and sporting 42-inch antlers. More elk tracks have been seen now and then ever since. Only explanation seems to be that these descended from small groups of elk liberated in the Adirondacks in 1907 and 1916 and which soon vanished in the wilderness.

The moose—gone for a half-century—until a bull, apparently with two cows, meandered down through the Adirondacks, reached (without his harem) the Troy Country Club on Oct. 1, 1950, and thence wandered northeast into Washington County where we photographed him. That did it. He took off into Vermont. Last record we had was his photograph made near Rutland and printed Oct. 11 in the *Troy Times Record*. In 1955, other 6½-inch moose tracks in the Adirondacks were authenticated!

The Canada lynx—no definite record since 1907—until Tranksgiving Day, 1951, when an old 27½-pound female was killed in Washington County to the east of Lake George. The story and pictures of that one in THE CONSERVATIONIST (Dec.-Jan., '51) prompted readers to send in adequate photographs of a lynx killed in Oneida County, 1916, and a second taken in Hogback Mountain, Essex County, 1928. Snow tracks of another lynx were identified in a snowshoe rabbit swamp about 12 miles north of Ft. Ann in January, 1952.

The purpose of this piece not only is to refuel this fascinating cougar controversy (see Panthers, THE CONSERVATIONIST, June-July, '51) but also to appeal for fresh evidence with precise location so that methodical search may be made for sign. If we have 'em, we *should* be able to track 'em. Curiously, the sight reports of panthers seem to stop with the coming of snow.

Anyway, here's a guide to what you should see.

A panther looks like a circus lioness but with a fatter tail and a proportionately smaller head. Adults would weigh 80 to 150 pounds or more, measure six to seven feet long, including a 28-inch tail, and stand 27 inches at the shoulder—one foot less than a good buck deer. Color would be tawny with a pinkish buff chest, like the picture opposite, or gray—like a deer in Winter coat. The ears of the young female pictured are held high in an attitude of listening but normally those of an adult would not appear quite so conspicuously.

Panther tracks look like the prints of a giant house cat, average 4½ inches or more wide and easily would cover a big man's palm. *No claw marks would show.* Pad prints usually would be distinct and not blurred by hair like a red fox or lynx which, incidentally, makes a snow track as large as a panther's. Distance between tracks when walking (the panther normally puts one hind foot almost in the print of the front foot) would be about 17 inches.

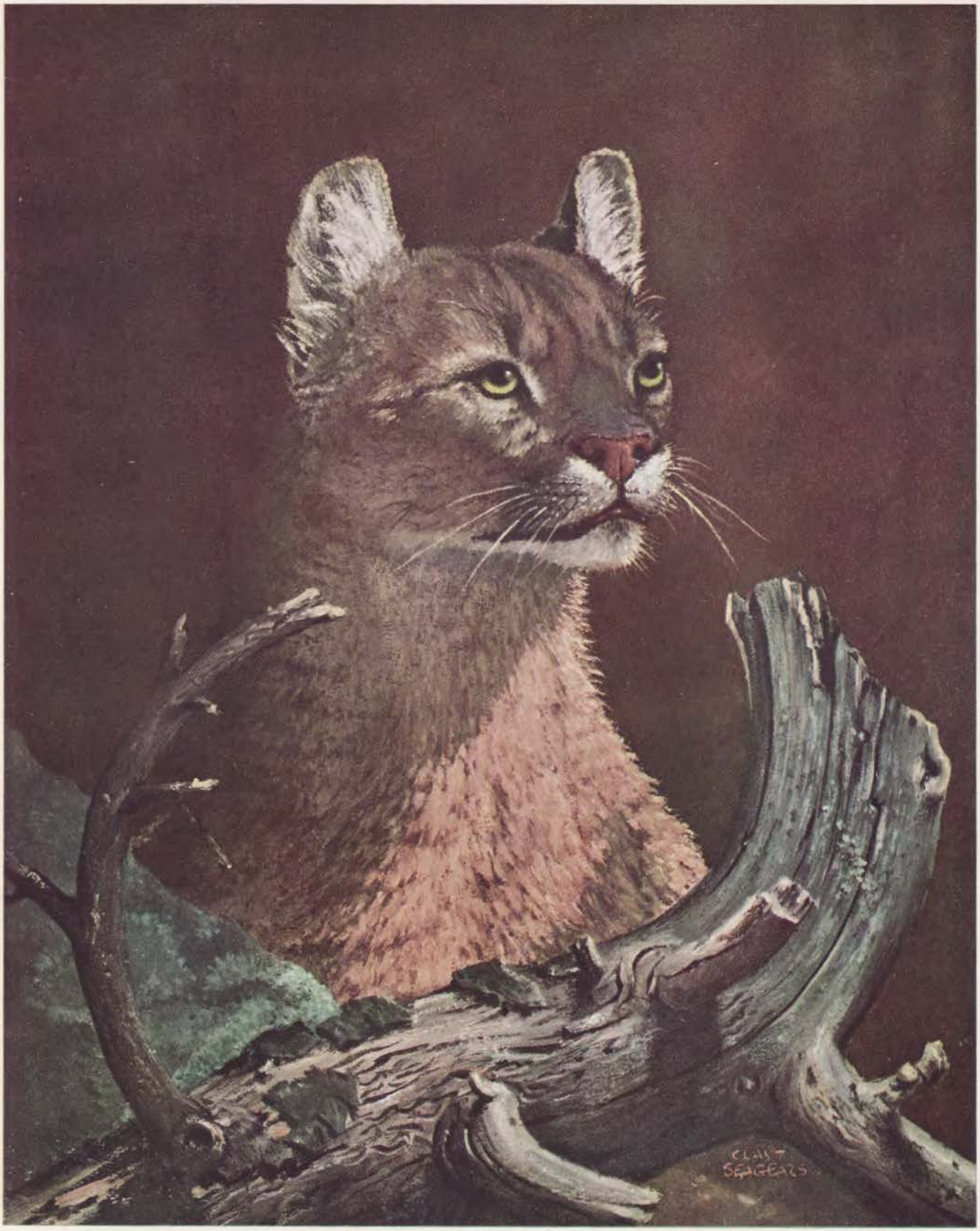
In porcupine country, panther droppings could be the only ones obviously full of quills. Fishers eat plenty of porkies but they don't ingest the quills. Like bobcats, panthers usually scratch debris over an uneaten deer carcass.

CONCLUDING, we can't help quoting a letter written us Nov. 8, 1955, by L. D. Black, District Forester of the New Brunswick Forest Service—and a crack woodsman:

"As far as the cougar goes in New Brunswick," he wrote, "you will have to draw your own conclusions. This is a small Province and is heavily hunted and if the cougar exists it seems odd that one has never been brought in. Indeed the subject has been so publicized that one could be a celebrity over night if you were able to shoot one."

Let's have those reports, *please.*

—CLAYT SEAGEARS



"Anticipation"

Painted from freshly killed female western panther about 1½ years old. She weighed 72 lbs., and was 66 inches long from nose to tail tip. This is an example of the tawny rather than gray phase.

The coyote and the hare