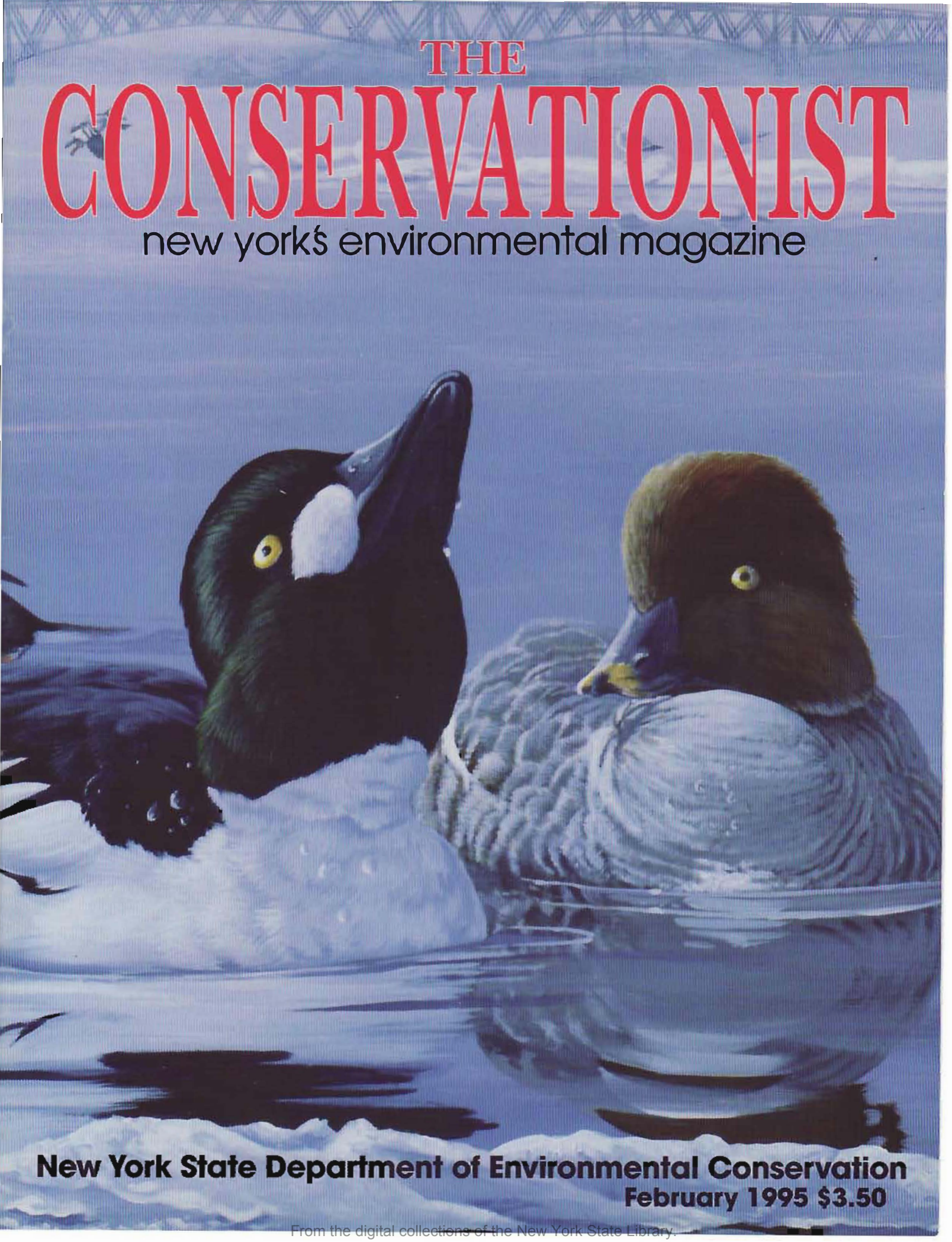
THE CONSERVATIONIST

new york's environmental magazine



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Courtship on the Niagara
by Fred Szatkowski.

Inside Back Cover:
Winter Mourning
by Fred Szatkowski.

Background photo by: K. McGlynn

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Drama

The Sharp-shinned Hawk Stars in a Wintertime Thriller

by Rick Huff

It was a frigid January day, with temperatures dipping near zero. A chill wind cut through my layered clothes. Winter was moving its icy presence into western New York, but my backyard feeders were well stocked for the local birds. I kept warm by cutting firewood in back of my garage. In the bone-chilling cold, the world was still—except for the chop of my ax and the chirping of the birds.

This frigid peace was shattered by a collective shriek from all three feeders. I peered around the garage to see panicked birds flying in every direction. Just as I was about to say, "What the..." a hawk streaked by in hot pursuit. I followed to identify the tiny raptor.

Photos R. Kline for Cornell Laboratory of Ornithology

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at a Backyard Feeder

Whatever the hawk was chasing got away and—much to my delight—the bantam hunter perched in a small tree near the back of my garage, turning to keep an eye on me, but making no effort to flee. I walked closer. Fifteen feet away and still it sat. This close, I easily identified the petite terror of my backyard: The barred breast, ashy-gray back, and long squared-off tail allowed for a positive ID; it was a mature, female, sharp-shinned hawk.

I softly called my wife and daughter to come see this bird, rare in our neighborhood. We gazed at the sharpshin for a long time, but our stares did not unnerve her riveting eyes. Then—an eerie silence. Not a peep was heard from the feeders that were bustling just moments before.

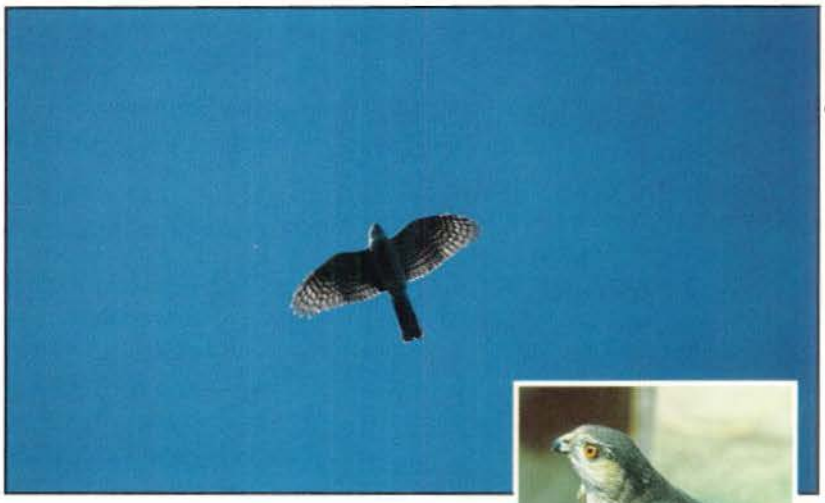
The sharpshin's blood-red eyes hungrily scanned the terrain that was now under her control. Would she feed today, or succumb to the bitter cold?

I got my answer when she slowly lowered the foot tucked to her abdomen. She crouched, spread her wings and darted toward a tall pine in the next yard. As the "sharpy" accelerated, the cries of hundreds of birds shattered the silence. The pine exploded; and the sky was blackened by frenzied birds fleeing their needled shelter. The hawk marked her target, banked sharply and shot to the top of the tree—a plump dove cushioned her plunge to the ground.

There was a brief struggle. The dove lay silent, but the backyard again filled with chatter. For the survivors, all was well. They returned to the feeders, while the sharpshin plumed her kill. Unruffled, they pecked my grain as the hawk turned to gorge the flesh that would sustain her in this hard season.

Feeling the anguish of the mourning dove without its mate—yet thrilling to the hawk's predatory struggle to survive—I was torn by the harsh drama at my wintertime backyard birdfeeders.

Rick Huff is a practicing falconer who has studied raptors all his life.



Photos D. Spier

The sharp-shinned hawk flies with several quick beats and a glide. Its shrill *kik, kik, kik* can be heard in the woods throughout the eastern United States and Canada.

The Division of Fish and Wildlife is collecting information about raptor nests for the New York State Raptor Nest Information Database. Anyone who knows the location of a raptor nest is urged to call or write the division at the address below. The information will be used to assess species' status and habitat patterns, much as the Breeding Bird Atlas Project has done for birds generally. Location information will also help evaluate the potential impacts of land-use proposals submitted for our review. Your data will be kept confidential. Any help you can provide will be greatly appreciated. Call or obtain forms from the:

Endangered Species Unit
NYS DEC Division of Fish and Wildlife
Wildlife Resources Center
108 Game Farm Road, Delmar, NY12054
(518) 439-7635

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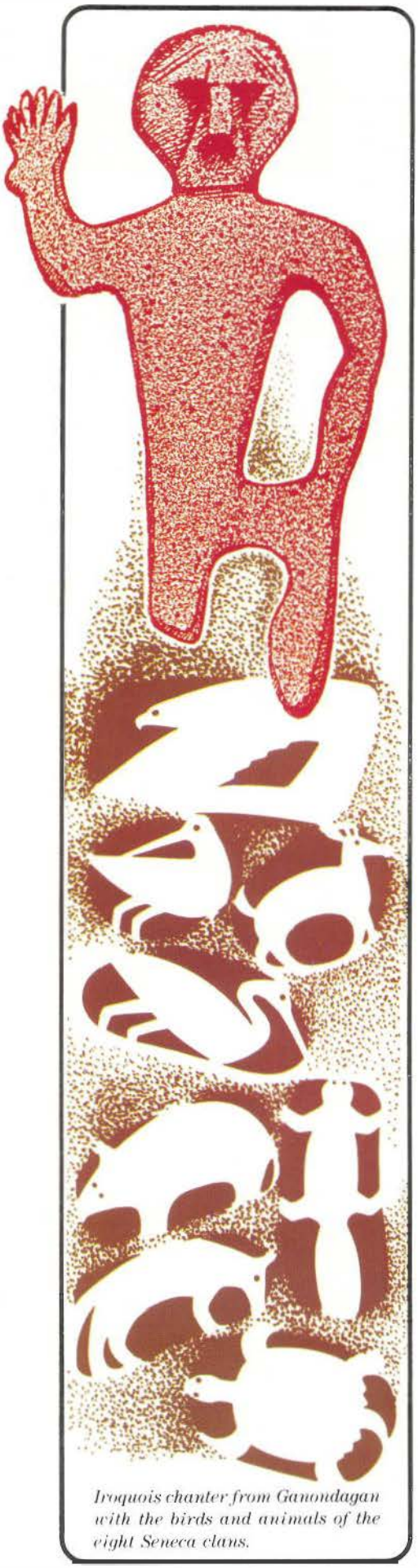


Iroquois chanter from Ganondagan with the birds and animals of the eight Seneca clans.

The Earth is Our Mother

by John Mohawk
Illustrations by Carson Waterman

Seneca plantlore at Ganondagan State Historic Site

Could you live without a drugstore, a clothing store, a hardware shop, a supermarket? Our forebears did. But how? How did they cure their sick? Clothe and house their families? Feed their children? They did, and so can we—if we look to our traditions.

These are the traditions of the Seneca Iroquois, descendants of the first people to live in what is now New York State. The Seneca have been here for a long time, and know our native plants and animals and waters well.

Mother Earth

Seneca refer to *Etinoah,* Mother Earth, as a being who is nurturant, inspiring of beauty, and the wellhead of human prosperity and happiness. Seneca believe humans are part of nature, but are also custodians of the living world about them. Traditional elders teach that since plants support us, we in turn acquire responsibilities toward plant life, such as living in balance with the natural world and giving thanks to the Creator.

Longhouse Iroquois

Longhouse Iroquois see a benevolent natural world that provides human beings with everything necessary for a healthy and spiritually satisfying life. Generally speaking, the Seneca see the natural world, especially plants and animals, as allies. Seneca tradition expresses strong ties between nature and human happiness.

There are many Seneca uses of plants. Plants provide the materials for tools, for games, for clothing, for works of art, and for ceremonial objects. Plants provide food and the fuel to cook it. Plants are also a source of potions and poultices used in healing.

When traditional Seneca pick a plant for medicine they seek not only its chemical agents, but also its spiritual qualities. Attention is paid to the spiritual bonds between plants and humans. Longhouse elders say that the utility of plants is so great that a person can spend a lifetime without discovering all their benefits.

There are also dangers for the unwary in some of these cures. The uninitiated should not administer the potions or poultices to themselves or to others. These plants should not be gathered casually or wastefully.

Thanksgiving Address

Today, Longhouse Seneca still open and close every formal gathering with thanks to the natural world for all its gifts. Among many other things, the Thanksgiving Address speaks to the benefits we receive from the grasses, herbs and trees:

We give greetings and thanks to the plants. Within them is a force that sustains many forms of life. Plants give us food, medicine and beauty.

From the digital collections of the New York State Library.

Thanks to the Medicine Plants

We give greetings and thanks to the medicine plants. They have been instructed by the Creator to cure disease and sickness. They come in many forms and have many duties. It is said that because of this, our bonds are very close. Our people must know the plants' true names, for we must speak them when we are weak and sick. Through the people who know the medicine plants, we give thanks.

Wild Black Cherry

E:I²

Prunus serotina

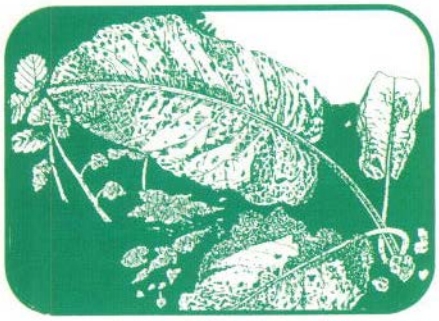
The dark bark of the black cherry tree is used to make a strong potion for people suffering from colds. This common remedy was adopted by European settlers, and modern cough medicines continue to be cherry flavored. The thick oval leaves are brewed into a tea that is also a medicine for colds.

Partridgeberry

OS-HAIS-DA² WA:-YA:S

Mitchella repens

This plant's Seneca name means: "The snake eats the berries." The edible, but tasteless, berries are eaten by women to ease labor pains and delivery. The dark evergreen leaves are brewed into a tea to adjust the menstrual cycle and relieve cramps and postmenstrual symptoms.



Red-veined Dock

I:-JE:D

Rumex obtusifolius

In Seneca, *i:-je:d* means "She stands there," because the plant stands alone, like an old Iroquois woman wrapped in a shawl. Dock is a useful medicinal plant. The long taproot is dried and powdered, then moistened to make a poultice to wrap on itching skin. The broad leaves are brewed and drunk to lower fever.

Princess Pine

O-NĚH-DE:-SŌS

Lycopodium complanatum

The Seneca name for this evergreen herb means: "It has long leaves." Princess pine, Christmas green, or running pine is an important home remedy for sore throat and runny nose. The root and branchlets are boiled in water to make tea. After a hot cup is drunk, the tea is allowed to cool and drunk like water.

Sassafras

O-NŌS-DA²-S:HÄ

Sassafras albidum

The Seneca name for this tall member of the laurel family means: "It is medicine from the rafters or frame." The tender roots of young sassafras trees are gathered in the spring and hung from the rafters to dry. Boiled, they make a flavorful tea that induces sweating and "thins the blood." Tea from the aromatic bark relieves colic, gripe and flatulence.

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Thanks to the Food Plants

The recognized festivals of thanksgiving shall be: Midwinter, Maple Syrup, Thunder Dance, Sun Ceremony, Seed Dance, Strawberry, String Bean, Green Corn and the Har est

Sugar Maple

WAH-DAʔ

Acer saccharum

In early spring, a long icicle of sap hanging from a broken limb signals the arrival of the sugaring season. The Iroquois collected the sap of the sugar maple to drink raw or to boil down into syrup and sugar. Lightly fermented, the sap was mildly intoxicating; heavily fermented, it made a prized vinegar. Seneca travelers filled empty duck eggs with the sugar syrup for a compact energy food. The Longhouse people still celebrate the gifts of the maple with a feast of thanksgiving; and the tree occupies a position of respect in their oral tradition.

Wild Strawberry

S:HE:S-AH

Fragaria virginiana

This first-ripening of the fruits that grow closest to the earth is a spring tonic for traditional Seneca, who see in the sweet berries the Creator's goodwill towards his people. Strawberry fields are a metaphor for the afterlife. Each year, the Longhouse Seneca celebrate the ripening of the berries with a religious observance known as the Strawberry Thanksgiving. The strawberry festivals held by European Americans may have their origin in the Native American practice.

Juneberry

HÄʔ-DŌNH

Amelanchier canadensis

The red or purple juneberries are good to eat. The bush's smaller branches are broken up and steeped as a tea to prevent afterpains and hemorrhage at childbirth. The wood of the juneberry, or serviceberry, is useful for a number of things, notably the manufacture of snowsnakes, which are used in a game of skill and strength played in wintertime. Also known as shadbush or shadblow, the white blossoms mark the time when the shad run upriver to spawn. To the Seneca of Cold Spring Reservation, the Juneberry blossom was also a sign that it was time to plant Indian white corn.

The Sustainers

JŌH-HÉH-GŌH:

Corn, O-NẼ:-Õʔ

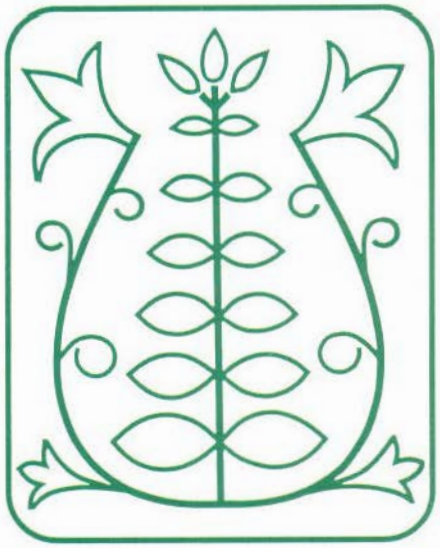
Beans, O-SAÉʔ-DAʔ

Squash, O:-NYAʔ-SAʔ

Jōh-héh-gōh means the sustainers. Corn, beans and squash were central to Seneca material and spiritual well-being. The Seneca believe these crops, termed the Three Sisters, together support human life. They believe the three will not thrive if planted apart from one another. The Iroquois ceremonial year is heavily associated

From the digital collections of the New York State Library.

with their growth and harvest. Planting time and two harvests of corn are celebrated with great enthusiasm by Longhouse Seneca. The Great Law of Peace also lists the hoeing and green corn thanksgivings as required festivals.



Jerusalem Artichoke

O-NĒN-NÓ²-DA-JI:H

Helianthus tuberosus

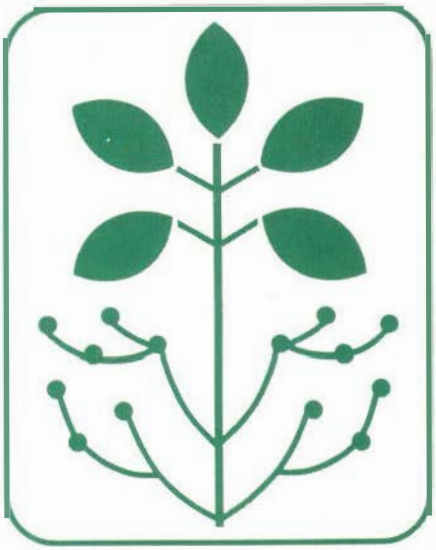
Sown near Iroquois settlements, the tuber of this native sunflower is the indigenous "potato" of northeastern North America. Hardy and readily established, it was eaten raw, roasted or boiled. The English name *Jerusalem* is a corruption of the Italian word for sunflower, *girasole*. Another edible tuber, the groundnut—*Apios tuberosa*, was known to the Seneca as the original potato. The market potato of our time, *Solanum tuberosum,* was first cultivated by Indians of the Andean region of South America. Exported to Europe, it was later reintroduced to North America as the Irish potato.

Cattail

O-E:OH-GWA²

Typha latifolia

This plant has a surprising number of uses. Bruised and boiled fresh, the roots yield a syrupy gluten that is good with cornmeal; dried and pulverized, they make a sweet flour for bread or pudding. Dried, the mature reeds can be bundled together, soaked in pine pitch, and lit as torches for night travel or fishing. The fur of their spikes is used to line moccasins in winter and diapers on demand.

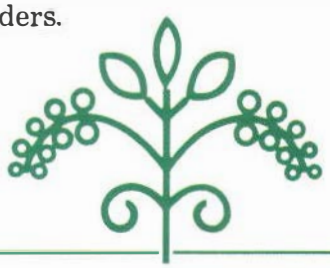


Spicebush

DA²-JA²S

Lindera benzoin

The yellow buds of this aromatic shrub of the laurel family are used to flavor meat dishes. The leaves are brewed for a savory tea popular among the Seneca. Tea brewed from the bark, twigs or roots is drunk to treat stomach and intestinal disorders.



If You Want to Learn More...

...about Seneca plantlore, you can walk The Earth is Our Mother Trail at Ganondagan State Historic Site, located only a dozen miles southeast of Rochester, in Victor, Ontario County. Designed by Iroquois elders, writers and artists working with the New York State Office of Parks, Recreation and Historic Preservation, Ganondagan introduces visitors to the history and culture of the Seneca people through a network of outdoor trails. The 29 signs of The Earth is Our Mother Trail formed the basis of this article and another which will appear in a future issue of *The Conservationist*.

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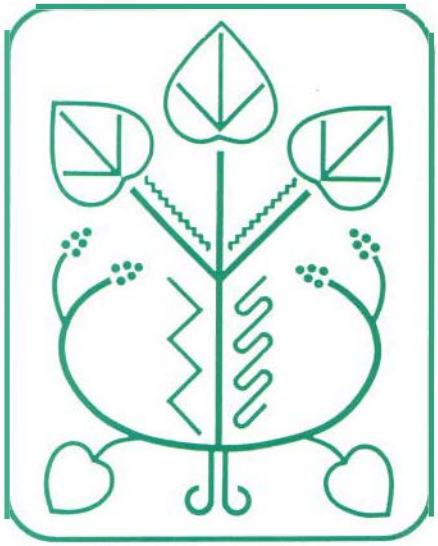
Thanks to the Trees

We acknowledge and give greetings to the trees. They continue to perform the instructions they were given. The trees give us shelter and fruits of many varieties. The maple is the head of the trees. It gives us the syrup that is the first sign of spring. The beauty of the trees is everchanging. Some stay the same throughout the seasons.



Basswood

O:-O-SÄ²

Tilia americana

The basswood grows in abundance at Ganondagan. Its sinewy inner bark was twisted into bowstrings or woven into tumplines for pack baskets. The firm outer bark was soaked and curled into pipe to carry water from springs; it could also be eaten during famine. Because it is easy to work, "whitewood" was carved into cooking paddles and ceremonial masks. It also makes a good firewood.

Bitternut

O:NYO²-GWA-JI-WA-GẼH

Carya cordiformis

As in English, the Seneca name means: "It is a bitter nut." The swamp hickory's thick bark is used to make rattles and its thin bark, quivers.

Pussy Willow

O-SÉH-DA²

Salix discolor.

The Seneca name may be derived from the phrase: "You have a tick on you," from the catkin buds that line the branches of the tree before the leaves appear in early spring. The fuzzy catkins also account for the most common English name, *pussy willow*; the gleaming, bluish-gray undersides of the leaves give us the less-common, *glaucous willow*. The leaves were occasionally dried, crushed and smoked in pipes. Frames for hunting or camping shelters were woven from the pliable trunks and branches of this small tree.

Shagbark Hickory

JO-GÄ:-GA:S

Carya ovata

Hickory is carved into basket handles and other objects requiring a strong, elastic wood. Bows and arrows were crafted from the wood; the Iroquois still make their hooked lacrosse sticks from it. Rope twisted from its inner bark lashed sheets of elm bark siding to the wall posts of longhouses. The sweet, aromatic nut is tasty and nutritious. Shagbark or shellbark hickory is the best firewood in the Northeast and a favorite wood for the smokehouse. Iroquois women also gathered the dry scales to build a hot cookfire with little smoke. The English word *hickory* is short for *pokahickory*, an Algonquian word for a food or flavoring made from pounded nuts and water.

Pronunciation Key

: lengthen
² glottal stop
~ nasal
Ä *a* as in hat

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Sumac,

ODT:GÓ-DA?

Rhus glabra

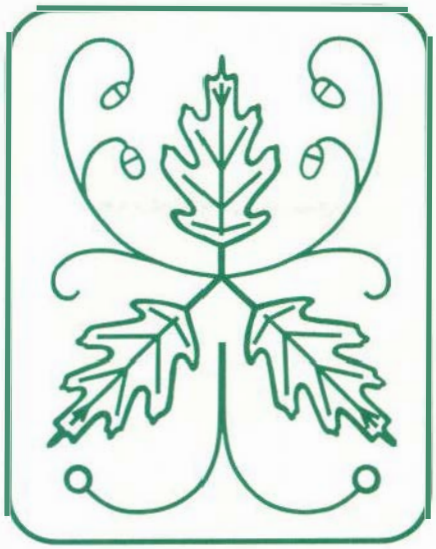
The Seneca word for sumac means face paint and probably refers to the shrub's brilliant berries. The juicy red bobs were crushed to make a drink. The flowers were boiled into medicine for sore throats or mashed into a poultice to stop bleeding. Because it is very light, it made good javelins for the hoop-and-javelin game and darts for hunting. Easily hollowed, the smooth branches were also used to make blowguns, flutes and whistles.

Tulip or Yellow Poplar

GA-NO?-GÄ:?

Liriodendron tulipifera

The Seneca name for the poplar or popple tree is also the word for the target hoop rolled along the ground in the Iroquois hoop-and-javelin game. The English name describes the large, greenish-yellow flowers. The tulip tree's dry limbs were an easy source of firewood.



White Oak

GA-GA?-DA?

Quercus alba

The most common tree in the land of the Seneca, the white oak is carved into spoons, tools and handles. Its hard, durable wood was carved into pestles and, occasionally, mortars for Iroquois corn pounders, which were used to beat dried corn kernels and acorns into flour. The acorns are no longer eaten because of the hard work required to remove their bitter taste: first boiled in lye, the nuts were roasted, washed repeatedly, pounded in a mortar, mixed with meat or meal and, finally, boiled into a nutritious soup or pudding.

John Mohawk, *Cattaraugus Seneca.* A member of the Turtle Clan of the Senecas, John was born in Buffalo in 1945. He is former editor of *Akwesasne Notes* and author of numerous articles and books on Native American topics.

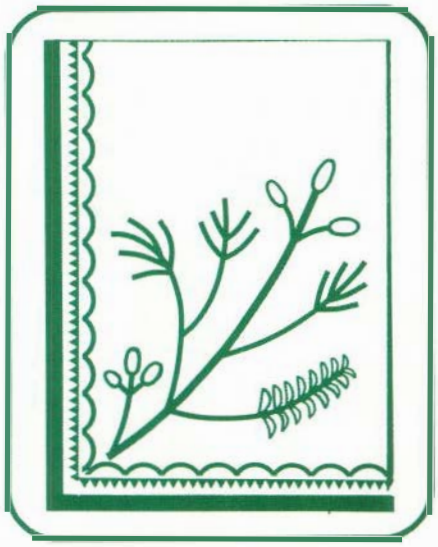
Carson Waterman, *Cattaraugus Seneca.* A member of the Snipe Clan of the Senecas, Carson was born in Gowanda in 1944. His paintings and sculptures have been widely exhibited in the Northeast.

Dr. Hazel Dean John determined the correct spelling, pronunciation and derivation of each name in Seneca.

Ben Kroup was project director for the National Endowment for the Humanities grants that planned and designed the initial trails and exhibits at Ganondagan

The Tree of Peace

Long ago our people were given a way of peace and strength. This way is symbolized by the everlasting tree of peace. The trees stand firm against the sky, for which we give thanks. Now our minds are one.



White Pine

O?-SO:-Ä?

Pinus strobus

The white pine is the Great Tree of Peace of the Five Nations Iroquois. Its bundles of needles are symbolic of the five founding nations of the league. (There are six nations since the Tuscarora joined in 1715.) The needles are boiled into tea to cure certain ailments. Still used in medicinal salves, pine pitch was also used to waterproof the bark walls and roofs of longhouses. The resinous cones make good tinder to start fires. Ceremonial masks are cut from the soft flesh of this tree.

From the digital collections of the New York State Library.

THE HOUSEHOLD SIDE OF HAZARDOUS WASTE

by Sharon Rehder
Photos by Wally Haley

What pictures come into your mind when you hear the phrase "hazardous waste?" Do you see billowing smokestacks, abandoned drums and polluted streams? Do you imagine large companies polluting neighborhoods with chemical wastes? If so, you may be surprised to discover just how close to home some chemical wastes are.

In the course of doing business, industries produce and use a wide variety of chemicals. Some of these, or other equally dangerous chemicals, turn up as ingredients in common household products.

Unused portions that are discarded become household hazardous waste (HHW). Although HHW is exempt from the stringent regulations that cover disposal of industrial hazardous waste, it shares many similar properties and poses its own set of disposal problems.

New York State defines HHW as material that displays at least one of four properties:

Ignitability: A material that catches fire easily.

Toxicity: A poison, or something that can hurt you when eaten, breathed or absorbed through the skin.

Corrosivity: An acid or alkaline chemical that can dissolve materials.

Reactivity: A material that can explode or react violently.

At any given time, the average home contains more than 100 pounds of hazardous products and HHW. These materials are often stored under kitchen sinks, in basements, garages or elsewhere.

New York State residents discard an estimated 100,000 tons of HHW each year, an average of 25 pounds per household.

Reduce Your Use

The best way to manage HHW is to avoid making it. Choose products wisely and use them carefully.

- Learn to identify hazardous products from their labels. Buy only what you need.
- Find a non-toxic alternative, or select the least toxic product that will do the job.
- Save leftover hazardous products to use later; or donate them to a nonprofit organization.

Integrated Pest Management is one way that gardeners and homeowners can reduce their use of hazardous products and HHW.

Integrated Pest Management uses the least toxic way to control problem insects or weeds around the home, lawn and garden. For example, many people have found that by carefully selecting an appropriate grass type for the climate and watering and mowing their lawns at appropriate levels, they can reduce or eliminate the use of toxic herbicides.

Read the Label

By law, labels on consumer products must warn of any immediate dangers that might arise during product use by

From the digital collections of the New York State Library.

prominently displaying one of the following words: CAUTION, WARNING, DANGER or POISON. Along with a statement of the principal hazards of the product, the label must also include instructions for special handling, storage and first aid.

Pesticide labels usually contain much more specific information than other household products, including active ingredients, safety precautions to be followed during use, emergency procedures and storage and disposal instructions.

Many household hazardous products can react with each other to create substances that are more dangerous than the original ingredients. For example, if you mix ammonia and chlorine bleach, they form chloramine, a deadly gas that can quickly overcome someone in a small enclosed area, such as a bathroom or laundry room.

Some flammable materials give off vapors that can accumulate and cause a serious risk of fire in a closed area, such as a basement. In the absence of adequate ventilation, a spark or pilot light could set off an explosion. ALWAYS follow label directions when using hazardous products.

Disposal: Safe and Unsafe

Improper disposal of HHW creates thorny problems. Most HHW finds its way into landfills or incinerators. Some is poured into house drains or storm sewers, or is stored by homeowners. These actions may pose significant dangers to the user, sanitation workers and the environment. If discarded carelessly, HHW may pollute air, soil and water.

People who obtain drinking water from a nearby well should be careful not to pour any hazardous material into their septic system or on their property.

You may be able to find recycling outlets for some types of HHW right in your own community. Retailers are required to accept used motor oil and lead-acid vehicle batteries from consumers at no charge. Some towns collect antifreeze, household batteries and used oil at local recycling centers. A few communities recycle paints.

Collection Programs

If you have wastes that can't be easily reused or recycled, store them for the next local HHW collection program.

If you need to store waste for the next HHW collection program, leave all materials in their original containers; cap bottles and cans tightly, and store in an out-of-the-way place in a double layer of plastic

An outdoor shed is a good place to store gasoline and used oil. Gas must be stored in approved containers, and it's a good idea to place the containers on plastic sheets to keep leaks or spills off the ground.

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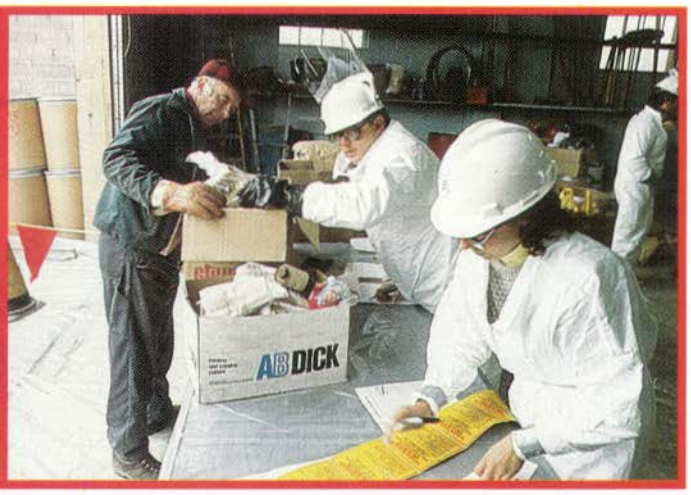
(Top) Although not classified as household hazardous waste, latex paints are often accepted for recycling at HHW collection programs. (Left, below) Safety precautions are important. Gloves and proper ventilation are necessary when working with potentially hazardous materials. (Right, below) Many communities across the state hold periodic collection days for household hazardous waste.



R. Clauss

garbage bags. Do not reuse empty containers from hazardous products, but wrap them in newspaper and discard them with other trash.

Local sponsors throughout the state currently run several types of HHW collection programs. The most common is a "collection day," which offers residents a one-time opportunity to bring wastes to a central location where the wastes are sorted, then recycled or sent to an appropriate hazardous waste treatment or disposal facility.

In the last dozen years, more than 400 collection days have been held in 35 of New York State's 62 counties.

Some communities have facilities for regular HHW collection. Nine of these facilities operate in New York State right now. Perhaps the most convenient collection type for residents is a mobile facility which can be driven from town to town.

New York State is developing a program to encourage local interest in HHW collection. The Environmental Protection Act of 1993 authorizes DEC to reimburse municipalities for up to 50 percent of the costs of household hazardous waste collection programs. This is expected to increase the number of collection efforts statewide.

Sharon Rehder is an environmental engineer in DEC's Division of Hazardous Substances Regulation.

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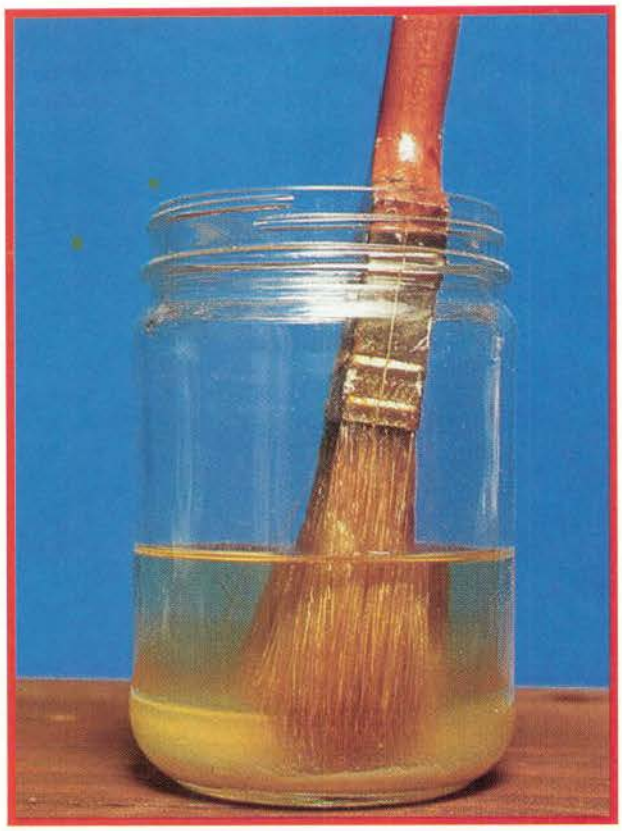


Reduce disposal of hazardous products by reusing them. For example, you can reuse thinner or turpentine if you cover the jar, let the solids settle, and pour off the clear liquid.

Common Household Hazardous Products

Toxicity

pesticides
car batteries
household batteries
solvents
disinfectants
wood preservatives
antifreeze
mothballs
mercury

Corrosivity

drain cleaners
oven cleaners
pool chemicals
car batteries
acids

Ignitability

oil-based paints
paint thinners
gasoline
solvents
wood preservatives

Reactivity

pool chemicals
aerosols
some laboratory chemicals
picric acid

HHW Publications

New York State residents can call the DEC hazardous waste disposal hot line 1(800) 462-6553 to obtain publications on HHW:

Managing and Disposing of Household Hazardous Waste is a 20-page booklet that explains which wastes are hazardous and how to properly dispose of them;

Reduce Your Use contains a fold-out chart listing alternatives to commercial hazardous products. HHW educational materials for classroom use are also available by calling 1(800) 462-6553.

Many bookstores carry publications that provide detailed information about cleaning and maintaining your home with simple ingredients. For example, recipes for combining common items like vinegar, baking soda and soap into substitutes for commercial household products are available. These combinations are less hazardous than the products they replace, but they sometimes require a little more "elbow grease." Try some and see which work for you.

HHW Collections

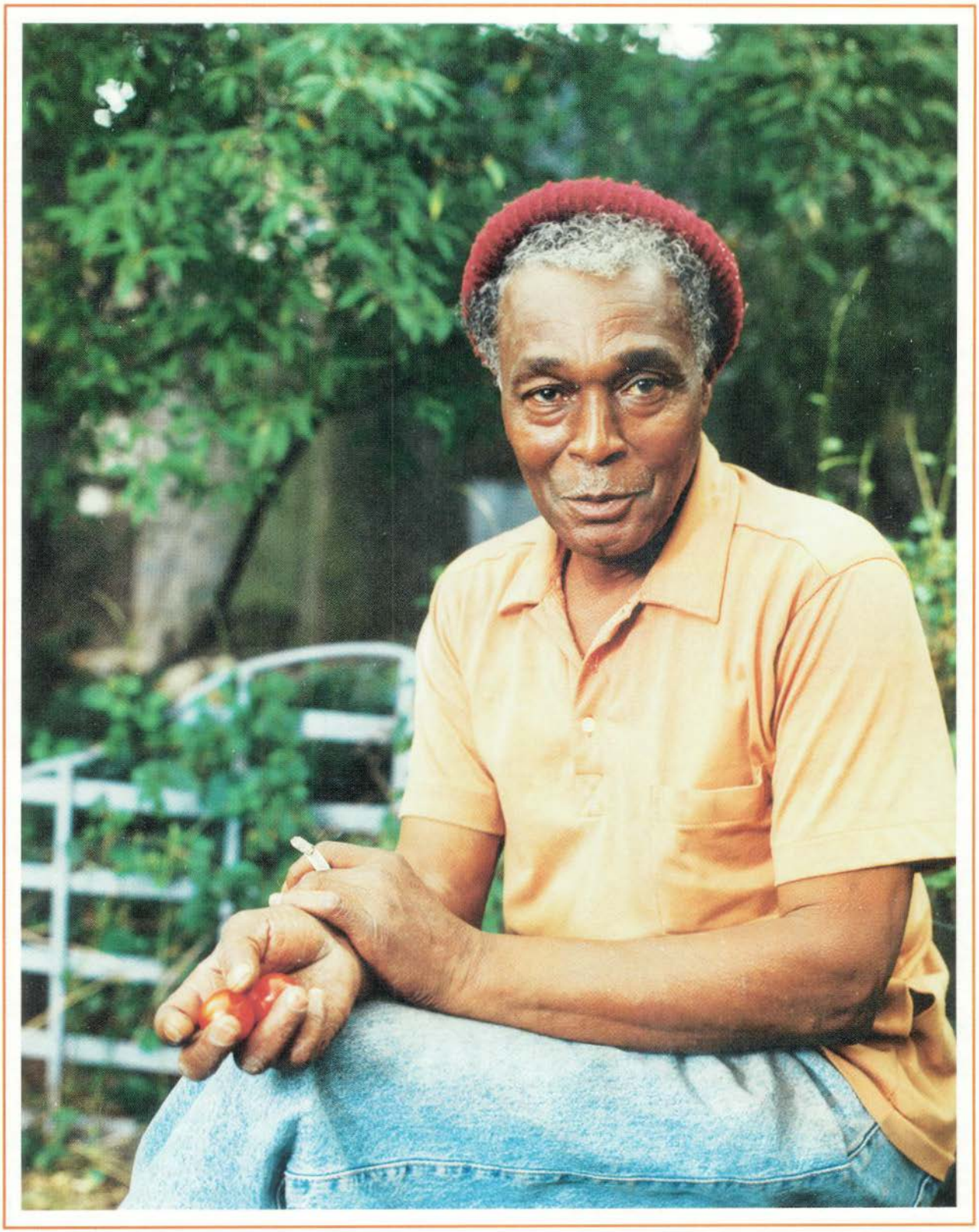
To find out when the next HHW collection program will be held in your area, call your local solid waste or public works department. They are listed in the blue pages of your telephone directory.

Most collection programs are run by counties, but some cities and towns operate their own. If your county doesn't have a program, encourage your local officials to set up a pilot program.

Community groups that would like to set up HHW collection or education programs can call the Division of Hazardous Substances Regulation, at (518) 485-8988.

From the digital collections of the New York State Library.

Bennie Lee, *Pleasant Avenue Garden, East Harlem, Manhattan*



My garden makes me get down on my knees and pray to God when all I'm doing is pulling up weeds.
Terese Miller, 97th Street Block Association, Queens

From the digital collections of the New York State Library.

Green As I Can Make It

by JaneWeissman photos by Katherine Mc Glynn

I stumble on a tranquil garden...A safe place
I can shed tears over painful secrets
Releasing fears and pain
afterwards self love will blossom
Carl Evans, New Leaf Garden, Bronx

Alberta Graham, *Five Star Gardens, Central Harlem, Manhattan*

The Garden of Hope ✦ The Garden of Happiness ✦ The Garden of Eden ✦ The Magic Garden ✦ New Life Garden Striving Together ✦ United We Stand

Fiercely proud of their efforts, New Yorkers of fortitude and grit bestow evocative names upon the city's most hidden and beloved treasures — GreenThumb community gardens. By dint of imagination and hard work, thousands of neighborhood activists have transformed vacant land into beautiful gardens overflowing with vegetables, flowers, laughter and love. From the South Bronx to South Jamaica, from East Harlem to East New York, 700 community gardens represent the dreams, traditions, aspirations and cultures of the people who create them.

From the digital collections of the New York State Library.

Brisas del Caribe, Lower East Side, Manhattan

(Seated L-R) Kenaisha McCoy, Shaleen Richardson, Kendal Malloy, Alexis Hernandez (Standing L-R) Loreal Malloy, Mark Asbman, Michael McCoy. *Five Star Gardens, Central Harlem, Manhattan*

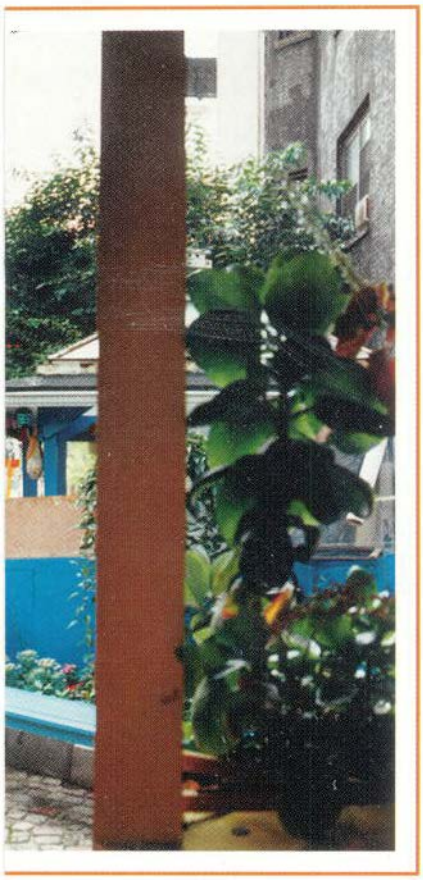
Operation GreenThumb is sponsored by New York City's Department of General Services and funded by federal Community Development Block Grants. Since 1978, GreenThumb and hundreds of community groups throughout the city's five boroughs have worked together, turning neighborhood eyesores and dens for vermin, drug dealers and stolen car rings into safe, thriving and productive oases of green.

GreenThumb leases city-owned land at no charge to neighborhood groups and trains people in garden design, construction and horticultural techniques. GreenThumb provides gardeners with tools, fencing, lumber (to build growing beds, picnic tables, gazebos and grape arbors), soil, ornamental and fruit trees, shrubs, seeds and bulbs. The gardeners, in turn, are responsible for developing and maintaining their gardens.

How gardeners design, plant and use their gardens reflects their cultural and ethnic backgrounds as much as their needs for open space. There is no typical GreenThumb garden.

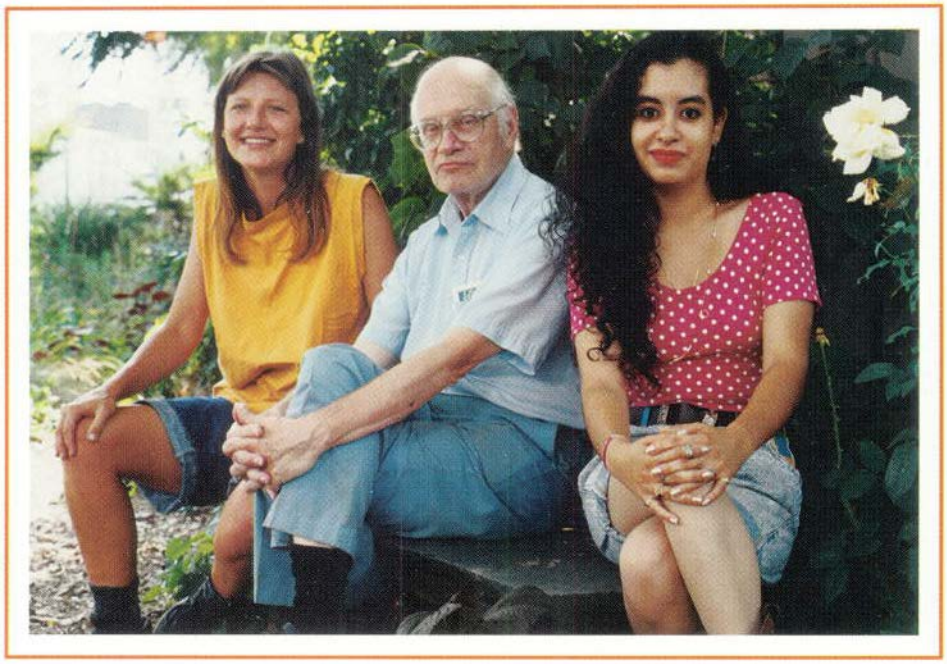
Successful community gardens prosper because they are initiated and sustained by neighborhood residents. Grass roots efforts. From the bottom up. Operation GreenThumb gardens thrive because New Yorkers have made the gardens their own, on their own.

From the digital collections of the New York State Library.

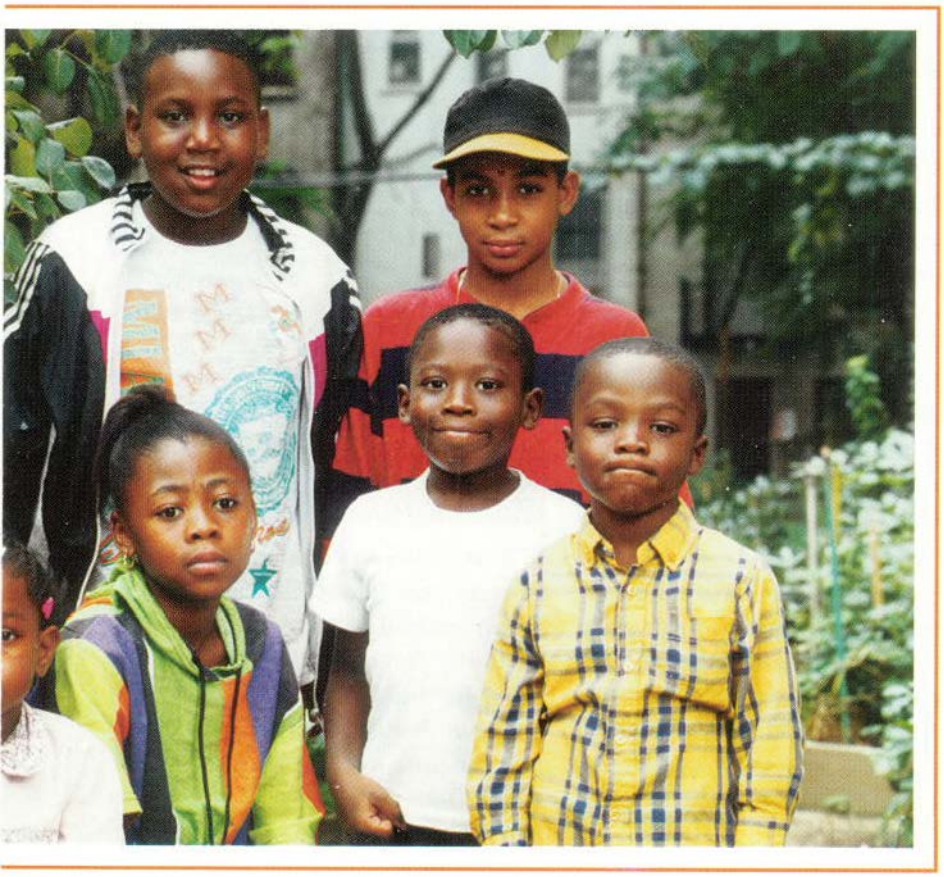


This garden is especially dear to me. It is not only the place where I got to know the man I'm about to marry, but where I plan to marry him as well.

Gwendolyn Kingsburry, *The William B. Washington Garden, Central Harlem*



Suzanne Chambers (left) Edward Lincoln, Yesenia Romero, *The Brooklyn Bear's Pacific Street Garden Atlantic Terminal, Brooklyn*



Operation GreenThumb and the Museum of the City of New York are sponsoring an exhibition in the Museum's New York City Community Gallery called *City Farmers: Operation GreenThumb, a Portrait of GreenThumb Community Gardens and Gardeners.* Featured are photographs by Katherine McGlynn and Antonia Weisse. The exhibition continues through May 1, 1995. For more information, call (212) 534-1672, extension 206.

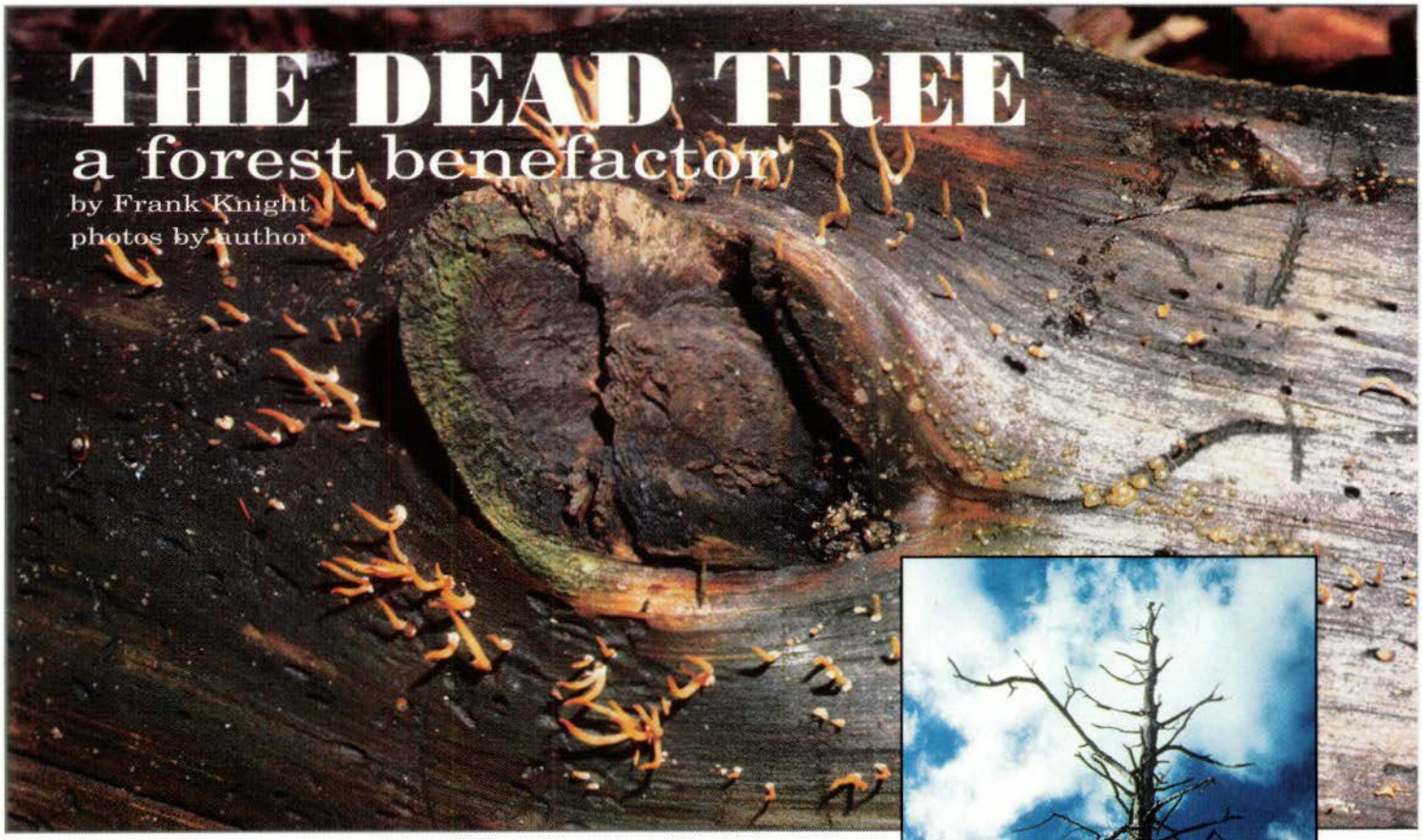
DEC provides technical assistance to Operation GreenThumb gardeners in all aspects of urban forestry. Appropriate publications and tree seedlings are available on request and staff will make site visits if needed. In addition, DEC provides Arbor Day teacher training workshops and Project Learning Tree curricula.

For details, call John Graham at (718) 482-4942, or write NYSDEC, Hunters Point Plaza, 47-40 21st St, Long Island City, NY 11101.

From the digital collections of the New York State Library.

THE DEAD TREE
a forest benefactor

by Frank Knight
photos by author



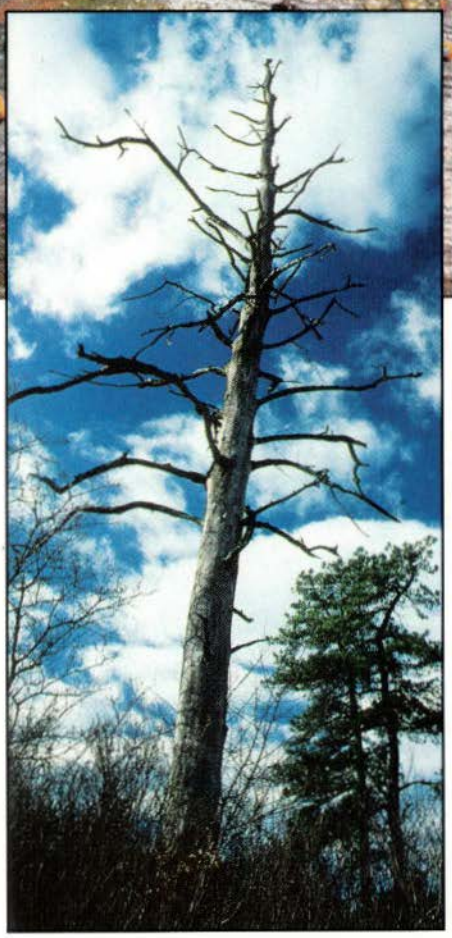
We all admire philanthropists, those generous few who decide to share their good fortune with others. In the natural world, trees are the champion benefactors of the forest community, sharing selflessly of their resources while still alive and long after their death.

Actually, trees are the great benefactors of the forest community well before they reach maturity. As dominant forest members, trees create and maintain the shady, moist, protected habitat upon which other forest plants and the animals depend. Even while still saplings, trees bear leaves which are eaten by caterpillars, who are in turn eaten by red-eyed vireos, scarlet tanagers, and a variety of warblers. Tree branches provide nesting spots for songbirds. Squirrels build summer leaf nests high in trees. After reaching maturity, trees bear fruits and nuts to feed wildlife.

Usually well after reaching maturity, trees begin offering food and shelter opportunities for many other forest inhabitants. The older and larger a tree becomes, the more susceptible it is to damage. A storm may blow off a limb, or a nearby tree may fall and take down branches or pierce the trunk. Before wounds heal, fungi mycelia grow into the tree creating food and nesting chambers for insects. Some insects, such as bark beetles and borers, chew their way in.

Tree death succession

We all know about plant and community succession where, over time, one plant community alters the conditions of a site and makes it easier for new species to replace those that grew before. Although we observe its stages, we seldom read about the succession of death.



Some trees, particularly evergreens, die from the top down. Their naked tops, especially the tallest, become favorite nest sites for bald eagles, hawks and osprey because they provide access and a commanding view of the surroundings. Such nests are often used and added to year

From the digital collections of the New York State Library.

after year until they collapse of their own weight or are felled by storms. These big nests are sometimes preempted by great horned owls, which begin nesting before the builder returns. Bare-topped trees are also used by red-tailed hawks, northern shrikes and flycatchers to watch for prey.

As more of the tree dies, loosening bark provides homes and cocooning sites for insects and greater feeding opportunities for brown creepers. These small, inconspicuous birds land near the base of trees and spiral their way upwards seeking insect food on and beneath the bark. As sections of dead bark loosen from the trunk, nest sites are created for creepers and roosting sites for bats.

Cavity Nesters

Dead and dying trees are magnets for the northeast's nine species of woodpeckers, the primary excavators of trees. Each has its own very exacting preferences for overall habitat, tree condition and height above the ground. For example, the northern flicker chisels its nest hole high (a 19th century nickname for this bird was "high-hole") in a dead tree or branch. Many woodpeckers will nest in either live or dead trees, although the yellow-bellied sapsucker and the black-backed woodpecker use only live trees. Although capable of chiseling into sound wood in search of food, most excavate nests in trees with heart rot, an easier task. The sound wood surrounding the excavation supports the tree and protects the nest cavity.

While natural cavities do form behind knotholes in trees, most holes and opportunities for secondary cavity users are the work of woodpeckers. Among the birds, secondary cavity users are all those species for which people make nest boxes, such as eastern bluebird, swallows, house wren, tufted titmouse, nuthatches, great crested flycatcher and screech owls (which accept birdhouses with sawdust-covered bottoms). One cavity user we seldom think of until we hear (or feel) it is the honey bee. Squirrels enlarge cavities for their own use, which in turn are then available to larger mammals like opossums, porcupines, raccoons, fishers and weasels. Larger birds like the wood duck, mergansers and owls are also cavity nesters.

From snag to downed log

Once all the branches have fallen from a dead tree, foresters call it a snag. Snags often break off at the weakened site of a woodpecker nest. Under 20 feet tall, a snag becomes a stub; stubs are preferred nesting sites for two birds. Downy woodpeckers, our most numerous woodpeckers, nest in stubs. Black-capped chickadees also excavate nest cavities in stubs, but don't chisel the wood as woodpeckers do. They simply pull off beakfulls of the soft, rotted wood.

Finally, a snag or stub will topple, and as a downed log the tree will provide shelter and feeding opportunities for a great many more creatures for years to come. Once the tree is in contact with the moist ground, more fungus species and a wider variety of insects such as carpenter ants and termites move in. This easily accessible food supply attracts predators like salamanders and snakes. Both of these stay to take advantage of the shelter afforded by the log. A pileated woodpecker might pick at the rotted wood for beetle grubs within; a bear might totally destroy the log and consume whatever it finds. Downed logs also serve as dens for mammals. Skunks, mink, foxes and bears establish dens in hollow logs or beneath stumps. Eventually, a century or more after the tree began to die, little remains but a slight elongated rise in the forest floor covered with leaf litter and supporting ferns, sedges, wildflowers and shrub and tree seedlings.

Cavity tree management

Obviously, dead trees are important to the life of a forest. As many as a quarter of all forest wildlife depend on dead trees for shelter, for escape from predators, for food, and for producing young. Dead or damaged trees have been routinely removed from forest stands and the growing demand for firewood eliminates more. Tree farmers and others who manage timber stands have learned that wildlife is important to tree and forest health and now manage dead and dying trees — approximately six per acre — as well as healthy ones.

For those interested in keeping their dead trees "alive and well," a free publication, *Managing Cavity Trees for Wildlife in the Northeast*" is available from Publications Group, USDA Forest Service, 359 Main Rd., Delaware, OH 43015.

For the correct identification to the tree users shown on pages 20-21 see the key on page 33.

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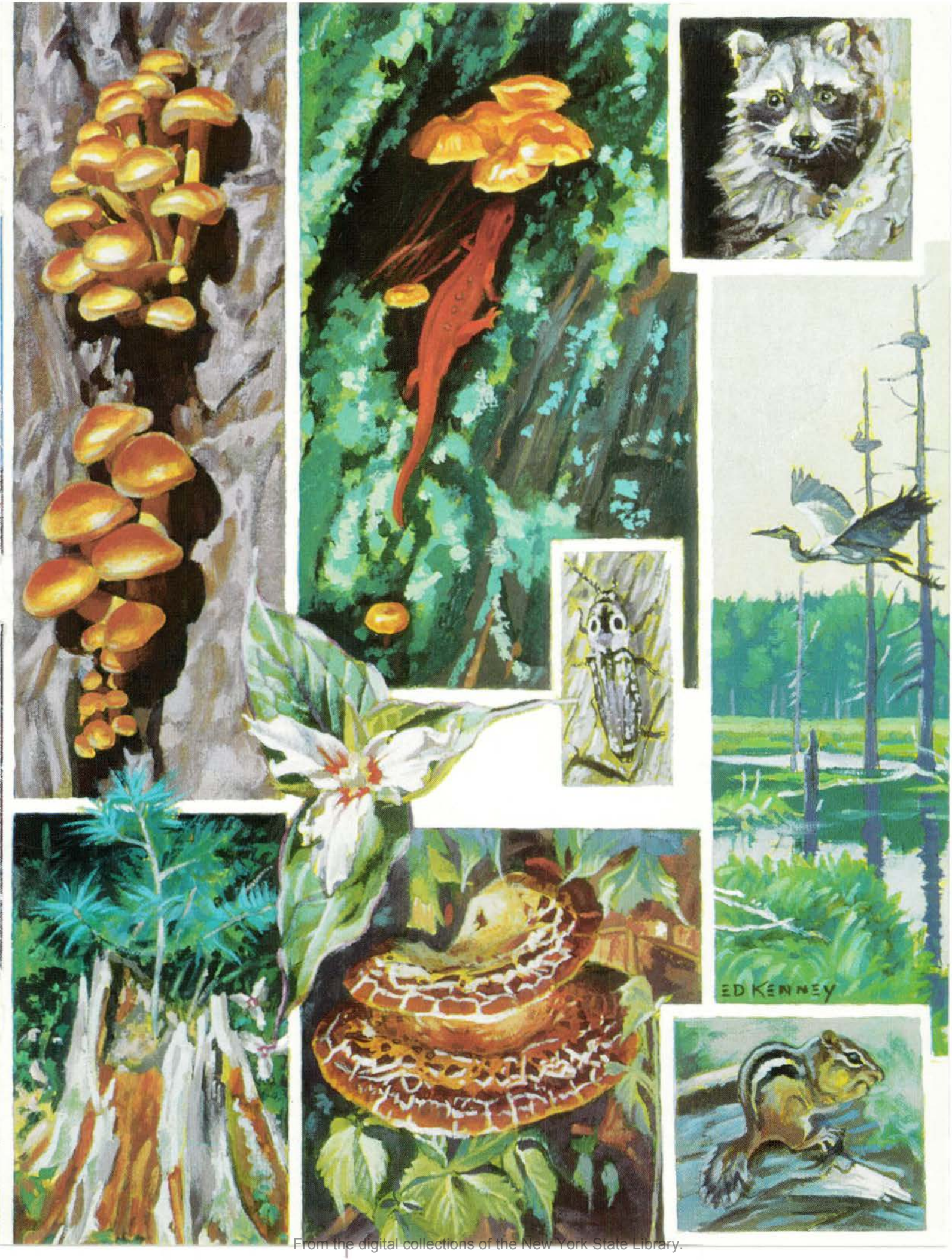
From the digital collections of the New York State Library.



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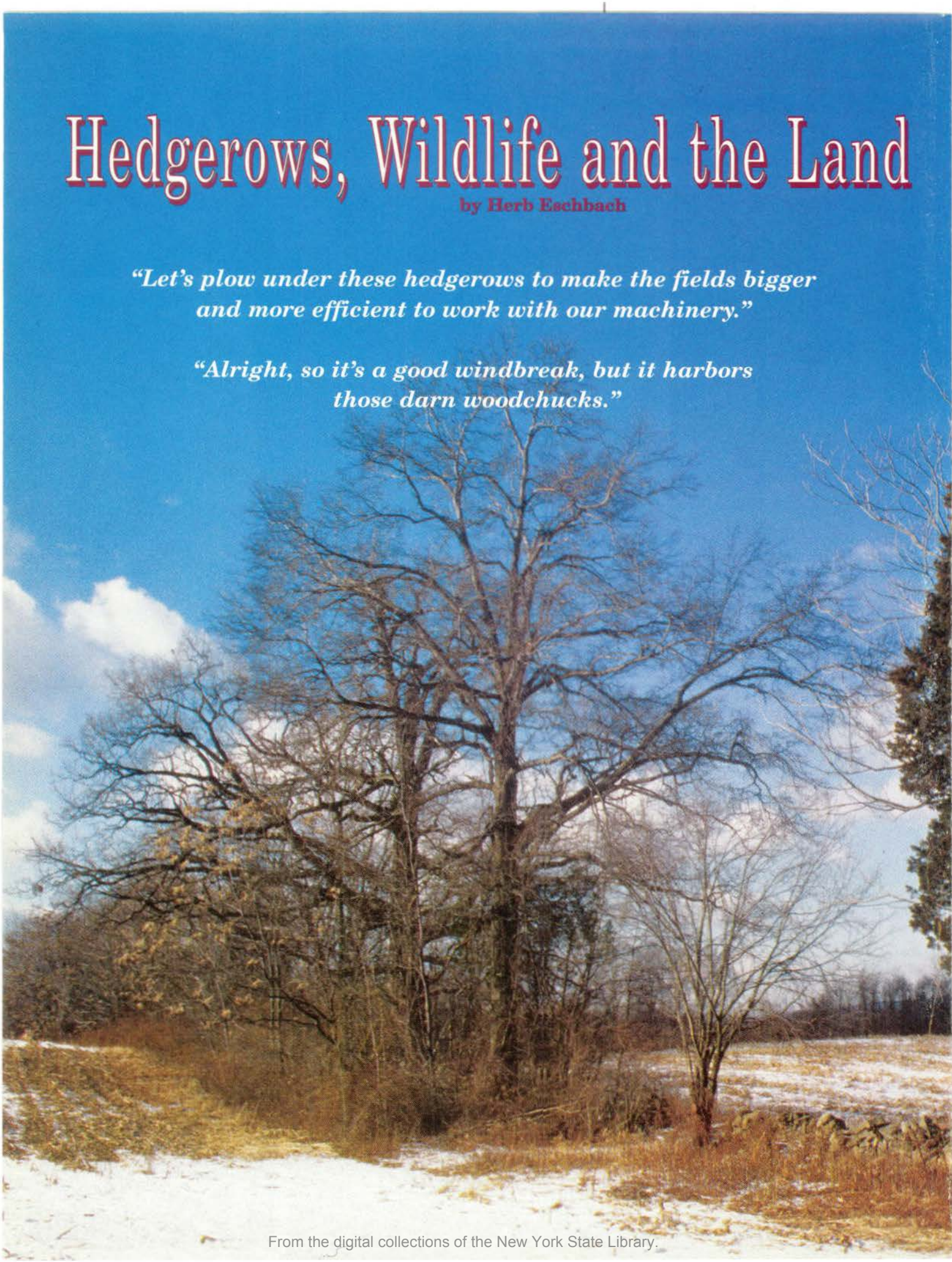
Hedgerows, Wildlife and the Land

by Herb Eschbach

"Let's plow under these hedgerows to make the fields bigger and more efficient to work with our machinery."

"Alright, so it's a good windbreak, but it harbors those darn woodchucks."



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(Left) W. Haley

W. Greene

Cardinal *(Below)* Eastern milk snake

P. T. Schnell

Enormous snowdrifts, coyote travel corridor, red-tailed hawk perch, woodchuck haven, farmer's friend and foe, hunter's quandary — hedgerows have long been a source of controversy within the farming community.

The hedgerows on our family's eastern New York farm were always a source of some frustration. Although we gratefully cut firewood from hedgerows in the fall, during summer hay or grain cutting we were less tolerant of these strips of fences, stonewalls, trees and shrubs.

From the digital collections of the New York State Library.

With each pass of the tractor or combine, we watched carefully for woodchuck holes. Chuck holes out of sight in the hay or grain field too often caused clouds of dust and the agonizing sound of stones grinding through the machinery. Too late to undo the accident, the usual frustrated cry was, "Whoever left those hedgerows there ought to be shot!"

Design or Happenstance

Hedgerows get established sometimes by design, other times by neglect. People plant windbreaks for landscaping, wind erosion or snowdrift control, moisture conservation or livestock shelter. But field hedgerows are most often happenstance from long forgotten ancestral labor. Settlers cleared woodlands to create fields and orchards, dumping the rocks from their ox- or horse-drawn "stone boats" along field edges and property lines. Farmers then turned their sore backs on the stone walls to tend their crops and stock.

Rodents and other small animals, along with their bird and mammal predators, quickly moved into the rows of stacked stones that somewhat compensated for habitat lost to the new fields. Birds excreted seeds into the protected cover below. The seeds germinated, and in time this pioneering weed growth led to elongated microhabitats with a wide variety of plants and wildlife.

Plant pioneers included both native plants like ragweed and blackberry, and European grain weeds such as burdock and wild carrot. With the passing years, native shrubs like sumac, viburnum, dogwood, exotic buckthorn and rose dominated. Then taller hardwoods like cherry, elm, oak, maple and ash added vertical dimension, forcing lateral shade-escaping movement of herbs and shrubs into field edges.

Bless This Mess

Camping through the flat northern Great Plains a few years ago, we noticed that almost the only relief from the flat horizon were tall waving ribbons of trees in the distance, starkly vertical windbreaks planted years before to protect crops. Narrow and well groomed lines of wind-durable tree species bred and planted for fast growth and dense foliage in the treeless plains, these were working hedgerows to deflect winds, reducing soil erosion and evaporation. How different from our unmanicured hedgerows back east.

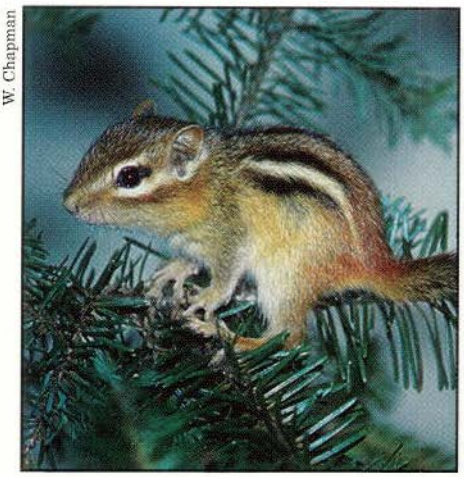
Our messy-looking eastern hedgerows are not without benefit. Random unkemptness provides unbelievably diverse plant and wildlife habitats. One year I made a determined but unsuccessful effort to remove woodchucks from a dozen or more holes in our best alfalfa field. Two years later, I observed coyotes stalking the holes, ready to pounce on a pop-up chuck. By that fall, the woodchuck holes were totally inactive and remained largely so for another year until the coyotes presumably found a larger nearby chuck population. Not only had the coyotes rid my alfalfa field of woodchucks, but they increased my hay production, eliminated machinery repair time, and helped the environment by doing away with the need for noxious chuck eradicants.

Foxes' preferred menu might include some of the smaller, easier prey such as mice, rabbits, bird eggs or young. The endangered loggerhead shrike will scan the hedgerow from bare treetop for small birds.

Hedgerows deflect drying winds year around and accumulate great drifts of snow. This cover conceals small rodents and provides thoroughfares for easy

(Left) Chipmunk
(Below) Immature garter snake

W. Chapman



P. T. Schnell

From the digital collections of the New York State Library.

movement and shelter. Predaceous shrews use these same routes to catch mice, but larger predators from above the snow must look elsewhere until spring.

Spring Thaw

Spring melt exposes snow tunnels that hug the ground at the bases of grass and sedge clumps. The sharp eyes of returning sparrow hawks (kestrel) necessitate greater mouse vigilance and a retreat below ground. Red-tails are the most common hawks hunting from a tree limb or fence post. Binocular-toting birders also hunt the hedegrows — the wide variety of insects, seeds and fruit attracts many song birds, including indigo buntings, catbirds, northern oriole, vireos and warblers.

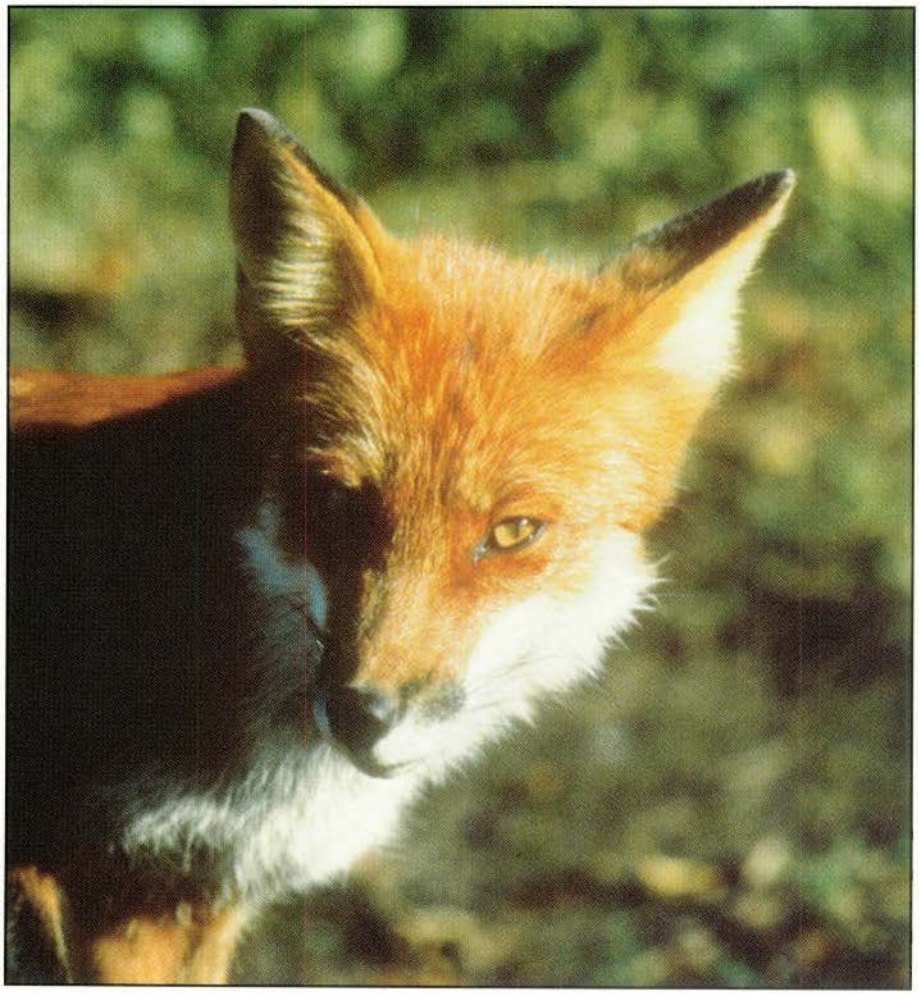
Hedgerows Challenge Hunters

This rich habitat produces an abundance of wildlife, as well as escape cover. Hunters on the alert for hedgerow game get an adrenaline rush when a ruffed grouse exits with a thunderous whir of wings. Squirrels travel a hidden highway atop stone walls, through the shrubs, and among the upper branches of the trees. Narrow passageways across hedgerows are pathways worn by deer to and from food and camouflage. Trappers, sensitive to evidence of fox and coyote lanes and scat, lay traplines in hedgerow strips.

Land owners and managers should consider hedgerows as they plan for their land's future.

Existing hedgerows may already be returning valuable benefits, but with some rehabilitation the benefits can be greater. Creative landowners can undertake long-term projects to design new multi-purpose hedgerows for landscaping, windbreaks, wildlife enhancement and livestock control.

When you choose a site for a hedgerow, consider these factors: prevailing wind direction; crop, pasture or lawn mowing plans; buildings, roadways and utility lines; soils and drainage, and, most important, long-term goals for the land and its use. DEC regional offices can help by recommending woody plant species and spacing. Cost-sharing assistance may be possible through the Stewardship Incentive Program, which is administered regionally through the Bureau of Forest Resource Management.



B. Ivy

J. Fuller

(Above) White-footed Mouse
(Left) Red Fox

Herb Eschbach is the director of DEC's Stony Kill Environmental Education Center.

From the digital collections of the New York State Library.

Great Horned Owl

The Eye of the Artist

Fred Szatkowski, this year's Migratory Bird Stamp winner, (see cover) is a nationally acclaimed artist whose numerous credits include listing as one of America's top 50 wildlife artists in *The Artist's Magazine*.

His work shows a strong sense of place.

"I paint what I am most familiar with; what I feel closest to. A few years ago," Fred says, "I went to Kenya and Alaska. But only a few works came out of these trips because they were short experiences. My home in western New York offers just as many wonderful natural areas that I can visit again and again for inspiration and reference."

From the digital collections of the New York State Library.

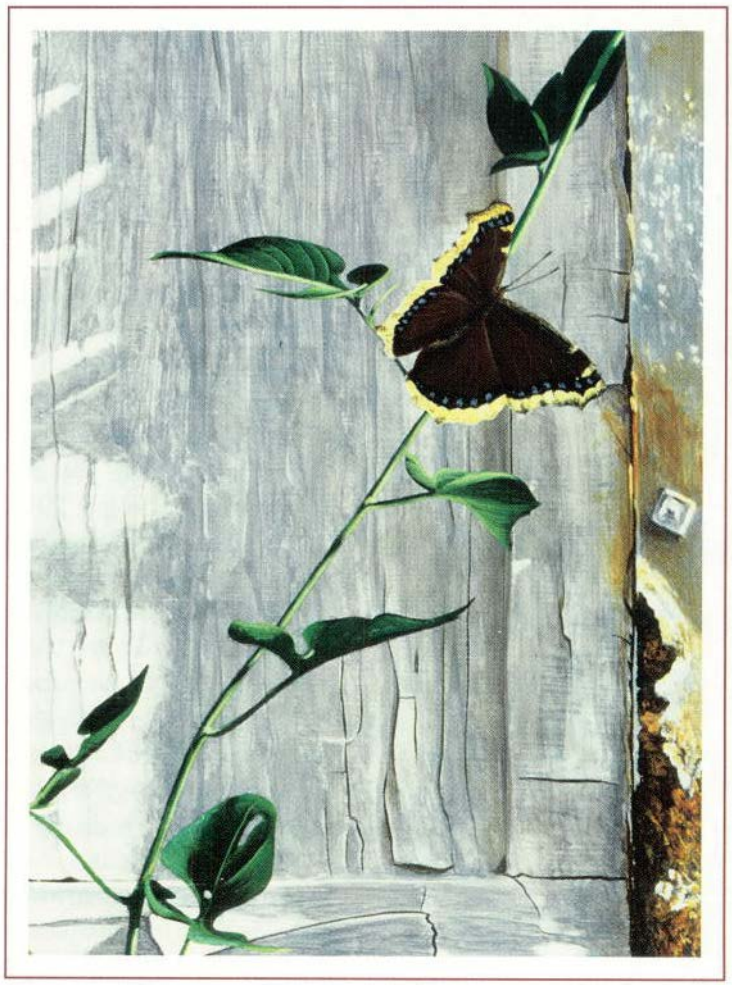
Rising from the Mist

Since 1989, Fred has been the exhibits designer for the Buffalo Museum of Science. "In my day job," Fred says, "I'm close to my element of natural science. Recently I completed backgrounds for five new dioramas depicting the flora and fauna of western New York.

"Right now I am working on a diorama entitled 'Suburban Wildlife'. It illustrates plants and animals that live close to human habitation. This exhibit," he adds, "will have numerous interactives and carry a strong ecological message. It will be an exciting educational tool for both children and adults."

Fred didn't plan to be a wildlife artist. "It just evolved," he says. "My love of art, animals and the environment just melded together. I hope my paintings carry a positive message to preserve and appreciate our natural world."

Fred works from his studio in Depew where he, and his wife and two children make their home.



Mourning Cloak and Bittersweet Nightshade

From the digital collections of the New York State Library.

PUTTING FISH ON ICE

by Jay Fullum
photos and illustrations
by author

Experienced ice fishermen know exactly where to go and how to fish.

This article will help newcomers to the sport put a few fish on the ice.

Each winter thousands of ice fishermen drill holes in the ice and present their artifical lures or natural baits in hopes of catching a few fish.

The first thing you have to do is get through the ice. Either an ice bar or auger will do the job if its cutting edges are sharp.

When you cut a hole, don't get carried away. Make the hole just large enough to accommodate the species of fish you hope to catch. Large holes that are open or skimmed over with a thin layer of new ice can be a danger to others.

After the hole has been cut through the ice it must be cleaned out. Use an ice skimmer to remove all of the ice chips floating in the hole.

Once the hole has been cleaned, you are ready to set up your ice fishing gear.

During the summer months fishing can be complicated, but ice fishing methods are relatively simple. In fact, you only have two options available. The angler either fishes a natural bait using a tip-up, or pursues the quarry fishing a small lead-headed artificial lure called a jig.

It is common to fish both methods during a single outing. Ice fishermen will set out a string of tip-ups and then jig while they wait for a fish to take the bait, triggering the flag on one of their tip-ups.

Before the angler can hope to catch a fish it is necessary to locate the quarry.

Take the time to read the signs left behind by those who fished the area prior to your arrival.

Look for signs of heavy traffic around a particular hole. If the last fisherman spent a lot of time

From the digital collections of the New York State Library.

(Above) A freshly caught yellow perch is shown next to the jig pole used to catch the fish.
(Below) Rat-tailed maggots or mousies. Two are threaded onto the lure before presenting the jig to the fish.

tramping around this spot, you can be sure that it was because fish were caught at that location.

On occasion, you actually can determine what was caught, the method fished, even which bait was fished, from the signs left in the snow.

If you happen to be the first person to fish the area you will have to locate a productive fishing spot on your own. The best advice is to fish slightly deeper water, off areas that are normally productive during the summer months.

Run a string of tip-ups. Cut the first hole over six to eight feet of water, then run the remaining tip-ups out towards deeper water, spacing them 10 to 15 feet apart. If several fish are caught at one hole, a couple of the other tip-ups may be moved closer to the productive area.

There will be times when you will not catch anything after setting up your tip-ups . If you don't catch anything after fishing for more than half an hour, try another location.

Don't spend all of your time on the ice moving from one location to another, but also don't spend all day fishing over a location that has been unproductive.

The simplest and least expensive outfit is the setup used for jig fishing. Commercially made jig poles cost only a few dollars to buy, even less to make yourself.

HOW TO FISH THE JIG

The rig is fished with the float at rest, or while occasionally lifting the float several inches, then returning it to the surface of the water.

The fish may take the offering at any time, but most of the strikes will come as the float is returned to the surface of the water and the baited jig is slowly falling.

From the digital collections of the New York State Library.

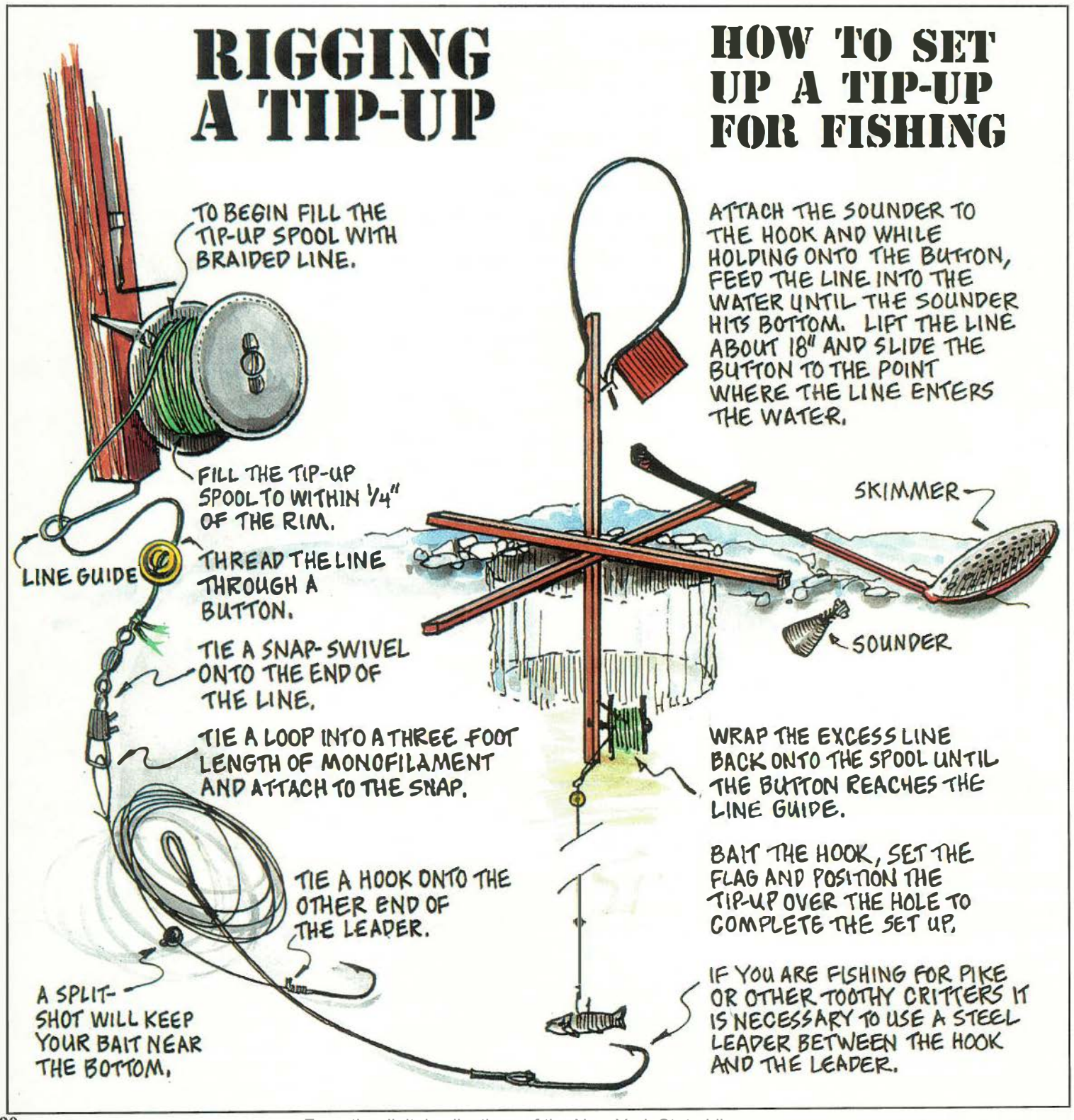
TIP-UP FISHING

Unlike jigging, where the fisherman actually works the lure and bait to attract the fish, tip-ups are simply rigged, baited and set.

Since tip-ups are set up in strings of five or more (check the regulations), the initial cost is greater. The standard wood tip-ups are available in a variety of styles and prices. Metal tip-ups are also popular, but these are more expensive.

In addition to the tip-ups, you will need line, split-shot, hooks, swivels and wire leaders if you intend to pursue pike, pickerel or other toothy critters.

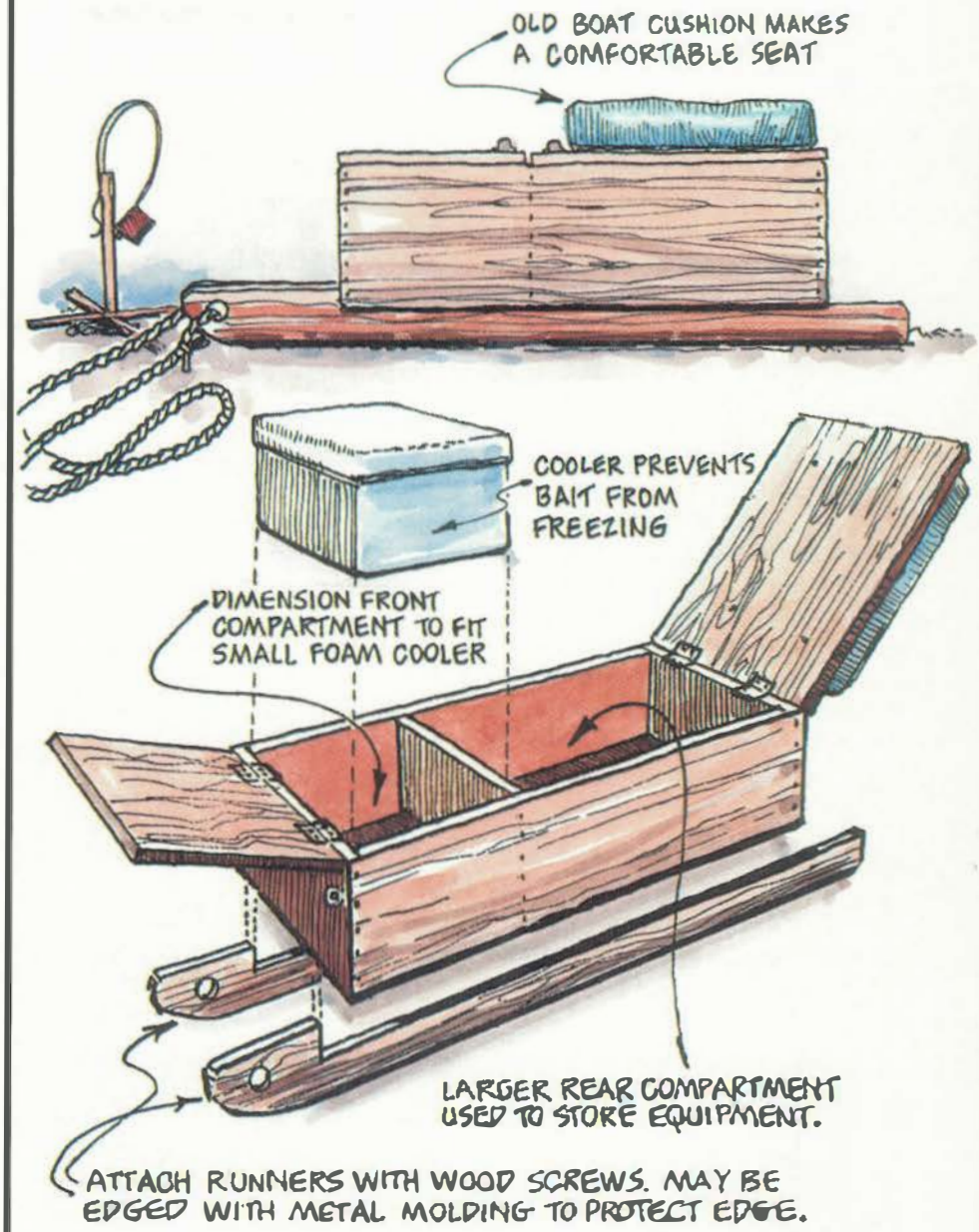
When jig fishing or fishing tip-ups the offering should be presented to the fish approximately a foot off the bottom, because the water is a little warmer near the bottom and the fish frequent this area to avoid the colder water above them.



From the digital collections of the New York State Library.

Standing on the ice when the wind-chill factor is well below zero is no fun, but on those beautiful calm days when the temperature is moderate you can have some extremely pleasant times on the ice. You can also catch yourself a meal of fresh fish.

HOW TO BUILD AN ICE SLED



AN ICE SLED PROVIDES THE ICE FISHERMAN WITH A COMFORTABLE SEAT, STORAGE FOR LIVE BAIT AND EQUIPMENT, AS WELL AS AN EASY MEANS OF TRANSPORTING ALL OF THE STUFF OUT ONTO THE ICE. THE ICE SLED IS ALSO A GREAT PLACE TO STORE ALL OF YOUR ICE FISHING GEAR WHEN IT'S NOT IN USE.

PLAN THE SIZE OF YOUR ICE SLED CAREFULLY. THE SIZE OF THE FOAM COOLER DICTATES THE DIMENSIONS OF THE FRONT SECTION. THE EQUIPMENT YOU INTEND TO CARRY SHOULD INFLUENCE THE SIZE OF THE REAR SECTION, BUT THE SIZE OF YOUR CAR'S TRUNK MAY DETERMINE THE DIMENSIONS OF THE FINISHED PRODUCT.

From the digital collections of the New York State Library.

Letters

Reliving the Good Life

I believe I have found the meaning of living the second childhood that I am sometimes accused of.

I was born in Rome, N.Y. and at an early age moved with my parents to a small village on Long Island where my mother and her parents and relatives were born. My parents bought a small lot on the outskirts of the village where the backyard ended against woods which extended for miles. I grew up roaming those woods with a couple of friends while camping, hunting, cutting firewood and in general having great times. The bay waters within bike range abounded with fish and shellfish, so life was seldom dull.

The woods are all gone now, houses are row on row and streets and driveways are chocked with cars. Gone are those joys of childhood.

My wife and I are retired now and have resettled near the nice, friendly little village of Cherry Valley in upstate New York. Our retirement home borders on a fairly extensive wooded area. I have cleared and maintain several hiking trails through the woods. A nearby lake and our canoe substitute for the bay waters we left behind which are now polluted and filled with boats.

Yes, I do have to admit to enjoying my second childhood. I am thankful each day that I have been permitted to recapture some of those pleasures that I knew as a boy. Each issue of your magazine reinforces that thankfulness.

Oliver J. Lewis
Cherry Valley

Hi There!

Being quick with a camera paid off with this charming show of affection. A backyard alliance seems to be in the making.

Patti Anderson
Fairfield, Connecticut

Memories of the Outdoors

Upon reading your October issue I was most delighted by the article, *Nature Lessons*, by Cheryl O'Brien. I was charmed by three generations of women who passed down their love and appreciation of the beautiful and fascinating outdoors.

I also was privileged to have been taught by my grandmother and mother these same lessons. (I am now 66) I have passed them on to my daughter making it four generations.

But I have a great problem understanding one theory about the O'Briens: Why take a gun?

T.S. Gardner
Boiceville

★ ★ ★

I enjoyed reading the article entitled *Nature Lessons*. The picture of Megan standing with her mother and grandmother in the snowy woods brought back warm memories of my own childhood.

How well I remember my father and I going to help grandpa cut wood in the winter. The crisp air, snowy ground, and excitement of helping to gather the firewood left impressions on me that I cannot forget.

Although grandpa is no longer able to cut firewood, I still enjoy going to my grandparents during the winter. The new propane heater doesn't crackle and pop like the old firewood stove, but there, at my grandparents' home, memories were made that will not be forgotten.

I cherish those memories of times spent in the woods. And when Megan grows up, I am sure she will also.

James Sallee
Columbus, Ohio

From the digital collections of the New York State Library.

Squirrel Proof

The October 1994 issue in the Your Questions Answered section contained a comment by Frank Knight that "it is nearly impossible to totally squirrel-proof feeders."

There is a cheap, simple solution:

a tube feeder atop a pole;
a bell near the pole top;
a 4 foot PVC pipe three and 1/2 inches in diameter around the pole.

Not one squirrel has reached the food in the seven years it has been in use. (Of course, the squirrels are around eating the seeds that birds scatter on the ground).

David W. Fay
Webster

• *We agree that this is an excellent solution as long as the feeder is located well beyond jumping range from trees and shrubs.*

Protected Duck

We built a home this summer with a designated wetland behind us. National Fuel gas was digging a trench for their gas lines when they found a duck sitting on her nest in front of our home. They purposely trenched around her so as not to disturb the nest. We have enjoyed this area with its many deer and other wildlife and appreciate the gas company's work. Even though they had a job to complete, they protected nature.

Cheryl and Mark LaRoach
North Tonawanda

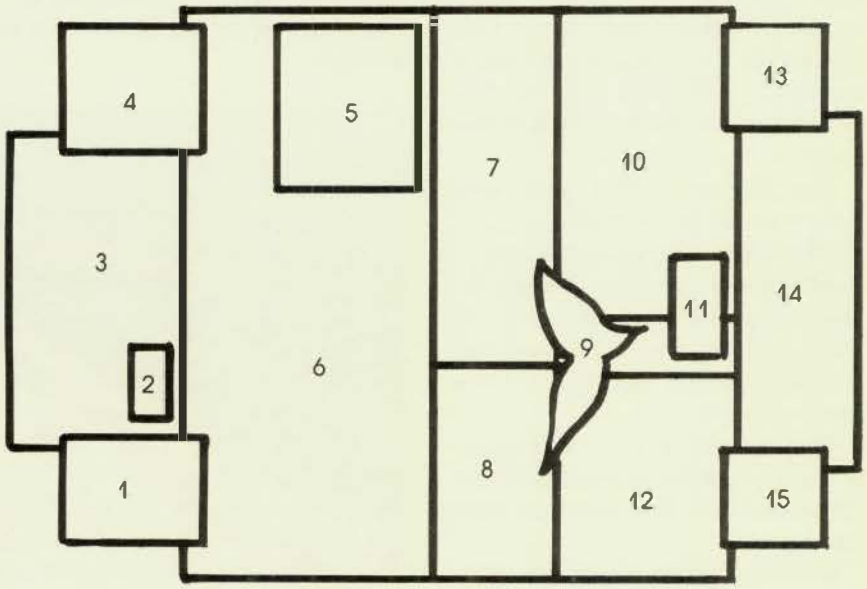
Woodland Tenor

Enclosed is a picture of a huge, probably virgin timber tree that has been recreated by a pileated woodpecker into what we have now named our "Pavarotti" tree. You can see the resemblance to the great singer with his arm outstretched and singing *'O sole mio.*

This tree was apparently not timber quality when my woods was lumbered in the 1940's. I had admired its majestic beauty every time that I walked past it. However, this year a pileated woodpecker moved into the area and performed this artistic work.

Nicholas L. Marasco
Andover

The Dead Tree Key



1. Common Garter Snake *(Thamnophis sirtalis)*
2. Longhorned Beetle adult of the Broadnecked Root Borer *(Prionus laticollis)*
3. Artist's Conk *(Ganoderma applanatum)*
4. Eastern Screech-owl (red phase) *(Otus asio)*
5. Northern Flicker (female) *(Colaptes auratus)* feeding nestling
6. Drumming Ruffed Grouse *(Bonasa umbellus)* with Partridge-berry *(Mitchella repens)* and Pileated Woodpecker *(Dryocopus pileatus)* retangular feeding holes
7. Velvet-foot or Winter Mushroom *(Flammulina velutipes)*
8. White Pine seedling *(Pinus strobus)* on rotted stump
9. Painted Trillium *(Trillium undulatum)*
10. Red Eft stage of Red-spotted Newt *(Notophthalmus viridescens)* with lichen *(Cladonia sp.)* and Golden Mycena *(Mycena leaiana)*
11. Eyed Elator *(Alaus oculatus)*, our largest click beetle
12. Scaly Polypore fungus *(Polyporus squamosus)*
13. Raccoon *(Procyon lotor)*
14. Great Blue Heron *(Ardea herodias)* at rookery
15. Eastern Chipmunk *(Tamias striatus)*

From the digital collections of the New York State Library.

Environmental Perspective

Bureau of Publications conducted by Brian W. Swinn

Keeping Sand on Your Favorite Beach

New York State now has a clear plan to address the impacts of coastal erosion. The final report of the Governor's Coastal Erosion Task Force establishes a strategy for preserving the vulnerable coastal areas of Long Island, New York City and Westchester County. Measures include protecting life and property and restoring the natural defenses of barrier beaches and other flood-prone areas.

The report, which estimates total damage by 1992-93 storms at $230 million, also gives the cost to implement recommendations, including preventive measures, at $400 million over five years. Of this, $119 million has already been appropriated.

The report's key recommendations are in different stages of implementation. The recommendations are:

Sand bypassing. South shore inlets are periodically dredged of sand which is placed along downdrift shores. Sand bypassing at Jones, Shinnecock, Moriches, Fire Island and East Rockaway inlets helps restore the natural flow of sand along the south shore of Long Island;

Beach nourishment. Sand that has been eroded away is replaced. Expand beach nourishment projects to protect heavily developed portions of the coast and recreational areas until the natural flow of sand along the shore is restored;

Barrier system fortification. Strengthen highly vulnerable washover areas and fill breaches to maintain the integrity of barrier islands;

Reserve funds. Establish a reserve fund for rapid state response to critical erosion problems in line with federal and local actions;

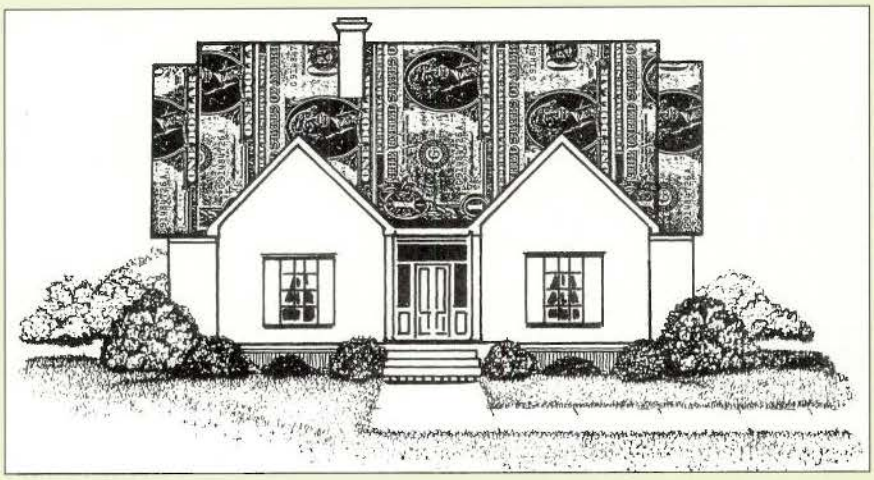
Road elevation. Encourage federal, state and local agencies to elevate or provide flood protection for key evacuation routes;

Erosion monitoring. Initiate an erosion monitoring program to supply scientific information needed to design future projects and refine management practices.

Beach nourishment project at Gilgo Beach, Jones Beach State Park, on the south shore of Long Island. Sand is dredged from the navigation channel in Fire Island Inlet *(upper, right background)* and pumped as a semi-liquid slurry through the 27-inch diameter pipeline on the beach. Roadway at left is Ocean Parkway which runs the length of Jones Beach Island, providing an emergency evacuation route.

From the digital collections of the New York State Library.

New Meaning for Old Money



It's amazing what gets recycled these days.

Recently, Federal Reserve banks across the country entered the recyclables market, looking for companies that can recycle the 1,750 dump truck loads of worn-out money the banks shred each year—7,000 tons in all.

The Federal Reserve Bank of New York disposes of such a huge amount of shredded currency—950 tons a year—that they have not yet found a company that can take all of it. With annual disposal costs at $140,000, the bank would love to find a recycler that can come up with uses that comply with guidelines for shredded currency set by the U.S. Treasury.

Until now, shredded currency has been buried in landfills, but the decline in landfill space and concern for the environment call for other solutions. Using shredded money to manufacture a product would eliminate high disposal costs for the banks, provide raw material to the company and save landfill space as well.

Currently, several products incorporate shredded money. A company in California uses it to increase the strength of fireproof roofing shingles against firestorms. Shredded currency makes extra strong fiberboard panels for stage sets and trade-show displays because the fibers are resilient and adhere well to other fibrous materials. Shredded currency is also used in fine stationery and in fuel pellets.

Batteries Included

This year, New York State becomes home to a factory that builds low-polluting, electric-powered pickup trucks and cars.

California-based U.S. Electricar is establishing a factory near Syracuse which will produce electric pickup trucks and cars. The vehicles have a charge time of 12 hours or less, a range of 50 to 90 miles, and a top speed of 75 mph. Although based on models produced by major manufacturers, the vehicles' drive trains are manufactured and installed by U.S. Electricar.

Niagara Mohawk Power Corporation, an upstate utility, has agreed to purchase trucks and cars for its own use, and to help sell others to local utilities and other fleet owners.

Onlookers examine a pickup truck built by U.S. Electricar. The truck was on display at the first meeting of the Environmental Business Association of New York State, Inc. held at the Rensselaer Polytechnic Institute in Troy.

From the digital collections of the New York State Library.

Books

conducted by Joan Taylor

Nature's Outcasts: A New Look at Living Things We Love to Hate, by Des Kennedy, Storey Communications, P.O. Box 445, Pownal, VT 05261, 1-800-441-5700, $12.95.

If creepy crawlers give you goosebumps, don't reach for the bug spray; grab Des Kennedy's book instead: it's nontoxic, environmentally correct and fun to read—and it could flatten those goose pimples once and for all.

This light book has a heavy purpose. Kennedy's mission is to awaken you to the true source of your palpitations, cold sweats and nightmares: that slither and slink, crawl and creep are really in your head, not in the snake, spider or toad that blunders across your path. The critter couldn't care less about you—unless it's scared to death—and yet, the hair rises on the back of your head.

After living 20 years on semiwild Denman Island in British Columbia's Georgia Straight, Des Kennedy has learned that wriggles, hisses, flutters or buzzes are not threats to his safety, but desperate defenses against himself—a man—a creature a thousand times larger than some weed or vermin, but one who may go ballistic over a spider web or dandelion. That slug, wasp or frog is hoping that you will just go away and take your bundle of irrational anxieties and prejudices with you—before someone gets hurt.

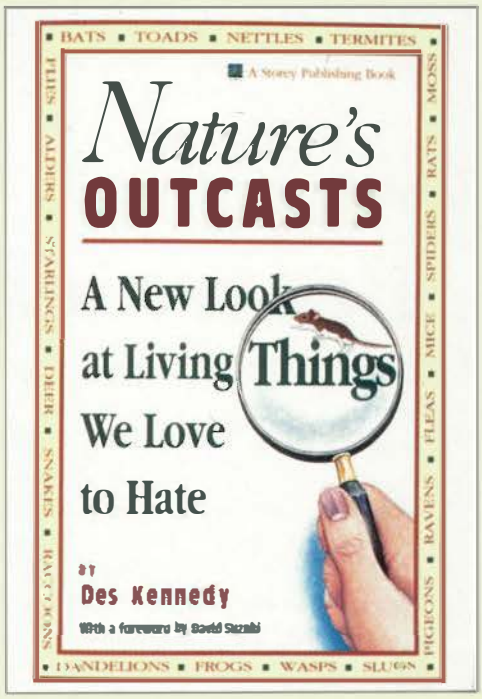
Why do we shake and shudder at the sight of harmless creatures? You can probably blame well-meaning, but overanxious parents. "No touch. No touch," my grandmother warned as I toyed with a spider's web strung between slumping garages in her immigrant neighborhood. I can still hear the stern voice and see the hard look: obviously, spiders were not our friends.

How did our parents and grandparents get that way? They grew up. Part of becoming a full member of our society is learning to fear or hate a list of plants or creatures you might have otherwise learned to live with, or simply ignore. Our loss of innocence and openness toward the natural world is taken as a sign of civilization.

What can be done about the ignorant city dweller? If you're Des Kennedy, you return to the land, become earth wise, and write a book to dispel all our myths about bats in the hair and other big-city nonsense. Kennedy wants to soothe our panic and cure our phobias by debunking beliefs that come to us in urban legends, Gothic novels, Grade B movies, horror shows and TV adventures. Pretty heavy duty for a slim book, but after we've read about the upside of fleas and flies, rats and ravens, and nettles and dandelions, we'll at least be on the road to recovery.

There is heavy irony in Kennedy's list of nightmare creatures, however, because they are the one's closest to home. The things we love to hate are nearest us in their habits and habitat. After all, who are rats and bats and pigeons, but city dwellers. Where do ravens, raccoons, starlings and dandelions thrive, but in our suburbs. Fleas and mice and nettles are as much a part of the farm as cows and corn and pasture. What thrives at the forest clearing, but deer and alder. And the fly. Is there an alleyway, backyard, or farmyard on earth free of the fly?

Kennedy's list proves that we tend to get warm and fuzzy toward creatures who are warm and furry, but here again there is a twist. We easily wax nostalgic about creatures that are continents, river valleys or ecosystems away: Bambi is our friend until he eats our flowering crab. Not in my backyard: We are in competition for living space even with the creatures we love to love, destroying their woodlands and wetlands at a genocidal pace, while we create the habitat for the creatures we love to hate. We are in symbiosis with rat and fly and pigeon. They live off the garbage in our streets and yards, vainly tidying our littered landscapes for us.



Kennedy's message is tolerance for diversity, respect for complexity, sensitivity to the other, harmony with all. He urges us to tread lightly where we live, work and play; to look within ourselves for the source of much of our discomfort toward creatures only seemingly unlike ourselves.

—**Ben Kroup**

From the digital collections of the New York State Library.

Trout Reflections, by David M. Carroll, 176 pages, St. Martin's Press, 175 Fifth Avenue, New York, N.Y. 10010, $18.95.

With the recent arrival of his book, *Trout Reflections,* David M. Carroll has earned a spot on my list of the top ten angling writers. Actually, Carroll's effective combination of fishing, environmental concerns and natural history places his book on my list of the top ten nature books.

Trout Reflections shows in diary entries, color painting and black and white drawings the character of small New Hampshire trout streams throughout the four seasons. The book begins on January 1st, with some surprising fishing, and ends December 31st with an insight about the winter links and barriers between angler and trout.

Carroll may live in New Hampshire, but *The Conservationist* readers throughout New York will instantly recognize his trout streams. The seasons, rocks, fish, fauna and water quality in this book are nearly the same as those found on any small freestone brook trout stream in the Empire State.

Trout Reflections also includes a favorable reference to the Adirondack heritage brook trout program and citation of numerous New York outdoor and fisheries writers in the biography.

Carroll writes majestically without being pompous. He writes grand, long paragraphs, each with a superb concluding sentence. Small stream fishing and northern landscapes are familiar topics, but Carroll offers new views of these subjects.

The fishing in this book complements Carroll's love for his streams' watersheds and their flora and fauna. In fact, the ferns, skunk cabbage, kingfishers, herons, mink, beavers and wood turtles are portrayed as vividly in this book as are the trout.

Carroll recognizes that "one cannot fish with half a heart," and he uses his angling enthusiasm to freshly connect sport and environmentalism:

> *We establish limits for the taking of fish, but put no limits on the taking of wild lands and waters; we can stock fish but we cannot put back wildness. One must be so careful in the taking.*

This book includes 16 pages of the author's color paintings, and 63 line drawings and sketches. Carroll can be precise and scientific in depicting the coloration of a brook trout, the sense of a small rocky plunge pool or a wood frog. He can be impressionistic as in his drawing of a flooded brook on an overcast day of the sticks and litter along a streambed. In all his sketches, he captures the essential wildness of his subjects.

Given its writing, insights, artwork and reasonable price, *Trout Reflections* is must reading for all anglers, nature lovers and art fans.

—John Rowen

Fishing Small Streams With a Fly Rod, by Charles Meck, 198 pages, Countryman Press, P.O. Box 175, Woodstock, VT 05091, $14.95.

Strategies for Stillwater, by David Hughes, 246 pages, Stackpole Books, Cameron & Kelker Streets, Harrisburg, PA 17105, $19.95.

Fish in a Flash! A Personal Guide to Spin Fishing, by Jim Arnosky, 64 pages, Bradbury Press, 866 Third Avenue, New York, NY 10022, $14.95.

As fishing has grown more popular and specialized, so has the angler's library. The books in this review each concentrate on an important aspect of fishing; each is good value for the money.

Fishing Small Streams With a Fly Rod offers a fresh, lively view of a staple of trout fishing. Meck's book is complete, well organized and written in a friendly tone. It is easy to find a particular item through the inviting format and a superb introduction and table of contents.

The author offers much detailed information on rods, reels and fly patterns. These details are often presented in tables and charts to avoid slowing the text.

Meck energetically advocates the joys of small stream fishing and frankly lists the sport's drawbacks. This book is especially useful with its 13 point "small stream finder," streamcraft advice and new fly patterns.

Strategies for Stillwater is important and difficult. The publisher, Stackpole Books, has good distribution in New York and the book is jammed with good information and clear illustrations.

The beginning of the book is hard to read; I found it too abstract. As the book continues, the author recovers. His chapters on flies and techniques are well organized and written with an effective mix of punchy sentences and personal example. He thoroughly discusses the belly boat, a device based on an inner tube, which is lighter, and sometimes more stable, than a regular boat.

Finally, our Vermont neighbor, artist and writer Jim Arnosky, has written an elegant volume, *Fish in a Flash! A Personal Guide to Spin Fishing.* This book may have been intended for children, but its numerous, clear watercolors and sketches—and clear text—make it valuable for adults curious about spin angling in still and flowing waters.

Arnosky's illustrations of fish he has caught with spinners, trout, bass, pike, sunfish, and perch, are eerily lifelike.

Arnosky also counsels the readers on boating safety, lure selection, releasing fish and protecting fisheries. **—John Rowen**

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Your Questions Answered

conducted by Frank Knight

Deer Grooming

At 2 pm on August 29th in the Big Moose area, my son Matt and I spotted a buck and doe about 100 feet away at the edge of the woods. We were fascinated to see the doe put her head up around the buck's and groom him at the withers. I have shown this photo to my deer hunting friends and none were aware that deer groom one another. Watching this behavior added considerably to our enjoyment of these magnificent animals. The eight-point buck was in full velvet.

Thomas K. Crowley
Central Square

• *Like many other social mammals, deer groom one another mainly to establish and maintain social bonds. Your excellent photo proves this seldom-seen phenomenon. I also applaud the detail in your letter. Knowing when and where you saw these deer didn't help with this particular answer, but I urge those who send questions to follow your example and give at least an approximate date and location of the incident and as much other detail as they can to facilitate an answer. Occasionally, equipped with sufficient anecdotal information, biologists are inspired to conduct follow-up studies on unusual occurrences. Much is learned from careful observations by hunters and people like you and Matt. DEC Fish & Wildlife Technician Sal Cozzolino shares a story told him by a hunter at the beginning of this past hunting season. A deer was observed rubbing its out-of-sight head on the far side of a large tree. Assuming it was an in-rut buck practice sparring, the hunter shot the deer and was surprised to discover it was a doe. He would not have fired his gun, though, purely on an assumption had he not also had a doe permit. Deer do lick and rub to relieve itching caused by irritating seeds, parasites and a variety of dermatitis ailments.*

Jumping Mouse

I have lived in the same house here in the town of Granby, Fulton County for 35 years. During this time, I've seen a jumping rodent about six times. Now that the land is no longer farmed and fields are growing up to trees and shrubs, these animals are gone. We haven't any jumping rats in New York. What were they?

Joseph Heagerty
Fulton

• *Your mystery rodent is the meadow jumping mouse* ***(Zapus hudsonius)****, probably the mammalian "world champion leaper" in its weight class of one ounce or less. Under duress, they can cover 10 or 12 feet, but zigzagging jumps of four to seven feet are more common. Mostly nocturnal and hibernating all winter, the jumping mouse is seldom seen. This is unfortunate since it is a handsome little creature with a black-tipped tail almost twice as long as the body. It is about the size of the more commonly seen deer mouse, but with much longer hind legs. Fond of berries, flowers and insects, jumping mice eat mostly grass seeds. Your "kangaroo mice" disappeared because the habitat changed, but keep watching. Your new woodland may attract the woodland jumping mouse* ***(Napaeozapus insignia)****, especially near a pond or stream. The woodland species differs most obviously from the meadow jumping mouse in having a white tail-tip.*

Although we try our best to answer all questions, we can provide a better answer if you include:

- location, date, time of day
- photo or rough sketch
- scale in inches or feet

From the digital collections of the New York State Library.

Angel Wing

This Canada goose is one of a brood of eight that visited our summer home on Wellesley Island last summer. It appears that the "hand" bones are inverted and at right angles to the main wing bones. Its parents and a sibling were inspiring it to fly, but the "ugly gosling" could barely clear the water. By now a hunter has probably bagged an easy goose dinner. What causes this condition?

William M. Forrest
Wellesley Island

• *I have seen this condition called "angel wing" fairly commonly in feral domestic waterfowl that people feed at public ponds. DEC waterfowl specialist Brian Swift tells me that he has seen it in Canada geese in Rockland and Westchester counties but yours is the first reported from the far north. Scientists believe that this is a nutrition deficiency disease with some birds more genetically disposed to contracting it than others. This disease is one of several good reasons for not artificially feeding waterfowl. The bread and popcorn that people generally feed ducks and geese do not satisfy birds' nutritional needs. Most nuisance waterfowl complaints are a result of artificially concentrating populations by feeding. Abnormally high amounts of bird feces along the shore makes the site unappealing for human use. Then there is the possibility of causing more serious diseases. Artificially concentrating birds in a man-made pond where wastes don't readily flush away led to an outbreak of avian botulism in western New York recently that caused the death of several hundred birds. We should be content with seeing fewer birds with binoculars instead of bringing hundreds up close to their possible detriment.*

Snow Sleeper

While hunting after a 10 inch snowfall, I moved from an open woodlot into heavy cover looking for deer signs, and was startled by a ruffed grouse flushing from beneath a large log. Checking behind the log, I was surprised to find a small three inch hole in the snow with a perfect wing print in front of it. Looking closer, I found a slightly frozen eight inch chamber behind the hole containing enough droppings to indicate the bird had been there overnight. I had always thought that grouse were tree roosters.

Robert E. Leslie
Albertson

• *You are right. Grouse are tree roosters, but they adjust their habits to the season and weather conditions. During the summer, grouse roost in deciduous trees but move to the denser cover of conifers during the winter. On extremely cold or stormy nights, they will dive headfirst into freshly fallen snow for a cozy retreat. Of course, this doesn't always work out to the grouse's advantage. A bird sometimes hits a rock beneath the snow or snow turning to freezing rain can entomb it. How fortunate you are to have witnessed what most of us, at best, only read about.*

Grape Filbert Gall

While walking in the park late last summer, I noticed the pictured growth on a wild grapevine. Returning to retrieve it this fall to send to you, I discovered that parks department personnel had cleared tangles including my prize from near the walkway. Is this a fungus or parasitic growth?

Curtis W. Osgood
Binghamton

• *Yours is a grape filbert (for its size and shape) gall made by a gall midge, a relative of non-gall making midges and other flies. Gall makers, which secrete irritants to form from plant material their distinctive homes/food supplies, parasitize members of many plant families. Turn of the century NYS Entomologist Ephraim Felt listed 1441 plant species parasitized by 682 species of gall midges and 445 gall wasps. Gall making two- and four-winged flies, beetles, moths, true bugs, aphids and mites have also adopted this easy, predator-evading occupation. Predator-evading; not -proof: Many plant galls, such as the very common goldenrod ball gall, contain their hibernating insect makers all winter. All winter, that is, in the ball galls' case unless downy woodpeckers pick out the fly pupa with their barbed tongues. Since few popular gall books are in print, readers wanting more should check their library's* ***Guide to Periodic Literature.***

From the digital collections of the New York State Library.

Educator Page

Susan Eschbach, *Environmental Educator*

Winter Tree Walk

Environmental Educator Susan Eschbach shares some tree sensory experiences with New York City Operation Explore students at DEC's Stony Kill Farm Environmental Education Center, Wappingers Falls.

It's both visibly and audibly cold. You see the hazy cloud from your mouth and hear your heavily insulated boots crunch as you walk the forest trail. Pausing a moment, you hear many other sounds: a crow warning others of your presence and a gray squirrel scolding you. Busily flaking off bark chips to find insect eggs and cocoons on a dead tree, a downy woodpecker seems oblivious to you. You're enjoying a trail walk through one of New York's many reforested areas.

The forest's dominating trees invite the use of all of your senses with their wide variety of sizes, shapes, branching and bark patterns; and entice you to learn their names. It's easiest to identify trees by their leaves, but equipped with a good key like May Watts' *Winter Treefinder*, you will quickly learn the dozen species that dominate any given tree stand. Start with evergreens (use Watts' *Master Tree Finder*), since there are so few species and their distinctive leaves make identification easy.

The most common species is the white pine, our only native conifer with five needles per bundle. The branches grow horizontally in whorls around the main trunk enabling you to count the rows of branches to approximate the tree's age. The other two native pines, pitch and red, have three and two needles per bundle, respectively. Another common evergreen, the northern hemlock, is most abundant on cool, shady north-facing slopes. Its short, flat needles occur singly on a short leaf stalk and are two ranked on the stem like hair parted with a comb. Cones are unique; hemlock's are thumb-sized. White pine's long, thin cones are rosin sticky.

Without leaves, deciduous trees in winter must be identified by buds and leaf scars. Branching patterns and bud arrangement are either alternate or opposite, with the former being far more common. A mnemonic reminds botany students of those relatively few trees and shrubs with opposite branching: **MAD Cap Horse. MAD** stands for maple, ash and dogwood; Cap for Caprifoliaceae, the honeysuckle family which also includes the elderberries and viburnums; and **Horse** for horse chestnut.

Even though New York is nearly 64 percent forested, there are only about 100 native species of forest trees here. With practice, persistence and patience you can identify all of the deciduous trees in winter by their buds, leaf scars and twigs alone. Leaf scars are left on the twig where the fallen leaf was attached. Some are crescent-shaped; all are distinctive. The butternut tree's leaf scar looks like a monkey face.

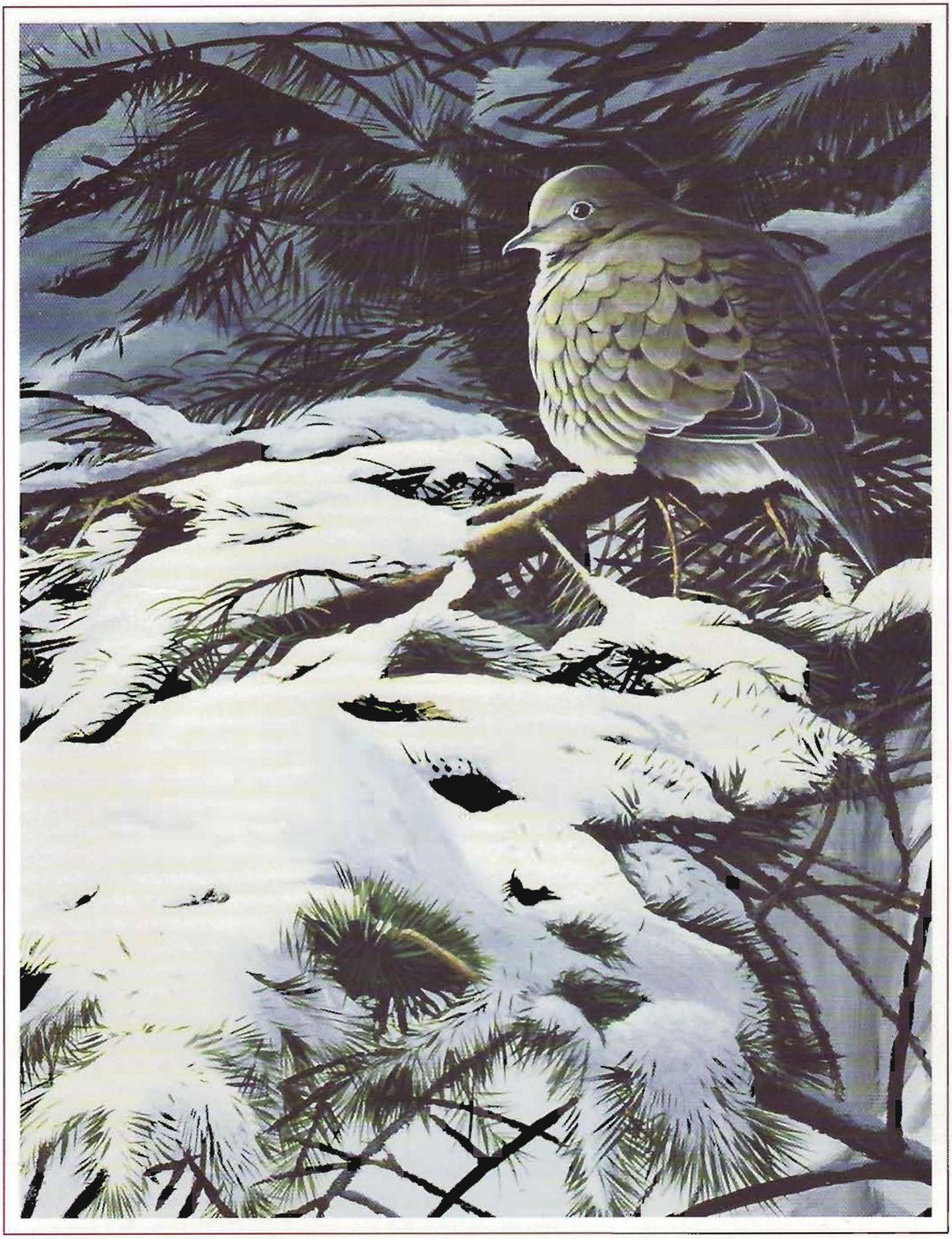
Formed during the summer and usually protected by scales, buds contain next spring's leaves and flowers. Like leaf scars, buds are distinctive. Oaks have a cluster of terminal buds while maples have only a single one at the tip of a twig. Long, pointed beech buds were used as needles by native peoples. Tulip trees have buds shaped like a duck bill and flowering dogwoods have flower buds shaped like a miniature onion.

Even smells are identification aids. If a bruised twig smells spicy, it could be sassafras, spicebush or tulip tree. Black and yellow birches smell like wintergreen and cherry twigs have a bitter almond smell.

With a tree key or just your curiosity, take an invigorating winter walk to see, smell, hear and feel a New York forest. DEC's Education Centers and many other nature centers offer seasonal plant identification programs. County maps show state forest locations, or contact your DEC regional forestry office for sketch maps.

For a catalog of the Finder series books, write to: Nature Study Guild, PO Box 10489, Rochester, NY 14610

From the digital collections of the New York State Library.



Winter Mourning *Fred Szatkowski*

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