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New Jersey
OUTDOORS



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January/February 1980

VOL. 7 NO. 1

New Jersey OUTDOORS

Winter Photography <i>By Patrick Sarver</i>	2
A Gristmill Revisited <i>By Jerry Schierloh</i>	4
The Man from Ramarama <i>By Ruby Weinberg</i>	6
Dogs at Large <i>By William Honachefsky</i>	8
Diary: Winter of '78 <i>By Dr. Jane F. Rittmayer</i>	10
Solar Energy May Be Right For You <i>By Janine Bauer</i>	12
Photographing Your Back Yard Birds <i>By William D. Griffin</i>	14
Whitman-Stafford Farmstead <i>By Richard W. Zimmerman Jr.</i>	16
New Jersey in '79	18
Wildlife in New Jersey/Coyote Update <i>By Robert C. Lund</i>	20
New Jersey—A Winter Wonderland <i>By Tony Patterson</i>	22

REGULAR FEATURES

Environmental News	16A
News Items We Couldn't Squeeze in Last Year	17
Tree Farm Poster	29
Cover Captions	32

from the editor

a new decade . . .

This first issue of the new decade reminds us that this issue begins the seventh year of publishing this new series of *New Jersey Outdoors*. We have watched our subscriptions grow from just under 6200 in 1974 to over 50,000 at present. Of course, we would like to see even faster growth to keep pace with rising production costs. But, we're not complaining—keep telling your friends and neighbors about us.

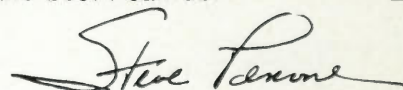
Also, in this period, our magazine has changed—we think for the better. Our readers must think so too because our circulation has increased with each passing year. Your Reader Survey returns (discussed in the May/June 1979 editorial) re-enforce this opinion—more than 93 percent of our subscribers believe that *New Jersey Outdoors* is effective in its efforts to educate and inform our citizens about our environmental problems and the conservation of our natural resources.

We must be doing something right—but that doesn't mean we do not get complaints from our readers. We do. We do. For example, after an issue that featured hunting in New Jersey, we received several letters from subscribers asking us to cancel their subscriptions. On the other hand, after an issue which included several bird

watching and wildflower articles written by women, we got some letters from male subscribers accusing us of becoming a birds and flowers magazine. Or a fisherman who wrote in not too long ago saying that our magazine had some good fishing articles but not enough of them. He said he was only interested in a magazine that contained only fishing articles. And so on.

Our answers to all these letters are somewhat similar. We tell them that NJO is a seasonal magazine and some outdoor activities of that particular season may not be to their liking, but there are always some items included in each issue that they can enjoy. (I subscribe to several magazines and I disagree with or am not interested in maybe half of the material presented in each issue.) We also ask the writer to judge our publication over a period of several issues, so he or she can get a better view of our editorial scope.

Of course it is impossible for any editor to publish a magazine that will satisfy each and every reader with each and every article in each issue. As editor, I can only put forth my best effort in putting together an issue that is timely, fair, interesting, informative, educational, and entertaining. And that's the best I can do. □



In this Issue

The weather outside is frigid, but it's not too cold to enjoy some *Winter Photography*. Read this article by author Patrick Sarver; heed his advice, and you'll be able to get photographs like the front cover (by David A. Bast) or the back cover by the author. Mr. Sarver, a frequent contributor, is editor of *Vista*, the magazine of the Exxon Travel Club.

While we're on the subject of photography, perhaps you'd also like to photograph wildlife. Read the how-to article *Photographing Back Yard Birds* by author/photographer William D. Griffin, another frequent contributor. Mr. Griffin, a free lance nature photographer, has taught courses in photography for over 20 years.

To a measure of history add a generous pinch of nostalgia and you have *A Gristmill Revisited* by

Jerry Schierloh, with illustrations by Gene Feller.

Mr. Schierloh, who has been here before, is the Assistant Director of the New Jersey School of Conservation. Mr. Feller, a free lance illustrator from Hackettstown, has illustrated other material for *New Jersey Outdoors*.

A change-of-pace outdoors article titled, *The Man from Ramarama* by a new author, Ruby Weinberg. The author introduces us to a "Kiwi," a visiting bloke, John Walton, from New Zealand who discusses (with the author) and compares outdoors New Zealand with outdoors New Jersey (wildlife, land use, and horticulture).

Mrs. Weinberg is a landscape designer, a certified elementary and horticultural teacher, and a member of the Garden Writers of

America.

A sobering article about *Dogs at Large* by William Honachefsky, whose work has appeared on our pages before. What happened in this reconstruction of a true incident happens again and again in many areas of our state. Except in our article, the names were changed.

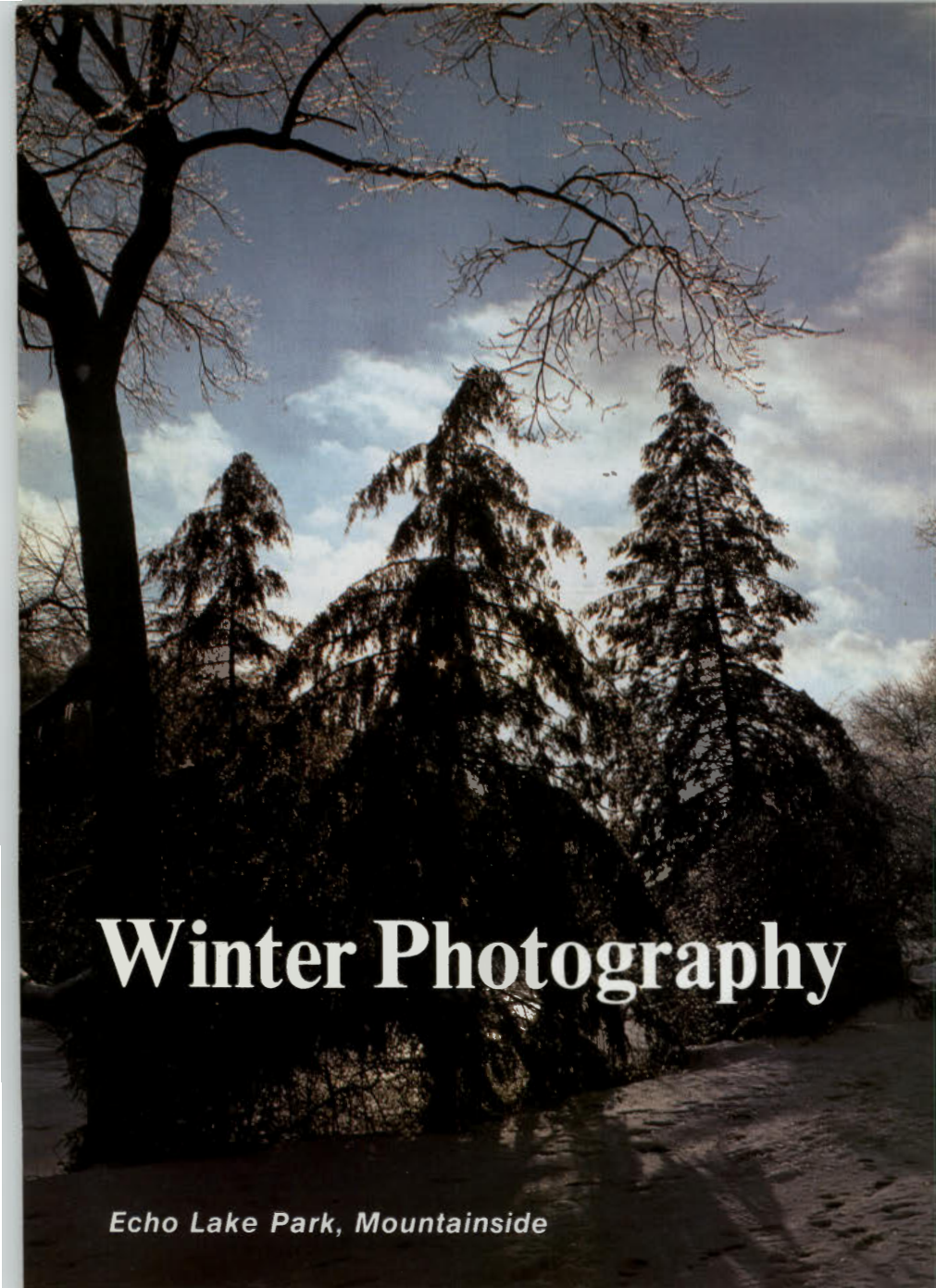
Mr. Honachefsky is Area Manager, Monitoring Surveillance and Enforcement Element in DEP's Division of Water Resources.

Another new author, Dr. Jane F. Rittmayer reveals her *Diary: Winter of '78* to our readers . . . a pictorial essay of the winter of 1978 at the Jersey shore.

Dr. Rittmayer is a licensed clinical psychologist and author of *Life/Time*, published by Exposition Press.

Still another new writer, Janine

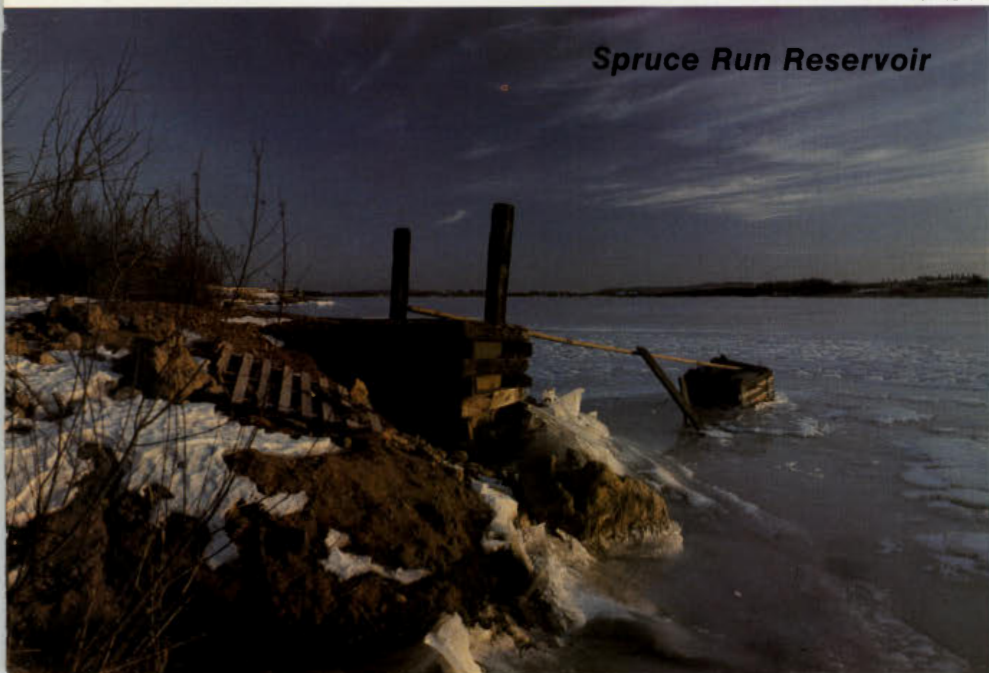
Continued on page 25



Winter Photography

Echo Lake Park, Mountainside

PHOTOS BY AUTHOR



Spruce Run Reservoir

BY PATRICK SARVER

Many people think that winter photography is difficult. They often leave their cameras at home when they go out in the snow because they are intimidated by potential problems in using a camera when it's cold outside. The result is that chances for many good photos are missed.

The fact is, winter photography isn't as difficult as you might believe. If you know how to stay warm and can get around in the snow, winter photography can be almost as easy as taking pictures in summer. The only difference is that a few special precautions must be followed.

First, make sure your camera is right for your winter photo needs. If you'll be heading into the woods for long expeditions, a reliable, lightweight camera such as a higher-priced 35mm single-lens-reflex (SLR) model will be necessary. This is particularly true if temperatures are below zero for long periods of time. The manufacturing quality of these cameras can spell the difference between success and failure. On the other hand, if you only go on a few cross-country day trips or prefer to try winter photography on a limited basis when the temperature will be above zero, you can use the same camera that you do in summer.

Lightweight cameras are more necessary in winter than in summer. Mini 35mm cameras such as the Rollei 35S, Minox 35EL, or other rangefinder cameras are therefore a good choice. They are small, light (6 to 12 ounces), and take high-quality photos. Their main drawback is that the controls may be limiting, especially under bright snow conditions.

To maintain good exposure control, the best camera choice is one of the compact 35mm SLRs, such as Nikon, Pentax, Minolta, Konica, Canon, Olympus, Fujica, or Petri. They are lighter than standard 35mm SLRs, but have the same versatility. For day trips,

standard 35mm SLRs are a close second and also cost less. One of the most reliable cameras for winter photography is the old Nikonos (as well as the Nikonos II and III). It is waterproof and can be operated easily with gloves. And if you're on a budget, a pocket camera such as a Kodak Instamatic is even a possibility. Cold weather affects their operation very little. They're also easy to load and shoot in the cold.

A main problem in winter is how to carry a camera. You can carry a camera in a backpack until you reach your destination. For carrying photo gear long distances, a belt pack is a good idea, as it makes camera equipment easily accessible for taking photos along the way.

Using a standard camera neck strap makes your camera even more accessible for quick shooting. If you are cross-country skiing, however, the camera will bounce around on your chest—something that can take away from the fun of being outside in winter. Other than for short trips over easy terrain, a better way is to carry the camera on a neck strap and tuck it inside your parka. You can pull it out quickly to take a photo, and it won't be continually bouncing on your chest. This technique also protects a camera from snow and moisture.

The best way to carry a camera over long distances is with a camera harness. One of the best is the Harnastrap, which keeps a camera snug against your chest but has a quick release that lets you raise the camera to eye level for taking photos. The Camera Clutch is another good harness, with an elastic strap that goes around your body. The elasticity lets you bring your camera up for photos without bothering with release snaps.

There are also camera packs designed to carry photo gear. You can take along extra camera bodies and lenses, plenty of film, and accessories in these packs. One of the best is the Shutterpack, which lets you take all the photo gear you need as well as your lunch.

Almost any 35mm camera works

well down to about zero degrees. When temperatures fall below that, especially for long periods, things change. Lubricants thicken, shutters grow sluggish, many light meters become useless, and camera failure is common. One solution is to keep your camera under your parka, using body heat to keep it operating. There will still be some slowing down of the shutter, and the camera must be used very carefully. And if a camera stays outside your parka for long, it will become too cold and won't work.

The answer to this is to have your camera "winterized" for extreme cold-weather picture-taking. This means that the camera's oil lubricants must be removed and replaced with a graphite lubricant. Winterization usually costs \$50 to \$100. It also makes a camera unusable for warm-weather photography unless you spend the same amount of money to have it "summerized" again. So, unless you plan on doing a lot of photography in subzero temperatures, winterizing isn't worth the money.

Another hazard in subzero weather is film brittleness. On 35mm cameras the greatest danger of film breakage is on the narrow leader section. To protect against this, film must be wound correctly on the takeup reel when a camera is loaded. At above-zero conditions, film brittleness isn't too much of a problem, but at about 20 below, film can become so brittle that it may break in mid-roll. There's not much you can do then except rewind the film slowly and steadily and hope that it won't break further. However, you can keep the camera in a lined, zippered pocket next to your body or under your parka and the film should stay warm enough that it won't break. Fortunately, in New Jersey there aren't many days of the year when temperatures are so low that this is necessary.

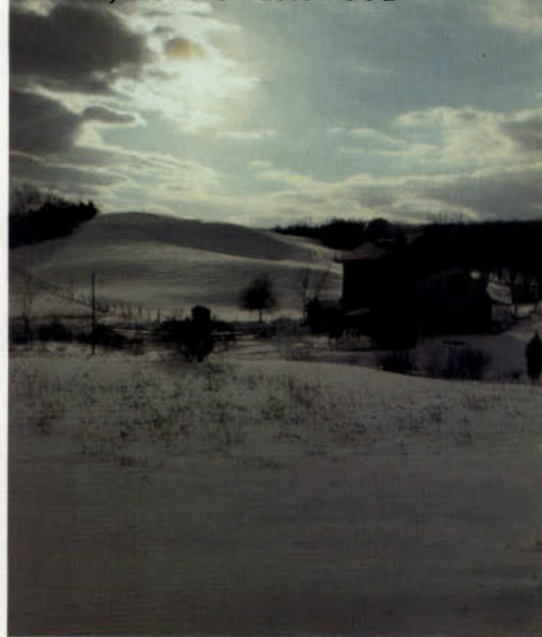
One of the biggest problems of winter photography is the actual operation of the camera. If you try shooting with bare hands, your fin-

gers can freeze to the metal of the camera in a short time. On the other hand, operating a camera while wearing gloves is awkward and sometimes totally impossible. The best compromise is to wear thin cloth glove liners, which let you operate the controls of a camera while keeping your fingers somewhat warm. On days when the temperature is right around freezing, a pair of medium or light ski gloves can keep your hands warm and you can use a camera without removing the gloves if you're careful. When it's colder, though, using liners works best.

Tripods are pretty much useless in snow conditions. For the little extra stability and sharpness they provide, you have to carry extra weight. It's also often close to impossible to make a tripod stable in snow. When it's sunny, there's so much light that a tripod is not needed, and even on cloudy days,

Continued on page 32

Farm, near Swartswood



Great Swamp Wildlife Refuge

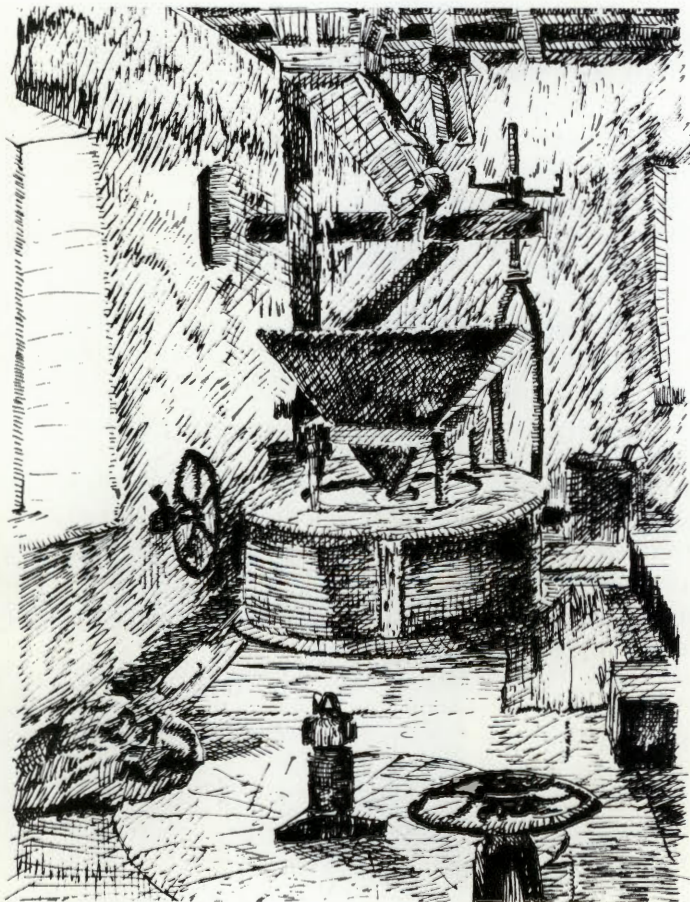
A Gristmill Revisited

By Jerry Schierloh

ILLUSTRATIONS BY GENE FELLER

I am the Old Mill.
Did you notice me?
I could easily be overlooked—
my crumbling walls and skewed timbers
cloaked in time's tangle of vines and debris. . .
A cardinal-flower bleeds its splash of red
through a crevice in my ruins
and the old race murmurs past
the remnants of my wheel. . .

I am the Old Mill.
I am a landmark,
a legend,
a reminder of a bygone era. . .
I come from an Age when man
pitted his worth
against the grist of the times.



My old millstone, half-buried in silt,
is history's epitaph to my death:
"Here lies the Old Mill.

It was borne by man, worked for man,
and died because of man.

In its day, it aided man's progress
and broadened his horizons
as it ran tirelessly in place.

It rests here in peace, in graceful decay,
weathered but lasting, as if preserved
by some timeless ideal that refuses
to die."

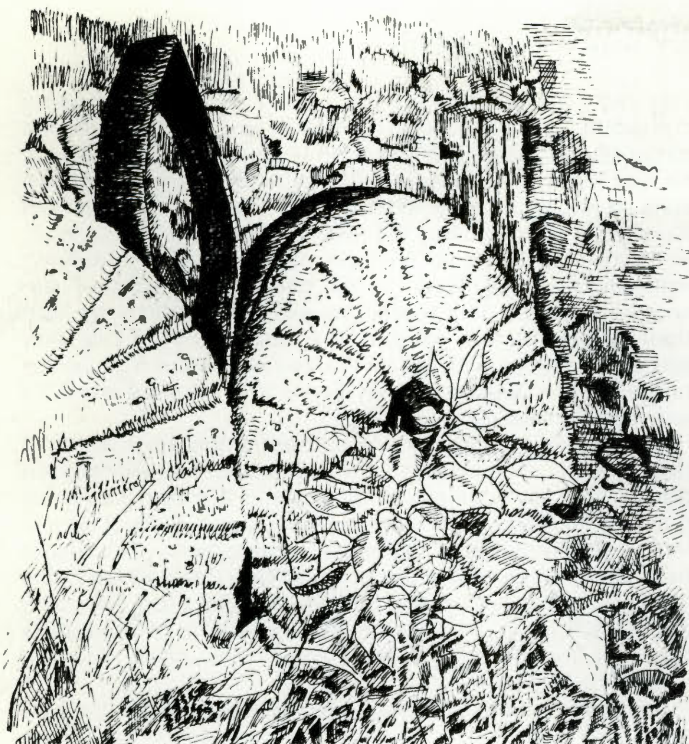
Yes, I am the Old Mill.

I mark a Time when the destiny of a people
rode on great wheels of fortune—
windmills and tidal wheels; tubwheels
and turbines; pitchbacks, overshots,
undershots and breastwheels—
spinning, turning, churning. . .
furthering the whims of man
with each labored revolution.

My great wheel was poised on a fulcrum
of opportunity—with each turn of
its incredible lumbering mass, man
coaxed it to take over crude elements
of toil which had besieged him for centuries:
See the mark I left near the wheels
of Marchmount, Les Emboulements,
Balmoral and Mount Vernon. . .

Look for my legacy in the derelict
ruins of South Melville,
Woodstock, and Morningstar. . .

Revel at the dynasties I established
at Coeymans, Batsto, and Point-du-lac. . .*



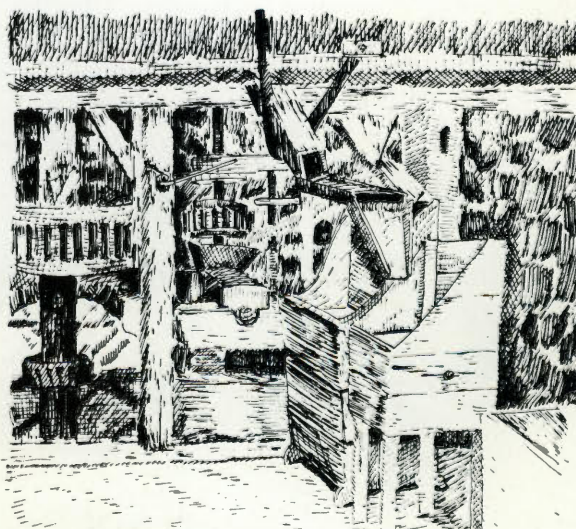
Aye, I am the Old Mill.
 During my Age, man came-of-age!
 Yet, I am an anachronism.
 Though my wheels were wheels of progress,
 they were anchored to earth—
 pinioned to a firmament of
 tradition.
 As progress gushed by on tangent—
 fluid . . . fickle . . .
 flowing with the current of the day—
 my great wheels turned back upon
 themselves, as if to ponder the
 significance of where they'd been. . .
 But Time could not pause, and in its
 inexorable drive to press on, left
 my old wheels to contemplate their
 demise in stoic solitude . . . a
 silence broken only by the tremolo of
 a thrush, the skitter of a mill-mouse,
 or the incredulous footsteps of some
 curious passerby.
 I am the Old Mill. . .
 a bewildering throwback to an
 era of fathomable complexities. . .
 an amalgam of
 coureur du bois and entrepreneur. . .
 an elusive threshold between
 mechanical genius
 and makeshift technology. . .
 A working mill was a paradox, indeed:
 Beam across beam. . .

wheel over wheel. . .
 cog into cog. . .
 stone against stone. . .
 grinding, groaning, straining
 against all powers of probability
 to achieve products of subtle and
 delicate refinement.

A mill's internal anatomy was
 a maze of hulking fixtures and gears,
 hand-crafted by a millwright and
 choreographed by him into a
 thunderous hum of motion
 and purpose.



A working mill was a contrast of character:
 Roiling cataracts of flume water
 spilling from the lip of a
 mirrored pond. . .
 Rude, massive millstones
 amidst feather-dust
 billows of flour. . .



** Descriptive text and illustrations on these sites to be found in the authoritative book, The Mill, by William Fox, Bill Brooks, and Janice Tyrwhitt, New York Graphic Society, 11 Beacon Street, Boston, 1976.*

Continued on page 28

THE MAN FROM RAMARAMA



BY RUBY WEINBERG

The natural splendors of the United States might seem modest to a man who has lived most of his life in a subtropical paradise. Yet, when the Man from Ramarama came to visit, he was pleasantly impressed. Had he arrived in a northern state during a January blizzard, his appreciation might not have been so keen. But the visit occurred in early October when a stretch of gentle weather combined with the autumn leaf coloration so vivid in the northeastern part of our country. In all his fifty years, this was the first time the Man from Ramarama had set foot in America, and his first view was of the rolling hills and rural areas of western New Jersey bordering the Delaware River. Scene after scene evoked his awe and admiration.

Ramarama is a village in the outback of the North Island of New Zealand. The country of New Zealand, half way around the world in the southern hemisphere, is a place of emerald grasslands, balmy year-round weather, and a distinct flora of ferns, flowering trees, and stately evergreens. The visitor from Down Under owns ten acres of New Zealand land. It is the home of his family, and the site of his orchard, his pond, and 18,000 sq. ft. of glass house in which he grows quality tomatoes for the N.Z. marketplace. Pronounced toe-mah-toes, if you please.

Eighteen years ago, through the Voice of America, the New Zealander had begun a pen-pal correspondence with a lady just his age, who now lives with her family in the northwestern part of New Jersey, U.S.A. Through the years, the postal system supported the mutual interests of two people in opposite ends of the globe, an interest in the many facets of nature. With the passing of time, their letters discussed almost every conceivable topic. But the glass house farmer and his Yankee friend, a landscape-designer, always returned to their favorite topic, the earth's natural environment.

When the Man from Ramarama described his accent: "a cross between a cockney Englisher and an Australian kangaroo stalker," the Americans had a good laugh, but they doubted that they would ever hear him speak "in person." Auckland, N.Z., is *only* 10,194 miles from New York City!

But one day, the New Zealander left the South Pacific and went on a world tour. It was his first time out of the country in twenty-seven years (he was British born). He traveled, by jet, and eventually landed on the doorstep of the New Jersey family. It was a momentous meeting.

As luck would have it, he arrived at the opening scene of Mother Nature's annual pageant, the transformation of the leaves. The autumn phenomenon is heightened to an unusual degree when it is viewed through eyes that have never experienced it before. "It's a bloody miracle," he declared. But his raptures were soon modified when he found himself, rake in hand, working with the family clearing leaves from their lawn.

"New Zealand is peaceful and uncrowded," the visitor told his hosts. It was peaceful and uncrowded in the N.J. countryside, as well. But rural New Jersey is not so typical of the state anymore. The Americans described their state as the fifth smallest in the union, but the most densely populated. How could it appeal to a man who loves the out-of-doors? Any traveler through the state can go practically non-stop from shopping center to shopping center, for it averages 935.3 persons per sq. mile. In contrast, on any one of the three islands of New Zealand, a man can get into his car and travel a long way without seeing a single person. Sheep and cattle dominate the landscape, especially, the former. When driving, it is not unusual to meet the "four legged self-propelled lawnmowers" blocking the roadways.

The entire country, almost the length of California, averages 28 inhabitants per square mile. But averages are

misleading, for New Zealand shares in common the gregarious habits of most of the world's people. Eighty percent of its population live in cities.

As an amateur naturalist, the N.J. lady was interested in seeing her visitor's reactions to trees and plants; streams and waterways; fish, birds, and other wildlife. At her bird feeder were cardinals, blue jays, and chickadees, and the New Zealander thought them *almost* as brilliantly colored as sub-tropical birds. Our common gray squirrel was a source of amusement. "Darlin' little bugger," he said, marveling at the acrobatic antics of the furry creature.

Squirrels and chipmunks are unknown in New Zealand. And it's not the home of koala bears, either. The visitor was surprised at how many Americans confused things Australian with those of his country. Australia is separated from New Zealand by 1200 miles of Tasman Sea. It is a strange fact of evolution that only about a thousand years ago, the New Zealand islands were a primeval wilderness. Except for two species of bats, neither man nor any other mammal walked through the bush. (N.Z. for forest) But there were hundreds of birds singing in this wilderness, soaring overhead, or marching flightlessly about the ground. Without predators, birds and plants developed unmolested. A favorite New Zealand word is *unique*. About 80 percent of its native plants are not met with anywhere else on earth. Its ferns, alone, are incredible, and include over 150 species.

Kiwi is to New Zealand what kangaroo is to Australia. The N.J. lady had received a few letters from her pen-pal signed "the Kiwi bloke." It is their unofficial emblem, and the nickname of its people. It is this uniqueness upon which they pride themselves. And it is coupled with a delicious sense of humor. The comical kiwi bird does warrant a smile, for it has no wings nor tail, walks about in the dead of night, and has feathers that look peculiarly like fur. Added to this is its funny whiskers. When perturbed, it cries out like a pussy cat. Since the bird has become quite rare, it is fiercely protected throughout the country.

The N.J. lady spoke of the Endangered Species Act in the United States. "We, too, are trying to protect our native birds. Already, the Passenger Pigeon, and quite a few other birds, are gone forever. There is much concern over the whooping crane, as well as the American eagle."

The Kiwi visitor was aware that the eagle is a symbol of our country. Whoever would have thought, they both mused, that

the eagle would become a "rare bird."

Many indigenous New Zealand birds have already become extinct, especially the flightless ones. Before man's arrival, a bird called the moa inhabited the islands. The giant of the species was 14 feet tall. The birds were first seen by Moa-hunters, a Polynesian people who canoed thousands of miles across the Pacific, in approximately 700 A.D., to become the first human inhabitants of New Zealand. In this meatless country, moas were probably a culinary delight, and were savagely hunted. Several hundred years later, the Polynesian Maoris (MAW-ER-EEZ) arrived, also found the moas appetizing, and abetted the few remaining Moa-hunters in the complete extermination of the birds.

The Man from Ramarama said that today, N.Z. is determined to preserve whatever remains of its unique flora and fauna. Unlike the U.S., its citizens learned about ecology in a most astounding manner . . . the benefits of the conservation of man.

Captain Cook's explorations of the islands in 1769 were quickly followed with colonization by English settlers. The immigrants flourished, for everything grows in this exuberant land. The English brought with them an industrious attitude and an expertise for agriculture. Great forests were felled and expansive areas planted to grass for the raising of cattle and sheep.

The Maori that the English discovered living there are a strong, intelligent, communal people who had already begun to farm the land. To them, the Pakeha, as they call the white man, was an intruder, and problems arose much the same as the conflict in America between colonizers and Indians. Disagreements over the purchase of Maori land led to bloodshed, and terrible battles ensued. In 1840, the Treaty of Waitangi was signed. This treaty was an attempt to deal harmoniously with the Maoris. Although it was many long years before promises of mutual understanding became a fact, today, the Maoris are integrated and respected members of New Zealand society. The government has encouraged their cultural identity, and has stimulated the continuation of their music, art, and dancing. But it is the beautiful Maori language that is particularly evident throughout the country.

The entire map of New Zealand reads like a Maori legend. The names of cities, rivers, and mountains roll softly off the tongue: Ruatangata (two hills); Whitehimata (sparkling wa-

Continued on page 30

PHOTOS BY AUTHOR





dogs at large

PHOTOS BY HARRY GROSCH

BY WILLIAM HONACHEFSKY

"Six thirty, already?" Jim Johnson yawned disbelievingly into the predawn darkness and hit the off button of the alarm clock. He heard Duke, the Irish setter, stirring downstairs, pawing at the kitchen door in his eagerness to be out in the crisp January air. Finding his way through the semi-darkness, Jim clip-clopped down the spiral stairs. When he opened the door, the big setter catapulted out into the snow-covered quiet of the late-

winter morning. Jim lingered for a moment at the doorway to watch the big dog race to and fro in the blanket of snow, sniffing, sliding, stopping then running again, and he couldn't help but smile at the dog's antics. Finally, however, the cold air rushing in forced him to close the door with a resounding slam.

As if on cue, Duke quickly headed down the street to what had become a daily rendezvous with the beagle bitch owned by the Richardsons. The small beagle, like Duke, boasted a champion pedigree, as did most of the dogs in the neighborhood. In a development where the cheapest home was valued at \$100,000, anything less than a champion-quality pet would have been regarded with disdain. Duke was soon touching noses with the bitch, and the two wagged tails in recognition as they were joined by the Van Nostrand's huge German shepherd, Prince, and a black labrador belonging to a neighbor in an adjacent subdivision. In the way of their ancestors they circled each other, sniffed groins, and established leadership, a ritual they had carried out every morning for about a month. There was no doubt that the little bitch was in charge and bared teeth and bristling fur quickly reminded the three males of this fact when they overstepped the established line of authority. The pack circled somewhat aimlessly about the Richardson lot for several minutes until the bitch took a determined lead toward the rear of her owners' property. The morning wind currents were already carrying delicious scents across the barbed-wire fence separating the large Dilts farm from the rear property line of the Richardsons' lot.

Duke was the newest member of the neighborhood pack, having arrived only a short 18 months ago. During the first few months at his new home, he was generally leashed during any excursions with the family members around their one-acre lot. That was until their neighbor Jane Richardson informed Jim that it wasn't really necessary to leash his dog since it was an accepted fact in the neighborhood that everyone allowed their dogs to roam freely, despite local ordinances. After all, what trouble could they possibly get into? Mrs. Richardson pointed with pride to the openness of the Dilts farm surrounding their properties, and stressed the convenient access all the dogs had to it. It was an ideal place for the dogs to cavort and play, not to mention relieve themselves, thus preventing the browning of certain lawns and shrubs. Jim wanted to mention the possible conflicts that such unchaperoned forays might lead to with the farmer's livestock, but as the new neighbor on the block, he felt it wise to reserve his comments. Nevertheless, after the joys of dog-walking waned, Duke was allowed to become one of the regulars of the neighborhood pack.

As the small group crossed through the barbed wire fence a cottontail rabbit skittered from beneath a clump of honey-suckle and across the snow-encrusted field, but the pack paid little heed and moved in a determined single file with the beagle bitch in the lead sniffing constantly. They were after much bigger game. Several hundred yards farther on, the bitch signaled with her tail that she had found the scent for which they had been searching and began to cast about to and fro, exciting other members of the pack. The bitch soon

had a fresh warm scent in her nostrils and with a single yelp began to follow the trail across the open fields.

Down in the hollow, near an old stone springhouse, a whitetail doe and her two yearlings pawed at snow near the spring to expose some of the green grass that continued to grow there. Suddenly the big doe lifted her head and cocked her ears forward. She could hear the steady crunching footsteps of the oncoming pack and began to pace nervously, testing the wind for a confirming scent. She snorted once in warning, and raising her white flag, leaped across the spring and ran straight up the hill into the Dilts woodlot, the two yearlings following close behind. The climb up the hill through the crusty snow left all three animals short of wind, unusual for such normally vigorous creatures, but the winter had been hard and forage scarce. The buck yearling was already showing the first signs of starvation, and long-distance running, requiring the expenditure of large amounts of energy, could make the difference between survival and death.

By the time the pack had reached the springhouse, their intensity for the chase had increased to the point where even their owners would have been hard pressed to divert the pack from its mission. As the dogs headed uphill, the doe and the two yearlings took off across the south cornfield and down into a greenbriar swamp, hoping to slow the pursuit of the pack. Unfortunately, the snow cover left little hope that the trio could successfully elude their pursuers for very long, and after an hour of continued flight, the pack had closed the gap until only several hundred yards separated the pursuers and the pursued.

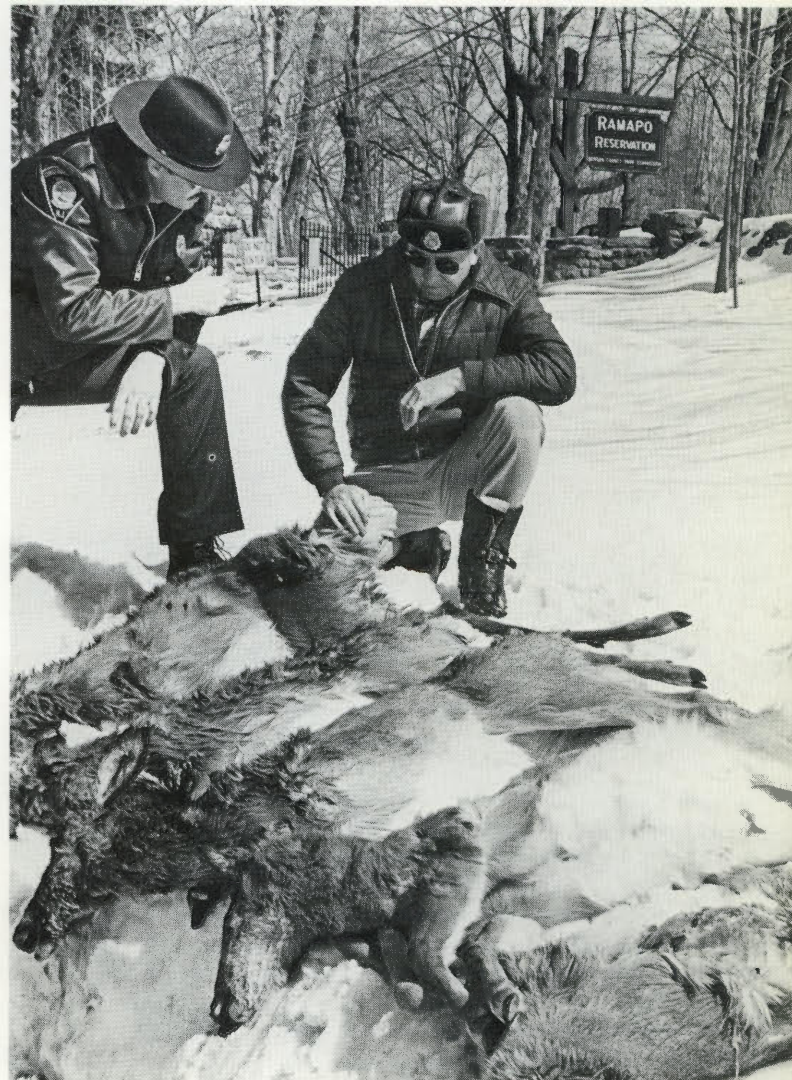
In the cold air the steam rose from the exhausted bodies of the whitetails and the yearling buck showed the first signs of complete collapse. His head hung low and his legs splayed to support quivering hindquarters as the three rested briefly near the springhouse, listening to the approaching footsteps in the snow and the excited whines of the pack, who sensed that the end was near.

As the beagle bitch caught sight of the fleeing deer, she yelped excitedly. Spurred on by the bitch's cries, the big German shepherd now pulled forward past her and began to trail by sight. Sensing the danger the buck yearling panicked, missed his footing, fell, and could not rise. The shepherd was at his side in an instant, and with one fluid motion, sank crushing jaws deeply into the yearling's right hindquarter. The yearling bleated in pain as he tried unsuccessfully to kick his tormenter loose. The black labrador, next to arrive, lunged for the bleating deer's throat and with one savage bite crushed its windpipe. Gasping its final breath, the yearling fell back to the ground. The shepherd released his hold and snapped at the deer's underbelly, ripping through muscle and skin until the deer's viscera spilled out into the cold January air. Duke grabbed the steaming, quivering entrails and dragged them from the still kicking yearling. He lapped up the warm blood and when approached by the shepherd, arched his back, snarling a warning that for a while this portion of the kill was his. The shepherd and the labrador continued to worry the carcass, biting, shaking, then playing a tug of war. The beagle bitch,

indifferent to it all, lay in the snow licking her paws reddened by the lengthy pursuit. Several minutes later, she rose without a sound and headed back toward home. The three males hesitated at first, but soon turned and trotted after her.

Mrs. Johnson had the door opened for Duke as he bounded up the porch. "Come on, boy," she said. "Where have you been? Raiding someones garbage again? Just look at you! Go lay down in your bed!" Duke circled his mat, then lay down thoroughly exhausted. Out in the snow-covered field less than 100 yards from the Richardson's home, the crows had already begun haggling over their unexpected feast, jockeying for the best position on the small carcass.

Mrs. Richardson, cuddling her little beagle affectionately in her arms, peered out her kitchen window. "Oh, those ugly birds," she exclaimed. "So dirty, so disgusting, they ought to do something about them. Right sweetums?" She gently laid the little beagle in her bed by the kitchen door. "Tomorrow you can run and play again with all your friends. Sleep tight now." □



Deer killed by dogs

AT THE SEASHORE

diary: winter of '78

BY JANE F. RITTMAYER

The winter of '78 will long be remembered as the winter of the greatest snowfall in 25 (?) years. For myself, in addition to that fact, it will always be thought of as the winter I had the privilege of living on the beach. The easy access to all of nature's elements and her abundant display of her winter wares brought to me experiences I will never forget, have tried to record, and wish to share with others.

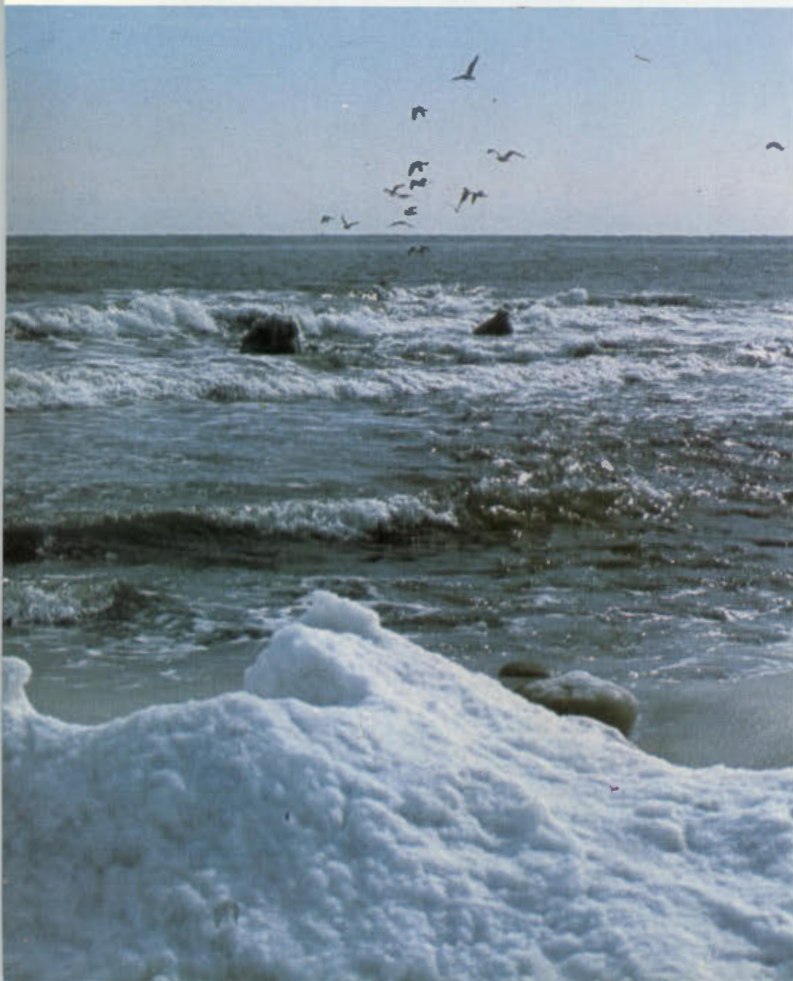
PHOTOS BY AUTHOR

In October I decided I needed a place to go several days a week where I could be alone to do some writing. I knew that the only place which would do was the beach, so I proceeded to search for a house to rent for the winter. I found what I was looking for in Sea Isle City. The house sat 20 feet high on pilings—a natural wood exterior with glass windowwalls facing the beach. Seclusion in a modern setting high above the sea and sand. The gulls and I would be eye to eye. On November 16th I moved in.

Nov. 17th: I awaken to watch the sunrise and find the deck and beach lightly covered with a one-inch snowfall. Entranced, I spend the morning taking pictures and watching the snow change to rain about 10 A.M. Mother Nature has, indeed, welcomed me.

Nov. 26th: It's snowing again! I awoke for the sunrise only to find at least 1 inch of snow! The first day a whirlwind storm followed by warm, beautiful skies. Yesterday, an unbelievable sunrise that went unrecorded. Now this—she is truly showing off for me.

Nov. 27th: Have you ever walked on the beach during a snowstorm?



FEEL the sting of the snow whipped
 with sand on your face
 TASTE the salty water on your lips
 SEE the storm mist clouds ride the
 grey surf
 HEAR the crunch of your step on the
 shells
 while snowflakes cling to your collar
 silently completing the final stages
 of their life as you re-enter the
 reality of warmth and they vanish
 without a struggle
 Now watch from a distance while you
 sip cocoa topped
 with whipped cream as nature blends
 her elements.

Nov. 28th:

A recorder—no longer a participant.
 The tide went out today
 finally
 after 2 days of frantically flailing the
 shore
 eroding new heights and depths
 battering its gifts beyond recognition
 then quietly
 suddenly
 slipping away
 without explanation

Dec. 4th:

Everything is hurrying by today
 the clouds
 thoughts
 time
 On their way to somewhere very
 important
 I'm sure
 Only I can savor the day
 Now I am pressed to hurry inside to
 escape
 the wind
 and the mist
 which is methodically dissolving the

homes along the beach
 I, too, caught up in the pace
 I, too, dissolved as the mist unfurls
 at the glass

Jan. 7th:

The weather has been warm, even
 though the skies are winter/grey. I am
 able to be on the beach in a light
 jacket. I know it is colder at home, the
 sea warms the beach.

Jan. 29th:

Snow mounds on shells and sand
 etched into the pattern of the tide
 protecting nature's refuse
 covering it so that we can
 only hear what we walk on
 marred only the 3-pronged tracks
 of web-footed gulls
 and dog prints
 and spray prints
 and my prints

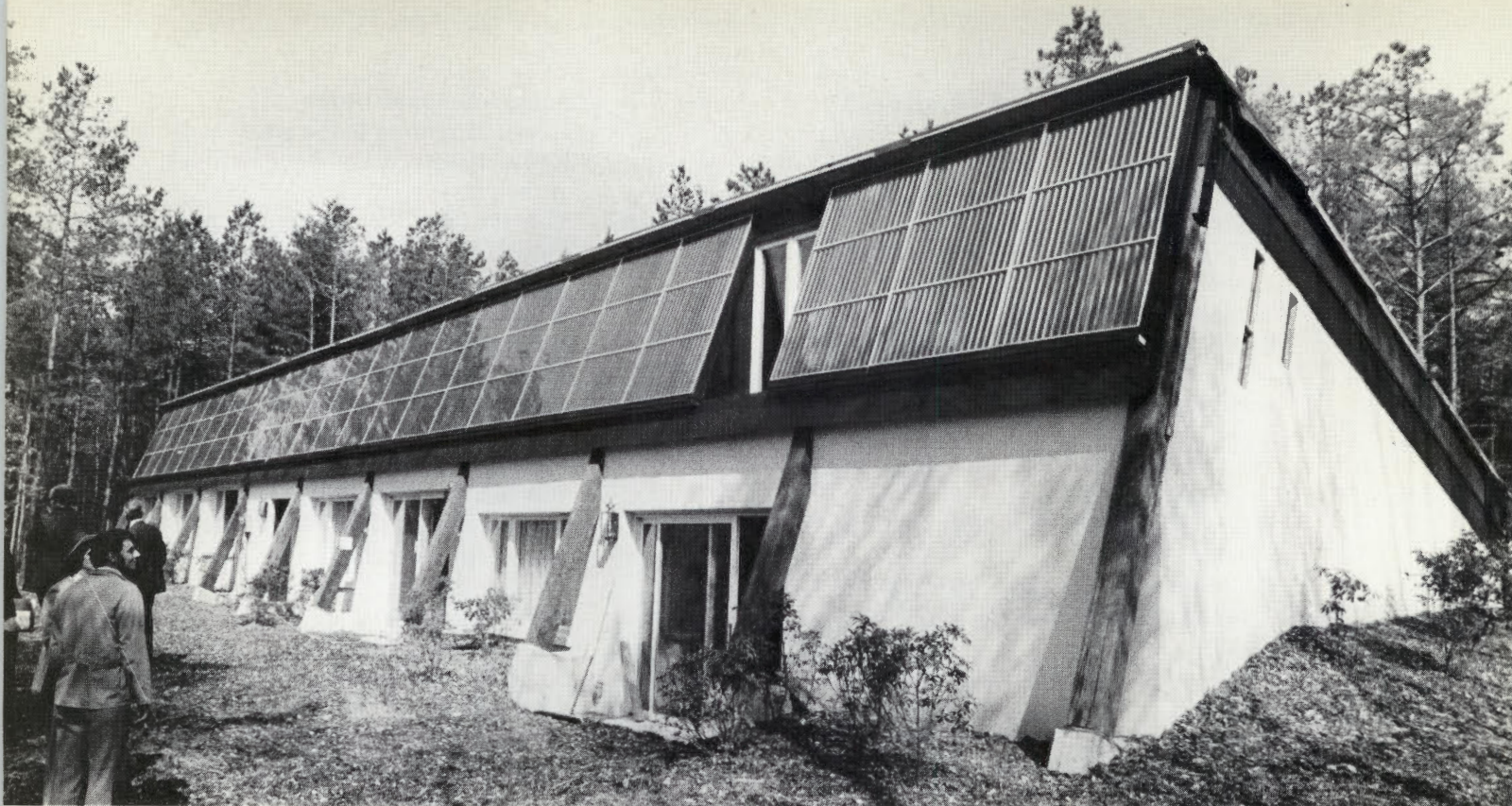
Feb. 5th:

It is finally bitter cold. The waves lap
 over swirls
 of iced sand and the jetties are like
 icebergs.
 Solid ice posts
 supporting the rocks that extend to
 the sea
 covered with grotesques frozen from
 wind and spray
 reflecting the sun's rays
 withstanding its feeble attempts to
 dissolve their solidity
 extending to the horizon.

Iced jetty
 symbol of winter
 symbol of man vs nature deadlocked
 I awaken to 5 inches of snow
 mounded on the beach. It looks like
 the arctic. The sea is like an immense
 slurpee and its color is that of

Continued on page 26





BOB HOMAN

"Solaria," Bob and Nancy Homan's house in Indian Mills, N.J. was designed by Malcolm Wells and is heated by trickle type solar collectors made by Thomason.

SOLAR ENERGY MAY BE RIGHT FOR YOU

Energy from the sun can heat your home, water and pool. This article discusses how solar systems work, how much they cost, whether they're worth it and why.

BY JANINE BAUER

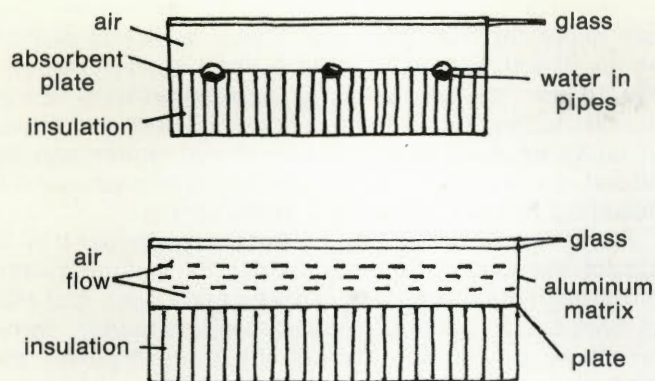
Our most abundant source of energy is from the sun. Unlike the fossil fuels—coal, oil and gas—solar energy is renewable and non-polluting at its point of use. At noon on a clear day in June, the amount of sunshine falling on New York City is equal to the total energy output of all the world's electric power plants at peak performance. Solar energy can be converted into all the forms of energy we need in our daily lives; solar energy heats houses, businesses and institutions, it heats the water supply, cools the air, cooks food, distills water and can even be converted to electricity. The technology and apparatus needed to convert the sun's radiant energy into thermal energy (heat) is far more advanced and marketable than most people realize. Maybe it's right for you.

Practically anyone can understand how a solar energy system works. You must be careful, however, to

buy and install an efficient system, or if you are using a "passive" system, to design your house properly. But it can and has been done by thousands of homeowners and businesses throughout America, hundreds of whom are right here in New Jersey.

How An Active System Works

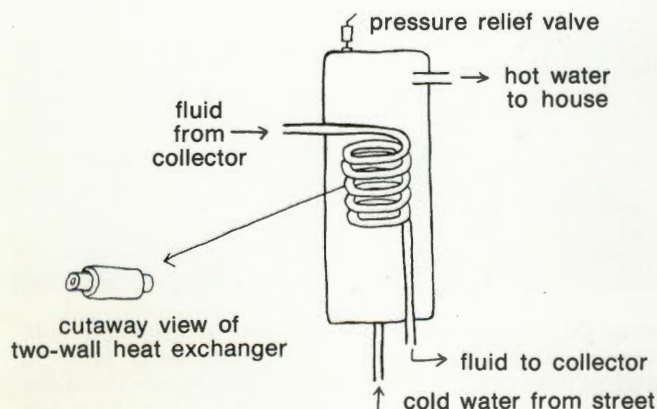
In general terms, an active solar energy systems works like this: Heat from the sun strikes collectors mounted on your roof, wall or in your yard and is absorbed by a black or treated absorbent plate. A collector is usually a rectangular box, with a glass or acrylic cover sheet, an absorbent plate, painted black or otherwise treated to absorb heat more efficiently, insulation behind the absorbent plate and the heat collection medium—water or air—running over or through the absorbent plate.



The water or air is heated as it passes through the collector box and is then sent to the house for use or stored in the storage tank in your basement or elsewhere. Manufacturers make hundreds of different systems now. Some pass copper pipes through the absorbent plate through which water runs, others let the water trickle over the corrugated absorbent plate. Some air collectors use an aluminum matrix in the collector box to slow down air flow, heating the air to a higher degree before it leaves the collector; others use nothing. Some collectors have two cover sheets, some are cylindrical in shape, some have a vacuum built into the collector.

The storage unit for active heating systems is equally uncomplicated. With water systems, a storage tank, much like your hot water heater, is usually put in the basement or in the attic. The tank holds potable water and has a heat exchanger in or around it. The heated water from your collectors passes through the storage tank via the heat exchanger (usually coiled piping) and heats the potable water for your use. Many collectors use anti-freeze in their water so that it does not freeze in wintertime; thus the heat exchanger is needed so the potable water is not contaminated, should a leak occur.

Storage Tank With Two-Wall Heat Exchanger



Photograph and sketches reprinted from A New Jersey's Consumer Guide to Solar Energy Systems

A solar system that uses air as the collection medium stores the collected heat in an insulated tank of small stones usually located in the basement of the house. When heat is needed, the hot air is fanned from the storage tank, or collectors to the living area.

How A Passive Solar System Works

Passive solar energy systems have no mechanical devices requiring auxiliary power, such as pumps or fans, as active systems do. This direct approach to harnessing sunshine is usually found in custom-designed or owner built homes, but its various designs are beginning to slowly permeate the building professions. Passive solar heating relies on the natural movement and storage of heat as it is absorbed and released by thermal mass within your home. These systems usually are designed as Trombe walls or direct gain systems. A passive house with a Trombe wall has a thick (15"-18") concrete or adobe south wall which is covered with glass, has stone or brick floors, and other types thermal mass, such as drums of water, to collect the heat and sometimes an attached greenhouse that works sympathetically with the system. The sun strikes the wall, which may be painted black, which, in turn, collects and stores heat throughout the day, as do the floors and other elements of thermal mass. When the heat is needed, at nighttime or in cold weather, the thermal mass releases its heat—slowly, naturally and comfortably.

A direct gain passive system has no south-facing wall behind the glass. At night, heat is radiated from the walls, floors and other thermal mass, such as drums of water, to keep the occupants warm.

Anyone building his or her own home should seriously consider a passive home. It can make the home more costly by up to \$10,000 or more but the fuel saved in home heating costs is well worth it. The Kelbaugh passive home in Princeton, N.J. used 72% less fuel than a conventionally-heated equivalent home in its first winter. The house cost owner Doug Kelbaugh \$55,000 to build, of which approximately \$8,000 was for the passive "system."

Depending on the design at your house, you might even consider remodeling to include a passive system. While the remodeling would be quite extensive, homes in New Jersey have been successfully and economically remodeled to be passive.

Three Major Uses

Solar energy has three major uses in this part of the country; it heats swimming pools, household water and homes and businesses. Solar energy can also be used for air-conditioning, but this is still not economic for New Jerseyans.

Pool heating is the most economic use of a solar system, since the pool itself acts as storage and the collectors are uncomplicated and relatively inexpensive.

Using the sun to heat household water supplies is not new. Tens of thousands of solar water heaters were used in Florida and California between the 1930's and 1950's. When cheap natural gas and petroleum became available to America, the trend ended. In Austral-

Continued on page 24

Photographing Back Yard Birds



GOLD FINCH

PHOTOS BY AUTHOR

BY WILLIAM D. GRIFFIN

Backyard bird feeders are a focus of both entertainment and bird study for many New Jersey nature lovers, especially during the winter season. With a little forethought in building and locating the feeder, plus a modest amount of the proper photographic equipment, excellent photographs can easily be taken of the avian visitors.

For ease in taking pictures, the feeder should be located directly outside a window, preferably facing to the south so that the sun provides backlighting on the subjects. The feeder can be supported either by a pole in the ground or by a bracket, but should be right up against the window. The feeder itself should be built with natural landing spots for the birds, thus giving realism in the photos. A suitable construction would consist of a board about 12" wide and 18" long, with straight 2" diameter birch logs nailed around the four sides to keep the food from falling off, and to provide a natural landing surface. Vertical branches attached to the feeder will provide natural props on which the birds

can alight for their portraits. These branches can be attached with screws or nails pushed upward through the feeder, or by fastening pincushion-type flower holders to the feeder. If these flower holders are placed in small tin cans (use epoxy cement), water can be added to keep the branches fresh; this is most useful if flowering branches are used in the spring.

A variety of food should be put on the feeder tray to attract the birds. Suitable foodstuffs include mixed birdseed, sunflower seed, cracked corn, suet, and bits of bread. For a newly installed window feeder, some time may be required before the birds discover the food and overcome their shyness to come right up to the window.

The birds visiting the feeder can be photographed using a single-lens reflex camera, with a lens of 300 or 400mm focal length; very satisfactory 400mm lenses are currently available for most such cameras for under \$60. Shorter lenses can be used, but preferably with a 2X converter to increase the effective focal length. Extension tubes will probably also be needed so that the lens will focus in the range of 5 to 8 feet; the distance will vary somewhat depending on the size of the bird being photographed. The camera and lens should be positioned on a tripod about 6 feet inside the room from the window, and focused on a suitable spot where birds have been landing on the branches of the feeder outside the carefully cleaned window. An electronic flash is placed inside the window and directly against it, aimed at the spot on the feeder at which the lens is focused, so that the flash-to-subject distance will be 12 to 15 inches. A 10-foot flash extension cord is needed to connect the flash to the camera.

When a bird lands on or near the prefocused spot, the photographer rapidly looks through the viewfinder, re-aims the camera slightly if necessary to get the best composition, and quickly snaps the shutter. The flash trips, and illuminates the bird—if you are lucky, with the sun providing backlighting. The proper exposure (f/stop and shutter speed) will vary somewhat depending on the individual equipment being used. The shut-



Positioned directly outside a window, the bird feeder is equipped with several natural branches and logs on which the birds will land for their portraits. An electronic flash inside the window is aimed at a likely spot on the feeder.

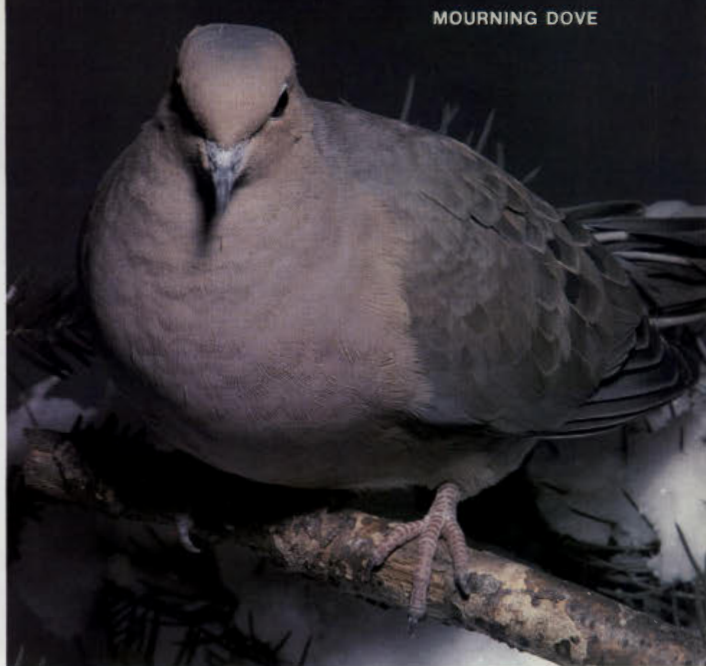


The camera, equipped with a telephoto lens, is on a tripod back inside the room about 5 to 8 feet from the window; a flash extension cord connects it to the flash unit in the window.

WHITE-BREASTED NUTHATCH



MOURNING DOVE



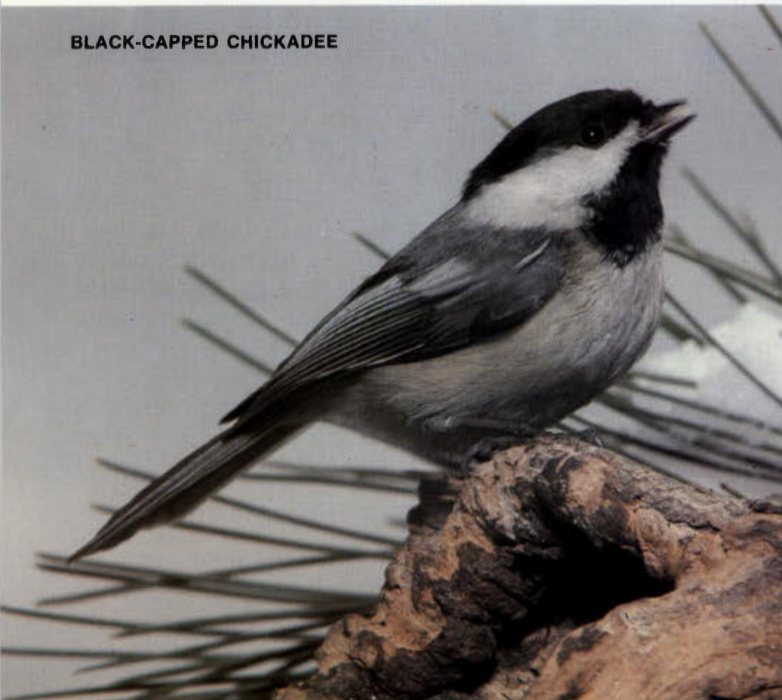
ter speed must be set to synchronize with the electronic flash, which will be about 1/30 to 1/60 second for most cameras. The approximate f/stop can be found by dividing the normal guide number of the flash unit by 3; set this calculated f/stop on the camera lens. (Guide numbers are usually given in the instruction booklet accompanying the flash, and will vary depending on the ASA speed of the film used.) Be sure to use the flash in the Manual mode; automatic flashes will not work suitably in the Auto mode for this type of photography. To ensure sufficient depth of field, f/stops in the range f/16 to f/32 are desirable, and this range can be obtained by choosing a film of suitable ASA speed to give a normal guide number of 60 to 80 with your flash unit.

Backgrounds are an important consideration in obtaining pleasing bird pictures. The background should be plain and of light color (light blue or gray). If the background is the back yard, snow on the lawn provides a fine background, photographing as light gray

on cloudy days, or white with blue shadows on sunny days. The latter gives an impression of blue sky and white clouds, since the background is relatively far away from the focus point and thus completely out of focus. Lacking a suitable natural background, a sheet of plywood about 3 x 5 feet can be used, painted white on one side (this will photograph as gray) and light blue on the other. It can be propped up some 6 feet in back of the feeder, perhaps supported by a stepladder, and tilted upward somewhat to catch the skylight. This type of background can be used to mask from view all sorts of unwanted subjects otherwise in view of the feeder, and is also useful to provide a light background when the backyard is not covered with snow.

The variety of birds which can be attracted and photographed at a window feeder will depend on where the photographer lives. In suburban north Jersey, some 40 different species have visited the feeder. By frequently changing props (branches), many artistic bird portraits can be made at a window feeder. □

BLACK-CAPPED CHICKADEE



WHITE-THROATED SPARROW



THE WHITMAN-STAFFORD FARMSTEAD

RICHARD W. ZIMMERMANN, JR.

Two hundred years ago, central Camden County was open land. Few farmers bothered to till the land, game roamed freely, and the timber was abundant. Today, the area has the rail speedline, apartments, and super-highways. One group of local residents have come together to preserve a bit of the area's disappearing history, the Whitman-Stafford House, in Laurel Springs.

The Whitman-Stafford Restoration Committee considers this old house to be part of our natural environment, as irreplaceable as a tree, river, or stream. The Whitman-Stafford Farmhouse, built in 1784, is an important link between the 20th century and colonial times.

This Farmhouse is historically important in many ways. It is the oldest house in the area, it is constructed from cedar wood — cut from the surrounding landscape and milled locally—and it was the summer home of poet Walt Whitman. The original farm was 85 acres, stretching from the farmhouse to Laurel Lake. Today, the farmhouse sits on a large building lot and separated from the lake by houses, roads, and a railroad. The farm is gone and has been replaced by suburbia.

Walt Whitman came to the farm in

1876, a physically broken man. He was to visit each summer until the early 1880's. During this period, Whitman regained his health and changed his style of writing. A large portion of his book *Specimen Days* was written about the farm, the fields, and Big Timber Creek, now Laurel Lake. During one of his visits, Whitman sat by the edge of Big Timber Creek and re-edited his first major work, *Leaves of Grass*. The Stafford Farm was Walt Whitman's Walden; it affected his life and style.

The Stafford farmhouse was continuously occupied until 1966. In 1964, two years prior to its becoming vacant, the house was willed to the State of New Jersey as a landmark property. The state, however, allowed the property to go to ruin. Eventually, in 1976, the Borough of Laurel Springs received a 25-year lease with a provision requiring restoration.

When a committee visited the site in January of 1978 they were appalled at the condition of the building. It was literally falling apart, and there was serious doubt that the property could be salvaged. A search for funds was made, a CETA Title 6 grant was applied for and received. This was the seed money needed to start the project.

On May 31, 1978, the first meeting of the Whitman-Stafford Restoration Committee was held. That night, the CETA grant was signed and on June 15, reconstruction began. More than 200 cubic yards of trash were removed from the house.

At this writing nearly \$80,000 in labor, materials, funds and furnishings has been raised or donated by nearly 100 corporations and individuals in the Delaware Valley to make the Whitman Stafford Farm House restoration a reality. The historic (1784) house is 95% complete and furnished. All of the antique furnishings have been donated.

During the past summer, the farm house was the site of four community concerts on the green and a wedding. Well over 1500 people from 20 states and several foreign countries have visited the house.

A Comprehensive Employment and Training Act (CETA) grant has made it possible to employ three senior citizen curators so that the farm house is open from 10 AM-10 PM on week days and from 10 AM-4 PM on weekends. The Whitman Stafford Committee is seeking a full time live-in curator.

A speaker service has been developed and is available to schools and organizations. In addition, 12 Whit-

man related filmstrips and cassettes are available on a loan basis. The restoration slide program has been shown to a dozen organizations.

The students at the Overbrook Regional High School have been actively involved in this project. The Graphic Arts Class printed the Whitman Stafford House Book. The Building Trades Class made windows and the Commercial Sewing Class made curtains.

To aid in fund raising, the Committee commissioned the Downer Glass Works of Williamstown to make commemorative bottles and paperweights from Maurice River sand. Additional hand blown glass items are now being made from antique molds using traditional techniques to raise funds. The Committee hopes to raise another \$2,000 for the house and grounds and to restore furnishings.

Interest in the historic farm house has been widespread. The New York Times and the Congressional Record have had articles on this project. The site has been nominated to the National Park Service.

Nearby Crystal Springs Park is historically significant. Along the banks of the Big Timber Creek, Whitman meditated, wrote and restored his health. Both the Park and Farm House are featured in Whitman's *Specimen Days*. This year, the Park has been enlarged and is in the process of being restored. Visitors to Laurel Springs should visit both sites.

Many interesting projects have developed for the restoration. The Committee is building a file of rephotographed historic pictures and documents. They hope to produce a film on Walt Whitman in Laurel Springs. The center of the town area has been improved; plans are underway to restore Laurel Lake. The Committee is seeking a researcher to locate the property deeds before 1776. Governor Byrne has just signed the deed giving the property to the Borough of Laurel Springs.

In one year, the Whitman Stafford Committee has grown from four people with a dream to nearly 100. Interest and membership is widespread. Membership for Senior Citizens: \$2.50—Others: \$5.00.

Mailing Address:

Whitman Stafford Committee
135 Broadway,
Laurel Springs, N.J. 08021

Historic Sites:

Whitman Stafford Farm House, 315 Maple Ave., Laurel Springs, N.J.
Crystal Spring Park, Elma and Lakeview Aves., Laurel Springs, N.J.

BEFORE

photos provided by author



AFTER





Environmental News



DEP EMPLOYEE HONORED FOR HEROISM. Richard Treloar (center), who saved the lives of an elderly couple last summer, was honored by the State of New Jersey with the Award for Heroism. DEP Commissioner Jerry Fitzgerald English (right) presented the plaque while Daniel Colona, field coordinator with the Division of Coastal Resources, who nominated Treloar for the award, looked on. Treloar's quick action saved the couple from drowning after their car crashed through a guard rail and came to rest about 35 feet from shore in about six feet of water in Lake Davenport off Lacey Road in Lacey Township (Ocean County). Treloar, a principal engineering aide in DEP's Bureau of Coastal Engineering, Toms River field office, lives in Forked River.

Federal-state agreement

Management Guidelines Set for Major Water Programs Aided by Federal Grants

DEP Commissioner English on November 19 (1979) signed an agreement with the U.S. Environmental Protection Agency (EPA) detailing the state's management of the major water resource programs supported by EPA grants. The agreement contains statements of policy, background information and identifies the highest priority water resource problems to be resolved over the next five years and sets forth ways to deal with these problems. Also included is a one year work plan, to be completed by the fall of 1980, for carrying out water resource programs. (The one year work

plan consolidates all of DEP's grant applications to the EPA for funds from the Federal Clean Water Act, Safe Drinking Water Act, Toxic Substances Control Act and Resource Conservation and Recovery Act. These grants total almost \$9 million.)

Eight major initiatives for DEP's water programs were highlighted by Commissioner English:

1. Integration of all DEP activities related to toxic pollution sources by coordination of all monitoring, permitting and enforcement actions,
2. Development and implementation

Continued on page 16D

Suspected carcinogens, smog

NEW CLEAN AIR STANDARDS WILL REDUCE EMISSIONS OF TOXICS AND ORGANICS

New air pollution control regulations, which went into effect on December 15, 1979, will reduce the emission of toxic and volatile organic substances while providing more flexibility for industry to choose the best cost-effective pollution control methods. The regulation for toxic substances became Subchapter 17 of the New Jersey Air Pollution Control Code; those for organics became Subchapter 16. The New Jersey Clean Air Council and DEP's Industrial Advisory Group helped the department prepare the regulations which were brought to public hearing and also reviewed by the federal Environmental Protection Agency (EPA).

Toxics: The provisions for toxic substances (Subchapter 17) require more stringent regulations for 11 suspected carcinogens* which must be controlled by the best equipment available. The regulations also require exhaust stacks of sufficient height to reduce air pollutant concentrations, and training programs for users of toxic substances. Equipment which emits any of these 11 substances must be registered with DEP within six months (by June 15).

Volatile organics: The volatile organic substances regulation (Subchapter 16) is directed at the control of oxidants, which form in the atmosphere by the interaction of volatile organic substances, oxides of nitrogen and sunlight. Volatile organics include solvents, gasoline and other petroleum derived substances. (This regulation will also be part of the State Implementation Plan required by EPA. Federal law required that the ozone standard be met by December 31, 1987, and that all reasonably available control measures, such as Subchapter 16, be applied before December 31, 1982.)

Environmental Protection Commissioner English said, "The additional control of industrial organic air pollutants provided in this regulation will greatly help to reduce ozone air pollution (smog), which is the major pervasive air pollution problem today. New Jersey has

Continued on page 16D

THE YEAR OF THE COAST 1980

President Carter focused national attention on the importance of shoreline protection by designating 1980 as the Year of the Coast. In mid September 1979, Governor Byrne convened a Conference on the Future of the New Jersey Shore to embrace the Year of the Coast 1980 and address the need for dune and beach protection, consideration of natural hazards, and other coastal issues. Coastal zone management and shore protection programs for New Jersey are administered by DEP's Division of Coastal Resources.

David N. Kinsey, acting director, Division of Coastal Resources, recently delivered a paper on New Jersey's approach to the issue of coastal storms and development at a conference of state and federal coastal managers in Charleston, S.C. Excerpts from the paper are given below.

New Jersey has a 126-mile ocean-front largely composed of barrier islands and some headlands. It is heavily urbanized; all but one of the barrier islands are developed. (Pullen Island, in the Brigantine National Wildlife Refuge, is the exception.) All coastal states with barrier islands have areas that have disappeared naturally. New Jersey has sites where old hotels have been destroyed and swallowed by the sea. New inlets have been created. These actions bear eloquent testimony to the power of the sea.

At present, the *New Jersey Coastal Management Program—Bay and Shore Segment*, approved by the National Oceanic and Atmospheric Administration, Office of Coastal Zone Management (NOAA-OCZM) in September 1978, provides the framework for state coastal decision-making regarding development in hazardous areas subject to storms. Specific strong policies on beaches, dunes, the central barrier island corridor, high risk beach erosion areas, and other geographical areas give the basic policy direction and recognize explicitly the fragility of these resources.

The Division of Coastal Resources is preparing a statewide Shore Protection Master Plan to implement the \$20 million shore protection bond issue passed by voters in 1977 to restore, maintain, protect, research and plan beaches. The Master Plan will present shore protection techniques, as well as broad outlines of the needs and opportunities of different parts of New Jersey's shoreline. The shoreline has been divided into approximately 20 "reaches," or segments, for analysis and planning. For example, an island may be a reach.

For each reach, the Master Plan will identify the environmental consequences of each of the five alternate levels of protection, present a realistic price tag for each alternative, and indicate the upland users, interest groups, and communities that will be the largest beneficiaries of the various alternatives. This approach will enable DEP and the public to choose projects rationally and invest state bond money wisely in protecting the shoreline. Widespread circulation of a draft Shore Protection Master Plan in the spring will lead to wide public debate and an opportunity for public choice on the options.

The next step for New Jersey will be the preparation of coastal storm shoreline recovery plans, or contingency plans, to build upon the Master Plan option that is selected and implemented for each reach. □

DEPUTY COMMISSIONER JOSEPH BARBER RETIRES

Joseph T. Barber, DEP Deputy Commissioner for Governmental Affairs, retired on December 1 (1979) after 38 years of state service in various capacities associated with conservation, economic development and environmental protection. From 1960 until his retirement Barber served as deputy commissioner—first with DEP's predecessor agency, the Department of Conservation and Economic Development, and later with DEP. As Deputy Commissioner for Governmental Affairs, Barber's duties included liaison with the Legislature and the Governor's Office as well as special responsibilities on behalf of the commissioner. □

ENVIRONMENTAL QUALITY DEPUTY DIRECTOR NAMED

Jack Stanton, whose credentials include 10 years of varied environmental experience with the federal Environmental Protection Agency, was appointed deputy director of DEP's Division of Environmental Quality in October (1979). He will assist Division Director George T. Tyler in heading the department's air pollution, solid waste, radiation, pesticide and noise control programs. Stanton, a graduate of the Newark College of Engineering (now the New Jersey Institute of Technology), holds masters degrees in environmental science (Stanford University) and business administration (Adelphi). □

DWARF PINE FOREST PROTECTED



The Pinelands West Plains area, most of which is in Burlington County, contains an ecologically unique dwarf pine forest (above). A \$1.7 million grant from the U.S. Department of the Interior will be matched by a like amount from the state Green Acres fund for purchase of 8,575 acres in this area which supports a growth of unusually scrubby oak and pine trees—the tallest scarcely reach five feet. The dwarf pine forest is part of the Pinelands National Reserve and is considered part of the Preservation Area under New Jersey's Pinelands Protection Act. □

NEW U.S. PARK PROGRAM GRANTS AWARDS TO NINE N.J. CITY PARK PROJECTS

A total of \$2.3 million in grants has been awarded by the federal Heritage Conservation and Recreation Service, Department of the Interior, for nine city park projects in New Jersey under the U.S. Urban Park and Recreation Recovery Act (UPARR) of 1978. This grant program is designed to assist certain financially hard-pressed cities to revive and renovate critically needed parks and other recreation facilities. There are three types of grants—renovation, innovative project, and planning. The program is administered for New Jersey by DEP's Green Acres Administration.

The law provides for federal grants covering 70 percent of approved projects. In addition, federal sources will provide a dollar-for-dollar match to state contributions to the local share of a project up to 15 percent of the total cost (maximum federal share, 85 percent). This provision makes it possible for a park rehabilitation project in New Jersey to be completed at no cost to the community, as the matching portion of a Green Acres grant would be paid by

Continued on page 16D

DEP CLEANUP OF HAZARDOUS WASTES

JAMES M. STAPLES

PHOTO BY AUTHOR

(Continued from the
Nov./Dec. issue)

Bright sunlight manages only to dimly penetrate dirty windows, creating a gloom through which the white-suited figures slowly move. An infrequent shaft of light, admitted by a broken pane, spotlights containers labelled "dangerous," and "poison," after sharply defining dancing motes of airborne dust inside the cavernous interiors.

Several of the eerily costumed visitors went through a door recently and found themselves inside a onetime employees' lounge. Yellowed newspapers still lay on formica dinette tables, while explicit pinup pictures stared back from walls at the visitors. Passage through another door had the group blinking in a sudden blast of summer sunshine as it moved between tiers of chemical drums to DEP's mobile command post, an elaborately equipped communication center in a large van parked on Front Street.

With the declaration that the second-story loft had been rendered safe from the standpoint of fires and explosions, the DEP and Coastal Control team looked around for the next task. They didn't have to look far. Downstairs in the same building resided a vast quantity of pesticides of varying degrees of toxicity and suspected cancer-causing capabilities. Next door in the other building was stored more than 150 lab-pack containers which were expected to require the same degree of caution as did those upstairs in the loft.

The summer at Chemical Control passed with only a few unnerving incidents. At one point a drum containing a phosphorus compound began leaking inside a building. Contact with air causes phosphorus to spontaneously ignite into a fuming, sputtering fire. Worse yet, the burning phosphorus combined with a dry chemical on the floor and began generating cyanide gas.

Quick evacuation of the buildings and use of emergency sprinklers, which are always at the ready, avoided injuries and doused the fire. Big fans constantly vent the building while people are working, so the gas was harmlessly dissipated. The phosphorus was repacked into a new container and removed without further incident.

In another minor incident, a drum which had sat harmlessly near the outside wall of the loft building, almost directly beneath the external stairway leading to the second floor, exploded during a lunch hour. It was a pressure explosion, caused by condensed moisture contacting the drum's partial



Three employees of Coastal Services, Inc., make tests to identify unknown contents of myriad of jars and bottles removed from "lab pack" drums. The men wear complete protective garb at all times while working anywhere on premises. This is inside the second-story loft.

contents of sodium. Various chemicals and shattered glass flew through the vicinity. Luckily, no one was nearby at the time.

The rarity and fortunate triviality of such events testifies to the scrupulous care employed by all concerned at Chemical Control. Progress is often slow because of the painstaking caution attending every step of the operation, but the overriding concern is public and worker safety.

DEP and Chemical Control first met in 1974 when the latter filed an application for the operation of a solid waste facility to treat, process and recover pesticides, hazardous wastes, chemical wastes and bulk semi-liquids. The application was filed with the Solid Waste Administration's predecessor, the Bureau of Solid Waste Management of the Division of Environmental Quality. However, since the company failed to provide appropriate design engineering plans for the facility, the application was never approved. Prior to that Chemical Control was subject to inspections by the City of Elizabeth.

Once the Department learned of the enormous buildup of wastes on the site, it attempted to have the operators of the facility reduce the inventory voluntarily, and then issued an administrative order on March 21, 1978, requiring a complete site cleanup, immediate reduction in the inventory of drums on site and a total removal of all on-site wastes within two years. When it became apparent to DEP that the administrative order was not being complied with, the Office of the Attorney General was asked to seek the appropriate legal sanctions in the Courts.

The Hazards Research Corporation, a

consultant to DEP, investigated the condition of the site, and information was forthcoming from the U.S. Environmental Protection Agency (EPA) and the U.S. Attorney's office.

On Jan. 19, 1979, Judge Harold Ackerman was asked for a temporary restraining order against Chemical Control. He ordered the company to immediately remove 12,000 drums, stop accepting new waste, clean up the site and install extra fire-fighting equipment. DEP posted a 24-hour security watch at the site, rotating shifts to divide this extra work among its inspectors. After three weeks, security guards were hired.

Dramatic proof of the need for this watchfulness came a few days after the guard was posted. Three drums of reactive wastes caught fire at 1 a.m., but quick reporting by the DEP team and prompt action by the Elizabeth Fire Department cancelled a potentially dangerous situation.

Failure by Chemical Control to comply with the Court directive led DEP back into the courtroom. A preliminary injunction against further activity at the site was granted on Feb. 8, 1979, and the Court appointed a receiver to bring about a complete site cleanup and to make sure the court order was being complied with.

When Chemical Control failed to propose an acceptable corrective program, the receiver asked for state assistance. The New Jersey Spill Compensation Fund was called upon for emergency expense money because many drums were leaking and their contents could flow into the state's waters.

The unprecedented cleanup has continued "routinely" on weekdays during daylight hours. Thomas Allen, super-

Continued on page 16D



CAFRA action

OCEAN GROVE 'CONDOS' TO BLEND NEW WITH OLD

DEP recently conditionally approved a Coastal Area Facility Review Act (CAFRA) permit for construction of 120 condominium apartments in the historic Ocean Grove district of Neptune Township (Monmouth County). The developer, Frombal, Inc., worked extensively with DEP's Division of Coastal Resources and Office of Historic Preservation to draft a design which harmonizes with the architectural style of the surrounding area. (The Ocean Grove Historic District is listed on both the State and National Registers of Historic Places.) The facility will be located at the intersection of Embury Avenue and Whitefield Street. □

FLOOD CONTROL AID

Flood control projects in Englewood, Rockaway Township and Roselle Park recently qualified for funding under the Emergency Flood Control Bond Act of 1978. Three grants, totaling \$685,000, will be awarded. Englewood will receive \$534,000 to reduce the potential of flood damage along Overpeck Creek between Route 4 and Lafayette Place. (This project is being undertaken in conjunction with the state Department of Transportation's plan to replace the Route 4 bridge above the creek.) Rockaway Township will receive \$80,000 for the construction of a detention basin and enlargement of storm sewers on the Fox's Pond Watershed, a tributary to the Rockaway River. Roselle Park will receive \$71,000 for construction of a detention basin on the West Brook Watershed which is expected to help alleviate past flooding problems in the center of town. □

OUTDOOR RECREATION PLAN TO BE UPDATED

Proposed amendments to update the 1977 New Jersey Statewide Comprehensive Outdoor Recreation Plan were discussed at public meetings in late fall. The plan, which serves as a guide for outdoor recreation related actions, qualifies the state to participate in the Federal Land and Water Conservation Fund Program. New Jersey receives between \$7 and \$10 million in U.S. funds annually for open space acquisition and recreation facility development projects. □

Continued from page 16A

MANAGEMENT GUIDELINES

of resource recovery and hazardous wastes management plans,

3. Development of a comprehensive program to control pollution impact on the state's groundwater resources,

4. Enforcement of the Federal Safe Drinking Water Act and implementation of the State Water Supply Master Plan to provide direction for New Jersey's future water needs,

5. Development of programs to deal with the most important nonpoint source pollution, including standards for new stormwater systems and standards for protection of environmentally sensitive areas,

6. Rapid assumption of responsibilities for the issuance of federal permits for municipal and industrial waste discharges to groundwater,

7. Implementation of requirements to protect high quality streams such as trout waters, and

8. Assumption of responsibilities for the management of the federal grants program for sewerage treatment (over \$200 million to be spent in 1980). □

Continued from page 16B

CITY PARK AWARDS

federal sources instead of the municipality/county.

The first round of grant awards under the UPAAR program included \$1.8 million to Essex County for four separate park renovation projects—West Side and Weequahic parks in Newark, Irvington Park in Irvington, and Watsessing Park in Bloomfield/East Orange (Green Acres grant requested: \$322,590); \$63,750 to Irvington for Orange Avenue Park (Green Acres grant requested: \$11,250); \$85,000 to Perth Amboy for Chamberland Park (Green Acres grant requested: \$15,000; \$325,000 to Hoboken for Jefferson Recreation Center (Green Acres grant requested: \$65,000). Also, \$43,659 to Plainfield for the Hannah Atkins Park; and a \$21,000 innovative project grant to Camden for a mobile theater. □

HUNTERS: TROPHY DEER DEADLINE IS FEBRUARY 22

Hunters planning to enter the annual state record deer program are reminded that the cutoff date is February 22. The program is sponsored by DEP's Division of Fish, Game and Shellfisheries in cooperation with the New Jersey Federation of Sportsmen's Clubs. The competition is divided into two divisions: the 200-club and the antler club. Entry blanks are available from the division office or wildlife management area offices. Address all correspondence to the Division of Fish, Game and Shellfisheries, Box 1809, Trenton 08625. □

Continued from page 16A

CLEAN AIR STANDARDS

been largely successful in controlling sulfur dioxide and particulate (smoke) air pollutants, which were major problems a decade ago. Now we are concentrating on the much more complex and difficult problem of ozone air pollution."

*Benzene, Carbon tetrachloride, Chloroform, Dioxane, Ethylenimine, Ethlene dibromide, Ethlene dichloride, 1, 1, 2, 2-Tetrachloroethane, Tetrachloroethene, 1, 1, 2-Trichloroethane, Trichloroethylene. □

Continued from page 16C

DEP CLEANUP

visor of field operations for the Office of Hazardous Substances Control, heads a team consisting of George Weiss, Scott Santora, Edward Faille and William Jahn at the scene under Karl Birns' supervision. They occupy the DEP mobile command post.

The City of Elizabeth kept police on guard around-the-clock. New Jersey State Police also maintained a presence at the site. An Elizabeth fire truck and an emergency medical unit, with crews, are stationed at Chemical Control during working hours. When dangerous cargoes are trucked away from the site, they are preceded by police escorts.

DEP has received important assistance during the summer from members of the Chemical Industry Council of New Jersey. Member companies which had originally consigned wastes to Chemical Control have volunteered to come in, identify and take back their consignments for disposal through other channels.

DEP has also received support of the U.S. Environmental Protection Agency (EPA) since the Chemical Control cleanup began. EPA sent a mobile laboratory to the scene to assist in chemical analysis of unknown substances, and provided services of a chemical expert.

Whenever explosives are found, they are carefully stored for removal by personnel of the U.S. Treasury Department's Division of Alcohol, Tobacco and Firearms. These experienced persons use a DEP explosives truck to haul their touchy cargoes to military bases for controlled detonations.

The cleanup at Chemical Control has attracted national attention. It is recognized as an example of governmental response which may be followed in other states when similar problems are uncovered. □

**TO REPORT ABUSES
OF THE ENVIRONMENT
CALL ACTION LINE
609-292-7172**

News items we couldn't squeeze
in last year . . .

NEEDED: INFORMATION ABOUT WHERE PEOPLE PAY TO FISH, SWIM, BOAT AND CAMP

Resources for the Future, a nonprofit research organization, needs information for study of benefits of water pollution control. Goal is to produce believable benefit estimates for use in national policy making by finding out what people actually pay at fee fisheries, commercial beaches, canoe liveries, and private campgrounds on water.

First need is to locate a large number of such places. If you know of or use one please send its name and address or phone number to Clifford S. Russell, Resources for the Future, 1755 Massachusetts Avenue, N.W., Washington, D.C. 20036. Any additional material, such as brochure, will be welcome. ☐

LEADERSHIP IS ADDED TO STRENGTHEN MARINE SCIENCES CONSORTIUM

Princeton—In a program to bring greater emphasis to the wise utilization and development of the state's marine resources, the New Jersey Marine Sciences Consortium has elected five prominent New Jersey citizens as voting trustees and has named a complete slate of full-time officers.

The trustees are Jerry Fitzgerald English, commissioner of the New Jersey Department of Environmental Protection; Dr. Edward T. Hollander, chancellor of the State Department of Higher Education; William C. Koenek, chairman of the Marine National Bank, Wildwood; Merrick Pratt, of Highlands, retired vice president for environmental affairs of the Chevron Oil Company, and Frank H. Wheaton Jr., of Millville, President and Chief Executive of Wheaton Industries, Inc.

The new officers are Dr. Robert H. Ellis of Princeton, former executive director of the Consortium, who was elected president and chief executive; Dr. Robert B. Abel, of Highlands, vice president; Mrs. Merlene K. Tucker of Princeton, secretary and Guy Jensen of Wildwood Crest, treasurer. All are members of the Consortium's staff, with headquarters at the organization's Princeton offices, 101 College Road East, in the Princeton Forestal Center. ☐



It's said their numbers once darkened the sun.

Ducks Unlimited is a non-profit organization that works to protect and restore waterfowl marshlands in Canada, where United States Federal funds don't reach. And where 70% of our waterfowl are hatched. Help keep the ducks flying. Send your tax deductible donation to: Ducks Unlimited, P.O. Box 66300, Chicago, Illinois 60666. Please.

DUCKS UNLIMITED



We need
your help. Now.

Top Award

Rich Methot, outdoor writer for the New Brunswick Home News, received the top Outdoor Writers Association of America Award for 1979 for an article entitled "Take a Kid Fishing and Catch Some Fun." The award which included a \$500 cash prize was announced at the OWAA's 52nd annual conference in Albuquerque, New Mexico. Methot also received a second-place writing award from the Pennsylvania Outdoor Writers Association in 1979. ☐

Natural and Cultural Resources of the New Jersey Pine Barrens

The Stockton Center for Environmental Research is pleased to announce the publication of the book, *Natural and Cultural Resources of the New Jersey Pine Barrens*, the most complete study of the Pine Barrens to date. The publication, jointly sponsored by the Stockton Center for Environmental Research, the Rutgers Center for Coastal and Environmental Studies, and the New Jersey Department of Environmental Protection, is a collection of papers presented at the First Annual Pine Barrens Research Conference held in Atlantic City in May of 1978.

A total of twenty-seven authors have contributed to the publication. It includes studies in hydrology by Harold Meisler, John Trela, David Robertson, and Lowell Douglas; studies of biological resources by Silas Little, George Pierson, and Eugene Vivian; studies of cultural resources by John Sinton, Elizabeth Marsh, Richard Regensburg, Angus Gillespie, Tom Ayres, and Budd Wilson; and studies in planning by Teuvo Airola, Darryl Caputo, and David Kinsey.

The publication, edited by Dr. John Sinton of Stockton, should serve as the basis for all future research and planning efforts in the New Jersey Pine Barrens and will be invaluable to anyone interested in the controversial region.

Order your copy now, while they last! To order, send a check or money order for \$8.00 per copy with the form below.

Please send _____ copy(ies) of *Natural and Cultural Resources of the New Jersey Pine Barrens*. I have enclosed \$8.00 per copy.

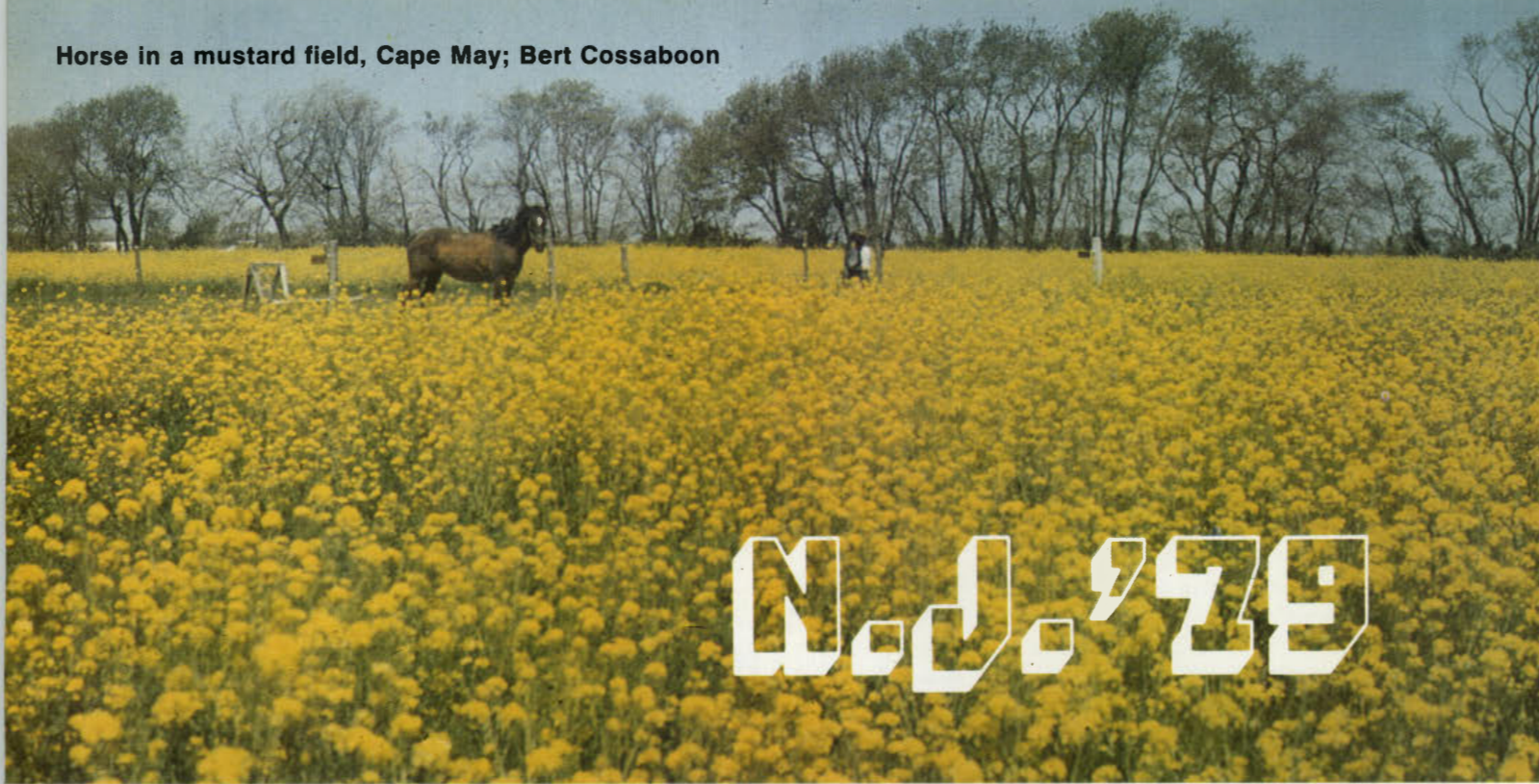
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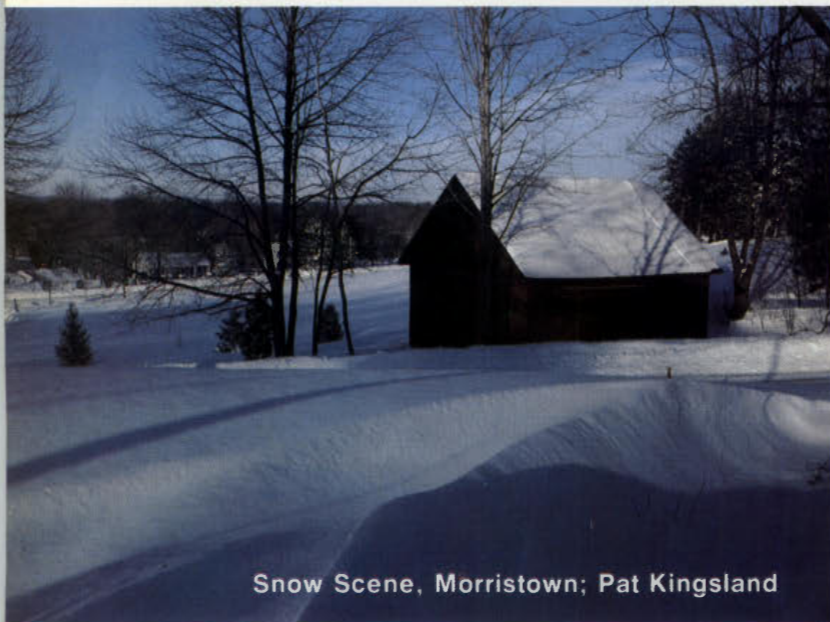
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POMONA, N.J. 08240**

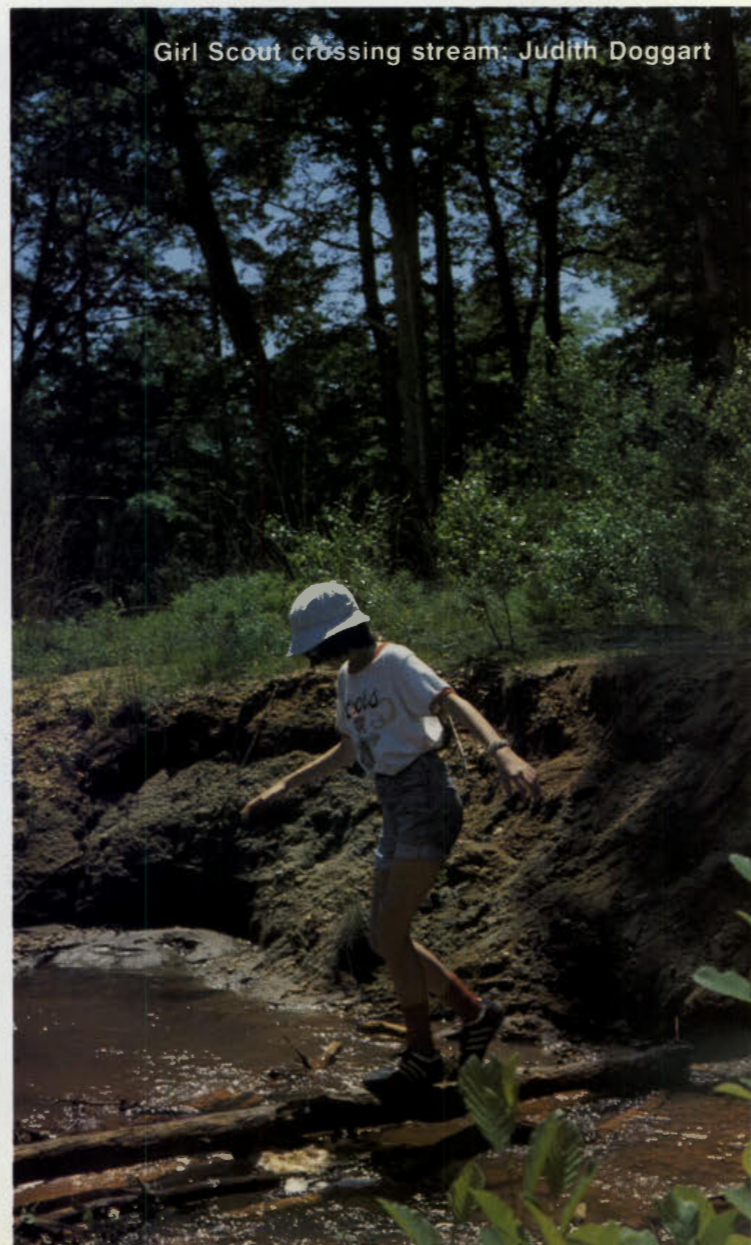
Horse in a mustard field, Cape May; Bert Cossaboon



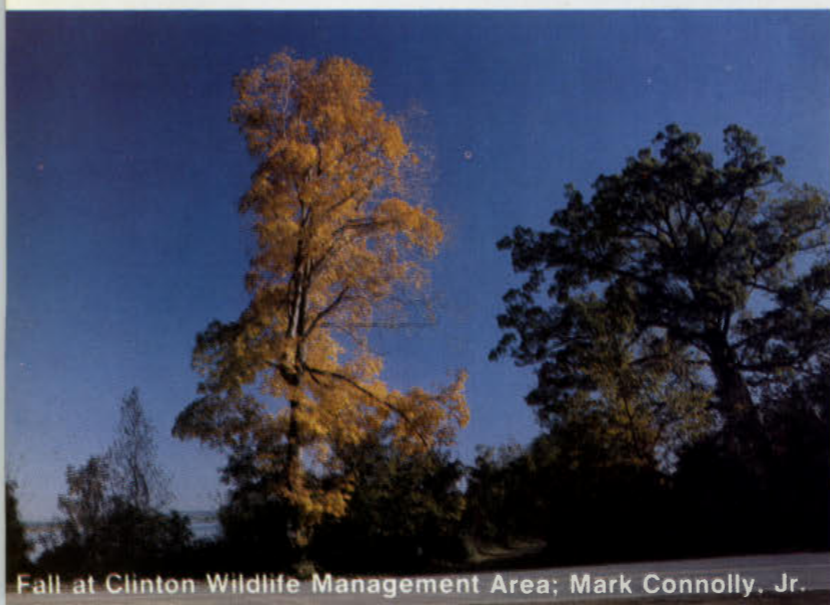
N.J. '20



Snow Scene, Morristown; Pat Kingsland



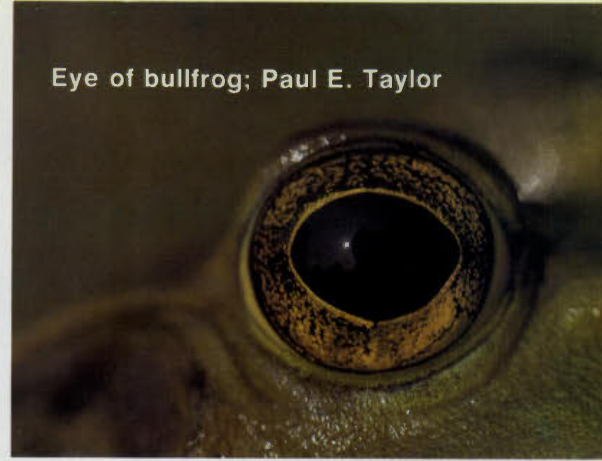
Girl Scout crossing stream; Judith Daggart



Fall at Clinton Wildlife Management Area; Mark Connolly, Jr.



Blue Flag; Roy E. Decker



Eye of bullfrog; Paul E. Taylor

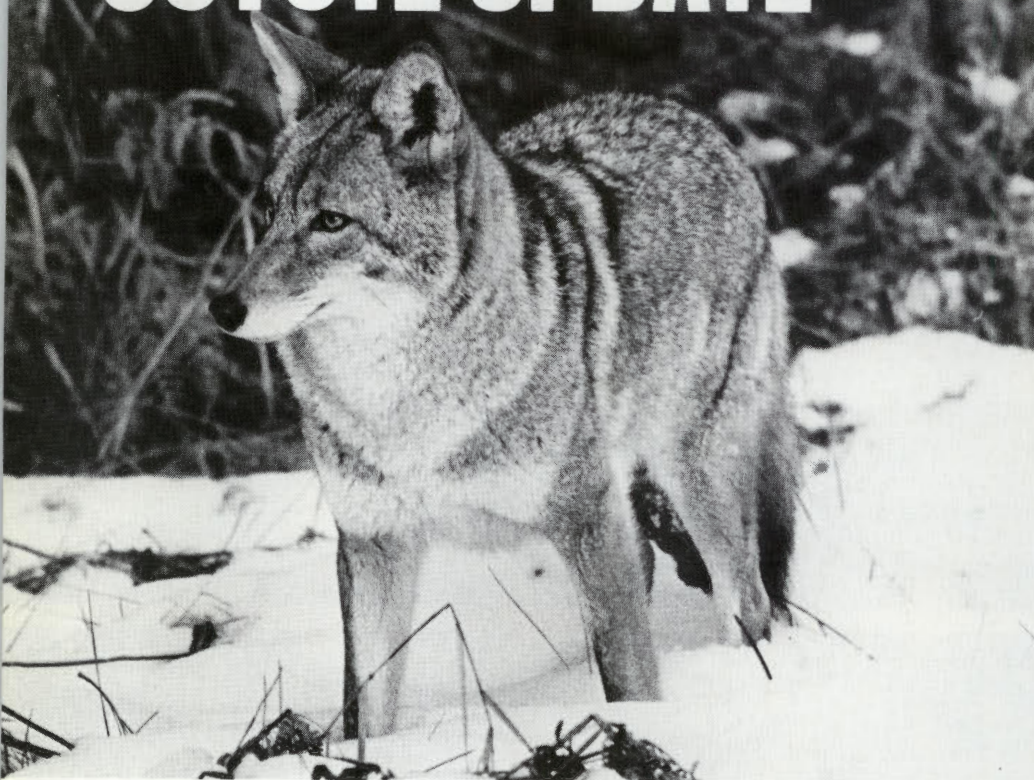


Squirrel at lunch; Mindy Klarman



On the Ramapo River in Oakland; Michael R. Spozarsky

Wildlife in New Jersey— COYOTE UPDATE



LEONARD LEE RUE IV

BY ROBERT C. LUND

Bureau of Wildlife Management

It's been almost four years since we first reported the presence of the so-called Eastern coyote in New Jersey (*New Jersey Outdoors*—Jan./Feb., 1976). Since that time enough additional information has been collected to justify an update in the status of our "new wolf."

The Eastern coyote can best be described as a large, robust Western coyote. It is more narrow-chested, longer-legged and more slender than most dogs. The feet are relatively small for its size (adults may reach 50 pounds) and oval. The muzzle is long and narrow and the ears long and pointed. The head can be described as more fox-like than wolf. The brushy tail is usually carried low and close to the hind legs, not horizontal as in the wolf. It usually hunts alone or in pairs, one animal flushing prey from cover to the other. However, groups of three or four individuals traveling together have been reported from New Jersey.

These may possibly have been members of a litter which had not yet dispersed. Most of the specimens from New Jersey are tan and grey with whitish underparts and a darkish stripe down the back. However, coat color is variable, and animals with reddish coats have been reported.

At the time of the 1976 article, only thirteen coyote specimens were recorded from New Jersey. Partially as a result of the publicity given the coyote by the original article this list has now grown to 23.

The earliest verified specimen was reported from Mercer County in 1939, the most recent in 1977 from Warren County. Table 1 summarizes the information collected for the New Jersey coyote specimens reported to date. Nineteen of the 23 are believed to be Eastern coyotes. The four remaining are thought to be Western coyotes which either escaped or were released from captivity.

The Eastern coyote has bred successfully on at least two occasions

within New Jersey. In October 1974, an adult female was captured in Warren Co., which showed signs that it had nursed pups. Later that same fall, three partially grown pups were observed in the area. In December 1977, an adult female was killed in Knowlton Twp., Warren County. A postmortem examination indicated that it had given birth that year.

Unlike the dog, the coyote has only one heat period each year, usually in January-March. Coyotes breed in their second year with a litter of five to six young, usually born in April.

Coyotes have been recorded in eight of New Jersey's 21 counties. These include Bergen, Cape May, Hunterdon, Mercer, Ocean, Passaic, Sussex, Warren and probably Middlesex. Nine specimens are recorded from Warren County alone.

In addition to specimen records, a record of sightings is also maintained. Between 1958-1979, 15 sightings were recorded. The most recent was in October 1979 by Division biologists working in Sussex County.

Though far from abundant, the Eastern coyote is becoming more common in the Garden State. New York reports it inhabiting 38 counties including Orange County which borders our counties of Sussex and Passaic. The coyote probably entered New Jersey from New York following the natural dispersal path created by the Kittatinny Ridge. Some coyotes may also have crossed the Delaware from Pennsylvania.

More has been learned about the food habits of this "new wolf." Maine reports that in populated areas it eats a variety of foods including garbage, fruit and the remains of domestic livestock and hunter-killed deer. In remote areas it is more predatory, depending on deer and snowshoe hare for sustenance. Ontario reports that it eats anything edible including rabbits, rodents, small birds and even apples. Carrion is important. In New York, apples and corn are major items in the diet. The coyote is best described as "a predator of rodents, hares and rabbits, a scavenger of large animal carrion and a vegetarian at those times and places when fruits are especially abundant and flesh is scarce."



LEONARD LEE RUE IV

Coyote hunting mice in snow

There is still much to be learned concerning the origin and movement of the Eastern coyote throughout the Northeast. Though primarily coyote, wolf and dog elements are part of its history. Known in the Northeast since the early 1900's, at least three factors aided it in its successful and rapid occupation; habitat change, reduction of competition and high mobility. Though capable of inhabiting a forest environment, it appears to be primarily associated with agricultural land use. In Connecticut, it is found principally in the agricultural northeast and northwestern portions of the state. Ontario reports it from settled areas, where the forests are broken by farms and other man-made openings. Here the coyote now occupies a man-made niche somewhere between the fox and the wolf.

A second factor responsible for its spread throughout the northeast was the removal of its primary competitors, the cougar and especially the wolf. Not only did the wolf compete directly with the coyote for food, but coyotes were often their prey. The absence of the wolf in the northeastern U.S. may explain why the coyote, which was originally an animal of the plains was able to invade the forest haunts of its old enemy. However, in Ontario, where the wolf still commands the forest, the coyote is restricted to the more "man-made" environments.

The speed at which the Eastern coyote has occupied the northeast is near astounding. In New York, researchers have monitored the movements of coyotes by radio signal for

several years. There are records of coyotes traveling 120 miles in eight months. The adaptability of the coyote to a variety of habitats and its ability to disperse long distances in a short period of time help aid rapid occupation of the northeast. Since its appearance in the early 1900's its dispersal has been calculated at approximately 16 miles/year.

As a result of our previous request for information concerning the occurrence of the coyote in New Jersey, several previously unrecorded

specimens were obtained. We again request that anyone having information about New Jersey coyotes contact the Division's Clinton Office by mail or telephone. Anyone finding a dead animal which they believe may be a coyote or sight a living animal are encouraged to let us know. Your cooperation is sincerely appreciated.

Clinton
Wildlife Management Area
Box 409, R.D.
Hampton, N.J. 08827
Tel. (201) 735-8793

Table 1. Summary of Eastern Coyote Specimens Collected in New Jersey, 1939-77

Date	Location	Sex	Age	Weight (lbs.)	Remarks
1939	Lambertville, Hunterdon County	Unk.	Adult	Unk.	Described in newspaper accounts as a cross between dog and wolf. One account indicates that it may be a released Western coyote.
Dec. 1948	Fishing Creek, Cape May County	Male	Adult	36.5	Believed escaped or released from captivity.
1953	Buttzville, Warren County	Unk.	Adult	Unk.	Identified as Northern coyote (C.1. thomnos) by Lafayette College.
Dec. 1958	Pinecliff Lake, Passaic County	Unk.	Adult	30.0	Seen in company of a second animal.
Dec. 1958	Great Meadows, Warren County	Male	Adult	Unk.	Reported to have had a bad case of mange; analysis of skull and teeth indicate animal to be an Eastern coyote.
Aug. 1962	Forked River, Ocean County	Unk.	Adult	Unk.	Hit by car, believed escaped or released from captivity.
May 1967	Hainesburg, Warren County	Fem.	Adult	42.0	Caught in fox set killing turkeys.
May 1969	Oldwick, Hunterdon County	Fem.	Adult	40.0 est.	Observed running across field with pheasant in mouth.
June 1969	Little Ferry, Bergen County	Fem.	Adult	23.5	Believed escaped or released from captivity—Western coyote.
July 1969	Hopewell, Mercer County	Unk.	Adult	Unk.	Mounted specimen preserved.
April 1971	Hainesburg, Warren County	Fem.	Adult	35.0	Porcupine quills in muzzle.
Feb. 1972	Hainesburg, Warren County	Male	Adult	Unk.	Dark color phase.
Dec. 1972	Ewing Township, Mercer County	Fem.	Adult	Unk.	Appeared to be suffering from mange; skull, skeleton and skin in N.J. State Museum collection.
Nov. 1973	Hopewell, Mercer County	Fem.	Adult	Unk.	Oldest animal examined.
Dec. 1973	Hope, Warren County	Fem.	Adult	Unk.	Red color phase.
Oct. 1974	Hainesburg, Warren County	Fem.	Adult	34.5	Red color phase; had nursed pups in spring of 1974.
Jan. 1975	Erma, Cape May County	Male	Adult	38.0	Stomach full of muskrat.
Mar. 1975	Sussex, Sussex County	Male	Adult	58.0	Largest reported to date.
Mar. 1975	Lafayette, Sussex County	Fem.	Adult	35.0	Hit by car.
Dec. 1976	Stewartsville, Warren County	Fem.	Adult	30.0	Excellent physical condition. Skull and skin in Div. Fish & Game collection.
Dec. 1976	Clinton, Hunterdon County	Male	Adult	38.0	Excellent physical condition. Stomach contents: rabbit, bird, grass.
April 1977	Everittstown, Hunterdon County	Male	Adult	42.0	Excellent physical condition. Stomach contents: grass, hair (own).
Dec. 1977	Knowlton Twp., Warren County	Fem.	Adult	35.0	Had given birth to pups in 1977—stomach contained deer carrion. □



STOKES STATE FOREST JIM MERRITT



VERNON VALLEY SKI AREA

DAVID BAST



STOKES STATE FOREST JIM MERRITT



GREAT GORGE

New Jersey— A Winter Wonderland

TONY PATTERSON

Forget about Aspen and Killington and forget about expensive jet fares to other states. A family day of skiing or just first-time-out skiing, it's all here in the Garden State and all within a half tank of gas distance from any point in New Jersey.

And there's "snowtime" like the present for waxing up the skis and shussing down a 1500 foot slope like Robert Redford or Susie Chapstick. And when you finally end your run at the bottom by executing a parallel christie and coming to stop with a spray of snow kicking up from under your skis, you'll have to agree that when it comes to winter sports . . . *New Jersey's Got It!*

If you like your slopes high, try Great Gorge/Vernon Valley or

Continued on page 25

CROSS COUNTRY SKI TOURS—1980 SEASON

Jan. 6, 1980
Sunday

WILDLIFE IN WINTER—Stokes State Forest, Branchville, N.J.

This five mile tour, suitable for novice and intermediate skiers, will be led by an information and education officer of the N.J. Division of Fish, Game and Shellfisheries. In addition to lunch, please bring field glasses. Meet at the ski touring area across from the Stokes Forest on U.S. Route 206 at 9 AM.

For details, contact: Bob Byrne (201) 852-2565 (office)

Jan. 12
Saturday

TILLMAN RAVINE NATURAL AREA—Stokes State Forest, Branchville, N.J.

An examination of the geologic features of a beautiful glacial ravine will be the focus of this 5 mile tour. Led by a geologist of the N.J. Bureau of Geology & Topography who will interpret geologic evolution, this tour is suitable for novices and intermediates. Bring Lunch. Meet at the ski touring parking area across from the Stokes State Forest Office on Route 206 at 9:30 AM.

For details, contact: Steve Johnson (609) 292-2578 (office)

Jan. 26
Saturday

KUSER NATURAL AREA—High Point State Park, N.J.

This is a five mile interpretative tour, suitable for novice skiers, along the edge of a unique cedar forest. Meet at 10 AM with lunch at the High Point State Park Office on Route 23.

For details, contact: Regina Kelly (201) 948-4646 (office)
948-5727 (home)

Jan. 20
Sunday

SKI ORIENTEERING—Stokes State Forest, Branchville, N.J.

Before this intermediate level tour begins, you will be taught how to use a compass and topographic map. After the instruction period, you will be divided into teams to make your way through the southern part of Stokes Forest, going from checkpoint to checkpoint. The team which finds the most checkpoints in the shortest time wins. Accuracy is more important than speed so you need not be a racer to do well. Bring lunch. If there is no snow but sufficient interest, we will orienteer anyway. Call at least one week in advance for information.

For details, contact: Jim Merritt (201) 948-4646 (office)
948-6507 (home)

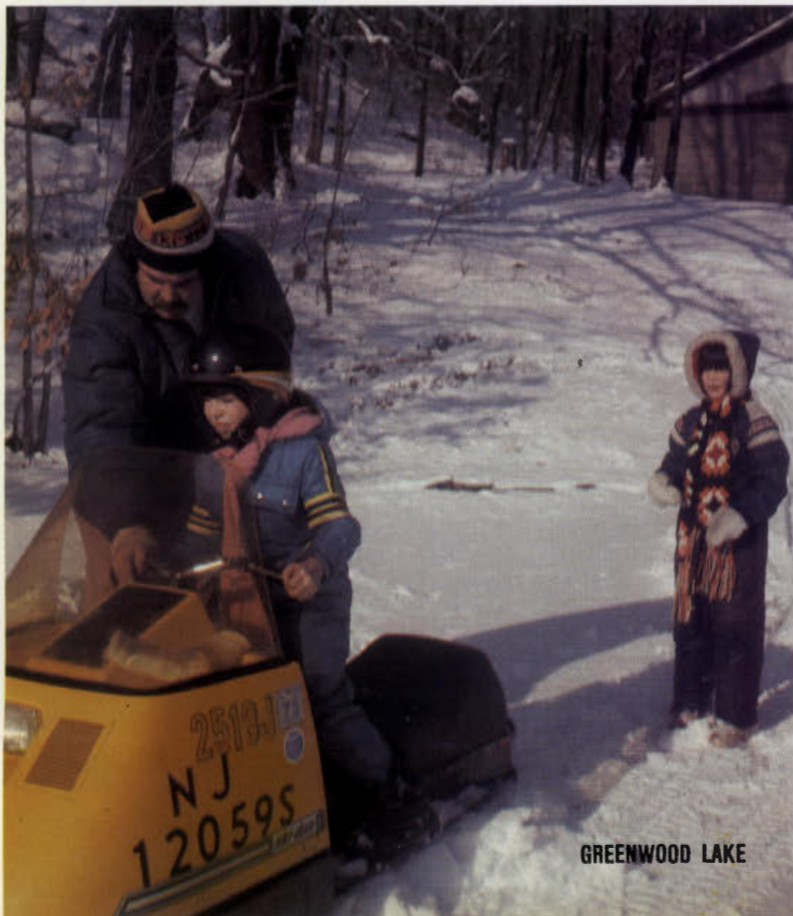
Feb. 2
Saturday

WILDLIFE IN WINTER—Stokes State Forest, Branchville, N.J.

This five mile tour, suitable for novice and intermediate skiers, will be led by an information and education officer of the N.J. Division of Fish, Game and Shellfisheries. In addition to lunch, bring field glasses if you have them. Meet at the ski touring parking area across Route 206 from the Stokes State Forest Office at 9 AM.

For details, contact: Joe Penkala (609) 259-3527

BOTTOM PHOTOS PROVIDED BY AUTHOR



GREENWOOD LAKE



LAKE HOPATCONG

SOLAR ENERGY

ia, Japan and Israel, the use of solar water heaters is still widespread.

A solar water heating system could supply all of your hot water needs, but such a system and storage tank would have to be so big (to provide heat through long stretches of cloudy days) that it would be uneconomic. Thus, homeowners should size a system to provide enough hot water to make the purchase economic. Depending on the price of the system and the hot water needs of the family, a system can economically supply anywhere from 45%-85% of the hot water needed. Thus, you must still have a back-up system of oil, gas or electric to heat your water during sunless weather. This is true for solar systems which provide home heating also, except that they generally only provide between 40% and 60% of a household's annual heating needs. This figure is lower since you only need home heating for about six months in New Jersey, while you need water heating all year long. Thus, your water heating system is more efficient and economic.

Is It Really Worth It?

If you have electric or oil home or water heating, the answer is yes in most cases. The individual considering a solar space or water heating system must examine the investment from the following vantage points:

- a. the cost of the system (about \$2500 for solar water heating)
- b. the cost of back-up fuel (oil, electric or gas)
- c. the cost of operating and maintaining the system over its lifetime
- d. the amount of the monthly payment on the loan, if so financed
- e. the effect of inflation on net yearly fuel savings.

Of course, the homeowner should not forget other advantages, including increased property value which is not assessed in New Jersey, no sales tax on the system and federal tax credits for energy conservation and the use of solar energy. Economists use different methods to compare whether benefits of a solar system will, indeed, outweigh the costs of owning one. One of the most popular concepts is the "payback year," (the year in which the compounded net savings equal the remaining principle on the loan obtained to finance the system). Even though a homeowner with a solar system will save a substantial amount of money on fuel, he may not have any overall savings until after the loan is repaid. Especially if the capital cost of the system is high and the debt is repaid quickly at a high interest rate. In other words, the cost of the system might outweigh fuel savings while the loan is being repaid. The "payback" then, is very sensitive to the number of years the homeowner takes to repay the loan, and should not be taken at face value by consumers shopping for solar systems. (Public Service Electric and Gas Company, for instance, claims that the payback period for solar hot water heating is an incredible 15-30 years, without including the costs of operation, maintenance

and interest. Any solar water heating system which honestly takes that long to start making money for you isn't worth it.) Solar water heating is most economic when it replaces electric heating and is also economic when it replaces oil. It is much less economic when replacing natural gas, since gas prices are still regulated at artificially low levels, but you save the same amount of energy.

The most appropriate method to determine whether a solar installation is economically justifiable is to calculate the net monetary benefits the system will bring over its lifetime using a cost-benefit analysis. This means homeowners would calculate the costs (loan payment, maintenance and operation) and the benefits (fuel savings) and weigh the two. When the benefits outweigh the costs, the system will be profitable to own over its lifetime. Just how profitable the system must be before the homeowners invests in it is up to the homeowner.

Getting Started

The more energy-conserving your home is, the smaller your solar system will need to be and the more money you will save. Before you consider a solar system, make every necessary conservation improvement that is economic. This includes additional wall and attic insulation, storm windows and doors, weatherstripping, caulking, insulated water heater, lower temperature setting for the water heater and hot water conserving faucets and showerheads.

Once you've decided to install solar, shop around for your system and installer. Most complaints received about solar systems are not product-related, but are due to poor installation by untrained or inexperienced contractors. Keep the following tips in mind:

1. To check qualifications, find out what the contractor's extent of field installing has been. Ask for a list of their recent customers. Get estimates from at least five companies before you choose. Call the N.J. Division of Consumer Affairs or the Better Business Bureau to see if complaints have been filed about any contractors.

2. A reputable firm will have had its equipment tested by one of the independent testing laboratories or universities approved by the National Bureau of Standards. Get the results of these tests.

3. Carefully examine the manufacturer's written warranty to determine how long it lasts and what parts, labor and services are covered by the warranty. Find out who will service the collector should repairs be needed.

For more consumer information about solar systems, invest \$3.75 in *A New Jersey's Consumer Guide to Solar Energy Systems* (N.J. Public Interest Research Group, 32 W. Lafayette Street, Trenton, N.J. 08608, 1978, 219 pp.). The book also contains a detailed guide for determining whether a solar system is economic and discusses conservation, solar installations in New Jersey, manufacturers, distributors, architects and engineers and action you can take to help promote the use of solar energy.

Winter Wonderland

Craigmeur in the northern part of the state. Greta Christiansen at Great Gorge/Vernon Valley says they are equipped to handle pros and amateurs alike with ski school sessions open to all.

Over at Craigmeur, Ray Shank and his staff are ready at the drop of a snowflake to help out beginners, and their slopes are also ready for the best of skiers.

Still further north you'll find Hidden Valley just below the New Jersey-New York border. In the central

area of there's Belle Mountain in Mercer County.

If you're into cross-country skiing, try Fairview Lake, and check the *Ski Tours* schedule below. Then take in Arrowhead, Campgaw Mountain, Peapack and Ski Mountain, and you'll make New Jersey a regular on your yearly ski tour.

And when we say *New Jersey's Got It*, we mean many other winter activities. These include ice fishing and ice boat sailing on Greenwood Lake in Sussex County, and Lake Hopatong where there's ice skating and sail skating, one of the newest fads to hit the state.

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Hopatong where there's ice skating and sail skating, one of the newest fads to hit the state.

Most of the winter fun just mentioned seems to be gaining in popularity especially at Greenwood Lake at the northern most border of the state.

According to a local housewife and mother, "Up here ice skating, ice sailing, ice fishing and snowmobiling are a way of life."

So don't let the good life pass you by this winter, experience New Jersey.

For more information on skiing in New Jersey, write to:
Tourism, Box 400
Trenton, New Jersey 08625
(609) 292-2470

Continued from editorial page in this issue

Bauer, writes that *Solar Energy May Be Right For You*. Energy from the sun can heat your home, water and pool. This article discusses how solar systems work, how much they cost, whether they're worth it and why.

And Ms. Bauer should know, she is a researcher with New Jersey Public Interest Research Group (NJPIRG) and coauthor (with Nadine Shaw) of *A New Jersey's Consumer Guide to Solar Energy Systems*. Information on this book

is provided at the end of the article.

Richard W. Zimmermann, Jr. (also new to our pages) writes about a labor of love, the restoration of the *Whitman-Stafford Farmstead* in Laurel Springs. This house dates from 1790 and was the summer home of poet Walt Whitman. During his stay there he wrote parts of *Leaves of Grass* and *Specimen Days*.

In the January/February 1976 issue of *New Jersey Outdoors*, wildlife biologist Robert C. Lund wrote about the emergence of a *New Wolf for an Old Niche*. Now some

years later, biologist Lund updates that material in *Coyote Update*.

Out Wildlife in New Jersey series piece is introduced by the coyote illustrated by Carol Decker on the inside back cover.

If you're into outdoor winter activities like ice fishing, skiing, ice boat sailing, snowmobiling, cross country ski tours, and the like, read *New Jersey—A Winter Wonderland* by Tony Patterson of the Division of Travel and Tourism.

So you wouldn't forget *N.J. '79*, we put together some photographs of people, wildlife and vistas. □

Nature Facts

The widespread belief that crocodiles eat their young is false, according to National Wildlife magazine. After baby crocs emerge from their eggs, their mother does take them into her mouth—into a piece of elastic skin across her lower jaw—but only to carry them safely to water's edge for release.

More Americans die from bee stings than from snake bites, according to the National Wildlife Federation.

Many large, migratory birds, such as geese, who mate for life, do so out of necessity, according to the National Wildlife Federation. After migrating thousands of miles to their nesting grounds they don't have time to court a new mate each year.

Atlantic City Coastal Museum

The Absecon Lighthouse, once the pride of Atlantic City, is again open to visitors. The Lighthouse property has been leased from the state by a local group who have painted up the little building and are opening a small museum.

For a small donation, visitors may climb the 228 steps to the Lighthouse tower and view the city below. The museum is free. One of its first exhibits is a model of Absecon Island, where Atlantic City lies, as it was in the 1700's.

Hours for the museum and lighthouse are 10 to 5 every day but Wednesday.

Continued from page 11

diary: winter of '78

elephant skin. It lumbers to raise itself to a crest only to fall short and become a minor swell. It is hoary, it is cumbersome, it is feeling its ancientness.

Feb. 18th: Temperatures have been below 10° all week. Beach temperature has been 0°. It is *really* cold and the pipes have burst (again). I am also without heat (thank heavens for the fireplace) and the electric company spends all day restoring service. The beach (and every other surface) is frozen solid. The gulls cannot feed and huddle, shivering, unable to either land or stand still as they skip and fall on the ice. They look like clumsy dancers, flopping and slipping all over. I am afraid that they will starve. I feed them what I have.

Feb. 19th: Slept well, as I always do when surrounded by natural sounds yet insulated from their impact. I awaken to a swirling, gusting snow which has already drifted to 4 feet depths. Stepping outside to take pictures cannot be accomplished; the cold and the wind are too intense. The windows and doors are covered with myriad snowflake patterns caused by the wind smashing them against the warmth of the panes. It is incredible! Visibility is barely to the corner. The beach cannot be located except by the sound of the ocean. It is gone, vanished, an attempted kidnap by the marauding storm which approached stealthily, taking her by surprise and covering her with a huge white blanket. In making off with her, the blanket becomes cumbersome, thwarting the getaway. Finally, the assault is abandoned leaving the beach under 20 inches of snow and the sea sluggish—its vitality slowed by the tremendous output of energy expended on the combat.

SKY—pink/blue/white/bright

OCEAN—white lined horizon

black crested with pure white spume

grey/brown hoary slush rolling

inward breaking awkwardly in slow motion.

BEACH—solid white/ice forever



- Feb. 20th: So very lovely
So very impassable
The governor has declared a state of
emergency
The national guard has come
with a machine to dig out the island.
It will take days. No one can come
over the causeway. I walk there to
catch a ride home. My car is covered
to the level of the windows.
- Feb. 24th: I have returned to find everything
moving—slowly—but most of the
snow remains. How long before
spring?
Light years away
- March 18th: Although I have spent many summers
at the beach, I have never been with it
enough continuously and with time to
reflect that would permit me to realize
its instability. Every day begins and
ends differently. There is an endless
variety of color displayed by both the
clouds and the sea. The water itself is
never still and alters in mood as often
as 6 or 10 times per day. I wonder why
human beings expect to be stable
when it seems quite clear that all of
nature's constituents are in a state of
flux.
- April 1st: It is very warm today and I walk
barefoot for a little while—until I
become chilled. The sea smells good
and the horizon is of such a delicate
color that I get high just absorbing it.
The gulls are prancing and puffing
their feathers and being more raucous
than ever (if that is possible). They are
standing in pairs. Spring is here. My
winter is over. Soon I must return to
my own territory. It is a time of both
sadness and joy.
- May 15th: I leave today and can only feel over-
whelming depression that I must
abandon my place of refuge which has
served to protect me from winter's
wrath and yet permitted me to be a
part of it as well. I know that every-
thing is constantly changing and I
know that I must change, too, but I
resist. As I close the door behind me
and get into my car my heart is not
bounding as it was in November. My
adventure is over. I must return to the
“real” world. A gull flies low and
squawks repeatedly. A messenger
from the beach to tell me I will be
missed. We have become a part of
each other. □



Continued from page 5

A Gristmill Revisited

Heavy timbers, adze-hewn and rough,
countered by the
silky patina of the cogwheels—
their grain worn smooth
through incessant movement and the
gentle abrasion of the meal . . .
The sluiceway, penstock, wheel, and flume;
The pit wheel, spur wheel, bevelled gear,
and wallower;
The netherstone, runnerstone, shoe, and eye;
The sack hoist, garnar,
bolter, and hopper boy. . .
. . . these were the workings of the mill
which harkened to the hand of the
miller and made or broke him with
their time-honed idiosyncrasies.

I am the Old Mill.

Did you see my profile mirrored
austerely in the pool beneath
the idle wheel?

Though some see romance in my collapsed ruins—
these vestiges of a life that was—
there was little romance in
that life itself:

Men toiled under me. . .

sweated under me. . .

swore under me. . .

bled under me. . .

half-froze under me. . .



and, indeed,
died under me.

There was little romance in running a mill.

Yet there was a deep love:

A love for simple achievements of
the head and hands; for the
opportunity to convert something of
raw substance into products
of cherished pride. . .

A love for an honest day's work and
self-sufficiency,
unfettered by the whims of some
profiteer or middle-man. . .

A love for living at the source of
something elemental and vital
and for dealing with the land
on its own honest terms. . .

A love whose spirit seems nearly
diminished in the eyes of those
who gaze imperceptively into
the darkened stillness
of my pond. . .

I am the Old Mill.

Did you notice me?

I could easily be overlooked—

my crumbling walls and skewed timbers
cloaked in time's tangle of vines and debris. . .

A muskrat slips down a muddy flank of the pond,
and the stream gurgles sonorously
through a rent in my earthen dam. . .

I am the Old Mill. . .

a landmark,

a legend,

a reminder of a bygone era. . .

Did you notice me?

Perhaps you never will.

TREE FARMERS USE THEIR TREES BUT KEEP THEIR FORESTS.

The Tree Farmer is a woodland manager. He knows that trees are a renewable resource, and a valuable resource for the country's future. And so he grows and harvests his forest crop with an eye towards constantly renewing and replenishing his forests.

It's not just a matter of planting a few seedlings each year. The Tree Farmer actively works with his forest, protecting the land from fire, insects, disease and destructive grazing. He provides watershed protection, better food and habitat for wildlife, and opportunities for outdoor recreation. And it is the more than 37,000 Tree Farmers who will make possible the lumber, wood fiber, and other natural resources America needs for tomorrow's growth.

If you have 10 acres or more of woodland, why not send for information on this

valuable program? Tree Farms pay off for their owners and for our country.



Return to:
Santiago Porcella, III, Chairman
N.J. Tree Farm Committee
11 East Delaware Avenue
Pennington, New Jersey 08534

- ☐ I would like more free information on forest management and Tree Farming.
- ☐ I have enough information already. Please arrange for a professional forester to contact me to discuss forest management and Tree Farming on my woodlands (no obligation or charge).

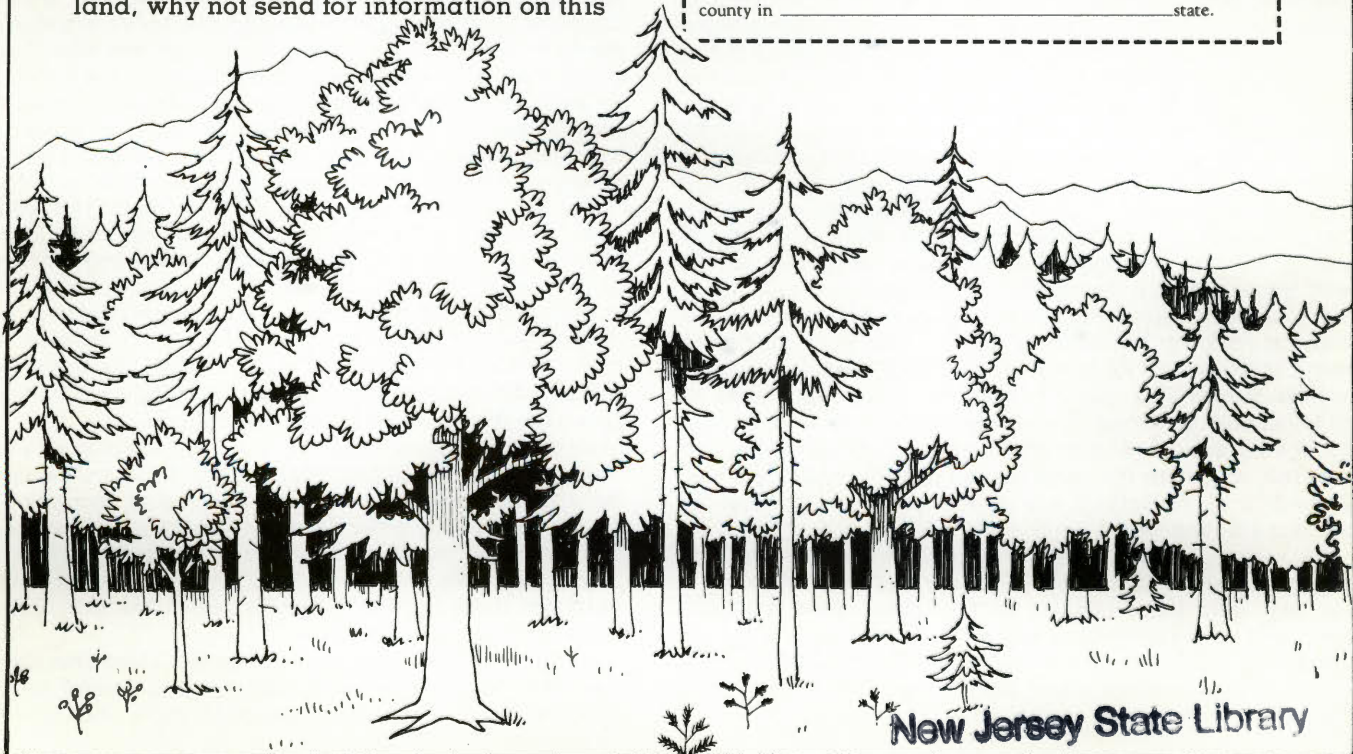
Name _____

Address _____

Home Phone _____ Business Phone _____

I own _____ acres of woodland in _____

county in _____ state.



Continued from page 7

THE MAN FROM RAMARAMA

ter); Tangowahini (weeping woman).

Not to be outdone, the American lady pointed out that in this country, we have also retained many Indian names. In New Jersey, the list is long; Raritan, (forked river); Batsto, (place to bathe); Manasquan, (place where squaws are left while braves go fishing), to name only a few. But unlike the Maoris, our Indians were starved, pushed, and beaten into submission. Today's recognition of their culture may be too little and too late.

More than once in their travels throughout the N.J. countryside, the Kiwi and his friends heard, but could not locate, an autumnal sound. Suddenly, at Washington's Crossing on the Delaware, there it was! The honk, honk, honking of huge flocks of Canada geese, feeding and resting before their migration to tidal marshes further south.

In the 1900's, breeding Canada geese had all but disappeared from northcentral U.S.A., and by the 1930's, severe drought, plus excessive hunting in the East, found the birds at an all-time low level. But in an amazing turnabout, federal and state laws regulating their hunting, plus a change of the Northeast's habitat, have brought the geese back to enormous numbers. In fact, at the present, Canada geese are becoming a nuisance and a threat to the farmer. The balance of nature is, indeed, precarious.

Canada geese are found in some areas of New Zealand. Introduced, in roundabout fashion, from England, at least 20,000 of the birds exist in specialized pockets. Because of New Zealand's temperate climate, descendants of the original birds are losing their migratory instincts, and their numbers flock year 'round to the same areas. As in the U.S.A., farmers suffer from the damage to their crops and pastureland. Hunting is, of course, encouraged.

On the walls of the bank of the little town in which she lives, the N.J. lady pointed out a most telling photograph. Fifty years ago, this rural area was quite different. The forests, woodlots, and overgrown fields of the present day were, at that time, field upon field separated only by hedgerows and stone walls. "With prices for land soaring, many farmers are moving out of N.J., and it's getting to look more like it did in pioneer days." She told him that in the Northeast, 65% of the land is now forested, more than double that of a hundred years ago.

The Man from Ramarama said that although New Zealand is largely pastoral, 15 million acres of bush (forest) still remains. In the early 1800's, little attention was paid to the destruction of forests and wildlife. Once, there were mighty stands of kauri, a magnificent evergreen that grows to 170 feet. Some of these trees were more than a thousand years old. Colonizers discovered that kauri was a knotless wood that lost its lower branches as it grew. The tall trunks were found to be perfect for fashioning the masts of sailing vessels. In time, the durable, easily worked kauri was recognized as an invaluable construction material of many uses, and it was decimated without forethought. When man finally awoke, he devoted himself to the perpetuation of the remaining trees. Remnants of the forests are now in sanctuaries, carefully managed by the state.

But when it came to trees, the Kiwi seemed to be most impressed with N.J. natives, especially our giant white oaks. He had only been familiar with English oaks, and was surprised at the girth and height of these rugged old sentinels. The N.J. lady told him that Salem, N.J., boasts of what is probably the oldest white oak in the country, perhaps 300-500 years or more of age.



For the nature lover who appreciates the fact that every kind of tree or plant, bird or animal, has an interlocking effect on our earth, preservation of all forms is indeed important. How can this be accomplished when man must mold and change the land into the economic form that he finds most suitable?

Mother Nature, with man's assistance, provided New Zealand the wherewithal to excel in the growing of food crops. The Kiwi told his friend that at present, his country is exporting food and fabrics to such undeveloped countries as Bangladesh. She retorted that she once read about N.Z. during World War II. Its farmers helped to feed Allied soldiers and sailors on duty in the Pacific war arena.

But farms transform a wilderness. Removal of trees on fragile hillsides can cause soil erosion, sometimes accompanied by flooding conditions. They both agreed that when environmental changes are necessary, the best approach is thoughtful, scientific planning for the future.

The N.J. family told their visitor how their state grappled with an environmental dilemma. They took him to see the Delaware Water Gap. His admiration of the scene left him speechless, but at a later date, when he had seen Niagara Falls, he summed it up: "Simply superb! Grandiose. Like all America."

At Worthington State Park, they told him that shad, canoeing, and many other bounties of this northern section of the river, had almost been destroyed. Not long ago, the Army Corps of Engineers planned to dam the Tocks Island area in the river and build an enormous recreational lake. Recreational areas are needed in this crowded state, but in this case, an existing natural region was to be changed. Almost overlooked was the fact that the impounded land areas to be inundated would wipe away more than a thousand dairy and chicken farms, and that water would flow over exceedingly fertile soil from the manure of these animals. The resulting lake might eutrophy rapidly into a stinking, organic mess, with oxygen levels so low as to exclude fish and other water creatures.

Because of this and many other complex factors, it was agreed that the lake might become a terrible disaster. Congress finally disallowed the plan. Instead, the entire region will be maintained in a natural state. In 1965, it was named the Delaware Water Gap National Recreation Area.

New Zealand also recognizes the need to set aside recreational areas. It has 10 national parks for its 3.1 million people; per capita, probably more land devoted to recreation and wildlife than in any other developed country in the world. It is trying to avoid mistakes of the past, and learns from environmental blunders elsewhere. Thus far, air and water pollution have not been terrible problems, as in the U.S. But New Zealand has other difficulties.

An age-old situation prevails. A farmer stakes his claim on the most fertile of topsoils. Soon, he is joined by other farmers. Then, a town, and possibly, a city, builds around

them. The land becomes too valuable as urban real estate to remain in agriculture. Thus, farmers move out and rich topsoil is buried under housing and commercial construction.

The New Zealand Land Use Advisory Council has examined the problem. It, and other branches of the government, look into indiscriminate construction on fertile lands, too close to scenic coastal areas, on the margins of lakes and rivers, and in wildlife forests that need preservation. Backup legislation often follows the council's recommendations.

In the Land Down Under, the greatest migration from cities occurs in December through February, New Zealand's summer. Crowds flock to the gorgeous seacoast for swimming and boating (a favorite N.Z. sport). In the South Island, alpine regions are dotted with ski slopes. Tramping (hiking), on a track (trail), through the bush (forest) is popular with many Kiwis. In general, the population enjoys outdoor pursuits as much as possible. The government says: Give the man a fair go, but nevertheless, look to see that N.Z. will be all right. In American English, all this means is that the outdoor life should be encouraged, but that the environment must be protected so that it is not destroyed.

The N.J. family showed their visitor their favorite place of recreation, and so close at hand! A half-acre spring-fed pond sprawled in front of their home. It had been stocked with rainbow trout from a private hatchery, but they told the Kiwi that state hatcheries also stock rivers, streams, and lakes for sport fishing.

The Kiwi and his friends agreed that it is part of man's nature to want to improve the place in which he lives. When exotic plants are imported, severe regulations guard the possibility of bringing into the country unwanted plant insects and diseases. With the same care, N.Z. regulates nonnative species of fish. The rivers of North Island and the tarns (lakes) of South Island are stocked with sport fish. It is not unusual to catch trout up to 4 lbs. But there is a cautious approach to all importation so as not to upset nature's apple cart.

The Maori was the first human to introduce mammals to N.Z. He brought with him the dog. The English, who followed, imported what is probably the greatest predator of them all, the cat. Gradually, other animals found their way to the islands, among them rabbits, weasels, opossums, wallabies, goats, and deer. Not to mention the cattle and sheep upon which N.Z.'s economy depends. The Pakeha and Maori are now working together to control overpopulations of foreign animals that can do terrible things to the original landscape.

As the Man from Ramarama and his friend roamed through the N.J. countryside, they occasionally came upon a herd of whitetailed deer grazing in the meadows, in farmer's fields, and even in suburban gardens. It was a haunting sight to watch their graceful movements, and to peer out at the mellow brown eyes. But the N.J. lady told of the many near-collisions she and her family, and others who drive, have had with these animals. Farmers and nurserymen often suffer damage to their crops by browsing deer. Wildlife records reveal that from Virginia to Maine, the population of the whitetail has soared to two million, ten times greater than a hundred years ago. Hunting season for deer, two months a year in N.J., reduces the herds considerably but might not be enough to control their overabundant numbers in some areas.

She had to admit that she and her family loved to observe wild animals wherever they appeared. What fun it was to have a ringside seat to the antics of a rare red fox or a not-so-rare raccoon. And now, this part of the country is sighting what was once a strictly western animal, the coyote!

All pleasures, it seems, have their drawbacks. It became personal when that summer, her husband had planted a

special crop of sweet corn. He had to enclose it with electric fencing to keep out the hungry coons.

"In N.Z.," her friend told her, "overabundant deer have also been a problem." Mountainous N.Z. is the outdoorsman's paradise. Since no mammals were indigenous, hunters had to import deer. Six species were liberated in high country. Only no one foresaw that with few predators, plus an excellent food supply, their increase would become staggering. Even professional hunters could not control enough to prevent deer damage, because the hilly terrain makes hunting very difficult.

The helicopter helped to alleviate the situation. Deer are located, snared, and placed in a harness beneath the whirlybirds, then deposited in a central location, to be eventually sold as venison.

Hunting for wild animals is a popular challenge in N.Z. In the mountains, no license is required, and there is open season throughout the year.

N.Z. has encountered a delicate situation when it comes to birds. Englishmen love their sparrows, larks and thrush, and brought them to their overseas colony (now an independent dominion) They also brought waterfowl, such as mallards, and Australia's black swan was imported to ornament ponds and lakes.

As in N.J., where we are now discovering that man's intervention, such as feeding wild fowl, can create unexpected problems, so the Kiwi's have run "afowl." Introduced birds compete for food with native birds, and sometimes infect them with diseases to which the local populations are not immune.

Legislation in the country is now being enacted to protect these native birds. The N.J. lady told her visitor that the U.S. has already gone a long way down this path. In 1918, the Federal Migratory Bird Treaty was enacted, and only recently, supplemented. The word is hands off songbirds, and it is illegal to possess them, or even care for the sick or wounded without a permit. Hunting of waterfowl and other migratory species is carefully regulated, with explicit directions regarding licensing, bag limits, hunting hours and seasons. Even size and type of firearms and ammunition is prescribed.

"What a pity you have come too late in the season to see our many colored wildflowers," said the N.J. woman. And she described a few; violets and mustard in the spring; chicory, daisies, and black eyed susans in summer; asters and goldenrod in the fall. "Some natives, some aliens," she said. "Many arrived here as hitchhikers in ship's cargos from Europe."

And that brought them back again to their discussion of introduced and native living side by side. "Everyone knows that the immigrant dandelion is the lawn keeper's enemy," said the American. "And other wild plants are the scourge of farmers' fields. Yet, even an orchid is a weed—if it is growing in a lawn. We will always have weeds. But unwanted ones can be destroyed. Without weeds, our roadsides would be dull and colorless."

As the Kiwi's visit was drawing to a close, Autumn was also on the ebbtide. The trees had emptied themselves of great masses of leaves. A sudden chill in the air abruptly concluded the pleasant weather. Leaden skies foretold what was to come: one of the coldest, snowiest, most brutal winters in recorded climatology. It was just as well that the Man from Ramarama continue on his journey so that his impression of New Jersey might not be marred.

On the day of his departure, there were brief goodbyes. No need to say very much, for they had never stopped talking throughout his visit. As her husband drove the Kiwi bloke out of the driveway for the trip to the airport, the American lady noticed that Mother Nature had said it all for them. Early morning began with the first killing frost of the season. □

Winter Photography

the added light reflected off the snow makes a tripod more of a luxury than a real help in taking pictures. One alternative is to use ski poles for camera support, squeezing the shutter slowly for the sharpest photos.

There are times, especially on short trips in the snow, when a tripod does come in handy. In late winter, for example, a tripod is an asset when you want to use slow camera speeds to capture the movement of streams of water formed by melting snow.

The hardest part of winter photography is setting the proper exposure. It's very easy to overexpose film in snow, producing "washed out" pictures. Yet if you rely on a light meter alone to tell you which exposure to set, you may get photos of "gray" snow. The reason is that meters are set to produce photos of an average color density. Meters have no way of knowing that large areas of snow are supposed to appear white. They overcompensate for the brightness, and you wind up with a photo that is dark.

If you use an exposure meter (or the meter in your camera), point it at the palm of your hand. Take the reading and set your camera accordingly, opening up the aperture one f/stop more. A better system is always to use the same type of film so that you'll be able to judge from experience the proper exposures under certain light conditions.

When taking winter photos, it is often necessary to "bracket" exposures, that is, to take photos with the aperture open one more f/stop and one less f/stop than what the meter reads, as well as taking your first shot at the indicated exposure. In some areas such as snowy woods, bracket even more because light in environments such as this has high contrast and is very hard to judge accurately.

One of the weakest parts of a camera system in winter is the battery. In some new electronic SLRs, the camera won't work at all when the battery fails. In manual 35mm SLRs, exposure readings from meters can be off in cold weather, as well.

Camera batteries are like car batteries in that they seem to fail in cold weather—when they cause the greatest inconvenience. Batteries more than six months old should be replaced before using a camera in cold weather. If possible, use alkaline rather than zinc-carbon batteries, since they are affected less by low temperatures.

For winter photography, travel light. Take as few lenses and accessories as possible (the only exception is if you use a camera pack and are on a day trip). The so-called "normal" 50mm lenses that are standard on most 35mm SLRs are not the best choice for winter photography. A 28mm or 35mm lens—moderate wide-angles—offers more versatility. It is better for scenic shots, takes photos with a greater sense of depth, and can also be used to take photos of friends in a scene. The second most useful

lens in winter is the 105mm. It allows you to emphasize distant scenes, and it is also a good lens to use for close-up photos of your companions. If you prefer to try wildlife photography, use at least a 200mm lens.

A few filters are useful in taking winter photos. For color, a polarizing filter is important. When the sky is overcast, as is often the case in winter, a polarizing filter strengthens the colors so they don't look as washed out. When the sun is out, a polarizer deepens the blue of the sky and adds sparkle to any photo. For black-and-white shots, an orange filter is tops. Red filters create overly contrasty shots, especially in sunlight, while yellow filters don't bring out the texture of the snow as well. Add a polarizing filter to an orange filter, and you'll be able to create some dramatic skies to enhance your winter photos.

Another useful accessory for winter photography is a flash. Because of the high contrast that accompanies snow conditions, shadow details often come out looking black in photos. Shadows on faces are often harsh. Using a flash to fill in shadows can tone down that harshness and produce a much more pleasing photo.

For winter photography, these few special tips can point the way to success. Even though it is cold outside, and the difficulties of photography can seem discouraging, outdoor photography during this time of year can be as rewarding and almost as easy as in spring, summer, and fall. □

FRONT COVER

Frostbitten—Photographed by David A. Bast

INSIDE BACK COVER

Coyote—Illustration by Carol Decker

BACK COVER

Winter Backpacker at Spruce Run Reservoir (See article on page 2)—Photographed by Patrick Sarver



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