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from the editor

talk to us . . .

We get feedback from our subscribers via letters to the editor, phone calls, subscription renewals, face-to-face meetings at conventions, state fairs, workshops, etc. That's good—but we'd like to hear from more of you.

In one of the 1975 New Jersey Outdoors issues we included a Reader Survey Questionnaire which was filled out and returned to us by more than two percent of our subscribers. This was considered a good return and it indicated that we had an interested, active, and concerned readership. Fine.

Now, three years later, we have included another Reader Survey Questionnaire on page 26 of this

issue. This is a golden opportunity for our readers to talk back! Since 1975 our circulation has tripled so now we want to know who you are. What you like. What you don't like. Your suggestions. So please turn to page 26, fill out the survey form and return it to the magazine address. Names and addresses are not necessary, but may be included if an answer is desired.

After the survey answers are tabulated and analyzed, the results will be discussed in an editorial or an article in a 1979 issue. Then you'll know as much about yourselves as we think we do.

IN THIS ISSUE . . .

Another issue, another group of authors not previously published in our magazine—and we're always glad to introduce fresh viewpoints and new ideas to our readers.

Author Robert Zampella writes about *The Trenton Marsh*, a freshwater marsh teeming with wildlife within easy reach of urban and suburban dwellers in Mercer County. Mr. Zampella, a local schoolteacher, writes that the marsh is only a 15-minute walk from downtown Trenton.

"Every person already in New Jersey or who shall transport himself thither with the first governor before January 1, 1665. . . shall receive for his own use, 150 acres of land." This is one of the laws discussed in *Land Use Laws of Colonial New Jersey* by Timothy C. Moyer. Author Moyer's article reveals how the land use laws enacted in colonial New Jersey affect and influence our modern day legislatures.

In the article *Wreaths Made from New Jersey's Outdoors*, author Loraine Kiefer shares an illustrated step-by-step procedure with our readers on how to make decorative Christmas and seasonal wreaths with natural materials from the outdoors. Photographs for this article were provided by husband, Ted Kiefer, a professor at Camden County College and chairman of the Franklin Township Environmental Committee. Mrs. Kiefer, a 4-H leader for the past 10 years, writes a weekly garden column in the Franklin Township Sentinel and is involved in many garden/ craft/ environmental projects.

Our "think" piece for this issue—*A Question of Values* by Robert J. Bernath—discusses the conflicting values of urban/suburban vs. rural cultures. The author comments: "Where the harsh realities of rural living no longer affect the individual and where unrealistic attitudes can develop in a social climate basically manmade and possibly removed from environmental factors which create realistic ethics, it is no wonder that a number of conflicting lifestyles can evolve and all be more or less out of tune with reality."

The front cover photograph of snow geese off Cape May introduces the article *Winter Birds at the Jersey Shore* by William D. Griffin. Author/photographer Griffin writes about the variety of avian species inhabiting our Jersey Shore during the winter season.

Author Robert S. Stokes, Supervising Planner, Green Acres writes about the *New Jersey's Open Space and Outdoor Recreation Plan*. The article describes New Jersey recreation resources, the demands for additional open space and new recreation facilities, and the recommendations of the New Jersey Statewide Comprehensive Outdoor Recreation Plan (SCORP).

Wildlife Biologist Robert Lund reviews the book *The End of the Game* by Peter A. Beard. Reviewer Lund says, "Beard's book is for the realist, those few whose concern with the preservation of natural systems extends beyond sentimentality. For those with open minds, it will be an experience."

A new bi-monthly feature in New Jersey Outdoors will be *Non-Game News*, a newsletter which will present news dealing with non-game, endangered and exotic species programs in New Jersey.

Jim Fitzsimmons, a frequent contributor, has developed a pictorial article which illustrates some of the things that *New Jersey Is*. Author/photographer Fitzsimmons is chairman, Department of Geography at William Paterson College.

Per our custom each year, we have included the *Endangered Species Art Contest* for elementary, junior, and senior class students. This yearly program is sponsored by the Ocean Nature and Conservation Society of Toms River. Text for article was written by J. Morton Cooper, past president and director of the society.

Ducks Unlimited—Building for the Future by Arthur W. Neill discusses waterfowl breeding habitat programs and the Ducks Unlimited success story. Author Neill is Regional Director, North Central Atlantic Region of Ducks Unlimited, Inc.

Harry V. Shourds, a third generation woodcarver, and Anthony Hillman, a wildlife illustrator and woodcarver, have authored a large format (11" x 17") book called *Shore Bird Patterns*. The book contains a serious rendition of each bird accompanying three pattern views (profile, top and front). A unique "how to" woodcarving book not available anywhere else.



We wish you a Merry Christmas and a Happy New Year. And your holidays will be most joyous if you give a gift subscription of *New Jersey Outdoors* to someone special.



OLSCHEWSKI

THE TRENTON MARSH

ROBERT A. ZAMPELLA

A lonely reminder of the extensive Delaware River tidal marshland that once existed north of Philadelphia lies only a 15-minute walk from downtown Trenton. The Trenton Marsh, one of the most diverse and easily accessible natural areas in the Trenton region, is located within the borders of Trenton, Hamilton Township, and Bordentown. Although it has been invaded by a power plant, a sanitary landfill, and a sewage treatment plant, the marsh has not completely yielded to the pressures of urban development.

The most easily approached portion of the marsh is located within

Roebling Park, part of the Mercer County Park System. Access to this area, which is known as White City Lake by local residents, can be gained through Sewell Avenue in Hamilton Township.

When entering the park, you are greeted by the enthusiastic chatter of the Red-winged Blackbird, the most conspicuous member of the marsh's bird community. These birds are not the sole benefactors of the marsh's diverse habitat, however. The extensive lowland and marsh vegetation provides numerous niches which are, to the birdwatcher's delight, colorfully occupied.

The vocal mimicry of the marsh's Mockingbirds and Catbirds competes with the boisterous calls of the Common Crow and the beautiful Bluejay. While "poor Sam Peabody" is immortalized by the song of the wintering White-throated Sparrow, the casual observer can add Cardinals, Robins, Goldfinches, Downy Woodpeckers, Flickers, Chickadees, Nuthatches, and Titmice to his daily list. The fortunate birder may cross paths with a resident Great Blue Heron or enjoy the aerial choreography of a Red-tailed Hawk.

Spring Lake and Rowan Lake, two dominant features of the park, have played host to a variety of waterfowl

which included Ring-necked Ducks, Lesser Scaups, Pied-billed Grebes, Mallards, and Coots. During the summer months, Belted Kingfishers can be seen demonstrating their prowess as fishermen. The Kingfisher is not the only predatory bird that is attracted by the marsh's abundant supply of carp, pumpkinseed sunnies, redfin pickerel, and brown bullhead catfish. Osprey have been observed attempting to obtain a meal from Rowan Lake and Spring Lake, and a recent study reports that the Southern Bald Eagle has been sighted in the Crosswicks Creek area.

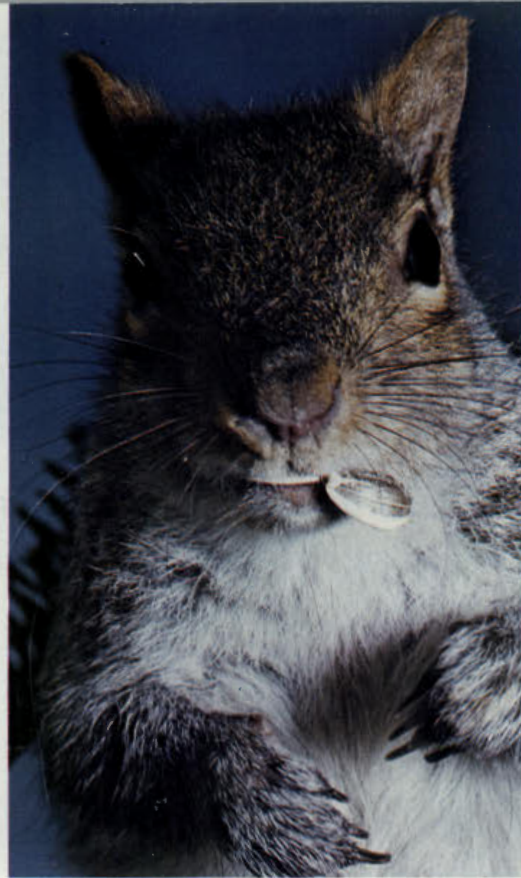
The most frequently observed small mammals of the marsh and surrounding lowlands are the ubiquitous gray squirrel, its smaller relative the chipmunk, and the cottontail rabbit. The sharp observer may also find signs of the nocturnal opossum or sight an industrious muskrat.

A truly intimate look at the marshland can be obtained by canoeing along the winding creeks from Rowans Lake to the Crosswicks Creek area and the Delaware River. The canoeist must remember that this is a tidal marsh; the careless planner who ignores tidal timetables may find himself portaging through brush and mud.

Although canoeing is easier dur-



Downy Woodpecker at nest GRIFFIN



Red Squirrel WILLIAM D. GRIFFIN



Female Flicker at nest GRIFFIN

ing the colder months when the waterways are not choked by plant growth, the spring and summer season are the best times to see the vegetation characteristic of a freshwater marsh. Unlike the Hackensack Meadowlands, the Trenton Marsh is not dominated by *Phragmites*, the common reed. This tenacious grass is found only in small plots within the marsh. Arrow


arum, arrowhead, pond lily, and pickerelweed grow in the waterways, while broad-leaved cattail, loosestrife, and wild rice, an important wildlife food which is decreasing in abundance within the state, inhabit the creek banks and higher areas. The combination of edge and open water in this diverse area brings to mind images of primitive landscapes which are far removed from the

modern reality existing a short distance away.

This brief description can only suggest to the reader the uniqueness of the Trenton Marsh. The marsh's location in an increasingly urbanized region of the nation's most densely populated state enhances its value as a natural resource and emphasizes that its preservation is imperative. □

VANELLIS





Land Use Laws of Colonial New Jersey

By Timothy C. Moyer

HARRY GROSCH

An environmental look at laws of the past and how they can reflect the attitudes that people hold today on our environment.

New Jersey is the most densely populated state in the nation today. This makes current land use practices a critical and controversial issue in the state. A review of the laws enacted during New Jersey's colonial period (1664 to 1776) may show how these early laws affect the thinking of people today on the land use issue.

When the first European immigrants arrived in the New World, they brought with them definite views on the ownership of land, fostered by religious beliefs and the feudal system they had lived under in Europe.

In Europe, ownership of land meant wealth and high social standing in the community. But, land was scarce and ownership was reserved for members of the nobility. Since they were few in number the nobles used this condition to justify the sacrificing of lives to preserve the ownership of land. This attitude would remain a determining factor in people's lives until the discovery of the New World in 1492 and its exploration during the following 150 years.

As Richard P. McCormick explains in *New Jersey From Colony to State*, "In part because land was seemingly inexhaustible and in part because of cultural factors, exploitation rather than cultivation best describes the colonial attitude toward land use." Such exploitation has continued to the present time, but with the population density what it is today people can no longer use land as they once did. This is why laws are being passed regulating the use of land. People

today must realize that they cannot continue to live according to past traditions and accept the fact that laws establishing a sound land use policy are a necessity.

Although England had laid claim to territory along the east coast of North America as early as 1497, colonization attempts did not begin until the latter half of the 1580's. These early attempts were unsuccessful and it was not until 1609 when Jamestown was started that a successful English settlement was established in North America.

With only a limited amount of land available in the small, insular country of England, most of which was held by the aristocracy, those who desired the improved social status which accompanied land ownership had to go elsewhere.

In volume one of his book *The Colonial Period of American History*, Charles M. Andrews states that, "conspicuous among the causes for colonization, in that it probably influenced the greatest number of those who settled in North America, was the desire for land and an opportunity to make a home for wife and children."

An enormous amount of land was to be found in North America and "not a project was set on foot looking to colonization in America that the promoters did not hold out the tempting inducement of land to those whom they wished to attract as prospective settlers." Persuading people to leave England for settlements in North America was not difficult because, "the tenantry resented the retention of the old

feudal incidents and a land law which favored the landlords in all that concerned the use of the soil and the tenures by which it was held. They were growing impatient of feudal practices and payments that made occupation uncertain and living precarious."

These European colonists brought with them definite views on the environment and what was to be done with it. These views are precisely stated by Dr. V. Eugene Vivian, who calls them "outdated environmental ethics." They include the purpose ethic, the idea that man has dominion over a world whose parts and inhabitants exist solely for the benefit and welfare of mankind; the myth of superabundance, which means that all resources are limitless; the reduction of environmental hostility, whereby man has always considered any environment a challenge to be conquered; and property ownership as the prime source of wealth and survival. New Jersey's colonial period is replete with laws which are examples of such outdated environmental ethics.

That land was a ready source of wealth and was very abundant in colonial New Jersey may be seen in the following offer made by Lord John Berkeley and Sir George Carteret, the original English proprietors of the colony.

To encourage immigration, "every person already in New Jersey or who shall transport himself thither with the first governor before January 1, 1665. . . shall receive for his

own use, 150 acres of land."

Additional acres could be gotten under a headright system set up by the proprietors. Any individual who sent servants to live on the granted land could receive up to 70 additional acres for each person who was sent to the colony. Of course, actual ownership of this land was retained by the proprietors who, after making the grant, would collect an annual rent of "a penny per acre for lands in towns or half penny per acre for lands outside of town bounds."

As the years passed, the amount of land offered to prospective immigrants decreased. By 1679 a colonist received only 40 acres for himself and 20 acres for each servant sent to the colony. The proprietors also continued to collect rent from these colonists for every acre they granted.

In 1702 the power to govern the colony, which had been divided into East and West New Jersey in 1676, was returned to the Crown. However, the right to distribute land was retained by the proprietors and they continued to dispense land and collect rents on it through the remainder of New Jersey's colonial history.

As the population of the colony increased between the years 1664 and 1776, laws were passed by the legislature which dealt with areas which are of concern to today's environmentalists:

- Regulation of natural resources
- Travel and transportation laws
- Land taxation laws

In the category of Regulating Natural Resources, the colonial legislatures determined that wolves had no economic value and were to be treated as predators.

In 1675 the lawmakers enacted an ordinance stating that "whoever shall be at any pains or cost for the killing of wolves within the bounds of any of the towns within this province, shall have for every grown wolf so killed, fifteen shillings out of the Country (New Jersey) Treasury." The wolf proved so difficult to eliminate that by 1751 the bounty on the animal was up up to 40 shillings.

New Jersey's pine forests were of

tremendous value to the seafaring nation of England. To prevent exploitation of this resource, other than by landholders, the Assembly in 1681 determined "that no person or persons shall presume to fell and carry away timber from any land surveyed within this province, without leave first had from the owner or owners thereof, upon pain of triple damage."

The members of the Assembly were also concerned with the loss of income from fishing off New Jersey's coast, especially whaling. In a preamble to a law passed in 1693, it was stated that "whereas the whalery in Delaware Bay has been in so great a measure invaded by strangers and foreigners, that the greater part of oil and bone removed and got by that employ hath been exported out of the province, to the great detriment thereof (of the Colony). . . all persons not residing within the precincts of this province, or the province of Pennsylvania, who shall or bring on shore any whale, or whales within Delaware Bay, or elsewhere within the boundaries of this government, shall pay one full and entire tenth of all the oil and bone made out of the said whale or whales unto the present governor of the state."

By 1714 the Assembly had become more explicit in its regulations dealing with New Jersey's forests. By that time it was illegal for any person "to cut, fall, work up, or carry away any manner of trees, cedar or pine poles, standing or laying, or bore, box or extract turpentine out of any pine trees. . . without leave first obtained from the owners of the said land." The punishment for anyone convicted of violating this ordinance was a fine of 20 shillings.

Several decades later, timber resources were still being exploited in New Jersey. The Assembly realized this and in a preamble to a law governing this growing abuse, stated that "whereas by reason of the great quantities of timber being frequently exported out of the eastern division of this colony, the same has grown scarce and if not timely prevented there will not be

enough left for the necessary use of said eastern division." To remedy this the Assembly imposed duties on all timber exported from the colony.

Colonial New Jersey's estuaries were a rich source of shellfish and regulation of this resource was also taken up by the Assembly. In 1719 a restriction was placed upon the gathering of oysters and clams within the colony's waterways. None of these shellfish could be taken from their beds "from the tenth day of May to the first day of September." Those who took shellfish during this time period faced a "fine of fifty pounds and loss of equipment which will be sold at public auction."

The preceding examples of laws dealing with natural resources were economic in nature. The early settlers had to attack the environment in order to survive and these laws made that possible. However, these laws, while necessary for early survival, were not necessary for permanent survival.

Since roads were nonexistent during the early years of settlement it was necessary for the Assembly to ensure that all avenues of travel and transportation be kept open. Because one of the principal means of travel during the early years of settlement were the numerous streams and rivers in the colony, the first Assembly enacted an ordinance to ensure that all areas of the colony would be accessible. This law, passed in 1665, stated that "the inhabitants of the said province (shall) have free passage through or by any seas, bounds, creeks, rivers or rivelets in the said province through or by which they must necessarily pass to come from the main ocean to any part of the province."

Also, riparian rights were controlled by the Assembly. In 1681 a law was passed which stated that "no person or persons shall take up lands on both sides of the creek in one settlement." In addition, they decided to limit the amount of land that could be held along the banks of rivers when they declared that "no person or persons shall have

Continued on page 32

Wreaths Made From New Jersey's Outdoors

*creative approach to
making wreaths from
natural materials*

BY LORRAINE KIEFER

HANDCRAFTED WREATHS CAN say much more than "Merry Christmas." They reflect both an expression of the individual who crafted them and the environment from which the materials came. I have seen wreaths of shells depicting the shore, woodland wreaths of pine cones, lush evergreen wreaths fresh from the forest, rustic calico-straw wreaths, and "weed" wreaths fashioned of dried materials and pods. These are just some of the many types of wreaths that decorate homes at holiday times.

Wreaths have been used throughout history for many different occasions. Made of laurel they symbolized honor, while floral wreaths or herbal wreaths often were worn by brides. Early Christians used straw or wheat wreaths, decorated with grapes to symbolize the eternal Eucharist.

My favorite wreaths are made from natural materials. These wreaths can be put up early in the season and remain up until a spring decoration replaces them. The

PHOTOS BY TED KIEFER



The finished weed wreath is at home in many different settings. The great variety of dried materials used in it give it a very unique texture. Very little is needed in the way of trims. A simple velvet bow or single cardinal is plenty.

straw wreaths can start out in the fall with strawflowers, cornhusk dolls, pods, and various kinds of bows. Nearer to Christmas the strawflowers can be replaced with red and green trims, a bunch of grapes, and a bright red Cardinal. Weed wreaths can also make their debut quite early in autumn. A change of a gold velvet bow to a red one is all that is needed as Christmas approaches.

The weed wreath is one of my favorites. It is a mirror of the Jersey countryside. Mine are made from a collection of dried plant materials, pods, and seeds found commonly throughout the state, as well as some flowers from my garden. The colors are subtle, but the diverse texture of the materials is beautiful. Weed wreaths look fragile, but are really quite durable. My original wreath is over eight years old and goes to many lectures and demonstrations each year. It even made an appearance once on the Captain Noah television show.

Air the wreath for an hour or so

if it looks dusty. Replace any materials that no longer satisfy you. Most important, choose a good place to display your weed wreath. If you can catch the late afternoon light on your wreath you will have captured the beautiful hues found in the winter fields. These rosy rays of sunset will ever so gently kiss the wreath with color.

One way to insure a long-lasting wreath is to start out with a sturdy styrofoam ring that is at least two inches thick. Use good, solid materials and be sure they are dry before using them.

Making a weed wreath takes time, but is well worth the effort. Collecting can be done in a weekend, a week, or over the period of several seasons, depending on the variety of materials you wish to include. Even though the materials used in the wreath are the types found along the roadside and in vacant lots, good conservation practices should be followed when collecting. Remember to leave more than half of the blooms so



Most weeds, like this Sweet Pearly Everlasting must be picked before they are mature and then hung to dry. The buds resemble grains of barley when it is time to pick the plant.



Author gathers Goldenrod to hang and dry for use in weed wreaths. This plant also must be gathered in the bud stage.



Fresh materials must be hung and dried in a dry, airy spot to insure good color retention.

that the plants can reseed. Use a cutting tool so that the roots will not be pulled from the soil. I have seen some very plentiful common plants completely vanish from certain fields because some overly eager craftspeople ripped up every last plant.

A wildflower guide is a handy companion when collecting natural materials. It not only tells which plants are on the rare and endangered lists, but also identifies poisons.*

If materials are collected in the summer or early fall and are in colorful bloom, they must be dried before using. If they are collected later in the season and have dried naturally in the field nothing need be done to them. These brown and beige materials can be found in fields almost all winter. Brightly colored goldenrod is one of the great filler materials that should be collected while still in bud. The buds should be colorful, but not too mature when cut and hung upside down to dry. Pearly Everlasting, the best of white filler, should also be collected before the bloom matures. A good time to pick it is when the bud resembles a barley grain. It too is hung upside down to dry.

If the collected materials are tied in bunches with rubber bands or

twistum they can be easily hung with Christmas ball hooks or paper clips. I stretch a wire across my attic craft room and hang the flowers to dry.

Once this wide assortment of "filler" materials have been collected, special colorful items should be sought for variety and interest. The deep scarlet spikes of berries found on the highland sumac in late fall and winter look especially nice in a weed wreath (not to be confused with the white berry clusters on poison sumac—check a handbook). Pods of dried okra, small hot peppers, orange lanterns, milkweed, and love-in-a-mist** all add quite a bit of texture to the wreath. Some other materials you can either collect from the wild, a garden, or purchase from a floral supply store for the wreath are: baby's breath, honesty, strawflowers, yarrow, protea, wood roses, rose hips, cockscomb, and thistle. Dock, pepper grass, milkweed pods, and many other grasses and pods dry beautifully in the fields and can be collected now.

Start the wreath by carefully placing the stem ends into the outside of the styrofoam rings. The size of the wreath is determined by this first row of materials in *illustration #1*—Figure 1. A combination of natural colored fillers such as pep-

per grass, dock, pearly everlasting, and goldenrod all work well for this step. Each additional row is slightly shorter than the one before it.

Most of the stems will be perpendicular with the surface of the styrofoam, except when the materials begin to turn over the edge of the ring, as shown in the *illustration #2*—figure 1. Here the angle of the stems to the styrofoam must change to form a smooth curve on the surface of the wreath. Shorter pieces are used to fill in the surface of the wreath. Filler is still used, but pods, cones, and flowers are mixed in also as shown in *illustration #3* Figure 1. The colors and textures, as well as the special interest materials will give the wreath its "personality." A velvet ribbon or accent piece such as a bird can be added if desired.

This type of wreath is more appealing when an abundant look is achieved. Nature illustrates this each autumn when apples, pumpkins, and the harvest in general cascade from stem and basket. Dried materials show their beauty in their collectiveness, rather than as individual specimens.

If it is possible to have two favorite wreaths, the evergreen wreath is my other favorite. Traditionally, Thanksgiving weekend is the start of evergreen wreath-making at my

*see lists of books at end of article

**see full list of plants with scientific names at end of article

Continued on page 29

a question of values

BY ROBERT BERNATH JR.

As I was listening to an early-morning television show some weeks back, a short debate on the morality of hunting took place. The speaker, a well-known critic of hunting, very effectively described in gory terms

the cruelty and suffering inflicted by hunters upon millions of small innocent game birds and animals. Man, he said, likes to kill and the sport fosters this desire and supports a killer instinct with all the brutal efficiency of a modern technology. Therefore, in encouraging this sport, we debase human behavior and encourage violence and human aggression which contribute to many of our social problems. The picture of the typical hunter was anything but a flattering one and as you can well imagine, after this initial direct emotional broadside on the nature and behavior of the typical hunter, the other speaker, who was defending hunting, had already lost the battle.

Somehow the arguments that he raised in favor of hunting lacked something of the verve and deep commitment of a movement dedicated to the saving of life. Yet the arguments for hunting were logical

HARRY GROSCH



COURTESY OF COMMUNITY AFFAIRS

... As the rural scene changed and the urban population centers grew and most people eventually came to live in small or large cities, the connection with the land, the natural link with nature, was severed. So completely severed, that many children now living in our larger cities and suburbs have little understanding or appreciation of the way much of our food is produced and processed.



enough and were also sound from the standpoint of scientific wildlife management.

You probably have heard most of them before. Man, it appears, has so altered his present environment that natural checks and balances no longer operate effectively in controlling wildlife populations, which through overpopulation tend to destroy their own habitat. Man ultimately must accept the responsibility for maintaining a stable and balanced ecosystem and must manage effectively for himself and for all wildlife. Game surpluses, like any renewable crop, must be periodically harvested to maintain a stable population. If this surplus is not removed by some means such as hunting, other more undesirable factors come into play and bring the population down to a stable size which can be adequately supported by the available range or habitat. Other means have been tried to control populations but have been found to be too expensive or impractical to use. Hunting and the thrills of the chase have been enjoyed for centuries and constitute a traditional sport. In addition, hunting provides good physical exercise, appreciation of nature, and a means of building assurance and self-esteem through the acquisition of skills. The economy is enriched by the sale of equipment and supplies, and the hunter may even supply a special food item for his table.

In the heated exchange of words that followed, most of the arguments used by both sides in the past were raised and I was struck by the extreme polarity of the views. Both represented strong value judgments supported to some degree by logical argument and empirical evidence. However, this evidence was used only as a weapon in defense of a set of values and not as a means of arriving at a practical solution. The vehemence shown by adherents of both sides of the argument tends to support this contention; and it is difficult to imagine a compromise based upon what is most beneficial for both humans and wildlife.

Several years ago, even a prominent television network felt impelled to join the attack by presenting a special program on hunting which most persons now realize was a highly biased and emotional criticism of sport hunting.

Actually, little reflection is needed to realize that what has happened is the result of the evolution of two conflicting value systems in our society, each attempting to convince the young or the uninvolved as to the righteousness of its beliefs.

How this situation developed so quickly in a nation where until recently hunting was universally esteemed is curious, especially since less than a century ago the majority of homes, especially rural ones, boasted a hunting firearm proudly hung over the fireplace mantle. Hunting was certainly not considered immoral then and no more cruel than nature itself in its process of natural selection and competition for survival. In consideration of this, one is struck by the tremendous social changes which have come about in a human society where humans now became the measure of all things and natural laws have been submerged or ignored in a new social evolution

created by man himself.

That this prefabricated society in which we live could be divorced from biological reality is a problem that a great many people are now very much concerned about—witness the current interest in human ecology and environmental problems.

If we return to the problem of two competing ideologies and attempt to trace their origins to the social environments that produced them, differences between rural and urban become readily discernable. If you ask a typical middle-aged hunter how he acquired his liking for the sport, in most cases he will reply that he had an early boyhood exposure to the experience of hunting, and that over the years he has come to value the sport more deeply. The story is the same for women except that in the past fewer women became involved, and the sport was not as acceptable or fashionable for women. In most cases, the young hunters grew up in areas suitable for hunting where game was plentiful. Farmers especially were given added privileges of increased bag limits or longer hunting seasons on their own lands since most of the wildlife range was provided by them. In a rural setting where stock animals were regularly slaughtered for meat, the killing of game was considered no different and the availability of an additional food source was always welcomed. I can remember a group of farm youths who worked zealously all year for a week's vacation on a remote duck marsh so that they could hunt waterfowl. Their stories concerning the hunt were told and retold for many months after, with a special relish for the reliving of an enjoyable experience.

As the rural scene changed and the urban population centers grew and most people eventually came to live in small or large cities, the connection with the land, the natural link with nature, was severed. So completely severed, that many children now living in our larger cities and suburbs have little understanding or appreciation of the way much of our food is produced and processed.

One of the most popular educational programs currently operating in many large cities is a tour program for children which takes them to special farms where they can see and appreciate rural living as it really is. Of course, one could question the word *really* used in this sense, since much of the educational fanfare perpetuates the romantic illusion surrounding the idea of simple or primitive living. The stark brutality of life on a poor marginal farm can only be appreciated by a person who unfortunately has to be a victim of that experience. Nature to such a person is not benign or enriching but a capricious, unrelenting force to contend with in the constant struggle for even a bare existence. Working within this framework and preserving for the future things considered essential, produced through sheer necessity a realistic morality based upon actual conditions existing there.

In the modern urban setting where struggle and competition is no longer with the physical realities of nature but with other competing humans, who now pose a greater threat to survival, it is easy to im-

Continued on page 25



Ducks at Point Pleasant

PHOTOS BY AUTHOR

WINTER BIRDS AT THE JERSEY SHORE

BY WILLIAM D. GRIFFIN

Southward from Long Branch, through Monmouth and northern Ocean counties to Bay Head, some dozen freshwater lakes lie inland only a block or two from the Atlantic Ocean. During the Summer, many of these lakes are the focal points of municipal parks; some are used for row-boating and fishing by the local citizenry. In Winter, however, the ponds are deserted, and it is then that the birds take over. Lying as they do so close to the ocean, the lakes seldom freeze completely; usually some areas of open water remain, and in these the wintering waterbirds congregate. Thousands of gulls and waterfowl spend the Winter on these waters, and since many of the lakes are surrounded by shore-hugging roads, these become ideal spots from which to observe the wintering birds.

Lake Takanasee in Long Branch is the northernmost; it as well as the others are shown on road maps. There are several lakes in the Asbury Park area, and others in or near Ocean Grove and Avon. Shark River forms a huge horseshoe inland from Avon and Belmar; here too, roadways parallel the water, and wintering

Late in Fall, the Snow Geese arrive from the North. This one does some scratching along the edge of Lake Como.



A female and male Black Duck enjoy the sun on Silver Lake near Belmar.





Gulls on ice at Lake Takanassee



Icy cold feet—Mallard

birds are usually abundant. South of Shark River Inlet, Silver Lake in Belmar, Lake Como, and Spring Lake are points of interest. Wreck Pond north of Sea Girt is usually dotted with birds throughout the Winter. In Manasquan and Point Pleasant there are several lakes, with the last in the chain lying in Bay Head, just above the headwaters of Barnegat Bay. Thus in a dozen or so miles from Lake Takanassee to Bay Head, a dozen waterways can be explored for Winter Birds. Both numbers and species are numerous.

Coots in large numbers, grebes and loons of several species, often frequent these cold waters. Most numerous of all, however, are the gulls and waterfowl. Great Black-backed, Ring-billed, and Herring Gulls are always present in impressive numbers, swimming in the frigid water or standing in groups on the surface ice. The small Bonaparte's gull is seen in lesser numbers, and occasionally the rarer Glaucous and Iceland gulls may appear.

Canada geese in small numbers winter on the coastal ponds, as sometimes do Snow Geese and Brant,

Coots are among the more numerous non-waterfowl birds on these ponds during the cold months.



smallest of the geese. Far more numerous are the various ducks. Mallard and Black ducks are to be found in goodly numbers on all the lakes. Huge rafts of Greater Scaup usually populate Lake Como, along with flocks of diminutive Ruddy ducks. Buffleheads, Canvasbacks, Redheads, and American and Red-breasted Mergansers are among other species to be expected on these dozen lakes in Winter.

In late Winter, when ice on the lakes begins to melt, the wintering birds are joined by others migrating north. Baldpate and Pintail ducks, and others present in small numbers during the coldest part of Winter, become more numerous from late February into March. The lakes are also of interest in the Fall, when large flocks of migrant ducks stop over in transit.

Many locations in New Jersey are known as good observation spots for various species of bird life. Certainly among these, the dozen coastal lakes from Long Branch to Bay Head are a prime area for observing the Winter birds of the Jersey shore. □

The American Merganser and the American Goldeneye are found on the ponds in Winter, but in small numbers.

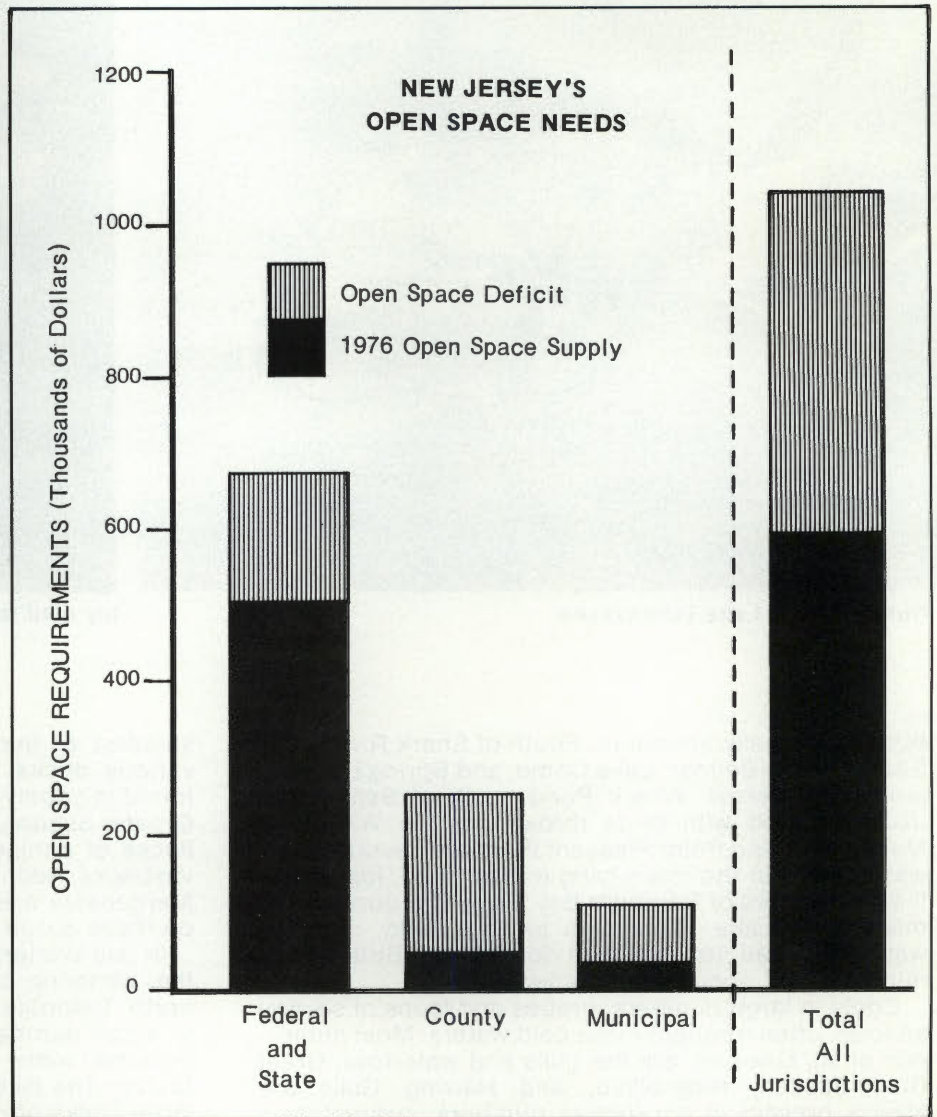


New Jersey's Open Space and Outdoor Recreation Plan

By Robert S. Stokes

The 1977 New Jersey Statewide Comprehensive Outdoor Recreation Plan (SCORP) is the third major effort by the Department of Environmental Protection to develop, update and refine the information which is needed to guide decisions concerning New Jersey's open space and outdoor recreation resources. Basically, SCORP analyzes New Jersey's supply and demand for recreation resources and defines what should be done to insure that adequate open space and recreation opportunities are made available to meet the present and future demands for those resources. Through analysis of the current supply of outdoor recreation resources in each of the State's 21 counties and estimates of present and future demands for outdoor recreation activities and open spaces, SCORP provides detailed information on the location, type and extent of the State's recreation resource needs. SCORP also contains recommendations, policies and priorities that have been developed as a result of the need analyses and public comments received during SCORP's preparation and melds the resource information with demand in an effort to best serve the State's resident and visitor populations.

Like its 1967 and 1973 predecessors, the 1977 SCORP is designed to provide planning direction for effective administration of federal and state recreation and open space grant programs—the Land and Water Conservation Fund (L&WCF) and Green Acres—and serves as a tool for promoting and coordinating the recreation related activities of all



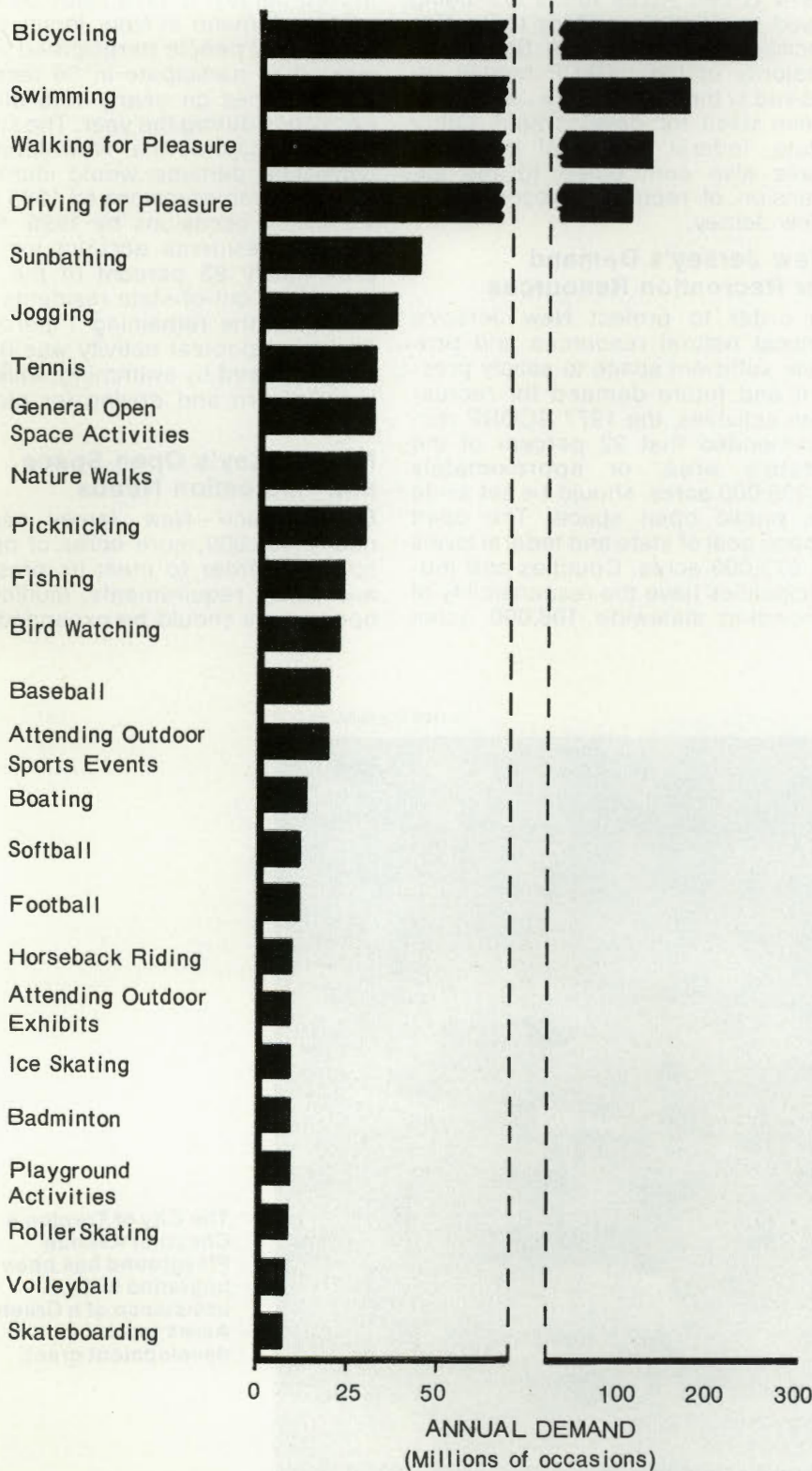
levels of government plus the private sector in New Jersey. Adopted by Governor Byrne in October 1977 as the State of New Jersey's recreation resource planning guide, the 1977 SCORP was approved by the Federal Heritage Conservation and Recreation Service in November 1977, qualifying our State to continue its participation in the L&WCF Program over the next five-year period. Since the inception of the L&WCF program in 1965, New Jersey has received over \$58 million in matching grants for state, county and municipal open space and outdoor recreation development. It is anticipated that New Jersey will receive an additional \$10 million per year for continued improvement of its recreation services and expansion of its open space.

Passage of the Federal Land and Water Conservation Fund Act in

1965 requiring States to prepare Comprehensive Outdoor Recreation Plans as prerequisites for participation in the L&WCF program marked a new era in outdoor recreation and open space planning in New Jersey as well as across the nation. Following on the heels of the Department of Housing and Urban Development's open space acquisition program and New Jersey's first Green Acres bond issue in 1961, the 1967 SCORP provided an opportunity to undertake a comprehensive assessment of the State's recreation resources and needs. The 1967 plan focused on traditional outdoor recreation activities—hiking, camping and boating for example—and drew heavily on national recreation demand statistics. The 1973 SCORP took a closer look at the open space and outdoor recreation needs in the

**TWENTY-FIVE MOST POPULAR
OUTDOOR RECREATION ACTIVITIES**

1976



State's urban areas.

In preparing the 1977 SCORP, the Department of Environmental Protection's Office of Green Acres continued the urban emphasis of the 1973 plan and conducted an in-depth study on the problems associated with providing adequate open space and outdoor recreation opportunities in an urban area. Additionally, research was undertaken on the recreation needs of disadvantaged groups, including the mentally and physically handicapped and the aged, and methods for calculating the State's open space requirements. Two extensive surveys were conducted: 1) 2650 households were surveyed to determine the present and future demand for 56 recreation activities in New Jersey and 2) a questionnaire was distributed to 2000 New Jerseyans to determine public opinion on open space and recreation policies and priorities. The most important distinction between the 1977 SCORP and the previous plans related to the degree of general public involvement in the development of SCORP policies, priorities and recommendations.

Two distinct avenues for public participation in the State's planning efforts were developed. A 40-member Task Force was formed to represent a broad range of user interest—outdoor clubs, urban recreation users, senior citizens, environmentalists, the handicapped, suppliers of commercial recreation facilities, to name just a few. This Task Force developed recommendations which were incorporated directly into SCORP, and reviewed drafts of the Plan as it developed. The more traditional form of public input, the formal public hearing, also provided an opportunity for comments on SCORP.

**New Jersey's
Recreation Resources**

As of January 1977, the various levels of government and the private sector had set aside approximately 740,000 acres of land for open space and recreation purposes. State Government, the largest single supplier of open space, provided over 400,000 acres in the form of State parks, forests, recreation areas, natural areas and wildlife management areas. The National Park Service and the Fish and Wildlife Service and several other federal agencies provided over 62,000 acres. Regional and interstate agencies, including the Palisades Interstate Park Commission and watershed associa-

Continued on page 14

Recreation Plan

tions administered approximately 43,000 acres. New Jersey's 21 counties owned 49,100 acres of open space and the State's 567 municipalities provided about 11,000 acres. Additionally, nearly 159,000 acres of open space were preserved through private and quasi-public ownership.

Statewide, the 1977 daily capacity of facilities for 26 recreation activities was estimated to be 4,704,654. The counties, and municipalities and, to a certain extent, the private sector provide facilities for activities which are usually pursued close to one's home. Characteristically, the federal and state areas offer recreation opportunities in a more natural setting than available in local and private areas.

Since 1961, New Jersey has made significant strides toward meeting its open space and recreation facilities needs. Much of this progress can be attributed directly to the 1961, 1971 and 1974 Green Acres bond referendums and the Federal Land and Wa-

ter Conservation Fund Program. Over 150,000 acres of open space have been added to the State's 1961 supply of publicly-owned land, (323,068 acres) through the expenditure of \$240 million of Green Acres funds. Additionally, \$100 million of 1974 Green Acres funds are being used to develop outdoor recreation facilities throughout the State. The majority of the L&WCF money received by the State of New Jersey has been used for development. Other state, federal and local programs have also contributed to the expansion of recreation resources in New Jersey.

New Jersey's Demand for Recreation Resources

In order to protect New Jersey's critical natural resources and provide sufficient space to satisfy present and future demand for recreation activities, the 1977 SCORP recommended that 22 percent of the State's area, or approximately 1,035,000 acres, should be set aside as public open space. The open space goal of state and federal levels is 673,000 acres. Counties and municipalities have the responsibility of providing statewide 108,000 acres

and 253,000 acres respectively, of dedicated open space.

Increases in population, family income and amount of leisure time available are among the factors contributing to the rapid growth of the demand for recreation opportunities in New Jersey. A 1976 study on recreation demand in New Jersey estimated that people participated in or wanted to participate in 56 recreation activities on nearly 1.15 billion occasions during the year. The study further projected that New Jersey's recreation demand would increase to 1.25 billion occasions by 1985 and 1.3 billion occasions by 1995. New Jersey's residents account for approximately 93 percent of the demand and out-of-state residents account for the remaining 7 percent. The most popular activity was bicycling followed by swimming, walking for pleasure and driving for pleasure.

New Jersey's Open Space and Recreation Needs

Open Space—New Jersey needs nearly 455,000 more acres of open space in order to meet its present and future requirements. Municipal open space should be expanded by

PHOTOS SUPPLIED BY DEP



✓
The City of Trenton's Chestnut Avenue Playground has been upgraded with assistance of a Green Acres local development grant.

81,666 acres, county recreation land by 206,048 acres and state and federal holdings by 166,861 acres. The most critical open space deficits occur in and close to the urban areas, particularly the densely populated counties of the northeast section of the State. And numerous distinctive and threatened areas throughout the State warrant early protection as well.

Recreation Facilities—Additional recreation facilities are required for the 26 activities analyzed in detail in SCORP to meet 1985 demands. The capacity of the existing facilities for

these activities fall short of accommodating the 1985 demand by 6,061,146 occasions. As with open space, the State's urban areas experience the most severe shortages of recreation opportunities.

SCORP Recommendations
—What should be done?

Open Space Acquisition—A vigorous program should be undertaken to acquire the needed open space before the opportunities to do so are lost. Highest priority in acquisition programs should be assigned to projects which are located within or

in close proximity to urban areas or which protect unique or ecologically significant natural areas such as coastal beaches and wetlands and areas with rare or unique biotic communities.

Recreation Facility Development—Development of recreation facilities should proceed at a rapid pace to insure that New Jersey residents will have adequate recreation opportunities. Highest priority development projects are those which are located in urban areas or are easily accessible to urban populations and which provide facilities to meet the recreation needs of the handicapped, aged and other underserved groups.

SCORP Planning Program—The planning program for SCORP will be aimed toward supplying information on major issues concerning the State's open space and recreation resources. Included in the SCORP program are studies on the following subjects: natural areas, statewide trails master plan, wild and scenic rivers system, recreationally disadvantaged groups and urban needs. The information gained through these and other studies will be used to update SCORP in 1982. □

1985 Recreation Facility Needs for 5 Selected Activities

	Capacity of Existing Facilities	1985 Peak Day Demand	1985 Facility Deficit
Swimming—Fresh Water	1,253,394	1,343,400	90,006
Picnicking	165,278	429,200	263,922
Tennis	69,552	529,900	460,348
Hunting	32,210	151,700	199,490
Snow Skiing	84,515	422,600	338,085

Hedden Park, a part of the Morris County Park System, is an example of a regional park assisted with Green Acres acquisition and development grants.



The End of the Game

Text and photographs by Peter H. Beard
Doubleday & Company, Inc.
Garden City, New York 1977
\$9.95 - pp. 230 plus 42 pages of photos

This is a book of Africa, the Africa of the late 19th and early 20th centuries. But it is more than just a history of a period. It is a story of the death of a culture, and the end of a way of life that most will never know. It is one of the few books that dares to tell and show the true story of Africa's wildlife, to expose what one reviewer deemed, "a wildlife watergate" for which preservation groups are to an extent responsible.

First published in 1965, *The End of the Game* is considered a landmark in contemporary books on Africa. This new edition is a culmination of Peter Beard's twenty-year documentation of the harsh realities of change affecting Africa and its wildlife.

The book is billed as a pictorial documentation of the origin, history and prospect of African big game. It contains a prologue and five chapters of fast reading text which follows the white man's conquest of Africa from the first successful assault of Mt. Kenya in 1899 to establishment of game sanctuaries which Beard described as "sanctified ghettos."

Though the text is fascinating, it is Beard's photographs that make this book an outstanding work. They are both numerous and excellent. Chapter six is entirely photographs; over 150. Most are of elephants dead of starvation and disease. These photos demonstrate better than any written or verbal plea the futility of attempting to maintain wildlife populations within "politically" defined areas without consideration of ecological realities.

Perhaps there is also a lesson for man in Beard's photographs since the elephant is second only to man in its ability to inflict long-term damage to its own environment and that of other species. The conservation and management of natural systems must go beyond the "politics of sentimentality and anthropomorphism" and treat real causes before we, like the elephant, "become a disease to our own environment."

Beard's book is for the realist, those few whose concern with the preservation of natural systems extends beyond sentimentality. For those with open minds, it will be an experience. □

Review by Robert C. Lund
Bureau of Wildlife Management



*moosedance
pond institute
gifted children's
environmental
education
program*

Nov. 17, 18, 19, 1978—Gifted Children's Programs in Environmental Education Moosedance Pond Institute, Branchville, N.J. Environmental and Experiential Education Workshop with focus on Gifted Children. Dr. Richard Fischer, Cornell University among the distinguished workshop faculty. Contact: Kathy Berardi, Linwood-MacDonald Environmental Education Center, Box 268, R. R. #32, Branchville, N.J. 07826; 201-948-5522.



Environmental News



SPEEDWELL VILLAGE

MORSE TELEGRAPH TESTED HERE. More than 140 years ago, in January 1838, the art of communication took a huge step forward in a second floor room of the Factory (above) at Speedwell Village. It was here that the first public demonstrations of Samuel F. B. Morse's electro-magnetic telegraph took place. Though Morse had built a crude version of the telegraph six years earlier, it was Alfred Vail, son of the owner of the Homestead Farm in Speedwell, who made the instrument which was successfully tested.

The Speedwell Village preserves a small part of the Vail Homestead Farm. Its collections describe life at Speedwell during the early 19th century when the Vail family developed machine production, steam-powered transportation, and instantaneous communications. (The Iron Works at Speedwell, during the winter of 1818-19, made most of the machinery for the S.S. Savannah—the first steamship to cross the Atlantic Ocean.)

A group of Morristown citizens organized the Speedwell Village in the late 1960's to rescue the Homestead Farm from decay. By 1971 the village was listed on both the state and federal registers of historic places, and in 1975 it was designated a National Historic Landmark. Federal preservation grants, administered in New Jersey by DEP's Office of Historic Preservation, have been awarded for restoration projects at Speedwell. The grants, totaling \$16,500, have been used to restore walls on two buildings, stabilize the structure of one, and reroof two. The Morris County site is located one mile north of Morristown Green on Rte. 222, at the corner of Speedwell Avenue and Cory Road. Plan to visit the village in the Spring—Speedwell is open as a museum from April to November.

South Brunswick Landfill Must Close

A sanitary landfill in South Brunswick (Middlesex County) has been ordered by DEP to stop operating by December 31, and to close by January 31 (1979) because it has reached capacity. Advance notice of the pending closure was given in early August so that municipalities and companies using the landfill could make other arrangements and find alternative sites. Browning-Ferris, formerly known as Princeton Disposal Service, Inc., operates the landfill located on New Road in

South Brunswick.

Beatrice Tylutki, director of DEP's Solid Waste Administration, said leachate from the landfill also was polluting groundwater, but that no immediate health hazard exists. She said closure of the landfill is expected to abate the problem but that monitoring would continue. Failure to comply with the order can result in a maximum penalty of \$3,000 per day for each violation, Tylutki said. □

No answers yet

Rutherford Environmental Investigation Interim Report

For four months the state departments of Health and Environmental Protection cooperated in investigation of cases of leukemia and Hodgkin's disease in Rutherford (Bergen County). Both state agencies launched their investigations in March 1978 following reports from Rutherford residents of a number of cases of the diseases.

The Health department investigation focused on case-finding and interviews, while DEP conducted environmental monitoring studies (air, water, soil, radiation). Each department prepared a separate report of its findings and issued them at a public meeting in Rutherford on September 14.

In neither instance were investigators able to confirm a specific cause for the outbreak of disease, despite exhaustive analysis of a wide variety of suggested causes. The department of Health study was directed by Dr. Ronald Altman, director, Epidemiologic Studies. The DEP study (summarized below) was directed by Dr. Peter Preuss, who heads the Program on Environmental Cancer and Toxic Substances.

Summary

The DEP investigation took two different lines: an *environmental profile* examining existing data sources for a full understanding of the local environment; and, *monitoring* of radiation as well as an analysis of air, water and soil samples taken in the community.

The profile was intended to identify those conditions which might be unique to Rutherford and somehow related to the clusters of disease. The monitoring sought to identify and measure those agents which are known to cause leukemia and other cancers.

The environmental profile failed to reveal any past environmental condition or event which could be directly related to the clusters. The environmental monitoring revealed no unusual levels of ionizing or nonionizing radiation.

There was nothing found which would distinguish Rutherford from similar communities in the area. Again, the levels of contamination in Rutherford were not especially different from that in similar industrialized areas.

DEP is continuing the study on an intensive basis. Environmental monitoring is being conducted statewide to provide the data for a proper interpretation of what was found in Rutherford. In addition, a survey of about 12,000 industries, including those in the Rutherford area, will be conducted to determine where toxic chemicals are used. □

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

Drinking water supply

\$196,000 FEDERAL GRANT FOR GROUNDWATER STUDY

DEP has been awarded a \$196,600 grant from the federal Environmental Protection Agency (EPA) to study the groundwater pollution potential which may result from surface impoundments (water collection confines)—pits, ponds and lagoons—within the state. EPA's drinking water program is making \$5 million available in grants to the 50 states and six territories for similar assessments. The studies, expected to be completed by December 1979, will provide national baseline data for use in developing a long-term policy and strategy to protect drinking water supplies from possible contamination from industrial, municipal and agricultural impoundments.

There is increased interest about how hazardous pollutants both enter and move within our environment. Waste disposal practices have contaminated groundwater (drinking water supplies) on a local basis in all parts of the nation and on a regional basis in many heavily populated and industrial areas, according to EPA. Protection of groundwaters in these areas is an immediate need. Approximately half the population of the United States depends upon it as a source of drinking water.

One of the principal sources of groundwater contamination related to waste disposal practices is industrial wastewater impoundments (pits, ponds, lagoons). These facilities are widespread and sometimes contain hazardous substances. In places, this wastewater has contaminated aquifers. EPA said waste disposal practices of greatest significance to groundwater quality degradation are most prevalent in 12 states: California, Florida, Illinois, Indiana, Louisiana, Michigan, New Jersey, New York, North Carolina, Ohio, Pennsylvania and Texas.

EPA Region II Administrator Eckardt C. Beck said that when the assessment is complete it will provide needed information on existing state programs and laws. EPA will use the data to re-evaluate the federal laws which deal with water supply—the Safe Drinking Water Act, the Resource Conservation and Recovery Act and the Toxic Substances Con-

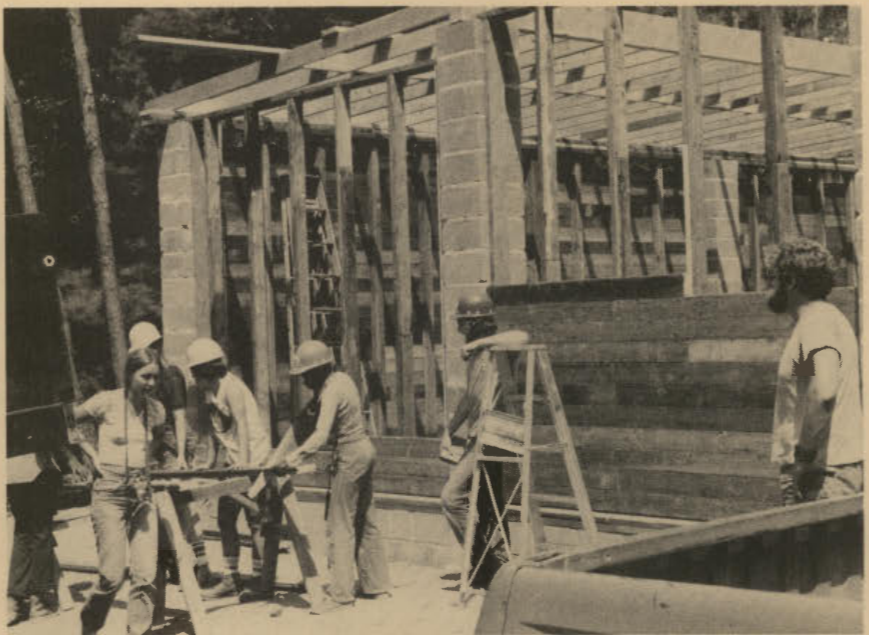
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COURT UPHOLDS WETLANDS ORDER

The department won an important wetlands case in Gloucester County in which the superior court rejected a suit against DEP by the American Dredging Company. By upholding DEP's order prohibiting American Dredging from placing fill material on 80 acres of wetlands on their Logan Township property, Superior Court Judge Paul A. Lowengrub dismissed the challenge that the state's wetlands statute (Wetlands Act of 1970) is an unconstitutional taking of the wetlands situated on the plaintiff's private property.

In his decision, Judge Lowengrub stated in part, "If American Dredging Company is permitted to fill the 80-acre tract, it is clear that no protected vegetation, fish or other marine life would again exist in that area. That result cannot be termed to be a reasonable use of land exempt from the regulation promulgated under the police power of the state."

Deputy Attorney General Keith A. Onsdorff said the judge's broadly based opinion sets an important precedent for DEP's natural resources conservation programs. The decision ended seven months of trial and over four years of meetings and hearings. □



YCC IN ACTION. Close to 300 high school age young people participated in the Youth Conservation Corps (YCC) work/study program this past summer. The federal/state program, administered in New Jersey by DEP, employed 295 youths in 19 state parks and forests, nine wildlife management areas and Palisades Interstate Park. The young people took part in projects involving construction (shown above is a 1977 YCC group helping to build a 10-bay garage for forestry vehicles at Stokes State Forest), stream clearing, erosion control and site clearing. They learned about nature and enjoyed recreational outings. The success of this program can be measured by the fact that in 1975 the YCC had places for 40 youths, by 1977 it had been expanded to accommodate 214 young people and in 1978, 295 teenagers received the opportunity to take part in this environmental work/study experience. □

CAFRA actions

THREE CASINO PROJECTS APPROVED

DEP's Division of Marine Services recently approved Coastal Facility Review Act (CAFRA) permits for construction of three casino/hotels in Atlantic City.

Playboy Enterprises, Inc. received approval to build a 24-story hotel with 576 rooms and a 42,000 square-foot casino. The casino will be connected by a bridge to a five-story theater building. The 1.8-acre site is located on the Boardwalk and South Florida Avenue next to the Atlantic City Convention Hall. Estimated project cost: \$75 million.

Caesar's World, Inc. received approval to incorporate the former Howard Johnson's Regency Hotel into a 660-room complex. New construction will include a 55,000 square-foot casino in a seven-story building. Site of the project is between the Boardwalk and Pacific Avenue at Arkansas Avenue. Estimated project cost: \$25 million.

Bally of New Jersey, Inc. received approval to begin preparing the site for its hotel/casino on the Boardwalk between Brighton Park and Michigan Avenue. This includes tearing down the Marlborough Hotel and the rear portion of the Blenheim Hotel. Bally and DEP are exploring the feasibility of preserving the rotunda of the Blenheim and incorporating it into the new hotel/casino. In the first phase of construction Bally will renovate the existing Dennis Hotel into a 500-room hotel. Bally's second phase calls for demolishing the Dennis and building new hotel towers. Estimated cost of the project: \$100 million. □

Public meetings held

PUBLIC PARTICIPATION POLICY EXPLAINED

Four public meetings, each in a different section of the state, were held in October to explain DEP's new public participation policy to interested New Jerseyans. DEP's new departmentwide policy stresses early public notice of proposed regulations or other programs and early, active and continuous public involvement. The object of the new policy is to make it easier for citizens to participate actively and constructively in DEP's management and protection of New Jersey's environment and its natural resources. The public will be advised when DEP is considering a new regulation or program, and public suggestions will be sought from that point on through the adoption stage.

DEP Deputy Commissioner Betty Wilson, who chaired the meetings, said the policy will not change the mandatory public hearing process which precedes adoption of all regulations, nor will it affect the responsibility of the commissioner to make the final decision about any DEP action. "However," said Wilson, "ideas from the public will help make them the best possible decisions."

In the past, DEP has carried out various types of programs to receive public views. The new policy will establish a uniform program of public participation. Further information is available from DEP, Office of Public Participation, Box 1390, Trenton 08625. □



Old Davis House-Lawrence Historic Area

"The Old Davis House" in Lawrenceville, New Jersey, has been selected as the 1978 Show House of the Junior League of the Central Delaware Valley. Under the sponsorship of the League, the 144-year-old home was entirely redecorated (and its grounds re-landscaped) by designers from New York, Pennsylvania, Maryland and New Jersey.

The unusual history of this house begins in 1834 when James H. Porter, a classics and language instructor at the Lawrenceville High School (now known as the Lawrenceville School), resigned his position to establish, with his wife, Jane Deborah Barlow, a seminary for young ladies.

For this purpose, the Porters built a residence schoolhouse on Main Street, just north of the Presbyterian Church in the town of Lawrenceville. However, on November 10, 1834, the day the school was scheduled to open as the Lawrenceville Femal Seminary, Porter died of a "pulmonary infection."

His wife, Jane Porter, was not to be dissuaded, however, and in May of 1835 she opened her school. She herself served as Lady Principal and Alexander Hamilton Phillips, Principal and Proprietor of the Lawrenceville High School, served as Principal of the Seminary.

Mr. Phillips devoted equal time to the two schools until his retirement in 1837 at which time Mrs. Porter assumed total charge of the seminary. In 1839, she too retired, and sold the school to Henry D. Phillips, a prosperous farmer and large landholder. Mr. Phillips brought in the Misses Craig of Princeton, who ran the school until 1850 when it was again sold.

During this period several female members of the Cherokee Nation were sent to the female seminary to acquire a "good, classical, white man's" education. Most notable among these was Eleja Jane Ross, daughter of Chief Ross of the Cherokee tribe, who was brought from her home at Pleasant Hill, Cherokee

Nation (now Oklahoma) to be educated at the Seminary. She graduated from there in 1846 and a letter from her to a classmate, Miss Catherine Loft of Cranbury New Jersey, dated January 23, 1847 survives this day in the Library of the Lawrenceville School.

In 1850, the Reverend Charles William Nassau resigned from the presidency of Lafayette College, purchased the Seminary and retained charge of it until 1875. (His son, Dr. Robert Hamill Nassau, became a medical missionary and in 1876 founded Lambarene in Africa to which Dr. Albert Schweitzer went in 1913. Reverend Nassau's daughter, Isabella Anna, served in the West Africa mission field for 38 years.)

A nephew of Reverend Nassau, the Reverend Robert Hamill Davis, assumed charge of the seminary from 1875 to 1883. From 1883 to 1930, the house and property were leased from the Davis family by the Lawrenceville School for use as a dormitory known as the Davis House.

Among its several Housemasters was Thornton Wilder, who during his tenure at the Davis House, wrote and in 1927 published the "Bridge of San Luis Rey."

On August 29, 1932 the House and three and one-half acres of ground was purchased from the Davis family by Mrs. John A. Wood. Under her guidance, the dormitory in the rear was removed and the house reconditioned. Every effort was made to retain the charm and grace of an old early house.

On October 9, 1934 the Wood family conveyed the house and a small cottage in the rear to Mrs. Eleanor T. Shepard. She conveyed it to the current owners, Mr. and Mrs. John B. Strassenburgh, on September 29, 1955.

Following the completion of the Show House, the Old Davis House will become the property of Mr. and Mrs. Harold P. Simon of Yardley, Pennsylvania. □

20 years ago

FORMER STATE GEOLOGIST PREDICTED OFFSHORE DRILLING

By Ben Van Vliet

When Texaco announced in mid summer that it had located natural gas some 100 miles off Atlantic City it brought to reality a prediction made two decades ago that within 20 years there would be drilling for oil off the New Jersey coast. That prophecy was made in 1958 by the late Meredith E. Johnson, then state geologist, who despite prevailing pessimistic attitudes concerning the chances of locating oil or gas reserves in New Jersey, told the world in a magazine article that "within 20 years there will be drilling for oil off the Atlantic Coast . . . just like in the Gulf."

As it turned out, that area he referred to, now commonly called the Baltimore Canyon, is where seven major oil companies are drilling and is the area where Texaco Inc. made the first strike of natural gas—just 20 years from the time Mr. Johnson predicted there would be drilling within 20 years.

Mr. Johnson, a well-respected scientist who lived in Trenton, served as the state geologist from 1937 until his retirement in 1958, the year he made his remarkably accurate prediction. That prediction was based on findings made by his then assistant, Frank J. Markewicz, who today is a supervising geologist in DEP's Division of Water Resources.

Those tests, which showed the presence of hydrocarbons in well water samples taken in the Cape May area, were referred to by Mr. Johnson as "the first specific instance I have had of any oil or gas show in this state." After receiving similar reports of the presence of hydrocarbons from oil companies, he predicted that the continuing search for new oil fields eventually would carry to the Atlantic Coast from New Jersey south. □

HELPING BIRDS THROUGH THE WINTER

by Edie Joseph

Birds have a hard time of it in the winter months, the natural foods they feed on in the summer are gone or difficult to get because of the frozen ground and snow cover. Birds generate their own heat when they have food, and backyard feeders help them survive when food is scarce. But it cannot be a sometime thing. Every authority on backyard feeding agrees that the most important thing to remember is this: *Once begun, bird-feeding stations must be maintained every day throughout the winter into early spring. Once birds become dependent on them as a source of food, they will starve or freeze to death if feeders are not maintained constantly through the end of April.*

The New Jersey Audubon Society sponsors a Birdseed Saving Day program which enables those interested to buy high quality birdseed of various types at competitive prices at several locations. The proceeds from the sales are used to support educational programs and activities. There will be Birdseed Savings Day sales on December 9 and on February 10. To get an order form/price list write to any of the following: Lorrimer Sanctuary, 790 Ewing Ave., Franklin Lakes 07410; Scherman Sanctuary, P.O. Box 693, Hardscrabble Rd., Bernardsville 07924; Rancocas Nature Center, RD 1, Rancocas Rd., Mt. Holly 08060; or Owl Haven, P.O. Box 98, Oakhurst 07755. □

News Capsules

Barnegat Bay

SHELLFISH HARVESTING

The department reopened 800 acres of shellfish waters in Barnegat Bay on November 1 for the harvesting of clams, oysters and mussels. The areas, located off Cedar Creek and Forked River, will remain open through April 30 (1979). Extensive water sampling over the last two years revealed that water quality has improved to the point where harvesting can be permitted during the winter months.

NEWEST WILDLIFE MANAGEMENT AREA

The Higbee Beach-Pond Creek property in Lower Township, Cape May County, is the state's newest wildlife management area. The 414 acres of Delaware Bay beachfront, dunes, field and woodlands, recently purchased using funds from the U.S. Fish and Wildlife Service Federal Aid to Endangered Species, will be dedicated to protecting endangered species such as the bald eagle, peregrine falcon and osprey and other threatened wildlife which use this area. DEP's Division of Fish, Game and Shellfisheries is preparing short- and long-term management plans for this unique area. Multiple use recreation will be permitted on this tract consistent with the management and protection of the endangered wildlife. State conservation officers will enforce land use regulations (prohibited are illegal dumping, unauthorized auto traffic, use of alcohol, drugs; illegal fires, horseback riding, camping and swimming without a permit).

OVER-THE-COUNTER PERMITS

The department recently instituted a one-day processing service for certain minor stream encroachment permits and for minor riparian projects.

Stream encroachment: The over-the-counter service is limited to minor projects which do not adversely change the water carrying capacity of the floodway, do not increase erosion or sedimentation of a stream, and do not require substantial channel modification or relocation. For further information contact the Bureau of Flood Plain Management, P.O. Box CNO29, Trenton 08625. (Phone: 609-292-2402)

Riparian: The one-day processing service applies to waterfront construction activity in man-made lagoons and minor maintenance and/or repair or replacement of lawful existing structures. For further information contact Riparian Lands Management, P.O. Box 1889, Trenton 08625. (Phone: 609-292-2613)

NEW FOREST FIRE BULLETIN

A new two-page bulletin prepared by DEP's Bureau of Forestry tells the story of the nationwide forest fire problem and details New Jersey's experience. In addition, the "ounces of prevention" that we can all provide to save our forests, its inhabitants and property from burning are outlined in clear language. Copies are available from DEP, Bureau of Forestry, Forest Fire Service, Box 2808, Trenton 08625.

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

SMOG SUIT UPDATE

Five more northeast states have intervened on New Jersey's behalf in a suit against the federal Environmental Protection Agency regulation on ozone (smog) pollution. The states of Connecticut, New York, Maine, Vermont and Rhode Island have filed petitions with the District of Columbia Court of Appeals supporting New Jersey's contention that EPA should develop a national control program for smog rather than one that discriminates against urban areas in the Northeast. (See NJO, Sept./Oct.)

RECYCLE THAT YULE TREE

Instead of putting your Christmas tree on the curb for trash pickup once the holiday season is over, why not put it to use? Discarded trees can be used as "sand dune builders," a practice of long standing in some seashore communities. Other uses include placing the evergreens as windbreaks for exposed flower beds, "planting" the tree as a bird feeding station, or trimming off the branches and placing them as protective cover around rose bushes or other plants and shrubs. Inquire at your municipal building to find out if there's a tree recycling project in the area. The wood chips make excellent mulch for gardens and shrubs.

DAYS OF AUTUMN

Send for full-color brochure that explains how leaves change colors using a cross-section illustration of a leaf and text. An excellent aid for the classroom. Send a self-addressed legal size envelope to

N.J. Bureau of Forestry
CN-028
Trenton, N.J. 08625

RULES TO PROTECT

OPERATORS OF

ANALYTICAL X-RAY MACHINES

Regulations that represent a major step toward protecting analytical x-ray equipment operators from the dangers of radiation exposure were proposed by the state Commission on Radiation Protection and DEP in August and brought to public hearing in mid October. After consideration of testimony and comments on the proposed regulations, the final version will be written, adopted and promulgated.

Commission Chairman Dr. Max Weiss said, "During the past 13 years, more accidental overexposure to operators of these devices have been reported to DEP's Bureau of Radiation Protection than for all other types of x-ray devices. New Jersey, as one of the first states to adopt rules, will require the use of better warning devices, safer operating procedures and personnel radiation monitoring to virtually eliminate the danger associated with these particular machines."

There are 328 analytical x-ray devices currently in New Jersey for research and quality control programs. They are typically used in foundries, research laboratories and anywhere the microscopic structure, elemental, physical or chemical composition of materials must be examined. Information concerning the proposed regulations is available from Eugene Fisher, Chief, Bureau of Radiation Protection, 380 Scotch Road, Trenton 08628.

Continued from page 16-B

\$196,000 FEDERAL GRANT

control Act—to choose the most effective ways to control groundwater pollution from this source.

Although the entire state will be surveyed, Environmental Protection Commissioner Daniel J. O'Hern said DEP initially will be looking at the heavily industrial parts of New Jersey to locate the surface impoundments. "Part of the grant," O'Hern said, "will be used to conduct overflights of the state this fall to collect photographic documentation of all impoundments." The groundwater management section of DEP's Division of Water Resources is in charge of the program.

GOVERNOR APPROVES MIDDLESEX COUNTY WATER QUALITY PLAN

Governor Byrne recently conditionally certified the Middlesex County Water Quality Management Plan, the first of its kind in the state to receive the governor's approval. The Middlesex study of the Lower Raritan River basin is part of the state's "208" area wide water quality planning.* This plan, together with those for the rest of the state, will aid New Jersey's efforts to attain clean water.

The Middlesex County Planning Board used extensive public involvement in developing the plan. Recommendations of the plan include proposals regarding control of groundwater contamination, pollution discharges into the Raritan River, and algae growth in the area's lakes. DEP reviewed the plan and prepared a list of conditions which must be met to comply with federal regulations. The U.S. Environmental Protection Agency provided \$1.4 million to the county for development of the plan under the Clean Water Act.

*The "208" water quality management planning program seeks to address all types of water pollution sources such as point (direct), nonpoint (indirect, agricultural runoff, for ex.) and land use-related. "208" refers to the section number of the law.

PUBLIC AIDS IN DEVELOPMENT OF STATE AIR QUALITY PLAN

The development of a new plan to help New Jersey meet National Air Quality Standards was discussed at a series of public meetings held around the state in September and October by DEP's Division of Environmental Quality. By January 1, 1979 the state must submit to the U.S. Environmental Protection Agency (EPA) an air pollution control plan which will demonstrate practical ways to attain and maintain controls for five major pollutants: particulates, sulfur dioxide, nitrogen dioxide, carbon monoxide and ozone (smog).

Paul Arbesman, division director, noting that New Jersey has made substantial progress in controlling air pollution, said, "Today, our air meets public health standards for three of the federal Clean Air Act's five criteria pollutants—particulates, sulfur dioxide and nitrogen oxide. Nevertheless, we continue to be challenged by problems in the elimination of localized air contamination as well as broad-scale air pollution, especially with respect to ozone (smog)."

The discussions covered transportation planning and its air quality implications and strategies under development for industrial and commercial operations. (The pollutants ozone and carbon monoxide result primarily from certain industrial emissions and the pollution from motor vehicles.)

nongame news

Endangered and Nongame Species Project



STATE OF NEW JERSEY
DEPARTMENT OF ENVIRONMENTAL PROTECTION



DIVISION OF FISH, GAME AND SHELLFISHERIES
P.O. BOX 1809
TRENTON, N.J. 08625

WHY A NEWSLETTER

Judging from the number of phone calls and letters received by the Endangered and Nongame Species Project each day, public interest is certainly not lacking when it comes to endangered and nongame wildlife.

It is the intent of this newsletter to satisfy that interest by supplying a ready source of information on a variety of topics relative to nongame, endangered and exotic wildlife species. Simultaneously, we hope to generate an awareness of what is being accomplished by the project. □

HIGBEE BEACH ACQUISITION NEAR

Four years of effort on the part of the Endangered and Nongame Species Project are soon to be rewarded. The ownership of the 414 acre Higbee Beach Tract is expected to be transferred to the New Jersey Division of Fish, Game and Shellfisheries.

Higbee Beach will become the state's newest wildlife management area but will be unique in that it will be dedicated to the conservation of endangered species and will be purchased with Federal Aid to Endangered Species monies.

The area is located on the Delaware Bay in Cape May County and is a major resting and feeding area for many avian species including the endangered Peregrine Falcon, Bald Eagle, Osprey and Cooper's Hawk. The endangered Tiger Salamander is also found at Higbee Beach. □

AVIAN REHABILITATION

A list of persons throughout the state holding the appropriate permits for the rehabilitation of sick and injured wildlife was recently updated. A number of these permittees have agreed to serve as cooperators, i.e. to have calls involving birds in distress referred to them by the Trenton office. There are presently 29 cooperators statewide.

Finders of ailing birds can call the Trenton office (609-292-9400) for referrals in their areas. □

PEREGRINE PROGRESS REPORT

A total of fourteen young peregrine falcons were successfully hatched from three New Jersey towers this summer. But the most encouraging development of the four-year falcon restoration project continues to take place at the tower near Barnegat Light.

A male peregrine released in 1975 has returned for the second consecutive year and this summer was joined by a female hatched from the tower in 1977. The pair have been observed in various stages of courtship behavior. It is hoped that the two will return again next year and produce young as both birds should be sexually mature by then. □

OSPREY CENSUS '78

The osprey research project which originated in 1974, reached a turning point this year. Due to the management efforts of the past few years, the transplant of fertile eggs from Maryland into infertile New Jersey nests was no longer necessary. Rather, the New Jersey osprey population has reestablished itself sufficiently to allow eggs from fertile nests within the state to be transplanted into historically infertile nests.

Just how successful this endeavor has been is currently under investigation by project summer employee, Bill Robichaud. An estimated 45 nestlings have thus far been banded

and the survival rate of the young osprey is being monitored. In addition to his scientific duties, Bill is also replacing or repairing decrepit nesting platforms. □

SETTING A GOOD EXAMPLE

Project leader, Paul D. McLain and nongame zoologist, JoAnn Frier, traveled to State College, Pennsylvania to present New Jersey's Endangered and Nongame Species Program to the personnel of the Pennsylvania Game Commission.

Over 200 employees of the Pennsylvania Game Commission learned how the New Jersey program was developed and how it functions. Pennsylvania is currently developing an endangered and nongame program using the Cooperative Agreement and guidelines established in New Jersey.

New Jersey's Endangered and Nongame Species Project was one of the first in the U.S. and has been used as a model by at least four other states in formulating programs of their own. □

LAW ENFORCEMENT

In a continuing effort to strictly enforce state regulations pertaining to the possession of wildlife, two cases were successfully prosecuted last month.

An out-of-court settlement of \$100 was reached in an incident involving a hawksbill turtle and a \$400 fine was paid by an individual for illegal possession of a leopard. The possession of an endangered species without a permit was the charge in both cases. Such incidents should serve to remind the public that many species of wildlife may not be possessed in New Jersey without a permit. □

REVISED STATE ENDANGERED SPECIES LIST TO BE PUBLISHED SOON

A revised listing of New Jersey's endangered, threatened, peripheral, declining and undetermined species is in the final stages of review prior to publication in the State Register. The Nongame Council is expected to approve the addition of six species to the "endangered" category early this month. A complete list of the state's fauna, including both game and nongame species will also be available soon. □

FINANCIAL NOTES

The Endangered and Nongame Species Project is supported by an annual general treasury appropriation which for the past two years has been \$48,000.

Additional financing is derived from the sale of endangered species decals. The new decal featuring the bog turtle, has raised nearly \$5,000 since late March.

A third means of support is grant money: A grant for \$1,800 was recently awarded to the project for the continuation of research on endangered and threatened reptiles and amphibians in New Jersey. This is the second such grant received from the National Audubon Society. In 1977, a similar grant for \$1,500 was awarded to the project by the society, marking the first time an allotment of this nature was awarded to a state agency.

The 1978 Colonial Waterbird Survey was also partially funded by a grant. The Summit Nature Club contributed \$1,000 to the cost of this aerial census and on-the-ground monitoring of nineteen species of colonial nesting birds, including two endangered species—the black skimmer and least tern. □

new jersey is . . .

a state of picturesque diversity. Almost every kind of landscape can be found within its borders. Plains, plateaus, folded and complex mountains—we have a greater array of physical features than most areas on the globe can show. Among these forms, New Jersey has two features that are quite similar in form and structure, while being unique and different in their patterns of land use. There are the great valleys of our state—the Triassic Lowland, an ancient home of great reptiles—and that part of the Appalachian Mountains called the “Great Valley.”

by James Fitzsimmons

Chairman, Department of Geography
William Paterson College of N.J.

valley of the dinosaurs . . .

Over one hundred million years ago the great beasts of pre-history made New Jersey their home. Within a sandstone valley between prongs of the Appalachian Mountains have been found skeletons and footprints of ancient dinosaurs. These extinct reptiles are seen now only by those whose curiosity takes them to the American Museum of Natural History. Because of a curious twist of nature called the Ice Age—these Behemoths left New Jersey to us. Now, most of the people of this state live, work and play on top of the creatures' burial sites.

Millions of people live in this valley called the Triassic Lowland—only they know it by local names—the Passaic, Hackensack and Raritan River valleys. This sandstone basin is a predominant feature of New Jersey's profile. The valley stretches southward and westward from Haverstraw, New York, through our state and on to Pennsylvania. Half of the Garden

State's seven and a half million people inhabit this “valley of the dinosaurs.” And this is the greatest single concentration of humans in the State.

New Yorkers in their brownstone buildings so typical of the older residential parts of Manhattan, would be shocked to realize that their brownstone was quarried from Jersey's Triassic Lowland. A curious building material—rock containing the bones of entrapped monsters.

As a geographic entity all its own, this valley of sandstone is easily seen from a vantage point on top of any of several mountains. The Watchung from Bound Brook to Paterson affords a classic view. Long Hill, near Bernardsville or Riker Hill by Morristown or even Hook Mountain next to Boonton all provide a window on the basin. An especially interesting sight is one from the Palisades looking west and south across the lowlands.

Wide angle view of the Triassic Lowland from the Watchung Mountain in Montclair. The area in view contains a sizable portion of the state's total population.



One of the great population centers of New Jersey—atop the same valley once inhabited by dinosaurs. Viewed from Garrett Mountain, Paterson—density of population here could range 2,000 to 60,000 per square mile.



new jersey's "great valley" . . .

Just west of the Jersey highlands and east of the Kittatinny Mountain is a stretch of spacious farm country known locally as Wallkill or Kittatinny Valley. The valley continues northward, along the valley of the Hudson River, all the way to Albany and beyond. In fact, no valley in eastern United States is as long. It can be traced over 1,000 miles—from Montreal, Canada, to the state of Alabama.

Geographers and geologists call this the "Great Valley" of New Jersey. In its folds is found a great concentration of limestone and shale. Physically, it's a part of the Appalachian Mountain and Valley system.

The valley, in all its natural beauty, can be viewed from its western Kittatinny rim or from the Hamburg, the Sparta and the Allamuchy mountains on its eastern edge. Complete with fertile soils and pic-

turesque rolling and well-drained terrain, the Great Valley has become important farm country.

Isolation, afforded to this valley by its remoteness from large urban areas or the sea, has kept it from sprouting great industrial tracts or densely populated regions—It has remained rural and agricultural.

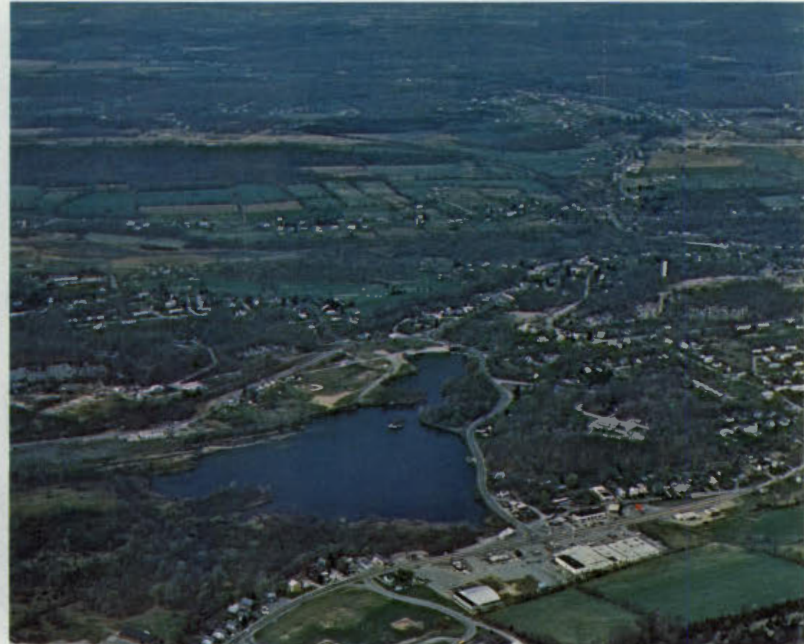
As with most large valleys this one is drained by several rivers. These rivers, the Wallkill, Pequest and Paulinskill, and the Papkating creek have helped make this Great Valley known throughout the State. They are rivers of beauty in every sense of the word.

Nature made this a valley—not only magnificent in sheer length and breath—but lavish with color and rich in agricultural and natural abundance. This valley is "great" not only by definition but in reality as well.

PHOTOS BY AUTHOR



The Great Valley in Warren County. Density of population throughout this area averages 222 per square mile, while New Jersey averages 1,000 per square mile.



Franklin, a rural center in the Great Valley. Once this town produced the world's richest zinc. Today, its interests are diversified with agriculture still a major element of the landscape.

city out our window . . .

Emerging from Newark Bay at Bayonne and paralleling the Hudson all the way to Haverstraw, New York is a great piece of lava. It rises over 500 feet in elevation and is even higher than that when entering the Empire State.

We call this geologic masterpiece the Palisades. We've built cities on its top—prettied its forest with

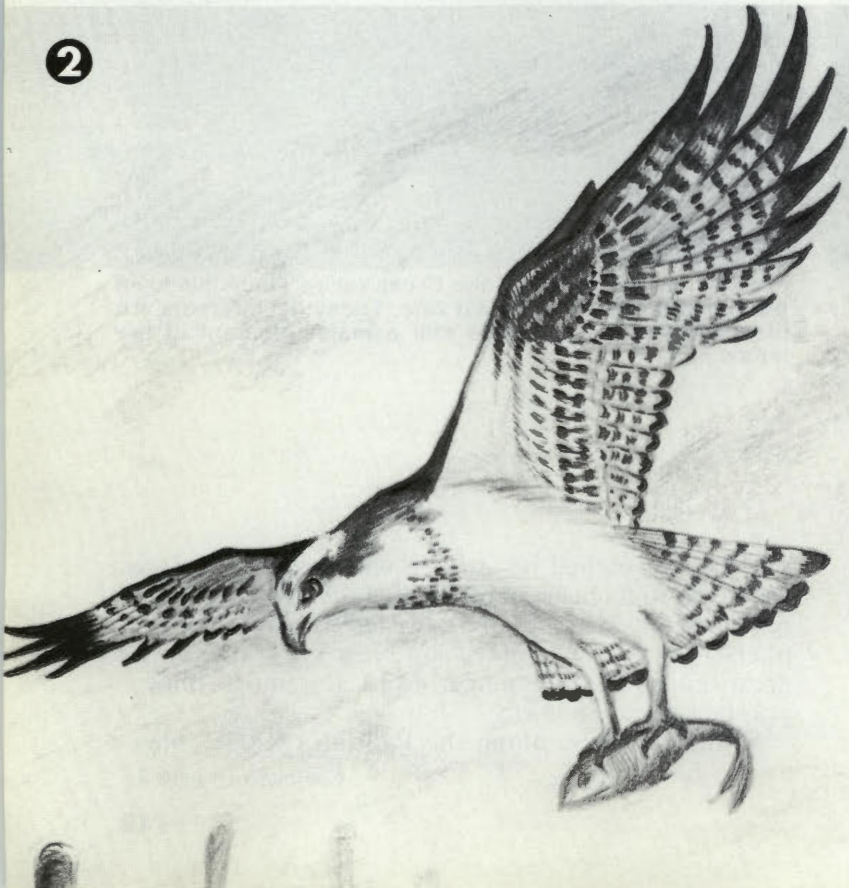
parks—and etched its surface with roads. In places we've cut to its heart in quest of stone. Yet, among its most grandiose uses is one assigned to it by photographers—it's their "window" on New York, one of the great cities of this planet—and the most photographed place on earth.

From anywhere along the Palisades Ridge, wher-

Continued on page 27



6



2

FOURTH ANNUAL ENDANGERED SPECIES ART CONTEST

BY J. MORTON COOPER

OCEAN NATURE & CONSERVATION SOCIETY'S fourth annual endangered species art contest produced some of the finest drawings yet received. More than 1000 entries were submitted by boys and girls ranging in age from 6 to 18.

Contestants were given a list of particular species of wildlife that are either endangered, threatened or whose status is undetermined. From this list they chose whichever subject that interested them most. From the subjects chosen, and the imagination and ingenuity evident in their drawings, it is obvious that both students and teachers alike learned a great deal about threatened and endangered wildlife.

This year the contest was divided into 3 classes with 3 prizes in each class, together with honorable mention when, in the opinion of the judges, they were merited.

Prizes for the winning entries were presented to the proud, young artists by Paul D. McLain, Deputy Director of the Division of Fish, Game and Shellfisheries, who heads the Endangered Species & Non-Game project in the State. Scholarships were awarded to the first place winners by the Ocean County Artists' Guild.

This contest serves a dual purpose. It encourages budding artists to specialize on natural subjects and calls attention of students and their teachers and parents to the interdependence of all living things and their relationship to their environment.

Although the contest was limited to Ocean County, about 50 entries were received from other counties, including an entire class of retarded children who had some astonishing entries. The most popular endangered species was the bald eagle, our national bird, followed by the red-headed woodpecker, osprey, bluebird* and black skimmer.

*NOTE: The eastern bluebird is not on the state endangered list. Its status is undetermined but it is the subject of a special bird house project of Ocean Nature and has been added to the list for the purpose of this contest only.

ELEMENTARY CLASS—AGES 10 & UNDER:

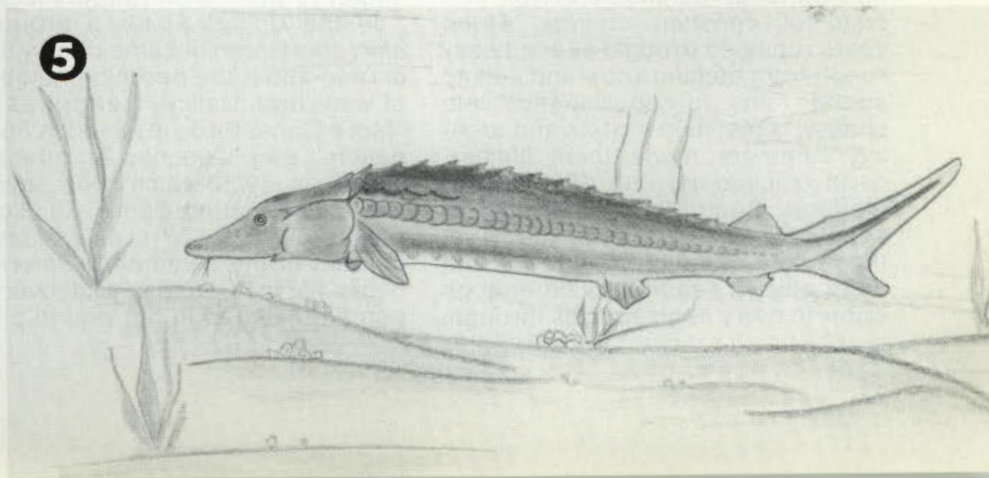
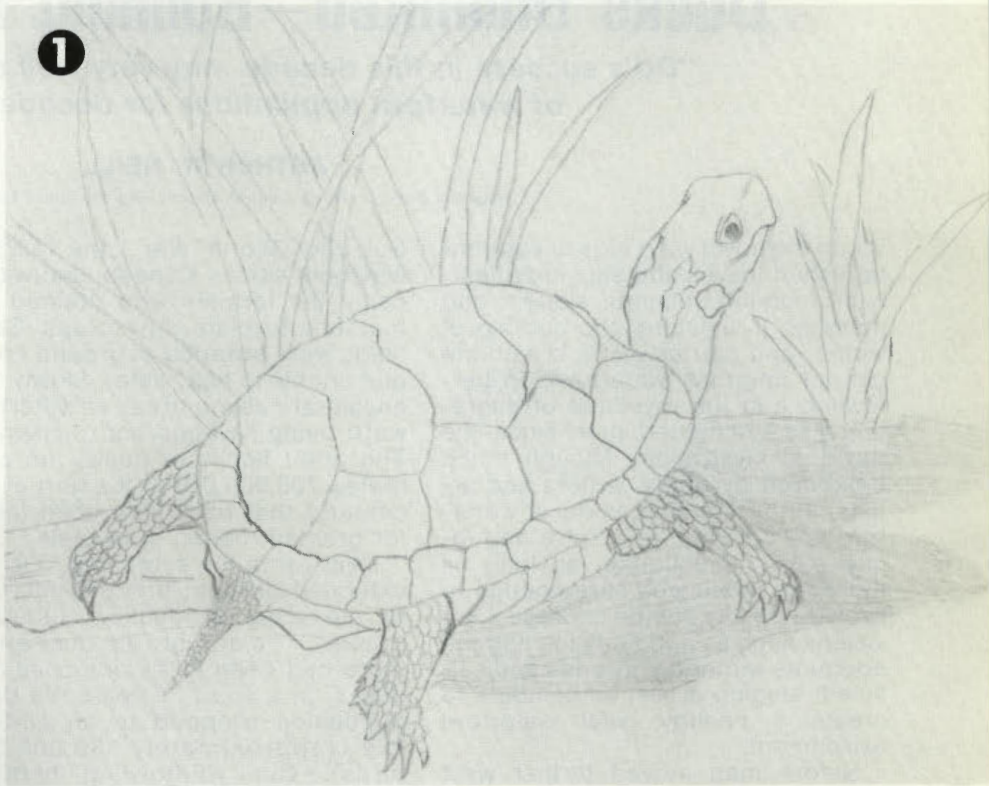
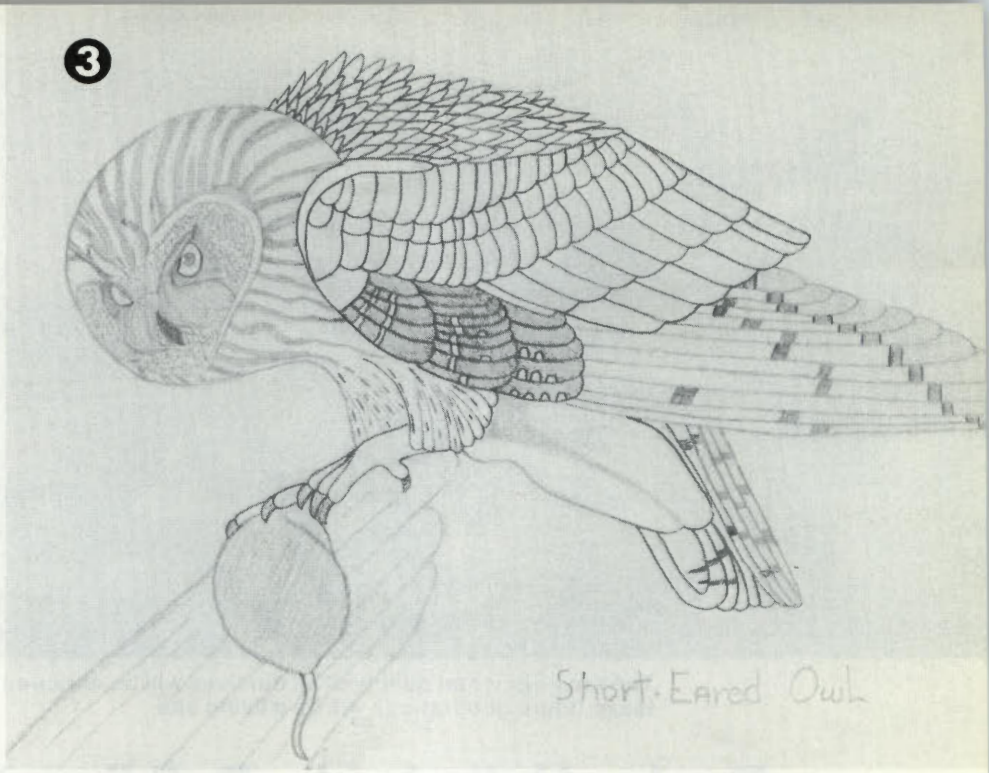
- ① 1st place—Liz Steenburg, 713 Valley Dr., Lakewood
Age 10—Bog Turtle
2nd place—Terry Schwiebert, 320 Brook Rd., Jackson
Age 10—Red-headed Woodpecker
3rd place—James Patterson, 905 Egret Dr., Toms River
Age 8—Bald Eagle

JUNIOR CLASS—AGES 11 THROUGH 13:

- ③ 1st place—Erica Boda, 875 Egret Dr., Toms River
Ages 12—Short-eared Owl
2nd place—Beverly O'Brien, 419 Steuben Ave., Forked River
Age 13—Eastern Bluebird*
3rd place—Danny Platt, RD 5, Cooks Bridge Rd., Jackson
Age 12—Peregrine Falcon
Honorable mention—Michelle Earl, Toms River
Age 13—Bald Eagle

SENIOR CLASS—AGES 14 THROUGH 18:

- 1st place—Susan Devin, 421 Bayside Terrace, Seaside Heights
Age 14—Red Shouldered Hawk
⑥ 2nd place—Meredith David, 836 Leeward Dr., Forked River
Age 15—Eastern Bluebird*
④ 3rd place—Steven Althouse, 216 E. Longport Ave., Ocean Gate
Age 16—Black Skimmer
Honorable mention—Melissa Collins, Apt. A-10, Hierring, Seaside Heights,
Age 15—Eastern Bluebird*
② Honorable mention—Lauren Dubnik, 1489 Canterbury Rd., Lakewood
Age 14—Red-headed Woodpecker
⑤ Honorable mention—Ellen Doboy, Baybarrier Dr., Toms River
Age 15—White Sturgeon
Honorable mention—Julie Barraclough, Box 206, Barnegat Light
Age 15—Osprey





WM. D. GRIFFIN

The environmental quality of all our lives will be enriched and the legacy we can leave future generations will be a living one.

Ducks Unlimited—Building for the Future

“DU’s success in this decade may very well determine the status of waterfowl populations for decades to come.”

ARTHUR W. NEILL

Regional Director, North Central Atlantic Region, Ducks Unlimited, Inc.

When the north wind tugs at autumn-tarnished leaves and stirs impatiently through the wetlands, sloughs and marshes it whispers the coming of winter, and carries on its breath the call of migrant waterfowl. Waterfowling and the mystique of migration has enchanted man since the dawn of civilization. Though much belabored by poets, writers and artists, the fascinating world of waterfowl will continue to inspire and incite man’s imagination as long as there are those who care enough to provide for this unique heritage. Provisions such as good nesting habitat, adequate wintering grounds and sufficient staging areas, all combine to create a healthy, vital waterfowl environment.

Before man moved further west into Canada, marshes survived in a state of constant change. Flood years replaced drought years; heavy runoff from melting snow and pelting spring rains turned marshes into shallow lakes; mild winters and broiling summers made them lifeless, earth-cracked barrens. Wildlife populations fluctuated in direct response to the available supply of these life-sustaining needs, but there always seemed to be enough water to carry each species through.

But after World War I the railroad was built across Canada, and with it came the farmers who drained the marshes to plant their crops. Soon fields were stripped of ground cover and unable to hold water. Slowly, the ancestral nesting areas of waterfowl were being ravaged and reclaimed. The great flocks of ducks (an estimated 200,000,000 at the turn of the century) that had once been taken for granted, began to dwindle.

Next came the scorching '30s. An extended drought brought infertility to the once productive Canadian prairies. The drought left dust where there had been lakes, marshes and ducks. In a short 30 years the duck population dropped to an all-time low (approximately 30,000,000 birds). Our wildfowling heritage began to wobble on rubbery legs.

In the United States a group of alert sportsmen became deeply concerned about the declining numbers of waterfowl. Calling themselves the “More Game Birds in America Foundation,” they launched an intensive survey in 1929 which took several years and netted some significant results. The survey revealed that 80 percent of the continent’s waterfowl begin life in Canada, with over 70 percent hatched in the prairie prov-

inces of Alberta, Saskatchewan and Manitoba. The Foundation concluded that if duck and goose populations were to be restored and maintained, immediate efforts must be made to rehabilitate and preserve these primary nesting areas in Canada, a job that would be neither easy nor inexpensive.

Born under that directive in 1937, amidst the insecurity of economic depression and the devastation of a relentless drought, Ducks Unlimited, Inc. made plans to rescue America’s neglected ducks and geese. Realizing that suitable habitat held the key to the success or failure of the waterfowl resource, DU began to restore and rehabilitate wetlands in the vast prairie provinces of Canada. But the hard, cold facts were obvious, money to support such an ambitious program must come from the pockets of United States sportsmen/conservationists.

Funds derived from private sources in the U.S. enabled Ducks Unlimited to initiate construction of its habitat programs. Water-control structures such as dams, levees, dikes and sluice gates were built by Ducks Unlimited (Canada) to stabilize the habitat areas from harmful effects of flooding and drought. To

date, Ducks Unlimited has completed over 1,400 wetland projects (which vary in size from small prairie potholes to construction complexes of nearly 500,000 acres) throughout Canada. The total number of wetland acreage reserved by DU now exceeds 2.6 million (1,500,000 acres of this has been developed) encompassing over 10,000 miles of productive shoreline, which provides living space for hundreds of species of wildlife. Apart from their obvious purpose—to provide waterfowl breeding habitat—DU projects or “duck factories” afford irrigation and flood control to farmers and ranchers and, in some cases, supply water for municipal and industrial use, in addition to enhancing the aesthetic quality of the land itself.

Instead of purchasing the Canadian land outright, DU has cooperated with the Canadian governments, municipalities, industries and individual landowners to secure free, long-term land leases and easements. It has been estimated that purchase of the land under reservation would have cost DU over \$100 million. Such an arrangement has enabled DU to develop numerous acres of

critical habitat without tying up funds in real estate holdings. Out of the more than \$70 million raised throughout its history, DU has made available over \$56 million to Canada for wetland development alone, or about 80 cents out of every dollar donated. The distinguished record compiled by Ducks Unlimited over the years stands as a tribute to the efforts of devoted sportsmen/conservationists who are, in reality, Ducks Unlimited.

Ducks Unlimited's 1,200 nationwide committees continue to grow and form a sturdy platform from which to build fund-raising activities. Each of these committees helps generate community participation in DU banquets and fund-raising events throughout the year. A record \$13,079,763 was raised during 1977. First and foremost were these important events whose net proceeds from raffles and auctions contributed over 42 percent to this total. Covering the gamut of dollars raised, these events ranged from \$1,000 on up to the record \$130,000 recorded by the Houston Ducks Unlimited committee. These hard-working, volunteer committees have also

helped DU catapult its membership to over 250,000.

During 1977, eleven New Jersey Ducks Unlimited chapters helped raise over \$111,000 for the “ducks.” Without such untiring support, DU's successful growth would be far less dramatic.

State governments have also recognized the importance of Canada's nesting areas and are helping to shoulder the financial burden. 1977 saw 16 states (through fish and wildlife or natural resource departments) contribute over \$800,000 to assist DU's restoration programs. Several of these contributing states are located in the Atlantic Flyway. They are: Massachusetts, Pennsylvania, Maryland, and North and South Carolina. Since the initial grant by Louisiana more than \$4 million has been furnished by state governments to save and develop some of the finest duck-producing marshes in Canada.

Why Canada? Why not initiate wetland restoration programs here in the lower “48”? This is a question often raised. Since nearly 80 percent of the production of the continent's waterfowl occurs north of the U.S./Canada border, the priority is obvious. There will be over \$100 million spent in 1978 by state and federal governments on waterfowl habitat programs in the United States while throughout all of Canada only \$13 million (of which DU will provide \$11.3 million) for waterfowl habitat considerations. Such a ratio makes it abundantly clear that little would be done for North America's waterfowl breeding grounds if Ducks Unlimited were not involved.

Much care is also being directed towards providing suitable wintering habitat for North America's waterfowl. Ducks Unlimited de Mexico (DUMAC) has embarked on a pioneer project to revitalize the 15,000-acre Lerma Marshes. These marshes, located west of Mexico City, winter hundreds of thousands of waterfowl each year. DUMAC has similarly initiated a fund-raising campaign in Mexico (where from 10 to 40 million North American waterfowl winter annually) to help bolster habitat restoration efforts throughout the country. Combined with the activities of Canada and the United States, Ducks Unlimited can truly be considered an international conservation organization.

Since DU is a non-profit organization, it can do what Federal duck stamp dollars can't—cultivate habitat beyond the borders of the United

Continued on page 24

“Drought leaves lifeless, earth-cracked barrens where there had been lakes, marshes—and ducks.”



“Suitable habitat is the key to an abundant waterfowl resource.”

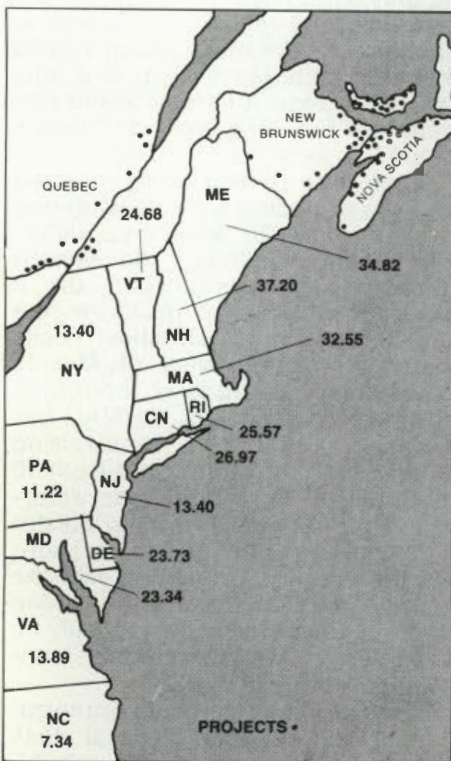


PROVIDED BY AUTHOR

Ducks Unlimited—

States. Waterfowl neither adhere to geographical boundaries, nor do they respond to the political climates encountered along their migration routes. Because of this, and because of DU's unique ability to reach beyond U.S. borders, North American waterfowl are cared for throughout their continental migration, something the Federal government and no other conservation organization has been able to accomplish.

In the Atlantic Flyway, the heart of the black duck country, DU has become increasingly more active. Prior to 1971 there were 12 projects constructed in the Maritime Provinces of Canada. In a short span of seven years, 74 additional projects involving 20,000 acres were developed. The number of projects completed in the Maritimes amounts to 42 in Nova Scotia, 13 in New Brunswick and 31 on Prince Edward Island. During 1978, 38 projects will be worked on in the Maritimes. Sixteen new projects are scheduled for development; 12 projects initiated in 1977 will be completed; and project improvement will be carried out in eight locations. The most significant development will be completion of



MAP NO. 1

Phase 1 of the Amherst Marshes project near Amherst, Nova Scotia. This excellent waterfowl area contains 4,100 acres of prime black duck habitat. Phase 1 of the program, containing 1,300 acres, involved the construction of dikes in order to create two large impoundments. During 1978, control structures will be built, and drainage ditches connecting lakes and potholes within the area will be constructed, to permit drawdown of compartments individually. Earth excavated from the ditching will be used to create loafing and nesting islands. However, despite these positive results, much more is needed to insure an abundant black duck population. To carry through its program in eastern Canada, DU will need the support of every sportsman and conservationist in the Atlantic Flyway.

The importance of the black duck to the Atlantic Flyway, particularly the northeast, can be illustrated by Map No. 1. The figures, established over a six-year period, show the percentage of total duck harvest in each state which is represented by the black duck. The dots represent locations of current DU projects. Obviously, the preservation of the black duck is critical to the Atlantic Flyway harvest.

The need to preserve and rehabilitate the primary nesting habitat of the black duck (Map No. 2) is now beginning to receive the much needed attention of conservation-minded organizations, foundations and corporations. One such local organization is the New Jersey Waterfowlers Association, a long-time supporter of DU's programs. The Waterfowlers are now sponsoring the construction of the Davidson Meadow Project in Nova Scotia, which involves 36 acres and 1.6 miles of productive shoreline, primarily for the black duck.

Ducks Unlimited has come a long way since its origin during the drought-stricken depression era. But it cannot rest on its laurels. DU has, therefore, undertaken a five-year program to double or triple its current Canadian wetland acreage. In order to accomplish such an ambitious goal, it will be necessary for DU to raise \$75 million by the end of 1980. Since potential habitat areas in Canada, as elsewhere, are quickly diminishing, DU's restoration efforts are even more significant to the livelihood of America's waterfowl resource. DU's success in this decade

may very well determine the status of waterfowl populations for decades to come.

The importance of suitable habitat can be demonstrated by a recent study conducted by the U.S. Fish and Wildlife Service. It showed that of 10,000 mallard eggs surveyed in



MAP NO. 2

May of one year, only 2,400 ducks survived for the migration in September. This represents a loss of 7,600 "potential" mallards. Habitat destruction (i.e. agricultural practice, draining and filling wetlands, etc.) accounts for the largest percentage of egg destruction. The difference between 10,000 eggs and 2,400 survivors is the dividend Ducks Unlimited has been working to cultivate with its habitat restoration projects. This is the area where the potential for increased productivity is the greatest—an area, ironically, where regulatory waterfowl management practices have no effect. Simply stated, suitable habitat is the key to an abundant waterfowl resource. Since Canada holds the last great land reserves capable of sustaining this renewable resource, and since it is, in fact, the birthplace of the vast majority of this continent's ducks and geese, it alone can provide the additional millions of acres of habitat essential to stabilize North America's waterfowl.

And so the story continues. After 41 years of faithful service to a resource whose value cannot be measured in seasons past, but in each new spring and fall, Ducks Unlimited stands ready to carry this waterfowl legacy into the future. □

question of values

agine the gradual emergence of the idea of beneficent Mother Nature who loves all her children and takes special care of them in a world of harmony and love where only man is base. From Red-fox to Mickey Mouse and Bambi, these concepts have been reinforced through countless films and years of television showings, and it is no wonder that all killing is now considered to be unnatural and evil and the hunter who kills for sport the epitome of evil.

In our urban society, the act of killing has come to be associated with evil and great pains are taken to shield people from the reality of death. Albert Schweitzer, the renowned African humanitarian and physician, is admired greatly for his deep reverence for life; and his plea for protection for all forms of life is exceptionally appealing to many thinking persons. The influence of this thinking can be seen in the numerous organizations dedicated to the elimination of all killing, even for food. However, strict adherence to these beliefs leads one into a never-never land of untenable positions where even the plucking of a grass stem becomes a brutal act. Albert Schweitzer himself allowed for exceptions by recommending death in certain cases as a means of ending suffering and starvation in animals.

Charles Lindbergh, in his later years, became deep-

ly involved in the conservation movement and struggled with the problem of cruelty in nature where selective processes in evolution are often callously insensitive in their disregard for individual suffering and death. He came to grips with the necessity of death by journeying to Africa and pondering the brutality and sheer waste of life that took place during the mass migrations of herds of wildebeests over large distances in Africa. Innate sympathy and deeply religious feelings toward all life made it difficult for him to look beyond the individual suffering and death of particular animals to the well-being of the animal population as a whole. He finally realized that the evolutionary process of reproductive overproduction, resulting competition, and final natural selection which resulted in the brutal ending for all but a few survivors, does produce the perfection of quality necessary for continuing adaptation. Death actually becomes a vital, functional part of life in the process of perfecting and adapting a species to its habitat. Therefore, if we respect life, we must also, in a sense, respect death—a reverence for death is ultimately bound to a reverence for life. There is nothing new in this statement. Most of us have read it before in the beginning chapters of our high-school biology books. Yet the full realization of its portent can only be appreciated adequately when we are exposed to its full force as was Mr. Lindbergh. Many people, of course, cannot achieve such an experience.

Continued on page 28



LEONARD LEE RUE III

A Starved Deer . . .

. . . the gradual emergence of the idea of beneficent Mother Nature who loves all her children and takes special care of them in a world of harmony and love where only man is base. From Red-fox to Mickey Mouse and Bambi, these concepts have been reinforced through countless films and years of television showings, and it is no wonder that all killing is now considered to be unnatural and evil.

NEW JERSEY OUTDOORS READER SURVEY

This survey was designed to help us plan future issues of New Jersey Outdoors. It can be cut from the magazine without damage to the reading matter. Please answer questions carefully and send to the address listed below.

1. Circle the appropriate answer and fill in blanks.
 - A. Age (1) 14-17 (2) 18-29 (3) 30-40 (4) 41-50 (5) over 50
 - B. How many children under 14 in your home?.....
 - C. Your educational level.....
 - (1) less than four years of high school
 - (2) high school graduate (3) attended college
 - (4) college graduate (5) post graduate degree
 - D. Occupation.....
 - E. Sex.....
 2. A. What are your interests? Your favorite hobby or sport?.....
 B. How much time do you spend outdoors?.....
 3. How did you first learn about New Jersey Outdoors?
 A. another reader B. exhibit or educational program
 C. state fair D. newspaper, magazine or radio E. Direct Mail
 F. other
 4. How long have you been reading New Jersey Outdoors?
 A. less than a year B. 1-2 years C. 2-5 years
 D. 6-10 years E. over 10 years
 5. A. How many people read your copy of New Jersey Outdoors?.....
 B. Ages and occupations?.....
 6. What do you generally read first?
 A. editorial B. recreational articles C. environmental news
 D. wildlife management articles E. nature study F. pictorial
 essays G. historical H. other.....
 7. Rate the following topics 1-8 according to your preference:
 A. outdoor recreation B. natural resource conserva-
 tion C. environmental quality D. pictorial es-
 says E. historical F. nature study and environmental
 education G. land use planning H. wildlife management
 8. Have you ever given New Jersey Outdoors as a gift subscription?
 To a School?.....
 9. Do you save your copies of New Jersey Outdoors?.....
 10. A. Do you read or subscribe to other publications of this type?.....
 B. What are they?.....
 11. Are you active in any local or national conservation/wildlife organiza-
 tions?..... Names.....
 12. Do you think New Jersey Outdoors is effective in its efforts to inform and
 educate the people of New Jersey about our environmental problems and the
 conservation of our natural resources? Are our outdoor recreational articles
 informative and entertaining?.....
 13. In your opinion, what are the three most pressing environmental problems in
 New Jersey? Suggestions?.....
- (Attach separate sheet, if required).....

← Please cut on dotted line and send to address listed below.

Thank You
 Please send to
New Jersey Outdoors Reader Survey
P.O. Box 1390
Trenton, N.J. 08625

Continued from page 19

new jersey is . . .

ever a person can balance a tripod or steady a camera against a tree—the city is laid bare. Its superstructure of buildings, with canyon-like streets etched in between are easily captured by fish-eye or long lens. From Jersey City or Hoboken, even Cliffside Park or Cresskill the Camera perceives an eye-level look at a magnificent architectural mosaic.

The vantage point of Weehawken allows the telephoto-equipped eavesdropper to invade the privacy of warves and piers that once made New York the greatest of world seaports. Bare bones of the past are grist for the mill of a creative photographer.

Night exposure out New Jersey's window. This scene predates the infamous "blackout". Now, much less electricity is spent at night.



Travelling the Palisades with an anxious camera will bring one into contact with a host of global visitors to this metropolitan area. The Palisades are known throughout the world as the best place from which the city can be photographed. You'll be rubbing shoulders with Indians, Africans, Japanese and Germans, to name a few. All hunting the memorable treasure of a "captured" city.

Let's hope, as we share our Palisades with international neighbors, that they remember us back home: After all, they will have "shot" the City—out our window. □

View of a ship as big as a city from New Jersey's window.



Marine Fisheries Brochure

New Jersey's Neglected Resource

Now available free from DEP's Division of Fish, Game and Shellfisheries. This full-color brochure discusses our marine resources, the problems threatening the resource, the programs needed to manage these resources, and the estimated costs of marine fisheries management.

To obtain this brochure write to either address listed below:

Division of Fish, Game and Shellfisheries
Nacote Creek Research Station
Star Route Absecon, N.J. 08201



Division of Fish, Game and Shellfisheries
P.O. Box 1809
Trenton, N.J. 08625

question of values

In returning to the problem of ethics in hunting and killing, Aldo Leopold, renowned conservationist, approached the problem in a pragmatic way by also focusing upon the welfare of the species hunted and the overall benefits to the total environment. If the limitation of the population by hunting improves the survival chances of the game species, how can one consider hunting unethical? In the *Sand County Almanac*, he says, "A thing is right when it tends to preserve the integrity, stability, and beauty of the biotic community. It is wrong when it tends otherwise."

Cruelty and senseless destruction, however, is another matter and can never be condoned in a society. Even in the most primitive tribal societies, it was considered abnormal and was punished as a serious crime. John Madson, in an article called *What About This Anti-Hunting Thing*, identifies the problem by stating, "It is important to recognize that it is not *hunting per se* which is on trial—it is the conduct of the individual hunter which is at the heart of the issue." With the tremendous increase in the numbers of urban hunters and the decrease in certain game populations and hunting areas, and with all the problems of urban sprawl and environmental degradation, it is obvious that more and more restraints will be placed upon the hunting public. Much of the criticism of hunting can be traced to the unethical behavior of the so-called "slob hunter" who through selfish and senseless acts has invited the wrath of the hunting and nonhunting public alike. The responsibility for such behavior obviously falls upon the hunting community which in the final analysis must find ways of controlling and eliminating this kind of behavior; otherwise, the privilege of hunting will be lost.

Cause for this type of behavior, can again, I believe, be traced to the urban setting with its potential for creating value systems and lifestyles at variance with biological reality. In a very complex and impersonal society where individuals are at the mercy of countless conditions which they as individuals cannot control or feel they cannot, the frustrations created can take many directions. Add to this the fear and insecurity created by crime and violence and the emphasis placed upon success and power in a society where very few individuals achieve identity and self-realization, and one is not surprised when individuals, through film and television conditioning, romanticize the simpler past and attach special values to the role of the successful hunter. The trappings are there—the powerful weapon, the mastery over the animal kingdom, and the final trophy acquisition, all suggest this way as a compensatory mechanism for providing self-esteem and assurance to individuals denied satisfaction in other ways.

Where the harsh realities of rural living no longer affect the individual and where unrealistic attitudes can develop in a social climate basically man-made

and possibly removed from environmental factors which create realistic ethics, it is no wonder that a number of conflicting lifestyles can evolve and all be more or less out of tune with reality. What compounds the problem here is that little responsibility is required of an individual for behavior which in a simpler society would immediately affect that person and others and would bring resulting consequences of either benefits or suffering. At present, society as a whole, or simply the *state*, carries the responsibility of environmental concerns; and individual and corporate responsibility is only grudgingly assumed. Facing the situation realistically, one would have to admit that responsible behavior toward our natural environment, at present, is more a hope than a reality. Even though tremendous lip service is given and environmental education courses are offered in most schools, very little is done to promote harmony with the land.

The obvious problem was frankly stated by Aldo Leopold when he said, "A land ethic then, reflects the existence of an ecological conscience, and this in turn, reflects a conviction of individual responsibility for the health of the land."

Responsible behavior toward wildlife, the obvious solution to the question of hunting ethics, demands a commitment from both the hunting and nonhunting community. Too much maudlin sentimentality has permeated classrooms and homes to the point where many children are unable to adjust later to the facts of human ecology and the realities of nature.

Understanding ecological relationships, of course, is only the first step in the development of ethical behavior. Further responsibility for an effective value-building process demands that ethical behavior shall be fostered and rewarded and destructive behavior be penalized.

Society has yet to develop an educational system as effective as deprivation in showing us the value of things and this applies to public hunting as well. Where hunting is threatened by the unethical behavior of a few, it behooves the majority of the hunting public to create controls which will tend to discourage bad behavior and support programs of education and training which will encourage responsible behavior. Hunting parents, especially, have a responsibility to their sport and to their children in promoting appreciation for their sport and, more important, an appreciation of sportsmanlike behavior.

Notwithstanding the critics of hunting, responsible hunters have a moral right to their values and their sport as much as the nonhunting community has a right to its beliefs. For one group in society to attempt to impose its value system upon the other is immoral and contrary to our national spirit of justice and freedom.

John Madson, in an editorial for the *New York Conservationist*, concluded that the gap between the hunter and the nonhunter tends to narrow as knowledge and total experience and understanding in nature increase, and the deeply involved hunter and the deeply involved nonhunting naturalist may merge until they are undistinguishable. □

Wreaths

home, Triple Oaks. Mountains of evergreens fill our laundry room, constantly being replenished as we make wreaths for all the front doors and windows. We wait until this time to trim the many huge native holly trees on our property. Greens are also collected from several acres of pine, spruce, and cedar, as well as shrubs in the yard such as Japanese holly, yew, juniper, japonica, and any others with interesting hues or textures.

Green wreaths can be made on coat hangers, commercial wreath rings, old tire rims, or even hula hoops (if the hoops are used, cover the plastic with a rough or sticky tape so that the greens won't slip). The easiest and most economical way is to form a strong coat hanger into a circle by rounding out the corners. Do not unhook it (see *illustration #1*—Figure 2). The hook is used to hang the wreath. If the hanger is of thin wire and seems to bend, use two, wiring them together.

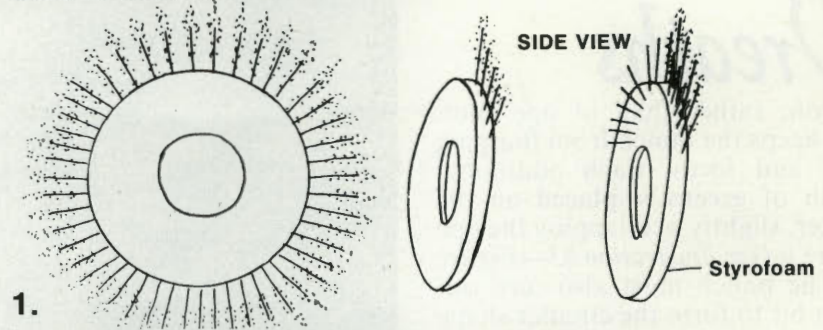
I usually buy a large roll of strong, but lightweight green "wreath" wire at the hardware store and roll off wire for wreaths and projects as needed onto a clothespin. The prongs of the pin help to hold the wire so that it doesn't slip. This is an easy way to handle the wire, without tangling it. A roll of wire about the size of a walnut is a good amount to start with.

When gathering the greens cut them in 8- to 12-inch pieces. If they are collected ahead of time, store them in plastic sacks in a cool spot. Bouquets made of three or four varieties of greens will make a very pretty wreath. An example would be to place a piece of spruce or white pine as the back or bottom piece and the cedar, and other bushier pieces of shrubs on tops.

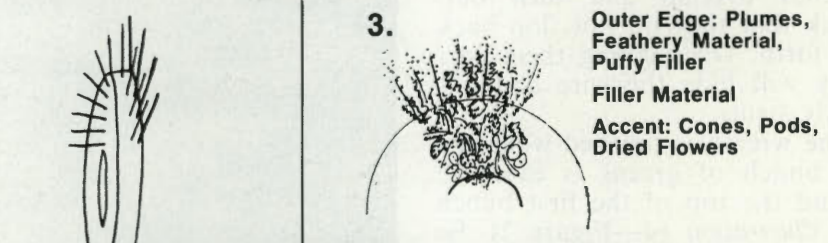
The first bunch is anchored securely on a diagonal across the hanger hook (see *illustration #2*—Figure 2). When wrapping the stems, wrap the wire in a spiral

Continued on page 30

Figure 1. Weed Wreath Illustrations

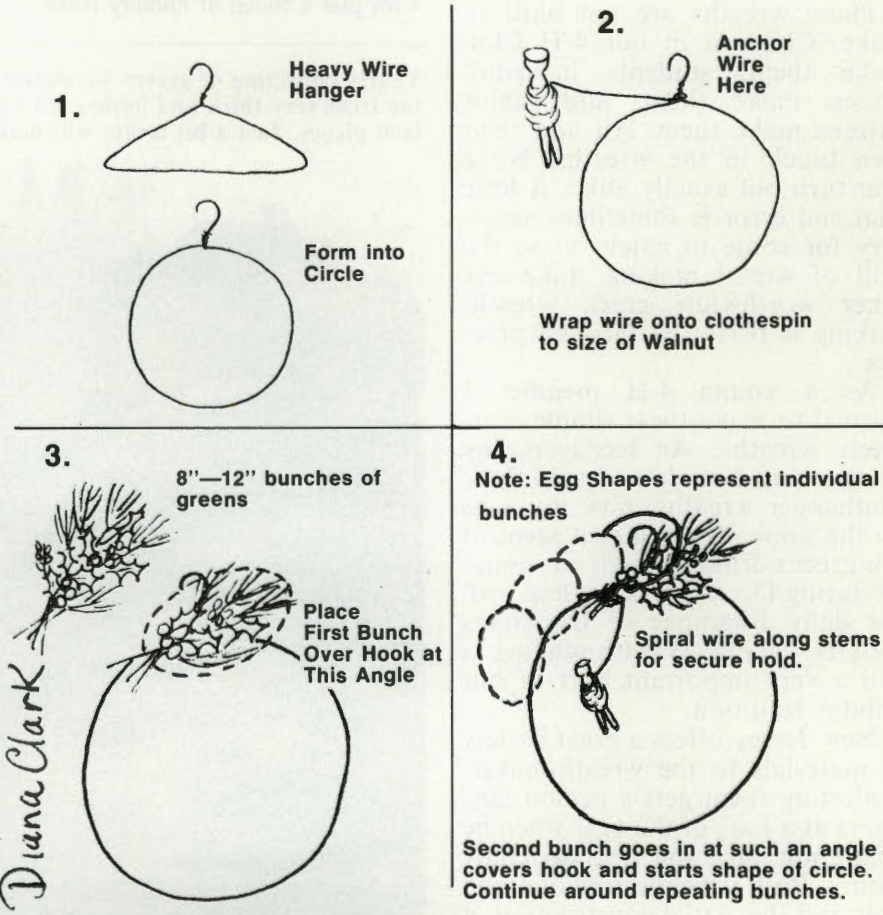


1. Go around outer edge of wreath rim with filler material



2. Note: Plain lines represent stems of material so that proper angle of insertion may be seen more clearly
As you finish the outer edge, gradually come up and over, changing direction of material—stems will be perpendicular to base.

Figure 2. Evergreen Wreath Illustrations



Diana Clark

Continued from page 29

Wreaths

fashion, rather than in one spot. This keeps the bunch from flopping back and forth. Each additional bunch of greens is placed on the hanger, slightly overlapping the one before it (see *illustration #3*—Figure 2). The bunch must also turn out just a bit to form the circular shape of the wreath. Be sure that the bunches overlap and turn out. Check that they do not flop back and forth. Overlapping them correctly will hide the wire and unsightly stems.

The wreath is finished when the last bunch of greens is eased in behind the top of the first bunch (see *illustration #4*—Figure 2). Be sure that enough bunches have been used so that the bottom of each of the bunches is covered by the next one. Remember to think of the bunches as segments of a circle, placing them on the frame so that they are equal in size and distance.

These wreaths are not hard to make. Children in our 4-H Club make them, students in adult classes make them, and senior citizens make them. All add their own touch to the wreaths. None ever turn out exactly alike. A little trial and error is sometimes necessary for some to catch on to the skill of wreath-making. Like any other worthwhile craft, wreath-making is perfected through practice.

As a young 4-H member I learned to make these simple evergreen wreaths. As teenagers my brother and I made and sold these coathanger wreaths, now my sons do the same. The pungent scent of evergreens drifts through our house all during December, mingling with the daily fragrance of Christmas cookies baking. Wreath-making is still a very important part of our holiday tradition.

New Jersey offers a great variety of materials to the wreath-maker. Collecting them gets a person outdoors at a time of the year when he might not take the time to enjoy nature. Both the collecting of materials and the actual construction of



The finished wreaths can be trimmed with a countless variety of materials if desired. Some of the nicest however are left to show off the evergreens with just a touch of holiday color.

Yearly collecting of greens by author for wreath-making has helped make the trees very thick and bushy. All types of evergreens are cut into 8 - 12-inch pieces. Just a bit larger will make a larger wreath.



the wreath are physical chores that tend to relax you. (Most people need this during the hectic holiday season.)

Best of all the finished product is not of plastic, chrome, or paper, but of lovely natural materials. Whether the wreath be of durable cones, pods, and dried materials or fresh evergreens, it will make the New Jersey outdoors a part of your holiday tradition.

***List of books that are helpful for identifying plants mentioned in this article**

- 1) House Document #94-51, Endangered and Threatened Plant Species of the United States. Serial #94-A, U.S. Government Printing Office, Washington, D.C.
- 2) A Guide to Field Identification. *Trees of North America*, Frank Brockman, Golden Press.
- 3) *Our Northern Shrubs* and how to identify them, Harriet Keeler, Douer Publications, (1969).
- 4) *A Pocket Guide to the Common Wildflowers of New Jersey*, John Klimas, Jr., Walker Publishing Co., Inc., (1975).

****Lists of plants mentioned in article for dried material wreath**

Garden Flowers

- Baby's Breath (*Gypsophila elegans*)
- Bells of Ireland (*Molucella laevis*)
- Cockscomb (*Celosia argentea plumosa*)
- Globe Amaranth (*Comphrena Globosa*)
- Honesty (*Lunaria annua*)
- Statice (*Limonium sinuatum*)
- Strawflower (*Helechrysum bracteatum*)
- Yarrow (*Achillea*)
- Love-in-a-mist (*Nigella damascena*)
- Lavender (*Lavandula vera*)
- Rosemary (*Rosemarinus officinalis*)
- Origanum vulgare
- Chinese Lantern plant (*Physabis alikekengi*)

Method of Preserving

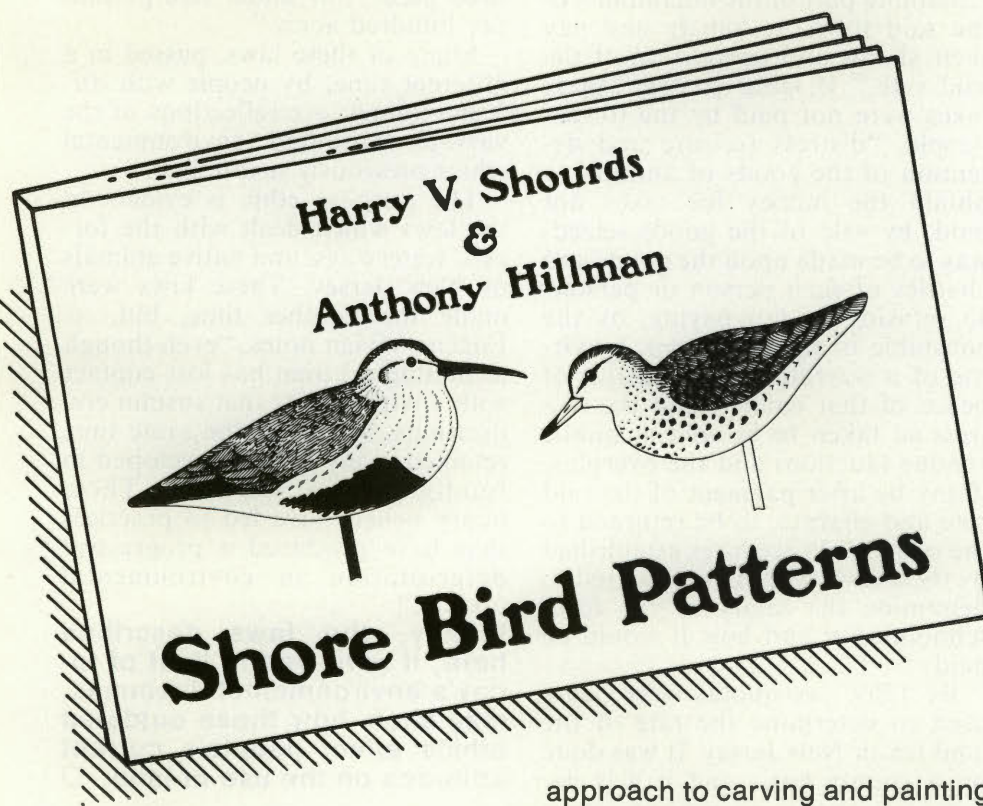
- hang to dry
- hang to dry
- hang to dry
- hang to dry
- pick seed pods or pennies when mature
- hang to dry
- pick before mature, hang to dry
- hang to dry
- pick bods after flowers are done bloom or foliage, hang to dry
- hang to dry
- hang, seed pods look best
- pick lantern when orange, hang to dry

Wild Plants to Use

- Pearly Everlasting (*Anaphalis margaritacea*)
- Evening Primrose (*Oenothera biennis*)
- Golden Rod (*Solidago*)
- Milkweed (*Asclepias*)
- Bull Thistle (*Cirsium vulgare*)
- Joe Pye weed (*Eupatorium Maculatum*)
- Scarlet or Highland Sumac (*Rhus glabra*)
(this has red berry spikes, not to be confused with poison sumac, which has white berries)
- Mullein Spike
- Boneset (*Eupatorium*)
- Black-eyed Susan (*Rudbeckia Serontian*)

Method of Preserving

- pick when in bud, hang to dry
- use seed pods found in late fall, winter
- pick before too mature, hang to dry
- use pods after seeds have gone
- pick before too mature, hang to dry
- pick before too mature, hang to dry
- use spikes of scarlet berries
- use spike found after bloom
- use centers



A new book designed to give would-be carvers and those already into woodcarving something that is not available anywhere else—full size patterns of shore birds with a simplified

approach to carving and painting them. The large 11 x 17-inch format and ring binding allows the book to be opened perfectly flat which adds to its overall utility.

In addition to the life-size patterns there are three pages of

miniatures depicting 18 different species of birds which add up to 40 patterns of miniatures alone. The authors are filling a need for a book which a beginner as well as someone with a bit of experience will have the opportunity to fashion an accurate representation of these popular subjects.

Shore Bird Patterns is available by mail for \$14.00 (including postage) from:

The Duck's Nest
2023 S. Shore Rd.—Seaville
Ocean View P.O. N.J. 08230

Hillman's Baycraft Gallery
801 Bayshore Ave
Brigantine, N.J. 08203

Land Use Laws

more than forty perches (a perch equals five and one-half yards, linear measure) front to the river and navigable creek for each and every one hundred acres." These laws made it difficult for any one person to control waterways and the travel on them.

The first Assembly also made plans for the building of streets and highways. The proprietors, they decided, would "grant convenient proportions of land for highways and for streets, not exceeding one hundred feet in breadth in cities, towns and villages."

As the population increased, clarification of the initial ordinances dealing with the laying out of highways was needed. Therefore, the Assembly concluded that where highways would be laid out through any lands already taken up "reasonable satisfaction at the direction of the commissioners" should be paid to the owners of the lands through which the highways passed.

When it came time to pay the expenses of the government officials in colonial New Jersey it was determined that a land tax was the best way to raise this revenue. This was the beginning of the tax system, based upon the ownership of land, that exists in New Jersey today.

In 1668 it was determined by the Assembly that "a rate of thirty pounds be levied upon the Country (New Jersey), for defraying of public charges, and this rate (be) equally proportioned to each town." Since there were six towns in New Jersey in 1668, each town was required to pay as its share five pounds, which would be paid in produce at the following set rates; "winter wheat at five shillings a

bushel, summer wheat at four shillings and six-pence, pease at three shillings and six-pence, Indian corn at three shillings, rye at four shillings, barley at four shillings, beef at two pence half-penny and pork at three pence half-penny a pound."

Taxes were also being levied, as they would be throughout the colonial period, to build and maintain various public facilities constructed for the benefit of the people. The method of determining a tax rate was to "choose four or five inhabitants, who shall have power to make such rates and taxes for making all highways, bridges, landings and ferry's, which are or hereafter shall be laid out." These rates had to be approved by the people and this procedure was explained in a law passed in 1693. It stated that "the consent and agreement of the major part of the inhabitants of the said town, shall bind and oblige the remaining part of the inhabitants of the said town, to satisfy and pay their shares and proportion of the said rate." If, after passage, these taxes were not paid by the townspeople, "distress (seizure and detention of the goods of another to obtain the money for taxes not paid, by sale of the goods seized) was to be made upon the goods and chattles of such person or persons so refusing or not paying, by the constable of the said town, by virtue of a warrant from a justice of peace of that county; and the distress so taken to be sold at public vendue (auction) and the overplus, if any be after payment of the said rate and charges, to be returned to the owner." Procedures established by these laws would also be used to determine the salary of the local schoolmaster and how it would be paid.

By 1769, tax quotas were being used to determine the rate of the land tax in New Jersey. It was done on a county basis and it was de-

termined that "all profitable tracts of land held by deed, patent or survey, whereon any improvement is made, the whole tract shall be valued at the discretion of the assessors in each respective county of this colony." The tax values on land differed from county to county as did the amount that could be collected. Taxes on land "in the county of Burlington should not be above fifty-five pounds per hundred acres and not under six pounds per hundred acres," which the tax assessors would establish when they assessed the land. In other counties the tax rate was different, just as it is today. For example, in Gloucester County in 1769, the tax rate was not to be more than "forty pounds per hundred acres, nor less than three pounds per hundred acres," while, at the same time in Salem County the rate was "not to be above fifty pounds per hundred acres, nor under five pounds per hundred acres."

Many of these laws, passed in a different time, by people with different values, are reflections of the various outdated environmental ethics previously mentioned.

The purpose ethic is evident in the laws which dealt with the forests, waterways, and native animals of New Jersey. These laws were made for another time, but, as Eugene Vivian notes, "even though technological man has lost contact with environments that sustain civilizations, he has at the same time retained many beliefs developed in food-gathering societies. These hoary beliefs have led to practices that have produced a progressive deterioration in environmental quality."

Finally, the laws described here, if reviewed in light of today's environmental dilemmas, may show how these outdated ethics affect people's current attitudes on the use of land. □

FRONT COVER

Snow Geese Off Cape May—Photographed by William D. Griffin

INSIDE BACK COVER

Bass River in the New Jersey Pine Barrens—Photographed by David Campione

BACK COVER

A Look into Morris County—Photographed by David Bast



