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# *Outdoors*

**May, 1972**





# **The Salt Marsh**

## **As Relating to Shore Birds, Song Birds, Furbearers, and other Wildlife**

*By Robert Mangold,  
Assistant Wildlife Biologist  
Bureau of Wildlife Management*

The values of the salt marsh have increasingly been written about in recent years, and rightly so. But, it is somewhat difficult for the average person to understand the values attributed to the salt marsh, as few are familiar with soil salinity, pH, nutritive values, and so forth, as these and other terms are used by specialists to describe certain conditions.

However, any person who can see, will have no difficulty noticing the large numbers of different species of birds, and the sometimes vast numbers of birds of many species, using the salt marshes. Many use the marshes during migration, but others in large numbers during their summer or winter "stay" on these Jersey marshes.

An observant person cannot but wonder at the productivity of any area of land able to support such a large and varied number of birds on an annual basis. While the largest number of birds are those directly associated with the salt marsh, (such as the laughing gull, for example) there are many less obvious birds and animals whose lives depend on healthy and extensive areas of marsh.

A brief description of numbers and species of wildlife may help us to be more aware of obvious "facts of life" as seen on the salt marshes.

Shore birds found breeding on the salt marsh, and depending on it for food themselves and their offspring include such species as laughing gulls, (On about 3,000 acres of marsh at the Brigantine National Wildlife Refuge in 1970, it was estimated that about 25,000 laughing gulls were produced.), herring gulls, least and common terns, willets, oyster catchers, and clapper rails.

The clapper rail has been studied in some detail by the Bureau of Wildlife Management, as it is one of our fine game birds. These birds arrive in the Garden State marshes toward the end of April, establish

*Continued on page 15*



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# New Jersey Outdoors

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### Cover—"Environmental Perspective"—

#### U.S. Fish and Wildlife Service

This seems to be the year of the eagle and our environment. Actually, the eagles, both the bald eagle and the golden eagle, do serve as most appropriate symbols of the environmental situation that now confronts mankind. For an interesting account about a golden eagle that included New Jersey in its varied wanderings see page 8.

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Cypher



# The People vs. The Small Trout

By Robert H. Soldwedel,

*Bureau of Fisheries Management*

**Date:** April 8, 1972 (opening day of the trout season)

**Time:** 8:01 a.m.

**Place:** Big Flat Brook

**Plaintiff:** John Q. Angler

**Defendant:** Bureau of Fisheries Management

N. J. Division of Fish, Game, and Shell Fisheries

**Charge:** (in plaintiff's own words) "Stocking such (censored) small (censored) trout! And it ain't the first (censored) time, either!"

## Court Record

**Plaintiff:** Your Honor, I intend to prove, beyond the shadow of a doubt, that the Bureau of Fisheries Management is stocking pathetically small trout while, at the same time, stating publicly that nothing less than seven-inch fish are released. On the morning of April 8th while fishing in the Big Flat just north of Route 206 I caught this, which I now enter into evidence as exhibit A. The 53 other guys that were fishing the same pool will bear witness to this.

**Court:** Let the record show that the plaintiff entered as evidence a brook trout (*Salvelinus fontinalis*) which, on the official court ruler, measures exactly 5.6 inches in total length. Also included are 53 sworn affidavits attesting to its time and place of capture.

**Defense:** Your honor, in its defense the Bureau will attempt to prove to the satisfaction of the court that this trout (exhibit A) did not originate at the Charles O. Hayford Fish Hatchery at Hackettstown, New Jersey, but rather is the result of natural reproduction. The Bureau is well aware that the idea of natural trout reproduction in New Jersey is scoffingly dismissed in many angling circles as hogwash, tommyrot, etc. In a recent "man-in-the-road" survey of 100 trout anglers held in downtown Layton the question was asked: "Which do you find most believable: Phase II of the Economy Program, the N. Y. (N. J.) Giants winning the 1973 Super Bowl, the Tooth Fairy, or native trout in N. J.?" Out of the 100 anglers, 86 chose the Tooth Fairy.

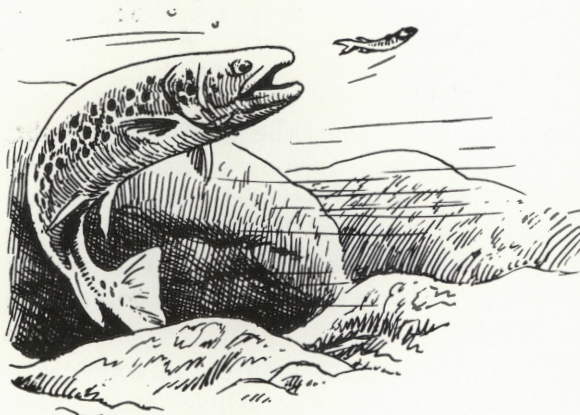
However, there is documented evidence to the existence of native



## . . . The Small Trout

trout in the Big Flat Brook. We offer a copy of "Flat Brook Trout Studies" by A. Bruce Pyle and Robert H. Soldwedel, 1971, as supporting evidence. You will find that fully 17.4 percent of the trout taken by electrofishing in the Roy Tract stretch of the stream were of natural origin.

Also, we wish to present records of electrofishing operations within the Flat Brook drainage carried out to classify the streams as either "Trout Production," "Trout Maintenance" or "Non-trout" waters for the purpose of assigning water quality standards. For example, those waters designated as "Trout Production," (i.e., supporting the natural reproduction of trout, will receive the highest standards to protect their water quality so that they will always be capable of supporting native trout populations.



*The larger the large trout, the smaller the small trout appear*

The records show native brook trout to exist in Beers Creek, Parker Brook, Shawanni Creek, Stony Brook, Tillman Brook, Tuttles Corner Brook, and in the Big Flat Brook itself, not too far above where the plaintiff was fishing. It is not unusual for these natives to filter down through the tributaries and enter the larger streams where they are easily mistaken for hatchery-reared trout.

*Plaintiff:* How can you be so sure these were native trout, by the color of the meat?

*Defense:* The typical orange color of the flesh of the native trout is a reflection of their diet. However, the flesh of hatchery-reared trout may also take on a tinge of color after they've been in the stream for awhile. We have two sure-fire ways of telling: (1) if we find fingerling trout in waters that we do not stock with fingerlings or, in the case



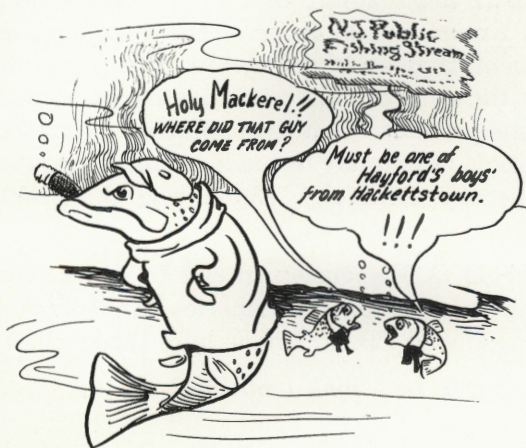
of several of the above mentioned streams, waters we do not stock at all, and (2) through scale analysis.

Before we proceed any further and while we're talking about fingerlings, let's set the record straight. The Bureau does, on carefully controlled occasions, make and evaluate stockings of fingerling trout such as was done at Stony Lake in the late 1960's. Further when large allotments of trout are received from federal or state fish hatcheries and stocked directly into the waters of the state, it is to be expected that a certain, small percentage of these trout may be under seven inches, depending on how carefully the fish are graded at the source. Getting back to the identification of native trout through scale analysis, may we remove a few scales from exhibit A?

*Plaintiff:* No objection, your Honor.

*Defense:* Fine, we'll put these under the microscope and by counting the number of annuli (this process is based on the growth of the fish through the year and is a lot like counting the rings on a tree stump) we find this fish to be over two years old. Proof! A two-year old hatchery trout normally averages about twice this size. You see, native trout grow very slowly as compared to our heavily fed hatchery product. The food supply is a lot harder to come by in a small stream and this naturally results in slower growth. In many cases, the Bureau is stocking waters with trout much larger than would normally be produced by the natural environment. The purist may thumb his nose at this practice, but when you consider the terrific fishing pressure we have here in New Jersey, you couldn't expect the environment to meet this need without help either from stocking or through the application of special regulations such as no-kill, size limits, etc.

*Plaintiff:* I'm ready to concede on this trout I caught in the Big Flat but what about the one I got in the Ken Lockwood Gorge?



*The hatchery trout normally average much larger than the native trout*



## . . . The Small Trout

*Defense:* We've found natives in Hickory Run, Little Brook, Stony Brook, Electric Brook, Flanders Brook, Ledgewood Brook, Frog Hollow Brook, and Turkey Brook all of which flow into the South Branch of the Raritan in this general area.

*Plaintiff:* And there was that four-incher in the Musconetcong?

*Defense:* Beatty's Brook, Hances Brook, Schooleys Mt. Brook, Stephensburg Creek all have natives. (At this point in the proceedings, it was noted that the plaintiff was busily scribbling down these names for future reference).

*Plaintiff:* O. K. What about the six-incher I took in Hudson County Park Lake up in North Bergen? There's no fingerling trout program there, carefully monitored or otherwise, and you can't tell me trout are spawning in the storm sewers.

*Court:* Yeah, what about Hudson County Park Lake?

*Defense:* Your Honor, even a monkey falls out of a tree. When you are moving about 500,000 trout annually we feel it should be expected that a few runts are going to accidentally slip through a size sorter or screen and get netted up with the regular loads. If one of these "shorts" shows up in a "non-trout" water like Hudson County Park Lake, Barbours Pond, or in Branch Brook Park Lake it was by accident. However, if it turns up in the Wanaque River, Saddle River, or some other "Trout Maintenance" or "Trout Production" waters, I feel the Bureau should get the benefit of the doubt. During last fall's electrofishing survey of Mulhockaway Creek made at the tail end of the brown trout spawning run from Spruce Run Reservoir, we found large numbers of young-of-the-year brown trout and one of the biologists remarked to me: "Man, are we ever going to catch it when people start hooking these next spring."

*Court:* I feel that the plaintiff must admit that on the basis of this testimony, it is obvious that I must rule in favor of the defendant since it appears, by his last statement, that he is well aware that this problem exists. A problem which, in the eyes of this court, seems to be caused basically by a lack of communications. It is the opinion of this court that such testimony as was given here today be made common knowledge among the angling public thereby, hopefully, eliminating the problem. . . . Next case.

*Plaintiff:* Your Honor, I Harold Q. Fisherman intend to prove beyond the shadow of a doubt that the Bureau of Fisheries Management is stocking small trout in Mulhockaway Creek. I have here three small . . .

*Defense:* It looks like it's going to be a long trout season.

#



## Legislation of Interest to Sportsmen

Senate No. 26, Chapter 99, approved April 16, 1971. Repeals real estate ownership as alien hunting license eligibility requirement.

Senate No. 147, Chapter 149, approved July 24, 1970. Provides for permit to stock fish or fish eggs in fresh waters of state.

Senate No. 148, Chapter 150, approved July 24, 1970. Prohibits possession of natural bait, etc., while angling in designated waters.

Senate No. 389, Chapter 186, approved August 19, 1970. Provides for an October release date on semi-wild shooting preserves.

Senate No. 704, Chapter 316, approved December 21, 1970. Clarified existing field trial regulations and provides penalty.

Senate No. 705, Chapter 317, approved December 31, 1970. Increases penalty for mis-use of state fish and wildlife management areas.

Senate No. 928, Chapter 173, approved June 1, 1971. Increases penalty for pollution of waters.

Senate No. 947, Chapter 125, approved May 6, 1971. Increases hunting and fishing license fees.

Senate No. 967, Chapter 174, approved June 1, 1971. Increases penalty for pollution of Delaware River.

Senate No. 2068, Chapter 75, approved April 5, 1971. Provides option of spring or fall release on semi-wild shooting preserves.

Assembly No. 197, Chapter 180, approved August 13, 1970. Prohibits hunting baited area.

Assembly No. 284, Chapter 284, approved October 28, 1970. Provides commercial fishing preserve licensing.

Assembly No. 485, Chapter 140, approved May 13, 1971. Permits resident of approved migrant labor camp to procure resident's fishing license.

Assembly No. 675, Chapter 174, approved July 24, 1970. Concerns issuance of permits for devices to control wildlife.

Assembly No. 700, Chapter 199, approved September 4, 1970. Reduces residency requirement for purchase of hunting and fishing licenses to six months.

Assembly No. 703, Chapter 309, approved September 2, 1971. Eliminates trout stamp requirement by senior citizen fishing license holders.

Assembly No. 1025, Chapter 251, approved June 30, 1971. Provides that all deer taken in prescribed seasons must be registered at a checking station.

Assembly No. 1029, Chapter 252, approved June 30, 1971. Prohibits possession of both firearm and bow and arrow while hunting; prohibits loaded gun within 450 feet of occupied dwelling or playground; increases penalty for hunting from vehicle.

Assembly No. 1030, Chapter 180, approved June 1, 1971. Increases special deer license to \$5.00.

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During the past fiscal year the Division worked in cooperation with the following agencies where programs and policies concerned the state's wildlife resource: Soil Conservation Service, Agricultural Stabilization and Conservation Service, U.S. Army and U.S. Navy management activities on military lands, U.S. Bureau of Sport Fisheries and Wildlife, U.S. Food and Drug Administration, Canadian Wildlife Service, Atlantic Waterfowl Council, Rutgers University, 4-H Program of Rutgers University, state Departments of Agriculture and Education, state Division of Clean Air and Water, Division of Forests and Parks, state Bureaus of Geology, Water Pollution Control, and Navigation, State Federation of Sportsmen's Clubs, state fish and game agencies, state and local mosquito commissions, and county and township conservation commissions. In addition, a full time wildlife biologist is assigned to the state Department of Health to work on related wildlife problems.



# A Story About 509-50217

There's one Golden Eagle that could tell in its own language that there are some friendly and interested people in this world.

There is no proper name for this eagle although it carries the band number 509-50217 and the U.S. Fish and Wildlife Service got to

food for some time. This eagle was unafraid of people.

On the advice of Dr. Walter Spofford, a professor at Cornell's Laboratory of Ornithology, who fed and cared for the eagle while it was convalescing, plans were made to release the bird in western North Carolina. In the meantime, the bird was banded by a federal game management agent—only to be known from then on as 509-50217.

Since the law is quite specific on the transportation of eagles, a special permit was issued by Management and Enforcement Supervisor Rex C. Tice to have the eagle transported by Dr. Spofford. While the bird was regaining its ability to fly and its health by means of steak feeding, the necessary papers were made out to Dr. Spofford who transported the eagle to Pisgah National Forest, North Carolina.

Dr. Spofford reported to the Fish and Wildlife Service on January 23, 1971, that "the eagle was fed steak again and released; perched on a log at 5,000 feet on a shoulder of the Black Balsam Knob and Sam Knob, known to be eagle territory. We saw two wild Golden Eagles at this place; and one of the individuals who released the bird came back the following day to check the area and bring food, and saw our eagle circling close to



*Eagle 509+, a golden eagle that visited  
New Jersey*

know this bird in two separate areas along the eastern seaboard.

On the first occasion, the eagle was found at Montezuma National Wildlife Refuge in Seneca Falls, middle New York State, on November 12, 1970. The bird, a juvenile, weighing approximately 7½ pounds, was found in a weakened condition and probably without



the gulf where the wild eagles were seen. The Forest Service locked access gates for one week after the eagle release."

The next time the eagle was seen and identified was ten months later and about 400 airline miles away in Atco, New Jersey. If eagles get embarrassed, this one could very easily have been. As reported by Robert Markart in Atco, two golden eagles tore a hole in a wire fence and entered a poultry pen on his farm. Mrs. Markart heard the racket and rushed out to see what was going on. Both eagles had killed a duck, but one of them got out quickly upon seeing the woman. Mrs. Markart picked up the second one carefully and placed it in a holding cage; she then called the local conservation officer. Since the bird is protected under Federal law, Federal Game Management Agent Howard Brown was notified and took custody of the bird. Seeing that it was unharmed he drove it to Brigantine National Wildlife Refuge, Oceanville, New Jersey, and released it.

With the release of 509-50217, the story appeared to have ended

—but not for long. During the next month the bird was found in briar patches and released by bird watchers and Brigantine Refuge personnel. The bird made no effort to attack anyone, so getting it out of the briars proved no extra risk to anyone approaching. The bird took food while in captivity, and did not appear wild nor frightened by people.

Since the bird appeared to be about five pounds underweight, Federal Game Management Agent Brown delivered the eagle to Patuxent Wildlife Research Center, Laurel, Maryland, where it is being fed and housed, and where it will be kept until it dies of old age.

There's something very strange about 509-50217; it does not hunt. Now, as to the reason why, there have been any number of theories. The most prevalent one is that its parents did not teach it to hunt, although its appetite is as good as any other Golden Eagle.

As it is being watched at Patuxent, the curious scientists will ask themselves over and over, "why don't you hunt like other wild Golden Eagles?" #

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If you find a band on the leg of a wild bird killed or found dead in the United States, report it to the U. S. Fish and Wildlife Service, Washington, D. C. It is best to straighten out the band and send it with the report. The following information is needed for scientific purposes: the complete number on the band; the place, date, and circumstances of killing or finding the bird; and the name and address of the person who recovered the band. The band will be returned to you if you request it, and you will be informed of the date and place the bird was banded. You will have the satisfaction of knowing that you have contributed to the management and conservation of America's migratory bird resources. #



## Wildlife Society Supports Hunting

The sport of hunting has been cited as a desirable and necessary part of conservation in America by more than 5,600 wildlife experts.

Concerned over increasing anti-hunting sentiment, The Wildlife Society, a professional conservation organization, has gone on record in strong support of hunting in the United States.

The recent criticisms of hunting have centered around the beliefs that hunting has a detrimental effect on wildlife populations and that killing of wild animals is not necessary in the United States today. The professional conservationist knows that these accusations are untrue. More than anyone, the conservationist is aware that the hunter plays a vital role in today's wildlife management programs.

The hunting fraternity pays more than \$200 million for wildlife restoration each year. Hunting license fees are the backbone of the 50 state fish and game departments. An excise tax on hunting equipment provides over \$40 million a year, earmarked solely for wildlife. No other group can match these contributions.

As for the moral question of the killing of wild animals, many peo-

ple fail to comprehend that these animals will die whether they are hunted or not, and in nearly all cases they will die a much more slow and painful death. In the wild, death rates must match birth rates because no population can expand indefinitely. If animals are over-protected, overpopulation results; starvation is the inevitable result.

Sport hunting is regulated to maintain healthy balances in wildlife populations. Seasons are opened only when there is a genuine abundance of wildlife and hunting is needed to bring the population into balance with available food. This regulated hunting insures healthy populations of wildlife for the future while providing recreation for 17 million Americans each year.

The professional conservationist knows that sport hunting poses absolutely no threat to the well-being of any game species. In fact, without the hunter there would be little, if any, wildlife left in America.

For these reasons, and in the interest of wildlife management and conservation, The Wildlife Society supports hunting and urges education of the public regarding the significance of hunting. #

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An old, old recipe for cooking carp is herewith offered for the edification of those interested: Clean and skin carp. Soak in vinegar and sugar over night. Salt and pepper. Place carp on oak plank in 350-degree oven for two hours. Give carp to cat and eat plank.



## The Mink

Next to diamonds, *Mustela vison* is probably a girl's best friend, though it is doubtful that one in a thousand women who covet his hide knows him by his scientific name. Yet, aside from the status symbolism his skin represents, *Mustela vison*, better known as mink, is an interesting and unpretentious creature in the wild. The fur coat he wears is no luxury but is an absolute necessity to his way of life, providing warmth and insulation against the icy waters of the streams he plies for his livelihood. His diet consists largely of fish, frogs and, if he can find them, young ducklings. He is not above taking a meal of muskrat occasionally, and land rodents such as mice, moles, and rabbits are readily grabbed. Bird eggs, and birds, too, add to the variety of his menu.

In common with most other members of the weasel clan, the mink combines viciousness with courage. Size of his opponent seldom deters



*The wild mink is usually a rich, dark brown with a white chin patch. It may be found almost anywhere in the state along clean lakes or streams*

him once he's made up his mind to attack. His quick, dart-like movements resemble those of a striking snake and his greater mobility makes him much more deadly in any scrap. An excellent swimmer, his speed and dexterity in the water enable him to catch fish with comparative ease. On a small stream, he very definitely can make a detectable dent in the trout population.



## **. . . The Mink**

The mink is equipped with musk, or scent, glands similar to those of a skunk. When he is frightened or aroused, these glands give off an offensive odor that sometimes helps discourage an attacking enemy. He is unable to spray this secretion, but it is effective enough to singe the nostrils just the same. About a third of the mink's two-foot length consists of tail. His small head, long neck, slim body, and short legs give him a highly streamlined look and account for his speed and agility.

Mink are well distributed throughout all of North America, with the exception of the desert regions. A hole, rock pile, or hollow log on or near the bank of a stream is his customary den. The young are born in the spring and average about half a dozen to the litter. Mama oversees their activities and education throughout the summer before turning them out on their own to face a world that looks on them largely as potential fur coats.

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**To increase game**

## **Habitat Improvement**

*By George N. Alpaugh, Chief  
Bureau of Wildlife Management*

Fall hunting success depends mainly upon breeding stock that survives the winter and the availability of adequate food and cover during the ensuing spring and summer.

Pheasant, bobwhite quail, and cottontail rabbits are farm game species that thrive on fertile soils where small fields of grain and grasses, small woodlots with ground cover, and managed hedgerows exist.

The first step toward a practical plan is to consider all the alternatives and possibilities. The Soil Conservation Service, Extension Service, Bureau of Forestry, and the Division of Fish, Game, and Shell

Fisheries, have representatives in your area helping landowners meet their conservation objectives. Professional personnel of these agencies are trained to give excellent advice based on years of experience and factual information.

Proven wildlife management habitat improvement practices that could be a part of most any practical plan follow.

### **Hedgerow Management**

Old hedgerows should be cut. This allows sunlight to reach the soil and encourages new succulent growth for food and cover near the ground. Multiflora rose, tartarian honeysuckle, autumn olive,

*The author examining excellent habitat consisting of woods and "edge effect" bordering both annual and perennial plantings*





### **. . . Habitat Improvement**

bayberry, bittersweet, shrub lespedeza, silky cornel, and coralberry can be planted if conditions permit.

#### **Develop a Woodland Border**

This can easily be accomplished by planting two to four rows of shrubs with the tallest species next to the trees and the lower forms on the field side. A typical example, depending upon the site, would be autumn olive, shrub lespedeza, silky cornel, and lespedeza sericea. Occasionally, the same results may be accomplished by removing the undesirable vegetation on the outer edge of the woodlot and protecting native food and cover plants such as bittersweet, blackberry, grape, chokeberry, dogwood, viburnums, apple, and a few nut-bearing trees.

#### **Conifer Plantings**

Winter cover is often a limiting factor. Steep hillsides, eroded

areas, and odd field corners not suitable for growing crops should be planted with conifers. One to two acre plantations of Norway spruce, hemlock, white pine, or Austrian pine are most desirable. Relatively small plantations provide a diversity of cover benefiting wildlife.

#### **Planting of a Food Patch**

Food is often a limiting factor, particularly for quail and pheasants. Corn is one of the best grain crops for pheasants but, unfortunately, it is not always practical to plant.

Long narrow patches are best and should be  $\frac{1}{4}$  acre to one acre in size. The food patch should be located next to good escape cover. Several well distributed food areas meet the requirement of wildlife better than a single patch of the same area. #

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The Bureau of Wildlife Management is charged with the collection of scientific information for the management of the wildlife resource in New Jersey. In recent years the magnitude and complexities of the duties carried out by the Bureau have increased many-fold with the rapid growth of our human population, the loss of available wildlife habitat, and the problem of trying to maintain a wildlife resource which is many times in direct competition with urban growth and industrial development.

In an effort to preserve and develop suitable habitat, the Bureau is presently engaged in many activities and cooperative programs which are new to the field of wildlife management, but which are essential to the maintenance of our wildlife resource. To accomplish these additional responsibilities, Bureau employees have been called upon to provide their expertise to other Departments and Divisions of state government and have spent many hours of extra duties above and beyond their normal wildlife assignments. Presently the Bureau is charged with the management of over 135,000 acres of fish and wildlife management areas throughout the state in addition to research and investigation programs concerning native game species.

The Bureau is attempting to maintain its past level of high performance while at the same time assuming the many added responsibilities which are essential and required in the modern concept of wildlife management. The problems will become even more acute as our human population expands and wildlife habitat is necessarily reduced.



### . . . Salt Marsh *Continued from Inside Front Cover*

breeding territories, and hatch off one and occasionally two broods averaging about eight chicks per brood. Then, late in August or September (occasionally as late as October) they migrate south, spending the winter on the salt marsh between South Carolina and northern Florida.

On sand heaps and beach islands in and around the marsh are found skimmers and some terns nesting in colonies. These birds feed in the creeks, ponds, and bays as well as the inlets and ocean.

On the uplands adjacent to the marsh are found other colonial nesting areas of several species of wading birds (Stone Harbor and Margate, to mention two). Here are such birds as little blue heron, Louisiana heron, snowy and common egrets, common bittern, glossy ibis, and yellow-crowned and black-crowned night herons. Less regularly colonial are such birds as the great blue heron, green heron, least bittern, and others.

In years gone by, perhaps gone forever, the huge nests of bald eagles and ospreys were found usually high in some big tree, or on the cross-arms of utility poles. (Many a meal of fish has been lost by shorting out wires, and even nests and young destroyed by catching afire).

During migration are found many species, such as snipe, yellow-legs, sandpipers, dowitchers, plovers, curlews, turnstones, and others.

Species of song birds found breeding on the salt marshes are fewer than shore birds, but the red-winged blackbird, seaside, sharp-tailed, and savannah sparrows, and marsh wrens can be heard on a calm evening, even if the nesting birds cannot be seen. On the shores and other edges may be found grackles and several swallows, all feeding in and around the marshes. The tree swallow, in particular, is found in August, gathering in huge numbers to feed on the various species of insects of the marshes.

Furbearers of the salt marsh are fewer in numbers, but the muskrat house is commonly observed on the more brackish edges of the marsh. Also found here and on the tidal marsh are raccoons and otters. Other wildlife found here are the vole or meadow mouse, and using the edges and small woody islands in the marsh are the white-tailed deer and cottontail rabbit.

From the above brief description, a thinking person must conclude that the salt marsh is a very productive part of our environment, entirely deserving of our active protection. #



## **Guide to the**

# **Fortescue Tract**

(Cumberland County)

The Fortescue Fish and Wildlife Management Area is a high quality salt marsh bordering on Delaware Bay. Its location provides access to excellent bay fishing, and waterfowl and clapper rail hunting, in addition to bird watching and other outdoor recreation. Located north of Fortescue, this 900-acre tract in Cumberland County is accessible from Fortescue Road and by boat from Fortescue itself.

This tract was purchased in December 1965 through the State Green Acres Program. Today the tract is managed primarily for waterfowl and fishing.

### **Upland Game**

Approximately 100 acres of upland area is available for upland game with the principal species being quail, rabbit, and squirrel.

### **Deer**

On occasion, deer have been observed. However, they are not numerous on this tract.

### **Fishing**

Excellent fishing exists in the tidal creeks and adjacent Delaware Bay. Anglers catch weakfish, striped bass, white perch, black drum, kingfish, bluefish, flounder, shark, and crabs.

### **Waterfowl**

Waterfowl utilize the area in large numbers. Thousands of wintering snow geese attract naturalists from a broad area. Black duck, widgeon, teal, gadwall, and other waterfowl hunting is excellent.

Proposed management plans include mosquito control and marsh and upland improvements for fish, shellfish, and wildlife.

This area is being maintained by the Division for the licensed sportsmen of the state, although many citizens make use of it for other forms of outdoor recreation. Its program is financed by hunting and fishing license money of the sportsmen. #

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**The young of wildlife, especially fawns and baby raccoons,  
make tempting pets.**

**But, they are better off left with their mothers.  
No, few are orphans. The mother is usually nearby.  
Also, it is illegal to pick up and keep such wildlife.**











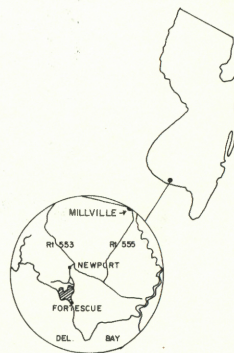
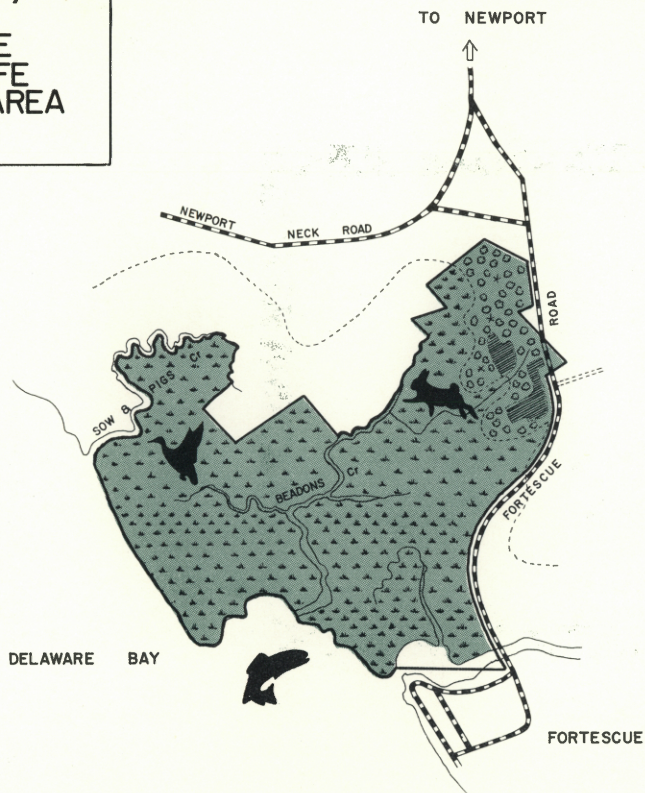
# Cumberland County

## FORTESCUE FISH & WILDLIFE MANAGEMENT AREA

SCALE:  MILE

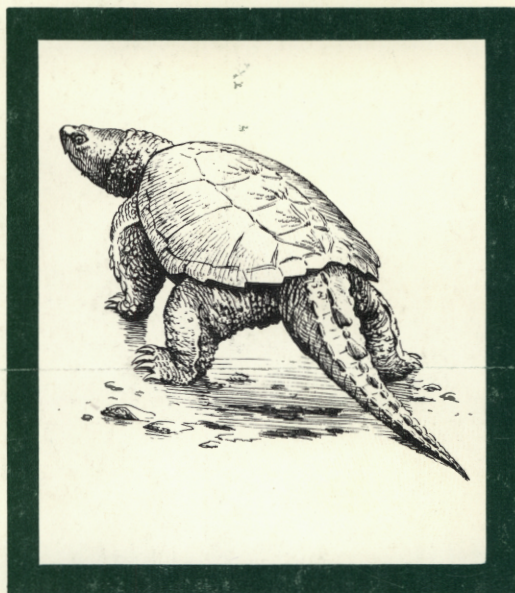
### SYMBOLS

ROAD (IMPROVED)	
ROAD (UNIMPROVED)	
TRACT BOUNDARY	
SALT MARSH	
STREAM	
WOODLAND	
FIELD	
MARSH-UPLAND EDGE	





**Don't snap at conclusions!**



**Men, not turtles,  
cause pollution!**

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