

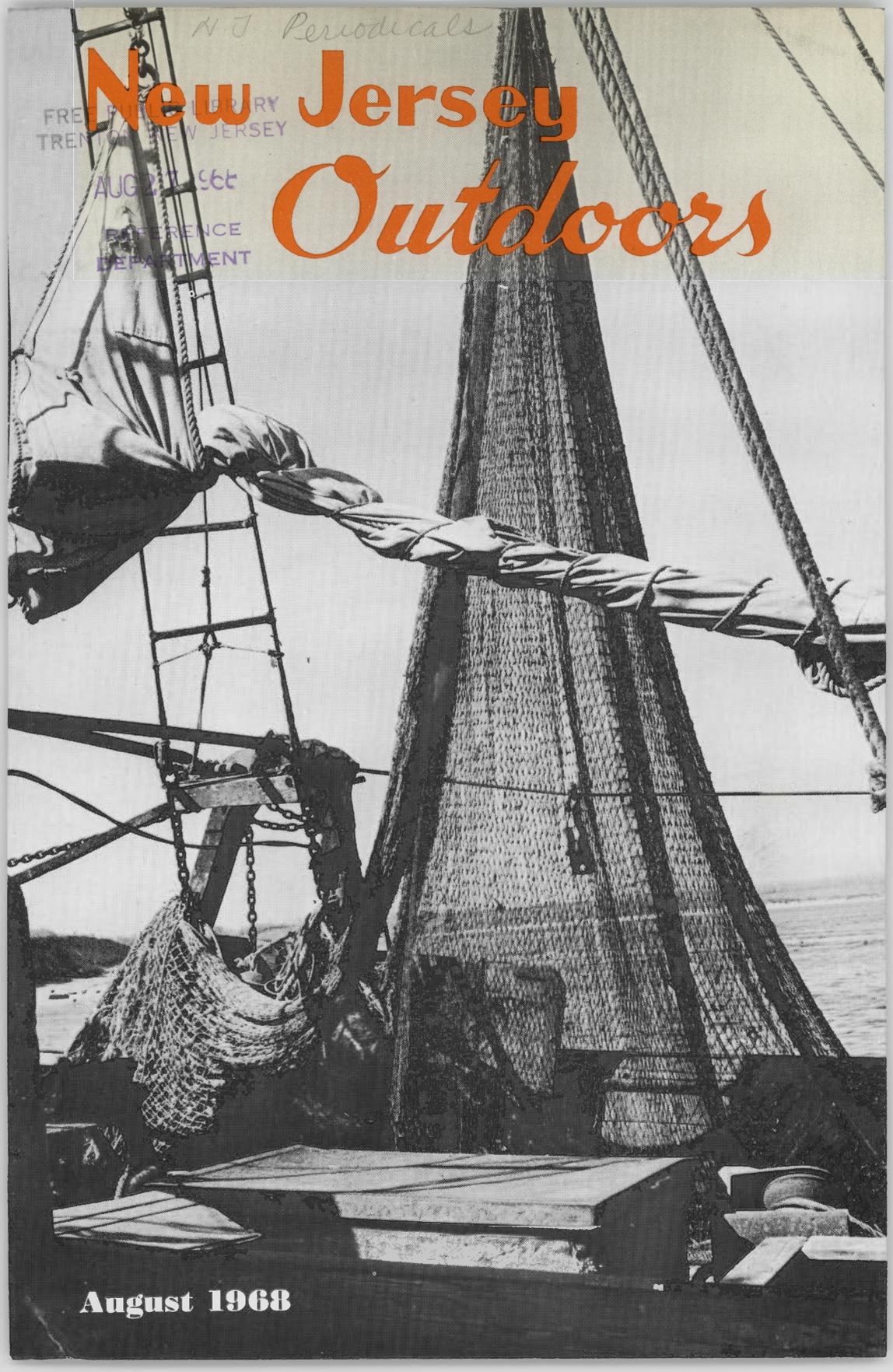
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# New Jersey *Outdoors*



**August 1968**

## What Is

# Outdoor Recreation

By John Madson and Ed Kozicky  
OLIN Conservation Department

TWO OLD YANKEE FARMERS were at a country "stump session," listening to a politician gild the Vermont hills with golden oratory. One farmer was slightly deaf, and asked his companion:

"Seth, what's that feller talking about?"

"I dunno," said Seth. "He don't say."

So it is with outdoor recreation.

Everyone talks about it, but no one will officially say what it is. As a result, it's getting tangled with the New Conservation, Natural Beauty, and the Great Society. Outdoor recreation must be woven through all of these, of course, but it should also have a distinct identity. We must have a working definition so that citizen and government can understand each other.

Few concepts have appealed to Americans as vividly as outdoor recreation. The Congress has responded with a Bureau of Outdoor Recreation—and a Land and Water Conservation Fund Act that provides about \$125 million in a fiscal year.

Every state is busy drafting plans for outdoor recreation projects. These must be approved by the Bureau of Outdoor Recreation before federal funds can be made available. Once the plans are approved, they will not be easy to change. And this poses a key question: what do the planners consider to be "outdoor recreation," and what do they plan?

To some, outdoor recreation is almost anything related to outdoor pleasure. This can include baseball parks, golf courses, swimming pools, band shells, and highway beautification. One state planning group has already asked to build an Olympic stadium with outdoor recreation funds; other states have been asked to build floral gardens.

But outdoor recreation should mean something more. President Johnson has said: "We began a new Bureau of Outdoor Recreation so that our children will have a place to hunt and fish and glory in nature."

One thing is certain: when the average outdoorsman thinks of outdoor recreation, he isn't thinking of floral gardens. Yet, with the current emphasis on landscape beautification, a big part of our state recreation funds could be siphoned into such projects.

These things are desirable, but they are cultural projects that can be built

*Continued on Inside Back Cover*

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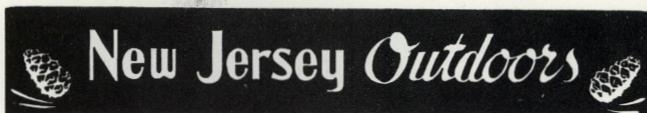
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the betterment of hunting and fishing in New Jersey.

### In This Issue

Outdoor Recreation	Inside Front Cover
Fishermen's Forum	2
More Wildlife on Farm Land	9
Snake Bite	11
Coastal Sport Fishery Problems	16
Two New Council Members	20
Austrian Pine	22
Quick Humble, The FLIT	24
Use of Fish and Wildlife Areas	25
Council Highlights	28
Medford Tract	30
Wildlife Conservationists of the Year	32

#### Cover—"Tools of the Trade"—Harry Grosch

The tools of the trade of the commercial fisherman may differ from the hook and line of the sport fisherman, but the objective of both is the same—to catch fish. For the fish to be present in the sea for the catching, we must become increasingly aware of the complex relationships of the habitat and fishing, both sport and commercial. This issue includes two articles that deal with certain aspects of these relationships.

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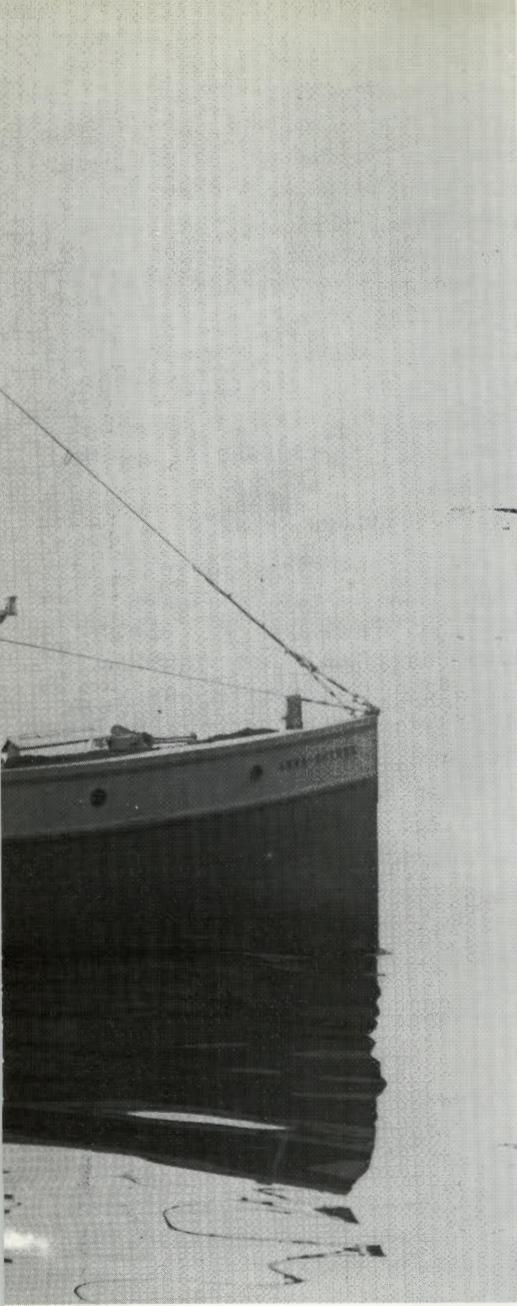
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# Fishermen's Forum

By Edgerton Grant  
Public Relations Unit



“Commercial fishing is a vital force in the economy of the New Jersey coast”, veteran State Senator Frank S. (Hap) Farley said in welcoming participants to Atlantic City Central Jr. High School for the state’s first Fisherman’s Forum on Saturday, April 27. Before the all-day program was complete, close to 100 fishermen and scientists entered the auditorium, where both the Senator and Harry McGarrigal, host member of the Forum Arrangements Committee, had been educated, to take part or listen to a broad program dealing with the resources of the sea.

The forum was arranged by the Department of Conservation and Economic Development and its Division of Fish and Game at the urging of Fish and Game Councilman Raymond T. Richardson. Councilman Richardson presided and introduced others on the arrangements committee. Besides Commissioner Robert A. Roe, Fish and Game Director Lester G. MacNamara, and prominent Atlantic City fisherman McGarrigal, these included: outgoing Council Chairman David H. Hart, Councilman Ralph F. Allocca, representing sportsmen’s interests, Mayor Axel Carlson, Jr., of Manasquan, representing Ocean County fisheries, and Leonard Nelson, President of the North Jersey Commercial Fishermen’s Association. Councilman Joseph L. Alampi was also recognized. Although the program was oriented to commercial fisheries, over half the talks involved a broad spectrum of marine interests.

Commissioner Roe set the keynote, citing the increasingly vital relation-

## . . . Fishermen's Forum

ship between man and the sea. He noted the "enormous competition" in the use of all natural resources including marine life. Long range forecasts of water needs indicate that by 1990, the state will require use of water produced by either desalinization or waste reclamation. Plans are being formulated for a working desalinization plant using reverse osmosis or other scientific techniques.

### **Nuclear Plants**

Nuclear generating plants are another important development involving use of estuarine water. Effects of heat discharged by New Jersey's first plant on Oyster Creek are being carefully studied. The second plant at Artificial Island on the Delaware will produce two million kilowatts of electricity and use two million gallons of water per minute, half the flow of the river, for cooling. Another proposed installation near Oyster Creek would be the largest of all. The electricity is vitally needed, and nuclear production avoids air pollution, but the Commissioner expressed determination that ecological effects of the thermal discharges will receive prime consideration.

### **Broad Program**

Applications for offshore mining and use of the ocean for waste disposal are other competing uses. The Commissioner reported proposed pipeline locations from which waste would be carried back on the beaches which are a major attraction of the coast, asserting that the sea must not become a dumping ground. He said that much

work is being done with regard to all these uses, but much more coordination is required. A broad program of marine science and oceanography will be undertaken, leading to possible management programs such as zoning of riparian lands. Finally, a greater emphasis must be placed on conservation education in the classroom, so that tomorrow's citizens become aware of man's vital dependency on natural resources.

### **Rutgers Research**

Research conducted by Rutgers, the State University, was described by James R. Westman of the College of Agriculture and Environmental Science. Studies include: the effects of dredging, pesticides, and other pollutants on the environment of estuaries, including sampling around Oyster Creek before and after operation of the nuclear plant; examination of fish tissue treated with pesticides; determination of oxygen and temperature requirements of various species, including shad, striped bass, white perch, and blueback herring.

### **Shad**

Slides of the University's shad research were of special interest. Catches of the "poor man's salmon" in the Delaware approximated ten million pounds at the turn of the century, but pollution in the lower Delaware has drastically cut spawning runs. Shad will not ascend the river at temperatures below 50 degrees; at 55 degrees, competing organisms deplete virtually all oxygen in an 18-mile stretch above Marcus Hook. Conditions for descent of young shad in the fall are even more restrictive. Partial restoration of good

runs in the early 1960's revived interest in the quality of the shad as an exciting sport fish, adding to the need for pollution abatement. Other slides depicted fascinating samples of a variety of marine life.

### **Maximum Yield**

The responsibility of coastal fisheries to harvest the maximum sustainable yield was cited by Councilman Richardson in light of protein demands of a growing population. He expressed the conviction that forums of this type can restore the productivity of the fishing industry, noting that the monetary value of the catch has been dropping in contrast to national economic growth. This has led to men dropping out of fishing, adding to the downward trend, which he is convinced can and must be reversed. He urged three steps: pollution abatement to restore polluted shellfish beds and increase fish stocks; review of state laws, many of which he feels are based on gear rather than the biological realities of fish resources; formation of a state-wide commercial fishermen's organization.

### **Modern Gear**

Three scientists from the Exploratory Fishing and Gear Research Base of the U.S. Bureau of Commercial Fisheries in Gloucester, Mass., reviewed development of modern gear. Keith A. Smith, the Base Director, discussed electro-trawling; use of electric current tends to attract fish toward the positive pole. Placing of this pole within an otter trawl draws the fish into the net, ultimately stunning them, reducing escape. Slides of the gear were followed by an underwater movie

showing the effectiveness of the method under experimental conditions. Many problems must be overcome before the technique can be put to practical use, especially in highly-conductive salt water. Experiments have so far involved only small samples of fish. A high charge would be needed to effectively take a large body of fish, involving substantial hazard and considerable training to use the gear, which is also bulky. From a conservation standpoint, the method is unselective as to species.

### **Detection Devices**

Fish detection devices are already in fairly common use, but refinements are constantly being made, according to Base Scientist Patrick J. Twohig. Early white line recorders could not readily pick up fish near the bottom as do present models. Current bottom scopes no longer shift when a boat pitches. New developments involve use of laser beams and television-type tubes to show a very detailed picture of the bottom. Use of transistors has been very beneficial. Time permitted only a brief review of various types, but Mr. Twohig emphasized that knowledge of proper use of these machines, of whatever type, is necessary for effective use.

### **Electronics**

The Gloucester Base is currently working with an electronic device that signals whether nets are properly set. This they offered to install without cost, and several fishermen expressed interest. Many signed up to receive Bulletins dealing with gear. In answer to a question about apparent Russian success with herring, Director Smith said that apparently sonic transducers

## . . . Fishermen's Forum

are used to drive schools to the bottom, and the Soviets definitely use higher nets. The Gloucester Base is working to develop a net of this type.

### **Clam Gear**

Gear discussion was rounded out with Phillip S. Parker discussing surf clam dredge gear. He outlined stages of development up to introduction of hydraulic dredges in the 1940's. Since then, the Bureau and the surf clam industry have cooperated in seeking more efficient use of this gear, often adapting techniques from other marine fields. He showed slides of dredges and charts dealing with different water pressures and the friction loss with various lengths of hose. Of special interest was a submersible pump which eliminated the friction and handling problem associated with hose.

### **Federal Aid**

Sandwiched between the talks on gear was an explanation of federal aid to commercial fisheries by Darvin L. Bisbee of the Bureau of Commercial Fisheries, Branch of Loans and Grants. He touched briefly on long-standing programs to provide loans for vessels and gear from a revolving fund and to guarantee private loans and mortgages at reasonable rates. More recently subsidies have been made available to pay up to 50 percent of the cost of advanced-design vessels and gear to capable operators. The mortgage guarantee program would help meet the matching share. He urged interested fishermen to make inquiries and institute applications through the Bureau's northeastern regional office in Boston.

New Jersey biologist Paul E. Hamer reviewed activities of the Nacote Creek Marine Laboratory. These include determination of migratory patterns, spawning and nursery areas, and other factors in the life history of scup (porgy), fluke, and striped bass in the mid-Atlantic bight; analysis of the Delaware Bay menhaden fishery and its catch composition—over 99 percent menhaden by weight and 98 percent by number; study of the effect of estuarine dredging; current tagging of shad; collection of young fish using New Jersey bays; a forthcoming intensive study of the ecology and utilization of estuaries. He noted the importance of federal cooperation, both in financing research and coordinating tagging efforts.

### **Pollution**

Pollution of estuaries was discussed by George P. Spinner of the Marine Resources Committee, an interstate group of waterfowl and fishery experts concerned with preserving estuaries and adjacent wetlands. He noted that 72 of 73 major Atlantic fish species are dependent on estuaries at some phase of their life cycle.

Sources of pollution include municipal and industrial sewage, chemical effluents, animal wastes, trash disposal, pesticides, and thermal discharges. He displayed maps of New Jersey coastal areas, outlining clean and polluted shellfish beds, wetlands lost to pollution or development, and areas preserved through private or government acquisition. He commended New Jersey's efforts to acquire valuable areas through Green Acres, earlier Fish and Game purchases, and federal refuges.

In a running review of wetlands along the entire Atlantic seaboard, he frequently used the Garden State as the measure of excellence in this aspect. He called for prompt action in light of the population explosion, urging that the most valuable areas, which he cited, be set aside to protect vital fish and wildlife resources.

### **Clam Depuration**

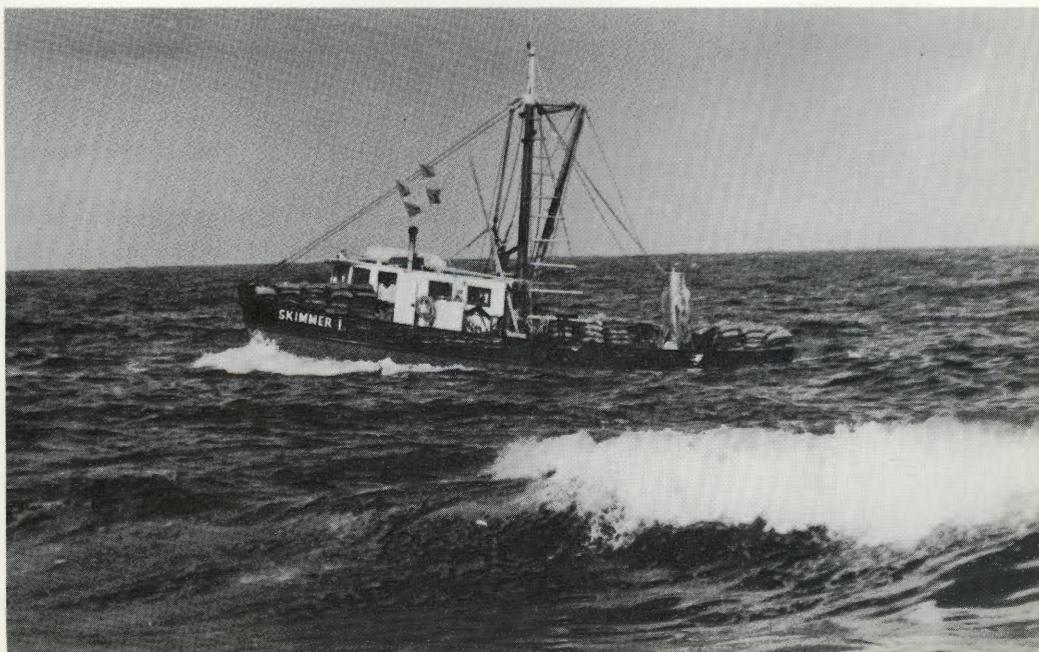
Harold Haskin of Rutgers outlined clam depuration efforts. He explained the filter feeding system of this species which makes them both highly susceptible to taking in pollutants and capable of purifying themselves in a clean environment. Intensive efforts to set up such an environment have been made since the early 1960's when hepatitis caused the closing of productive clam beds in Raritan Bay. This involves many complex problems, as the depuration rate varies greatly according to the extent of pollution and the degree of feeding activity. Presence of some viruses is very difficult to test.

The temperature and salinity range at which clams will remain active has gradually been ascertained, and Dr. Haskin is hopeful that a workable depuration program can be established, provided a solution can be found to the thorny problem of varying feeding (and depuration) rates between individual clams in any bed.

### **International Problems**

Lively questioning followed a presentation by Burdick H. Brittin of the U.S. State Department regarding international fishery problems. He outlined how the principle of freedom of the seas developed some 400 years ago, a concept for which the United States fought several wars. As fleets grew, navigation rules were established, but few problems arose with fishing until recent years when decrease in some stocks was noted, especially in crowded areas like the North Sea. Biological studies of maximum sustainable yield led to conferences before and after World War II and the Geneva Con-

*A heavily laden surf clammer heading in for port.*



## . . . Fishermen's Forum

vention of 1958. The U.S. is one of 26 nations which ratified this treaty. The Soviet Union is not a party to this convention, objecting to compulsory arbitration requirements but accepting the basic principle of conservation.

### **Larger Fleets**

Problems have magnified in the last five years, with larger fishing fleets utilizing offshore areas of the high seas traditionally used by domestic fishermen of adjacent coastal states. Russian trawlers off the U.S. coast, including New Jersey, are a prime example. Coastal nations became concerned for the economic interest of their domestic fisheries, and this concern was a catalyst for new U.S. efforts to reach agreements with nations using these waters. Last fall's agreement with the Soviet Union included what Mr. Brittin feels was an important concession. The Russians agreed not to fish in a 5,000 square-mile area of international waters off the Atlantic coast for three winter months. He explained this area was chosen because it harbors wintering populations of hake and related species. The Soviet catch of certain species is also limited. He is hopeful that further restrictions and extension to satellite nations can be added during further negotiations based on biological information garnered under the agreement.

Questioned about the working of the treaty, Mr. Brittin acknowledged that some violations have occurred, as with most fish laws, including domestic. He pointed out that the Soviets

had discharged three captains involved in one violation, and felt that Russia is anxious to maintain good repute in the interest of her overall fishing activities.

### **Territorial Jurisdiction**

Extension of territorial jurisdiction to 100 or 200 miles was urged by some of the audience. Mr. Brittin explained that such an extension would not be recognized, being incompatible with international law. It could lead to similar action by other nations, hampering passage of American naval and merchant vessels, as well as U.S. fishermen who operate in many areas of the world. Extension of fisheries jurisdiction only would pose fewer problems, and has actually been done to 12 miles, but Mr. Brittin felt that biological considerations, like the hake wintering grounds, would be a better basis than an arbitrary line. He added that the Soviet agreement is due for re-negotiation this fall, and the State Department and the Bureau of Commercial Fisheries welcome recommendations as well as complaints.

### **Future Forums**

Fish and Game Director Lester G. MacNamara concluded by thanking all participants, especially the federal representatives who had journeyed to New Jersey. He felt that the experience of the first Fishermen's Forum would help in arranging even better programs every year, probably at an earlier date to lessen conflict with fishing activities. He urged participants and interested citizens to suggest topics that will contribute to the wise use and management of New Jersey marine resources. #

# More Wildlife on Farm Land

By Clark Webster

One of my favorite refrains is that sound farming and good wildlife management are compatible. At Remington Farms in Chestertown, Md., we're trying to prove this in our everyday activities. This is a commercial farm that is being operated for optimum production of both crops and wildlife.

There's no question about the fact that upland species such as rabbits, quail, and squirrels are among the most popular wildlife with hunters. There's also no question about the increase in populations of these three on our 3,000-acre operation. There's also no question that our efforts at improving soil fertility have helped the deer population. We have more white-tails in evidence today than ever.

Among the effective techniques we've used are planting of shrubs and grasses in field borders between cropland and woodland. Such areas are generally unproductive and are often subject to damaging erosion. Cover crops such as bicolor lespedeza do particularly well on these edges and provide excellent food for quail and other game species.

We've also used farm ponds to great advantage. Our area is well covered with such ponds which were built

originally as a part of our waterfowl management program. However, we have found that plantings of grasses, legumes, and shrubs on pond shores have also benefited upland species.

Odd areas such as fence corners, rocky spots, abandoned roads, or areas isolated by ditches, streams, and gullies can also be utilized for wildlife management. Usually too small for much else, these spots can be planted with trees, shrubs, and other plants to provide food and cover for upland game birds and animals.

As our population increases, there's no question that land use is going to become more intensive making agricultural areas even more important for the production of wildlife as well as crops. An interesting booklet on this subject which can be of value to sportsmen and farmers alike is available through the Soil Conservation Service of the U. S. Department of Agriculture. Titled "More Wildlife Through Soil and Water Conservation" (Agriculture Information Bulletin No. 175), it can be obtained from the Superintendent of Documents, U.S. Government Printing Office, Washington, D.C., for 15 cents. #

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## Do You Want To Hunt This Fall?

If you are between the ages of 14-21 and do not have a previous Hunting License you cannot obtain a current license unless you present a signed certificate showing you have successfully completed a course in Gun Safety. Do not wait until hunting season is here to get your certificate. Contact a Conservation Officer, the Division of Fish and Game Office, or any license issuing agent immediately and get the name and address of the Hunter Safety Instructor nearest you and take your course now.



*The fangs of a rattlesnake. Note the encasing sheaths.*

# Snake Bite

## Facts Concerning Poisonous Snakes

By Dr. Henry M. Parrish  
Professor of Community Health and Medical Practice  
University of Missouri-Columbia School of Medicine

*Photographs By Harry Grosch*

Males between the ages 5 and 19 have the highest rates of poisonous snakebites. The snakebite season which began in April reaches its peak in July and August and then tapers off in September. These are the months people are more active outdoors and also when snakes are more active.

### Few Fatalities

We conducted a national survey of venomous snakebites including all states except Alaska and Hawaii, which have no native poisonous snakes and estimate that 6,680 persons are snake-bitten annually in the United States but only 15 fatally. The World Health Organization has estimated that throughout the world 30,000 to 40,000 people die annually.

Only about 10 percent of the snakes native to the United States are venomous. These are all of the pit viper family except the coral snake. The only poisonous snakes naturally found in New Jersey are the timber rattler and the copperhead.

### Pit Vipers

The pit vipers, which are responsible for 99 percent of all poisonous

snakebites in the United States, are rattlesnakes, cottonmouths, and copperheads. A poisonous pit viper is so called because of a deep pit located between the eye and nostril. With close observation one can distinguish elliptical pupils and two well-developed fangs which protrude from the upper jaw when the mouth is open.

Harmless snakes do not have facial pits or fangs but have teeth and round pupils. The coral snake, which is not found naturally in New Jersey, is the only U. S. poisonous snake that has round pupils and lacks facial pits.

### Rates of Bites

States having the highest poisonous bite rates per 100,000 population are, in order, North Carolina, Arkansas, Texas, Georgia, West Virginia, Mississippi, Louisiana, and Oklahoma. Northeastern states have fewest reported bites—Minnesota, Vermont, New Hampshire, Connecticut, Delaware, Maryland, Rhode Island, New York, and New Jersey.

Rattlesnakes incurred the most bites followed in order by copperheads, cottonmouths, and coral snakes.

## . . . Snake Bite

The severity of a poisonous bite is dependent on many factors:

### *The victim*

Poisonous snakebites are most serious in children and smaller animals because the smaller size increases the ratio of units of venom injected to units of body weight. Also, they are more serious for older people.

### *How soon treated*

A delay of several hours or days in seeking medical treatment is one of the principal contributing factors in fatal bites. Most patients who die do so 12 to 24 hours after being bitten.

### *Nature of bite*

A poisonous snake occasionally will inflict a fang wound which does not result in venom poisoning because not enough venom was deposited. About 25 percent of the bites by poisonous

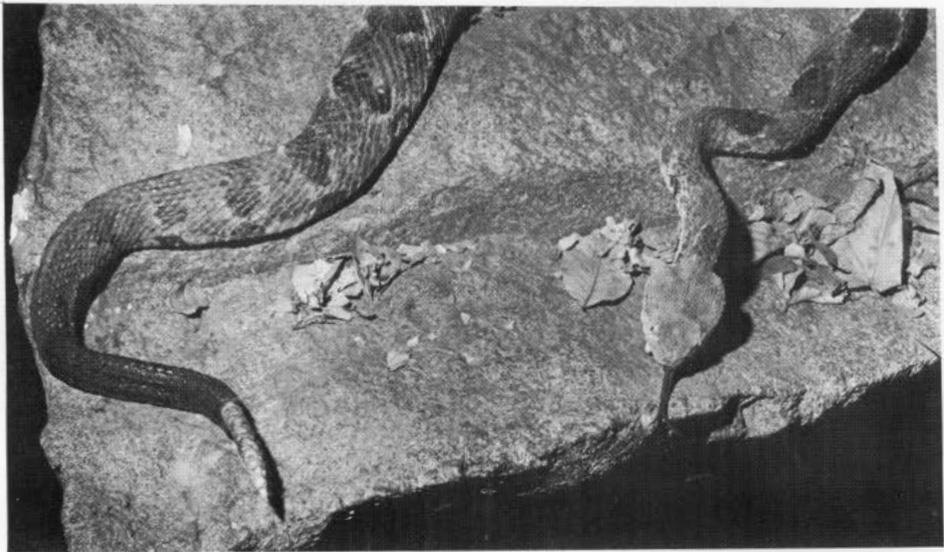
snakes are without enough venom to be poisoning. For this reason some people believe they are immune to snake venom. There is no natural immunity but individuals do vary in response to a snakebite due to tissue make-up.

### *Toxicity of venom*

Venom is as toxic in smaller as larger snakes. The amount of venom produced though varies. The eastern and western diamond rattlesnakes, not found naturally in the Garden State, are especially dangerous for they grow 6-8 feet long, have larger fangs and produce greater amounts of venom than smaller rattlers and copperheads. The cottonmouths, not native in New Jersey, also are more dangerous than copperheads which are smaller. There are few fatalities among people adequately treated for copperhead bites.

Drop-for-drop, the coral snake's venom is more lethal than a rattle-

*A timber rattlesnake, one of New Jersey's two venomous snakes.*



*A copperhead, the only other native poisonous snake found in the Garden State.*



snake's. But since the coral has short fangs and produces only a small amount of venom, only 20 percent of its bites have any affect on victims.

#### **Bites**

Many think that bites on the face and body trunk are more serious. But statistics show this is not true. Most human bites (about 96 percent) are on the extremities—foot, leg, and hand.

If a person is bitten, the snake should be killed and brought along to the hospital in order to assure identification. Otherwise, accurate diagnosis of pit viper snakebites depend on the signs and symptoms which develop.

If the snake were a pit viper, usually three of these four signs are present: fang puncture—also there may be teeth marks, local pain—which is intense and persistent, local swelling—

becoming progressive, and local inflammation—redness becoming progressive.

#### **Symptoms**

Symptoms which may develop later in serious bites include shock, nausea, vomiting, diarrhea, muscular twitching or convulsions, numbness and prickling or itching sensation, motor and respiratory paralysis, and external bleeding. These symptoms would not develop if the snake were non-poisonous.

If swelling and redness have not occurred within four hours following a bite, it is reasonably safe to assume that the bite was not from a poisonous *pit viper* snake.

In general no treatment should be made if these signs are absent. If the local signs are present, first aid treatment should be administered.

## . . . Snake Bite

A constricting band, or tourniquet, should be applied lightly to the involved extremity several inches above the bite. The band should be tight enough to stop superficial venous and lymphatic flow, but not tight enough to stop arterial circulation.

Release the band every 10-15 minutes for a minute or two.

### **Incision and Suction**

The band should be advanced to keep just ahead of the swelling for the purpose is to impede the spread of venom until incision and suction (I.S.) can be used or antivenin can be given. I.S. is effective in removing venom up to one to two hours after the bite. The sooner it is used, the larger the amount of venom can be removed. Suction should be used for about one hour. Oral suction may be used if suction cups are not available. There is little

chance of becoming poisoned if the venom is swallowed.

Incisions  $\frac{1}{4}$  inch long and  $\frac{1}{8}$  to  $\frac{1}{4}$  inch deep should be made over the fang punctures.

Immobilization aids in limiting the spread of venom. If one must decide between immobilization and seeking prompt medical treatment, the latter should be chosen.

If a person is alone when bitten, he should apply a tourniquet and use I.S. for 15 to 30 minutes and then use any means to get prompt medical attention.

### **Medical Aid**

If a person can get medical attention within one hour after a poisonous *pit viper* bite, he should not use I.S. but should wait and let the doctor do it. Physicians have antivenin, a serum extracted from horses, to neutralize pit viper venom. Recently a coral snake antivenin has been produced in this country.



*No need to worry about the copperhead, if you have on suitable boots.*

Between 1950 and 1959 only two snakebite deaths were inflicted by coral snakes. The information on coral snakes, again not native to New Jersey, is included since sportsmen travel widely.

Any patient who has a coral snake-

Venomous snakes found in the states and District of Columbia:

*None*—Maine, Alaska, Hawaii.

*Rattlesnakes only*—New Hampshire, Vermont, Montana, Idaho, Wyoming, Utah, Nevada, Washington, Oregon, California, North Dakota, South Da-



*Three common snakebite kits.*

bite which breaks the skin should be admitted to a hospital for 48 hours. It is difficult to determine which victim will develop serious poisoning because often there is a delay of several hours before symptoms appear. If hospitalization is delayed until symptoms occur, the case-fatality rate is high.

No research confirms that I.S. is effective treatment for coral bites; on the other hand, no one has proven that it is of no value. Therefore, I.S. is recommended as first aid treatment. The bite should be thoroughly washed beforehand. Coral snakes inject only a drop or so of venom and any venom on the skin might get into the incision.

kota, Colorado, Michigan, Wisconsin, Minnesota.

*Copperheads only*—Delaware, District of Columbia.

*Coral and rattlers*—New Mexico, Arizona.

*Rattlesnakes and copperheads*—Massachusetts, Rhode Island, Connecticut, New York, New Jersey, Pennsylvania, Ohio, Indiana, Iowa, Nebraska, Maryland, West Virginia.

*Rattlers, cottonmouths, copperheads*—Illinois, Missouri, Kansas, Virginia, Tennessee, Kentucky, Oklahoma.

*Rattlers, copperheads, cottonmouths and corals*—Mississippi, Alabama, Arkansas, Louisiana, Texas, Florida, Georgia, South and North Carolina. #

a positive approach to

# Coastal Sport Fishery Problems

ADEQUATE HABITAT is an absolute necessity for coastal marine and estuarine fishes. The importance of estuarine and coastal nursery areas for weakfish, flounders, tautog, striped bass, scup, American shad, spot, bluefish, Atlantic croaker, seatrout, black drum, and menhaden has been adequately demonstrated. The American Fisheries Advisory Committee of the Department of Interior at a meeting in Washington concluded that protection of estuaries is essential. The need for positive action concerning fish habitat was emphasized by Assistant Director James T. McBroom of the Bureau of Sport Fisheries and Wildlife in an address at an Annual Meeting of the Western Association of Game and Fish Commissioners.

Protection of some vital coastal and estuarine habitat is being afforded by creation of state and national parks, wildlife refuges, private preserves, and recreation areas. New Jersey has taken steps to protect vital marsh habitat by defining, locating, evaluating and even purchasing critical areas and protecting them. Such efforts are to be

commended and should be continued with all possible vigor. It will be impossible, however, to protect the entire coastline.

The damage to some estuarine and coastal habitat is being repaired by strong anti-pollution measures, but stronger action is needed especially in control of toxic wastes and pesticides. The creation of fish ladders over previously impassable dams is now providing access to productive spawning and nursery areas that have long been unavailable. All these efforts are not only desirable, they are essential. Further efforts are needed if our fisheries are to be maintained in the face of the ever-increasing inroads of civilization on vital fish habitat.

## Habitat Improvement

Because the sea is so vast, and the basic facts are so few, the possibilities of improving estuarine and coastal habitats have received only limited consideration. The most notable achievement in coastal fishery habitat improvement has been the development of marine fishing reefs—long advocated by Sport Fishing Institute as a useful tool in improving marine sport fisheries. Probably the first deliberately-constructed artificial marine

Adapted from a paper presented by William H. Massmann, Sport Fishing Institute Director of Research at the Annual Meeting, Southern Division of the American Fisheries Society.

fishing reef in this country was the "McAllister Grounds" created off Long Island, New York, in 1950.

Since then, California fishery biologists have seized upon this important new tool and completed a series of studies which demonstrate not only the value of reefs in attracting fishes but the best materials, form, and location or such reefs as well. These studies have demonstrated, for California waters at least, that such reefs must be located at least one-half mile from existing reefs; that quarry rock, which costs about \$6,000 for a 1,000-ton reef, is the best reef material; and that reefs should be constructed in the form of an open circle or square with a central opening not more than 50 or 60 feet across. Oyster shell reefs have been extensively used in Texas. Evaluation of oyster reefs for improvement of fishing in Maryland suggested that, while such reefs had limited value in the St. Mary's River, such reefs significantly increased the numbers of fish in a limited area of Chincoteague Bay. Reefs have also been constructed on a limited scale in coastal waters of New Jersey, North Carolina, Virginia, Florida, and Alabama.

The success of fishing in the vicinity of offshore oil rigs off the Texas and California coasts indicated the value of pilings offshore while, inshore, bridges and piers are obviously helpful in attracting fishes. Many estuaries have bottoms too soft to support conventional fishing reefs. Pilings or poles, driven into the bottom would appear to offer considerable promise as substitute reefs in such areas. Net stakes when not actually in use supporting nets are known to be excellent fishing

areas for striped bass, weakfish, scup, tautog, spadefish, and other popular sport fishes. Such stands especially constructed in suitable areas not obstructing navigation channels would appear to merit consideration. However, the value of such devices would need thorough testing and evaluation.

Fish-collecting rafts anchored offshore by the Japanese—"tsuke rafts"—have been proven effective in concentrating pelagic fishes. Such devices could be useful in improving our coastal sport fisheries. Japanese biologists are planning to release 300 planks to assess their value in concentrating tuna and other pelagic fishes. Logs and planks in coastal waters are well known as favorite fishing locations. Although such objects constitute a hazard for small boats, strips of buoyant plastic sheeting or other light, cheap material might be equally effective.

The disposal of acid wastes offshore from the New Jersey coast was once feared to be destructive of fish in that area. Instead, in the opinion of Rutgers University professor Dr. James Westman, it has probably improved fishing. The record 95,000-pound haul of bluefish in late August by tuna seiners was made at the edge of the "acid grounds." Westman believes that increased turbidity of water at the acid grounds is the most probable reason for the improved fishing. If true, this suggests new possibilities for the use of dyes or other materials to create patches of turbid water in clear offshore areas.

Natural estuaries have long been assumed to be ideal spawning and nursery areas for estuarine and coastal

## . . . Fishery Problems

fishes, but are they? In Chesapeake Bay some estuaries are better fish producers than others. For example, the York River produces greater numbers of small shad than the Chickahominy, but the reverse is true for juvenile river herring. Also, some sections of estuaries are far more productive of young fishes than other sections. A 20-mile river stretch in the York River, characterized by salinities ranging from 1 to 15 parts per thousand and by higher turbidities than either freshwater upriver or saltwater downriver, included greater numbers of young croakers, weakfish, spot, and other fishes than other sections of the estuary.

What are the important features of estuarine habitat that make them such crucial areas in relation to fishes? The presence of brackish water is one distinctive characteristic of estuaries that differentiates them from both the marine and freshwater habitats. The presence of fresh water at the upper end of estuaries is essential as spawning and nursery areas for Atlantic shad, river herring, striped bass, white perch, and other anadromous fishes. These fishes can reproduce only in fresh water.

Fresh water may not actually be essential for some other species usually regarded as typical estuarine species. For example, the brackish water zone of estuaries whose salinities range from 5 to 15 parts per thousand is extensively utilized by young menhaden, croaker, spot, weakfish, drums, and flounders which move to these inshore nursery areas from ocean spawning grounds. However, recent experiments

with larval menhaden have shown that larval menhaden may transform in waters of higher salinity as readily as in brackish waters. Moreover, the growth of young summer flounders has been found to be more rapid in high salinity water than in water of low salinity. It seems possible, for these species at least, that low salinity itself may not be essential; instead other factors associated with low salinity probably provide the essential conditions.

### **Water Movement**

The second distinctive feature of estuaries is that they are semi-enclosed waters. In coastal areas where tides are present this configuration produces tidal currents. Current appears to be a vital aspect of most estuaries as they relate to fishes. Seaward currents of fresh water are necessary in directing migrating fish to freshwater spawning areas. Such currents are also credited with supplying nutrient-rich water from inland areas to the estuaries. In Georgia estuaries, however, inflow of river water was said to dilute rich estuaries with poor water, mud, and clay. Subsurface currents of ocean water that move into the estuaries from the sea as the salt wedge are believed to carry larval fishes into and up the estuaries from oceanic spawning areas.

Tidal and wind-induced flows provide the dynamic force that sets up the complex estuarine current systems, constantly mixes the waters, and brings the large amounts of decomposed vegetation and other detritus from marshes into the estuaries. According to California fishery biologist Don Kelley, tidal action probably has

*Estuaries are vital habitat for many marine and coastal sport fishes.*



more influence on the fish populations of the Sacramento-San Joaquin Delta region than any other physical force.

Fertility of estuaries has undoubtedly received more attention than any other biological factor. While it is probably true, in terms of "biomass," that estuaries out-produce any other comparable area, much of this production is diverted or tied up in forms other than fishes or potential fish food organisms. Substantial amounts of this production are probably never utilized by economically-important fishes, at least. In this connection, at least one knowledgeable and respected biologist has suggested the intriguing possibility that increased pollution in the Chesapeake Bay may be responsible for the upward trend in striped bass populations in recent years.

#### **Research Needed**

These factors and others of possibly lesser but yet unknown importance all contribute to make the estuary the vital habitat for marine and coastal fishes that it is now. With the excep-

tion of those areas wisely being preserved, however, vast changes are being wrought in the estuarine habitat, and far greater changes are in store for the future. It is necessary to do more than measure the effects of such changes when they occur, or predict the effects of estuarine destruction that will occur. It is necessary to understand the fishes and their environment so well that estuaries can be improved for fish production, to compensate for lost habitat, and prepare positive plans for fishery improvement where engineering projects are undertaken.

Construction of an experimental estuary or series of small estuaries would be helpful in determining how different environmental factors could be manipulated to the advantage of fish populations. Such estuaries could be altered experimentally and changes measured. On the basis of such experiments, damage to estuaries could be minimized, or prevented, and existing estuaries might even be improved.

# Two New Council Members

Joseph Schollenberger of Holmdel and Al Toth of North Brunswick have been sworn in as members of the New Jersey Fish and Game Council by Commissioner Robert A. Roe of the State Department of Conservation and Economic Development.

Councilman Schollenberger, a commercial fishing representative, succeeds David H. Hart of Cape May, who could not be re-appointed, having served two consecutive four-year terms. Councilman Toth succeeds Charles Cane of Rosemont as a representative of central New Jersey sportsmen.

## The Council

The 11-man Council is comprised of six sportsmen, recommended to the Governor by the New Jersey State Federation of Sportsmen's Clubs, three farmers, recommended by the State Agricultural Convention, and two commercial fishermen. The sportsmen and farmers are divided equally between three 7-county regions, and all members serve without pay. The State Senate confirmed both new members following their nomination by Governor Richard J. Hughes.

### Councilman Schollenberger

Councilman Schollenberger is Assistant to the President of J. Howard Smith, Inc., the State's largest processor of menhaden, a valuable industrial fish. His responsibilities cover the entire range of the firm's activities,

including fishing along much of the Atlantic seaboard and South America, processing plant operation, research in improved techniques, coordination of scattered operation, financial administration, and management of real estate holdings. The company has preserved many acres of wetlands, valuable as spawning areas for many fish species.

Before joining the Smith firm in 1955, he was controller of a contract manufacturing firm and had business experience in industrial sales and manufacturing. While attending Freehold High School, from which he graduated in 1943, he worked on poultry and truck farms.

A lifelong New Jersey resident, he served in the U.S. Navy during and after World War II. Besides his Navy electronics training, he has taken special courses in accounting, business administration, law, and related fields. He is married and the father of a daughter and three sons.

### Councilman Toth

Councilman Toth is a former President of the State Federation of Sportsmen's Clubs and is currently on the Board of Directors. He has also served as Recording Secretary and Regional Vice President, as well as numerous Federation Committees, including national affairs, firearms, ways and means, and by-laws. He was Chairman of last fall's Sportsmen's Show at Trenton State Fairgrounds and liaison rep-

representative to the State Fish and Game Council and the Citizens Committee on Firearms Legislation.

He has been active as a volunteer deputy conservation officer and Hunter Safety Instructor, having served as President of the Middlesex County Hunter Safety Council and Secretary of Metropolitan Conservation, Inc., a deputies' organization. He is a former President of the County Federation of Sportsmen's Clubs, the Mid-State Bowmen, Mid-State Rod and Gun Club and Orange County Rod and Gun Club, as well as holding life membership in the State and County Federations and Honorary membership in

the Middlesex County Fish and Game Protective Association and the National Rifle Association.

A lifelong New Jersey resident, he is a graduate of Freehold Military School and New York Military Academy, where he was Captain of the Corps of Cadets and Guidance Officer for two years after graduation. He is a combat veteran of the Korean conflict.

Councilman Toth has been employed in the sales department of Grant Plumbing Supply Co. for the past 14 years. He has been married to the former Peggy Kane for the same period. His favorite activities are hunting, fishing, and swimming. #

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## Track 'Em Down

Learn to hunt fish!

No, not with an elephant rifle, of course, but the lessons learned in hunting are equally applicable to fishing. While the sports are different, fish, like game, must first be found before the tools employed can be put to gainful use.

The art of locating fish—stalking, if you like—is a rather inexact science, but it does have certain rules which can make the difference on a fishing trip.

Anytime you shove off for a day on the water, you're going prospecting. You may have a definite spot in mind, a place where the fishing was hot last season. But what was good last year, last month, or, even yesterday, may be as productive as your bathtub today. When that hot spot turns cold, forget it and start hunting elsewhere.

The pattern of seeking fish varies with the water and the individual but, whatever you do, don't spend too much time in any one place. It's a good idea to start with the shallows, using surface lures, then methodically proceed outward and deeper until you've scratched the bottom.

Trolling at a slow speed is the quickest way to cover a lot of water when fish fail to cooperate. If trolling the shoreline draws a blank, head out for open water and seek the submerged weed beds—those elusive "secret" spots of old-timers and guides.

Even if you like to bait fish, change locations as well as depth frequently. Sometimes it's wise to troll with bait instead of lures. A small flashing propeller usually doubles the effectiveness of this bait.

The thing to remember about fishing is that you have to find 'em first . . . that means "hunting them down." Fish seldom come to you. #

# Austrian Pine

(*Pinus nigra*)

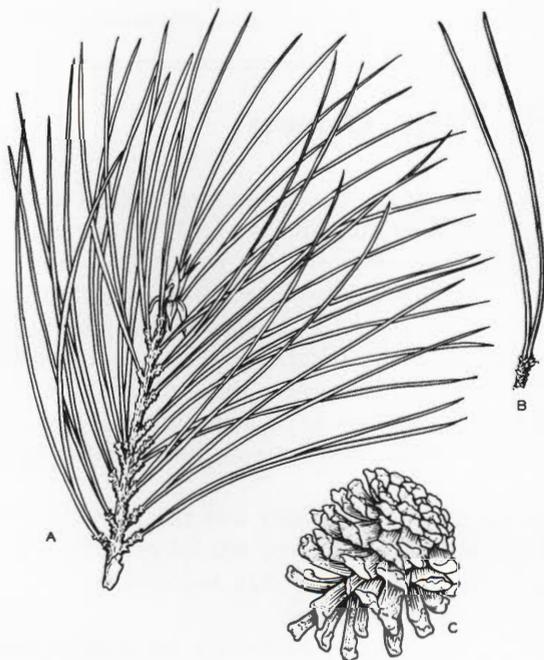
The Austrian pine is an exotic species that grows 80 to 100 feet tall and 2 to 3 feet in diameter. It will thrive on fertile moist to fairly dry sites.

## Range:

It has been planted generally throughout the Northeast.

## Leaves:

Two needles to the cluster, bound by a one-fourth inch sheath at the base. (See figure B.) The sharp-pointed needles are stiff, coarse, and slightly



*Austrian Pine*

A. Leaves, on twig

B. Leaves

C. Cone

twisted. While resembling red pine in length, they are not nearly as flexible. Austrian pine needles are usually grayish green. Some needles may remain on the tree for as long as four seasons.

## Twigs:

Rugged, light brown with oblong-ovoid winter buds that are also light

brown. The buds are resinous and one-fourth to three-fourths inch long. (See figure A.) Bark on old trees is deeply fissured into longitudinal scaly plates. It is pale brown under the ever-peeling scales.

**Flowers:**

Yellow male flowers are borne in groups of round catkins at the base of new growth. Green to purplish female flowers are borne near the tips of new growth. Both male and female flowers occur on the same tree during May and June.

**Fruit:**

A yellowish-brown, glossy, bristle-tipped cone. It is 2 to 3 inches long, grows close to stem, and requires 2 years to mature. (See figure C.) Seeds are large, averaging about 26,000 per pound.

**Uses:**

It is used largely as an ornamental and as a Christmas tree in this country; however, it is now being planted for timber in some areas. It is suitable for lumber, windbreaks, and erosion control.

—Austin N. Lentz, *Extension Specialist in Farm Forestry*  
*Rutgers—The State University*  
*Drawings by Aline Hansens*

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*Austrian pine is a favorite exotic conifer for planting in New Jersey for wildlife cover. Also, deer relish the buds as food, sometimes too much for the good of plantations.*

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**If You Are Changing Your Address**

Please fill out this form and send it to NEW JERSEY OUTDOORS, P. O. Box 1809, Trenton, New Jersey 08625, so that you will continue to receive your copies of the magazine without interruption. (NEW JERSEY OUTDOORS cannot be forwarded by the post office; therefore, we need your new address in advance. Allow six weeks for processing.)

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Post Office ..... State..... Zip Code.....

NEW ADDRESS .....

Post Office ..... State..... Zip Code.....

## Quick Humble, The FLIT

Within the memory of most living Americans, the slogan, "Quick Henry, the FLIT" will strike a nostalgic note. For many years prior to World War II, radio commercials, coupled with magazine and newspaper advertising, constantly reminded people throughout the nation that when those warm, summer evenings arrived, it was time to get the "FLIT gun" if they wanted any peace from the attacks of mosquitoes, houseflies, and other obnoxious insects.

Like so many other insecticides, however, Henry's "FLIT" vanished from the American scene after the war ended. The discovery and production of DDT and other chlorinated hydrocarbon insecticides during the War put an end to such old-fashioned insect control methods. FLIT killed insects all right, but it consisted of such simple chemicals as pyrethium, mixed with a deodorized kerosene and a synergist. It didn't harm anything else, but when the new "miracle" insect killers appeared on the scene, good old FLIT quietly faded from the market since it didn't kill as many insects as fast as the post-war chemical poisons. Of course, it didn't kill any songbirds, bald eagles, pheasants, rabbits, or other fish and wildlife, either.

Now, however, there is good news for a growing number of concerned citizens, knowledgeable scientists, and conservation officials. FLIT is back! The original version was produced and marketed by Standard Oil of New Jersey; the 1968 model has just been placed on the market by the Humble Oil & Refining Company, a New Jersey Standard subsidiary.

Called FLIT MLO, this new insecticide was first investigated by Humble research scientists in 1962. Laboratory work was started in 1963 and extensive field testing was done in early 1967 at selected locations in Texas, Louisiana, and Mississippi. These tests were conducted in drainage ditches, sewage ditches, catch basins, and salt marshes. Basically a larvicidal oil, this new material provides effective control, achieving essentially complete kill, of mosquitoes in all their aquatic stages—ova, larvae, and pupae. It is not a chemical poison; therefore it's harmless to fish, wildlife, and vegetation. Mosquitoes cannot develop strains that are resistant to it, such as they have to DDT and other chlorinated hydrocarbon or organo-phosphorous products. And even though initial cost per gallon is higher, total cost in any area-wide mosquito control program represents a savings of about 50 percent over any other material currently being used in such programs. Because of the low volumes used (one to five gallons per acre depending on surface conditions, vegetation, type of mosquito, etc.), FLIT MLO may be applied where other larvicides are impractical.

Now, at least one company has combined capability with enlightened leadership in solving one of conservation's most controversial problems. As city and state officials tackle another mosquito spraying season, conservationists everywhere would do well to convince them it's time to call, "Quick, Humble . . . Get the FLIT MLO."

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# Use of Fish and Wildlife Areas

Section 23:7-9 of the Revised Statutes prohibiting certain activities on state-owned Public Shooting and Fishing Grounds, also referred to as Fish and Wildlife Management Areas, under the jurisdiction of the Division of Fish and Game, provides that further regulations for use of these areas may be prescribed by the Division as may be required, and under penalties as prescribed therein (not more than \$200.00 for each offense). In accordance therewith, the following regulations, in addition to those already outlined in that section, are hereby established and shall be enforced:

## 1. Cutting or Damaging Vegetation

Cutting or damaging in any manner any trees or other vegetation, except by authorized personnel is prohibited unless written permission has been granted by the Division.

## 2. Motor Vehicles

It shall be unlawful to operate any type of a motor vehicle on or over any cultivated or planted wildlife food area, fireline, or field.

## 3. Outboard Motors

No motor boats are permitted on any area except where otherwise designated or authorized in writing, and where authorized use is limited to nothing larger than 7½ horsepower. This regulation shall not apply in tidal water areas.

## 4. Horseback Riding

The riding of horses on or over any food area, fireline, or field which has been cultivated or planted shall be unlawful at all times. On Public Shooting and Fishing Grounds where such activity may be permitted, it shall be done only in designated areas and by permit, with proper insurance coverage.

## 5. Swimming

Swimming is prohibited on all tracts except in areas designated by the Division, where a lifeguard is on duty. No swimming is permitted on Ken Lockwood Gorge at any time.

## 6. Camping

Camping is permitted in designated areas after securing a permit from the Division or tract manager at the prescribed fee. No camping is permitted on the Ken Lockwood Gorge at any time.

The camping fees shall be \$1.25 a night for a unit up to six persons, with \$.25 for each additional person. For 30 persons or more, the charge shall be \$5.00 daily.

## . . . Use of Fish and Wildlife Areas

### **7. Picnicking**

Picnicking is restricted to specified areas on all tracts, and in certain designated places a Daily Use Permit is required, to be secured from the tract manager.

### **8. Daily Use Permit**

From May 30 through Labor Day, on designated areas, a charge of \$.25 per passenger car, plus an additional \$.25 per person; \$1.00 for each bus, plus \$.25 for each person, shall be charged.

### **9. Field Trials**

Permits for use of Public Shooting and Fishing Grounds for running of field trials may be granted by the Division at established daily rates of \$25.00 a day for bird dog trials and \$10.00 a day for retrievers, beagles, dachshunds, and coon hounds. This fee shall include use of clubhouse where one is available, and permittee shall be responsible and liable for any damage which may occur.

The prospective permittee shall maintain public liability and property damage insurance for the duration of the trial with an insurance company authorized to do business in the State of New Jersey in the following amounts:

\$100,000/\$300,000 - Personal Liability  
\$ 50,000 - Property Damage

Certificates of such coverage shall be submitted with each application before a permit is issued.

### **10. Rental of Clubhouses**

Use of clubhouses for outings, trap shoots, etc., will be authorized at a fee of \$10.00 a day; use for meeting purposes will be permitted at a \$5.00 daily fee. Permittee shall be responsible and liable for any damage which may occur.

The prospective permittee shall maintain public liability and property damage insurance for the period of authorized use, with an insurance company recognized to do business in the State of New Jersey in the following amounts:

\$100,000/\$300,000 - Personal Liability  
\$ 50,000 - Property Damage

Certificates of such coverage shall be submitted with each application before a permit is issued.

### 11. Target Practice

No target practice of any kind is permitted except by permission of the Division in designated areas only.

### 12. Revocation

The Division of Fish and Game may revoke any permit issued hereunder for violation of any provision set forth herein, whether or not prosecution is brought as provided in N.J.S.A. 23:7-9.

### 13. Securing Permits

Information on securing any of the permits above-prescribed may be obtained by writing the Division of Fish and Game, P. O. Box 1809, Trenton, N. J. 08625. #

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## Coping With Choppy Water

When a gravel road in resort territory gets too bumpy, they bring in a road scraper to smooth things over, but there's no device for leveling a choppy lake.

Getting a comfortable boat ride when the breeze is blowing depends on the boater's savvy at coping with a chop, observe the boating experts at Mercury outboards.

Today's pleasure craft is designed to "plane," so that much of its bottom is not in contact with the water when underway. Often waves contact the hull bottom amidships—approximately beneath the seats. This can cause a bumpy ride.

To minimize this motion, bring the boat's bow down so the point where it contacts the water is well ahead of the seats; then the sharp vee of the prow can divide waves effectively. If your equipment includes Mercury's power trim, this can be accomplished by touching the control button.

The more primitive means of lowering the bow is to shift passengers and other movable weights, such as fuel tank, forward. You have to experiment to find the most effective trim, but don't try to achieve it by putting a heavy anchor in the bow locker where its bouncing can harm the interior finish.

It pays to experiment with motor tilt, too. Move the adjustment pin forward one hole at a time. Propeller thrust then lifts the stern more, puts the bow down and brings the sharp vee of the hull more into play. There may be some loss of efficiency, but on a long upwind run this trick results in a more comfortable ride.

If your boat begins to pound rather badly as you head into waves, the problem can be remedied by reducing speed. Or, it may help to cut into the waves at a slight angle, rather than take them head-on. #

# Council Highlights

## May Meeting

The open session of the regular monthly meeting of the Fish and Game Council was held in Trenton on May 14. In addition to the Council members and Division personnel present the following persons attended the session: Joseph Briel, Bill Backus, and Elmer Gaus.

## Wildlife Management

George Alpaugh, Chief of the Bureau of Wildlife Management, reported that the incubators at the Game Farms were filled to capacity and all operations seemed to be progressing well. He advised that as of May 8, 1968, lands administered by the Division of Fish and Game totaled 122,288 acres, of which 31,078 acres were purchased under the Green Acres Program and 91,210 acres were purchased with Division funds.

## Fisheries Management

The Council advised Robert Hayford, Chief of the Bureau of Fisheries, that many complimentary remarks had been received regarding the trout stocked in our streams this spring.

## Public Relations

William Peterman, Supervisor of Public Relations, reported that participation in outdoor programs has increased, as is customary at this time of the year. He advised that his unit is initiating a Divisional news letter to acquaint employees with latest happenings in the Division, including items of human interest.

## Division Pamphlet

Councilman Allocca suggested to Mr. Peterman that he give consideration to preparing a pamphlet dealing with the Division, its functions, its sources of income, how the money is spent, and information on its various operations, which would be available for distribution to the public. It was Mr. Allocca's opinion that many persons, even those considered knowledgeable, are completely unfamiliar with many facets of the Division of Fish and Game.

## Coastal Patrol

Activities of the Coastal Patrol were reported by Newman Mathis, Chief. Fishing operations in the Delaware Bay area were patrolled by boat and by airplane, and no problems with the lift period were encountered. Violators were

apprehended for the sale of under-sized striped bass and 29 summonses were issued. One defendant pleaded guilty to the possession of five fish and was fined \$100, plus \$15 costs, and a second defendant pleaded guilty to the possession of 19 fish and was fined \$380, plus \$190 costs. Five cases are pending. One drifting gill netter was apprehended in the Atlantic Ocean and prosecuted for taking striped bass illegally. He was fined \$100, plus \$5 court costs.

Councilman Alampi commented that he was informed that the patrolling by airplane in the Delaware Bay area was carried on by a deputy conservation officer at his own expense, and Councilman Alampi said the individual was to be commended for his dedication and interest.

### **Law Enforcement**

John C. O'Dowd, District Conservation Officer, reported on the activities of the Law Enforcement Unit. More apprehensions than usual were made for persons found fishing in closed waters. Conservation officers received many favorable comments from fishermen concerning the fish stocking program.

### **Fishermen's Forum**

Councilman Richardson expressed satisfaction with the first Fishermen's Forum held in Atlantic City on Saturday, April 27. The participating speakers presented very informative talks and films on items of interest to fishermen. With the experience gained this year, Mr. Richardson said it is hoped that an even more successful Forum can be conducted next year, and the date chosen so that a larger number of persons can attend.

Bill Backus stated that he believed the sport fishermen would find this forum of interest and he stressed the need for better communication between the sport and commercial fishing interests.

### **Sale of Fish**

Attention was called by Councilman Richardson to the extremely large catches of mackerel taken by sportsmen who, in their endeavors to dispose of the abundance of fish, offered them for sale in competition with commercial fishermen, and the supply of fish glutted the market to the point where even the Fulton Fish Market was unable to move the fish. He pointed out that the taking of excess fish results in a waste of natural resource.

The suggestion was made by Bill Backus that the requiring of a license for anyone who desires to sell fish might deter sport fishermen from engaging in this activity. #

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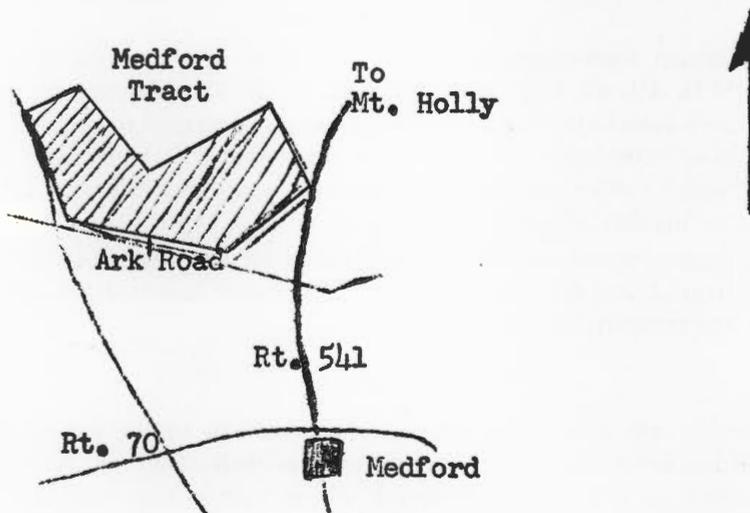
*The 1968 National Rifle Association National Championship  
Meet is scheduled for Camp Perry, Ohio, August 4 through 22.*

# Medford Tract

The Medford Fish and Wildlife Management Area is located in Burlington County and comprises 214 acres of fields and woodlands.

This tract is managed primarily for upland hunting. Rabbit, pheasant, and quail provide excellent hunting throughout the season. Grouse, woodcock, fox, and raccoon are present on this tract and offer additional hunting opportunities.

To reach the Medford Tract from Medford, take Route 541 north out of Medford for approximately 1 mile to the first crossroad (Ark Road). Turn left, or west, on Ark Road and proceed for about 1 mile. The tract is on the right side of the road. The access road is the first gravel road on the right.



Scale - 1 inch is 5.3 miles

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*Litter deposited on Fish and Wildlife Management Areas costs the Division of Fish and Game thousands of dollars to clean up. And, litter is a growing problem at Round Valley Reservoir. Litterbugs cost money and cause posting of lands.*

# Violators Roundup

<i>Defendant</i>	<i>Offense</i>	<i>Penalty</i>
Ralph Giordano, 91 Gerard Rd., Nutley	Poss. 25 short lobsters	20.
Robert Smerko, 3 Stiles Rd., Edison	Kill 1 yellowleg	20.
Algeree Barbour, 110 Kincoln Ave., Thorofare	Fish no license	20.
James Joslin, West Almond Rd., Vineland	Poss. 1 short striped bass	10.
Thomas Serika, 304 Ann St., Harrison	Use spinning gear in fly fish area	20.
Thomas Serika, 304 Ann St., Harrison	Borrow fishing license	20.
Thomas Serika, 304 Ann St., Harrison	Fish no license	20.
Gordon Stutzenburg, 3rd & Centre Sts., Thorofare	Fish no license	20.
Larry T. Benner, 530½ Columbia Ave., Millville	Fish no license	20.
Frank Pitale, East Lake Dr., Mays Landing	Poss. 7 short striped bass	800.
Frank Pitale, East Lake Dr., Mays Landing	Fish w/haul seine w/out license	50.
Norman Wilgus, Nolans Point, Lake Hopatcong	1 short bass	20.
Norman Wilgus, Nolans Point, Lake Hopatcong	Spinning gear in fly stretch	20.
James Walker, 272 S. Maple Avenue, Maple Shade	Shoot at protected birds	20.
Joseph Glawfeskie, 901 W. Colling Ave., Collingswood	Shoot at protected birds	20.
Alexander King, 66 Mission St., Montclair	Fish no license	20.
Robert Rich, 42 Navesink Ave., Highlands	Poss. 25 short lobsters	500.
Albert Andersen, Jr., 67 Harding Ave., Oakland	Fish no license	20.
Ralph Forgeson, 395 Ward St., Union	Poss. bait in fly fish waters	20.
William Koloski, 600 Brooks Blvd., Manville	Fish closed waters	20.
Barrett Irwin, 25 Florence Ave., Leonardo	Poss. 25 short lobsters	500.
James Kovacs, 18 3rd Ave., Ortlely Beach	Poss. 1 duck closed season	20.
Edward Guaschino, Jr., 3153 Windsor Ave., Toms River	Poss. 1 duck closed season	20.
William Walsh, 927 E. 27th St., Paterson	Fish no license	20.
Louis Moscarello, 24 Jackson St., Paterson	Fish closed waters	20.
Louis Lombardi, 3524 Kennedy Blvd., Jersey City	Fish closed waters	20.
Daniel Kistulentz, 827 Lincoln Ave., Manville	Use rifle w/out permit	20.
Trino Boix, 285 E. Kinney St., Newark	Loaded gun in auto	20.
Vincente Calzadilla, 117 Ferry St., Newark	Loaded gun in auto	20.
Howard Yocum, 488 Buttonwood Ave., Maple Shade	Shoot at protected birds	20.
Martin Otter, 309 Central Ave., Lindenwold	Fish no license	20.
Robert Carman, Woodbine, R.D. #1, Box #20, Dennisville	Uncased weapon	100.
Robert Carman, Woodbine, R.D. #1, Box #20, Dennisville	Hunt deer closed season	100.
Robert Trout, 3rd, 878 Delsea Dr., So. Dennisville	Hunt deer closed season	100.
Robert Trout, 3rd, 878 Delsea Dr., So. Dennisville	Uncased weapon	100.
Matthew Szygula, Jr., 3050 Richmond St., Philadelphia, Pa.	Gun on Sunday	20.
Christian E. Gaynor, 1401 Dolores Lane, Groydon, Pa.	Gun on Sunday	20.
Joseph Ballance, Jr., 23 Belvedere Ave., Jersey City	Fish no license	20.
George Burkhard, 324 N. Glassboro Rd., Woodbury Heights	Hunt no license	20.
Robert White, 5 Van Meter Terrace, Salem	Kill protected bird (blue jay)	20.
James Van Hassel, 43 Alexander Ave., Upper Montclair	Poss. rifle w/out permit	20.
Mandel Rosenkone, 2896 W. 8th St., Brooklyn, N. Y.	Fish no license	20.

## . . . Violators Roundup

<i>Defendant</i>	<i>Offense</i>	<i>Penalty</i>
John Carpenter, 2055 Stowe St., Union	Poss. bait while angling in flyfish waters	20.
Herbert W. Wood, 84 Hanover Rd., Hanover	Illegally kill wild deer	100.
Robert C. Carman, Woodbine, R.D. #1, Box 20, Dennisville	Loaded gun in auto	20.
Robert Trout, 3rd, 878 Delsea Dr., So. Dennisville	Loaded gun in auto	20.
Steven Keener, Sheridan Ave., RFD #3, Vineland	Fish no license	20.
Walter E. Behrens, Lebanon Rd., Upper Greenwood Lake, Hewitt	Fish no license	20.
Edward Scruggs, Earl Ave., Glassboro	Fish no license	20.
Richard Nittel, 149 Filmore St., Phillipsburg	Fish closed waters	20.
Charles Lippincott, Jr., 109 Sitgreanes St., Phillipsburg	Fish closed waters	20.
William Hollenbock, 51 River St., Manville	Fish closed waters	20.
Raymond Riggi, 3D Riverview Terr., Winfield Park	Fail to exhibit license	20.
Robert Spalding, 1111 Tompkins Ave., So. Plainfield	Poss. doe deer closed season	100.
Joseph J. Scott, 1111 Tompkins Ave., So. Plainfield	Jail - 10 days	100.
Michael Katzara, 2 Division St., Metuchen	Poss. doe deer closed season	100.
Thomas Kidder, Jr., 158 Franklin Ave., Ridgewood	Jail - 21 days	100.
Thomas Kidder, Jr., 158 Franklin Ave., Ridgewood	Carry shotgun on Sunday in woods	20.
Edgar Hurff III, 718 Kings Hwy., Swedesboro	Use bait in fly fishing waters	20.
	Fish no license	20.
	Poss. 1 goose over limit	20.



*The Thorofare Meadow Company of Hancock's Bridge was named "Wildlife Conservationists of the Year" at the Annual Conservation Awards dinner sponsored by the New Jersey State Federation of Sportsmen's Clubs, the National Wildlife Federation, and the Sears-Roebuck Foundation. Pictured following the presentation ceremony are, left to right, Lester G. MacNamara, Director of the Division of Fish and Game; John Pancoast, Sr., and John Pancoast, Jr., of the Thorofare Meadow Company; and Philip Alampi, Secretary of the State Department of Agriculture.*

at man's convenience. Far more important are the natural projects for outdoor recreation—places in which the main attractions are not man-made, and which provide forms of recreation not available in cities. Wild rivers, primitive areas, historic sites, and natural wonders cannot be synthesized. Once gone, they can never be restored.

Even if outdoor recreation includes cultural projects, we must still give priority to natural areas. Most of the federal money for outdoor recreation comes from taxes on motorboat fuels and admission fees to natural recreation areas—and not from outdoor band concerts or gasoline taxes used for highway construction.

At a national meeting, a top official of the Bureau of Outdoor Recreation once told a group of conservationists that he hoped they wouldn't ask him to define outdoor recreation.

But we *must* have an official definition so that we can plan on a state level—and assure ourselves that priority is given to natural projects for which there are no man-made substitutes. #

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*Summer Scene—Forked River By Zack Taylor*