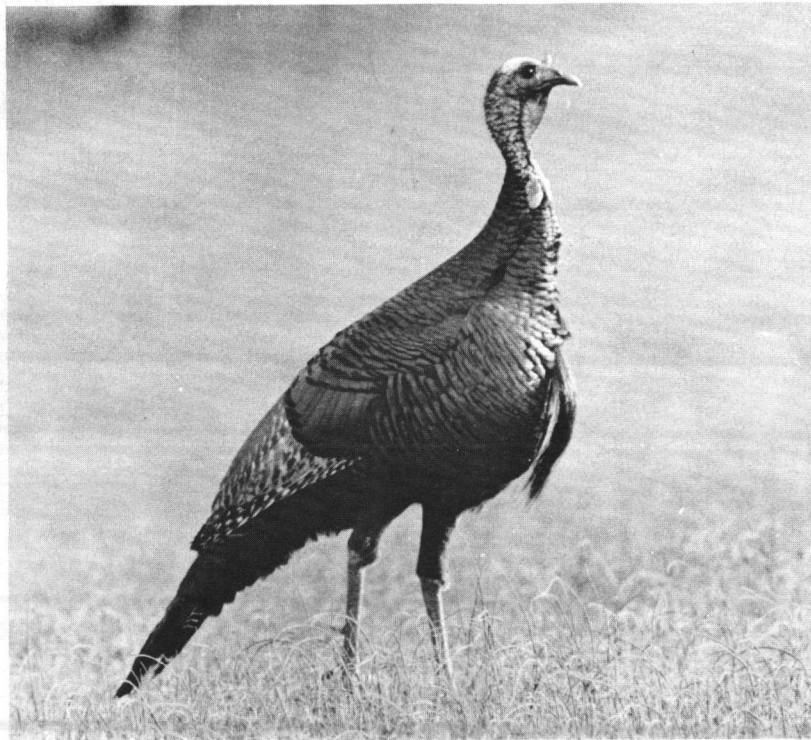


**NATURAL RESOURCES**  
**And**  
**ENVIRONMENTAL AFFAIRS**  
**1973**  
**Annual Report**



**MARINE CORPS BASE**  
**CAMP LEJEUNE, NORTH CAROLINA**







FORESTS



LAKES



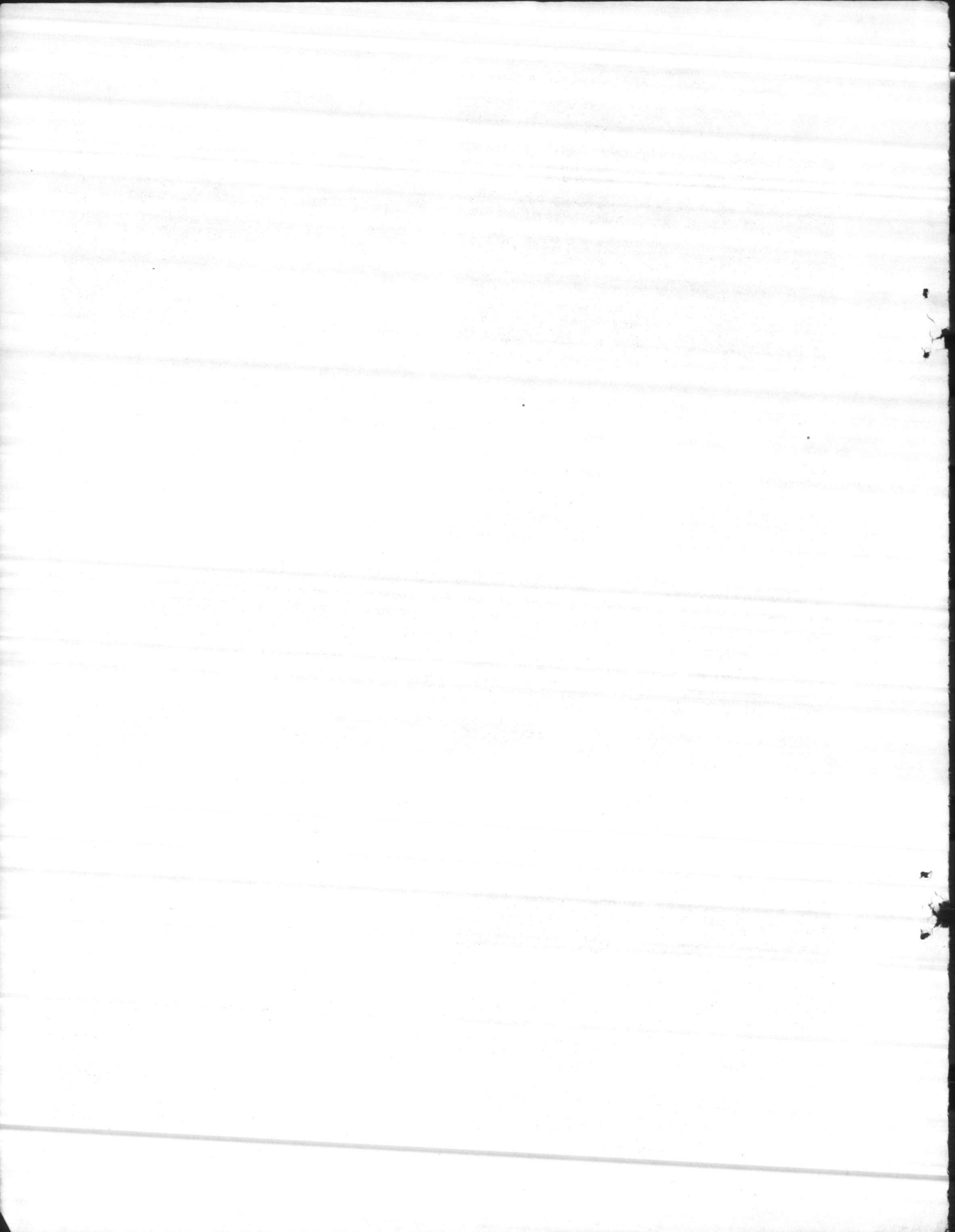
CAMP LEJEUNE - A NICE PLACE TO LIVE



MARSHES



BEACHES



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## INTRODUCTION, MISSION, AND POPULATION

### INTRODUCTION

Marine Corps Base, Camp Lejeune, encompasses approximately 170 square miles of land and water area in the coastal region of North Carolina. The Base takes extreme pride in the management of the vast natural resources inherent to the area. The following report is submitted in order to provide an overview of planned and accomplished efforts which promote the restoration, improvement, and preservation of renewable natural resources and other environmental assets.

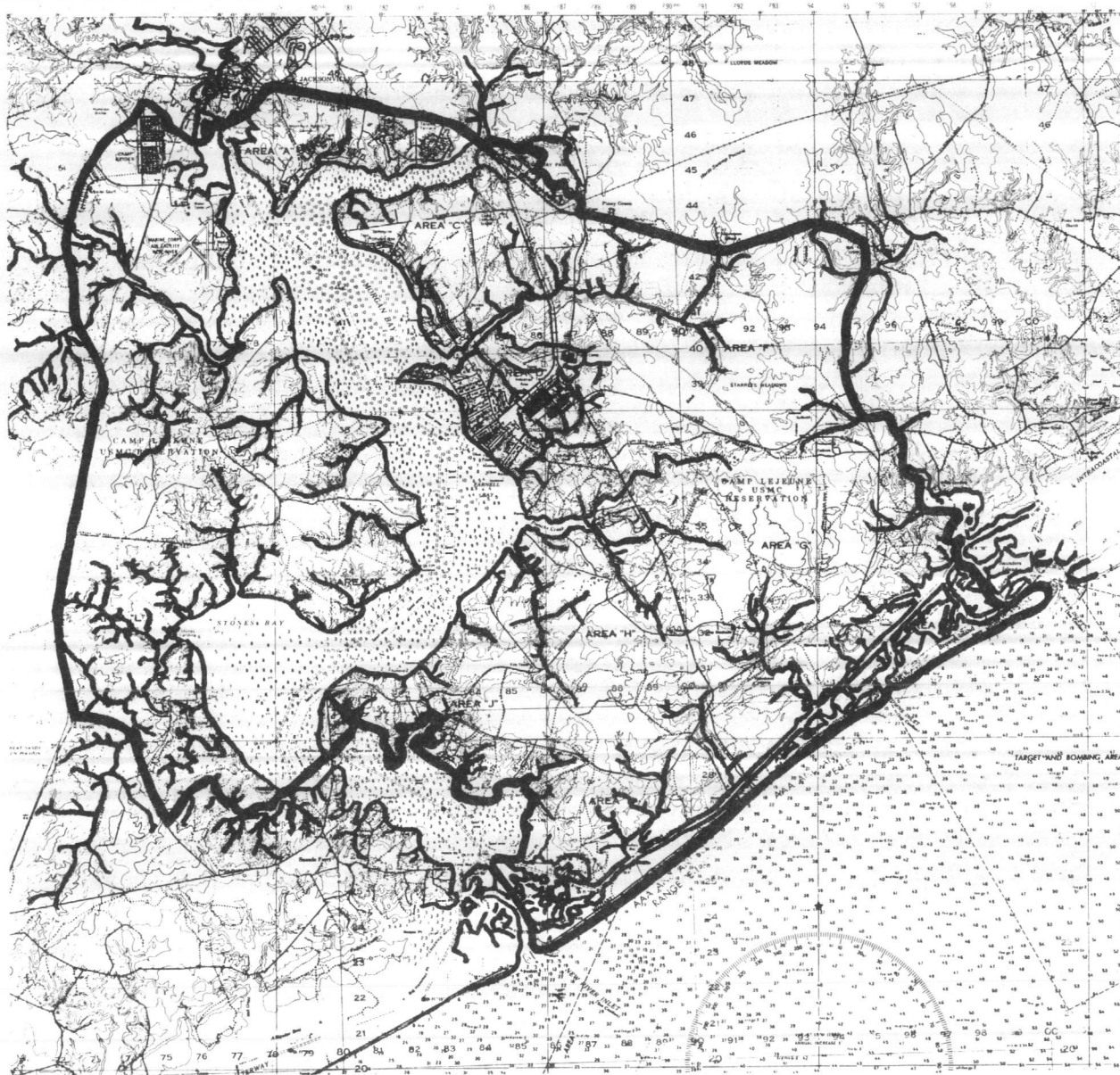
### MISSION

The mission of Marine Corps Base, Camp Lejeune, is:

- a. To provide housing, training facilities, logistic support, and certain administrative support for Fleet Marine Force units and other units assigned.
- b. To conduct specialized schools and other training as directed.
- c. To receive and process personnel as assigned and conduct individual combat training as directed.

In addition to the above assigned mission, the Base is charged with the responsibility to ensure that management provides for the:

- a. Protection and conservation of the watershed and natural



THE CAMP LEJEUNE WATERSHED  
Base boundary is indicated by heavy black line.



landscapes, soil, beneficial forest and timber growth, and fish and wild-life as vital elements of an optimum natural resources program.

b. Utilization and preservation of natural resources in the combination best serving the present and future needs of the United States and its people.

c. Optimum ecological development of land and water and controlled public access to such areas.

d. Active participation of activity personnel assigned to resource management positions in assessing the impact of activity programs on the natural environment within the confines of the activity and on public and private resources outside the confines of the activity which may be affected by planned actions.

### POPULATION

The Base houses three Marine Corps Commands and two Navy Commands: Marine Corps Base; Force Troops, FMFLant; 2d Marine Division, FMF; Naval Hospital; and, Naval Medical Field Research Laboratory. The normal combined peacetime military strength of Camp Lejeune is approximately 35,000 personnel, augmented by approximately 3,000 civilian employees. Military dependents usually number in excess of 30,000, on and off Base.

## HIGHLIGHTS OF CURRENT YEAR'S PROGRAM

### SANITARY LANDFILL

Operation of the sanitary landfill commenced, replacing the requirement for the former burning dump.

### BURNING DUMP

Site of the former burning dump has been converted to a recreation area including a lake.

### PUBLICATION OF AN OIL SPILL PREVENTION, CONTAINMENT, AND COUNTER-MEASURE PLAN

Subject order was published to establish policy and procedures concerning oil pollution abatement.

### CONTINUOUS FOREST INVENTORY PLOT REMEASUREMENT

This large project was accomplished to update the Forest Management Plan by obtaining accurate growth and measurement data.

### REFORESTATION

A total of 289 acres was site-prepared for natural regeneration and a total of 287 acres was site-prepared and planted in pine. One thousand black walnut seedlings were planted adjacent to wildlife food plots on reforestation sites.



ARTIFICIAL REFORESTATION OF LOBLOLLY PINE



THIS TIMBER ACCESS ROAD WAS DISKED AND PLANTED TO PERENNIAL GRASS

## MUTUAL FIRE FIGHTING ASSISTANCE AGREEMENTS

Camp Lejeune entered into agreements with city, county, and federal authorities for fire fighting assistance and updated the agreement with state officials.

## REVISION OF BASE ORDER ON HUNTING, FISHING, AND BOATING

This order was revised to clarify and institute certain procedures on hunting areas, violations, weapon utilization, and the establishment of hunting and fishing fees.

## TIMBER ACCESS ROADS

This year, the disking and planting of timber access roads for wildlife food areas commenced.

## ENDANGERED SPECIES AND WILDLIFE IN NEED OF ASSISTANCE

This year the Base has significantly increased efforts in identifying populations and protecting these species. Habitat improvement measures should also improve their well-being.

## SALLIERS BAY WATERFOWL IMPOUNDMENT

This new impoundment area was constructed and managed for the improvement of waterfowl habitat.



## NATURAL RESOURCES AND ENVIRONMENTAL AFFAIRS DIVISION

This division of the Base Maintenance Department was created as an organizational change in order to increase the effectiveness of Base conservation efforts.

### BASE-WIDE AWARENESS OF CONSERVATION PROGRAM AND ASSISTANCE RENDERED

An increase in awareness and voluntary contributions of time and effort by Base civilians, military, and dependents was noted throughout Camp Lejeune. Contributions by individuals, clubs, and Base organizations were most helpful.

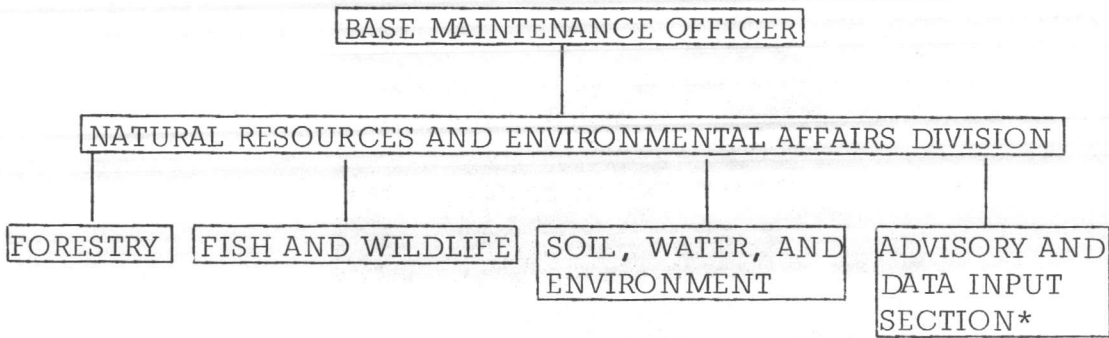


**MARINES FIGHT FIRE** — A fire in Hofmann Forest, that raged out of control Sunday and Monday, was contained late Tuesday by state and commercial firefighting units. Some 80 Marines from Camp Lejeune assisted firefighters and remained to help "mop up" yesterday. (Photo by Sgt. Chuck Hornick)

## ORGANIZATION

### FORMAL

The Base Maintenance Officer has staff responsibility for the management of all natural resources aboard the Base. The management is accomplished primarily through the Natural Resources and Environmental Affairs Division of Base Maintenance Department. However, other divisions of Base Maintenance also provide significant contributions. Branches within the Natural Resources and Environmental Affairs Division include Forestry and Fish and Wildlife. This organization is new to the Base and a further refinement has been restructured as depicted below:



\*This section consists of advisory and coordinating personnel from Base Public Works Department and other divisions of Base Maintenance Department on a collateral duty basis.

### COMMITTEE FOR THE CONSERVATION OF NATURAL RESOURCES

This committee was originally established in 1962 to assist and



advise the Commanding General on matters pertaining to conservation and management of natural resources. The committee was reorganized in 1968 to improve the effectiveness of conservation management and coordination.

Representation on the committee is provided by Base Special Services; Assistant Chief of Staff, Training, and Training Facilities; Security; Base Maintenance; Natural Resources and Environmental Affairs; Base Veterinarian; Forestry; Fish and Wildlife; Base Game Protection; Rod and Gun Club; Preventive Medicine - Regional; 2d Marine Division, FMF; and Force Troops, FMFLant.

Responsibilities of the committee encompass general cognizance over any phase or facet of the Natural Resources Conservation Program with recommendations provided to the Commanding General for implementation, instructions, procedures, regulations, and programs. Appendix A provides a detailed description of the committee's responsibilities.

The most significant contribution the committee has recently made was a recommended revision to the procedures utilized in taking administrative action against fish and wildlife violators. This recommendation has been adopted, included in the appropriate Base order, and has proven to be effective.

#### INFORMAL

An increased awareness of the requirements and benefits of a sound

conservation program has been observed throughout the Base. As a consequence, the efforts of individual commanding officers, Marines, civilian employees, and dependents have been producing excellent results.

Many Base organizations and clubs other than sections primarily concerned with conservation have also provided invaluable assistance in various programs. These include Base Special Services, Ecology Club, Rod and Gun Club, Boy and Girl Scouts, and the Base School System. Specific accomplishments and plans of these organizations are included later in the report.

#### BASE COORDINATION WITH EXTERNAL AGENCIES

Assistance provided by external organizations can not be over-emphasized as it provides an essential portion of the Base's overall program.

In 1963, a cooperative plan with the Department of the Interior (Bureau of Sport Fisheries and Wildlife, U. S. Fish and Wildlife Service) and the State of North Carolina (Wildlife Resources Commission) for the conservation and development of fish and wildlife was developed. Representatives of these agencies have made a number of visits to Camp Lejeune during the past year rendering considerable assistance and greatly enhancing the conservation program. Even closer liaison is maintained with state game law enforcement officials. In addition, a cooperative mutual aid

agreement for fire suppression has been established with the North Carolina Department of Conservation and Development for many years. This agreement is part of the fire plan for the state.

Valuable assistance also has been provided to the Base in technical areas by the Environmental Protection Agency and Headquarters Marine Corps.

Specific instances of cooperation between the Base and external agencies are related in appropriate portions of the report.

## PROGRAM BACKGROUND WITH PRESENT AND FUTURE PLANS

### GENERAL

It is the continuing policy of this Command to restore, improve, and preserve the natural resources of the Base to the maximum extent possible in the public, as well as the military interest; to encourage and give incentive to conservation activities of the Base; and to provide within manageable quotas, the control of public access to fish and wildlife resources of the Base on a first-come, first-served basis when such can be accomplished without impairing the military mission. Additionally, it is a Command policy to work in close coordination with state and federal authorities in planning, developing, maintaining, and coordinating fish, wildlife, and forest management programs.

### OBJECTIVES

The management and conservation effort of the Base is directed toward the accomplishment of the following objectives to the maximum extent consistent with funding priorities and military requirements:

- a. Protection and preservation of wildlife, soil, beneficial forest and timber growth, and suitable vegetative cover.
- b. Utilization and care of natural resources in the manner best suited for present and future military requirements, and for the use of military personnel and the public.



- c. Provision for maximum multiple-use and optimum ecological development of land and water areas and access thereto.
- d. Continued development and harvest of timber stands, consistent with wildlife management and military requirements.
- e. Improvement of forest and water areas for recreational purposes.
- f. Improvement of the aesthetic value of streams and woodlands.
- g. Achievement of effective water and air pollution control.

### GENERAL PLANS

The basic conservation plan encompasses the following:

- a. Continued conservation and improvement of natural resources.
- b. Development and maintenance of artificial wildlife habitats required to support the available natural resources.
- c. Development and supervision of plans for harvesting of fish and wildlife species which will preclude over-population or extermination of any species.
- d. Development and supervision of projects for introduction of new fish and wildlife species and to supplement or replace natural species, when it is in the best interest of conservation.
- e. Development and supervision of plans to ensure compliance with local, state, and federal laws and regulations pertaining to the conservation and harvesting of fish and wildlife.

Within the framework of the above, certain projects such as controlled burning, brush clearing, and elimination of low quality, over-aged trees have been programmed for accomplishment in annual increments. Other projects such as establishment of new food plots, pond clearing, treatment, and stocking require reevaluation and annual incrementation for achievement of long range objectives in an orderly manner.

#### SPECIFIC FUTURE PROJECTS

- a. Erosion control projects are in planning stages in two areas of the Base. These are the 1800 Industrial Area and the Main Ammunition Dump.
- b. Installation of eight vehicle washing facilities which will separate oils and solids, reuse the water, with water being eventually channeled into the sewage system in lieu of storm drains.
- c. Complete installation of waste oil storage tanks at unit level in accordance with survey findings.
- d. Complete the Long Range Multiple-Use Natural Resources Management Plan as directed by Marine Corps Order P11000.8.
- e. Continue to plan and accomplish improvements in trash collection through recycling of materials. Initial efforts are concentrated on paper.
- f. Continue to inventory and devise more accurate survey procedures for endangered, rare, and unique species.



## ANALYSIS OF THE ACTIVITY'S ACREAGE

### GENERAL DESCRIPTION

History - Prior to 1941, the land of Camp Lejeune was privately-owned. Tracts ranged in size from less than an acre to several thousands of acres. There were approximately 6,000 acres of cleared land with most of the woodland having been cut over and denuded of timber. There was little or no fire protection, and the wildlife habitat was generally poor. After government ownership in 1941, with the implementation of multiple-use management programs, environmental conditions for flora, fauna, and man have steadily improved.

Topography - The topography of the Base is typical coastal plain, ranging in elevation from sea level to 70 feet above. Surface relief ranges from flat, savannah-like, to gentle rolling. Deep wooded forests characterize the better upland sites while most of the branches and water-courses are headed up by inaccessible swamps and pocosins. The principle watershed drainage areas are New River, Northeast Creek, Southwest Creek, Wallace Creek, French Creek, Bear Creek, Freeman Creek, and Duck Creek.

Soils - There are twenty-one different soil formations of varying structures ranging from sandy loams to fine sand and muck, but the soil type is generally classified as sandy loam. Some of the soil is low in organic matter and fertility, but most of the land produces abundant crops of timber and forage for wildlife.

In 1965 the Soil Conservation Service conducted a low-intensity soil suitability survey of woodlands on the reservation. The soils were also rated as to their game potential and fisheries possibilities. This makes it possible to compare present timber stands with the appropriate soil suitability map to determine optimum management. This plan is valuable in establishing vegetative cover programs and improved drainage as it relates to requirements for improved forestry and fish and wildlife programs.

Climate - Located just below the 35th parallel of latitude, Camp Lejeune has a mild climate. The summers are from mild to hot and humid. Winters are fairly mild with the temperature frequently dropping below freezing. Snow is the exception rather than the rule. Average annual precipitation averages 47 inches while the average temperature is 61 degrees. There is a long growing season of approximately 230 days.

Vegetation - Vegetation on the Base is typical of the southeastern coastal

plain. Extensive tracts of both pure pine and pine-hardwood mixtures dominate the landscape. Pines consist of loblolly and longleaf; while the hardwoods are represented by southern red oak, white oak, turkey oak, willow oak, red gum, tupelo gum, hickory, etc. The upland swamps, commonly referred to as pocosins, are overgrown with fether bush, cyrilla, pond pine, and greenbrier.

Several unique carnivorous plants including the venus flytrap, sundew, bladderwort, and several species of pitcher plants are commonly found on poorly drained sites having infertile, acid soils.

Appendix B lists native plants common to Camp Lejeune that are useful to wildlife.

Types of acreage under management at Camp Lejeune are listed in Table 1.

TABLE 1  
ACREAGE UNDER MANAGEMENT

<u>Management</u>	<u>Acres/Miles</u>
Forestry	60,552 acres
Fish and Wildlife	95,000 acres
Soil and Water	110,877 acres
Improved Land	3,650 acres
Fresh Water	
Ponds	33 acres
Streams	14-1/2 miles
Salt Water (New River, Intracoastal Waterway, and ocean beach)	41 miles
Hunting Authorized	64,000 acres

Fishing authorized	
Ponds	16 acres
Streams (New River, Intracoastal Waterway, and ocean beach)	46 miles
Fishing acreage to be opened in 1973	17 acres



APPROXIMATELY 14-1/2 MILES OF SCENIC, FRESH WATER STREAMS  
DRAIN THE BASE.



## SOIL, WATER, AND AIR RESOURCES

### SEWAGE TREATMENT

Secondary treatment is now accomplished at all of the seven sewage treatment plants at Camp Lejeune. The construction of rotating trickling filters at each facility has provided the capability to process waste at a high state of purity, thus assuring that the seven million gallons of waste water that daily flows through our sewage treatment system will not degrade the quality of New River. Continuous attention and control at these sewage plants assures that the effluents meet and exceed water quality standards established by the state of North Carolina.

### SANITARY LANDFILL

Operation of the sanitary landfill (since 1 July 1972) has been a success. The elimination of air pollution from the former open burning dumps was a great stride forward. One of these former burn dumps has been converted to a Base recreation area (see photograph) complete with pond soon to be stocked with fish. The Landscaping Section of Base Maintenance Department has done a commendable job in beautifying the area and the former eyesore has become a valuable asset.

### COMPACTION DEVICES

Shortly following the opening of the sanitary landfill, twenty-one

compaction devices were installed in Base messhalls. Utilization of these devices has proven to be a superior method of waste disposal. The compaction devices exert a 10-to-1 compression ratio making them popular with mess personnel in that they greatly reduce the laborious task of transporting the waste to dumpsters. Base-wide requirements for dumpsters at messhalls have been reduced by half, the poundage per trip in the dumpmaster truck has been increased, and the space per pound in the sanitary landfill is substantially reduced.

#### HEATING PLANTS

Air pollution is also being attacked through the conversion of the Central and Camp Geiger Heating Plants from coal to oil burning. Though more expensive to burn, oil will permit better control of combustion detection and control devices are also included in this contract for all eleven heating plants. With these devices, Camp Lejeune can assure that smoke from these essential facilities is continually monitored and controlled to remain within the acceptable range of air quality standards.

#### OIL SPILL PREVENTION

A complete Base-wide survey was conducted to determine if oil pollution was a problem in maintenance areas, motor pools, etc. It was determined that some minor soil and water pollution was occurring and





THE BASE OIL SPILL ORDER WAS PUBLISHED JUST PRIOR TO THIS ACCIDENT. GUIDANCE CONTAINED IN THE ORDER OUTLINED IMMEDIATE ACTION WHICH PREVENTED A NEARBY STREAM FROM BECOMING CONTAMINATED.



NEW COMPACTION DEVICES IN OPERATION

immediate steps were required to correct the situation. In addition to personal explanation of the necessity for preventing oil spillage to unit workers in these areas, time was spent with each unit instructing them in how to make oil drip pans for oil dispensing and discussing other methods for containment, etc. Approximately 30 additional storage tanks for oil collection are now being modified for utilization at the unit level. Base Order 11090.1 (Appendix C) was also published implementing the Base Spill Prevention, Containment, and Countermeasure Plan for Oil and Other Hazardous Substances.

#### CHEMICAL DUMP

In the past, the Base has been burying certain items of chemical nature which cannot be utilized or reconditioned for return to the supply system, sold, donated, or transferred. The burying of these items was closely controlled in a specific area of the Base. This practice has been suspended, however, until technical advice can be gained concerning the effects of the various substances on the environment. Listings of the specific items buried in specified areas in the past have been compiled and the assistance of the Environmental Protection Agency solicited in determining the advisability of continuing the practice for each specific substance. Environmental Protection Agency is currently working on this problem and has been most cooperative.

## NAVAL MEDICAL FIELD RESEARCH LABORATORY

The Base cooperated with the Naval Medical Field Research Laboratory in its programs to develop non-hazardous biodegradable pesticides for use in military environments and techniques for anthropod control that eliminate all use of chemicals.

### HERBICIDE AND PESTICIDE SAFETY PRECAUTIONS

The Base has effected several changes in utilization of herbicides/pesticides in order to improve conservation techniques and comply with current regulations. The application of less persistent approved pesticides/herbicides is now practiced and applications are made based on insect count in specific areas rather than on a routine area basis. A vigorous training program for personnel in the Insect and Rodent Control Section of the Base Maintenance Department has been conducted to ensure that all personnel who supervise herbicides/pesticides application are certified as competent.

The Base Maintenance Officer is tasked with the responsibility to maintain surveillance over the types used, methods of application, formulation procedures, and recommended strengths. All pesticides are stored in locked storage facilities and issued under strict controls. The District Entomologist at Naval Facilities Engineering Command, Norfolk, has been most cooperative in providing necessary technical expertise as required.

## NATURAL BEAUTY

### BURN DUMP CONVERSION

Perhaps the most significant beautification project to be accomplished during the year was the conversion of the Base burn dump site into an attractive and desirable recreation area. Prior to May, all burnable trash was transported to this site and burned daily. The dump contributed to air pollution, was attractive to rats and other scavengers, and constituted a colossal eyesore. When the Base sanitary landfill commenced operations, the Base launched a coordinated operation to correct the situation at the burn dump. Initially, the entire area was dirt covered. A tenant engineer battalion greatly assisted in this operation transporting earth to the dump. A 3-acre man-made lake site was then prepared at the site of the former borrow pit. Extensive landscaping operations followed throughout the area and the lake was filled with water. Stocking the lake with fish is now being arranged and finishing touches are being completed to the beautification efforts. As the accompanying photographs reveal, the conservation-oriented combined efforts of Base and tenant units to restore a formerly degraded area have provided a beautiful and necessary recreation site for Camp Lejeune inhabitants.



THE METAMORPHOSIS OF AN AREA FROM A BURN DUMP SITE TO A RECREATION AREA. NOTE: ALL THREE PHOTOS ARE TAKEN AT THE SAME ANGLE AND LOCATION.



BEFORE



DURING



AFTER

## LANDSCAPING

This year, Camp Lejeune was the scene of an active beautification program through landscaping efforts. In addition to the efforts of various clubs and organizations whose achievements have been listed elsewhere in the report, the Nursery and Landscaping Section of the Base Maintenance Department has made excellent contributions. Completed projects include beautification efforts in the quarters and housing area, entrances to the Base, road intersections, headquarters buildings, golf course, and at the horse stables. In excess of 1,600 flowering trees, shrubbery, and flowers have been planted in support of the above projects. Following is a listing of principle plant life utilized:

Hetzi Junipers	Myrtle
Cedrus Deodora	Red Cedar
Weeping Willows	Lugustrum
Dogwood	Boxwood
Flowering Peach	Azaleas
Flowering Cherry	Pansy
Flowering Plum	Tulips
	Rose

## FORESTRY

Roadside zones are an intricate phase of the Base's Multiple-Use Plan. These zones are favored along scenic corridors and are maintained by selective cutting from a sanitation salvage standpoint. Extremely careful selection of trees to be harvested and close supervision of logging operations is accomplished. Timber slash is removed from roadsides so that a minimum

amount of disturbance is noted. During site preparation in clear-cut and seed tree cut areas, dogwood is protected for its flowering beauty.

#### ROADS AND GROUNDS

Contributions by this section of the Base Maintenance Department in enhancing the beauty of the Base include the removing of cluttering underbrush from stream banks and scenic corridors and maintenance of grassed areas along road shoulders and backslopes, buildings, etc.

#### AREA COMMANDERS

Each Area Commander has specific responsibilities for the cleanliness and general housekeeping functions within his assigned areas. This system has proven to be especially responsive and effective and the initiative of the individual Area Commanders has been recognized and encouraged.



SIGNS LIKE THIS ONE HAVE BEEN PLACED THROUGHOUT THE BASE TO REMIND PERSONNEL TO KEEP CAMP LEJEUNE BEAUTIFUL.

## WILDLIFE MANAGEMENT

### GENERAL

Camp Lejeune's Wildlife Management Program is designed to provide optimum environmental conditions for the wide variety of fauna that inhabit the Base. Extensive habitat management programs, such as the proper harvest of timber lands, prescribed burning, creation of food plots, maintenance of wildlife openings, and the preservation of habitat occupied by unique species have resulted in abundant, healthy populations of wildlife available for both consumption and nonconsumption use.

### WILDLIFE RESOURCES

A listing of the wildlife species most common to Camp Lejeune, their scientific name, relative abundance, and condition of their habitat is found in Appendix D. Relative abundance ranges from common to very abundant. Population estimates were derived through sight counts, track counts, sample area counts, and harvest estimate methods of inventory.

### MANAGEMENT PRACTICES

One of the basic principles of wildlife management is that an upland area must have a variety of habitats (edges) in order to support an abundance and variety of animals. This has been brought about at Camp Lejeune through the annual planting of food plots and maintenance of wildlife openings.





A PERENNIAL PLANTING OF BI-COLOR LESPEDEZA IS INSPECTED TO DETERMINE PRODUCTIVITY.



THE VALUE OF SUPPLEMENTED PLANTING FOR WILDLIFE IS DEFINITELY REALIZED IN THIS FOOD PLOT OF WINTER GRAIN.

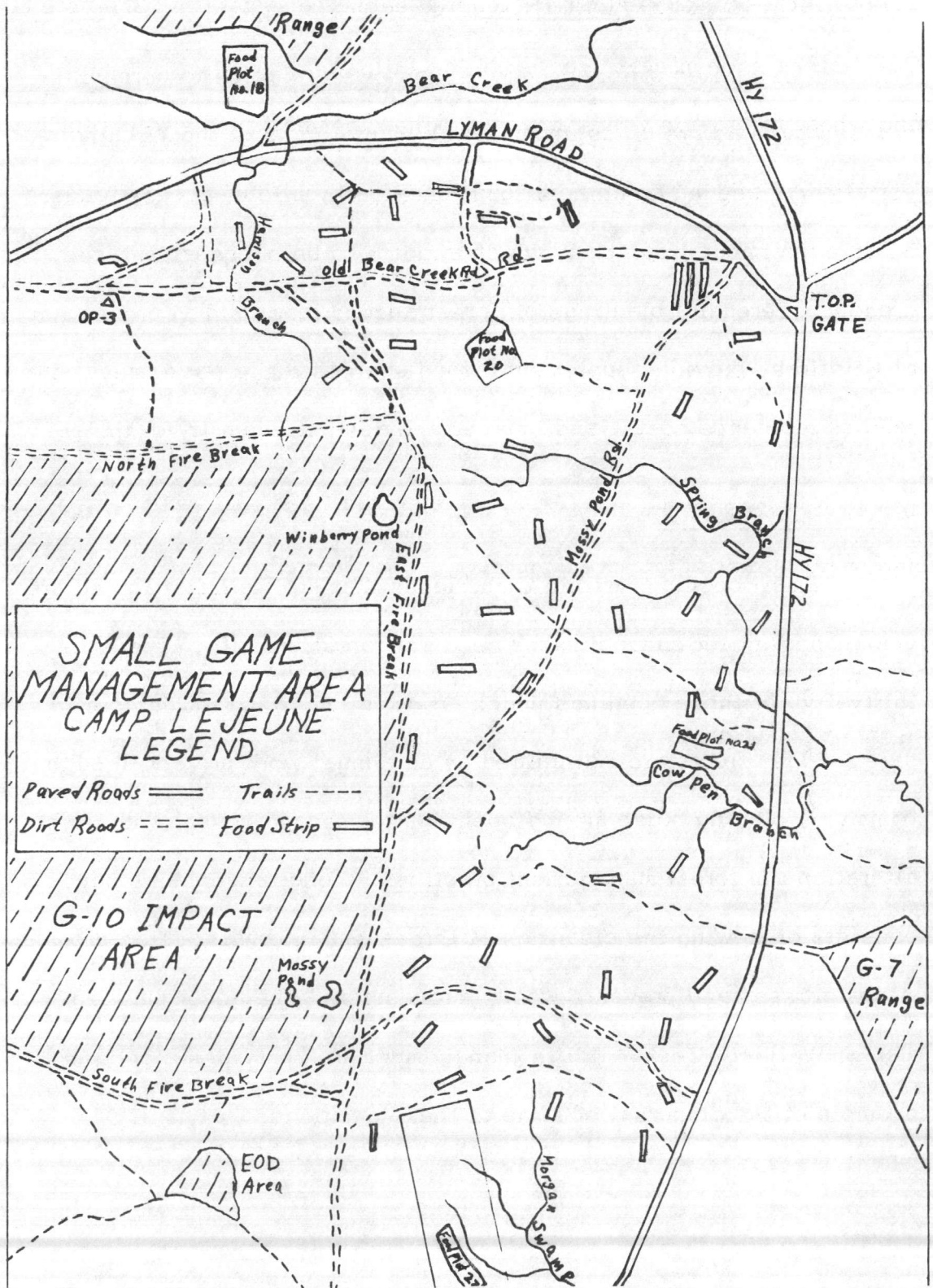
Fifty-four food plots are planted each year - totaling 250 acres. One-half of each plot is planted in the fall to improved varieties of rye and wheat to provide winter grazing. The other half of the food plot is left fallow to be invaded by grasses and succulent herbs. Millet and annuals are planted during the late spring.

#### SMALL GAME MANAGEMENT AREA

An area was maintained as an annual work project to provide additional recreational quail hunting and further enhance the wildlife resources program. The area covers a 1300-acre continuous tract of pine-hardwood stands which are, generally, open enough to provide good quail hunting.

Forty-eight strips were seeded to annual mixtures furnished by the State Wildlife Resources Commission. Perennials, such as Serica lespedeza were maintained in six previously cleared strips. Each of the fifty-four strips in the management area is approximately one-fourth acre in size.

Sawtimber in the south portion of the area was thinned through timber operations during Fiscal Year 1972. Firebreaks were cut to divide the area into small units which are prescribed burned on two-year rotations. Management techniques are implemented to improve food sources, nesting, and escape cover.





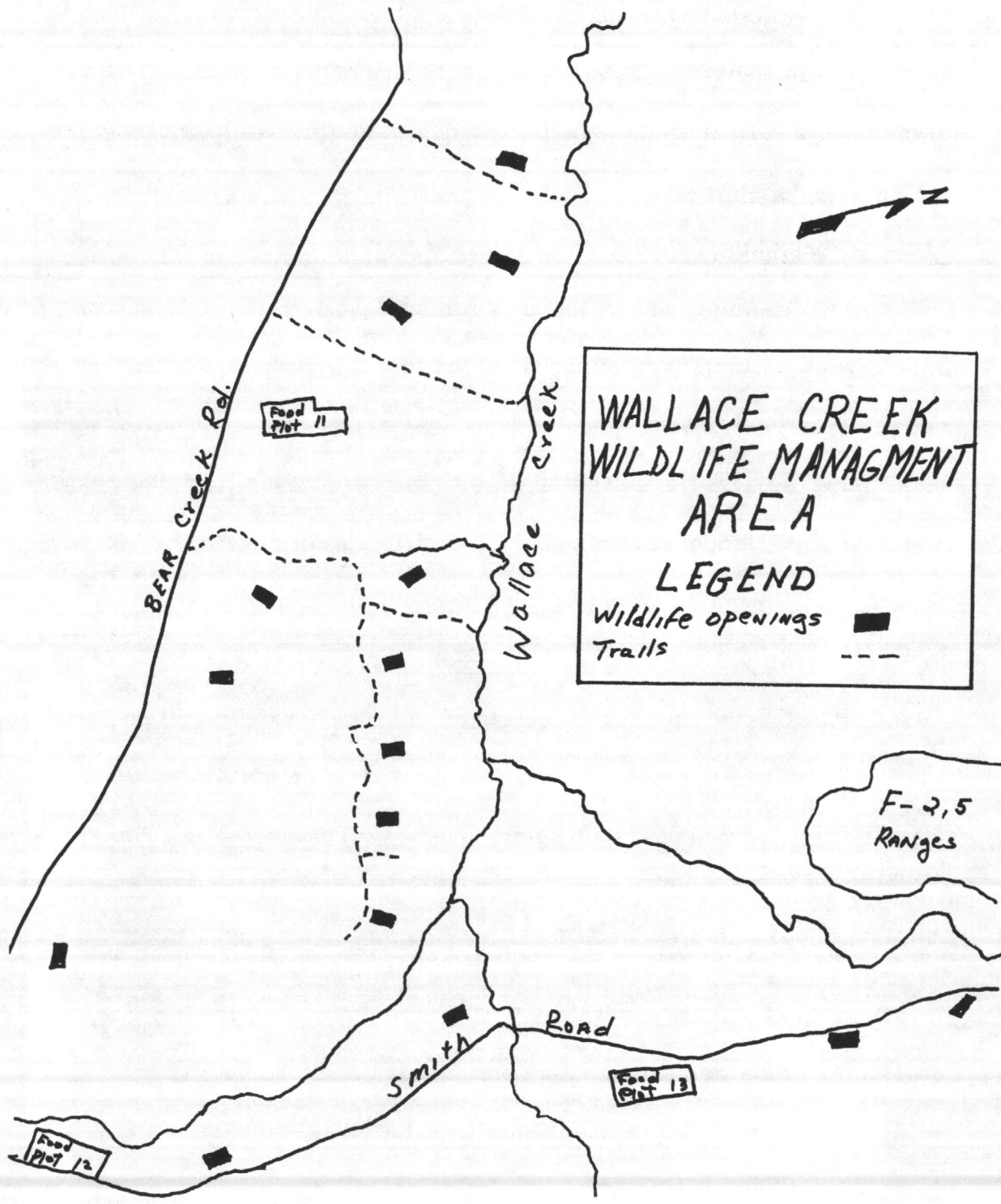
## FOREST ACCESS ROAD PLANTINGS

Three miles of forest access roads were planted to perennial grasses such as rye grass and fescue. Bahia grass of the Wilmington variety was seeded on an additional one-fourth mile of access roads as an experimental planting, which appears to be successful at the present. Perennial plantings on forest access roads aid in prevention of wildfires, provide supplemental food sources for forest game, reduce road maintenance costs, and improve the aesthetic quality of the area.

## WILDLIFE OPENINGS

Small openings within timberlands that are well distributed are very important for enhancing the needs of forest wildlife. There are thirty-five of these openings which are from 1/2 to 3/4 of an acre in size. Edge effects are maintained as an annual work project through trimming, placing brush around openings for escape cover, and slight alterations in forest management practices. Long range maintenance consists of mowing the clearings at three-year intervals. This promotes grasses and prevents woody succession. The accompanying map of Wallace Creek Wildlife Management Area provides a good example of the dispersal of some of these openings.





WALLACE CREEK  
WILDLIFE MANAGEMENT  
AREA

LEGEND

Wildlife openings

Trails

A comprehensive survey prior to establishment of the area and the survey of Fiscal Year 1972 indicate a 30 percent increase in the wild turkey population of the area due to intense management. This is an instance which substantiates the importance of quality wildlife management at the local level.

#### DOVE MANAGEMENT AREAS

Five management areas for mourning dove were established as annual work projects to provide site locations where hunters could successfully harvest dove during the hunting season. Strips of millet were established adjacent to strips of winter grain to provide food sources and hold dove throughout the year. The strip planting method keeps breeding populations and young dove on the management area.

#### EXPERIMENTAL WOODY STOCK AND PERENNIAL PLANTINGS

Woody stock plantings were made in cooperation with the North Carolina Wildlife Commission and Soil Conservation Service, USDA. Plant materials were distributed through the Soil Conservation Plant Nursery at Albany, Georgia.

Plantings of Wilmington Bahia grass were established at five locations in cooperation with the Soil Conservation Service. Bahia grass provides a permanent food source throughout the year for quail, wild turkey, and deer. Present plantings look very promising and may greatly enhance local wildlife populations in the future.

## WATERFOWL IMPOUNDMENTS

Continued management of the Town Creek Green-tree Impoundment is producing satisfactory results. The impoundment was established in Fiscal Year 1968. Twelve wood-duck nesting boxes were erected within the impoundment and are maintained each year. Six broods of wood-duck were hatched off within the nest boxes during the spring of Fiscal Year 1972. Annual maintenance consists of flooding the impoundment in September and draining in March. Nest boxes are inspected for nests in early spring and nesting material is replaced in December.

The Salliers Bay Impoundment is a new impoundment which was established during Fiscal Year 1972 and is five acres in size. Marine Reserve engineers constructed a road through a highland swamp in 1969 during an extended drought. Normal rainfall flooded the area afterwards and an area was created which appeared to provide good potential for waterfowl. Base wildlife management personnel positioned a culvert in the roadway to maintain the desired water level and prevent the roadway from being destroyed adjacent to the impoundment. The impoundment will be managed as a permanent flooded area for black duck, mallards, wood-duck, and green-winged teal. Nesting boxes for wood-duck will be established in Fiscal Year 1973.

## TURKEY GOBBLER COUNTS

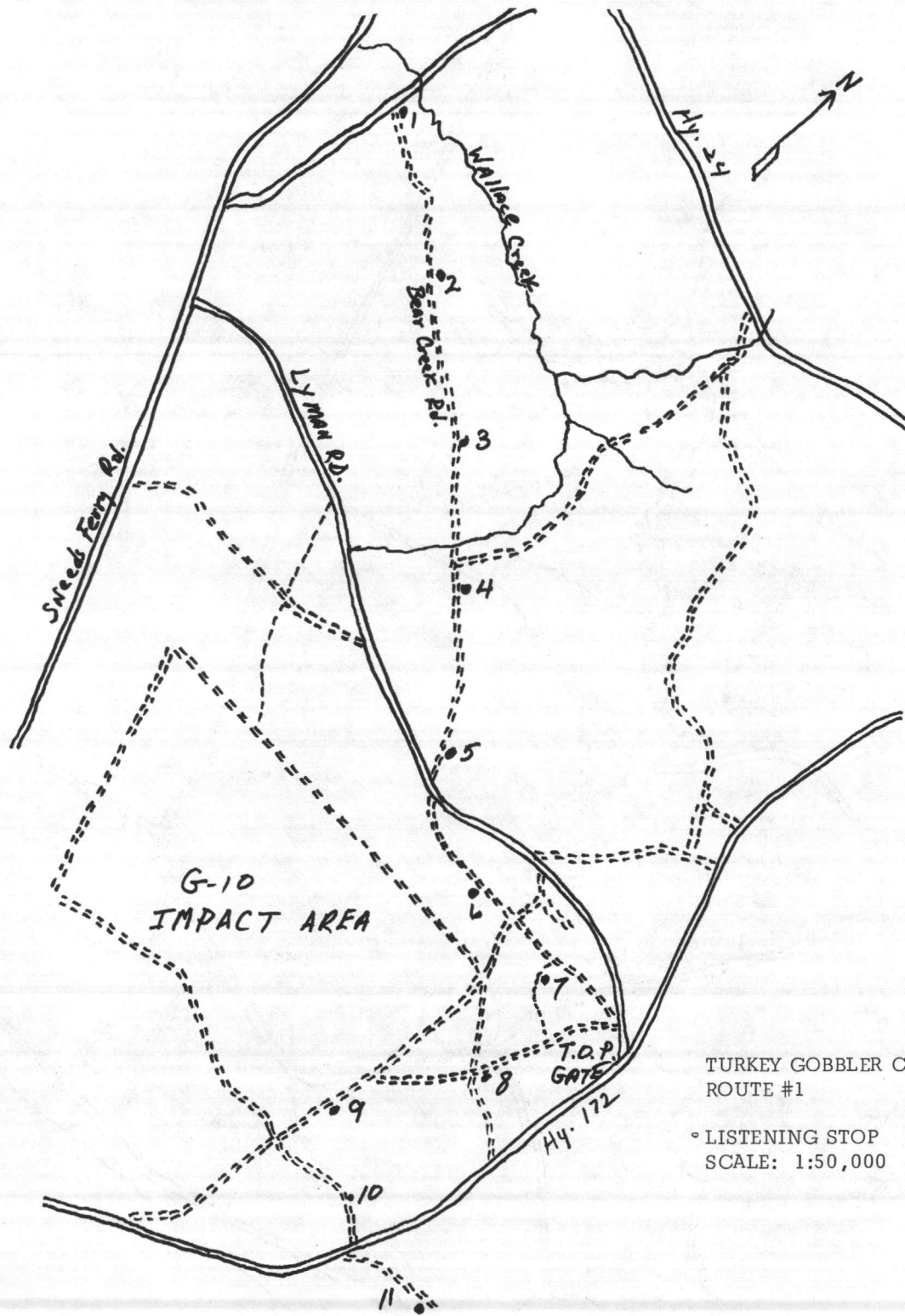
Each spring turkey gobbler counts are conducted to determine year-to-year relative abundance. The ten-mile routes traversing typical wild turkey habitat have been established. Accompanying charts indicate the established routes.

Each route was driven three times during the period 16 April 1972 through 21 April 1972 during weather not rainy or windy enough to interfere with hearing. The counts began 30 minutes before sunrise and stops were spaced one mile apart. Count stops lasted for three minutes and all gobblers heard were recorded. Count data from Fiscal Year 1972 revealed that the gobbling incidence at Camp Lejeune was higher than any other route conducted in North Carolina.

## WILD TURKEY STOCKING PROGRAM

Camp Lejeune continued to enhance the wild turkey restoration project effort in North Carolina. Thirty wild turkeys were live-trapped during the winter of Fiscal Year 1972. Ten of these birds were banded and released at locations where they were trapped. Twenty turkeys were removed from the Base and released on the Green River Game Lands in western North Carolina. These transplants are taking very well to the Green River area which will eventually be opened to public hunting.



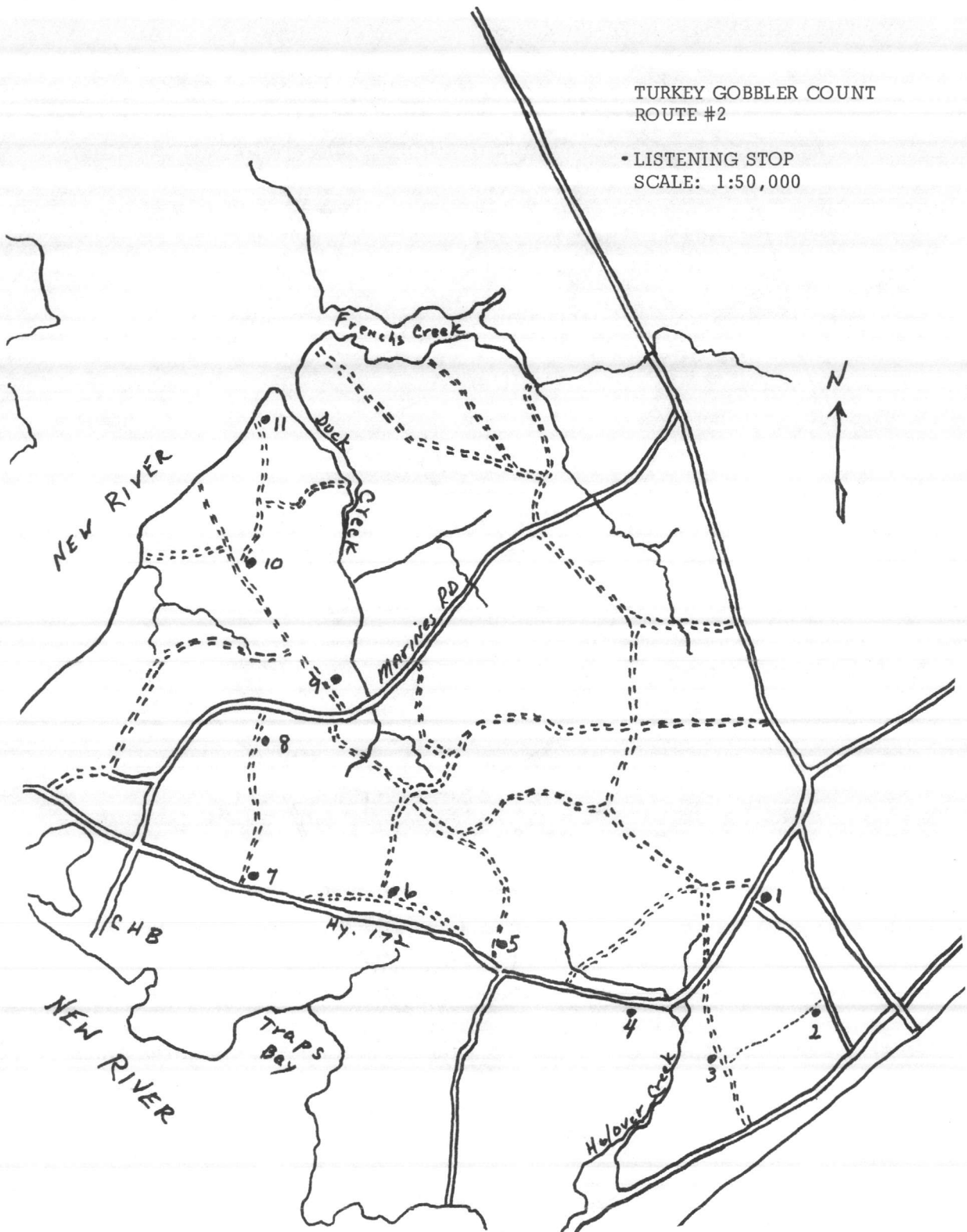


TURKEY GOBBLER COUNT  
ROUTE #1

◦ LISTENING STOP  
SCALE: 1:50,000

TURKEY GOBBLER COUNT  
ROUTE #2

• LISTENING STOP  
SCALE: 1:50,000



## ENDANGERED SPECIES PROGRAM

The Endangered Species Act of 1966 directed the Departments of Interior, Agriculture, and Defense to protect endangered species and their habitats on lands which they administer when such actions are consistent with the mission of the area. Base regulations provide legal protection for endangered species and all non-game animals.

Recently, Camp Lejeune initiated a program that does more than just protect these creatures. Surveys are being conducted to determine the number of animals present, whether the species are increasing or declining in numbers, and habitat requirements.

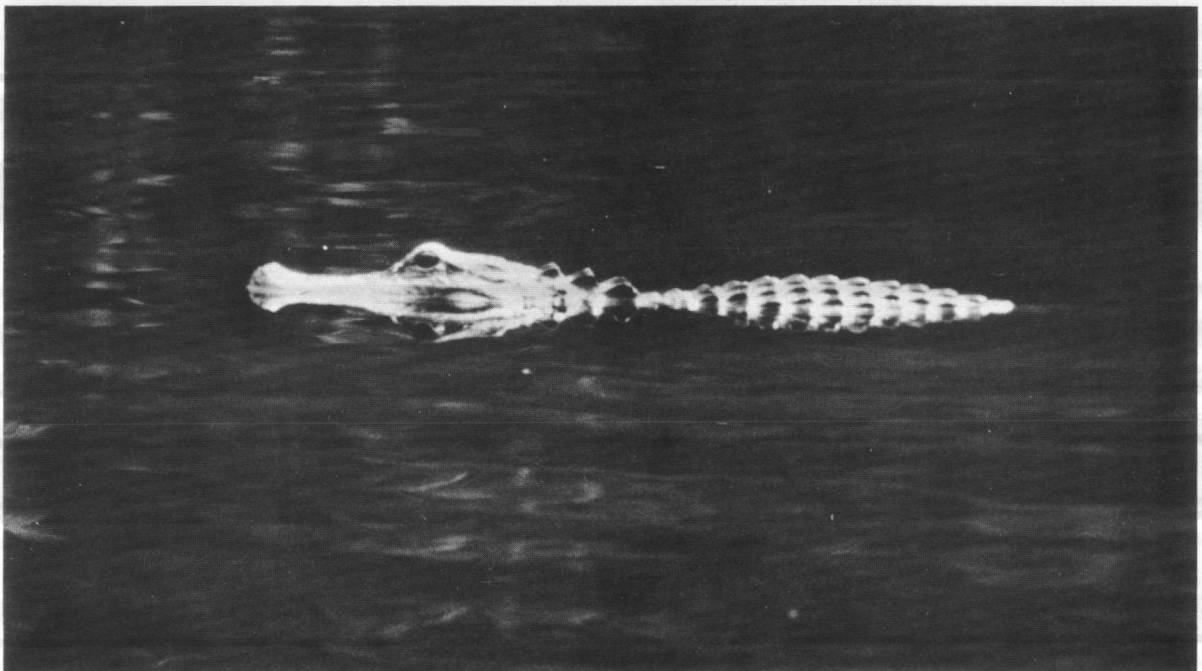
A brief discussion of the animals included in the Base's endangered species program follows:

The red-cockaded woodpecker's range is confined to the coastal plains of the southeastern states. An over-aged pine infected with red-heart is required for a nesting site. Its decline is due to forest management practices that call for removal of all over-aged pine trees.

Management practices at Camp Lejeune have been modified to leave suitable nesting trees wherever they are found. Seventeen nesting trees have been located and marked aboard the Base to ensure they will



THE OSPREYS HAVE FOUND THE WATERS OF CAMP LEJEUNE TO THEIR LIKING. TWENTY-SEVEN NESTS HAVE BEEN LOCATED.



THIS ALLIGATOR WAS OBSERVED IN THE UNDISTURBED WATERS OF DUCK CREEK. MORE WILL BE LEARNED ABOUT THE GATOR POPULATION THIS SPRING WHEN A CENSUS IS CONDUCTED.



not be removed in future timber operations. Base forestry personnel are trained in the identification of nest trees and assist in locating new sites.

The Camp Lejeune area of North Carolina is the northern boundary of the alligator's range. Several alligator sightings aboard the Base are reported every year. In order to obtain information concerning the number of alligators and the habitat in which they are found, a survey will be conducted during the spring of 1973. Wildlife researchers from Florida, Mississippi, and Louisiana have been contacted concerning possible census techniques and habitat requirements. The most promising method and one that no one has reported using appears to be by helicopter. During early spring, the alligators leave the chilly streams to bask on the banks in the sun. They are easily identified from the air.

Other endangered species which might visit the Base include the brown pelican, southern bald eagle, dusky seaside sparrow, ivory-billed woodpecker, and Carolina panther. It is interesting to note that a cougar was seen at Camp Lejeune on 11 October 1972 by Charles Peterson, Base Wildlife Technician.

There are several other species that inhabit the Base that are not considered endangered, but still require special management considerations. This category of animals has been entitled "Species in Need of Help."

Camp Lejeune's representatives are the osprey, eastern bluebird, and black bear. To date, 27 osprey nests have been located and plotted on a map. Observations have been recorded concerning breeding, nesting, feeding, etc. More detailed information concerning the number of young per nest will be obtained by the use of a helicopter this spring. Data previously collected has been sent to the Fish and Wildlife Service to aid them in their bald eagle/osprey survey.

The eastern bluebird is also on the "Species in Need of Help" list. In order to enhance nesting facilities, 25 six-foot long juniper posts were established in open areas. Nest cavities were drilled into the post five feet above the ground. Bluebirds should utilize these nest posts in preference to "bluebird houses" due to their natural appearance.

The black bear is another animal that requires special management considerations. During the past several years, there has been a steady decline in the number of bears taken by hunters. Several areas throughout North Carolina have been designated as bear sanctuaries. Camp Lejeune added the black bear to its list of protected animals in 1969.

In order to gain information on the number of bears inhabiting

the Base, natural resources personnel will conduct a bear tagging program this summer. The bears will be trapped, tagged, weighed, and aged. Technical assistance is being provided by North Carolina and California wildlife biologists.

## FISH MANAGEMENT

### OBJECTIVES

Fish management practices are programmed to produce optimum yields and ensure continued harvest of desirable fish species for the sports fisherman.

### FISH RESOURCES

A wide variety of fresh and salt water species inhabit the fresh water ponds, streams, salt water bays, and the Atlantic Ocean adjoining the Base. Principal fresh water game species are largemouth bass, bluegill, robin, redear sunfish, warmouth, pumpkin seed, yellow perch, redbfin pickerel, jack pickerel, and channel catfish. Appendix D contains names of fresh water fish common to the Base and Appendix E contains management records for Fiscal Year 1972. Salt water species include flounder, weakfish, bluefish, spot, croaker, whiting, drum, mackeral, tarpon, marlin, and sailfish.

## MANAGEMENT TECHNIQUES

Eleven fresh water ponds totaling 33 acres are currently under management. Eight of these were natural ponds which were of very poor quality when first reclaimed, but are now providing quality sports fishing. Ponds under management:

<u>Name</u>	<u>Acreage</u>	<u>Productivity</u>	<u>Fishing Use</u>
Hickory	4.5	Average	Heavy
Henderson	14.0	Average	Open in FY-73
(Un-named)	3.0	New pond which will be stocked early in Fiscal Year 1973	None
Prince	1.0	Average	Medium
Hogpen	1.0	Above average	Light
Oak	.5	Below average	Light
Mile Hammock	1.5	Average	Heavy
Cedar Point	2.0	Above average	Intense
Ward	1.5	Average	Medium
Power Line	2.0	Above average	Medium
Courthouse Bay	1.5	Average	Light

## POND FERTILIZATION

Commercial pond fertilizers are applied at the rate of 40 pounds per surface acre to produce a "bloom" of plankton algae that prevents the development of filamentous algae and shades out submerged aquatic vegetation. The microscopic "bloom" consists of organisms that are eaten by insect larvae which is the main food supply for small fish.

## FEEDING FISH

Channel catfish are stocked in some ponds which have no other



species present and are fed commercial foods. Floating commercial catfish pellets are used exclusively to eliminate feeding problems which are associated with the use of the sinking pellets. Floating pellets provide a visible indicator of over-feeding and of the physical well-being of the fish. Pellets are broadcast inside 2-inch plastic feeding rings eight feet in diameter which float in approximately two feet of water. These feeding rings permit the floating pellets to remain in the prescribed area until completely utilized by the channel catfish.

#### STOCKING

Initial stocking in fresh water ponds was at the stocking rate of 400 bass and 1,500 bluegill-redear sunfish per surface acre. Initial stocking of channel catfish was 2,000 fingerlings per surface acre when on a feeding schedule. Channel catfish stocking is at the rate of 200 per surface acre as necessary in ponds stocked with other game fish. Additional stocking rates are determined by seine and creel samples.

#### FISHING AND BOATING ACCESS

Fishing and boating access areas were maintained as necessary. Trash disposal containers were provided at several sites where littering

had become a problem. Boat launching facilities available to the public include Marshden Landing, Maple Creek Landing, and Onslow Beach Bridge Landing.

#### SHORELINE DEVELOPMENT

Shoreline maintenance at the Base ponds consists of chemical spraying and mechanical removal of brush to permit access for fishermen and management work. Littering continues to be a problem but noticeable improvement was noted during Fiscal Year 1972.

#### SEINE SAMPLE ANALYSIS

Hand seines and gill nets are used to determine fish weights, reproduction data, and size. Population controls are always regulated periodically to reduce population density difficulties before they arise.

#### FISH STOCKING PROGRAM - 1972

<u>Species</u>	<u>Number Stocked</u>	<u>Source</u>
Channel Catfish	1,000	Fish and Wildlife Service
Bluegill-Redear Combination	17,000	Fish and Wildlife Service
Largemouth Bass	4,800	Fish and Wildlife Service
Largemouth Bass	1,400	N. C. Wildlife Commission
Bluegill	10,000	N. C. Wildlife Commission

#### WATER CHEMISTRY STUDIES

All ponds are sampled periodically to determine PH, dissolved

oxygen and carbon dioxide content, as well as total hardness. Applications of lime and fertilizer are made when necessary to maintain fertility and productivity at the desired level.

### AQUATIC WEED CONTROL

Local aquatic weed pests are controlled through proper application of aquatic herbicides to provide optimum productivity of present fish species.

### RECREATIONAL USE OF FISH AND WILDLIFE

#### FISHING

Approximately 50,000 man-days of fishing for fresh water species was provided during Fiscal Year 1972. It is estimated that salt water fishermen spent 100,000 man-days fishing in Camp Lejeune waters. With continued extensive management of fresh water ponds and the addition of fresh water pond acreage, this outdoor activity should increase in the future.

#### HUNTING

Hunters enjoy a wide variety of game birds and animals which offer them many hours of sporting opportunities at Camp Lejeune. Appendix F indicates recreational participation for hunting by civilian guests, civilian employees, and military personnel. Appendix F also indicates the number of game species which were harvested during

Fiscal Year 1972. Wild turkey and raccoon are species which are under-harvested and programs will be initiated to increase harvesting of these species.

Adequate harvest of deer is essential to keep the herd within the carrying capacity of the Base. Examination of key browse species (cyrilla, yaupon) indicates present hunting techniques have been successful in controlling the population. Antlerless deer are usually harvested every other year. Table 2 - illustrating Deer Harvest Figures 1963-72 and Table 3 - Age Sample of Deer Harvested 1972-73 Season also point out that the deer are being sufficiently harvested.

TABLE 2

DEER HARVEST FIGURES - 1963-1972

Year	63-64	64-65	65-66	66-67	67-68	68-69	69-70	70-71	71-72	72-73
Antlered	181	261	304	368	323	339	373	434	305	351
Antlerless	70	-	-	75	-	99	-	92	-	-
Total	251	261	304	443	323	438	373	526	305	351

TABLE 3

AGE SAMPLE OF DEER HARVESTED 1972-73 SEASON

<u>Age Class</u>	<u>No.</u>
Yearling	25
2 1/2 yrs.	37
3 1/2 yrs.	29
4 1/2 yrs.	6
5 1/2 yrs.	1
6 1/2 yrs.	2
Total	100



## OTHER UTILIZATION OF RESOURCES

Most wildlife species are protected and are never hunted in any manner. These species provide important places in the environment and serve many useful purposes. Nature study, bird watching, conservation education, and individual well-being are enhanced by the preservation of wildlife. Students from Camp Lejeune Dependent Schools, Girl and Boy Scout organizations, and students from Onslow Community College enjoyed field trips for observing numerous species present in the area.

## COOPERATION WITH STATE AND FEDERAL CONSERVATION ORGANIZATIONS

Management specialists from the N. C. Wildlife Resources Commission, the Bureau of Sports Fisheries and Wildlife, and the U. S. Soil Conservation Service made numerous visits to the Base during Fiscal Year 1972.

The State Small Game Biologist provided 750 pounds of annual seed mixtures and 5,000 shrub lespedeza seedlings for planting. The Big Game Specialist provided 300 pounds of champta millet for wild turkey. The wild turkey restoration project leader provided valuable management assistance for managing wild turkey. The Endangered Species Program was also planned with the assistance of these specialists. The Soil Conservation Service personnel in North Carolina

provided seedlings and grass seed for wild turkey and assistance in planting. Fish and wildlife specialists from the Bureau of Sports Fisheries and Wildlife provided assistance through on-site inspections.



THE NATURE STUDY AREA PROVIDES AN OUTDOOR CLASSROOM FOR THESE STUDENTS.

## WILDLIFE LAW ENFORCEMENT

The Base Game Warden under the cognizance of the Provost Marshal's office is responsible for enforcement of all hunting regulations that pertain to Camp Lejeune. Personnel consist of a master sergeant, sergeant, corporal, Project Transition help, and five volunteer deputies. Seventy-four hunting citations and seven fishing citations were issued. Aside from law enforcement, duties consist of administering hunting license test, issuing fishing and hunting licenses, and disposing of road-killed deer.

During the hunting season, each hunter is required to check in at the Game Warden's office before going to the field. He is then issued an area permit for the specific area he wishes then he must return the permit by one hour after sunset the same day.

This method has several advantages. Harvest data is collected when the hunter returns the area pass and fills out a form listing the number of each species taken and the number of hours spent hunting. Deer kills are weighed and the lower jawbone is removed for aging.

From a safety standpoint, the number of hunters per acre can be regulated, and if a hunter fails to return his pass, immediate action can be taken to locate him. The Wildlife Law Enforcement Program was improved during Fiscal Year 1972 through establishment of a Base Conservation Board and punishment guidelines for disposition of infractions to State, Federal, and Base regulations which are listed in Appendix G.

## FOREST MANAGEMENT

### INTRODUCTION

It has been the policy of this Command to maintain a Forest Management System that is commensurate to the military training requirements, the annual production of forest wood products as prescribed in the Master Management Plan, the best wildlife habitat possible correlated with timber management, the recreational and nature study areas, and the ever expected natural beauty of our forests. The following narration expresses this policy:

### ANALYSIS OF THE FORESTED AREAS UNDER MODIFIED MANAGEMENT

Timber producing areas of Camp Lejeune are under even-aged management with the exception of some acreages along major streams and swamplands. These areas are under a modified even-age management so that maximum coordination and benefits may be given to wildlife management and erosion control. Also included within this modified management system are roadside zones parallel to the major transportation arteries running through the Base; the Base Archery Range; and forested areas parallel and surrounding building complexes throughout the Base. Still smaller areas are managed for enhancement of "endangered" species of wildlife, particularly the red-cockaded woodpecker and the osprey.

### MANAGEMENT TECHNIQUES

Approximately 60,552 acres are under management on this Base.





NESTING CAVITIES FOR ENDANGERED RED-COCKADED WOODPECKER ARE PRESERVED THROUGH PROPER MANAGEMENT.



A TREE CONTAINING A RED-COCKADED WOODPECKER'S NEST IS MARKED FOR FUTURE IDENTIFICATION.

Timber management methods and techniques used are practically the same as those used on other large acreages in the surrounding areas - even-age management - with modifications. Wherever practical, natural regeneration is used. This comes mainly through seed tree cuttings in blocks of 100 acres or less. Artificial reforestation is used on clear-cut areas in blocks not exceeding 100 acres and on areas being converted into timber producing lands after other nonproductive use. Management practices include the mixture of pine/hardwoods with ratios of 70% pine minimum on pine producing sites, and a maintenance of 90+% hardwoods in hardwood producing sites. In seed tree and clear-cut areas, scattered clumps of mast producing and fruiting hardwoods are left when performing site preparation work. Older stands are kept thinned to provide ample sunlight for increased vegetative growth for wildlife.

The forest at Camp Lejeune is divided into 60 compartments, and each compartment into stands; six compartments are entered for silvicultural treatment each year. A prescription for each compartment, modifying the Long Range Management Plan, is prepared by a professional forester. These prescriptions take into consideration the following multiple-use factors:

- a. Military training
- b. Timber production
- c. Wildlife habitat and production; possible fishpond sites



SEED TREES LEFT AFTER TIMBER HARVEST TO PROVIDE NATURAL RE-FORESTATION. NOTE THE PRESERVED HARDWOODS IN BACKGROUND.



MARKING A TIMBER STAND FOR INTERMEDIATE CUTTING



- d. Recreation and enhancement of natural beauty
- e. Soil erosion
- f. Site preparation needed after treatment (including prescribed burning).

After prescription work has been accomplished, timber stands needing treatment are marked and products are put up for public bid. Other stand treatments follow the sales in the compartments.

### REFORESTATION

In order to keep abreast with the even-age management plan and to keep every acre under fiber production where possible, reforestation is increasing yearly on this Base. Reforestation is carried out in two distinct methods - natural and artificial.

### NATURAL REFORESTATION

Natural reforestation (or natural regeneration) is a method of seeding the prepared area with seeds cast from surrounding trees (particularly Pinus species) or from trees left scattered over the cut area and are used as a seeding source. These seed trees are usually located 60' x 60' square, about 12 per acre. Approximately 289 acres were prescribed for natural regeneration in Fiscal Year 1972. This area is prepared for a seed bed by heavy equipment and will be described in detail under Timber Stand Improvement.

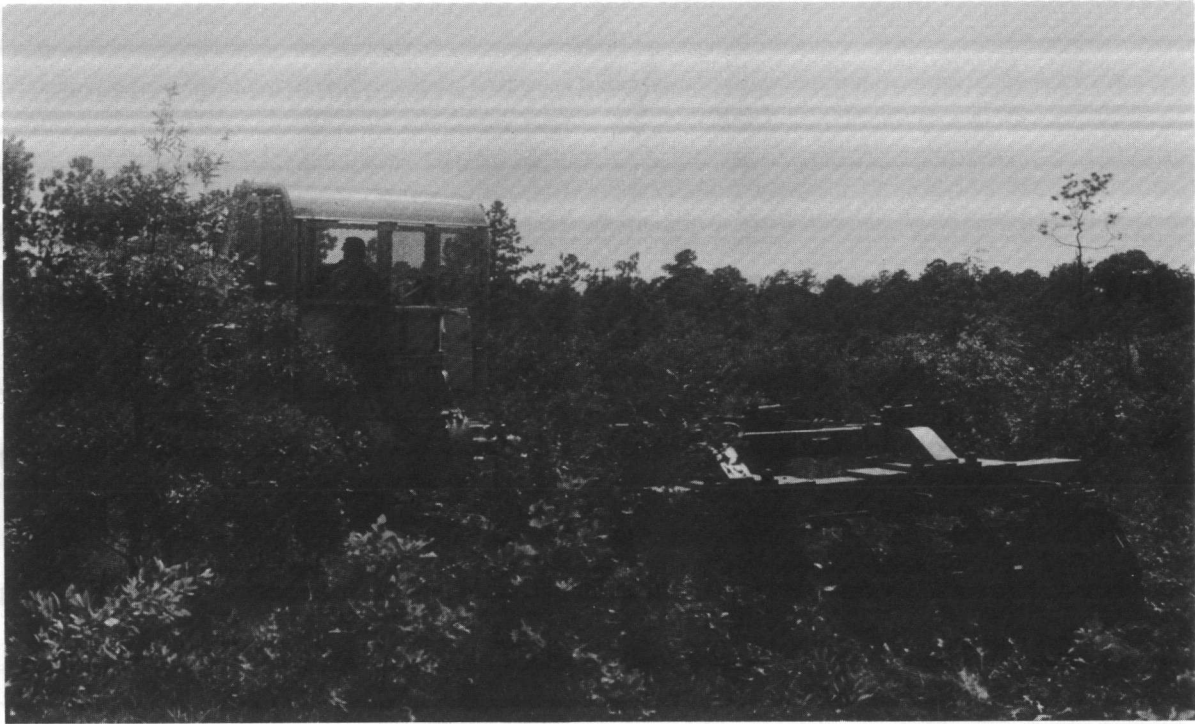


## ARTIFICIAL REFORESTATION

Artificial reforestation is actually planting seedlings on a clear-cut, bare, or nonproductive area so that this area may become a productive area. The seedlings are normally one year old stock raised and purchased from a local N. C. State Forestry Nursery. These seedlings are normally transplanted on the prepared areas by a planting machine towed behind a farm tractor. In areas where the planting machine can not be utilized, hand planting with dibbles is done. Seedlings are transplanted in rows, spacing 8' x 8', 680 per acre. Approximately 287 acres were prescribed for Fiscal Year 1972.

## TIMBER STAND IMPROVEMENT

Timber stand improvement in even-aged stands is accomplished by sanitation and salvage thinnings so that weakened trees are removed while yet harvestable. The major stand improvement work is accomplished by heavy equipment subsequent to clear-cuttings and seed tree cuttings. These sites are prepared by removing undesirable debris as logging slash, undergrowth, and undesirable species by a KG blade. This debris is windrowed and either allowed to decay or burned. Occasionally, an 8,000-pound tandem disk is used on the site by itself or in conjunction with the KG blade. If a site is sparsely covered with debris, the area may be single or double disked for seed bed or planting preparation. When planting experience has



SITE PREPARATION UTILIZING A 3,000-POUND TANDEM DISK.



TIMBER HARVEST OPERATION ABOARD THE BASE

proven that the better the soil is prepared, the more vigorous the seedling growth is, the first few years. A total of 576 acres of site improvement was prescribed in Fiscal Year 1972. Coordination with wildlife management is another factor that is exemplified on this Base. When sites are being prepared for planting or natural seeding, several clumps of mast and berry producing hardwoods are left scattered throughout the area. In some instances, strips running across the complete length of a prepared site are left for wildlife purposes. These clumps or strips left will produce game food annually, thus providing wildlife usage while reforestation needs on the same site are being met. The strips also provide some cover while the large openings provide excellent bugging and dusting for wild game birds and browse for deer.

#### TIMBER HARVEST

The Forestry Branch is a self-sustaining unit and provides a large excess in supporting other Department of Navy forestry programs. The following timber sale statistics are given for Fiscal Year 1972:

	<u>Volume</u>	<u>Gross Income</u>
Pine Sawtimber	2,723,763 bd. ft.	\$151,763.00
Hardwood Sawtimber	471,390 bd. ft.	18,856.00
Pine Pulpwood	4,925 cds.	41,997.00
Hardwood Pulpwood	1,595 cds.	<u>4,299.00</u>
		\$216,915.00

Since the value of this timber as an end product is about \$1,100,000, approximately \$883,000 was injected into the local economy by the contracting timber companies. All income was generated and planned work was accomplished on a budget of \$101,750, including all salaries and equipment costs. Acreage involved in timber sales was approximately 3,050 acres.

#### EROSION CONTROL

An area that had previously been utilized by the Marine Corps as a heavy equipment compound was recently released from further use and was placed under forest management. Approximately 10 of the total 56 acres are being affected by a slow erosion problem. Slash and longleaf pine seedlings were recently planted over all the area to control the erosion problem and stabilize the site.

#### PRESCRIBE BURNING

Prescribe burning, contrary to much public opinion, has proven to be a very effectual and cheap silvicultural tool. Approximately 8,000 acres were prescribed and treated on this Base during the winter of 1971-1972. This burning is done as part of the multiple-use management system. The benefits derived are a reduction of rough buildup, control of undesirable species that clutter the understory of the forest, control of Brown Spot disease in beginning natural longleaf pine stands, provision of better seed beds for natural regeneration of pine, stimulation of new shrub sproutings





A TYPICAL LONGLEAF PINE STAND FEATURING THE OPEN UNDERSTORY RESULTING FROM PREVIOUS PRESCRIBED BURNING.



FORESTRY CREW PREPARING TO PRESCRIBE BURN.

and grasses in spring and summer months, and opening of the understory for better game and bird utilization.

### ACCESS ROADS

Approximately four miles of access roads were constructed in 1972 for timber accessibility. After sale closure, these roads will eventually be disked and sown with a perennial grass such as Bahia for wildlife use and erosion control. Access roads are readily used for military training, wildlife feeding, openings for bugging and dusting, hunter access, and fire breaks.

### THE 3-P FOREST INVENTORY

During the period October - December 1972, a timber inventory was taken of the 60,552 acres under management. This inventory, normally taken every 10 years, furnishes vital information in sustained-yield forest management. The method used (3-P sampling system) is new to forest managers, but is a much faster, a more accurate, and a money-saving method. Two hundred established continuous forest inventory (CFI) plots were selected by random sampling and the system was applied to these field plots. Accumulated field plot data was forwarded to computers which randomly selected a certain number of trees on these field plots to be measured by a dendrometer. This information will be computerized and the analysis will be the basis for updating the Forestry Management Plan.

## BASE CONSERVATION ORGANIZATIONS

### ROD AND GUN CLUB

The purpose of this Club is to assist the Commanding General in conservation, restoration, and development of fish and other wildlife and their habitats at Camp Lejeune, North Carolina; to obtain better fishing and hunting for personnel serving at Camp Lejeune utilizing maximum resources available locally and with the full cooperation of private, local, county, state, and federal agencies; to cooperate in promoting proper fellowship among sportsmen through instructive and demonstrative measures; to promote interest among non-sportsmen where such interests are conducive to better sportsmanship; to develop and restore natural resources; and, to support individual effort or group effort of other organizations in the fight to improve the environment.

### PARTICIPATION

During the period covered by this report, the Rod and Gun Club participated in the following activities at Camp Lejeune:

Sponsored the attendance of two members (Sergeant Major L. D. Fitzpatrick, President, and Lieutenant Colonel (Retired) S. Weimer) at the North Carolina Wildlife Federation Convention held in Charlotte, North Carolina.

Sponsored and conducted a National Rifle Association-approved Hunter Safety Course for young hunters 10 through 16 years of age.

Sponsored and conducted the annual oyster-clam roast for Club members, their families, and guests.

Provided a window display in the Marine Corps Exchange for National Hunting and Fishing Day (23 September 1972).

Invited Base and North Carolina Wildlife Resources Commissions to address the membership.

Provided three huntmasters and three assistant huntmasters for proper control of the three organized deer hunts conducted weekly during the 1972 season.

Provided six members to act as assistant deputy game protectors to assist the Provost Marshal in enforcing game and wildlife regulations aboard Base.

Movies on conservation, hunting, fishing, boating, and safety were shown each meeting night to the membership.

Sponsored a Big Buck Contest and awarded fifteen prizes.

Promoted military and civilian harmony by hosting unaffiliated civilian personnel on organized deer hunts during 1972 including the special hunt held on 11 December 1972.

Contributed \$1 from each member's dues to the North Carolina Wildlife Federation.



## ECOLOGY CLUB

The Camp Lejeune Ecology Club was organized in February 1972 and has been active since that time. Meetings are held on the last Tuesday of each month and interesting programs are open to all military personnel and their dependents. Members are hopeful of creating a more productive environmental awareness among the population of Camp Lejeune. It is with this aim that the Club has undertaken various projects.

Cosponsored by the Camp Lejeune Ecology Club and the Paradise Point-Berkeley Manor Girl Scout Troops, monthly paper drives in Base housing areas were begun in March of 1972 and are continuing at this time. Aluminum recycling pick-up was added to this project in September of 1972. Paper and aluminum are picked up by the Scouts on the last Saturday of each month. The paper and aluminum are then loaded on trucks to be sold for recycling. Trucks and drivers have been provided by Base Motor Transport and 8th Motor Transport, Force Troops, FMFLant. Money obtained from recycling the donated paper and aluminum is used by the Scouts to provide campship awards and by the Club for purchasing educational supplies for schools aboard this Base and Club projects.

Members of the Club have contributed articles on environmental issues to such on-Base publications as the "OWC World," "The Globe," and the Navy Relief's "Scooper," and have been available to lead discussions in interested groups.

Educational packets were prepared by members of the Club for distribution to all elementary teachers in the Camp Lejeune Schools. This project was undertaken with the complete cooperation and assistance of Mr. Walter Childs, Science Coordinator for Camp Lejeune Schools. The packets were designed to amplify existing programs dealing with life science and included stencils from which to prepare worksheets, additional information, and related stories on topics to be studied.

Camp Lejeune Ecology Club has purchased subscriptions of "Ranger Rick" for the school libraries of each elementary school at Camp Lejeune. Files have been started and are available in the libraries for compiling information on our environment.

Recent efforts of the Club have been rewarded by having the containers in which eggs are purchased (Commissary) changed from styrofoam to heavy pressed cardboard.



BOY SCOUTS ENJOYING A SUMMER OUTING

## BOY SCOUTS

The Boy Scout Program at the Base includes Cub Scout to Explorer Scout levels. Adult participation is commendable with individuals acting as Cubmasters, Scoutmasters, Commissioners, and Unit Committeemen.

The scout camping area on the Base is a beautiful spot in the Northeast Creek area. This site provides an excellent location for the scouts to perfect their camping and woodsmanship skills and increasing their knowledge of the environment. Scout troops from other areas are usually hosted at this camp site.

Contributions to the conservation program by the Boy Scouts have proven to be timely and effective. As examples, troops have planted 1,500 pine seedlings near Landing Zone DOVE and 4,000 more at Camp Hatcher. Underbrush clearing projects and area cleanups have also been accomplished at several locations.

An especially laudable action was taken by Troop 490 during April. When careless fishermen started a brush fire in the Brewster School area, the troop took immediate action by notifying the Fire Department and to fight the fire. Their quick response undoubtedly reduced the fire damage.

## GIRL SCOUTS

Active participation in conservation projects by the Girl Scouts has been evidenced on many occasions. In addition to picnic area cleanups

and flower planting projects, the Girl Scouts participated in a well coordinated and effective cleanup of Onslow Beach during September.

Since March, the Girl Scouts have collected used paper on the last Saturday of each month in conjunction with the Ecology Club. To date, in excess of 51 tons of paper has been collected and disposed of through recycling channels.

Not to be overlooked in both the Boy and Girl Scout Programs is the importance of the educational benefits derived. Emphasis on sportsmanship, woodsmanship, camping, and wildlife helps build our environmental and conservation minded citizens of the future.



A cooperative effort to collect paper for recycling is being made here by the Base Ecology Club, Girl Scouts, Lejeune High School Biology Students and Marines.



## BASE SPECIAL SERVICES

The Recreation Section of Base Special Services operates one of the largest and most varied recreation programs within the Armed Forces. Military personnel, their dependents, and guests daily utilize and enjoy the many recreational facilities and natural resources available to them at Camp Lejeune.

10 The Base Stables is one of the more popular facilities that offer the outdoorsman a variety of activities to enjoy. Some of the organized activities include the annual three-day rodeo, horse shows, and early morning breakfast rides that climax with a hearty meal of steak and eggs. There are fifty horses and ponies available for rent and boarding facilities for fifty privately owned mounts. Classes are available to the individual in Western and English riding.



THERE ARE 35 MILES OF WOODED BRIDLE TRAILS LOCATED IN CLOSE PROXIMITY TO THE BASE STABLES.

The Base Archery Range, consisting of a practice area and a nationally-approved 28-target field course, is another popular facility during the spring and summer months. The Archery Range is located in a beautiful wooded area just west of the Base Drive-In Theater.



**WARRANTS DECAL — A local boater receives the 1972 Coast Guard Safety Decal which signifies his boat meets or exceeds minimum safety standards.**

Gottschalk Marina, located on Wallace Creek which is a tributary of New River, is a haven for would-be sailors during the spring and summer months. Equipment available includes 25 motorboats of various sizes, 18 sailboats in both Rebel and Lightning classes, 40 canoes and water skiing equipment, plus berthing facilities for privately-owned craft. Classes are also conducted to qualify individuals in the safe use

of the equipment. Trailer-mounted boats and motors are also available for check out for use in other areas, both on and off Base. The summer youth program conducted each year takes full advantage of the Marina and equipment and offers classes in water safety, small boat operation, and water skiing as part of their program. Other boating facilities located aboard the Base include the smaller, but popular, Courthouse Bay boating facility.

The recently renovated Base Skeet and Trap Ranges cater to many shotgun enthusiasts, both recreationally and competitively. Shotguns and reloaded ammunition are available to the shooters for a nominal fee. Skeet matches including state and invitational matches are conducted each year.

Onslow Beach, a popular spot from April through September, plays host to thousands of military personnel, their dependents, and guests. Twenty-eight completely furnished beach cabanas are also available for a nominal fee to those who would enjoy a 3- or 4-day stay at the beach. In addition, three large pavilions offering food and drink are located along the scenic one and one-half miles of beach. Qualified lifeguards and beach personnel are assigned each year to Base Special Services to ensure safe and efficient operation of the beach.

During the summer months, the PIRATE, a sixty-five-foot, twin diesel, deep-sea, fishing boat, operates daily out of Swan Point Marina.

Fishermen may book passage for a day's deep-sea fishing for \$5 to include rods, reels, bait, and ice.

Skin and scuba diving equipment is also available for those who qualify to use it. The Scuba Club offers instructions in the safe operation of this equipment and the close proximity of several shipwrecks makes this an enjoyable recreational opportunity.

Paradise Point Golf Course offers two of the finest 18-hole courses in this part of the country.

Thirty-two campers are available for a nominal fee for those who would enjoy a weekend in the great outdoors. Trailer hitches to fit most cars are available at no cost. In addition, two major camp sites are located in the Onslow Beach area with twenty-eight camping sites in one and twenty-four in the other. These camping sites are adjacent to swimming, surfing, and fishing areas and are equipped with sanitary facilities and water. Shelters and barbecue grills have been installed in some camp sites and plans are being formulated to provide electricity to these facilities.



## COMMUNITY RELATIONS

Throughout Onslow County there are water pollution problems.

Two problem areas are located adjacent to the Base where high density civilian communities have grown in places inadequately suited for sewage disposal. Private septic systems do not function because the water table is near the surface, and nearby streams which cross the reservation carry significant quantities of human contamination into New River.

Difficult decisions faced the Onslow County Health Department in its task of solving this problem. In order to coordinate to the fullest, the Base offered permission to improve the natural drainage lines on the reservation in response to a request by the County. In addition, Marine engineers conducted a three-week survey of pertinent drainage lines and presented this data to the County. Thus, no government-imposed obstacles stand in the way of corrective action.

The nature of training operations at Brown's Island has resulted in a limited amount of controversy. Utilization of Brown's Island as an impact area has been a training necessity for years. Claims for damage to property in the Swansboro/Hubert area, however, have been a continuing result. Since use of Brown's Island was a necessity, some workable solution had to be ascertained. Studies at Elgin Air Force Base, Florida, indicated that under certain atmospheric conditions, explosion over-pressures could cause

unexpected damage. Camp Lejeune has, since February 1972, been cancelling bombing runs when unfavorable atmospheric conditions prevail and complaints of damage have been minimized.

During the Fall of this year, Mutual Fire Fighting Assistance Agreements were entered into with the city of Jacksonville, North Carolina, Onslow County, and the U. S. Department of Agriculture, Forest Service. In addition, the existing agreement with the North Carolina Department of Natural and Economic Resources was updated. Under these agreements, mutual available fire fighting support is rendered when required.

Appropriate personnel attend wildlife and forestry meetings, training sessions, and symposiums sponsored by private, state, or federal agencies in these fields. Professional personnel attend the meetings and conventions of the Society of American Foresters.

Cooperation with state and federal authorities in planning, developing, maintaining, and coordinating fish and wildlife management programs has been previously discussed as has the guest speaker program, news articles, etc., provided by the Base.

## CONSERVATION EDUCATION

### GUEST SPEAKER PROGRAM

In addition to conservation education programs concerning gun and water safety, sportsmanship, and woodsmanship conducted by Base clubs and organizations (separately discussed in this report), the Natural Resources and Environmental Affairs Division takes an active part in this field.

One of the most popular methods of providing information to groups desiring knowledge in the conservation field has been the guest speaker program. Guest speaking engagements, accompanied with slides, has been very much in demand and has been presented to units, school classes, and civic organizations. It is believed that the explanation of Base plans and accomplishments in the conservation field are especially beneficial in fostering community relations and the exchange of ideas.

### FORMAL ADULT EDUCATION

Formal education on the Base this year included an eight-week course in Ecology conducted by Lieutenant Commander R. H. Grothaus, MSC, USN, of the Naval Medical Field Research Laboratory for the benefit of Camp Lejeune personnel and the community. Lieutenant Commander Grothaus holds a PhD in the Biological Sciences, with specific training in General Ecology, Plant Ecology, Animal Ecology, and Entomology. Topics

discussed included Ecological Definitions and Terms, Principles of Ecology, Energy Flow and Competition, Pollution and the Environment, Populations and the Future, Ecological Cost of Technologically Developing Nations, and Will the Earth and Man Survive. Classes were well accepted by the 30 persons that attended and constituted another facet of the overall education program.

### BASE SCHOOL SYSTEM

Teaching students to live in harmony with their environment is an important aspect of Camp Lejeune's educational program. Elementary students are learning and understanding more about the interaction of organisms between each other and their environment through the Science Curriculum Improvement Study (SCIS) program recently adopted by Camp Lejeune's School System. This new program consists of a physical science sequence and a life science sequence. The life science portion covers such areas as organisms, life cycles, populations, environment's communities, and ecosystems. Several workshops and classes have been conducted to train teachers. Grades 1 - 3 are presently using the program with 4 - 6 scheduled to start the program in the fall.

In addition to the formal science program at the junior high school, their Ecology Club places 15 trash cans made from painted 55-gallon oil drums throughout the school grounds and assumed the responsibility of



emptying them. The club also constructed several benches for use during noon hours. All scrap paper is collected at the Junior High School for recycling.

Also, the Junior High School will again sponsor an Ecology Seminar. Representatives from other local schools will meet to discuss programs and problems concerning environmental enhancement.

11 Plans for nature areas at each of the Base's schools are being developed. Two individuals from the Science Division of the State Department of Education visited each potential site and made appropriate recommendations. Base Natural Resources personnel will provide technical assistance.

#### PROJECT TRANSITION

Project Transition training has provided an educational benefit to approximately 33 military personnel during the year. These personnel receive on-the-job training in both forestry and wildlife management, instilling in them a feeling for conservation goals and procedures in its broad aspects as well as practical experience in the field.

#### COLLEGE STUDENT PROGRAM

The Forestry Branch employed three college students this past summer. These students are given training and field experience in

conservation activities which will provide them with useful backgrounds in the scientific fields which they are pursuing.

## OTHER METHODS

Other means of providing educational information on conservation subjects include articles in the Base newspaper, local newspapers, Base regulations, Marine Corps Exchange window displays, publications available at the Base Library, roadside signs, and bumper stickers. One series of articles "The Outdoor Sportsman," prepared by the Natural Resources and Environmental Affairs Division and presented in the "Globe" was particularly well received.



# Outdoor Sportsman

By 1stLt. Bill Rogers

As the weather turns cooler and the brilliant autumn leaves disappear from the hardwood trees, the outdoor sportsman finds himself scanning the evening horizons searching for those distant vees and columns of migrating waterfowl. He begins to inventory his equipment and makes plans for the opening day hunt. Waders are checked for leaks, decoys inspected and touched up, cold weather gear inventoried, suitable ammunition reloaded or purchased, and duck blinds repaired and camouflaged.

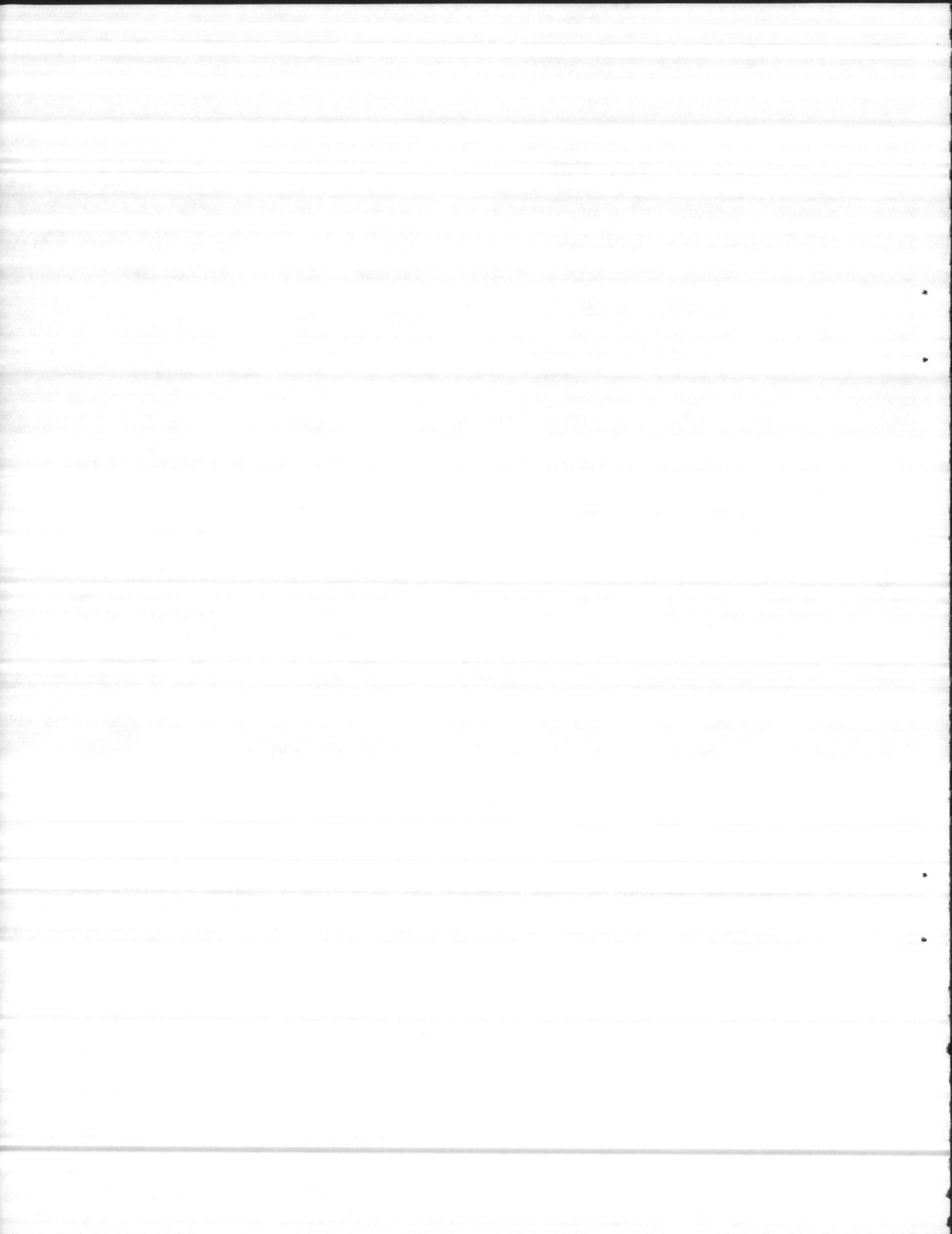
This is also the time for those hunters unfamiliar with the area to get out and recon the rivers and marshes in search of a place to hunt. I undertook such an outing this past Sunday in hopes of spotting some early migrants. The creeks produced only a few scattered wood ducks and mallards; however, a quick tour around a small section of New River revealed about 30 scaups (bluebills). I am sure there are more birds present in other sections of the river.

This is also a good time to brush up on your duck identification, since tight restrictions are placed on several species. There is no open season on snow or blue geese, brant, redhead, and canvas-back. A daily bag limit may not include more than 2 wood ducks, 1 black duck, and 4 mallards. Two additional blue-winged teal can be taken during the second part of the season. So don't forget to take those binoculars and a bird guide book along on your recon.

The Base continued to provide good deer hunting this past week. A 10-point buck and several 8-pointers were included in the 43 bucks killed. Organized hunters took 29 deer on Saturday. I visited the Rod and Gun Club grounds Saturday night to collect deer jaws for determining the age class of the deer. This information is necessary for the Base's deer management program. Individual hunters are requested to leave their deer's lower jaw bone with MSgt. Lowell A. Sluss at the Base Game Warden Office, Bldg. 4002.

APPENDIX A

RESPONSIBILITIES OF THE COMMITTEE FOR THE CONSERVATION  
OF NATURAL RESOURCES





RESPONSIBILITIES OF THE COMMITTEE FOR THE CONSERVATION OF  
NATURAL RESOURCES

1. Conduct annually a comprehensive review of the Base hunting, fishing, and boating regulations and make recommendations to the Commanding General regarding changes, additions, or deletions required.
2. Review recommendations submitted by the Rod and Gun Club regarding organized deer and bear hunts, and make appropriate recommendations to the Commanding General regarding same.
3. Prepare annually for the Commanding General's approval a schedule and procedures for the conduct of organized and controlled hunts for all types of wildlife.
4. Prepare annually for the Commanding General's approval a schedule for open seasons, bag and creel limits, in consonance with current federal, state, and county laws and regulations.
5. After consultation with federal, state, and county fish and wildlife authorities and officially chartered conservation agencies, make recommendations to the Commanding General regarding annual harvest of fish and wildlife on the Base.
6. Provide command liaison and establish procedures for scheduling and

conducting frequent meetings between representatives of federal, state, and county fish and wildlife agencies and officially chartered conservation organizations. The committee will take the initiative to seek out help and to work effectively and in harmony with the above agencies and/or organizations. A full report of such meetings will be included in the minutes of the committee.

7. Ensure, when feasible, that local sportsman groups are invited to attend meetings of the committee as guests. The importance of establishing, maintaining, and improving Base-community relations cannot be over-emphasized.

8. Review annually the cooperative plan between the Base, the Regional Director of the U. S. Fish and Wildlife Service, and the Executive Director, N. C. Wildlife Resources Commission and make recommendations to the Commanding General for any desirable changes in the Wildlife Management Plan.

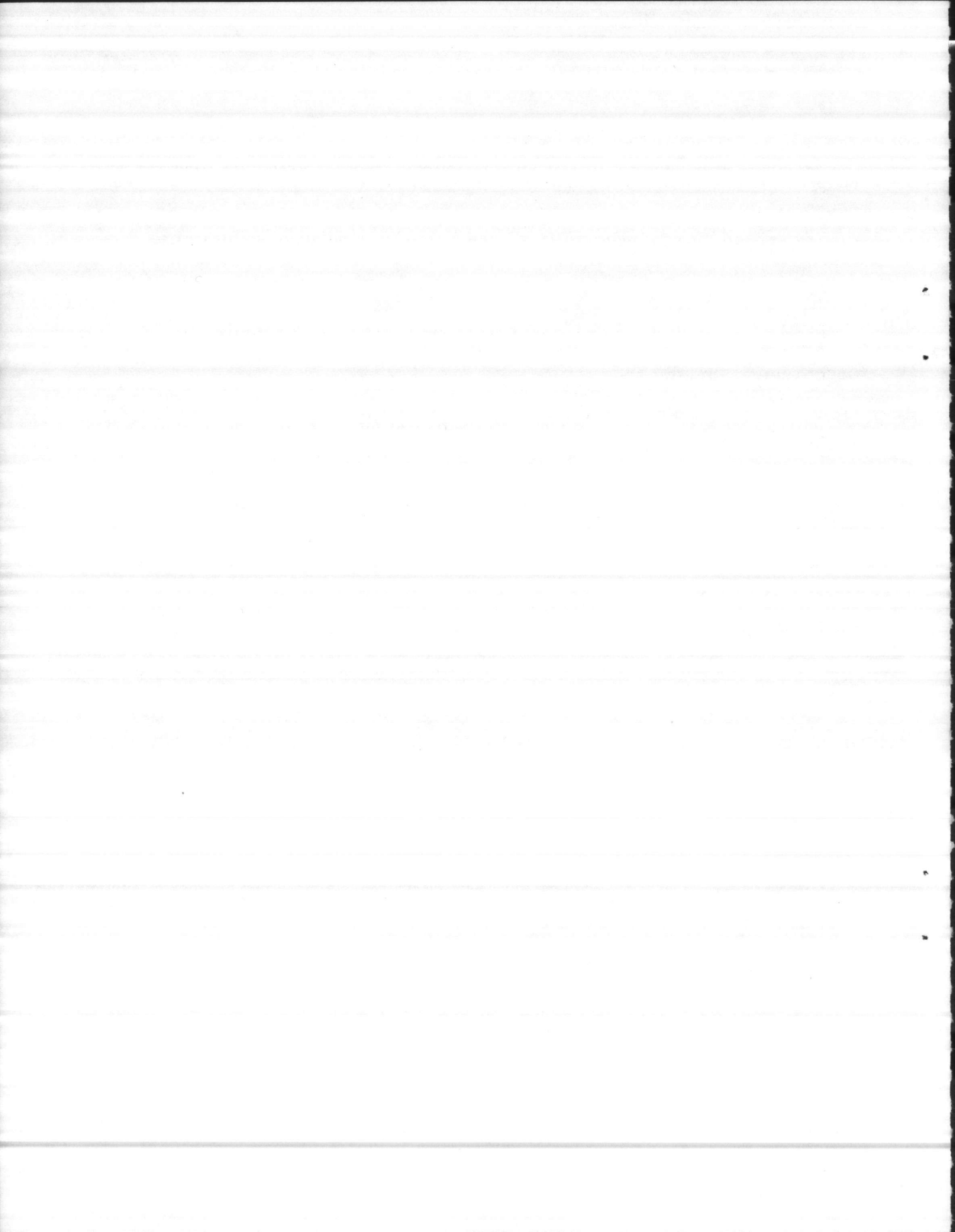
9. Monitor and make frequent reports to the Commanding General concerning all aspects of the Base Wildlife Food Plot Program.

10. Act as command representatives for any inspecting individual or group visiting the Base in connection with the Natural Resources Conservation Program.

11. Establish and maintain procedures for accumulating reporting information and prepare all reports for the Commanding General regarding the Base Natural Resources Conservation Program, as required.

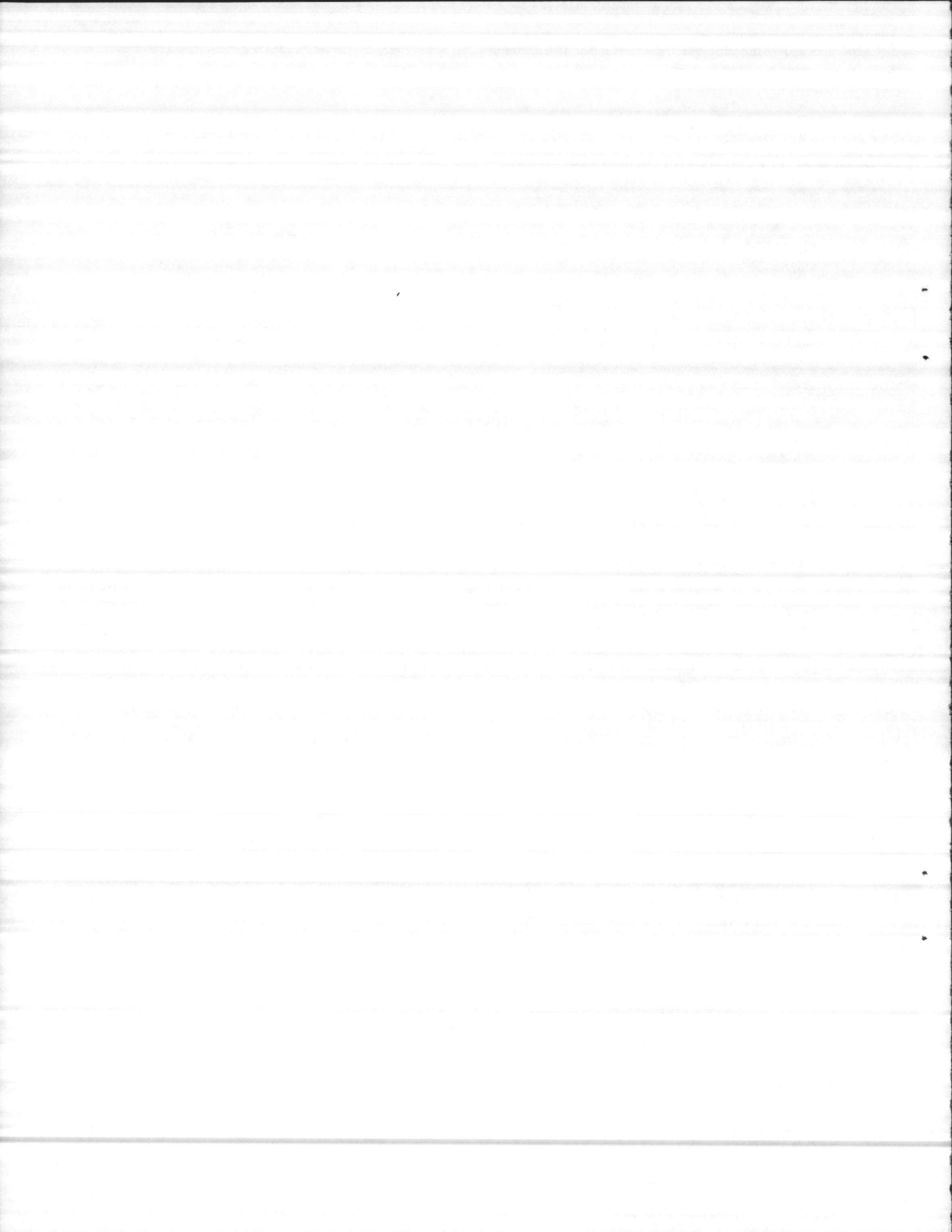
12. Develop for promulgation a continuing informational program designed to inform military and civilian persons alike of philosophies, principles, and policies of the Secretary of the Navy as related to the conservation program.

13. Recommend to the Commanding General supplementary instructions, procedures, regulations, etc., regarding any phase or facet of the Natural Resources Conservation Program, as required.





APPENDIX B  
VEGETATION



## VEGETATION

Native plants common to Camp Lejeune that are useful to wildlife are listed below:

### TREES

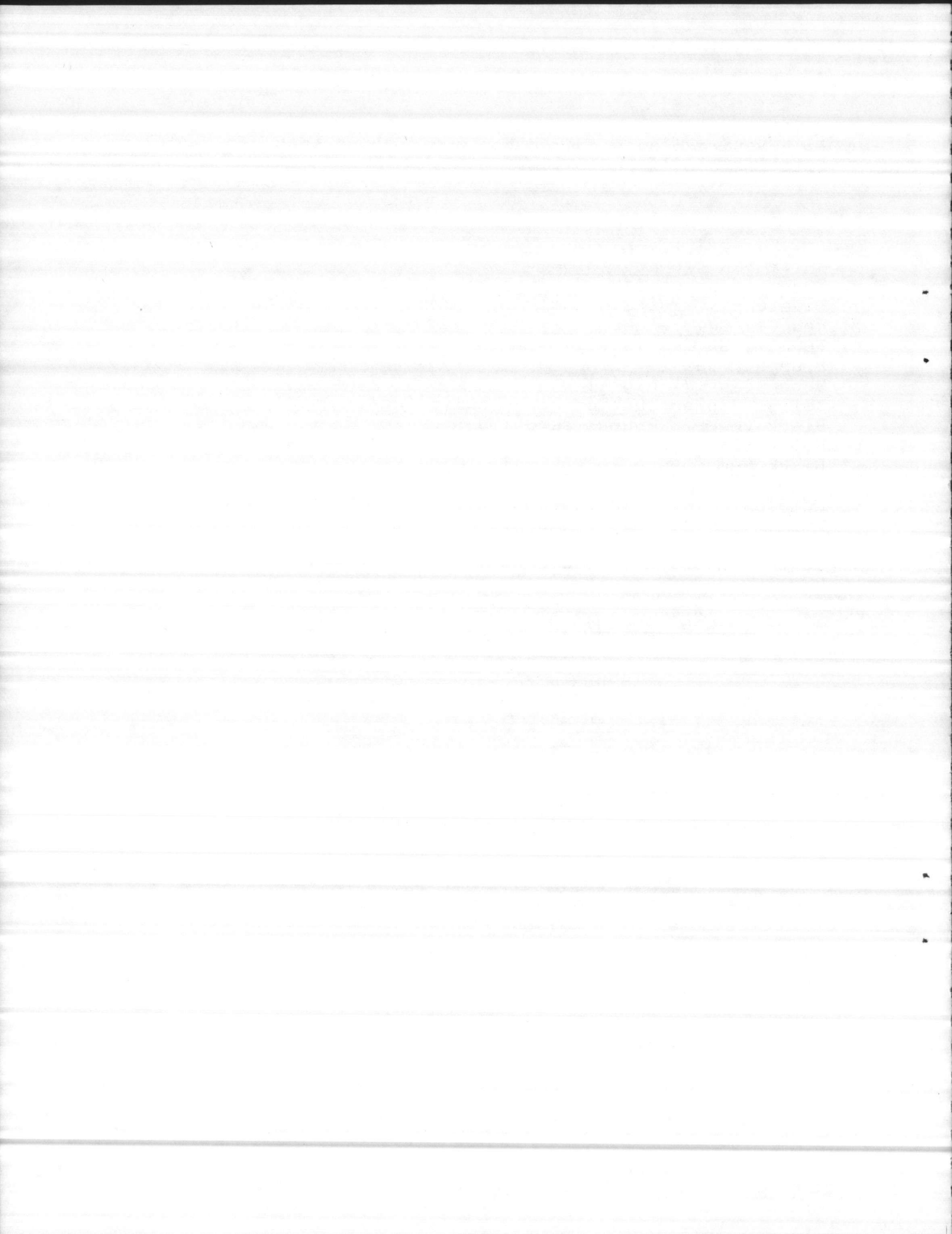
White Oak {Quercus alba}  
Swamp Chestnut Oak {Q. prinus}  
Live Oak {Q. virginiana}  
Red Oak {Q. falcata}  
Turkey Oak {Q. laevis}  
Bluejack Oak {Q. cinerea}  
Water Oak {Q. nigra}  
Yellow Poplar {Liriodendron tulipifera}  
Black Cherry {Prunus serotina}  
Holly {Ilex opaca}  
Black Gum {Nyssa sylvatica}  
Hornbeam {Carpinus caroliniana}  
Longleaf Pine {Pinus palustris}  
Loblolly Pine {Pinus taeda}  
Dogwood {Cornus florida}  
Sassafras {Sassafras albidum}  
Persimmon {Diospyros virginiana}  
Sourwood {Oxydendrum arboreum}  
Ash {Fraxinus nigra}

### SHRUBS

Gallberry {Ilex glabra}  
Yaupon {Ilex vomitoria}  
Cyrilla {Cyrilla racemiflora}  
Chinquapin {Castanea pumila}  
Hawthorn {Crataegus Spp.}  
American Beautybush {Callicarpa americana}

### VINES AND HERBS

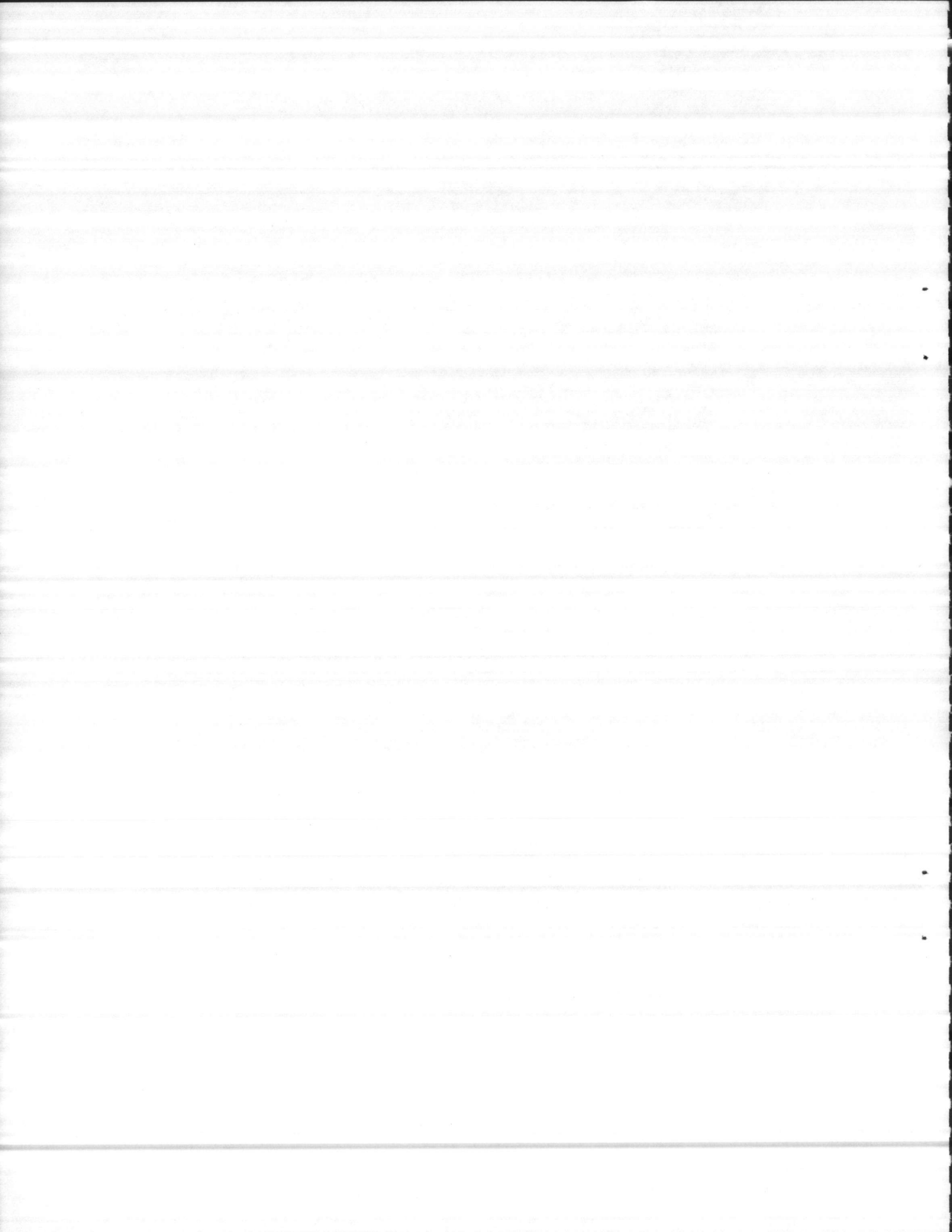
Partridge Pea {Cassia fasciculata}  
Beggar Weed {Desmodium Spp.}  
Lespedeza {Lespedeza Spp.}  
Milk Pea {Galactia volubile}  
Grape {Vitis Spp.}  
Blueberries {Vaccinium Spp.}  
Green Brier {Smilax Spp.}  
Honeysuckle {Lonicera japonica}  
Yellow Jasmine {Gelsemium sempervirens}





APPENDIX C

BASE ORDER 11090.1



MARINE CORPS BASE  
CAMP LEJEUNE, NORTH CAROLINA 28542

BO 11090.1  
15A/CFR/lp  
29 Sep 1972

BASE ORDER 11090.1

From: Commanding General  
To: Distribution List

Subj: Spill Prevention, Containment, and Countermeasure Plan  
for Oil and Other Hazardous Substances

Ref: (a) MCO P11000.8  
(b) BO 5100.13A

Encl: (1) Spill Prevention and Containment Plan  
(2) Contingency Spill and Countermeasure Plan

1. Purpose. To publish the Spill Prevention, Containment, and Countermeasure Plan for Oil and Other Hazardous Substances for Marine Corps Base, Camp Lejeune, North Carolina, and assist the Commanding General in the implementation of reference (a) with respect to pollution abatement.

2. Policy. It is the continuing policy of the Commanding General to actively participate in environmental pollution abatement and take positive planning and programming action to control petroleum products pollution on this Base from installations, equipment, vehicles, and other Marine Corps facilities. This Base will conform to the provisions of the Oil Pollution Act of 1961, as amended, and the Federal Water Pollution Control Act, as amended, insofar as the acts prohibit the discharge of oil and regardless of whether the acts pertain specifically to naval vessels and shore activities. The intent of this policy is to prohibit the discharge of all oil, oily mixtures, and other hazardous substances except in designated areas by qualified personnel.

BO 11090.1  
29 Sep 1972

3. Responsibilities

a. Base Maintenance Officer is charged with the overall responsibility of carrying out the various measures of this order.

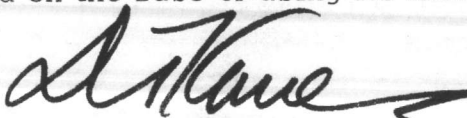
(1) Environmental Control Director (telephone 5003) is responsible to the Base Maintenance Officer for the day to day monitoring, surveillance, and up-channel reporting of events concerning pollution caused by oil or other hazardous substance spills.

b. Area/Unit Commanders are charged with the responsibility of preventing spills of oil or other hazardous substances within their own areas/units and will develop local plans for containment in case of accidental spills.

c. Base Fire Chief or his senior representative will act as the On-Scene Coordinator (OSC). He will make the initial response to any contingency spill and will be in overall charge at the scene until relieved by the arrival of the Environmental Control Director.

4. Action. Discharge of oils or other hazardous substances into ditches, culverts, or receiving streams is prohibited. Special attention will be directed to areas where vehicles and equipment are serviced. Cognizant officers will take necessary action to assure compliance. Area/Unit Commanders shall conform to the standards and criteria as set forth in enclosures (1) and (2).

5. Applicability. Having received the concurrence of the Commanding General, 2d Marine Division, FMF; the Commanding General, Force Troops, FMFLant; and the Commanding Officer, Naval Hospital, Camp Lejeune, this order is applicable to those commands and all civilian personnel employed on the Base or using its facilities.



D. T. KANE  
Chief of Staff

DISTRIBUTION: "A" less 3,4,5,6 Cat IV



SPILL PREVENTION AND CONTAINMENT PLAN

1. Oil spill prevention is the responsibility of all organizations/activities. Each unit commander will ensure all personnel are indoctrinated in order to make them thoroughly conscious and aware of the environmental impact of oil spills and other hazardous substance discharges.
2. All activities will guard against the creation of possible oil spills and hazardous substance discharge situations and necessary action shall be taken to assure containment.
3. Disposal of oil, gasoline, kerosene, paint thinner, organic solvents, deteriorated cleaning solutions, poisonous chemical waste, corrosives, acids, and pesticides through any drainage system (either surface or subterranean) is prohibited. Waste oil will be disposed of in accordance with paragraph 7 below. Other substances mentioned herein will be disposed of as outlined in reference (b).
4. Disposal of empty or damaged containers of all types in wooded areas, drainage ditches, and other areas that might cause environmental damage is prohibited. All empty 55-gallon drums will be disposed of through Redistribution and Disposal Branch, Base Materiel Battalion. Other containers will be disposed of at the sanitary landfill, or prepared for recycling if practical.
5. Storage of pesticides, insecticides, herbicides, and other hazardous materials shall be in a secure area. They shall be neatly stacked and labeled to provide easy identification and ready access. All storage areas shall be provided with adequate mechanical ventilation. They shall be dispersed under the supervision of certified personnel as outlined in reference (b). Used containers of these materials shall be punctured or crushed so as to prevent reuse and disposed of at the sanitary landfill.
6. Oil and gasoline storage tanks larger than 500-gallon capacity will be properly diked. The dike will be properly equipped with a

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drainage line and valve(s). Only authorized personnel will be permitted to open and close said valve(s). After each drainage, the valve(s) will be closed and locked.

7. Waste oil will be collected in a tank of at least 250-gallon capacity equipped with a funnel, strainer, and cover so as to prevent entrance of trash, water, and other foreign matter. When the container requires emptying, the officer in charge will call Base Maintenance Department (telephone 3001) and a truck will be dispatched to remove the oil.

29 Sep 1972

ACCIDENTAL SPILL AND COUNTERMEASURE PLAN

1. Reporting. Spills, accidental or otherwise, of oil or other hazardous substances will be reported immediately to the Base Fire Department (on Base - telephone 3333/off Base - telephone 451-3333) giving location, substance spilled, and approximate amount.

2. Response. Upon receiving a report of a significant oil or other hazardous substance spill, the Base Fire Department will dispatch a regular fire fighting unit to the scene. The Base Fire Chief or his senior representative will also report to the scene as soon as possible. Upon arrival, the Base Fire Chief or his senior representative will:

a. Assume the role of On-Scene Coordinator (OSC).

b. Take necessary steps to eliminate any fire hazard developed from the spill.

c. Notify Environmental Control Director (telephone 5003).

d. Evaluate the situation and request necessary logistic support from the Base Maintenance Officer to contain the spill and facilitate recovery or mopping up action.

e. Upon arrival at the scene, the Environmental Control Director or his representative will assume command and will direct further containment and clean-up activities.

3. Supplies and Materials. Base Maintenance Officer will provide the basic materials and equipment necessary to contain and mop up on-Base spills. The U. S. Coast Guard will be contacted for equipment and assistance in the event of a major spill.

4. Reports. A report of oil spills and other hazardous substance discharges in the inland navigable waters of the United States and the coastal waters including between 3 and 12 miles from the coast

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will be made immediately by the Environmental Control Director or his representative to:

- a. Base Maintenance Officer.
- b. Assistant Chief of Staff, Facilities, Marine Corps Base.
- c. Captain of the Port, Room 101, Federal Building, Wilmington, North Carolina 28401 (telephone 919-763-9435).
- d. Commandant of the Marine Corps.

In every case, a report of the incident will be made to the Commandant of the Marine Corps (Code COA). Incidents of a serious nature, which require urgent action at the Headquarters level, or may result in adverse news coverage or public relations, will be reported by message.

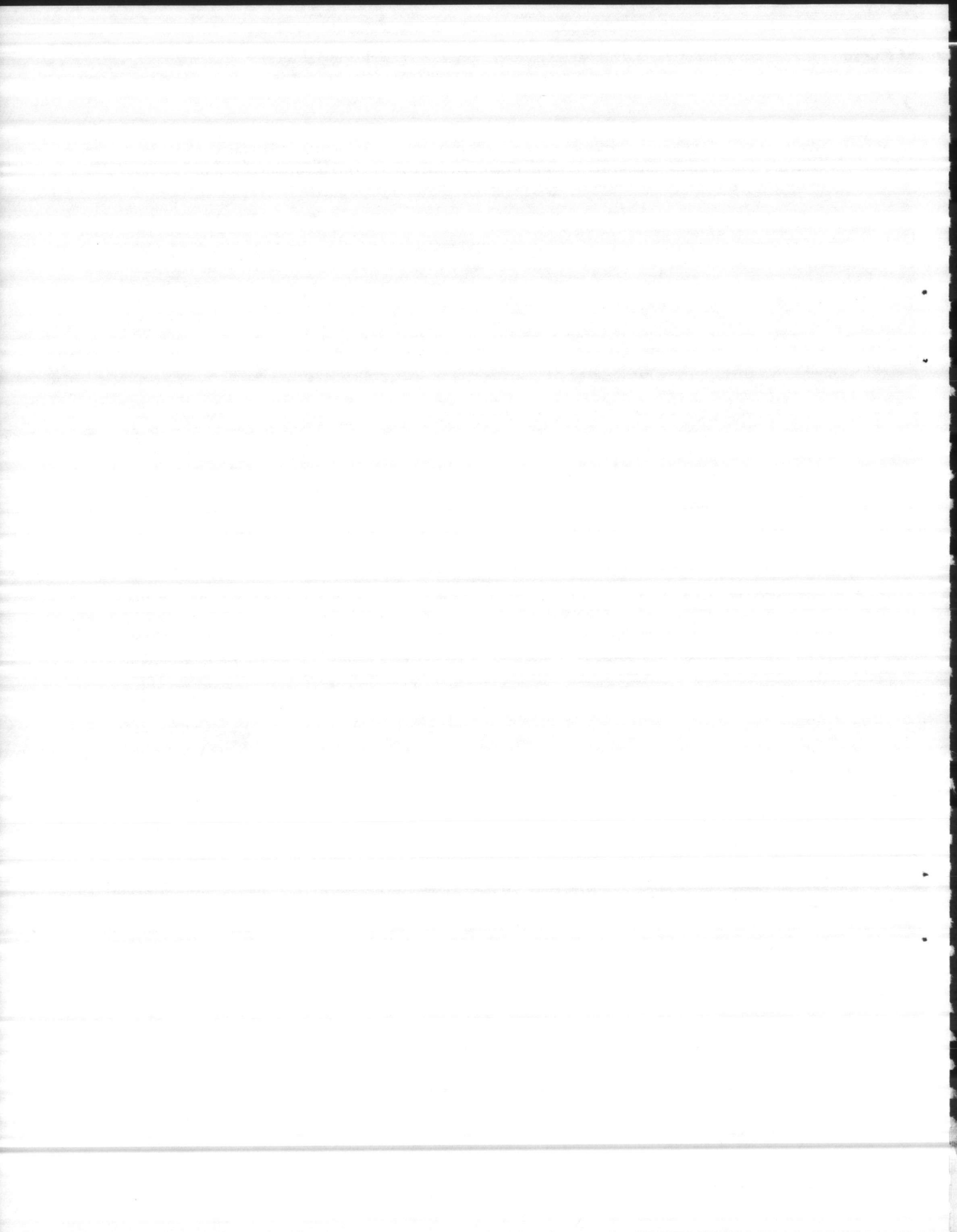
5. Small Spills. Occurrence of small gasoline and fuel oil spills on refueling aprons is very common. Gasoline and fuel oil spilled on refueling aprons will not be flushed into any ditch or storm sewer. To reduce the pollution and fire hazard, the spill will be covered with sand obtained from a nearby storage bin. As the sand absorbs the fuel, it will be taken up and returned to the storage bin after evaporation or placed into the sanitary landfill as required. Sand can be obtained by calling Base Maintenance Department (telephone 3001).

6. Restoration of Damaged Area. Grounds around grease racks and maintenance buildings that have been severely damaged by oil and grease will be restored to their natural state. If necessary, the contaminated soil will be removed and replaced with clean soil and reseeded.



APPENDIX D

WILDLIFE RESOURCES



## WILDLIFE RESOURCES

Wildlife species most common to Camp Lejeune, their population size estimate, and their relative range condition are listed below:

Species	Population (Estimated)	Range Condition
<u>Game Birds and Animals</u>		
Whitetailed Deer ( <i>Odocoileus virginianus</i> )	3,100	Good
Black Bear ( <i>Ursus americanus</i> )	Common	Fair
Squirrel ( <i>Sciurus</i> Spp.)	Very abundant	Good
Rabbit ( <i>Sylvilagus</i> Spp.)	Abundant	Fair
Gray Fox ( <i>Urocyon cinereoargenteus</i> )	Abundant	Excellent
Quail ( <i>Colinus virginianus</i> )	Abundant	Fair
Turkey ( <i>Meleagris gallopavo</i> )	750	Good
<u>Fur-Bearing Animals</u>		
Mink ( <i>Mustela vison</i> )	Common	Excellent
Otter ( <i>Lutra canadensis</i> )	Common	Excellent
Muskrat ( <i>Ondatra zibethicus</i> )	Common	Fair
Skunk ( <i>Mephitis mephitis</i> )	Abundant	Excellent
Raccoon ( <i>Procyon lotor</i> )	Very abundant	Excellent
Opossum ( <i>Didelphis marsupialis</i> )	Very abundant	Excellent
Bobcat ( <i>Lynx longirostris</i> )	Common	Excellent
<u>Migratory Game Birds</u>		
Dove ( <i>Zenaidura macroura</i> )	Abundant	Fair
Woodcock ( <i>Philohela minor</i> )	Abundant	Good
Rail ( <i>Rallus longirostris</i> )	Abundant	Excellent

### Waterfowl

Wood Duck (*Aix sponsa*)  
Black Duck (*Anas rubripes*)  
Canada Goose (*Branta canadensis*)  
Mallard (*Anas platyrhynchos*)  
Green-winged Teal (*Anas carolinensis*)  
Ruddy Duck (*Oxyura jamaicensis*)  
Hooded Merganser (*Lophodytes cucullatus*)  
Canvasback (*Aythya valisineria*)  
Bufflehead (*Bucephala albeola*)  
Lesser Scaup (*Aythya affinis*)  
Pintail (*Anas acuta*)  
Greater Scaup (*Aythya marila*)  
Ring-neck Duck (*Aythya collaris*)  
Coot (*Fulica americana*)

### Game Fish

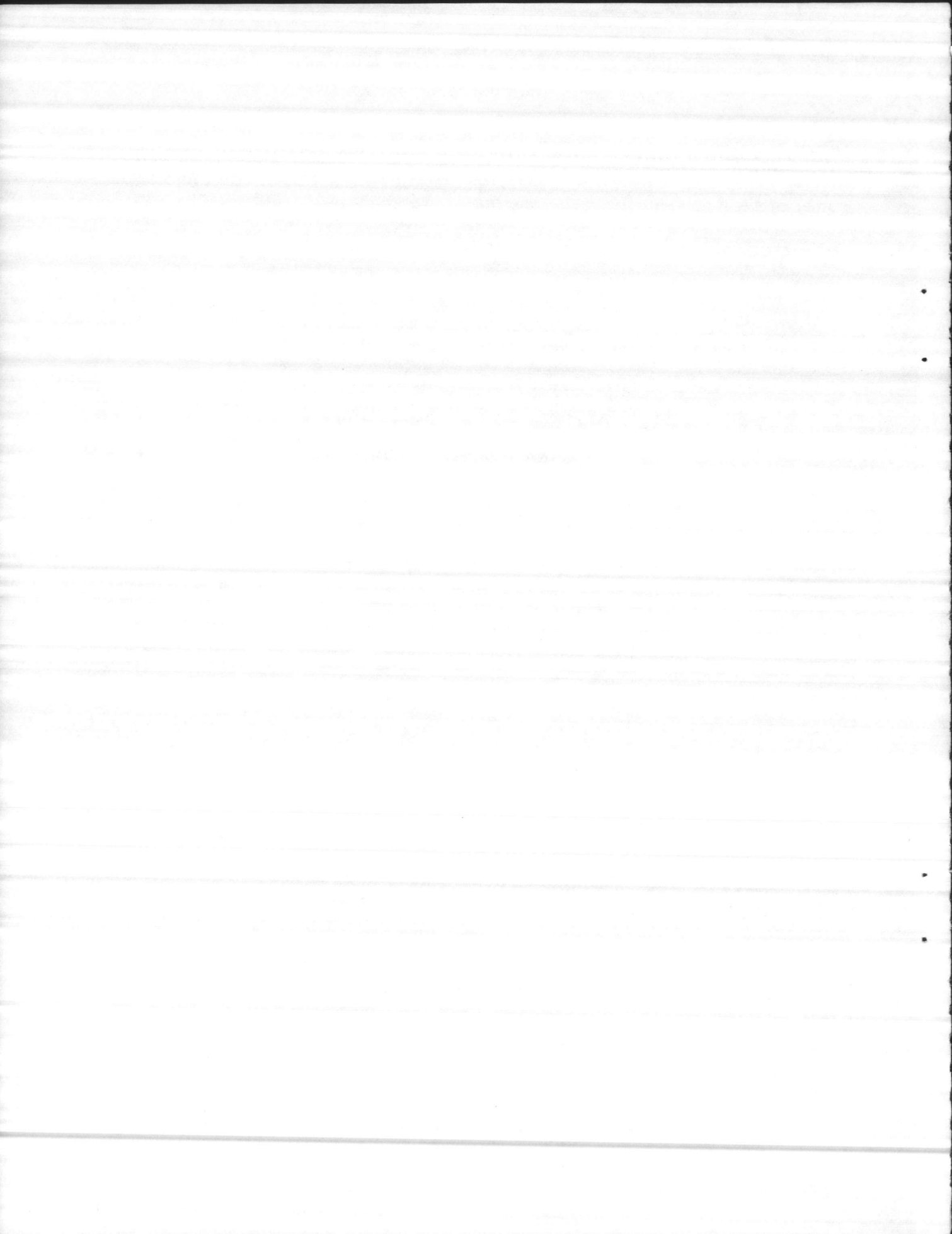
Largemouth Bass (*Micropterus salmoides*)  
Bluegill (*Lepomis macrochirus*)  
Redbreast (*Lepomis auritus*)  
Pickerel (*esox Spp.*)  
Redear (*Epomis microloplus*)  
Warmouth (*Chaenobryttus gulosus*)  
Black Crappie (*Pomoxis nigromaculatus*)  
Yellow Perch (*Perca flavescens*)  
Pumpkinseed (*Lapomis gibbosus*)  
Flier (*Centrarchus macropterus*)  
Striped Bass (*Roccus saxatilis*)

### Non-game Fish

Carp (*Cyprinus carpio*)  
Bowfin (*Amia calva*)  
Shad (*Dorosoma cepedianum*)  
Catfish (*Ictalurus Spp.*)  
Longnose Gar (*Lepisosteus osseus*)



APPENDIX E  
MANAGEMENT RECORD

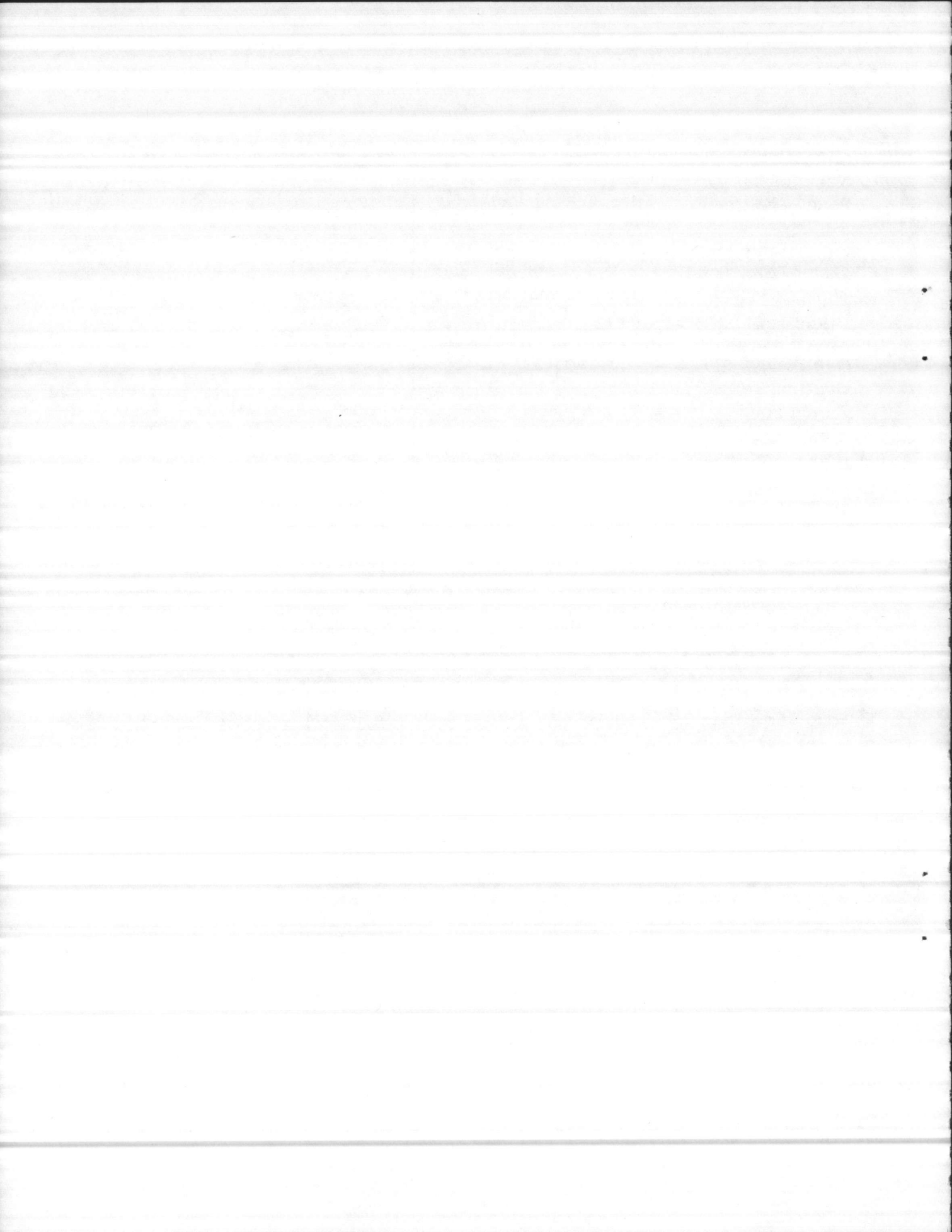


MANAGEMENT RECORD

BODY OF WATER			STOCKING RECORD		
Name of Lake, Pond, or Stream	Acres/ Miles	Species Managed	Species	Number	Average Length (Inches)
Power Line Pond	2.0	LMB, RSF, BLG			
Cedar Point Pond	2.0	LMB, RSF, BLG			
Ward Pond	1.5	LMB, RSF, BLG			
Hickory Pond	5.5	LMB, RSF, BLG			
Mile Hammock	1.5	LMB, RSF, BLG			
Oak Pond	.5	CCF			
Courthouse Bay	1.5	LMB, RSF, BLG			
Prince Pond	1.0	CCF	CCF	500	5
Hogpen Pond	1.0	CCF	CCF	500	5
Henderson Pond	14.0	LMB, RSF, BLG	LMB	1,200	2
(Acreage changed after stocking)					

CHEMICALS USED IN CONTROL

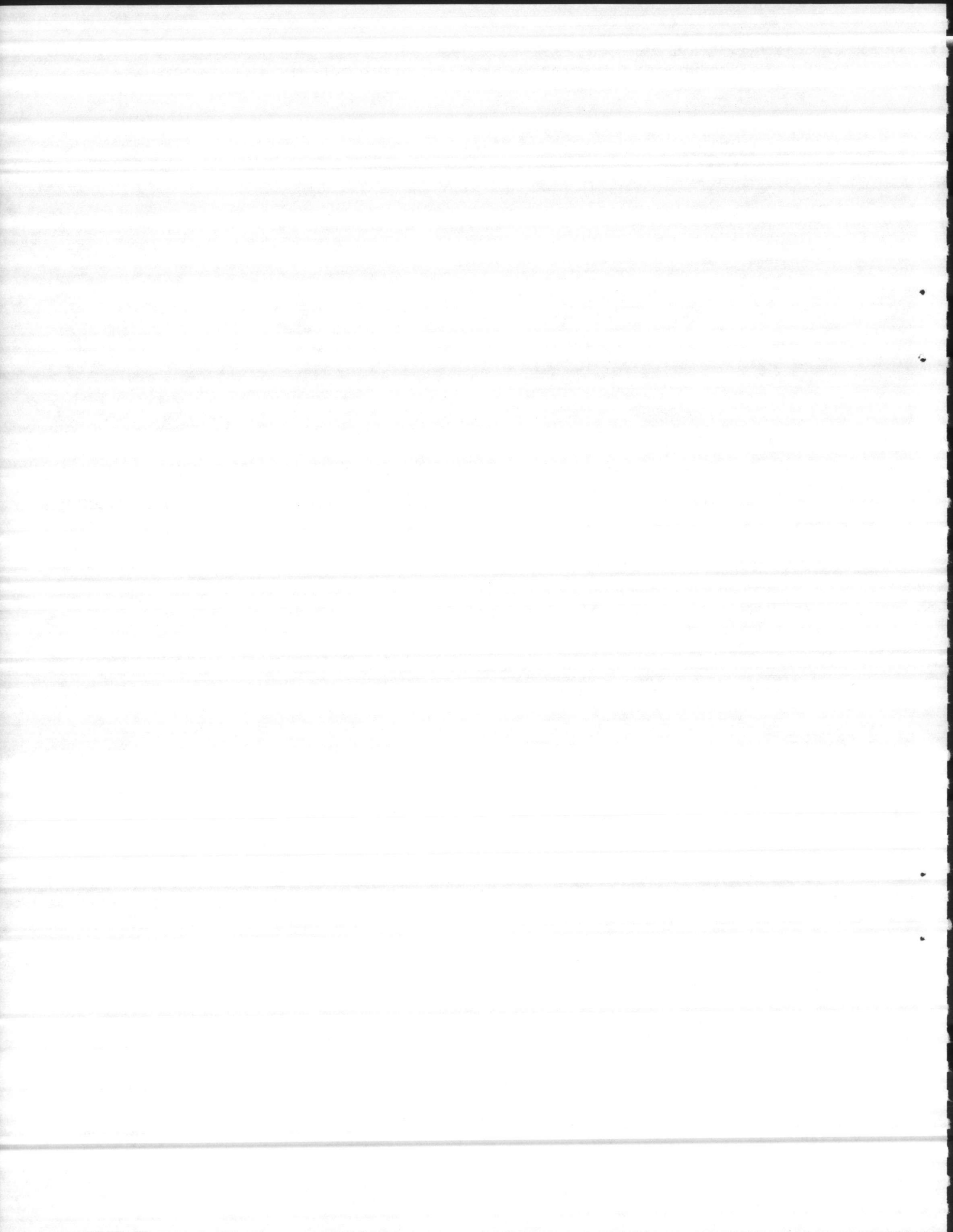
Name of Lake, Pond, or Stream	Chemical	Target	P- Active Ingred.	Acres/ Miles	Acre- Feet Treated	PPM
Mile Hammock	Aquathol Plus	Burr Reed (Sparganium)	2 gals	1.5		2
Hogpen Pond	"	"	2 gals	1.5		2
Ward Pond	"	Horned Pondweed (Zannichellia)	6 gals	1.5		3
Power Line Pond	"	"	3 gals	1.0		3
Prince Pond	"	"	2 gals	1.0		3
Cedar Point Pond	"	"	2 gals	2.0		2
Hickory Pond	"	Black Willow	2 gals	4.5		2





APPENDIX F

HUNTER CLASSIFICATION AND WILDLIFE SPECIES HARVESTED



HUNTER CLASSIFICATION AND WILDLIFE SPECIES HARVESTED

<u>Type Permits</u>	<u>Fee</u>	<u>Number Issued</u>
Civilian Guest (seasonal)	\$ 10	194
Civilian Guest (daily)	2	129
Military Hunting and Fishing	2	1,168
Civilian Employee Hunting and Fishing	2	60
Military and Civilian Employee Fishing	1	170
	<hr/>	<hr/>
Total	\$4,824	1,721

<u>Category</u>	<u>Man Days of Hunting</u>	<u>Hours</u>
Civilian Guest	2,273	-
Military and Civilian Employee	7,522	-
	<hr/>	<hr/>
Total	9,795	33,330

<u>Species Harvested</u>	<u>Number</u>
White-tail Deer	351
Wild Turkey	3
Squirrel	2,100
Rabbit	7
Quail	122
Dove	120
Raccoon	30
Rail	120
Woodcock	18
Waterfowl	500
	(estimated)

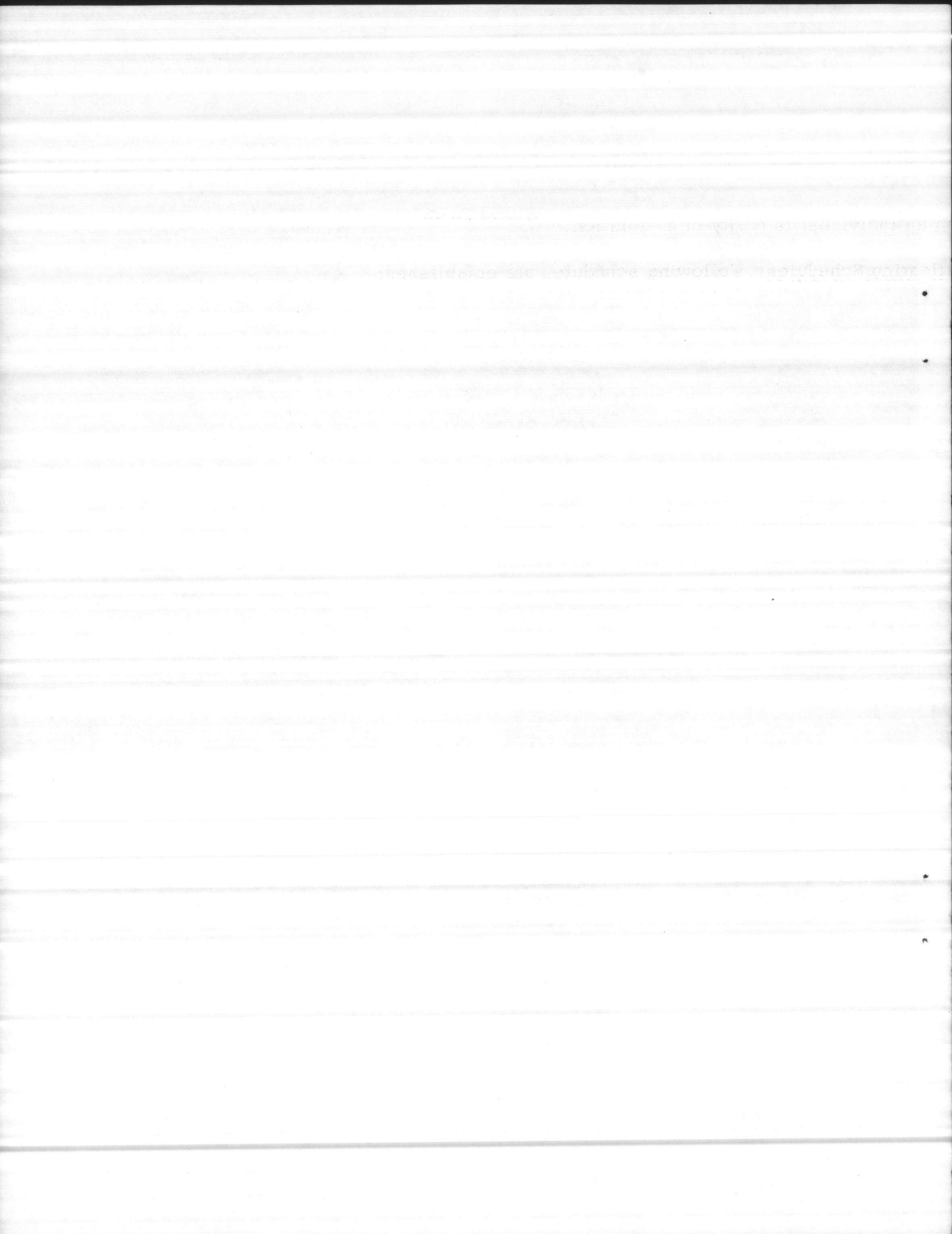
FIELD DRESSED WEIGHT - BUCKS

<u>Year</u>	<u>Largest Deer</u>	<u>Smallest Deer</u>	<u>Average Weight of Total Kill</u>
1971-72	144	40	73
1972-73	125	38	78



APPENDIX G

BASE ORDER 1710.20D  
(Enclosure (4))



BASE CONSERVATION BOARD

1. Mission and Scope

a. The Base Traffic Board shall act as the Base Conservation Board when hearing cases of alleged fish and game violations. The Base Conservation Board shall be the agency through which the Commanding General may take administrative action against fish and wildlife violators.

b. The Board shall be composed of a chairman and those persons designated by a Base Bulletin in the 5420 series.

c. The Provost Marshal will assign clerks to the Board who will record its actions and perform other administrative and clerical functions as may be required.

d. The Chairman shall establish the procedures for the conduct of hearings to ensure that any individual appearing before the Board shall be advised of the occasion for his appearance and the basis of any administrative action which may be taken.

e. The Board shall determine whether or not, and the extent to which, an alleged violation warrants administrative action. It may consider any acts or conduct, wherever they may occur, of any person authorized to hunt or fish. It shall not be bound by any prior adjudication in its inquiry into the circumstances surrounding alleged acts or conduct which reasonably pertain to the safe operation of a firearm by the individual whose acts or conduct are challenged.

f. Any member of the Board shall be authorized to take any permissible administrative action against any individual directed to appear before it, except the member shall be senior in rank to any military person whose case is heard. If there is no member of such seniority in military rank, the case shall be referred to the Base Inspector for disposition.

g. Every case shall be fully and fairly heard. Persons appearing before the Board shall be given an opportunity to present evidence and to make such statement as may be relevant to the circumstances of his case and the disposition thereof. Counsel may appear with any

person.

h. The Board may suspend or revoke any fishing or hunting permit when an individual is guilty of a violation.

\* 2. Hearing Schedules. Following schedules are established:

a. Enlisted MarCorB/  
NavHosp Tuesday 0800 - 1130

ForTrps FMFLant Tuesday 1300 - 1600

2dMarDiv FMF Thursday  
A - K 0800 - 1130  
L - Z 1300 - 1600

b. Officers (Captains/below) Wednesday 0800 - 1130

c. Dependents, Civilians, and Wednesday  
Retired Military Personnel A - K 0800 - 1130  
L - Z 1300 - 1600

d. Officers (Field Grade) - Inspector, Marine Corps Base, by appointment (extension 1850/2718).

e. All cases, except those involving Field Grade Officers, will be heard in the Conservation Board Room, Building 4000, Midway Park.

f. If the time and place of appearance cannot be determined when a military citation is issued, a clerk of the Board shall advise the alleged violator of the time and place of his appearance.

3. Base Hunting/Fishing Violations. The following is a list of Base hunting/fishing violations with a schedule of punishments to guide the Base Conservation Board in awarding punishment to violators:

a. Base Hunting Violations



<u>Violation</u>	<u>First Offense</u>	<u>Second Offense</u>	<u>Third Offense</u>
1. Taking deer with the aid of artificial lights	Revoke		
2. Taking deer or wild turkey during closed season	Revoke		
3. Taking wild birds or animals with poisons or explosives	Revoke		
4. Unlawfully taking birds or animals between the hours of sunset and sunrise	Revoke		
5. Hunting while under suspension for violation of any hunting regulation	Revoke		
* 6. No person who is under the influence of any intoxicating beverage or narcotic drugs shall engage in hunting	Revoke		
7. Unlawfully buying, selling, or offering to sell game birds or animals	Suspend 12 mos.	Revoke	
8. Taking wild birds or animals by the placement of salt, grain, fruit, or other foods	Suspend 12 mos.	Revoke	
9. Shooting signs or other government property while hunting	Suspend 6 mos.	Revoke	

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10. Unlawfully taking or possessing antlerless deer	Suspend 6 mos.	Suspend 12 mos.	Revoke
11. Hunting wild birds or animals during closed season	Suspend 6 mos.	Suspend 12 mos.	Revoke
12. Exceeding the daily possession limit	Suspend 3 mos.	Suspend 12 mos.	Revoke
13. Exceeding the seasonal possession limit	Suspend 6 mos.	Suspend 12 mos.	Revoke
14. Attempting to take wild birds or animals from any motor vehicle	Suspend 6 mos.	Suspend 12 mos.	Revoke
15. Possessing or transporting loaded firearms in vehicle while hunting	Suspend 6 mos.	Revoke	
16. Taking protected birds or animals	Suspend 3 mos.	Suspend 12 mos.	Revoke
17. Taking sea turtles or alligators	Suspend 3 mos.	Suspend 12 mos.	Revoke
18. Failure to report game kills to proper authority	Suspend 1 mo.	Suspend 6 mos.	Suspend 12 mos.
19. Hunting in closed areas, danger areas, or within 200 yards of any built-up area, or main hard surfaced roads	Suspend 12 mos.	Revoke	
20. Unlawfully taking birds or animals by the use of traps, nets, snares, or other prohibited device	Suspend 2 mos.	Suspend 12 mos.	Revoke

21. Hunting with unplugged shotgun capable of holding more than three shells in the magazine and chamber combined	Suspend 1 mo.	Suspend 6 mos.	Suspend 12 mos.
22. Hunting with rifles, over and under shotgun combination, or sidearms of any type	Suspend 2 mos.	Suspend 12 mos.	Revoke
23. Failure to check out hunting area pass prior to going afield to hunt	Suspend 1 mo.	Suspend 12 mos.	Revoke
24. Failure to check in hunting area pass within one hour after sunset on the day of issuance	Suspend 1 mo.	Suspend 6 mos.	Suspend 12 mos.
25. Failure to wear international red, yellow, or orange colors on clothing while hunting	Suspend 1 mo.	Suspend 6 mos.	Suspend 12 mos.
26. Littering any hunting area with any type debris while hunting	Suspend 1 mo.	Suspend 6 mos.	Suspend 12 mos.
27. Violation of any other hunting regulation of this Order not specifically listed above	Suspend 1 mo.	Suspend 6 mos.	Suspend 12 mos.

\*Failure to submit to Breathalyzer test when requested by the Provost Marshal or his duly authorized representative subjects an individual to loss of Base hunting privileges.

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b. Base Fishing Violations

<u>Violation</u>	<u>First Offense</u>	<u>Second Offense</u>	<u>Third Offense</u>
1. Unauthorized taking fish with drugs, chemicals, or poisoned bait	Revoke		
2. Taking fish with explosives	Revoke		
3. Taking fish with electricity	Revoke		
4. Taking freshwater game fish with nets or traps	Revoke		
5. Buying or selling game fish	Revoke		
6. Introducing any species of exotic fish into Base waters	Revoke		
7. Taking freshwater game fish with spears, harpoons, gigs, or bows and arrows	Suspend 6 mos.	Suspend 12 mos.	Revoke
8. Fishing with minnows in freshwater ponds	Suspend 6 mos.	Revoke	
9. Firing any firearm into Base waters for purpose of taking fish	Suspend 6 mos.	Suspend 12 mos.	Revoke
10. Deliberately introducing any physical or chemical pollutant into any Base ponds	Suspend 6 mos.	Suspend 12 mos.	Revoke
11. Fishing without proper license and/or permit	Suspend 1 mo.	Suspend 12 mos.	Revoke



12. Fishing with trot lines or set hooks in freshwater ponds	Suspend 1 mo.	Suspend 12 mos.	Revoke
13. Grabbing for game fish	Suspend 1 mo.	Suspend 3 mos.	Suspend 12 mos.
14. Possession of undersize bass	Suspend 3 mos.	Suspend 12 mos.	Revoke
15. Exceeding creel limit	Suspend 1 mo.	Suspend 3 mos.	Suspend 12 mos.
16. Littering shorelines or streams and ponds	Suspend 1 mo.	Suspend 6 mos.	Suspend 12 mos.
17. Violation of any other fishing regulation of this Order not specifically listed above	Suspend 1 mo.	Suspend 6 mos.	Suspend 12 mos.

4. Administrative Action

a. General

(1) When an individual receives his Base hunting permit, his signature to the statement ("I consent to take a Breathalyzer test upon request by proper authority") on the reverse of DD Form 1710/5 certifies consent to taking a Breathalyzer test when requested by the Base Provost Marshal or his designated representative.

(2) If there was at the time of the Breathalyzer examination in excess of 0.05% but less than 0.10% by weight of alcohol in the person's blood, such fact shall not give rise to any presumption that the person was or was not under the influence of intoxicating liquor, but such fact may be considered with other competent evidence in determining whether the person was under the influence of intoxicating liquor.

(3) If there was at the time of the Breathalyzer examination

0.10% or more by weight of alcohol in the person's blood, this fact permits a presumption to arise that the person was under the influence of intoxicating liquor. This presumption may be rebutted by other evidence to the contrary.

5. Loss of Hunting or Fishing Privileges. If the Base Conservation Board imposes a suspension period or revocation for violation of hunting and fishing regulations, the individual immediately loses his privileges to hunt and/or fish.

6. Reports. A copy of each citation and report of action taken by the Base Conservation Board will be forwarded to cognizant battalion commanders and commanding officers of separate companies of the Tri-Command.

7. Right of Appeal. Any person whose Base hunting or fishing privilege has been suspended or revoked has the right of appeal. When informed of suspension or revocation, the individual will be informed of his appeal rights. Personnel will forward appeals (original and three copies) via the chain of command to the Senior Member, Base Conservation Board, Building 1, Room 134A. Appeals must be initiated within ten working days from the date of notification of the suspension or revocation action.

8. Reinstatement of Hunting or Fishing Privileges. Persons whose hunting or fishing privileges have been revoked through the provisions of this Order may apply in writing via the chain of command to the Chairman, Base Conservation Board, after a lapse of six months and at three-month intervals thereafter, if desired.

9. Hunting and Fishing Records

a. The Provost Marshal is designated the custodian of all hunting and fishing record cards (form numbers) and the clerks assigned to the Base Conservation Board will make appropriate entries of action taken by the Board.

b. Violation records against an individual will remain in effect for 36 months.

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10. Authority of Commanding Officers/Supervisors. Action taken by the Base Conservation Board does not relieve any commanding officer or supervisor of his responsibility to take administrative disciplinary action, as appropriate, against military personnel of his command or civilian employees under his supervision.

