

**CONSERVATION  
NOMINATION AWARD  
REPORT**

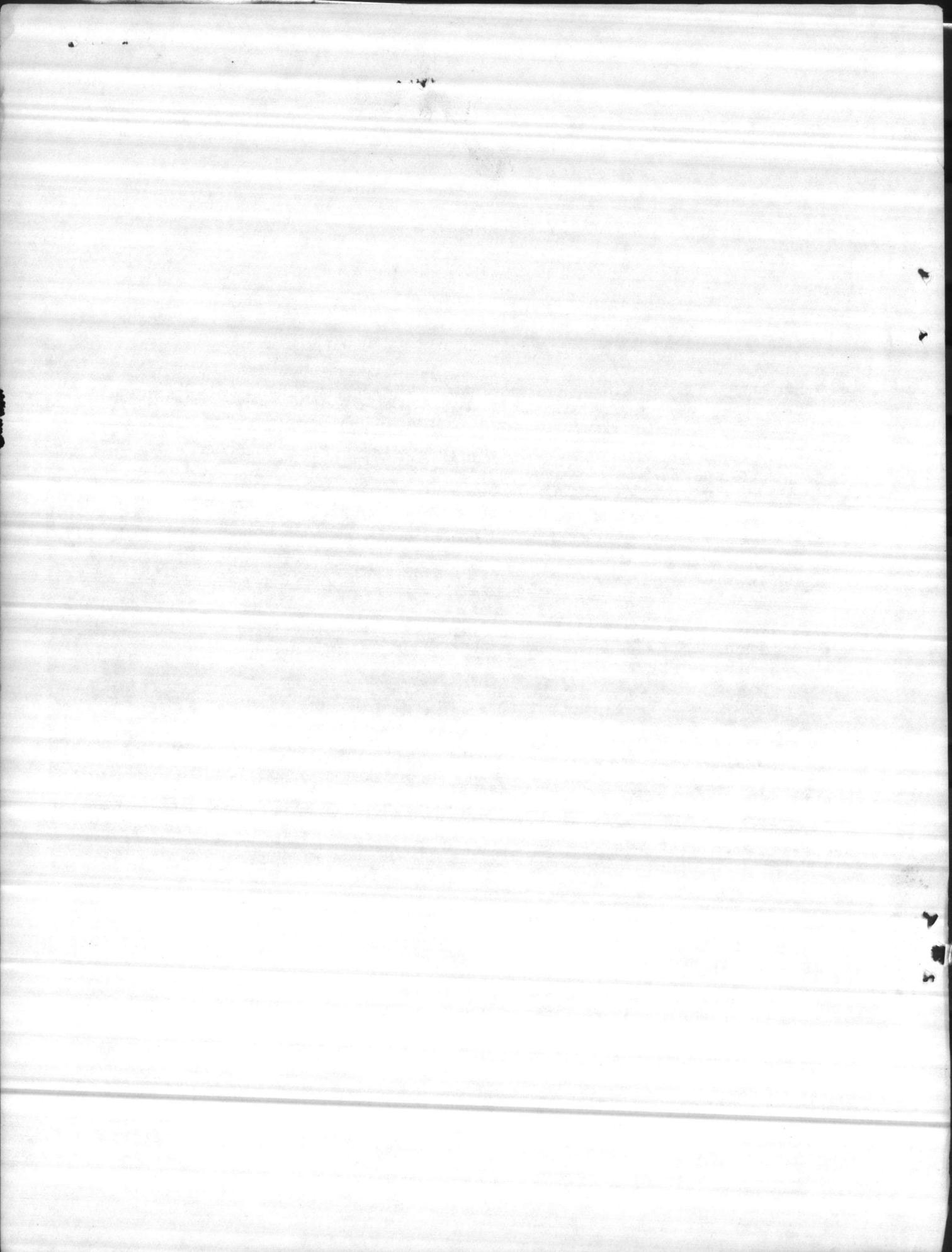


**MARINE CORPS BASE  
CAMP LEJEUNE, NORTH CAROLINA**





A FAWN IN SPRINGTIME



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## SUMMARY OF THE REPORT

PURPOSE. This summary is included to present section contents and highlights of the overall report in a concise form.

### SUMMARY BY SECTION

#### SECTION I. BACKGROUND, POLICIES AND PLANS

Section I sets forth the background, policies, objectives, present and future plans, and problems involved in the conservation of natural resources. A brief description of the background of the Marine Corps Base, Camp Lejeune, is given and the official mission of the Base is provided. The official policy of the command is to restore, improve and preserve the natural resources to the maximum extent possible, working in close coordination with state and federal authorities in planning, developing, maintaining and coordinating the conservation effort. Representatives of the Bureau of Sports Fisheries and Wildlife, U.S. Fish and Wildlife Service, and of the North Carolina Wildlife Resources Commission have rendered considerable and valuable assistance, under the existing Cooperative Plan, in greatly enhancing the conservation program. Objectives to achieve the ends of the program have been established. Major problems in attaining these objectives stem primarily from the magnitude, complexity and interacting relationships of principal elements of the overall program, which are in varying degrees of development, planning, programming and accomplishment. Progress has been made, and more is expected in the future. Present and future plans are discussed in some length and detail in this section. Highlights are: increased acreage in wildlife food plots, fresh water ponds and continued progress to establish a 200-acre freshwater lake recreational area.

#### SECTION II. COMMITTEE FOR THE CONSERVATION OF NATURAL RESOURCES

This section describes the membership and responsibilities of the subject committee. It is the primary command tool for developing plans and recommendations for the conservation program. It acts to coordinate the various major sub-elements of the program, and obtains professional and technical advice from local, state and federal conservation officials. The membership of the committee includes representation from all major commands located at Camp Lejeune, and Base staff officials whose duties are concerned with aspects of the conservation program.

### SECTION III. PROGRESS REPORT

This section treats the many and varied activities that took place in 1966. Significant events were the increase in programmed funds from \$2,313,000 to \$2,795,000 for water pollution control in the New River and Inland Waterway for accomplishment in Fiscal Year 1968. Programming is being conducted for funds in the amount of \$85,000 to build a dam that would provide a 200-acre lake and an associated recreation area. Prescribed burning was completed on approximately 8,000 acres during this year. The sale of timber grossed approximately \$140,836 for the Government. Of the seven fresh water ponds reclaimed in 1966, five are now stocked with a variety of game fish. Two are stocked with channel catfish and are open for fishing at this time. The five stocked with game fish will be opened for fishing in the spring of 1967. Numerous squirrel and wood duck boxes were fabricated and sited during the year. Deer skinning racks were constructed at the Rod and Gun Club. Thirteen duck blinds in the New River inlet area were repaired. Clearing of small trees and scrub from the creek banks of Wallace Creek was accomplished.

### SECTION IV. ACREAGE

Section IV describes acreage within the Camp Lejeune reservation, discusses improved land acreage, accessible fresh water ponds and streams, land available for hunting, and water acreage and miles of improved streams.

### SECTION V. FISH AND WILDLIFE RESOURCES

This section describes the fish and wildlife resources of Camp Lejeune, and gives some details on the wildlife populations and the number of deer, bear and turkey harvested. There were 443 White Tail deer taken during the hunting season, 4 bear and 5 wild turkey were taken by hunters.

### SECTION VI. COMMUNITY RELATIONS

Camp Lejeune enjoys excellent community relations, particularly with communities within a radius of some 50 miles. The Base is generally open and visitors most welcome. Numerous athletic events, competitions and the outstanding recreational facilities attract many people.

### SECTION VII. ACTIVITY POPULATION

This section indicates that the average activity population at Camp Lejeune was 72,000 persons during 1966.

## SECTION VIII. CONSERVATION EDUCATION

This section explains the conservation education program at Camp Lejeune. Education in resource management and regulation is accomplished through the efforts of and programs established by the Committee for the Conservation of Natural Resources and the Rod and Gun Club, the Base schools and the Base newspaper, THE GLOBE. Gun safety and water safety are continually being stressed.

## SECTION IX. CAMP LEJEUNE ROD AND GUN CLUB

Section IX discusses the Rod and Gun Club activities and its participation in the development of wildlife conservation projects and recreational activities. The members of the Rod and Gun Club number 268 who very actively support the conservation program with a great deal of voluntary effort.



GAME CLEANING RACKS CONSTRUCTED BY THE CAMP LEJEUNE ROD AND GUN CLUB DURING 1966.

## SECTION I. BACKGROUND, POLICIES AND PLANS

### BACKGROUND

The Marine Corps Base, Camp Lejeune, North Carolina, is on the Atlantic Seaboard some 50 miles north of Wilmington, N. C. Jacksonville, North Carolina is the nearest civilian community. The Base comprises approximately 170 square miles of land and water areas. The Marine Corps acquired this reservation in 1941 and has subsequently developed it into a home base and training area for the 2d Marine Division, Fleet Marine Force, and Force Troops, Fleet Marine Force, Atlantic. Twelve miles of open coastline makes the Base eminently suitable for training these Marine Corps elements of the operating forces. In addition to providing these facilities, Marine Corps Base also maintains and operates formal schools for engineer and supply personnel.

### MISSION OF THE MARINE CORPS BASE, CAMP LEJEUNE

The mission of the 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.

### POLICY ON NATURAL RESOURCES

It is the continuing policy of this command to restore, improve and preserve the fish and wildlife resources of the land and waters of this Base to the maximum extent possible in the public, as well as the military interest; to encourage and give incentive to fish and wildlife activities of the Base; and to provide within manageable quotas, for controlled public access to the fish and wildlife resources of the Base on a first-come, first-served basis when such can be accomplished without impairment of 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 wildlife, fish and game conservation, forestry management, and rehabilitation on the base.

## COORDINATION AND COOPERATION

In 1963, Base Officials executed 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. Representatives of these agencies have made a number of visits to Marine Corps Base 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 fire-suppression agreement, covering training schools on large-fire suppression organization, has been established with the North Carolina Department of Conservation and Development. This agreement is a part of the fire plan for the State.

## OBJECTIVES

The management and conservation effort on the reservation 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 beneficial vegetative cover.

b. Utilization and care of the natural resources in the manner best suited for the present and future military requirements, and 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. The 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. The improvement of the aesthetic value of streams and woodlands.

g. Achievement of effective water pollution control.

## PROBLEMS

The major problems facing management in connection with the various conservation programs stem primarily from the magnitude, complexity and interacting relationship of programs in varying degrees of development, planning, programming and accomplishment. The Forestry Program, the oldest and best developed of the major programs, is well-organized, developed and projected. Generally, adequate appropriated funds are available to support it. The program to overcome water pollution is a major one at Camp Lejeune, and must be funded within the Military Construction Program. Since the reservation includes major water acreage containing marine life of considerable commercial and recreational value, control of pollution is obviously most important to the conservation effort. In connection with the conservation of fish and wildlife, good working relations have been established with federal, state and local authorities and progress is being made. However, plans must be continuously reviewed to refine them and coordinate them with other programs, and relate them to both military requirements and the limited funding available. Command interest and support have been excellent, and future, rewarding progress is expected.

## PRESENT AND FUTURE 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 maintenance of projects for the control of predators.
- d. Development and supervision of plans for the harvesting of fish and wildlife species which will preclude over-population or extermination of any species.
- e. 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.
- f. 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.

were ready in May of 1966. A special timber harvest contract was let to clear the recreation lake area. This clearing was completed on 31 December 1966 and \$7,000 income to the Government was realized from this special harvest. However, the restoration of the earthen dam was considered unsafe and the cost of a new dam was estimated at \$85,000. Since a project of this magnitude cannot be accomplished on the local level, programming is underway for funds to complete this project.

c. FOOD PLOTS - A meeting with state and federal conservation personnel helped establish a five-year plan to increase our wildlife food plot acreage. Presently 218 acres are under cultivation for a total of 41 wildlife food plots. Five additional food plots of from three to six acres each will be added in 1967. The five-year plan, when executed, provides for 63 food plots for a total acreage of 338. Although this will exceed the  $\frac{1}{2}$  of 1% of "hard land" acreage prescribed by Headquarters Marine Corps for food plots, acreage will continue to be developed for this purpose as long as the need exists and the means are available. In addition to the established wildlife food plots, marshy areas and stream banks have been planted with plants for waterfowl food and multi-flora rose and lespedeza shrubs have been set out to provide food and cover for rabbits, quail and turkey.

d. FOREST MANAGEMENT - Forest management at the working level is executed by the Base Forester, Mr. C. F. RUSSELL. Mr. RUSSELL is a graduate forester. He is a member of the Committee for the Conservation of Natural Resources, and actively assists in the coordination of joint conservation plans. The Forest Management Program is presented on page 19.

e. POND TREATMENT AND STOCKING - One of the five fresh water ponds was poisoned and restocked with channel catfish. Additional freshwater ponds in the Duck Creek, Frenchmen's Creek areas will be stocked after completion of the Wallace Creek Dam Project.

f. CLEARING STREAM BANKS - The dense growth of weeds and brush along certain sections of stream banks, coupled with the prevalency of poisonous snakes in this growth during the warmer months, denies access to anglers to many otherwise desirable fishing areas. Clearing started in 1965 on the banks of Wallace Creek between Holcomb and Set Williams Boulevards. 1,500 feet of banks were cleared that year. During 1966 an additional 1,000 feet of stream banks were cleared and the 1,500 feet from the previous year was trimmed back from that year's growth.

g. CAMPSITES AND PICNIC AREAS - Development of one or more campsites and picnic areas near the proposed Wallace Creek Lake are under consideration for accomplishment after completion of the dam project.

h. PREDATOR CONTROL - A continuing hunting and trapping program will be maintained for predator control as required to maintain a balance of wildlife.

## SECTION II. COMMITTEE FOR CONSERVATION OF NATURAL RESOURCES

### GENERAL

The Committee for the Conservation of Natural Resources was established in August 1962. Responsibilities of the Committee are to assist and advise the Commanding General in implementing the provisions of Department of Defense and Secretary of the Navy instructions on conservation and management of the fish and wildlife resources of the Base.

### MEMBERSHIP

The Committee, headed by the Assistant Chief of Staff, G-4, consists of the following membership:

- Assistant Special Services Officer
- Representative, Base G-4
- Base Range Officer
- Base Game Warden
- Base Forester
- Representative, Base Security Officer
- President, Rod and Gun Club
- Representative, 2d Marine Division
- Representative, Force Troops

### RESPONSIBILITIES

The following responsibilities are assigned the Committee:

a. 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.

b. 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.

c. Prepare annually for the Commanding General's approval, a schedule and procedures for the conduct of organized and controlled hunts by civilians for all types of wildlife; the schedule to include recommended periods for civilian access to Base fishing and for boating facilities.

d. 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.

e. 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.

f. 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.

g. Ensure, when feasible, the local sportsmen groups are invited to sit in on meetings of the Committee as guests. The importance of establishing, maintaining, and improving Base-Community relations cannot be over-emphasized.

h. Review annually the cooperative plan between the Base, the Regional Director of the U.S. Fish and Wildlife Service, and the Executive Director, North Carolina Wildlife Resources Commission; and make recommendations to the Commanding General for any desirable changes in the plan.

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

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

k. 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.

l. 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.

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



ONE OF 41 FOOD PLOTS. THE AREA IN THE FOREGROUND HAS BEEN PLANTED IN RYE FOR DEER AND TURKEY FORAGE. IN THE BACKGROUND ARE SHRUB LESPEDEZA AND MULTI-FLORA ROSE SEEDLINGS.



TREES ARE MARKED BY A FORESTER FOR TIMBER HARVESTING.

## SECTION III. PROGRESS REPORT

### GENERAL

The year 1966 saw varying degrees of progress made in a number of areas. Significant steps have been taken in the Military Construction Program and Forest Management Program in matters pertaining to conservation. Better coordination between the various programs has been initiated. The work has continued in the area of planned and progressively programmed development of fish and wildlife resources to achieve better balance between the overall program and annual increments of it. In the meanwhile, progress has been made in actual achievement, and in preliminary work on advantageous projects for future accomplishments.

### FOOD PLOTS

The Forestry Section supervised the planting of 80 acres of summer wildlife mix to provide food for and to concentrate game birds such as quail and dove.

Approximately 100 acres were planted in the fall to wheat, barley, oats and rye to provide winter grazing for deer and turkey.

In addition, members of the Rod and Gun Club procured and planted on weekends over 20,000 shrub lespedeza plants and 15,000 multi-flora rose seedlings. Some marshy areas and stream banks, considered unsuitable for training, were planted with plants for waterfowl food.

A meeting was held with state and federal conservation personnel which included a field trip to pick sites for future wildlife food plots. A five-year plan was developed which provides for 22 additional food plots over that period of time. Five new sites were selected, soil samples were taken and these will be properly fertilized and planted during 1967. 41 food plots are currently under cultivation for a total of approximately 218 acres. The five-year plan, when fully executed, provides for a total of 338 acres of food plot land.

### CONTROLLED BURNING

Prescribed burning was completed on approximately 8,000 acres of timberland in 1966. Not only does this reduce the fire hazard, but it greatly increases new growth in the spring, thereby providing deer browse and forage for other small game. Additionally, all impact area and firing ranges

were burned to reduce the incidence of fire. The latter burning is an annual event.

#### TIMBER HARVEST AND INCOME

Timber to be harvested during Fiscal Year 1967 was marked and tallied and volumes calculated by Forestry Section personnel. This timber is located in compartments 7, 11, 24, 34, 35, 56 and 57. The harvesting in these areas is to be completed prior to 1 July 1967.

The volumes and values of this timber are as follows:

	<u>Amount Harvested</u>	<u>Gross Income</u>
Pine sawtimber	2,644,000 Board feet	\$108,417
Pine pulpwood	3,721 Cords	22,326
Hardwood sawtimber	242,000 Board feet	5,611
Hardwood pulpwood	1,793 Cords	<u>4,482</u>
TOTAL DOLLAR VALUE (GROSS)		\$140,836

Under the Forest Management Plan there will be a continuing program of timber sales from Camp Lejeune. The present trend is for the amounts cut to remain approximately constant throughout the next seven years.

#### TIMBER ACCESS ROADS AND FIREBREAKS

Approximately five miles of access roads were constructed in 1966. These roads have been and are being used as haul roads for sawtimber and pulpwood. They are also used by hunters, fishermen and military personnel in the field, and serve as firebreaks and access for fire control purposes. In addition to the newly cleared roads, approximately ten miles of existing timber access roads were graded and cleared of small new growth.

#### WATER POLLUTION CONTROL

Surveys conducted by North Carolina State authorities have determined that the degree of water pollution in major areas of New River, Southwest Creek and the Inland Waterway is unacceptable. The Base has included in its Fiscal Year 1968 Military Construction Program, projects for secondary sewage treatment facilities at Hadnot Point, Camp Geiger, the Rifle Range and Onslow Beach. This survey was conducted in 1964 and was originally included in the Military Construction Program for Fiscal Year 1967, in the amount of \$715,000.

It was deferred that year by the Department of Defense for programs of a more urgent nature. It has not only been approved for the Fiscal Year 1968 program by the Department of Defense, but the amount approved has been increased to \$2,795,000. Work will commence on this project in the near future, pending congressional approval.



CONTRACT PLANS FOR THE WALLACE CREEK DAM ARE REVIEWED BY COLONEL R. O. DILLOW, CHAIRMAN OF THE CONSERVATION COMMITTEE, MR. C. RUSSELL, BASE FORESTER AND SERGEANT MAJOR J.C. PALMA. THESE PLANS WILL BE USED BY A CONTRACTOR IN CONSTRUCTING THE PROPOSED DAM.



MARKETABLE TIMBER IS LOADED BY CONTRACTOR. THE LONG RANGE FOREST MANAGEMENT PLAN PROVIDES FOR A CUTTING CYCLE OF TEN YEARS.

U. S. DEPARTMENT OF AGRICULTURE - SOIL CONSERVATION  
SERVICE

WALLACE CREEK DAM

Based on a recommendation from the Rod and Gun Club, it was determined from a preliminary survey that it is feasible to dam the center reach of Wallace Creek to form a fresh water lake of approximately 200 acres. At first it was thought to be practical to restore an old earthen grist mill dam to include a concrete overflow spillway, and plans were made accordingly. The U. S. Department of Agriculture Soil Conservation Service was requested to conduct an engineering survey to substantiate the preliminary survey conducted by Marine Corps Base. The Department of Agriculture performed an extensive study over a number of weeks, and the study indicated the proposed replacement dam, although damming the lake would not withstand anticipated water buildup resulting from heavy rainfall and hurricanes common to the area. Although replacement of the dam would pose little difficulty, structures below the dam would be endangered and the risk could not be accepted.

To overcome this problem, the Department of Agriculture proposed a site a short distance upstream from the old grist mill dam and that a substantial structure sufficient to withstand the expected water buildup be constructed. This recommendation was concurred in. Contract drawings and specifications were prepared by the Department. These plans provide a structure two hundred feet long with concrete spillways at both ends. It will store water ten feet deep at the dam and form a lake of approximately two hundred acres. The estimated cost for the structure is \$85,000.

This high cost is considered acceptable because of the enormous benefits which can result from the lake as a fishing and recreation area. It would be the largest accessible man-made lake in the eastern half of the state. Work has been started on the proposed lake area. A timber contract has resulted in the selling off of marketable timber in the area grossing \$ 7,000 for the Government. Clearing of scrub and brush has begun. The only remaining obstacle is funding for the construction of the dam. Since the cost is in excess of local approval authority, a project submission is under development for submission to Headquarters Marine Corps for programming of funds for the dam construction. Whether funds will be furnished by an agency of the Department of Defense or other government agencies is not known at this time. However, it is anticipated that construction will be started on the dam in the near future.

## FRESH WATER PONDS

In 1966 two of the five fresh water ponds stocked in 1965 were opened for fishing. Three ponds were stocked with bass, bluegills, and red ear. The three game fish ponds will be opened for fishing in the spring of 1967. The two ponds opened in 1966 were stocked with channel catfish. Good results are being experienced by fisherman using the two ponds currently open. Paper and pencil and a chit box are located at each pond for anglers to use to report the number and size of their catch. This will provide accurate information on the growth and health of the fish, allow for the proper amount of feeding and fertilizing and act as an indicator for restocking.

## FOREST MANAGEMENT PLAN

Forest management at Camp Lejeune began with the establishment of the base in 1942. At that time, Marine Corps officers with forestry backgrounds were assigned as forestry officers and were responsible for providing sawlogs for the camp sawmill. This circular mill, with its daily capacity of 10,000 board feet, operated from 1944 until 1954, providing lumber for maintenance and construction purposes. In 1954 it was closed by executive order.

Written plans or organized resource surveys were not developed during the early years, probably because of the transitory nature of Marine Corps officer assignments. In 1946, however, Lieutenant ZOBLE (now Dr. ZOBLE of North Carolina State University) undertook a forest survey and formulated a written long range forest management plan. Later in the same year, a civilian professional forester was added to the staff, and Dr. ZOBLE was released from active duty.

In 1954 and 1964 resurveys were made and the plan rewritten and revised. The latest resurvey and revision was accomplished by U. S. Forest Service personnel through a cooperative agreement between the Department of Defense and the Department of Agriculture. This included an establishment of a continuous forest inventory and a low intensity woodland suitability survey.

In 1962 a second professional forester was added to the staff and in 1964 two fire towermen were promoted to forestry aides and two additional forestry aides were hired.

The forest resources aboard Camp Lejeune consists of

180,064,000 board feet of pine sawtimber; 207,310 cords of pine pulpwood; 48,188,000 board feet of hardwood sawtimber and 188,983 cords of hardwood pulpwood. This is only timber which was of merchantable size at the time of the 1964 survey.

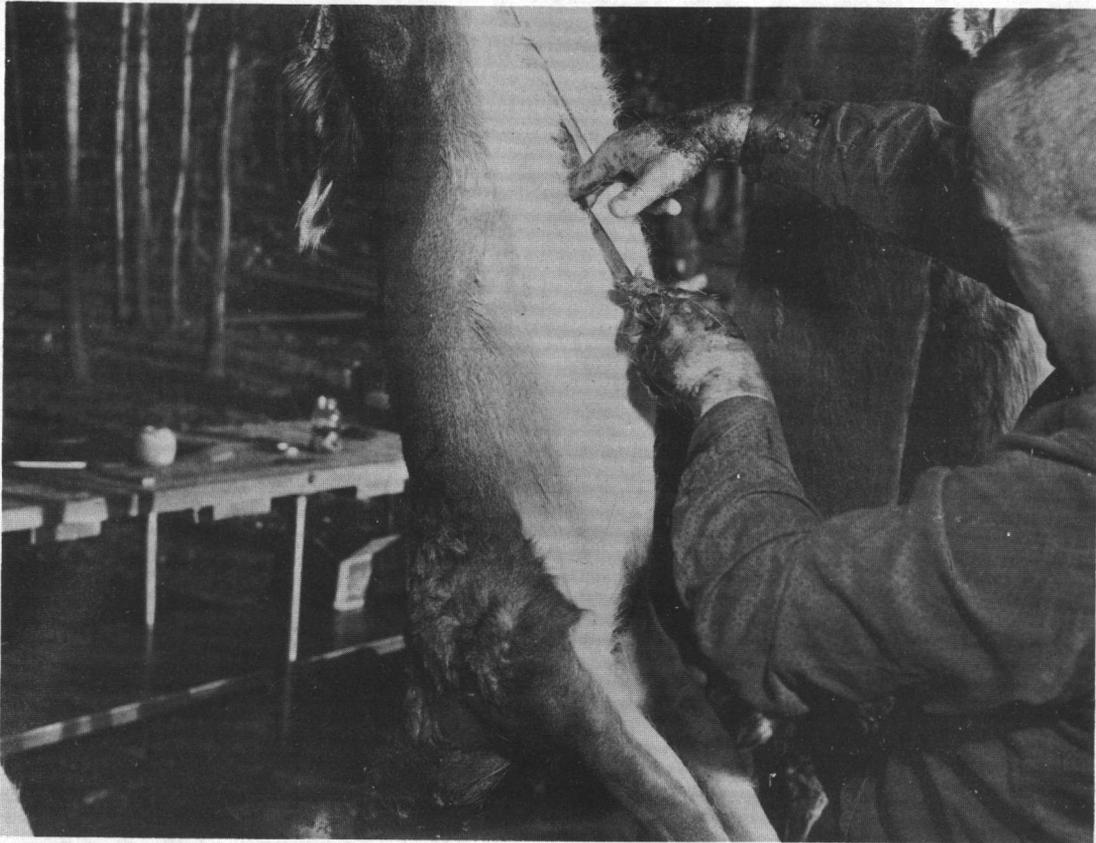
All phases of the Fiscal Year 1967 increment to the Forest Management plan have been or are being carried out. Site preparation on 78 acres with heavy equipment was completed in late summer. 45 acres of this total will be direct seeded, with natural reproduction from seed trees expected to regenerate the remainder of the area.

140 acres were treated by use of tree injection and 2-4-D for the removal of scrub species and the release of pine seedlings.

The 1966 fire season was very light. Only 26 reportable fires occurred and the loss of timber averaged only seven acres per fire.

The long range forest management plan with annual addendums and revisions will determine the future course of the forestry program.

A continuing program of timber sales is planned. Over 60,000 acres of land is considered commercial timber land. A cutting cycle of 10 years has been established which means that approximately 6,000 acres are to be operated annually.



STATE GAME BIOLOGIST INSPECTS LOCAL DEER AT CHECKING STATION TO ASSIST THE BASE IN DEVELOPING A HIGHER QUALITY ANIMAL.

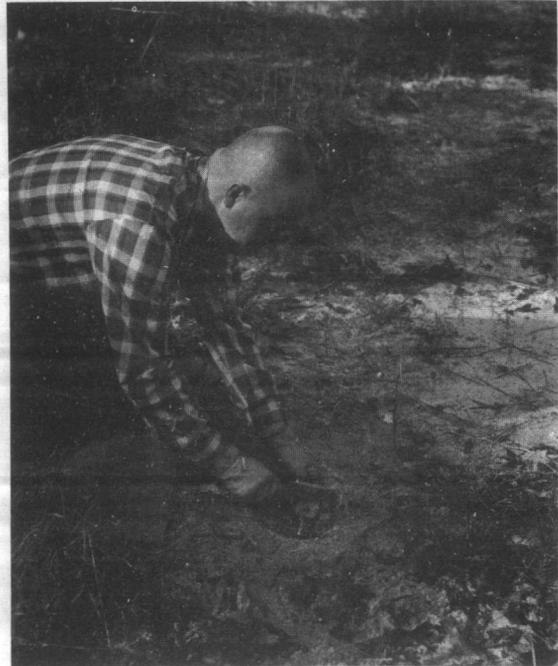
GAME CHECKING STATIONS AND SCALES - The Rod and Gun Club, under guidance of the Base Game Conservationist, provided weighing facilities at two game checking stations located on either side of the base. The weights of all deer taken were recorded to be used in developing a higher quality animal. A State Game Biologist visited the Base on several occasions during the hunting seasons. Weight information was furnished to the biologist. In addition, he inspected, photographed, and took parts of the harvested deer for more detailed study. The results of this study will be used by the Base to determine vitamin deficiency, over-populated areas and the general condition of the herd so that required corrective action may be taken.

## SOIL SURVEY

The soil testing conducted during 1966 was to determine proper fertilizer for the five new wildlife food plots to be planted this year. Containers and instructions for taking the samples were obtained from the County Soil Conservation Agent.



BASE GAME WARDEN  
SETTING TRAPS FOR  
PREDATORS.



A SCENT POST SET IS MADE  
BY BASE GAME WARDEN. SCENT  
IS USED TO LURE PREDATORS  
TO TRAP SET IN VICINITY.

## PREDATOR CONTROL

In order to maintain an equitable balance of wildlife, it is necessary to provide for predatory control. During 1966, the game count indicated an excess of predatory animals. The Base Game Protector conducted a trapping program with the following results: 7 bobcat, 20 fox, 31 skunk and 6 wild dogs were caught.



## ROD AND GUN CLUB CONSTRUCTING WOOD DUCK BOXES

### WOOD DUCK BOXES

In an effort to support the North Carolina Resources Wildlife Commission's program of increasing the wood duck population through building artificial nests in the form of wooden boxes, the members of the Rod and Gun Club built during their own time on weekends a total of 50 boxes during 1965. These were placed near ponds and creeks in time for the spring breeding season, 1966. Wood ducks were observed using these boxes to such an extent that 100 additional boxes were constructed and placed during 1966. It is anticipated these wood duck boxes and the ideal breeding situations that the Camp Lejeune area offers will assist the wood duck population to double over the year 1967.

### COOPERATIVE MANAGEMENT PLAN

The basic cooperative management plan, executed in 1963, was expanded by the addition of two exhibits in February 1964. These exhibits concern respectively: principal land and water areas suitable for fish and wildlife, principal species, conditions of habitats, and projects; and agreed responsibilities of state and federal agencies. Appendix A contains these exhibits.

## FIELD ARCHERY

The Field Archery Range has been expanded to 28 different types of targets. Trails lead through the area from target to target. Considerable underbrush has been cleared to make the targets available and also to provide a picnic area for a family size outing. The area includes a barbeque pit, tables, benches and an enclosed play area for children, complete with playground equipment.

## PICNIC AREAS

There are six picnic areas aboard the Base under the control of the Special Services Officer. Most of these are equipped with shelters, barbeque pits, picnic tables and benches.

## WATER SKIING

This activity continues to expand and has become an extremely popular sport for both military personnel and their dependents.

## STABLES

A stable complex, including a stable, olympic riding ring, rodeo ring and training rings have been constructed off Stone Street, in the Paradise Point area, at an approximate cost of \$30,000, covering approximately 15 acres. At present, the stable owns 39 horses which are available to service personnel and dependents at a reasonable hourly rate. Horse care and riding instructions are conducted by stable personnel, two hours in duration, five days a week. On weekends and holidays an average of 80 persons per day take advantage of the riding stables.



AN AERIAL VIEW OF BASE STABLES, COMPLETED IN 1966  
30 MILES OF BRIDAL PATH IS AVAILABLE THROUGH WOODED  
AREAS.

## SECTION IV. ACREAGE

### GENERAL

The Marine Corps Base, Camp Lejeune military reservation contains 109,047 acres. There are 65,000 acres of hard land suitable and available to support wildlife; 26,000 acres are water. The reservation is located on the Atlantic seaboard, south of Cape Lookout and approximately 50 miles north of Wilmington, North Carolina. Irregular in shape, it extends some 15 1/2 miles from the Atlantic Coast to the City of Jacksonville on a Northwest-Southeast axis, and approximately the same distance at its widest point on a Northeast-Southwest axis. A main water area, the New River, divides the reservation into two unequal parts with about two-thirds of the land area lying to the east of the river.

### IMPROVED ACREAGE

There are approximately 218 acres cleared for game food plots and 200 acres under reforestation. Several thousand acres have been cleared or partially cleared for training purposes. These latter acres provide varying degrees of support to wildlife through the grasses, legumes, weeds, brush and trees found growing on them.

### WATER ACREAGE AND MILES OF IMPROVED STREAMS

Approximately 6 1/2 acres of fresh water ponds and 14 1/2 miles of fresh water streams are available for fishing. The New River is considered salt water, as is the portion of the Inland Waterway traversing the reservation in rear of Onslow Beach. Seven miles of this 12-mile stretch of the Inland Waterway are available for fishing. The banks of New River offer about 35 miles of shore area from which to fish.

### ACCESSIBLE FRESH WATER PONDS AND STREAMS

The reservation contains 6 1/2 acres of fresh water ponds and 14 1/2 miles of fresh water streams; there are 3 acres of fresh water ponds, not included above, which are located in impact areas and deemed inaccessible.

### LAND AVAILABLE FOR HUNTING

Approximately 60,000 acres of land are available for recreational hunting. The total acreage available on any given hunting day must, of necessity, vary with the training requirements of the day. Built up areas,

impact areas, firing ranges, and camp sites are excluded from hunting at all times. Portions of the Paradise Point area and the Montford Point Schools area are hunted selectively to ensure the desired harvest of the deer herd.



A BUCK IN VELVET



## DUCK BANDING AT CAMP LEJEUNE

Each winter after the hunting season, waterfowl banding operations are held up and down the Atlantic Flyway. Camp Lejeune, with its naturally ideal environment for waterfowl, takes an active part in the operations each year.

Three banding stations were set up on Base this year, under the supervision of Base Game Protector Charles Peterson and State Wildlife Patrolman Paul Metters.

Waterfowl, usually ducks, which are caught in wire traps are banded about the leg. Those caught which have been previously banded have their numbers recorded.

Hunters are also requested to send bands found on any ducks they kill to the Fish and Wildlife Service.

From this information, migratory habits of the waterfowl, percentage of kill during the hunting season, population trends, and lifespan can be determined. In turn this information is used to determine the dates of hunting seasons and bag limits.

## SECTION V. FISH AND WILDLIFE RESOURCES

### VARIETY OF WILDLIFE SPECIES

The principal species of wildlife found on this installation are: white tail deer, bear, wild turkey, fox, squirrel, rabbit, raccoon, opossum, bobcat, quail, duck and dove. A few alligators are found in the more remote areas. Reports have also indicated the presence of ruffled grouse aboard the base.

### ESTIMATED POPULATIONS

Wildlife populations at Camp Lejeune were estimated during the year 1966. This was accomplished with the cooperation of the State of North Carolina Conservation Personnel.

During the spring of 1966, weather conditions favored the wild turkey and a large number were seen during the summer months. The estimation below is provided from the 1966 data furnished by the Game Warden's Office.

<u>SPECIES</u>	<u>POPULATION</u>
Deer	3,300
Bear	14
Turkey	280
Grey Squirrel	Plentiful
Fox Squirrel	Scarce
Rabbit	Scarce
Raccoon	Plentiful to excessive
Bobcat	Plentiful
Fox	Excessive
Opossum	Excessive
Quail	Plentiful
Dove	Relatively Few
Duck	Plentiful
Skunk	Excessive

The 1966 population estimate indicated a considerable increase in the number of skunk, bobcat and fox at Camp Lejeune. This increase appeared to be out of balance with the small game population. A predator trapping program was carried out in an attempt to maintain the proper balance of wildlife.



GRAY SQUIRRELS ARE ABUNDANT AT CAMP LEJEUNE



SOME PEOPLE PREFER TO "HUNT  
WITH A CAMERA. MR. BOBCAT IS  
"SHOT" BY THE ALERT CAMERA-  
HUNTER!



A SUCCESSFUL BASE HUNTER - BEFORE AND AFTER HIS KILL

## GAME KILL

Records are maintained on only three species of game: deer, bear and wild turkey. With the many tributaries found in New River and many miles of shore line, poaching has been a problem. This command continues to work towards its elimination.

Applicants for a Base hunting permit are required to sign a certificate of understanding to indicate that they are familiar with and will comply with base, county, state and federal hunting regulations and the basic principles of hunting safety. They are also required to present a North Carolina State or Onslow County hunting license for inspection by the issuing officer. In addition, migratory bird hunters must possess a valid Federal Migratory Duck Stamp. Certificates of understanding are signed and permits issued at the Base Game Warden's Office located at the Hadnot Point Area. Specific clearance for hunting must be obtained from the Game Warden's Office.

Deer, bear and turkey tags are issued to each hunter at the time he purchases a daily or seasonal Base hunting permit. These tags are attached to bagged game as soon as the game is taken and must be validated by the proper official before the game is removed beyond a validating station. The number and type of game killed during the 1966 hunting season was:

White tail deer	-443
Bear	-4
Turkey	-5

An additional 34 deer were lost through automobile accidents.

A total of 2,318 hunting/fishing permits were sold during the year - 1,464 to military personnel and 854 to civilians.

## FISH SPECIES

The principal fresh water fish found in the waters of the Base are: largemouth bass, bluegill, perch, pike, catfish, bream and robbin. Salt water fish are: channel bass, striped bass, flounder, spotted and grey trout, spot, croaker, mullet, king and Spanish mackerel, bonita, dolphin, amberjack, sheepshead, sea bass, bluefish, whiting, white perch and black drum. Shellfish species are: shrimp, oysters, clams, conch, wilk and scallops.



A FINE SPECIMEN OF TROUT EXHIBITED BY A PROUD  
YOUNG ANGLER.

There are more personnel fishing at Camp Lejeune than hunting. Salt water fishing dominates sport fishing. North Carolina is one of the few states which allows gigging of flounder and this sport is carried out year round with successful results. Many commercial fishermen rely on this method of producing a livelihood. With the renovation of the five fresh water ponds and the Wallace Creek Dam, it is hoped that fresh water fishing will be increased throughout the Base.

## SECTION VI. COMMUNITY RELATIONS

### GENERAL

The Marine Corps Base, Camp Lejeune strives continuously to improve the already fine community relations that exist. Especially harmonious relations prevail between the Base and civilian communities within a radius of approximately 50 miles. With the exception of areas one normally expects to find restricted on a military reservation, the Base is open to the public. School classes, church groups, Boy and Girl Scouts, and clubs are welcomed and given demonstrations and guided tours. Large groups, such as the North Carolina State Legislature have been entertained on occasion. Facilities for an overnight stay and meals have been provided Boy Scout Troops passing through or visiting the area. Many visitors are attracted by the extensive recreational facilities available and sports competitions. The Base is particularly beautiful in the Spring when thousands of colorful azalea plants and dogwood trees are in bloom. This attracts many visitors for sightseeing.

### COOPERATION

Excellent and unselfish cooperation has been extended to the Base by Onslow County officials and representatives of the North Carolina Wildlife Resources Commission and the Bureau of Sports Fisheries and Wildlife, U. S. Fish and Wildlife Service.

U. S. Forest Service personnel and North Carolina State biologists have been most helpful in planning a sound Forest Management Program. The cheerful, interested and unstinted assistance of these individuals is responsible, in a large part, for such success as is enjoyed in the various conservation programs.

### PUBLIC ACCESS

In addition to military personnel, their dependents, and civilian employees, retired military personnel residing in the locality, guests of personnel stationed at the Base and properly authorized civilians are permitted to hunt and fish on the reservation. Commercial fishing is authorized in New River, subject to coordination with training activities for safety purposes. North Carolina State Highway Number 172 traverses the reservation near the coast, and is open for public use except on rare occasions when traffic must be rerouted for safety reasons due to firing live ordnance in the vicinity.

## COOPERATIVE MANAGEMENT PLAN

Since adoption of the basic plan in 1963, two exhibits have been prepared. These were added to the plan in February 1964. The exhibits are included in Appendix A.

### SECTION VII. ACTIVITY POPULATION

#### GENERAL

The approximate population utilizing the facilities of the Marine Corps Base, Camp Lejeune is 72,000. This includes 5,000 civilian employees of appropriated and non-appropriated fund activities, Marine Corps and Navy personnel and their dependents residing on the reservation and in the surrounding area. Also included are personnel attached to the Marine Corps Air Facility, New River, Jacksonville, North Carolina.

### SECTION VIII. CONSERVATION EDUCATION

#### GENERAL

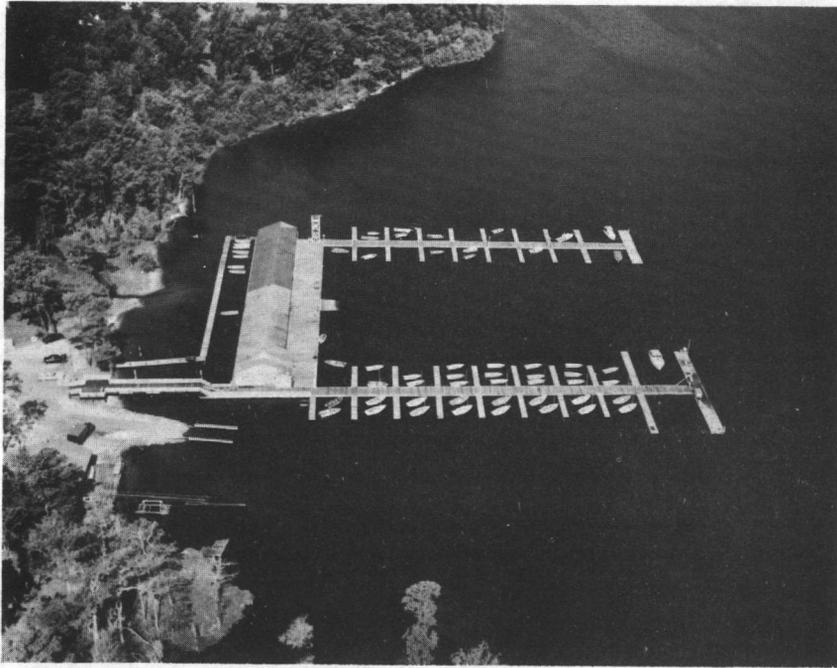
Education in resource management and regulations is accomplished through various programs sponsored by the Rod and Gun Club; the Base newspaper, THE GLOBE; Camp Lejeune Dependents' Schools; Base Regulations, and the Committee for Conservation of Natural Resources. Federal and state officials periodically visit and meet with the Conservation Committee to provide basic information and technical advice. Through the Rod and Gun Club, a continuous program of education in resource management and regulations is presented to the Club Membership.

#### GUN SAFETY

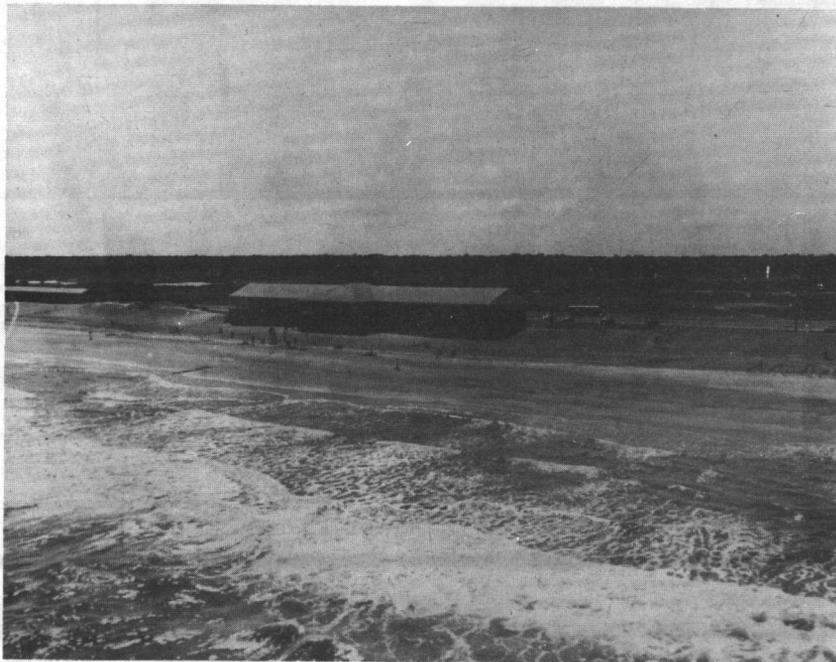
Gun safety is continually stressed at Camp Lejeune. Prior to each hunting season, several presentations, including films, are made by the Rod and Gun Club, not only to its members, but to the general public as well. The Base newspaper publishes feature stories on gun safety. Other groups, such as skeet teams and the Rifle and Pistol Club have a continual gun safety program.

#### WATER SAFETY

This installation has the finest recreational, small craft, and general water facilities found anywhere (boats, canoes, sailboats, outboards, five pools and an ocean beach).



WALLACE CREEK BOATING FACILITY.



ONSLow BEACH RECREATION AREA

The Camp Lejeune Water Safety Program has essentially three facets:

- a. The large and well organized teaching program during the summer youth activity program.
- b. Training of military personnel to serve as life-guards and instructor trainers.
- c. Assistance, at unit level, in service training in required Marine Corps swim skills development.

The high point of the 1966 Water Safety Program was the all day 4th of July Water and Boat Show, which was sponsored jointly by Base Special Services and the American Red Cross. The demonstration included rowboats, canoes, and basic rules for the handling of small craft. At the conclusion of the safety demonstration, the group entertained the spectators; thus, through entertainment, comes the opportunity to educate. The program demonstrated the need for water sports participants to know all the rules and skills of safe water sports.

The Base sponsors scuba diving and water skiing clubs to train participants in correct and safe methods of pursuing and enjoying these sports.

Classes are held year round by Red Cross water safety instructors for training Cub Scouts, Girl Scouts, Boy Scouts, Base-sponsored Teen Clubs, as well as dependents (wives and children who are not in the above categories) of Marine and Navy personnel.



ADVANCED STUDENTS EXHIBIT THE SKILLS THEY HAVE LEARNED IN THE SAILING CLASSES

## HUNTING AND FISHING INDOCTRINATION

Hunting and fishing indoctrination is largely stressed through the activities of the Rod and Gun Club and the Camp Lejeune newspaper. Prior to hunting or fishing, personnel must display a thorough knowledge of federal, state, and base game and fish laws and regulations. Pocket-sized reproductions of Base Hunting Regulations were provided all hunters.

## BOY SCOUT ACTIVITIES

Activities at the Base offer programs from the Cub Scout through Explorer Scout levels. There are approximately 450 Boy Scouts and Cub Scouts in the Camp Lejeune Scout Program.

They have contributed to the wildlife conservation program by building numerous houses for wood duck, feeding and caring for the ducks and preventing predators from infesting the nestling areas. Special attention has been given to the propagation of wildfowl in the Scout Camping area. One troop has built twenty birdhouses in the area and has an established feeding program to prevent large scale starvation of the birds in the event of sustained freezing weather. Many of the Scouts have assisted the Rod and Gun Club in planting and harvesting wildlife food plots. A continuing program of clearing underbrush, forestry management and road repair and upkeep is conducted by the Scouts in their Camping Area. Education in woodsmanship and conservation of natural resources is stressed in all activities. A total of 1,000 Boy Scouts from other locations visited the Base during the year.

## GIRL SCOUT ACTIVITIES

There are approximately 400 Girl Scouts and Brownies in the Camp Lejeune Girl Scout Program. Their main contribution has been in the policing of picnic areas and grounds in the trailer park areas. Some 800 Girl Scouts from other activities visited the Base in 1966.

## WILDLIFE REFUGE/NATURE STUDY AREA

An area in close proximity to three elementary schools, the Junior-Senior High School and the Scout Camping Area has been set aside as a Wildlife Refuge/Nature Study Area. This area, of approximately 200 acres, contains six miles of nature trails and one food plot, and is maintained largely by school students and Scouts. The area is not suitable for troop training, hunting or fishing, but proves highly beneficial as an outdoor classroom for wildlife and conservation education for the younger people.

## SECTION IX. CAMP LEJEUNE ROD AND GUN CLUB

### GENERAL

The purpose of the Rod and Gun Club is to assist the Commanding General in the conservation, restoration and development of fish and other wildlife and its habitats at the Marine Corps Base, Camp Lejeune, North Carolina; to seek to obtain better fishing and hunting for personnel serving here, utilizing maximum resources available locally and with the full cooperation of private, local, county, state and federal agencies; to cooperate in obtaining proper fellowship among sportsmen by instructing and demonstrative measures; and to promote interest among non-sportsmen where such interests are conducive to better sportsmanship. The membership of the Rod and Gun Club is 268. This is over 100 more than were members in 1965.

### PARTICIPATION

During the period covered by this report the Rod and Gun Club participated in the following activities aboard the Base.

a. Poisoned and restocked one fresh water pond. Provided labor for the upkeep of all five fresh water ponds aboard the base.

b. Procured and planted over 20,000 shrub lespedeza and 15,000 multi-flora seedlings on weekends.

c. Cleared over 1,000 feet of stream bank and re-cleared 1,500 feet of stream bank which was originally cleared last year. This provides better and safer access to fishing areas.

d. Operated two sets of scales for the weighing of deer and bear at the two weighing stations.

e. Continued to acquire numerous books, magazines, pamphlets and other literature from federal, state, local and independent agencies on conservation, hunting and fishing.

f. Procured and showed films on wildlife, fishing and conservation to the club members each meeting night.

g. Invited state and federal fish and wildlife officials to address the membership of the Rod and Gun Club.

h. Provided huntmaster and assistants and supervised six organized deer/bear hunts during the 1966-67 hunting season.

i. Provided volunteers as deputized assistant game wardens to assist the Base Game Warden in the enforcement of fishing and hunting laws.

j. Rebuilt and repaired 10 duck blinds in order to provide facilities for personnel aboard the Base.

k. Built and erected 100 wood duck boxes in order to assist in providing larger numbers of these ducks.

l. Maintained records of all conservation projects undertaken on the Base and made them available to the State Game Biologist.

#### PROJECTS PLANNED FOR 1967

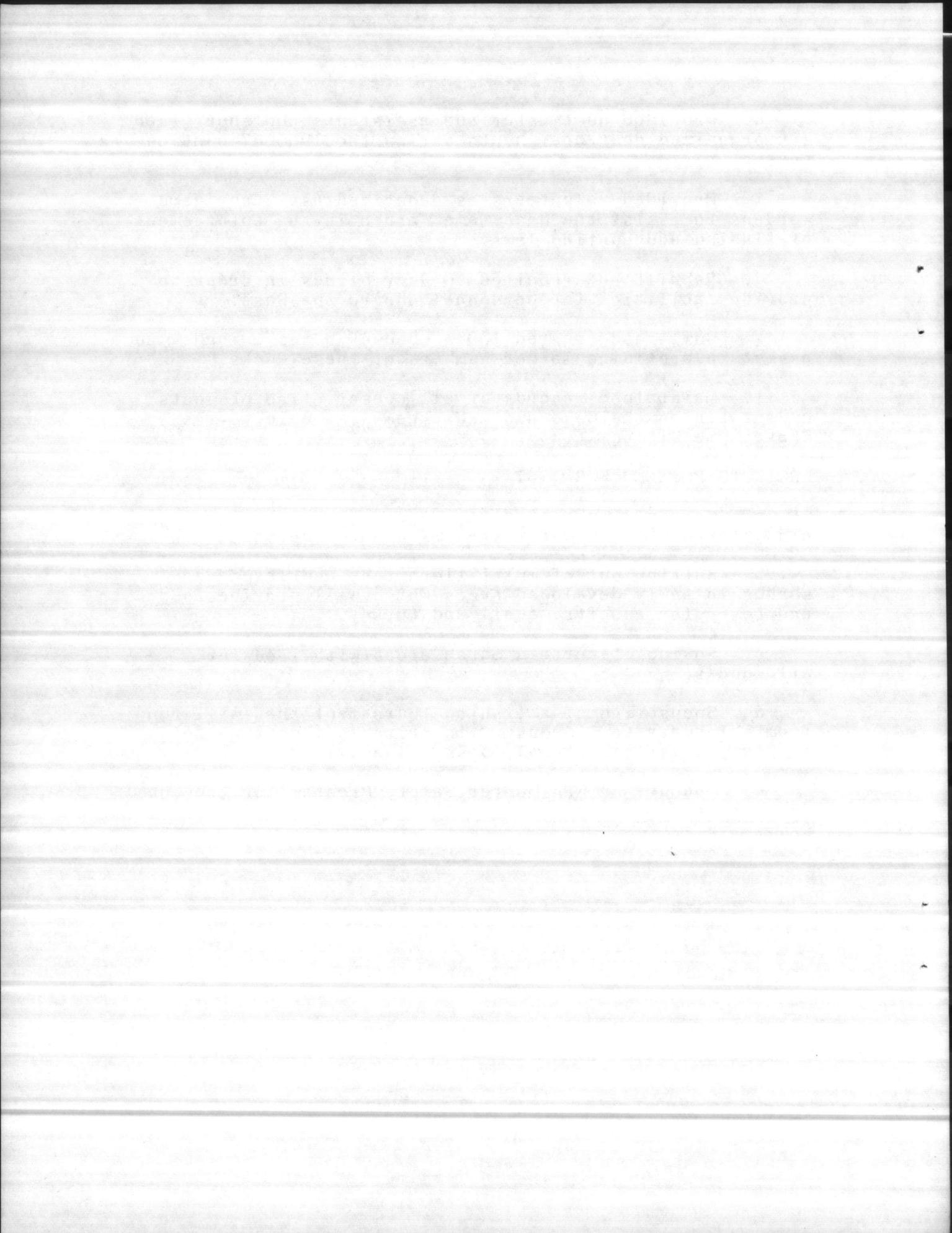
a. Continue an extensive program of brush clearing along certain fresh water streams aboard the Base.

b. Setting out of multi-flora rose and lespedeza shrubs in newly developed areas which will provide food and cover for rabbits, quail and turkey.

c. Sowing of certain marsh areas with food for wild ducks.

d. Sponsoring of a fishing tournament that will run from 1 January to 1 August with prizes being given for the largest king mackerel, bass, bluegill and jack.

e. Conduct an NRA Hunter Safety Program for teenage dependents.



COOPERATIVE PLAN  
CONSERVATION AND DEVELOPMENT OF FISH AND WILDLIFE  
U. S. MARINE CORPS BASE, CAMP LEJEUNE, NORTH CAROLINA

PREFACE

In accordance with the authority contained in Public Law 85-337, approved February 28, 1958, and in Public Law 86-797, approved September 15, 1960, the Department of Defense, the Department of Interior, and the State of North Carolina, through their duly designated representatives whose signatures appear below approve the following Cooperative Plan for the protection, development, and management of fish and wildlife resources on the U. S. Marine Corps Base, Camp Lejeune, North Carolina.

GENERAL POLICY STATEMENT

It is the continuing policy of the Commandant of the Marine Corps to restore, improve, and preserve the lands and waters under his management control in the public as well as the military interest. In furtherance of this policy, the Commander, Marine Corps Base, Camp Lejeune, North Carolina, as the representative of the Commandant of the Marine Corps, has implemented an active and progressive program for the management and conservation of natural resources on Camp Lejeune, North Carolina, hereinafter referred to as the Installation. This Cooperative Plan will be incorporated into and form a part of the Installation's program for the management and conservation of natural resources.

COOPERATIVE PLAN

SECTION I

The Representatives to this Cooperative Plan mutually agree:

APPENDIX A

1. To jointly conduct a general inventory review of fish and wildlife resources. When completed, the inventory will be attached to and made a part of this Cooperative Plan as Exhibit No. 1. The objectives of the inventory will be as follows:

a. To locate principal land and water areas suitable for fish and wildlife.

b. To list the principal species of wildlife, condition of their range, and record any data on population numbers.

c. To briefly describe water areas as to location, type, and acreage, with principal fish species known to be present, and with general observations on the quality of the aquatic habitat.

d. To evaluate and set forth the potential for the development of fish and wildlife resources on the Installation.

2. To prepare and attach as Exhibit No. 2 to this Cooperative Plan the agreement of the designated representatives regarding:

a. The agency or agencies who will be responsible for providing the Installation Commander with technical advice, assistance, and related services in fishery and wildlife management.

b. The type and extent of technical advice, assistance, and related services to be provided the Installation Commander.

3. To prepare as needed, on or about 2 January annually, an annual increment for the following fiscal year. The annual increment will include:

a. Fish and wildlife habitat improvement and development.

b. Provisions for balanced ecological conditions.

c. Regulated systematic harvests.

d. Provisions for stocking or restocking suitable fish and wildlife species, as necessary.

## APPENDIX A

- e. Estimated costs and professional services required.
- f. Amount and source of funds, including contributions, available to implement the annual increment.

## SECTION II

The Installation Commander agrees:

1. To work effectively and in harmony with Federal, State, and local conservation officials and with conservation agencies officially chartered, equipped, and manned by personnel trained to render professional advice and technical assistance in the conservation and development of fish and wildlife.
2. To provide within manageable quotas for controlled public access to the Installation for purposes of hunting and fishing when such access can be granted without bona fide impairment of the military mission.
3. To publish regulations regarding the Installation's program for harvest of game and fish. The regulations will include but not be limited to the following:
  - a. Purpose and scope of the program
  - b. Restricted areas and areas available for controlled public use.
  - c. Procedures and requirements for participation in the Installation's program.
  - d. Enforcement of regulations.

APPENDIX A

This Cooperative Plan, upon its adoption as witnessed by its execution, will be in full force and effect for an indefinite period. The Plan is subject to amendment or revision as may be agreed upon by all parties represented. A request for an amendment or revision to the Cooperative Plan may originate with any one of the represented parties.

FOR THE DEPARTMENT  
OF DEFENSE

By /s/ J. P. Berkeley  
Title Commanding General  
Marine Corps Base, Camp  
Lejeune, North Carolina

Date 19 Jun 1963

FOR THE DEPARTMENT  
OF INTERIOR

By /s/ Walter A. Gresh  
Title Regional Director, Bureau  
of Sport Fisheries and Wildlife,  
U.S. Fish and Wildlife Service,  
620 Peachtree-Seventh Building,  
Atlanta 23, Georgia

Date \_\_\_\_\_

FOR THE STATE OF NORTH CAROLINA

By /s/ Clyde P. Patton  
Title Executive Director, Wildlife Resources  
Commission, Raleigh, North Carolina

Date \_\_\_\_\_

APPENDIX A

EXHIBIT NO. 1  
to  
COOPERATIVE PLAN 1-63

1. The principal land and water areas suitable for fish and wildlife are:

a. Land

(1) The Marine Corps Base, Camp Lejeune, North Carolina, consists of approximately 81,000 acres of land, of which 65,000 acres are considered "Hard Land", i. e., areas available and suitable to support wildlife. This acreage excludes industrial, housing, and certain recreational areas on the Base.

(2) Those areas principally suitable for wildlife and considered "Hard Land" are contained in enclosure (1) hereto and identified as A, B, C, D, E, F, G, H, I, J, K, L, M, N, Q, R.

b. Water

(1) Fresh water streams and approximate mileage:

Lewis Creek	one mile
Southwest Creek	three miles.
Wallace Creek	three miles
French Creek	two and a half miles
Duck Creek	one and a half miles
Freeman Creek	two miles
Stones Creek	one and a half miles

Total mileage of fresh water stream is approximately fourteen and a half miles. These streams are fresh water and spring fed, subsequently leading to brackish and salt water.

Note; For location see enclosure (1)

APPENDIX A

(2) Accessible fresh water ponds:

<u>Name</u>	<u>Area</u>	<u>Acreage</u>	<u>Known Species</u>
Hog Pen Pond	HF	1/2	None
White House Pond	HF	2	None
Ceaser Pond	HF	1	Catfish
Ditches Pond	HF	1/2	None
Cedar Point Pond	IC	2	Catfish
Ward Pond	IA	1/2	Catfish

Total acreage 6 1/2 acres.

(3) Nonaccessible ponds located in impact area:

<u>Name</u>	<u>Area</u>	<u>Acreage</u>	<u>Known Species</u>
Wind Errie Pond	GB	1	Red pike & catfish
Mosey Pond	GC	1	None
Prince Pond	GD	1/2	None
Oak Pond	GD	1/2	None

Total acreage 3 acres.

Grand total of all ponds is 9 1/2 acres.

2. The principal species of wildlife, condition of their range and estimated population is:

<u>Species</u>	<u>Population</u>	<u>Range</u>
Deer	4,200	Good
Bear	14	Fair
Turkey	270	Good

<u>Species</u>	<u>Population</u>	<u>Range</u>
Squirrel (Gray)	Plentiful	Good
(Fox)	Scarce	Good
Rabbit	Relatively few	Poor
Raccoon	Abundant to Excessive	Excellent to Outstanding
Quail	Plentiful	Fair/good
Duck	Scarce	Poor
Dove	Relatively few	Poor/fair
Fox	Scarce	Poor
Bobcat	Scarce	Good

a. The large deer population on the Installation has decreased the condition of their range from excellent to its present status of good. The rabbit habitat is poor and will continue to be so because of the swampy nature of the terrain and the extremely heavy undergrowth peculiar to this locale. The food plot program currently underway will improve the quail and dove ranges; however, the best ranges for these species are open grassy areas which are relatively limited on this Installation. The wildlife ranges are utilized as training areas, and the large military population tend to disturb the habitat of the turkey and the bear.

3. New River is considered salt water and is approximately 17 1/2 miles in length. The Inland Waterway and Surf Line bordering Camp Lejeune are approximately 12 miles in length; however, due to High Ordnance Impact Areas only 7 miles of the coast line is considered available for fishing.

a. Principal fresh water species known to be present are:

Large Mouth Bass	Blue Gill	Pike	Catfish
Bream	Perch	Robbin	

APPENDIX A

b. In addition to the above, deep sea fishing and surf fishing are available with varied fish species. Ocean (salt water) is not considered in the conservation program of this Installation.

c. Salt water fish in the Atlantic Coast, Inland Waterway, and New River are:

<u>Name</u>	<u>Name (Shell Fish)</u>
Channel Bass or Red Drum	Shrimp
Striped Bass	Oyster
Flounder	Clams
Weak or Spotted Trout	Conch
Weak Fish or Gray Trout	Wilk
Spot	Scallop
Croaker	
Jumping Mullet	
Mackerel, Spanish	
Mackerel, King	
Bonita	
Dolphin	
Amber Jack	
Sea Bass	
Sheep Head	
Black Drum	
Blue Fish	

Name

White Perch

Sea Mullet or Whiting

d. The aquatic habitat for salt water species is generally excellent to outstanding. The aquatic habitat for fresh water fishing is generally poor for ponds and good for fresh water streams.

4. The potential for development of fish and wildlife resources on this Installation is considered unlimited.

a. Current projects include:

(1) Food plot expansion to include a total of 63 food plots. Estimated acreage - 400.

(2) Wood duck boxes.

(3) Planting game foods along highways and power lines to supplement food plot program.

(4) Winter feeding from certain food plot harvesting.

(5) Eradication and control of overpopulated pests and/or predators.

(6) Forest management.

b. Desired long-range projects:

(1) Fresh water lake for fishing and camping ground.

(2) Fresh water lake for ducks and geese refuge.

(3) Controlled burning to improve existing habitat.

(4) Revised food plot planting for ideal consumption.

(5) Improve existing fresh water habitats with emphasis on ponds (food).

APPENDIX A

(6) Game farm.

(7) Improving fresh water ponds by sinking wells.

EXHIBIT NO. 2  
to  
COOPERATIVE PLAN 1-63

1. The following agencies will be responsible for providing the Installation Commander with technical advice, assistance, and related services in fish and wildlife management.

a. Director, Bureau of Sport Fisheries and Wildlife, U. S. Fish and Wildlife Service, Department of Interior, 620 Peachtree-Seventh Building, Atlanta 23, Georgia (Fisheries).

b. North Carolina Wildlife Resources Commission, Mr. Grady L. Barnes, Wildlife Refuge Supervisor, Box 49, New Bern, North Carolina (Assistance on wildlife planting).

c. North Carolina Wildlife Resources Commission, Mr. Paul Metters, Box 154, Jacksonville, North Carolina (Matters of law enforcement).

2. The following is a full and accurate description of the extent to which the agencies will assist in the development and management of fish and wildlife resources:

a. Department of Interior. In respect to conservation and development of fish, technical assistance and professional advice and restocking of fish, as required, will be furnished by the Regional Director, Bureau of Sport Fisheries and Wildlife, as necessary to comply with the program.

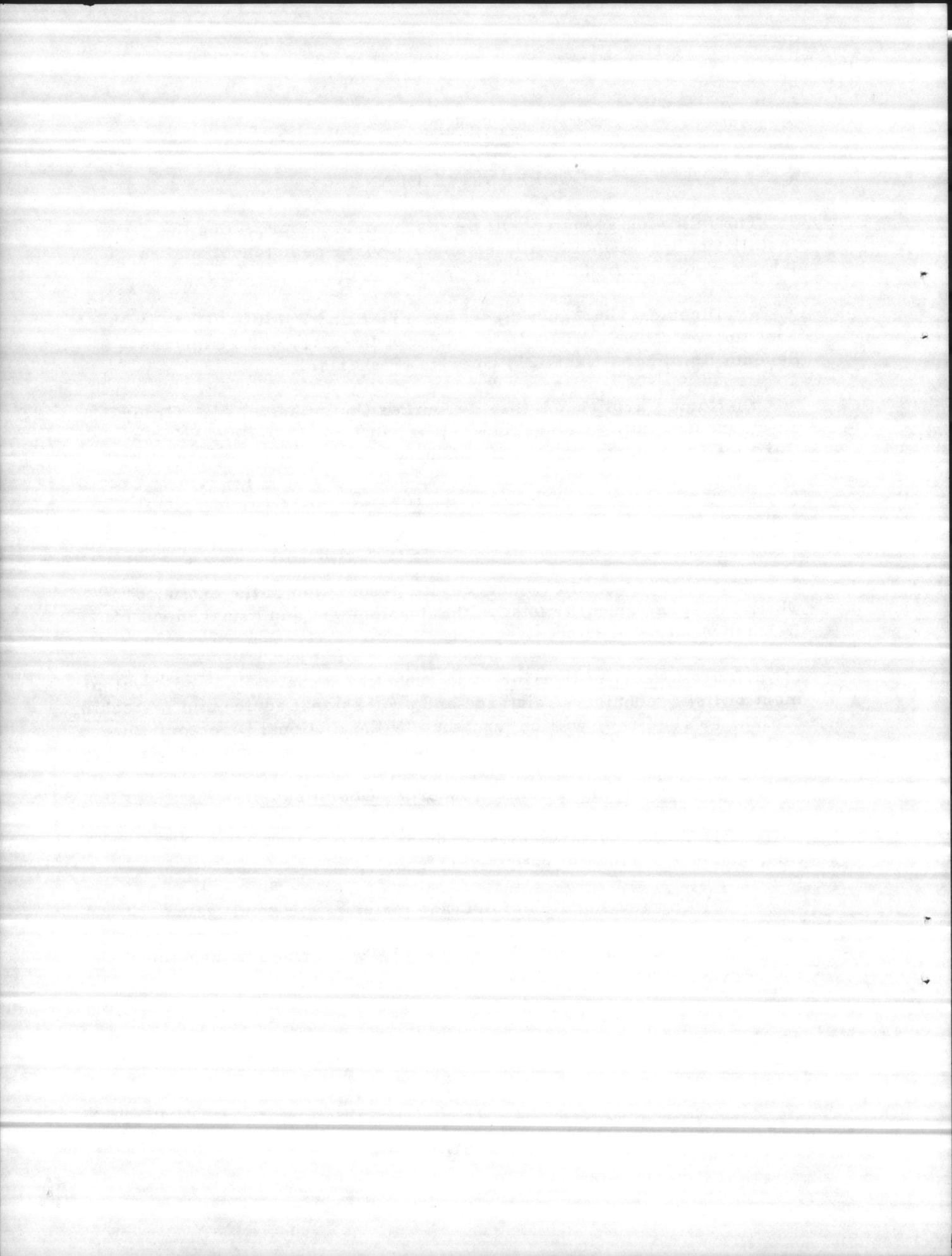
b. North Carolina Wildlife Resources Commission

(1) Technical services and advice relative to habitat, manipulation, and development of game wildlife.

(2) Limited supplies of planting material for small game.

(3) Information and advice, on call, concerning management and harvest of wildlife.

APPENDIX A



# GLOBE SPORTS

Phone: 7-5821



## Turkey Shoot

Camp Lejeune's Rod and Gun Club will hold a Turkey Shoot this Sunday at the Holcomb School beginning at 10 a.m. Shotguns and ammunition will be furnished. Privately-owned shotguns may be used. There will be a charge of \$1 per shot.



## Archery Meeting

A meeting, to plan the upcoming archery hunting season and pass out general information, has been set for Aug. 10 at 7:30 p.m.

Meeting site will be the Camp Lejeune Rod and Gun Clubhouse, located near the Paradise Point tennis courts.

All interested bow hunters are urged to attend the meeting.

## SEA URCHINS

The Sea Urchins Sport Diving Club begins its next class for all personnel interested in scuba diving this Saturday, Oct. 15, at the Wallace Creek Boat-house. New members are welcome.

# Lejeune Outdoors

## Rifle And Pistol

Marine Corps Base personnel interested in trying out for the Base Rifle and Pistol Team are invited to come to the D6 Indoor Range, Building 451, on December 1, 8, and 15 between 6:30 and 8:30 p.m. for interviews and tryouts. No equipment will be needed. For further information call 5-7141 during working hours.

## Watch For Deer

An organized deer hunt in which dogs will be used is scheduled for Wednesday, November 30, from 6:30 a.m. until 5 p.m. in the wooded area on both sides on Brewster Blvd. Motorists on Holcomb Blvd., Brewster Blvd., Charles Street, Stone Street, and River Road are requested to drive carefully and be on the lookout for deer and dogs crossing the road.



# Conservation Job Pays Dividends

Conservation minded officials began action on a project two years ago. Today there is a pond, bountifully supplied with channel catfish, opening to furnish recreation for Camp Lejeune personnel.

This body of water. . .Prince Pond. . .for years was unable to produce anything except a few stunted rough fish.

But during the winter of 1964, interested parties. . .the Base Game Warden, the Rod and Gun Club, and the Fish and Wildlife Service. . .came up with a re-stocking project for five ponds aboard the base.

After receiving enthusiastic approval from the Base Commander, the physical work began.

First the undesirable vegetation in the water had to be killed. Then the rough fish had to be poisoned.

After that a program began to fertilize and lime the ponds. Lime combats over-acidity in the water. After the acidity was brought within tolerable limits the ponds were stocked. Three with bass and bream, and two with channel catfish.

Prince Pond was stocked with 2,000 three-inch Channel catfish. It now has plenty of cat-

paper in it and a ruler on it. Charles Peterson, the base game protector, hopes that fishermen will record the date, from the pond, so that control of the stock can be maintained.

Mr. Peterson emphasized the importance of not introducing

ly ruin the fishing."

To get to Prince Pond turn right on the second tank trail past the fire tower on Sneads Ferry Road. Then take the first road to the left, and the pond is straight across from the road. A word of advice. . .



**FERTILIZING**—Volunteers under the direction of Charles Peterson fertilize and lime the ponds every month.

any other species of fish in the pond. "Almost everyone," Peterson stated, "is interested in conservation. A lot of well-meaning fishermen will carry fish caught somewhere else into a pond, hoping they will multiply. This will destroy the balance established in our ponds, and will almost certain-

ly ruin the fishing." check the tank trail surface carefully before driving on it. It is sometimes sandy, and a passenger vehicle might be hard-pressed traveling on it.

Coordinates for Prince Pond are 883300.

The other ponds are expected to be ready for opening early next summer.



## Scouts take over Camp Lejeune

MAJGEN. H. Nickerson, Jr., Base Commander, poses with Boy Scouts and the Explorer Scouts who took over many of the key command positions of the base, Feb. 8. The Scouts are: (from left to right) Craig Meyers, Mark Moore, Chip Council,

Rick Lopez, Gary Rodes, Sid Ross, and Tom Hines. (Rear row) Danny Pahnka, Tim Tinius, Chuck Pettiford, Mike Chambers, Dough Hayes, Doug Jewett, Dave Little, Gary Lushis, and Howard Pullicino.

# Scouts observe 56th birthday

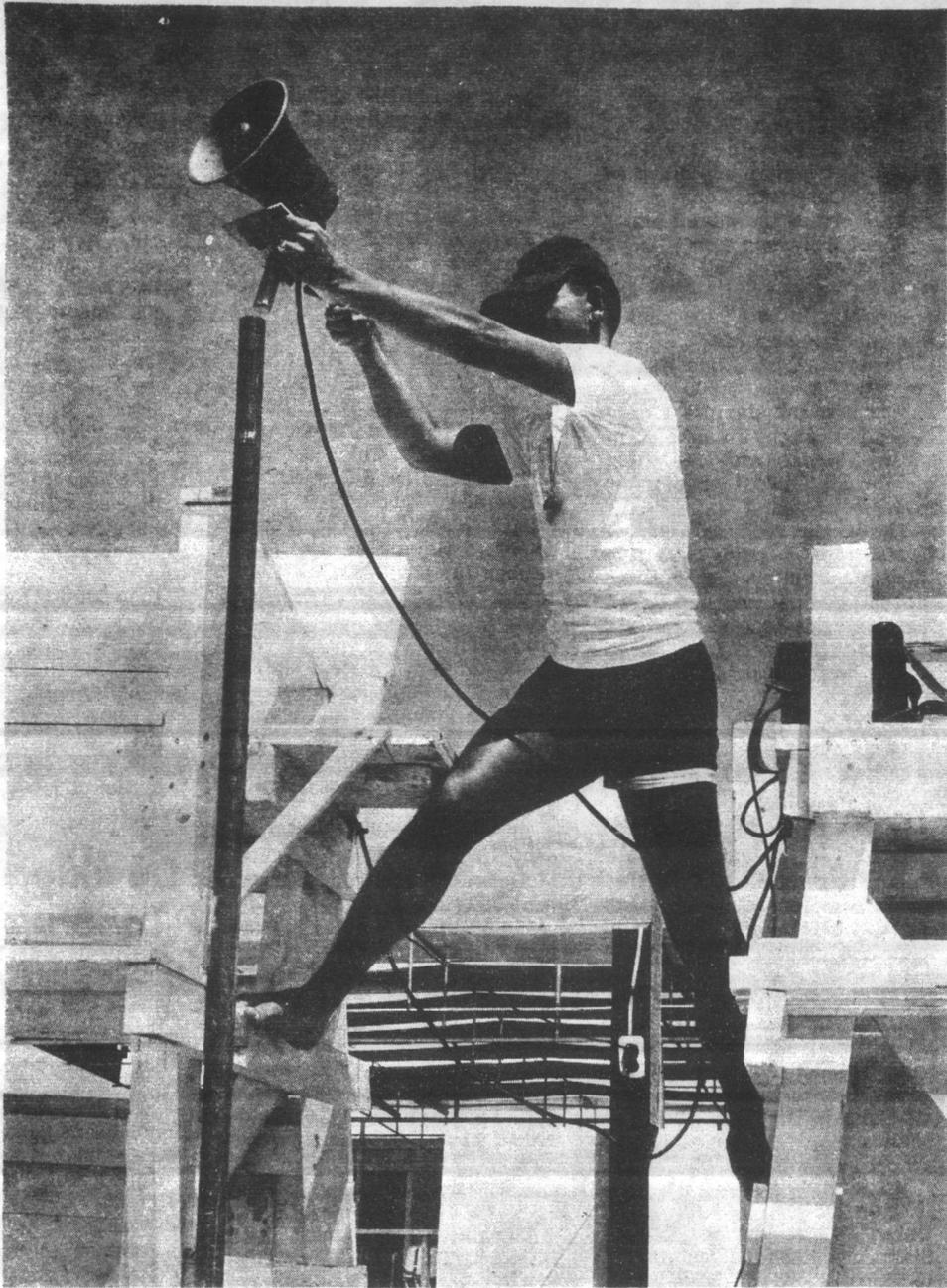
Three commanding generals spent what will probably go down in the books as the shortest tours of duty in this area. The tour lasted one day—Tuesday—and then the commanders went back to boy scouting.

The positions, of course were honorary, and the event marked the first day of Camp Lejeune's commemoration of the 56th Anniversary of the Boy Scouts.



**WESTWARD HO**—Proud Cub Pack 590 of Berkeley Manor, Camp Lejeune, gather around award winning covered wagon entry which took first place in the Onslow District Parade in downtown Jacksonville. The Cub Scouts are dependents of Marines stationed at Camp Lejeune in Force Troops, 2d Marine Division and Marine Corps Base.





**Corporal James O. Kissick, Onslow Beach Detachment, hooks up the loudspeaker that sounds warnings from his lifeguard's chair. Swimmers are cautioned to obey all signals from the lifeguard.**

# Safety Tips From The OBC

The following boating tips have been extracted from a pamphlet published by the Outboard Boating Club of America.



**NEVER**

**MAKE A SHARP TURN  
AT HIGH SPEED**



**DON'T STAND UP**

**IF YOU MUST STAND, OR  
CHANGE SEATS, KEEP TO THE  
CENTER WITH BOTH HANDS  
ON GUNWALES, KEEP LOW**



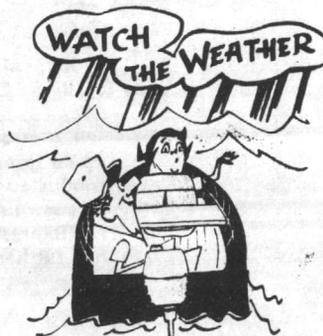
**DON'T OVERLOAD**

**... MATCH YOUR BOAT AND MOTOR ...  
CHECK THE OBC PLATE ON YOUR BOAT**



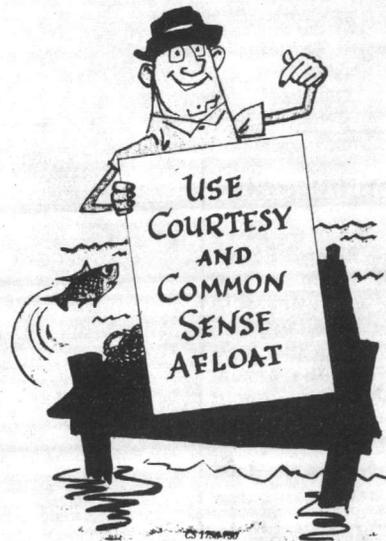
**KEEP WATCH**

**FOR ROCKS, LOGS OR OTHER  
OBSTRUCTIONS, AS WELL AS  
FOR OTHER BOATS, SWIMMERS  
AND WATER SKIERS**



**IN ROUGH WATER, KEEP LOW  
IN THE BOAT AND HEAD  
INTO THE WAVES**

## Remember, Folks!



## Local Scuba Club Now In Full Swing

A water sport for swimmers with a spark of adventure, is scuba diving. The Area 2 Swimming Pool is the home of a band of divers who have formed a club named the Sea Urchins Diving Club. The club, open to all military personnel and their dependents over the age of 16, meets twice a week on Tuesdays and Thursdays at the pool.

New members, who have never dived before, receive an eight week course of instruction. Upon completion, the new

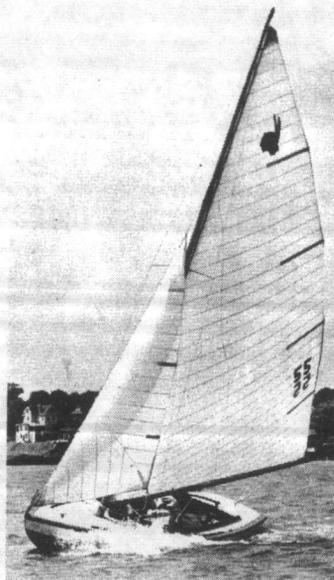
members are enrolled as regular members.

At the present time, over 40 students are enrolled in the course. Classes will terminate in the middle of June.

The next class session will begin June 1. Anybody interested in the water sport is welcome to attend.

Members, who are qualified to dive, meet every Saturday and Sunday for a diving session in the open sea.

For further information contact Lt. Conly at Base ext. 7-3323.



### Boating enthusiasts

The New River Power Squadron will begin a ten-week course on seamanship and small boat handling Monday night at 7:30 in the Jacksonville City Hall. The annual course is conducted without charge for local boating enthusiasts and will cover rules and regulations as well as the safety aspects of boating.

The weekly sessions will be held on Monday evenings at City Hall, and will run for about two hours per evening. For more information, call Major Snyder at Base Ext. 5-7357 during working hours or 346-3989 after working hours.

Sailboats are available at Wallace Creek Boathouse for 25c a day. And if you can't sail, arrangements can be made to teach you. Classes are conducted every Saturday from 9 a.m. until 11 a.m. If you are interested, call Ext. 7-3680 for further information.

# Devilfish Shine At Jr. Olympics

The Camp Lejeune Devilfish swimming team splashed their way to an impressive showing last week in the regional AAU Junior Olympics held in the North Carolina State University pool in Raleigh.

Twelve of the 20 Devilfish who made the trip swam to qualifying times, and 12-year-old Jamie MacKenzie tied the state record for the 50-yard freestyle in his age group.

The AAU annually holds a Junior Olympics, with each AAU region holding a meet on the same days. The results are then sent to AAU headquarters for comparison on a national basis.

All seven Devilfish in the seven-to-eight year old group had qualifying times. Pam Ohanesian had seconds in the freestyle, backstroke, and butterfly.

Kent Slemmons was second in the breaststroke and third in the butterfly. Kevin Scott finished third in the breaststroke, fourth in the freestyle, and fifth in the backstroke.

Andy Giles was fourth in the backstroke and fifth in the freestyle. Rebecca Peabody came in fourth in the breaststroke while Jeff Slemmons was fifth in the same event and Gary Aspinwall was seventh in the freestyle.

In the 13-to-14 group, two Camp Lejeune girls came through in fine style. Jane Flood took first in the 100-yard butterfly and thirds in the 100-yard freestyle and the 200-yard individual medley. Jane Smith was fourth in the 100-yard breaststroke.

In the 15-to-17 category, Paul Wyss took a seventh in the 200-yard breaststroke.

Approximately 500 swimmers from North and South Carolina took part in the Junior Olympics. Devilfish coach Major J. M. MacKenzie said the winning times in most events were very good and would hold up well in national competition.

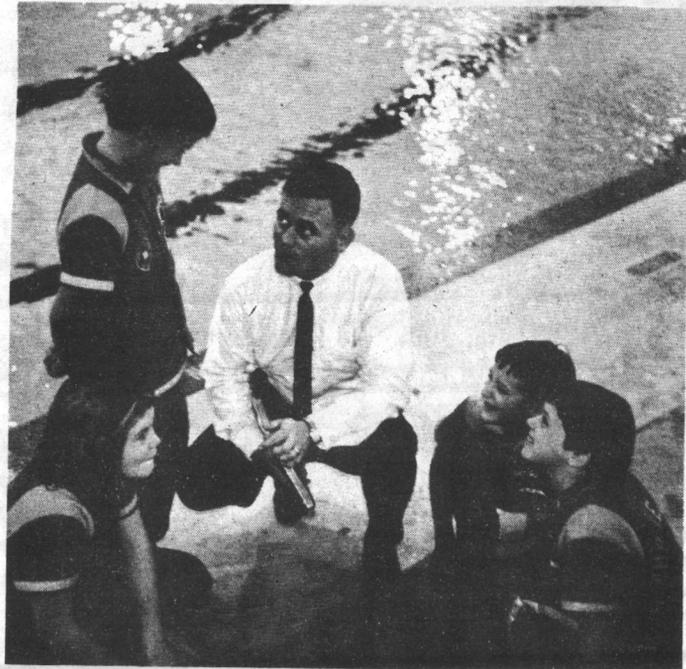
## Devilfish Swim Here Saturday Against Bragg

The Camp Lejeune Devilfish will swim in their first meet of the season Saturday at 11 a. m. when they take on a team from Fort Bragg.

Mrs. Nancy Bieger, coach of the dependents' swimming team, says most of her competitors are beginners or have only limited experience.

Two returnees expected to spark the team are Rosemary Davis in the 9-10 year old girls group and Vicki Doran in the 11-12 girls category.

The Devilfish have a date December 17 in Greenville for the East Carolina Tournament, will travel to Fort Bragg December 28-29 for their Christmas Tourney, and have arranged later dates in Norfolk and Quantico.



Assistant coach

DAVE Weber discusses strategy with his relay team during a practice session.

## Look But Don't Touch



One of the most appealing animals that lives in the woods is a fawn. It would take a hard-hearted man not to feel the urge to pet this creature.

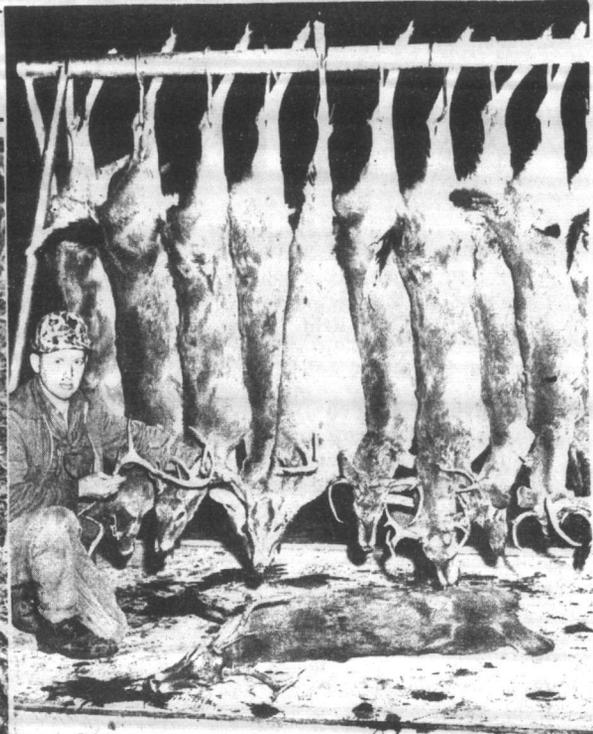
But petting, picking up, or turning an apparently abandoned fawn in to the game warden is a positive step toward making the fawn an orphan.

Once the human scent is on a fawn, the doe will no longer care for her offspring.

According to Charles Peterson, Chief Base Game Protector, the best thing to do for an apparently abandoned fawn is to leave it alone completely. Despite the seeming abandonment, according to Peterson, the mother is usually near by.

Eight fawns have been turned in to the game protectors office this year.

Give the fawns a break. Admire them from a distance . . . but, hands off, please.



## Season ends with a bang

J. A. SIMPSON, a Camp Lejeune civilian employee, proudly displays the largest of 15 deer killed during the deer season's wind-up hunt Friday. Fifty selected hunters participated in the hunt, and among them was MajGen. H. Nickerson, Jr. (Photo by GySgt. R. F. Rhoads, Jr.)



**CHOPPING BRUSH**—Members of MP and Guard Company volunteered to cut brush from the edge of Prince Pond.

# Water Skiing Tourney Near

## Attention Water Skiers!

The Camp Lejeune Boat and Ski Club will host its annual water ski tournament August 20-21 at the water skiing area near the Wallace Creek Boat-house.

Military personnel stationed at Camp Lejeune, retired military personnel living in Onslow County, and their dependents can enter the tournament.

Skiers under 17 years old are required to have their parents consent.

An overall champion skier of Camp Lejeune will be determined by adding each contestant's overall points in the major events he enters.



Wallace Creek Boathouse



Competent instructors supervise water skiing and other activities

# Marine Hunters Can Check Out Shotguns

Camp Lejeune's Rod and Gun Club reports there has been a lack of information about how Marines who live in the barracks can check out shotguns and join organized hunts aboard the Base.

Shotguns are available from the various units' Special Services. The requirements to draw one is that the user have a State or County hunting permit AND a Base hunting permit.

State and county permits are available at the Main Exchange's sporting department and the Base permits are available in Building 37 at the Game Wardens Office.

The next step is to find a Huntmaster and find out where a hunt is being conducted. Huntmasters can generally arrange

transportation if the Marine has no means of getting to the hunt area.

Hunters aboard Base must wear on both front and back of their clothing bright red, yellow, or orange markings which are visible at least 200 yards. These markings are available at the Exchange.

If a Marine wishes to hunt individually, he must check in with the Game Warden at Building 37 and secure an area permission slip for each day he wishes to hunt.

Huntmasters to contact are Captain J. J. Stoffa, 353-1880; Master Sergeant J. L. Rogers, 7-5608; Warrant Officer R. F. Hill, 7-3108; and Second Lieutenant F. A. Toth, 0-1447. Archers should contact Major R. H. Dent, 7-5255.



**A YOUNG FISHERWOMAN measures her catch, aided by Charles Peterson, Base Game Protector, at the creel census box.**

# Marine Fishermen Land Big Ones At Topsail Is.

Marine fishermen had a big day recently fishing off piers at Topsail Island. Staff Sergeant



Sergeant Dan Long of Camp Lejeune landed this 21 pound Tripletail. (Photo by Helen M. Tatum.)

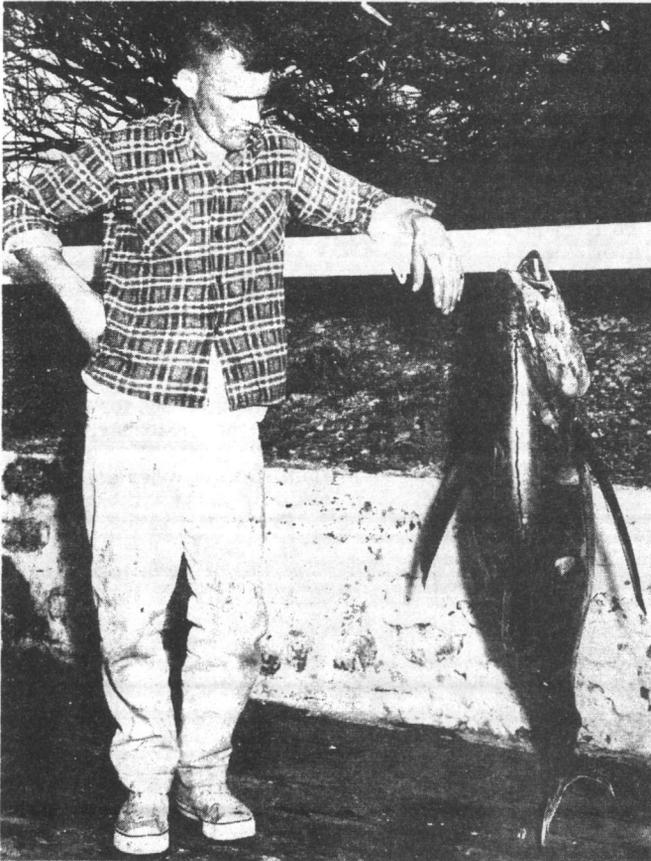
Porter LeBlanc of Camp Lejeune hauled in a 50 pound, 8 ounce King Mackerel Aug. 19.

That same afternoon Sergeant Dan Long, also of Camp Lejeune, caught a 21-pound Tripletail that measured 29 inches. Leblanc's King Mackerel is the largest of its kind to be entered in the Topsail Island Fishing Club's fishing contest since the contest was established.

The fish measured 59 inches. It took LeBlanc 45 minutes to land the mackerel.

The Island record belongs to a 54 pound King caught in 1961.

The Tripletail caught by Long is one of several unusually big ones caught at Topsail Island recently. Tripletails, also called Black Perch or Sea Perch, usually average about five pounds. However, the largest on record is a 50 pounder.



**ACE FISHERMAN**—Sergeant Alonzo B. McCall, Headquarters Co., Force Troops, displays an albacore weighing almost 60 pounds that just failed to beat the world record for a 20 pound test line.

# Lejeune Outdoors



By Charles Peterson

The afternoon sunlight filtered down through the trees touching the forest floor with multi-colored brilliance typical of these days of Indian Summer. The feeling of an early winter was in the air as the afternoon coolness settled through the forest.

Already the leaves were turning from a faded green to bright yellow or orange. There was a stillness in the woods which gave retreat for thought of days past and times to come.

Only the occasional chatter of the squirrel in the tree nearby or the babbling creek broke the stillness. A game trail passed half-way down from the top of the ridge and parallel to the creek. The hardwood trees plus the green plants on the forest floor offered an abundant supply of food to the wildlife that passed down the trail.

In a tree directly above the trail a platform rested on the first limbs. Just past the tree, the trail turned down to the creek, crossing it and continuing up the ridge on the opposite side.

Suddenly, the squirrel ran down the limb into the hollow tree trunk after seeing the hunter coming up the ridge. They were becoming quite familiar with each other by the fact of their presence here for several days.

Deer tracks on the trail were more numerous today than yesterday and most of the tracks indicated the deer were still traveling towards his stand from the creek.

After climbing to the platform, the hunter sat down with his back to the trunk of the tree. He faced the creek the same way he had done on each previous trip.

His hunting coat held several extra shells, a bit to eat, and a thermos filled with coffee.

Across his lap rested his automatic and his binoculars dangled from his neck.

He could see for quite a distance in any direction... and he could be seen quite a distance by anyone moving through the woods. This hunter had made sure of that. His cap was a bright red. And his hunting coat had distinct patches of red attached to the front and back side.

It would be next to impossible for another hunter to mistake him for game, because he had planned well for safety's sake.

As he sat there, he wondered if this would be the day during which a large buck would come down the trail. How nice it was to be here and to enjoy another trip afield.

A movement in the leaves behind him drew his attention from his thoughts. He turned to see the deer coming slowly down the ridge. The hunter took a look with the binoculars, but as luck would have it could not see any antlers.

The deer turned off the trail to nibble at some tender plants nearby. Another doe, thought the hunter as he once again settled back on the platform. Now the deer was beginning to move in his direction.

Then he saw what he had been hoping against hope to see: the antlers sticking up between the ears, even though they were only five inches long. The entire day changed with this moment.

Results: A safe and successful hunting trip for Capt. W. J. Shetzer with the 70 pound "spike buck" he bagged in the Wallace Creek Area. The Captain surely deserved the success he enjoyed.

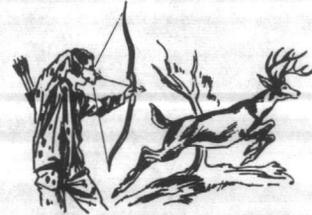
It was his fifth trip to the same spot but THAT day was different from the others.

## Regulations Set For Individual Bow Hunters

Bow hunters will be permitted to hunt individually aboard Camp Lejeune this fall for deer and bear, according to a recent Base Bulletin.

Hunters will be subject to state game laws and base regulations.

The regulations require those wishing to hunt individually to check with the Game Protector's Office for an "area chit" allowing them to hunt in a certain area of the Base.



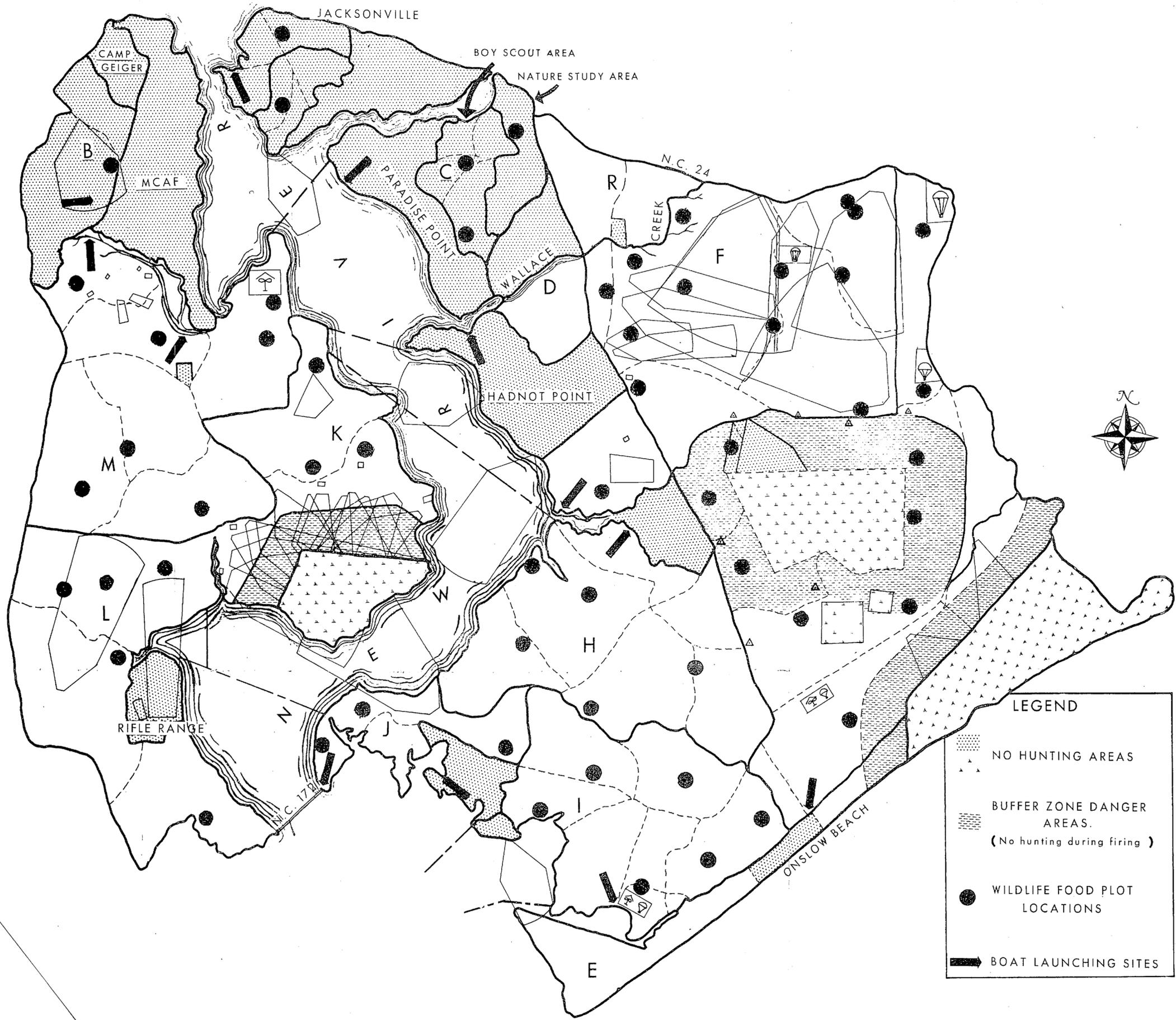
These chits must be obtained either the day of the hunt or the day before.

Hunting season for bow hunters began yesterday, and individual hunts will be permitted until Oct. 14, when deer hunting with firearms will begin.

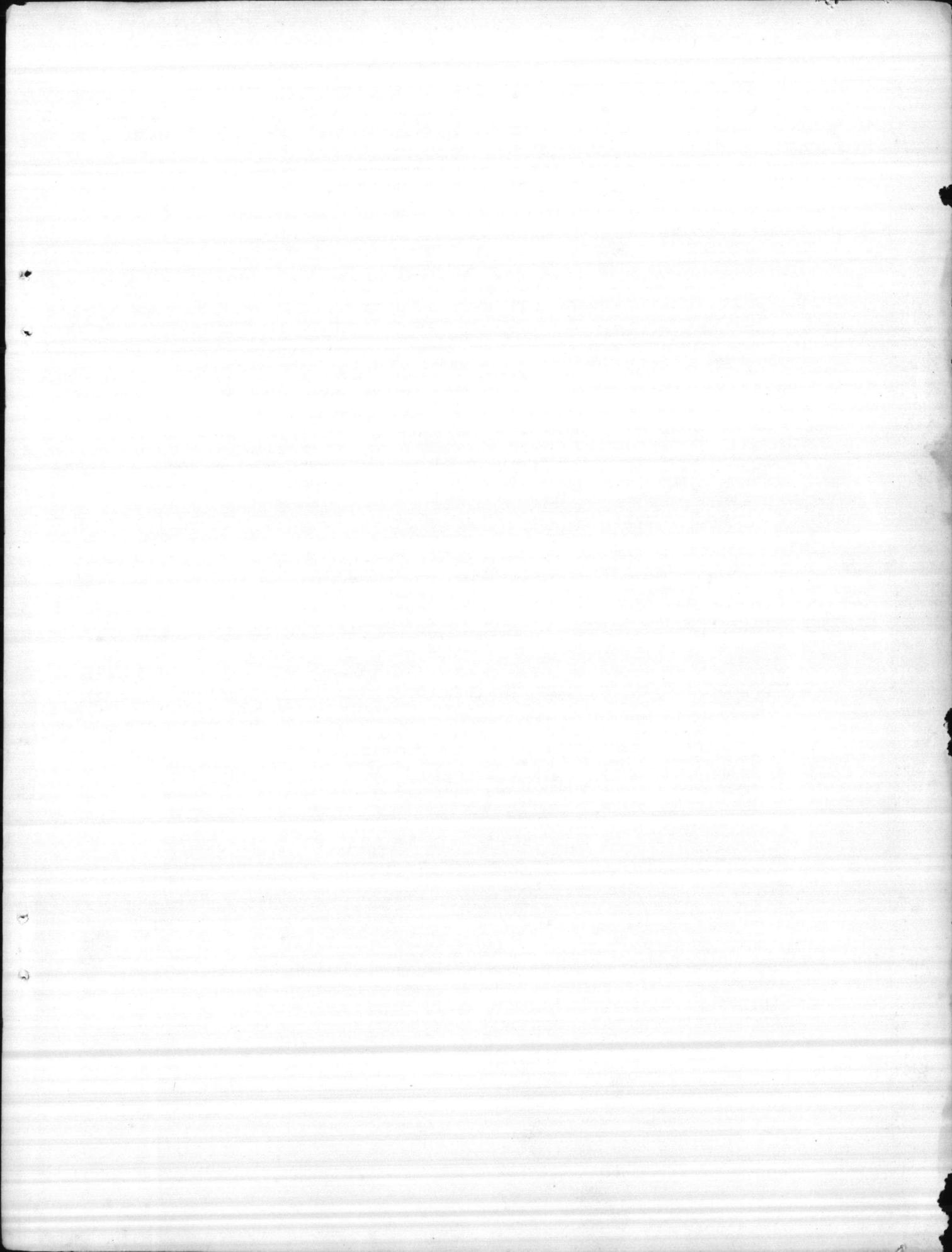
From Oct. 14 and following, only organized bow hunting parties will be permitted, with approximately 30 hunters comprising a party.

Only those persons who attended one of the meetings on bow hunting sponsored by the Rod and Gun Club will be allowed to hunt.

Exceptions will be those persons assigned to the Base after the meetings were held or personal guests of personnel assigned to Lejeune.

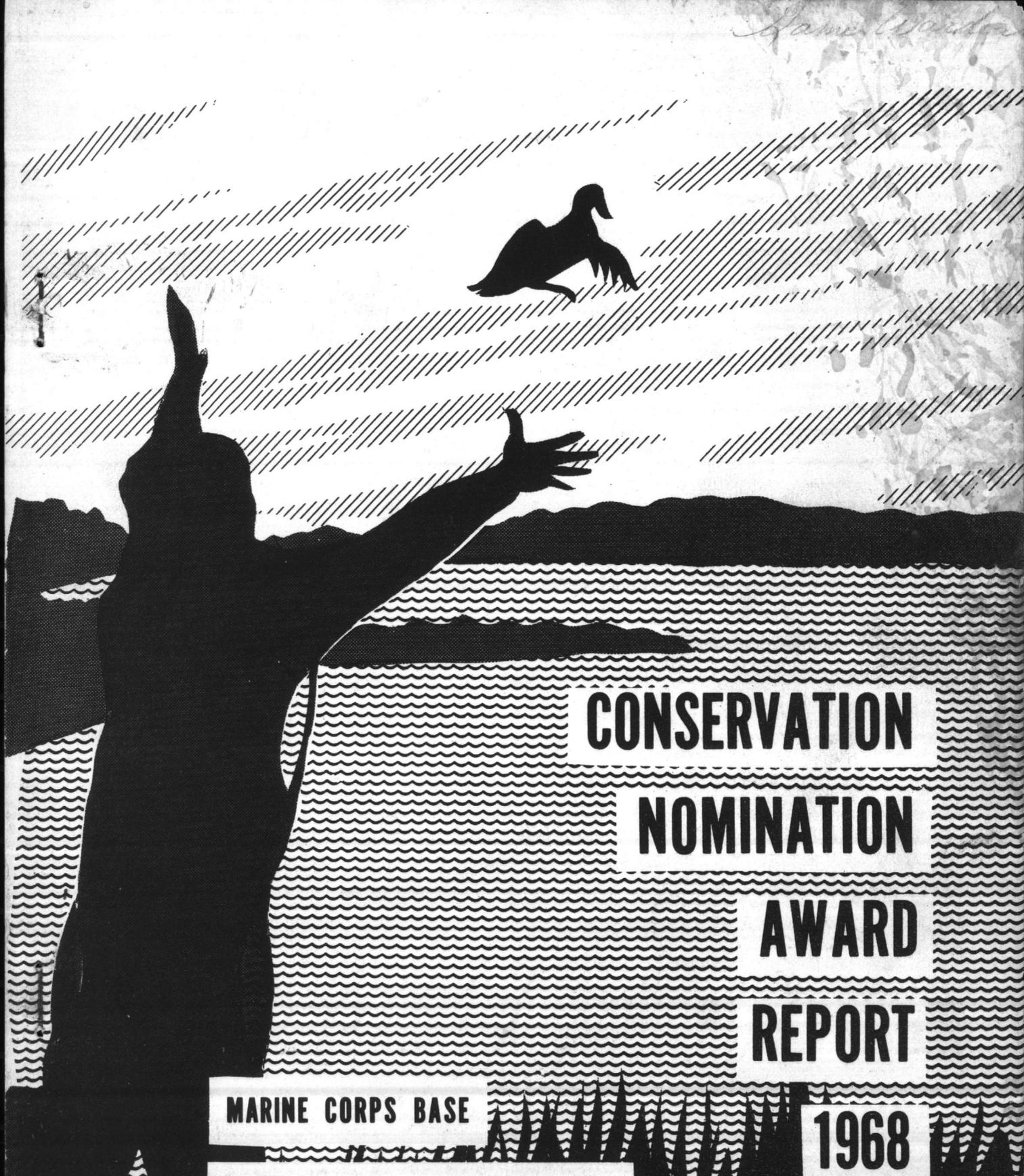








*James Ward*



**CONSERVATION**

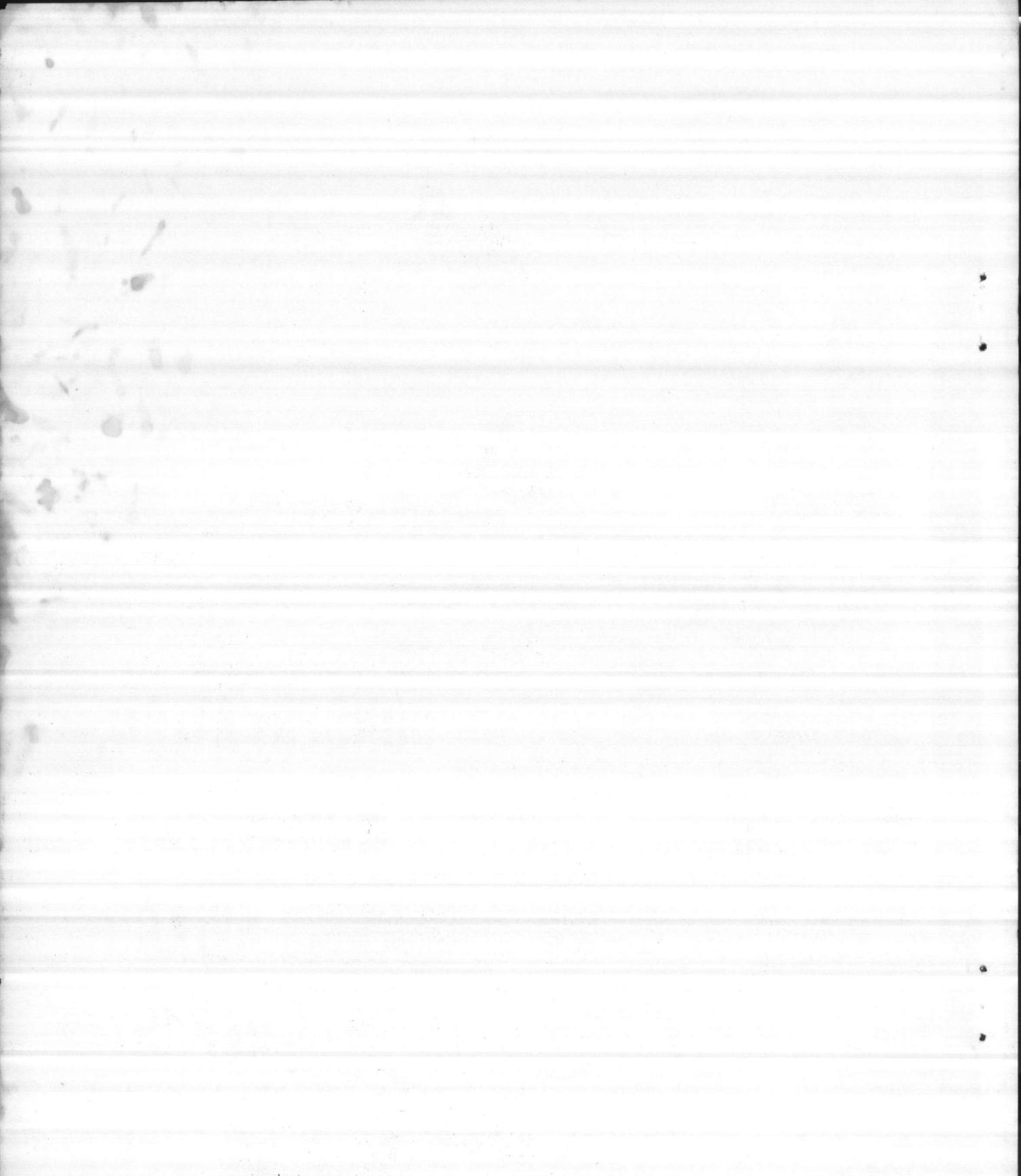
**NOMINATION**

**AWARD**

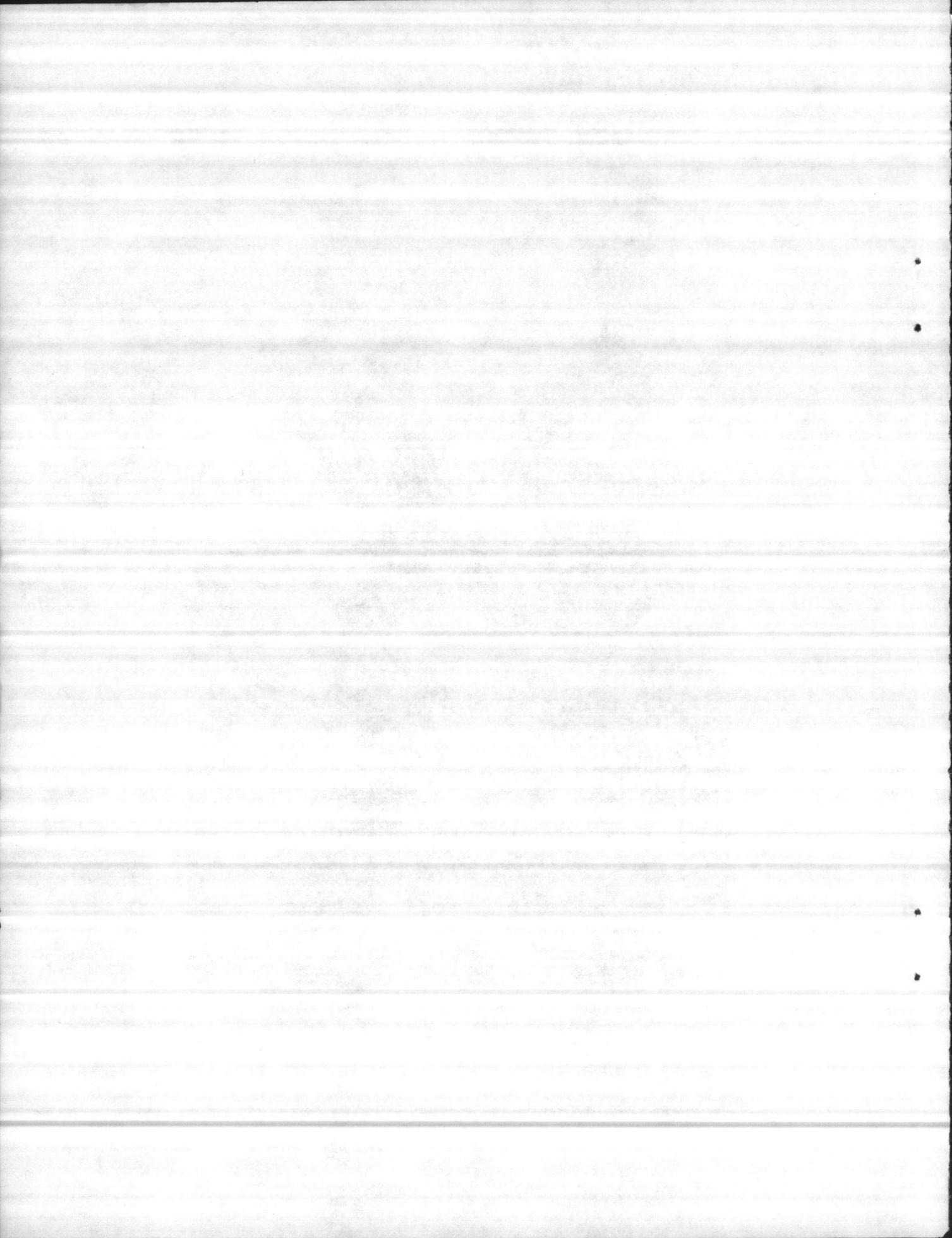
**REPORT**

**MARINE CORPS BASE**

**1968**







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## SUMMARY OF THE REPORT

**PURPOSE.** This summary is included to present section contents and highlights of the over-all report in a concise form.

### SUMMARY BY SECTION

#### SECTION I. BACKGROUND, POLICIES AND PLANS

Section I sets forth the background, policies, objectives, present and future plans, and problems involved in the conservation of natural resources. A brief description of the background of the Marine Corps Base, Camp Lejeune, is given and the official mission of the Base is provided. The official policy of the command is to restore, improve and preserve the natural resources to the maximum extent possible, working in close coordination with state and federal authorities in planning, developing, maintaining and coordinating the conservation effort. Representatives of the Bureau of Sports Fisheries and Wildlife, U. S. Fish and Wildlife Service, and of the North Carolina Wildlife Resources Commission have rendered considerable and valuable assistance, under the existing Cooperative Plan, in greatly enhancing the conservation program. Objectives to achieve the ends of the program have been established. Major problems in attaining these objectives stem primarily from the magnitude, complexity and interacting relationships of principal elements of the over-all program, which are in varying degrees of development, planning, programming and accomplishment. Progress has been made, and more is expected in the future. Present and future plans are discussed in some length and detail in this section. Highlights are: increased acreage in wildlife food plots and fresh water ponds, continued progress to establish a 200-acre fresh water lake recreational area, and establishment of a green tree waterfowl impoundment.

#### SECTION II. COMMITTEE FOR THE CONSERVATION OF NATURAL RESOURCES

This section describes the membership and responsibilities of the subject committee. It is the primary command tool for developing plans and recommendations for the conservation program. It acts to coordinate the various major sub-elements of the program, and obtains professional and technical advice from local, state and federal conservation officials. The membership of the committee includes representation from all major commands located at Camp Lejeune, and Base staff officials whose duties are concerned with aspects of the conservation program.

#### SECTION III. PROGRESS REPORT

This section treats the many and varied activities that took place in 1967. Programming is being conducted for funds in the amount of \$85,000 to build a dam that would provide a 200-acre lake and an associated recreation area. Prescribed burning was com-

pleted on approximately 8,000 acres during this year. The sale of timber grossed approximately \$146,194 for the Government. Several ponds were restocked and one new one was added bringing the total to 8. Numerous squirrel and wood duck nesting boxes were fabricated and sited during the year. A new green tree waterfowl impoundment was completed and opened for operation providing an excellent area for waterfowl. Clearing of small trees and scrub from the creek banks of Wallace Creek was also accomplished.

#### SECTION IV. ACREAGE

Section IV describes acreage within the Camp Lejeune reservation, discusses improved land acreage, accessible fresh water ponds and streams, land available for hunting, and water acreage and miles of improved streams.

#### SECTION V. FISH AND WILDLIFE RESOURCES

This section describes the fish and wildlife resources of Camp Lejeune, and gives some details on the wildlife populations and the number of deer, bear and turkey harvested. There were 323 white tail deer taken during the hunting season, 3 bear and 5 wild turkey were taken by hunters.

#### SECTION VI. COMMUNITY RELATIONS

Camp Lejeune enjoys excellent community relations, particularly with communities within a radius of some 50 miles. The Base is generally open and visitors most welcome. Numerous athletic events, competitions and the outstanding recreational facilities attract many people.

#### SECTION VII. ACTIVITY POPULATION

This section indicates that the average activity population at Camp Lejeune was 73,000 persons during 1967.

#### SECTION VIII. CONSERVATION EDUCATION

This section explains the conservation education program at Camp Lejeune. Education in resource management and regulations is accomplished through the efforts of and programs established by the Committee for the Conservation of Natural Resources and the Rod and Gun Club, the Base schools and the Base newspaper, THE GLOBE. Gun safety and water safety are continually being stressed.

#### SECTION IX. CAMP LEJEUNE ROD AND GUN CLUB

Section IX discusses the Rod and Gun Club activities and its participation in the development of wildlife

conservation projects and recreational activities. The members of the Rod and Gun Club number 209 and very actively support the conservation program with a great deal of voluntary effort.

## SECTION I. BACKGROUND, POLICIES AND PLANS

### BACKGROUND

The Marine Corps Base, Camp Lejeune, North Carolina, is on the Atlantic Seaboard some 50 miles north of Wilmington, N.C. Jacksonville, N.C., is the nearest civilian community. The Base comprises approximately 170 square miles of land and water areas. The Marine Corps acquired this reservation in 1941 and has subsequently developed it into a home base and training area for the 2d Marine Division, Fleet Marine Force, and Force Troops, Fleet Marine Force, Atlantic. Twelve miles of open coastline makes the Base eminently suitable for training these Marine Corps elements of the operating forces. In addition to providing these facilities, Marine Corps Base also maintains and operates formal schools for engineer and supply personnel.

### MISSION OF THE MARINE CORPS BASE, CAMP LEJEUNE

The mission of the 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.

### POLICY ON NATURAL RESOURCES

It is the continuing policy of this command to restore, improve and preserve the fish and wildlife resources of the land and waters of this Base to the maximum extent possible in the public, as well as the military interest; to encourage and give incentive to fish and wildlife activities of the Base; and to provide within manageable quotas, for controlled public access to the fish and wildlife resources of the Base on a first-come, first-served basis when such can be accomplished without impairment of 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 wildlife, fish and game conservation, forestry management, and rehabilitation on the base.

### COORDINATION AND COOPERATION

In 1963, Base officials executed 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. Representatives of these agencies have made a number of visits to Marine Corps Base 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 fire-suppression agreement, covering training schools on large-fire suppression organization, has been established with the North Carolina Department of Conservation and Development. This agreement is a part of the fire plan for the State.

### OBJECTIVES

The management and conservation effort on the reservation 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 beneficial vegetative cover.
- b. Utilization and care of the natural resources in the manner best suited for the present and future military requirements, and 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. The 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. The improvement of the aesthetic value of streams and woodlands.
- g. Achievement of effective water pollution control.

### PROBLEMS

The major problems facing management in connection with the various conservation programs stem primarily from the magnitude, complexity and interacting relationship of programs in varying degrees of development, planning, programming and accomplishment. The Forestry Program, the oldest and best developed of the major programs, is well-organized, developed and projected. Generally, adequate appropriated funds are available to support it. The program to overcome water pollution is a major one at Camp Lejeune. Construction of secondary sewage plants throughout Camp Lejeune has been approved and funded by Congress for alleviating this condition, commencing in Fiscal Year 1968. Since the reservation includes major water acreage containing marine life of considerable commercial and recreational value, control of pollution is obviously most important to the conservation effort. In connection with the con-

servation of fish and wildlife, good working relations have been established with federal, state and local authorities and progress is being made. However, plans must be continuously reviewed to refine them and coordinate them with other programs, and relate them to both military requirements and the limited funding available. Command interest and support have been excellent, and future rewarding progress is expected.

#### PRESENT AND FUTURE 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 maintenance of projects for the control of predators.

d. Development and supervision of plans for the harvesting of fish and wildlife species which will preclude over-population or extermination of any species.

e. 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.

f. 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.

g. Establishment and maintenance of a green tree waterfowl impoundment.

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

a. WALLACE CREEK DAM PROJECT — Based upon a recommendation of the Rod and Gun Club, a feasibility study was undertaken in 1964 to restore an earthen dam near the center reach of Wallace Creek. This dam originally provided power for a grist mill, but was cut to drain its lake area during the early days of construction at Camp Lejeune. The initial survey indicated that the dam could be restored at a relatively modest cost. Clearing of the lake basin would be accomplished through timber harvesting contracts. Growth in the basin area, which is generally swampy and marshy, consists mainly of weeds, brush and some marketable trees. The area is unsuitable for training, forestry management, or recreation in its present condition. Reestablishment of the dam to impound water to a depth of ten feet at the dam site would result in a fresh water lake of approximately

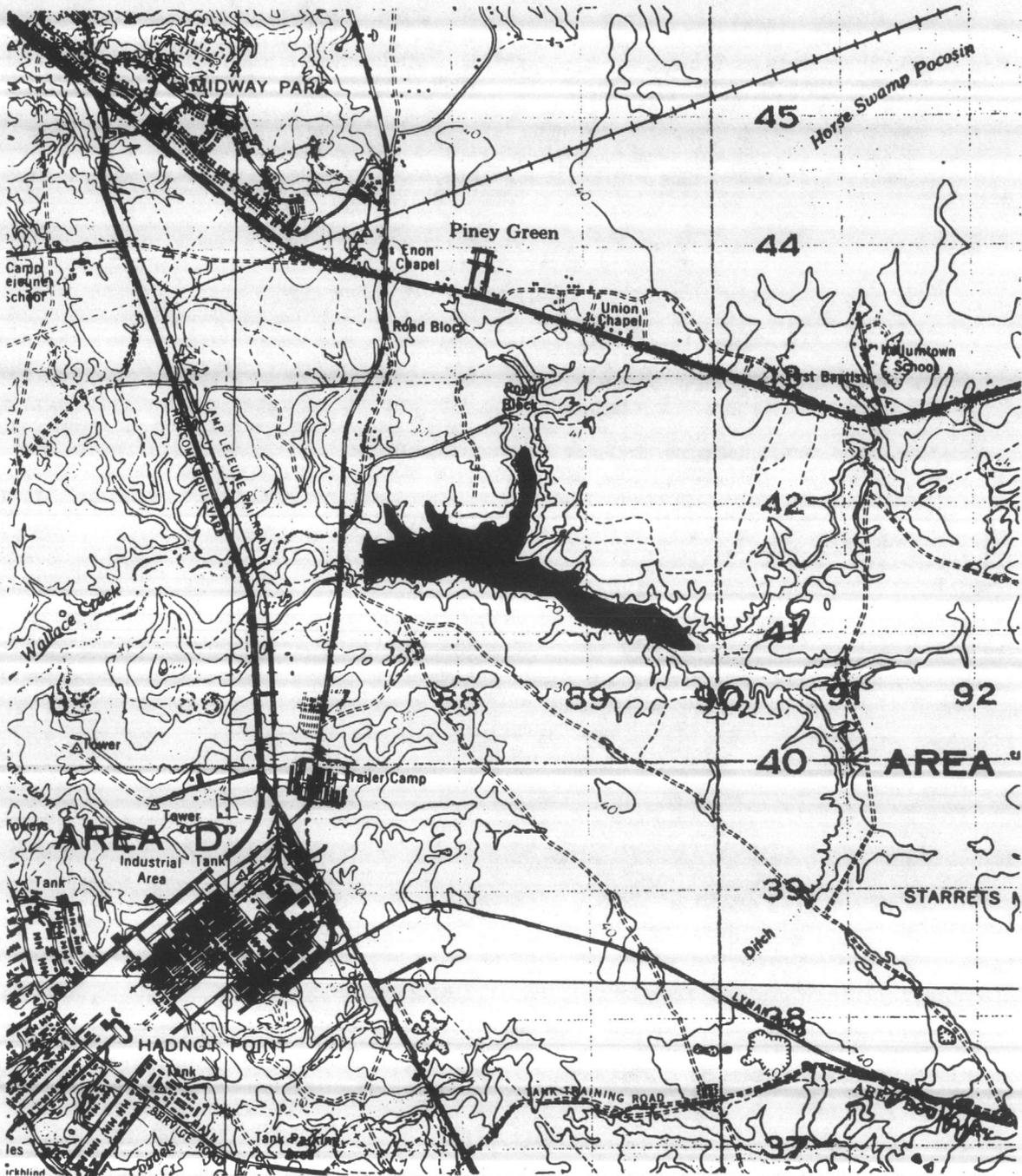
200 acres. The head of the lake would be readily accessible by an existing road, and the land area in this vicinity offers extensive possibilities for development as a major recreation area. The addition of this fresh water acreage for fishing, boating and a waterfowl habitat would greatly enhance current assets for such purposes. Planning and study in detail, with assistance from state and federal agencies, was undertaken in early 1965, with a view toward completing this project this year. Plans and specifications were ready in May of 1966. A special timber harvest contract was let to clear the recreation lake area. This clearing was completed on 31 December 1966 and \$7,000 income to the Government was realized from this special harvest. However, the restoration of the earthen dam was considered unsafe and the cost of a new dam was estimated at \$85,000. Since a project of this magnitude cannot be accomplished on a local level, programming is underway for funds to complete this project.

b. FOOD PLOTS — A meeting with state and federal conservation personnel helped establish a five-year plan to increase our wildlife food plot acreage. Presently 233 acres are under cultivation for a total of 46 wildlife food plots. Five new plots were established in 1967, totalling 15 acres. Because of a mineral deficiency of the soil, common to this area, 120 tons of lime were distributed over the plots. This, coupled with new cultivation techniques, has increased the plots' yield to double that of the previous year. The five-year plan, when executed, provides for 63 food plots for a total acreage of 338. Although this will exceed the 1/2 of 1% of "hard land" acreage prescribed by Headquarters Marine Corps for foodplots, acreage will continue to be developed for this purpose as long as the need exists and the means are available. In addition to the established wildlife food plots, marshy areas and stream banks have been planted with plants for waterfowl food, and multi-flora rose and lespedeza shrubs have been set out to provide food and cover for rabbits, quail and turkey.

c. FOREST MANAGEMENT — Forest management at the working level is executed by the Base Forester, Mr. C. F. Russell. Mr. Russell is a graduate forester. He is a member of the Committee for the Conservation of Natural Resources, and actively assists in the coordination of joint conservation plans. The Forest Management Program is presented in Section III.

d. CLEARING STREAMBANKS — The dense growth of weeds and brush along certain sections of stream banks, coupled with the prevalence of poisonous snakes in this growth during the warmer months, denies access to anglers to many otherwise desirable fishing areas. Clearing started in 1965 on the banks of Wallace Creek between Holcomb and Seth Williams Boulevards, 1,500 feet of banks were cleared that year. During 1966, an additional 1,000 feet of stream banks were cleared and the 1,500 feet from the previous year was trimmed back from that year's growth.

e. CAMPSITES AND PICNIC AREAS — Development of one or more campsites and picnic areas near the



Wallace Creek Dam Project. The 200-acre fresh water lake resulting from restoration of a dam across Wallace Creek is shown above. Map scale is 1:50,000; 10-foot contour intervals.

proposed Wallace Creek Lake are under consideration for accomplishment after completion of the dam project. Two more locations are now in the planning states for campsites and picnic areas; one at nearby Onslow Beach and the other in the Mile Hamnock Bay area.

f. PREDATOR CONTROL — A continuing hunting and trapping program will be maintained for predator control as required to maintain a balance of wildlife.

## SECTION II. COMMITTEE FOR CONSERVATION OF NATURAL RESOURCES

### GENERAL

The Committee for the Conservation of Natural Resources was established in August 1962. Responsibilities of the Committee are to assist and advise the Commanding General in implementing the provisions of Department of Defense and Secretary of the Navy instructions on conservation and management of the fish and wildlife resources of the Base.

### MEMBERSHIP

The Committee, headed by the Assistant Chief of Staff, Facilities, consists of the following membership:

Assistant Special Services Officer  
Representative, Base Facilities Officer  
Base Range Officer  
Base Game Protector  
Base Forester  
Representative, Base Security Officer  
President, Rod and Gun Club  
Representative, 2d Marine Division, FMF  
Representative, Force Troops, FMFLant

### RESPONSIBILITIES

The following responsibilities are assigned the Committee:

a. 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.

b. 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.

c. Prepare annually for the Commanding General's approval, a schedule and procedures for the conduct of organized and controlled hunts by civilians for all types of wildlife; the schedule to include recommended periods for civilian access to Base fishing and for boating facilities.

d. 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.

e. 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.

f. 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.

g. Ensure, when feasible, the local sportsmen groups are invited to sit in on meetings of the Committee as guests. The importance of establishing, maintaining, and improving Base-community relations cannot be over-emphasized.

h. 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 plan.

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

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

k. 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.

l. 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.

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

## SECTION III. PROGRESS REPORT

### GENERAL

The year 1967 saw varying degrees of progress made in a number of areas. Significant steps have been taken in the Military Construction Program and Forest Management Program in matters pertaining to conservation. Better coordination between the various programs has been initiated. The work has continued in the area of planned and progressively programmed development of fish and wildlife resources to achieve



**THE BASE GAME PROTECTOR CLEARS THE DAM CONTROL GATE AT THE NEWLY BUILT GREEN TREE WATERFOWL IMPOUNDMENT.**

better balance between the over-all program and annual increments of it. In the meanwhile, progress has been made in actual achievement, and in preliminary work on advantageous projects for future accomplishments.

### GREEN TREE WATERFOWL IMPOUNDMENT

During 1967, a new project was completed. The construction of a green tree waterfowl impoundment was completed in August. The management recom-



**DUCKS FLOAT UNDISTURBED IN THE NEW GREEN TREE WATERFOWL IMPOUNDMENT. FRESH IDEAS ARE CONSTANTLY BEING CONSIDERED TO IMPROVE THE IMPOUNDMENT.**

mendation was made by Mr. Otto Florschutz, Jr., waterfowl biologist, and supervised by the Base game protector, Mr. Charles D. Peterson. The impoundment features a dam, equipped with a control gate to regulate water flow for fall flooding and spring draw-down. Ashes, hornbeans, black and tupelo gums furnish good quantities of high quality mast foods. Twelve wood duck nesting boxes are to be installed during 1968.

### FOOD PLOTS

The Forestry Section supervised the planting of 80 acres of summer wildlife mix to provide food for and to concentrate game birds such as quail and dove.

Approximately 100 acres were planted in the fall of wheat, barley, oats and rye to provide winter grazing for deer and turkey.

A meeting was held with state and federal conservation personnel which included a field trip to pick sites for future wildlife food plots. Five new sites were



**BASE GAME PROTECTOR, CHARLES PETERSON, RIGHT, AND HIS ASSISTANT LOOK WITH PRIDE AT ONE OF THE NEW FOOD PLOTS. BECAUSE OF NEW CULTIVATING TECHNIQUES AND CHEMICAL TREATMENT OF THE SOIL, BOTH THE YIELD AND USAGE OF THE PLOTS HAS DOUBLED.**

selected, soil samples were taken, and these will be properly fertilized and planted during 1968. Food plots under cultivation total approximately 233 acres. The five-year plan, when fully executed, provides for a total of 338 acres of food plot land.

#### **CONTROLLED BURNING**

Prescribed burning was completed on approximately 8,000 acres of timberland in 1967. Not only does this reduce the fire hazard, but it greatly increases new growth in the spring, thereby providing deer browse and forage for other small game. Additionally, all impact areas and firing ranges were burned to reduce the incidence of fire. The latter burning is an annual event.

#### **TIMBER HARVEST AND INCOME**

Timber to be harvested during Fiscal Year 1968 was marked and tallied and volumes calculated by

**TIMBER BEING LOADED BY THE CONTRACTOR. IN ADDITION TO CONTRIBUTING TO THE CONSERVATION PROGRAM, THE TEN YEAR CUTTING CYCLE PROVIDED OVER \$145,000 INCOME IN 1967.**



Forestry Section personnel. This timber is located in compartments 8, 9, 25, 35, 52 and 58. The harvesting in these areas is to be completed prior to 1 July 1968.

The volumes and values of this timber are as follows:

	Amount Harvested	Gross Income
Pine sawtimber	2,378,467 bd. ft.	\$ 98,872
Pine pulpwood	3,429 cords	24,003
Hardwood sawtimber	632,191 bd. ft.	16,791
Hardwood pulpwood	3,264 cords	6,528

TOTAL DOLLAR VALUE (GROSS) \$146,194

Under the Forest Management Plan there will be a continuing program of timber sales from Camp Lejeune. The present trend is for the amounts cut to remain approximately constant throughout the next seven years. However, there will be an additional income of about \$12,000 from the sale of salvage timber. This timber has been under attack by the Southern Pine Beetle and in order to halt the advance of these beetles, the affected trees are now being removed. This is the first time the beetle has been present on the Base.

#### TIMBER ACCESS ROADS AND FIREBREAKS

Approximately five miles of access roads were constructed in 1966. These roads have been and are being used as haul roads for sawtimber and pulpwood. They are also used by hunters, fishermen and military personnel in the field, and serve as firebreaks and access for fire control purposes. In addition to the already cleared roads, approximately ten miles of existing timber access roads were graded and cleared of small new growth.

#### WATER POLLUTION CONTROL

Surveys conducted by N. C. State authorities have determined that the degree of water pollution in major areas of New River, Southwest Creek and the Inland Waterway is unacceptable. The base included in its Fiscal Year 1968 Military Construction Program, projects for secondary sewage treatment facilities at Hadnot Point, Camp Geiger, the Rifle Range and Onslow Beach. This survey was conducted in 1964 and was originally included in the Military Construction Program for Fiscal Year 1967, in the amount of \$715,000. It was deferred that year by the Department of Defense for programs of a more urgent nature. It has now been approved for the Fiscal Year 1968 program, but the amount approved has been increased to \$2,795,000. Work will commence on this project in the near future.

#### FRESH WATER PONDS

In 1967 two ponds were reclaimed and restocked with channel catfish. Two ponds, previously stocked

with bass, bluegill and red ear were opened. Three new ponds were opened. Two of these ponds were stocked with bass, bluegill and red ear, while the remaining pond was stocked with channel catfish. This increases the total number of ponds from five to eight. Paper, pencil and a chit box are located at each pond for anglers to use to report the number and size of their catch. This will provide accurate information on the growth and health of feeding and fertilizing, and act as an indicator for restocking.

#### FOREST MANAGEMENT PLAN

Forest management at Camp Lejeune began with the establishment of the Base in 1942. At that time, Marine Corps officers with forestry backgrounds were assigned as forestry officers and were responsible for providing sawlogs for the camp sawmill. This circular mill, with its daily capacity of 10,000 board feet, operated from 1944 until 1954, providing lumber for maintenance and construction purposes. In 1954 it was closed by Executive Order.

Written plans or organized resource surveys were not developed during the early years, probably because of the transitory nature of Marine Corps officer assignments. In 1946, however, Lieutenant Zoble, (now Dr. Zoble of N.C. State University) undertook a forest survey and formulated a written long-range forest management plan. Later in the same year, a civilian professional forester was added to the staff, and Dr. Zoble was released from active duty.

In 1954 and 1964, resurveys were made and the plan rewritten and revised. The latest resurvey and revision was accomplished by the U.S. Forest Service personnel through a cooperative agreement between the Department of Defense and the Department of Agriculture. This included an establishment of a continuous forest inventory and a low intensity woodland suitability survey.

In 1962, a second professional forester was added to the staff and in 1964, two fire towermen were promoted to forestry aides and two additional forestry aides were hired.

The forest resources aboard Camp Lejeune consists of 180,064,000 board feet of pine sawtimber; 207,310 cords of pine pulpwood, 48,188,000 board feet of hardwood sawtimber and 188,983 cords of hardwood pulpwood. This is only timber which was of merchantable size at the time of the 1964 survey.

All phases of the Fiscal Year 1968 increment to the Forest Management plan have been or are being carried out. Site preparation on 40 acres with heavy equipment was completed in late summer. These will be naturally seeded.

80 acres were treated by use of tree injection and 2-4-D for the removal of scrub species and the release of pine seedlings.

The 1967 fire season was very light. Only 26 reportable fires occurred and the loss of timber averaged only eleven acres per fire.

The long range forest management plan with annual addendums and revisions will determine the future course of the forestry program.

A continuing program of timber sales is planned. Over 60,000 acres of land is considered commercial timber land. A cutting cycle of 10 years has been established which means that approximately 6,000 acres are to be operated annually.

#### GAME CHECKING STATIONS AND SCALES

In 1967, because of a shortage of personnel, only one weighing station was in operation. The weights of all deer taken were recorded to be used in developing a higher quality animal.

#### PREDATOR CONTROL

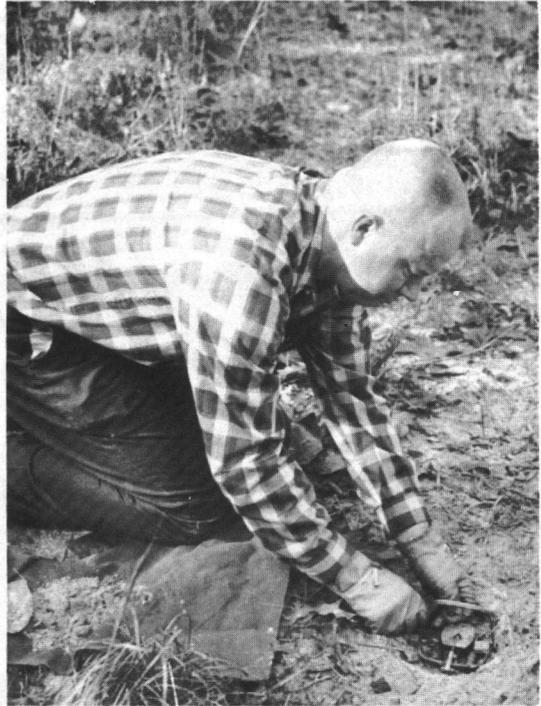
In previous years, studies have indicated that there was an excess of predatory animals. In 1966 a predator control program, aimed at the control rather than eradication, was begun. The trapping of predatory animals is throughout the Base and is not confined to any small area. The results of the 1967 program are: 44 fox, 25 skunk, 9 bobcat and 9 wild dogs were caught. This is an increase over 1966 of 21 animals. Results are confirming the belief that the balance of wildlife is not coming into correct focus.



WOOD DUCK BOXES

In an effort to support the North Carolina Resources Wildlife Commission's program of increasing the wood duck population through building artificial

nesting boxes, the members of the Rod and Gun Club built during their own time on weekends a total of 50 boxes during 1965. These were placed near ponds and creeks in time for the spring breeding season, 1966. Wood ducks were observed using these boxes to such an extent that 100 additional boxes were constructed and placed during 1966. In 1968 the Club has plans to build an additional 40 nesting boxes. These boxes will be placed through-



TRAPS DESIGNED TO DECREASE THE NUMBER OF PREDATORS ARE SET BY THE BASE GAME PROTECTOR. THE TRAPPING PROGRAM HAS ALREADY BEGUN TO BRING THE BALANCE OF WILDLIFE INTO CORRECT PROPORTIONS. PREDATORS ARE LURED TO THE TRAPS BY A SCENT, BEING ADMINISTERED AT THE LEFT.

out the area under the supervision of the game protector. There has been a noticeable increase in the wood duck population, and it is attributed in great part to the addition of these nesting boxes.

## COOPERATIVE MANAGEMENT PLAN

The basic cooperation management plan, executed in 1963, was expanded by the addition of two exhibits in February 1964. These exhibits concern respectively: principal land and water areas suitable for fish and wildlife, principal species, conditions of habitats, and projects; and agreed responsibilities of state and federal agencies. Appendix A contains these exhibits.

## STABLES

A stable complex, including a stable, olympic, riding ring, rodeo ring and training rings have been constructed off Stone Street, in the Paradise Point area, at a total cost of \$25,000, covering approximately 15 acres. At present, the stable owns 26 horses which are available to service personnel and dependents at a reasonable hourly rate. Horse care and riding instructions are conducted by stable personnel, two hours in duration, five days a week. On weekends and holidays an average of 80 persons per day take advantage of riding stables.

## FIELD ARCHERY

The Field Archery Range has been expanded to 28 different types of targets. Trails lead through the area from target to target. Considerable underbrush has been cleared to make the targets available and also to provide a picnic area for a family size outing. The area includes a barbeque pit, tables, benches and an enclosed play area for children, complete with playground equipment.

## CAMPING AREAS

There are six picnic areas aboard the Base under control of the Special Services Officer. Most of these are equipped with shelters, barbeque pits, picnic tables and benches. These areas are under wide use and their acceptance has prompted the plans for more such facilities.

## WATER SKIING

This activity continues to expand and has become an extremely popular sport for both military personnel and their dependents.



HERE, AN EQUESTRIAN GROOMS HER MOUNT. THIRTY MILES OF BRIDLE PATHS THROUGH THE SCENIC WOODS SURROUNDING THE STABLES DRAW MANY RIDERS EACH YEAR.

## SECTION IV. ACREAGE

### GENERAL

The Marine Corps Base, Camp Lejeune military reservation contains 109,047 acres. There are 65,000 acres of hard land suitable and available to support wildlife; 26,000 acres are water. The reservation is located on the Atlantic seaboard, south of Cape Lookout, and approximately 50 miles north of Wilmington, North Carolina. Irregular in shape, it extends some 15½ miles from the Atlantic Coast to the City of Jacksonville on a Northwest-Southeast axis, and approximately the same distance at its widest point on a Northeast-Southwest axis. A main water area, The New River, divides the reservation into two unequal parts with about two thirds of the land area lying to the east of the river.

### IMPROVED ACREAGE

There are approximately 233 acres cleared for game food plots. Several thousand acres have been cleared or partially cleared for training purposes. These latter acres provide varying degrees of support to wildlife through the grasses, legumes, weeds, brush and trees found growing on them.

### WATER ACREAGE AND MILES OF IMPROVED STREAMS

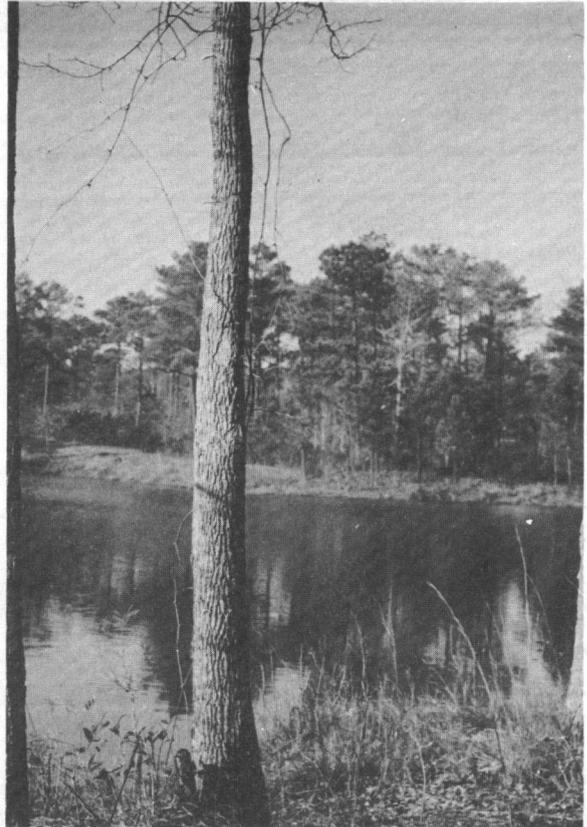
Approximately 6½ acres of fresh water ponds and 14½ miles of fresh water streams are available for fishing. The New River is considered salt water, as is the portion of the Inland Waterway traversing the reservation in rear of Onslow Beach. Seven miles of this 12-mile stretch of the Inland Waterway are available for fishing. The banks of New River offer about 35 miles of shore area from which to fish.

### ACCESSIBLE FRESH WATER PONDS AND STREAMS

The reservation contains 6½ acres of fresh water ponds and 14½ miles of fresh water streams; there are 3 acres of fresh water ponds, not included above, which are located in impact areas and deemed inaccessible.

### LAND AVAILABLE FOR HUNTING

Approximately 60,000 acres of land are available for recreational hunting. The total acreage available on any given hunting day must, of necessity, vary with the training requirements of the day. Built up areas, impact areas, firing ranges, and camp sites are excluded from hunting at all times. Portions of the Paradise Point area and the Montford Point Schools area are hunted selectively to ensure the desired harvest of the deer herd.



ONE OF THE MANY LAKES AT CAMP LEJEUNE.

### DUCK BANDING

Each winter after the hunting season, waterfowl banding operations are held up and down the Atlantic Flyway. Camp Lejeune, with its naturally ideal environment for waterfowl, takes an active part in the operations each year. Waterfowl, usually ducks, which are caught in wire traps, are banded about the leg. Those caught which have been previously banded have their numbers recorded. Hunters are also requested to send bands found on any ducks they kill to the Fish and Wildlife Service. From this information, migratory habits of the waterfowl, percentage of kill during the hunting season, population trends, and lifespan can be determined. In turn this information is used to determine the dates of hunting seasons and bag limits. In 1967, 232 ducks of all species were banded. This was accomplished by the New River Banding Station in conjunction with the Wildlife Resources Commission, the Fish and Wildlife Service, and the Base game protector.



AS ILLUSTRATED IN THIS SERIES OF PHOTOGRAPHS,  
DUCKS ARE CAPTURED AND BANDED WITH A SMALL  
TAG IN ORDER TO TRACE THEIR MIGRATORY HABITS.  
IN 1967, 232 DUCKS WERE BANDED AND SENT ON  
THEIR WAY.



SECTION V. FISH AND WILDLIFE RESOURCES

VARIETY OF WILDLIFE SPECIES

The principal species of wildlife found on this installation are: white tail deer, bear, wild turkey, fox, squirrel, rabbit, raccoon, opossum, bobcat, quail, duck and dove. A few alligators are found in the more remote areas.

ESTIMATED POPULATIONS

Wildlife populations at Camp Lejeune were estimated during the year 1967. This was accomplished with the cooperation of the State of North Carolina Conservation personnel. The quail population was down in 1967, possibly due to the early summer rain. The estimation below is provided from the 1967 data furnished by the Base game protector's office.

SPECIES	POPULATION
Deer	2,600
Bear	17
Turkey	275
Grey Squirrel	Plentiful
Fox Squirrel	Plentiful
Rabbit	Scarce
Raccoon	Excessive
Bobcat	Plentiful
Opossum	Excessive
Quail	Plentiful
Dove	Relatively few
Duck	Plentiful
Skunk	Excessive

GAME KILL

Records are kept on all species of game, however, the three most accurate are deer, bear and wild turkey. Poaching, a long-time problem, has been down in 1967 due to the efforts of the Base game protector and law enforcement officials.

Applicants for a Base hunting permit are required to sign a certificate of understanding to indicate that they are familiar with and will comply with Base, county, state and federal hunting regulations, and the basic principles of hunting safety. They are also required to present a North Carolina State or Onslow County hunting license for inspection by the issuing officer. In addition, waterfowl hunters must possess a valid Federal Migratory Duck Stamp. Certificates of understanding are signed and permits issued at the Base game protector's office located at the Hadnot Point area. Specific clearance for hunting must be obtained from the Base game protector's office.

Deer, bear and turkey tags are issued to each

hunter at the time he purchases a daily or seasonal Base hunting permit. These tags are attached to bagged game as soon as the game is taken and must be validated by the proper official before the game is removed beyond a validating station. The number and type of game killed during the 1967 hunting season was:

White tail deer	323
Bear	3
Turkey	5

An additional 52 deer were lost through automobile accidents. This increase over last year is attributed to inattention of drivers. Programs are being planned to redirect the automobile operators attention.

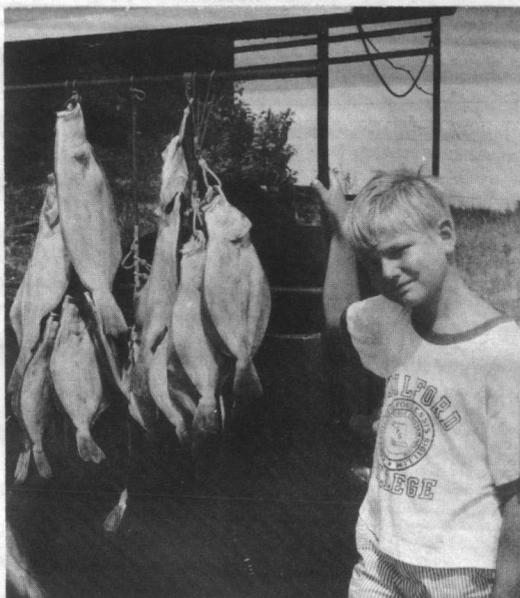
A total of 2,518 permits were issued in 1967. Of these, 1,112 were daily permits issued to civilians and 1,406 were seasonal permits issued to on-base workers and military personnel. In addition, 12,305 actual hunting trips were recorded. This represents a substantial rise over last year's figures.

THE "LONE RANGER" OF THE FOREST IS CAUGHT AS HE CONTEMPLATES WHETHER "TO CLIMB OR NOT TO CLIMB."



The principal fresh water fish found in the waters of the Base are: largemouth bass, bluegill, perch, pike, catfish, redeared sunfish, and robbin. Salt water fish are: channel bass, striped bass, flounder, spotted and grey trout, spot, croaker, mullet, king and Spanish mackerel, bonita, dolphin, amberjack, sheepshead, sea bass, bluefish, whiting, white perch and black drum. Shellfish species are: shrimp, oysters, clams, conch, wilk and scallops. There are more personnel fishing at Camp Lejeune than hunting. Salt water fishing dominates sport fishing. North Carolina is one of the few states which allows gigging of flounder and this sport is carried out year round with such successful results that many commercial fishermen rely on this method of producing a livelihood. With the renovation of the eight fresh water ponds and the Wallace Creek Dam, it is hoped that fresh water fishing will be increased throughout the Base.

**THE YOUNG ANGLER PROUDLY DISPLAYS HIS CATCH. BELOW, A FOX, A FOX, HIS PRIVACY INVASED, GLARES AT THE CAMERA.**



## SECTION VI COMMUNITY RELATIONS

### GENERAL

The Marine Corps Base, Camp Lejeune, strives continuously to improve the already community relations that exist. Especially harmonious relations prevail between the Base and civilian communities within a radius of approximately 50 miles. With the exception of areas one normally expects to find restricted on a military reservation, the Base is open to the public. School classes, church groups, Boy and Girl Scouts, and clubs are welcomed and given demonstrations and guided tours. Large groups, such as the North Carolina State Legislature have been entertained on occasion. Facilities for an overnight stay and meals have been provided Boy Scout Troops passing through of visiting the area. Many visitors are attracted by the extensive recreational facilities available and sports competitions. The Base is particularly beautiful in the Spring when thousands of colorful azalea plants and dogwood trees are in bloom. This attracts many visitors for sightseeing.

### COOPERATION

Excellent and unselfish cooperation has been extended to the Base by Onslow County officials and representatives of the North Carolina Wildlife Resources Commission and the Bureau of Sports Fisheries and Wildlife, U.S. Fish and Wildlife Service.

U.S. Forest Service personnel and North Carolina State biologists have been most helpful in planning a sound Forest Management Program. The cheerful, interested and unstinted assistance of these individuals is responsible, in a large part, for such success as is enjoyed in the various conservation programs.

### PUBLIC ACCESS

In addition to military personnel, their dependents, and civilian employees, retired military personnel residing in the locality, guests of personnel stationed at the Base and properly authorized civilians are permitted to hunt and fish on the reservation. Commercial fishing is authorized in New River, subject to coordination with training activities for safety purposes. North Carolina State Highway No. 172 traverses the reservation near the coast, and is open for public use except on rare occasions when traffic must be rerouted for safety reasons due to firing live ordnance in the vicinity.

### COOPERATIVE MANAGEMENT PLAN

Since adoption of the basic plan in 1963, two exhibits have been prepared. These were added to the plan in February 1964. The exhibits are included in Appendix A.

## SECTION VII. ACTIVITY POPULATION

### GENERAL

The approximate population utilizing the facilities of the Marine Corps Base, Camp Lejeune, is 73,000. This includes 5,000 civilian employees of appropriated and nonappropriated fund activities, Marine Corps and Navy personnel and their dependents residing on the reservation and in the surrounding area. Also included are personnel attached to the Marine Corps Air Facility, New River, Jacksonville, North Carolina.

## SECTION VIII. CONSERVATION EDUCATION

### GENERAL

Education in resource management and regulations is accomplished through various programs sponsored by the Rod and Gun Club; the Base newspaper, THE GLOBE; Camp Lejeune Dependents' Schools; Base Regulations, and the Committee for Conservation of Natural Resources. Federal and state officials periodically visit and meet with the Conservation Committee to provide basic information and technical advice. Through the Rod and Gun Club, a continuous program of education in resource management and regulations is presented to the Club membership.

### GUN SAFETY

Gun safety is continually stressed at Camp Lejeune. Prior to each hunting season, several presentations, including films, are made by the Rod and Gun Club, not only to its members, but to the general public as well. The base newspaper publishes feature stories on gun safety. Other groups, such as skeet teams and the Rifle and Pistol Club have a continual gun safety program.

### WATER SAFETY

This installation has the finest recreational, small craft, and general water facilities found anywhere (boats, canoes, sailboats, outboards, five pools and an ocean beach).

The Camp Lejeune Water Safety Program has essentially three facets:

a. The large and well organized teaching program during the summer youth activity program.

b. Training of military personnel to serve as lifeguards and instructor trainers.

c. Assistance, at unit level, in service training in required Marine Corps swim skills development.

The high point of the 1967 Water Safety Program was an all-day 4th of July Water and Boat Show, which was sponsored jointly by Base Special Services and the American Red Cross. The demonstration included rowboats, canoes, and basic rules for the handling

of small craft. At the conclusion of the safety demonstration, the group entertained the spectators; thus, through entertainment, comes the opportunity to educate. The program demonstrated the need for water sports participants to know all the rules and skills of safe water sports.

The Base sponsors scuba diving and water skiing clubs to train participants in correct and safe methods of pursuing and enjoying these sports.

Classes are held year round by Red Cross water safety instructors for training Cub Scouts, Girl Scouts, Boy Scouts, Base-sponsored Teen Clubs, as well as dependents (wives and children who are not in the above categories) of Marine and Navy personnel.

#### BOY SCOUT ACTIVITIES

Activities at the Base offer programs from the Cub Scout through Explorer Scout levels. There are approximately 450 Boy Scouts and Cub Scouts in the Camp Lejeune Scout Program.

They have contributed to the wildlife conservation program by building numerous houses for wood ducks, feeding and caring for the ducks and preventing predators from infesting the nestling areas. Special attention has been given to the propagation of wildfowl in the Scout Camping area. One troop has built twenty birdhouses in the area and has an established feeding program to prevent large scale starvation of the birds in the event of sustained freezing weather. Many of the Scouts have assisted the Rod and Gun Club in planting and harvesting wildlife food plots. A continuing program of clearing underbrush, forestry management and road repair and upkeep is conducted by the Scouts in their Camping Area. Education in woodsmanship and conservation of natural resources

of natural resources is stressed in all activities. A total of 1,000 Boy Scouts from other locations visited the Base during the year.

**CAMP LEJEUNE'S WOODED AREAS SEEM TO BE CUSTOM-MADE FOR SCOUTING ACTIVITIES. HERE, BOY SCOUTS WORK HARD TO GET A FIRE STARTED.**



## HUNTING AND FISHING INDOCTRINATION

Hunting and fishing indoctrination is largely stressed through the activities of the Rod and Gun Club and the Camp Lejeune newspaper. Prior to hunting or fishing, personnel must display a thorough knowledge of federal, state, and base game and fish laws and regulations. Pocket-sized reproductions of Base Hunting Regulations were provided all hunters.

## GIRL SCOUT ACTIVITIES

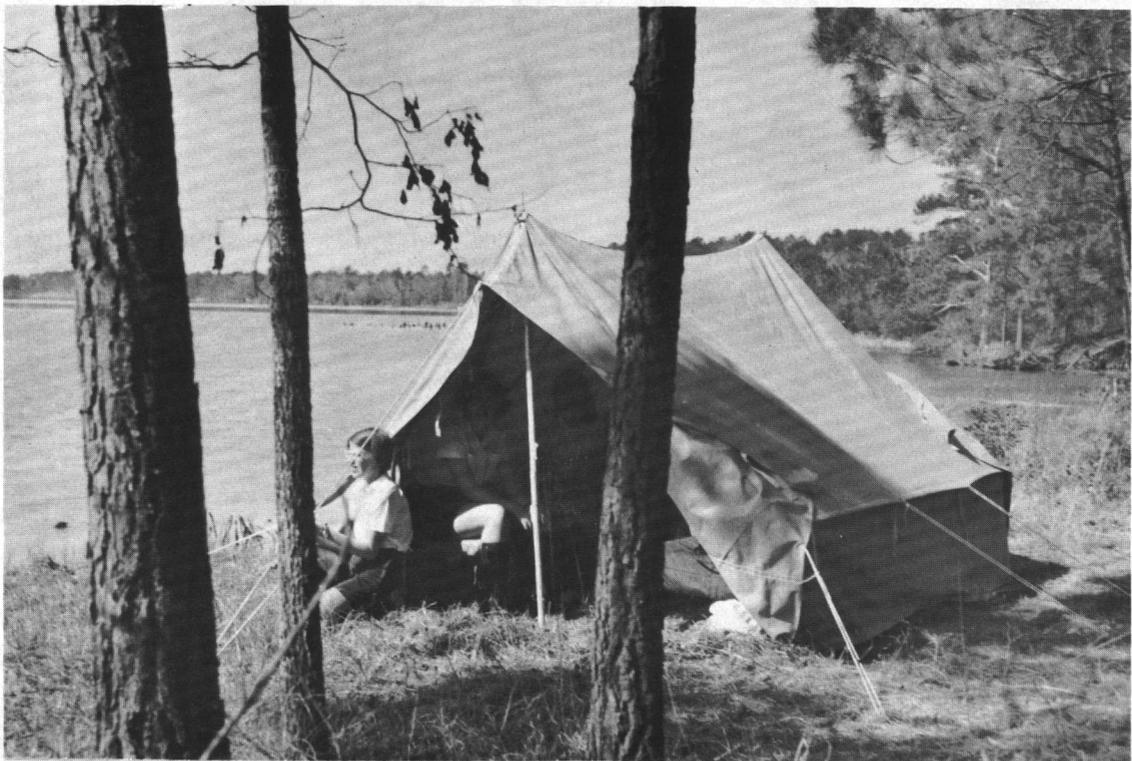
There are approximately 400 Girl Scouts and Brownies in the Camp Lejeune Girl Scout Program. Their main contribution has been in the policing of picnic areas and grounds in the trailer park areas. Some 800 Girl Scouts from other activities visited the Base in 1967.

trails and one food plot and is maintained largely by school students and Scouts. The area is not suitable for troop training, hunting or fishing, but proves highly beneficial as an outdoor classroom for wildlife and conservation education for the younger people.

## SECTION IX, CAMP LEJEUNE ROD AND GUN CLUB

### GENERAL

The purpose of the Rod and Gun Club is to assist the Commanding General in the conservation, restoration and development of fish and other wildlife and its habitats at the Marine Corps Base, Camp Lejeune, North Carolina to seek to obtain better fishing and hunting for personnel serving here,



**GIRL SCOUTS, IN CONTRAST TO THEIR MALE COUNTERPARTS, SEEM TO BE QUITE CONTENT WITH JUST ENJOYING THE LANDSCAPE.**

## WILDLIFE REFUGE-NATURE STUDY AREA

An area in close proximity to three elementary schools, the Junior-Senior High School and the Scout Camping Area has been set aside as a Wildlife Refuge-Nature Study Area. This area, of approximately 200 acres, contains six miles of nature

utilizing maximum resources available locally and with the full cooperation of private, local, county, state and federal agencies; to cooperate in obtaining proper fellowship among sportsmen to instructing and demonstrative measures; and to promote interest among nonsportsmen where such interests are conducive to better sportsmanship. The membership of

the Rod and Gun Club is 209.

## PARTICIPATION

During the period covered by this report the Rod and Gun Club participated in the following activities aboard the Base.

a. Operated a set of scales for the weighing of deer and bear.

b. Continued to acquire numerous books, magazines, pamphlets and other literature from federal, state, local and independent agencies on conservation, hunting and fishing.

c. Procured and showed films on wildlife, fishing and conservation to the club members each meeting night.

d. Invited state and federal fish and wildlife officials to address the membership of the Rod and Gun Club.

e. Provided huntmaster and assistants and supervised six organized deer-bear hunts during the 1967-68 hunting season.

f. Provided volunteers as deputized assistant game wardens to assist the Base game protector in the enforcement of fishing and hunting laws.

g. Rebuilt and repaired 10 duck blinds in order to provide facilities for personnel aboard the Base.

h. Maintained records of all conservation projects undertaken on the Base and made them available to the State Game Biologist.

## PROJECTS PLANNED FOR 1968.

a. Continue an extensive program of brush clearing along certain fresh water streams aboard the Base.

b. Setting out of multi-flora rose and lespedeza shrubs in newly developed areas which will provide food and cover for rabbits, quail and turkey.

c. Sowing of certain marsh areas with food for wild ducks.

d. Sponsoring of a fishing tournament that will run from 1 May to 1 October with prizes being given for the largest king mackerel, bass, bluegill, jack and flounder.

e. To build and place under the game protector's supervision, 40 wood duck nesting boxes.

f. Recondition six duck blinds and construct several new blinds.



A FAVORITE SPOT FOR THE ROD AND GUN CLUB.

COOPERATIVE PLAN  
CONSERVATION AND DEVELOPMENT OF FISH AND WILDLIFE  
U. S. MARINE CORPS BASE, CAMP LEJEUNE, NORTH CAROLINA

PREFACE

In accordance with the authority contained in Public Law 85-337, approved February 28, 1958, and in Public Law 86-797, approved September 15, 1960, the Department of Defense, the Department of Interior, and the State of North Carolina, through their duly designated representatives whose signatures appear below approve the following Cooperative Plan for the protection, development, and management of fish and wildlife resources on the U. S. Marine Corps Base, Camp Lejeune, North Carolina.

GENERAL POLICY STATEMENT

It is the continuing policy of the Commandant of the Marine Corps to restore, improve, and preserve the lands and waters under his management control in the public as well as the military interest. In furtherance of this policy, the Commander, Marine Corps Base, Camp Lejeune, North Carolina, as the representative of the Commandant of the Marine Corps, has implemented an active and progressive program for the management and conservation of natural resources on Camp Lejeune, North Carolina, hereinafter referred to as the Installation. This Cooperative Plan will be incorporated into and form a part of the Installation's program for the management and conservation of natural resources.

COOPERATIVE PLAN

SECTION I

The Representatives to this Cooperative Plan mutually agree:

APPENDIX A

1. To jointly conduct a general inventory review of fish and wildlife resources. When completed, the inventory will be attached to and made a part of this Cooperative Plan as Exhibit No. 1. The objectives of the inventory will be as follows:

a. To locate principal land and water areas suitable for fish and wildlife.

b. To list the principal species of wildlife, condition of their range, and record any data on population numbers.

c. To briefly describe water areas as to location, type, and acreage, with principal fish species known to be present, and with general observations on the quality of the aquatic habitat.

d. To evaluate and set forth the potential for the development of fish and wildlife resources on the Installation.

2. To prepare and attach as Exhibit No. 2 to this Cooperative Plan the agreement of the designated representatives regarding:

a. The agency or agencies who will be responsible for providing the Installation Commander with technical advice, assistance, and related services in fishery and wildlife management.

b. The type and extent of technical advice, assistance, and related services to be provided the Installation Commander.

3. To prepare as needed, on or about 2 January annually, an annual increment for the following fiscal year. The annual increment will include:

a. Fish and wildlife habitat improvement and development.

b. Provisions for balanced ecological conditions.

c. Regulated systematic harvests.

d. Provisions for stocking or restocking suitable fish and wildlife species, as necessary.

## APPENDIX A

- e. Estimated costs and professional services required.
- f. Amount and source of funds, including contributions, available to implement the annual increment.

## SECTION II

The Installation Commander agrees:

1. To work effectively and in harmony with Federal, State, and local conservation officials and with conservation agencies officially chartered, equipped, and manned by personnel trained to render professional advice and technical assistance in the conservation and development of fish and wildlife.
2. To provide within manageable quotas for controlled public access to the Installation for purposes of hunting and fishing when such access can be granted without bona fide impairment of the military mission.
3. To publish regulations regarding the Installation's program for harvest of game and fish. The regulations will include but not be limited to the following:
  - a. Purpose and scope of the program
  - b. Restricted areas and areas available for controlled public use.
  - c. Procedures and requirements for participation in the Installation's program.
  - d. Enforcement of regulations.

APPENDIX A

This Cooperative Plan, upon its adoption as witnessed by its execution, will be in full force and effect for an indefinite period. The Plan is subject to amendment or revision as may be agreed upon by all parties represented. A request for an amendment or revision to the Cooperative Plan may originate with any one of the represented parties.

FOR THE DEPARTMENT  
OF DEFENSE

FOR THE DEPARTMENT  
OF INTERIOR

By /s/ J. P. Berkeley  
Title Commanding General  
Marine Corps Base, Camp  
Lejeune, North Carolina

By /s/ Walter A. Gresh  
Title Regional Director, Bureau  
of Sport Fisheries and Wildlife,  
U.S. Fish and Wildlife Service,  
620 Peachtree-Seventh Building,  
Atlanta 23, Georgia

Date 19 Jun 1963

Date \_\_\_\_\_

FOR THE STATE OF NORTH CAROLINA

By /s/ Clyde P. Patton  
Title Executive Director, Wildlife Resources  
Commission, Raleigh, North Carolina

Date \_\_\_\_\_

APPENDIX A

EXHIBIT NO. 1  
to  
COOPERATIVE PLAN 1-63

1. The principal land and water areas suitable for fish and wildlife are:

a. Land

(1) The Marine Corps Base, Camp Lejeune, North Carolina, consists of approximately 81,000 acres of land, of which 65,000 acres are considered "Hard Land", i. e., areas available and suitable to support wildlife. This acreage excludes industrial, housing, and certain recreational areas on the Base.

(2) Those areas principally suitable for wildlife and considered "Hard Land" are contained in enclosure (1) hereto and identified as A, B, C, D, E, F, G, H, I, J, K, L, M, N, Q, R.

b. Water

(1) Fresh water streams and approximate mileage:

Lewis Creek	one mile
Southwest Creek	three miles
Wallace Creek	three miles
French Creek	two and a half miles
Duck Creek	one and a half miles
Freeman Creek	two miles
Stones Creek	one and a half miles

Total mileage of fresh water stream is approximately fourteen and a half miles. These streams are fresh water and spring fed, subsequently leading to brackish and salt water.

Note; For location see enclosure (1)

APPENDIX A

(2) Accessible fresh water ponds:

<u>Name</u>	<u>Area</u>	<u>Acreage</u>	<u>Known Species</u>
Hog Pen Pond	HF	1/2	None
White House Pond	HF	2	None
Ceaser Pond	HF	1	Catfish
Ditches Pond	HF	1/2	None
Cedar Point Pond	IC	2	Catfish
Ward Pond	IA	1/2	Catfish

Total acreage 6 1/2 acres.

(3) Nonaccessible ponds located in impact area:

<u>Name</u>	<u>Area</u>	<u>Acreage</u>	<u>Known Species</u>
Wind Errie Pond	GB	1	Red pike & catfish
Mosey Pond	GC	1	None
Prince Pond	GD	1/2	None
Oak Pond	GD	1/2	None

Total acreage 3 acres.

Grand total of all ponds is 9 1/2 acres.

2. The principal species of wildlife, condition of their range and estimated population is:

<u>Species</u>	<u>Population</u>	<u>Range</u>
Deer	4,200	Good
Bear	14	Fair
Turkey	270	Good

APPENDIX A

<u>Species</u>	<u>Population</u>	<u>Range</u>
Squirrel (Gray)	Plentiful	Good
(Fox)	Scarce	Good
Rabbit	Relatively few	Poor
Raccoon	Abundant to Excessive	Excellent to Outstanding
Quail	Plentiful	Fair/good
Duck	Scarce	Poor
Dove	Relatively few	Poor/fair
Fox	Scarce	Poor
Bobcat	Scarce	Good

a. The large deer population on the Installation has decreased the condition of their range from excellent to its present status of good. The rabbit habitat is poor and will continue to be so because of the swampy nature of the terrain and the extremely heavy undergrowth peculiar to this locale. The food plot program currently underway will improve the quail and dove ranges; however, the best ranges for these species are open grassy areas which are relatively limited on this Installation. The wildlife ranges are utilized as training areas, and the large military population tend to disturb the habitat of the turkey and the bear.

3. New River is considered salt water and is approximately 17 1/2 miles in length. The Inland Waterway and Surf Line bordering Camp Lejeune are approximately 12 miles in length; however, due to High Ordnance Impact Areas only 7 miles of the coast line is considered available for fishing.

a. Principal fresh water species known to be present are:

Large Mouth Bass	Blue Gill	Pike	Catfish
Bream	Perch	Robbin	

APPENDIX A

b. In addition to the above, deep sea fishing and surf fishing are available with varied fish species. Ocean (salt water) is not considered in the conservation program of this Installation.

c. Salt water fish in the Atlantic Coast, Inland Waterway, and New River are:

<u>Name</u>	<u>Name (Shell Fish)</u>
Channel Bass or Red Drum	Shrimp
Striped Bass	Oyster
Flounder	Clams
Weak or Spotted Trout	Conch
Weak Fish or Gray Trout	Wilk
Spot	Scallop
Croaker	
Jumping Mullet	
Mackerel, Spanish	
Mackerel, King	
Bonita	
Dolphin	
Amber Jack	
Sea Bass	
Sheep Head	
Black Drum	
Blue Fish	

#### APPENDIX A

Name

White Perch

Sea Mullet or Whiting

d. The aquatic habitat for salt water species is generally excellent to outstanding. The aquatic habitat for fresh water fishing is generally poor for ponds and good for fresh water streams.

4. The potential for development of fish and wildlife resources on this Installation is considered unlimited.

a. Current projects include:

(1) Food plot expansion to include a total of 63 food plots. Estimated acreage - 400.

(2) Wood duck boxes.

(3) Planting game foods along highways and power lines to supplement food plot program.

(4) Winter feeding from certain food plot harvesting.

(5) Eradication and control of overpopulated pests and/or predators.

(6) Forest management.

b. Desired long-range projects:

(1) Fresh water lake for fishing and camping ground.

(2) Fresh water lake for ducks and geese refuge.

(3) Controlled burning to improve existing habitat.

(4) Revised food plot planting for ideal consumption.

(5) Improve existing fresh water habitats with emphasis on ponds (food).

APPENDIX A

(6) Game farm.

(7) Improving fresh water ponds by sinking wells.

APPENDIX A

EXHIBIT NO. 2  
to  
COOPERATIVE PLAN 1-63

1. The following agencies will be responsible for providing the Installation Commander with technical advice, assistance, and related services in fish and wildlife management.

a. Director, Bureau of Sport Fisheries and Wildlife, U. S. Fish and Wildlife Service, Department of Interior, 620 Peachtree-Seventh Building, Atlanta 23, Georgia (Fisheries).

b. North Carolina Wildlife Resources Commission, Mr. Grady L. Barnes, Wildlife Refuge Supervisor, Box 49, New Bern, North Carolina (Assistance on wildlife planting).

c. North Carolina Wildlife Resources Commission, Mr. Paul Metters, Box 154, Jacksonville, North Carolina (Matters of law enforcement).

2. The following is a full and accurate description of the extent to which the agencies will assist in the development and management of fish and wildlife resources:

a. Department of Interior. In respect to conservation and development of fish, technical assistance and professional advice and restocking of fish, as required, will be furnished by the Regional Director, Bureau of Sport Fisheries and Wildlife, as necessary to comply with the program.

b. North Carolina Wildlife Resources Commission

(1) Technical services and advice relative to habitat, manipulation, and development of game wildlife.

(2) Limited supplies of planting material for small game.

(3) Information and advice, on call, concerning management and harvest of wildlife.

APPENDIX A

# Water Skiing

## Tourney Here

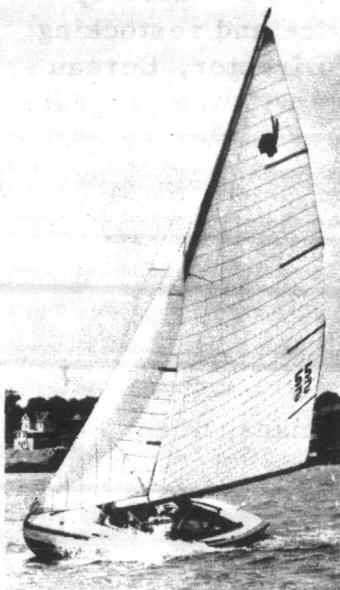
A Camp Lejeune Boat and Ski Club Water Tournament will be held tomorrow at the Marston Pavilion area of Wallace Creek.

The tourney, open to all military personnel of the Quad Command and their dependents.

Contest events are slalom, tricks, and jumping.

Trophies will be awarded in each of three events to first, second, and third place finishers of each age division. Judges will also determine the top performer in each event at the end of the tourney.

Refreshments will be sold. Tournament director is Captain M. C. Aaron (ret.).



Sailboats are available at Wallace Creek Boathouse for 25c a day. And if you can't sail, arrangements can be made to teach you. Classes are conducted every Saturday from 9 a.m. until 11 a.m. If you are interested, call Ext. 7-3680 for further information.

# Lejeune Outdoors



by Charles Peterson

It only takes a day or two of warm sunshine for local anglers to become restless to the point of finding themselves making preparations for an early fishing trip.

They start checking their tackle boxes, cleaning rods and reels and generally arranging for that first trip of the season.

The cold wintry blast over the last week kept would be anglers indoors, but several days of warming is certain to change all that. Many of you, no doubt, will wait until spring really arrives before getting out for that first trip.

You may be missing some real good fishing by not trying your luck now. Crappie, black bass, yellow perch, and chain pickerel readily accept live bait in the coastal rivers during the month of March.

But the "hot-spot" now is Pitch Kettle Creek, a tributary of Neuse River above New Bern near Fort Barnwell.

Large numbers of American and hickory shad have already begun arriving there on their spawning migration. The peak of the run will probably be in two or three weeks.

One has to see the excitement at Pitch Kettle, feel the strike, run and jump of this silver demon to fully appreciate this type of sport fishing. Trying for shad has become a favorite with area

fishermen during late winter and early spring.

Hickory shad make up most of the catches, but it's not unusual to boat white shad if you play them right. Hickories weigh from one to two pounds. White shad weigh from three to five pounds.

Shad are taken by casting or trolling small metal spoons or jigs. Some anglers prefer using a small spoon and jig on the same line which sometimes results in a double catch.

Quarter-ounce shad darts and size "O" spoons retrieved slowly near the bottom produce results when shad are on the move.

Use from eight to fifteen pound test lines on light fresh water outfits for best results. You'll need to take a boat with you because there is no place close by to rent one. Small outboard motors work best when trolling for shad.

Shad seem to take baits best during the first four hours or the last four hours of daylight. Sometimes, however, they readily take baits throughout the day.

Although shad have quite a few bones, they are delicious in flavor, particularly the roe (eggs) when smothered with bacon.

Don't sell them short for sport or for the table. Take a tip! Make one trip to Pitch Kettle at least. We think you'll enjoy it enough that you will want to go there again.

# Scouts Take Charge At Lejeune Units

Area Boy Scouts celebrated their 57th Anniversary last week. Part of the celebration included Honor Scouts filling major command billets for the Base, 2d Division, and Force Troops last Friday.

Ceremonies before Friday included a Cub Scout Father and Son Banquet at the Tarawa Terrace Community Center Wednesday night followed by a Boy Scout-Explorer Father and Son Banquet at the Tarawa Terrace Community Center Thursday night.

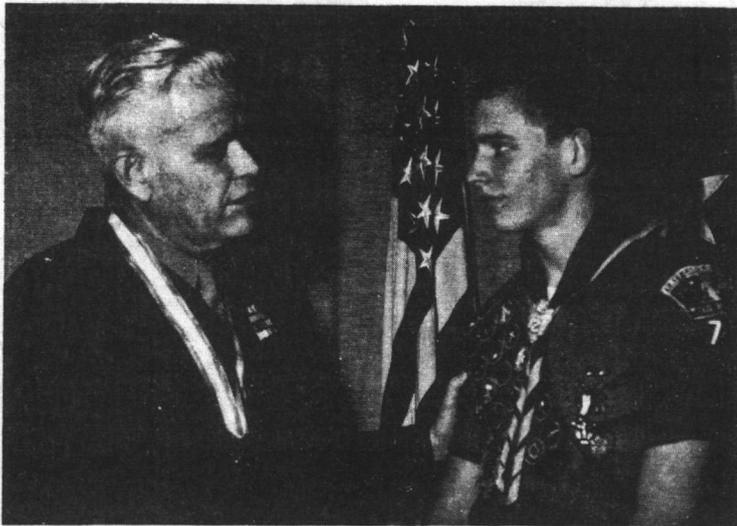
The Commanding General billets were held by Robert Chapman, for Major General Joseph O. Butcher, Commanding Gen-

eral, Marine Corps Base, Norman Stivers, for Major General John G. Bouker, Commanding General of Force Troops, and Douglas W. Curry, for Major General Ormond R. Simpson, Commanding General of the 2d Division.

The Honor Scouts arrived on the base at noon Friday and ate in Messhall 54.

After they finished eating they watched a movie and heard a speech by Major General Joseph O. Butcher.

The scouts then reported to their assigned honorary billets. Each scout held his billet for about two hours.



MAJOR GENERAL JOSEPH O. BUTCHER, Commanding General, Marine Corps Base, confers with Robert Chapman, honorary Commanding General last Friday. During the ceremonies Chapman was promoted to Eagle Scout by General Butcher, in connection with National Boy Scout Week.

## Devilfish Swim Here Saturday Against Bragg

The Camp Lejeune Devilfish will swim in their first meet of the season Saturday at 11 a. m. when they take on a team from Fort Bragg.

Mrs. Nancy Bieger, coach of the dependents' swimming team, says most of her competitors are beginners or have only limited experience.

Two returnees expected to spark the team are Rosemary Davis in the 9-10 year old girls group and Vicki Doran in the 11-12 girls category.

The Devilfish have a date December 17 in Greenville for the East Carolina Tournament, will travel to Fort Bragg December 28-29 for their Christmas Tourney, and have arranged later dates in Norfolk and Quantico.

## Riding Lessons Set

Military personnel and their dependents wishing to receive riding lessons are asked to register now at the base stables or call 7-3293 for further information.

Classes have been scheduled to convene January 9 and will run for ten weeks.

## ARCHERY TOURNEY

An "American Round Tournament" will be conducted by the Camp Lejeune Archers for the Eastern Carolina Archery League, Sunday, May 7, 1967 at the Camp Lejeune Parade Ground.

The tournament, scheduled to start at 10:00 a.m., will see archers from New Bern, New River, Fayetteville, Goldsboro and Cherry Point shoot a total of 90 arrows from the 30, 40, 50 and 60 yard lines.

Throughout each year Camp Lejeune's conservation programs draw wide press coverage from newspapers — not only the Base newspaper, THE GLOBE, but

local papers as well. The following pages attempt to show the coverage given and apparent interest shown in the Base's program.

# Conservation Job Pays Dividends

Conservation minded officials began action on a project two years ago. Today there is a pond, bountifully supplied with channel catfish, opening to furnish recreation for Camp Lejeune personnel.

This body of water. . . Prince Pond. . . for years was unable to produce anything except a few stunted rough fish.

But during the winter of 1964, interested parties. . . the Base Game Warden, the Rod and Gun Club, and the Fish and Wildlife Service. . . came up with a re-stocking project for five ponds aboard the base.

After receiving enthusiastic approval from the Base Commander, the physical work began.

First the undesirable vegetation in the water had to be killed. Then the rough fish had to be poisoned.

After that a program began to fertilize and lime the ponds. Lime combats over-acidity in the water. After the acidity was brought within tolerable limits the ponds were stocked. Three with bass and bream, and two with channel catfish.

Prince Pond was stocked with 2,000 three-inch Channel catfish. It now has plenty of cat-

fish in it and a ruler on it. Charles Peterson, the base game protector, hopes that fishermen will record the date, from the pond, so that control of the stock can be maintained.

Mr. Peterson emphasized the importance of not introducing

any other species of fish in the pond. "Almost everyone,"

ly ruin the fishing." To get to Prince Pond turn right on the second tank trail past the fire tower on Sneads Ferry Road. Then take the first road to the left, and the pond is straight across from the road. A word of advice. . .



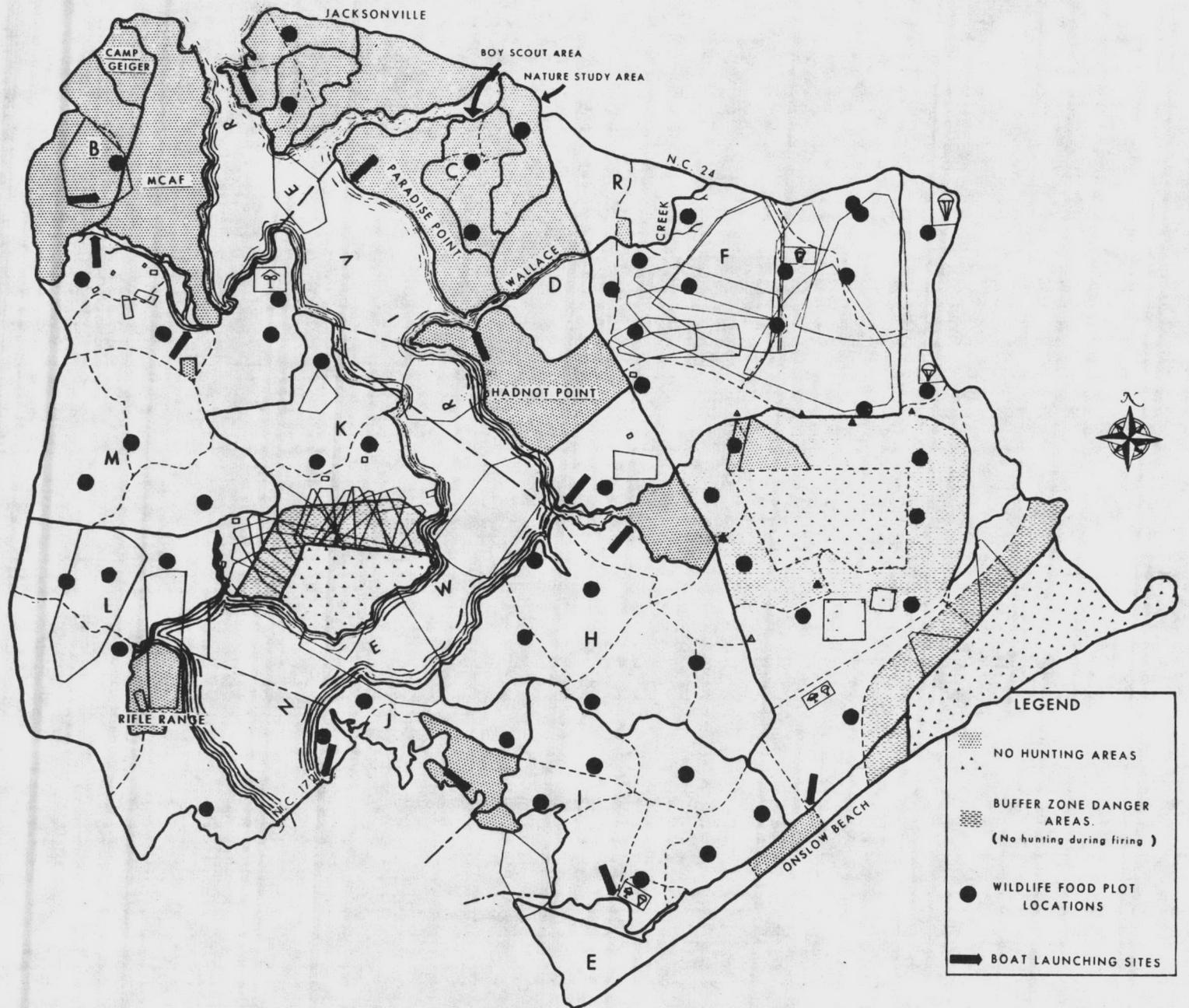
**FERTILIZING**—Volunteers under the direction of Charles Peterson fertilize and lime the ponds every month.

Peterson stated, "is interested in conservation. A lot of well-meaning fishermen will carry fish caught somewhere else into a pond, hoping they will multiply. This will destroy the balance established in our ponds, and will almost certain-

ly ruin the fishing." To get to Prince Pond turn right on the second tank trail past the fire tower on Sneads Ferry Road. Then take the first road to the left, and the pond is straight across from the road. A word of advice. . .

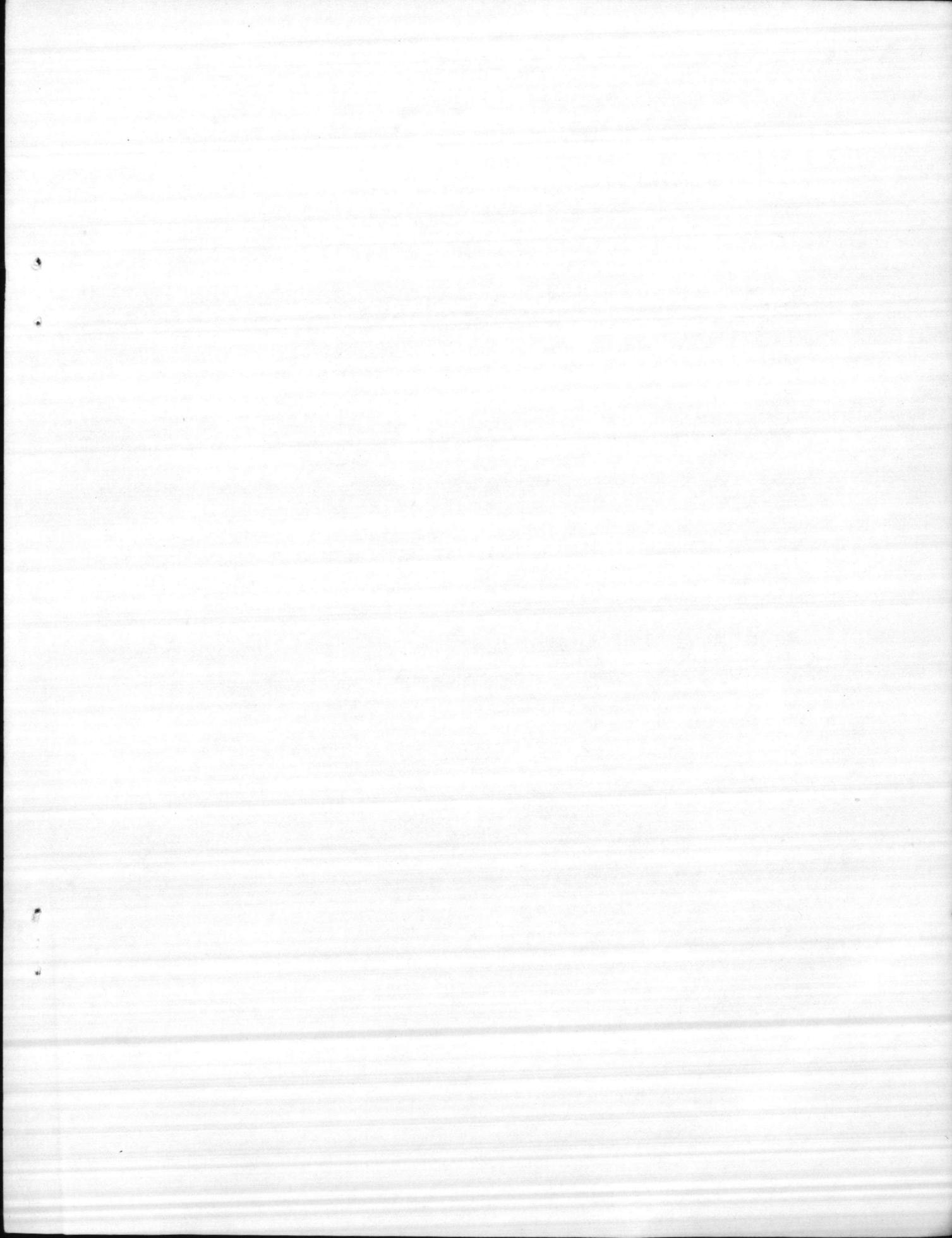
Coordinates for Prince Pond are 883300.

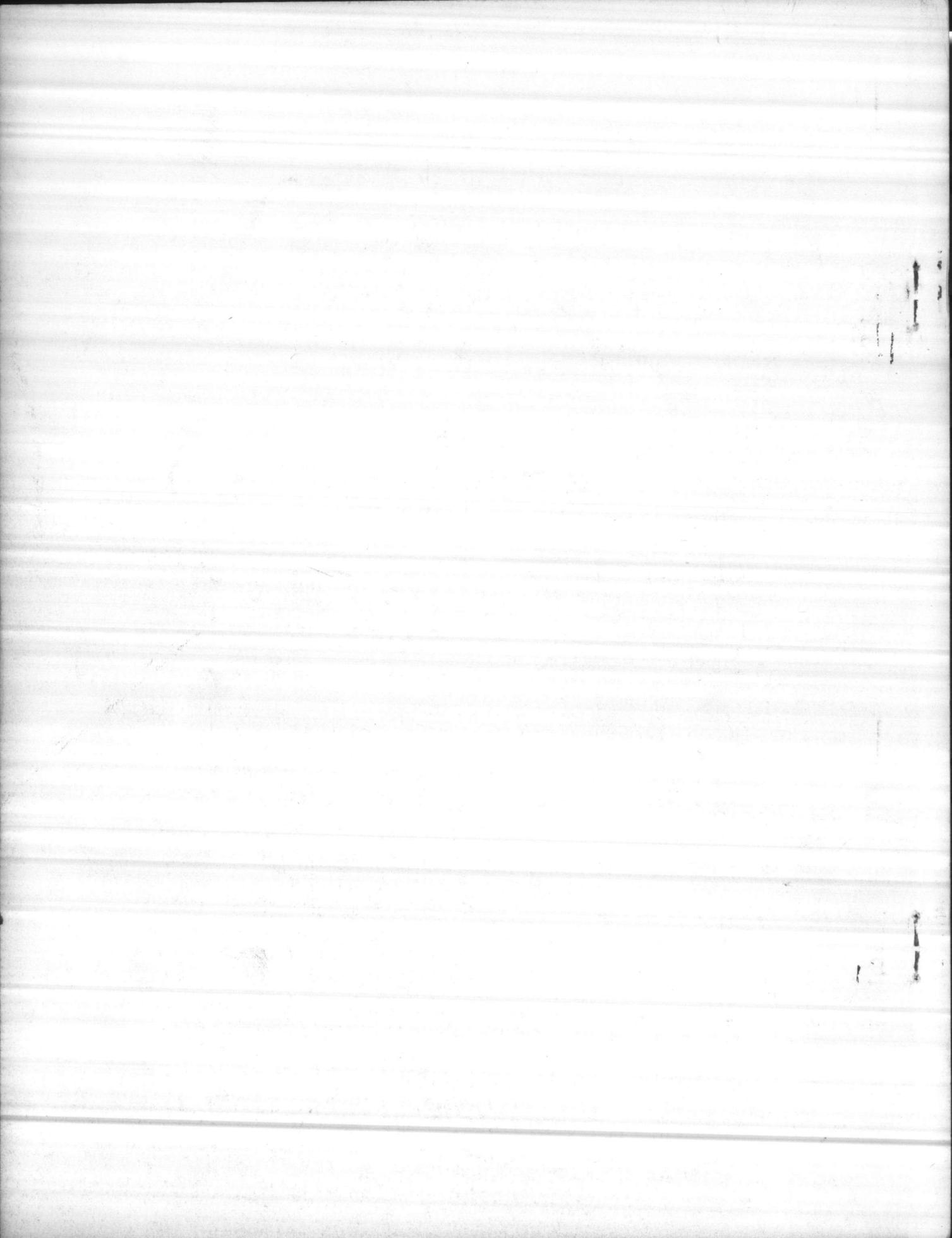
The other ponds are expected to be ready for opening early next summer.

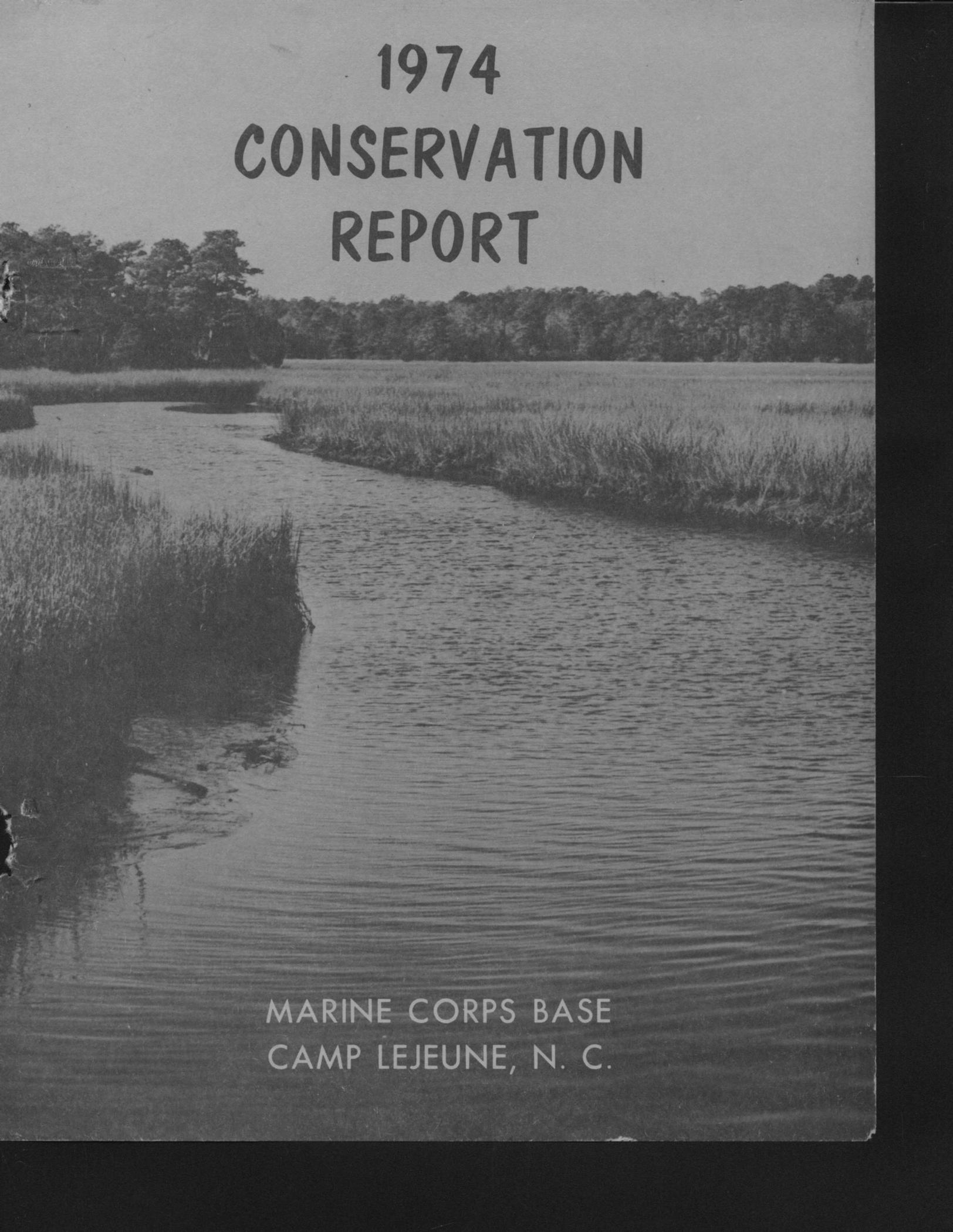


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# 1974 CONSERVATION REPORT

MARINE CORPS BASE  
CAMP LEJEUNE, N. C.



ABOUT THE COVER . . . a downstream view of Freeman Creek, a typical estuary and salt marsh area of Camp Lejeune

2

The vantage point of the photograph is the site of an old landing from which naval stores were shipped by sailboat in the nineteenth century. The marsh is a unique and invaluable ecosystem, upon which most marine species are directly or indirectly dependent. Some species live and spawn in the sea as adults but enter the marsh for development; others enter the protective waters to spawn or to feed; while other species spend an entire life span in the marsh. It is the home and feeding ground of countless waterfowl and small mammals, in addition to many amphibians and reptiles. The stream at this point is brackish and is one of the best habitats for alligators on the Base. The salt marsh areas remain in the natural state in that no dredging or channelizing has taken place.

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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. Report period is for calendar years 1971, 1972, and 1973.

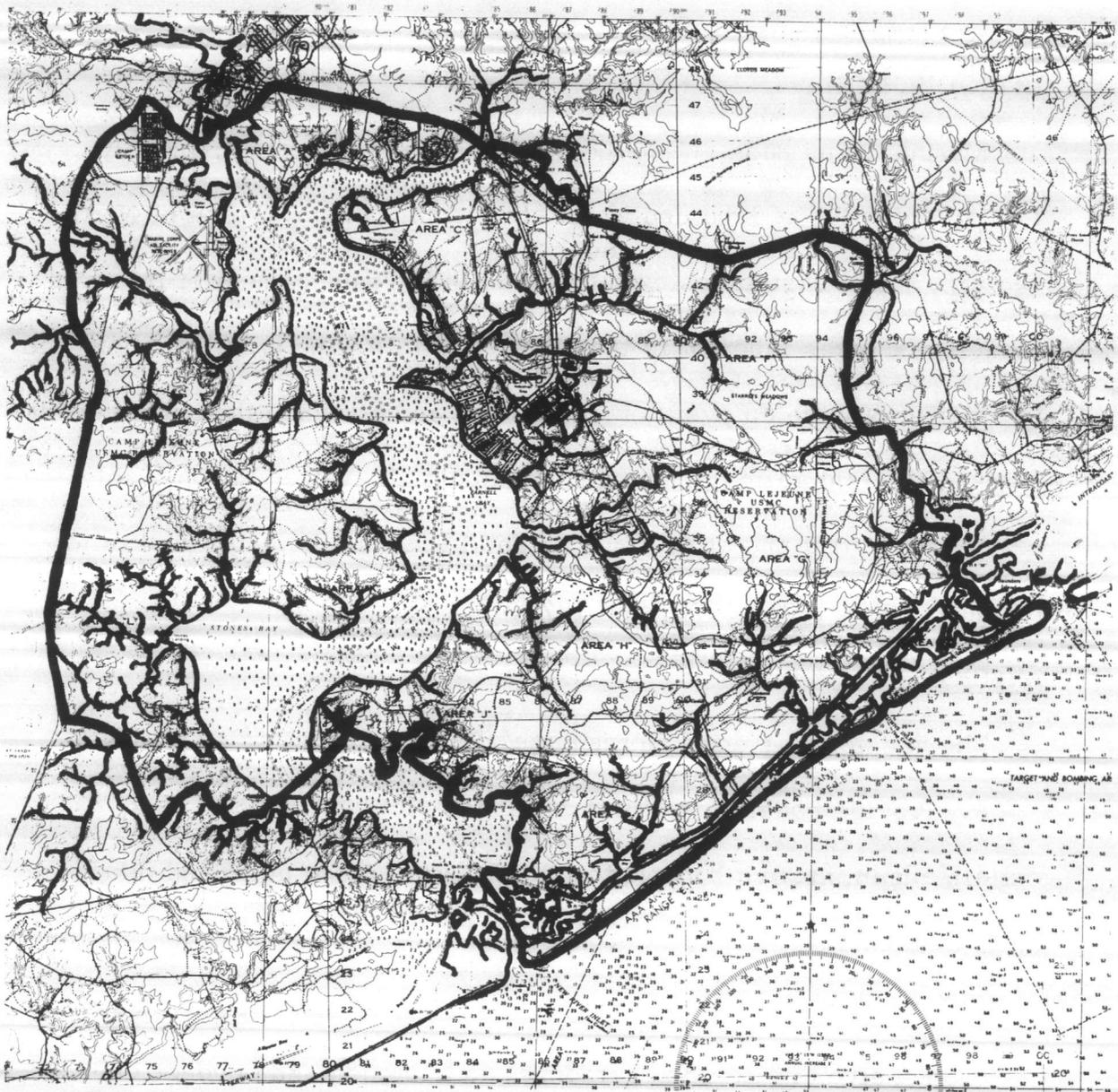
### MISSION

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

- a. Provide housing, training facilities, logistic support, and certain administrative support for Fleet Marine Force units and other units assigned.
- b. Conduct specialized schools and other training as directed.
- c. 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 following:

- a. Protection and conservation of the watershed and natural landscapes, soil, beneficial forest and timber growth, and fish and wildlife



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

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 27,000 personnel, augmented by approximately 3,000 civilian employees. Military dependents usually number in excess of 30,000, on and off Base.

## HIGHLIGHTS, 1971 - 1973

### PURPOSE

This summary of highlights is included to present in brief form the increased accomplishments for the reporting period 1971 - 1973.

### CLEARING OF WILDLIFE OPENINGS

Fifteen nonagricultural openings were located and cleared using a KG blade in the enhancement of wildlife habitat.

### EXPERIMENTAL WOODY STOCK PLANTINGS

Exotic woody stock planting was continued in cooperation with the N. C. Fish and Wildlife Commission and the Soil Conservation Service. Plantings were made in areas with high population in turkey for the purpose of evaluating growth, adaptation, and use as a turkey food.

### TURKEY GOBBLER COUNTS

Two routes for conducting turkey gobbler counts were established to obtain data for use in the enhancement of the turkey population.

### CONSTRUCTION OF NEW POND

A 14-acre reservoir site was cleared and a dam constructed to create a new fish pond on a small tributary of Wallace Creek in the summer of 1971. This has more than doubled the fish pond acreage of Camp Lejeune. The pond was opened in July 1973 and production of fish has exceeded all expectations.

### SANITARY LANDFILL

In 1971, a site was selected and cleared of merchantable timber for a sanitary landfill. Necessary earth work was completed and operation of the sanitary landfill commenced in May 1972, replacing the requirement for the former burn dump.

### BURN DUMP

Site of the former burn dump has been converted into a recreation area including a lake. The lake was stocked with fish in the summer of 1973 and will be opened for fishing in July 1974.

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

This order was published to establish policy and procedures concerning oil pollution abatement. Forty waste oil storage tanks have been installed at strategic locations throughout the Base.

### CONTINUOUS FOREST INVENTORY PLOT REMEASUREMENT

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

### REFORESTATION

For the 3-year period, a total of 643 acres was site-prepared for natural regeneration and a total of 518 acres was site-prepared and planted in pine. Approximately 1,000 black walnut seedlings were planted adjacent to wildlife food plots on reforestation sites.

### TIMBER HARVEST

During this reporting period, Camp Lejeune realized an income of \$1,069,333 in timber sales.

### 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.

### TIMBER ACCESS ROADS

Disking and planting of timber access roads for wildlife food areas has been in progress for the past two years.

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

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

### ENDANGERED SPECIES AND WILDLIFE IN NEED OF ASSISTANCE

Efforts increased significantly in identifying populations and protecting the endangered species. Habitat improvement measures should also improve their well-being.

### SALLIERS BAY WATERFOWL IMPOUNDMENT

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

### RACCOON TRAPPING

A trapping season was opened for the first time in 1973. By the end of December, 56 raccoons had been live-trapped and made available to the state of North Carolina for restocking purposes.

### BEAR CAPTURING

Eight black bears were trapped, tagged, weighed, aged, and released. The first one trapped was equipped with a radio transmitter for telemetry studies of its habitat.

### WILD TURKEY TRAPPING

Forty-five wild turkeys have been live-trapped and transported to other public game management areas for restocking purposes.

### WILD HONEYBEES

Two colonies of wild honeybees were preserved by installing them in hives in safe areas.

### BASE GAME PROTECTOR

This activity moved from the Provost Marshal office to the Base Maintenance Department which provides for better management with centralized control.

### USE OF ULTRA LOW VOLUME SPRAYER

In 1973, a new type ultra low volume sprayer was used for adult mosquito control. Use of this machine resulted in the conservation of 4,000 gallons of fuel oil.

### INSTALLATION OF 4-1/2 TON CARDBOARD COMPACTOR

One of eight 4-1/2-ton cardboard compactors was installed.

### NATURAL RESOURCES AND ENVIRONMENTAL AFFAIRS DIVISION

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

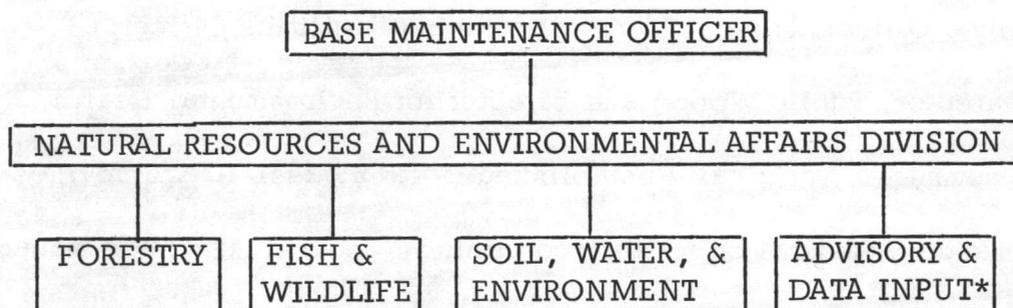
### BASE-WIDE AWARENESS OF CONSERVATION PROGRAM AND ASSISTANCE RENDERED

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

## 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 the 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 ENVIRONMENTAL ENHANCEMENT

Base Order 11015.2, which gives authority for this committee, was updated in 1973. In rewriting the order, the name was changed from

"Committee for the Conservation of Natural Resources" to "Committee for Environmental Enhancement." The only major change was to reduce the membership from sixteen to six but retaining the original ten as advisors. This is expected to increase the efficiency of the committee in that advisors need attend meetings only when the agenda includes items requiring their particular expertise. Membership is as follows: Chairman (as appointed by the Commanding General); Director, Natural Resources and Environmental Affairs Division; Base Wildlife Manager; Representatives from - 2d Marine Division, FMF, and Force Troops, FMFLant; and President, Rod and Gun Club. Advisors: Forester; Ecologist; Game Protector; Veterinarian; Special Services Officer; Maintenance Officer; Provost Marshal; Training Facilities Officer; Design Director, Public Works; and Director for Environmental Health.

This committee, originally established in 1962, assists and advises the Commanding General on matters pertaining to conservation and management of natural resources and environmental enhancement. 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 made recently

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 also have provided invaluable assistance in various programs. These include Base Special Services, Ecology Club, Rod and Gun Club, Boy and Girl Scouts, and the Camp Lejeune 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 cannot 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, revised, and updated in 1973. 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. Also, close 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 and environmental quality of the Base to the maximum extent possible in the interest of the public as well as the military; 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 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 in improving the environmental quality.

### 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 fish and wildlife species which will preclude an 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 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 above framework, certain projects such as controlled burning, brush clearing, and elimination of low quality, overaged trees

have been programmed for accomplishment in annual increments. Other projects such as the establishment of new food plots and 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 the planning stages in two areas of the Base - the 1800 Industrial Area and the Main Ammunition Dump.

b. Installation of eight washing facilities for vehicles which will separate oils and solids and reuse the water, which eventually is 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 generally was poor. After government ownership in 1941, with the implementation of multiple-use management programs, environmental conditions for flora and fauna and man have improved steadily.

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 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 21 different soil formations of varying structures ranging from sandy loams to fine sand and muck, but the soil type generally is 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. Soils were rated also 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. 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 52 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 commonly are 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	30 acres
Streams (New River, Intracoastal Waterway, and ocean beach)	46 miles
Fishing acreage to be opened in 1974	3 acres



APPROXIMATELY 14 MILES OF SCENIC FRESHWATER STREAMS  
DRAIN THE BASE



INTRICATE PATTERNS OF SALT MARSH - AN IMPORTANT PART OF  
THE COASTAL ENVIRONMENT

## SOIL, WATER, AND AIR RESOURCES

### SEWAGE TREATMENT

Secondary treatment is now accomplished at all of the seven sewage treatment plants at Camp Lejeune. Construction of rotating trickling filters at each facility has provided the capability to process waste at a high state of purity, obtaining an efficiency of 90% in relation to the biological oxygen demand and suspended solids, thus assuring that the seven million gallons of waste water that daily flows through the sewage treatment system will not degrade the quality of New River. Continuous attention and control at these sewage plants by qualified personnel assures that effluents meet and exceed water quality standards established by the state of North Carolina. To help improve the qualifications of sewage treatment plant operators, all recently employed personnel are engaged in an intensive two-year on the job training program set up and administered by the Civilian Personnel Office. The final step of this training program requires the employee to pass the Waste Water Treatment Operator Examination (Grade II) administered by the North Carolina Department of Water and Air Resources. Twenty-one sewage treatment plant operators have completed successfully examinations for certification with grades ranging from I to IV.

### SANITARY LANDFILL

Operation of the sanitary landfill (since 1 July 1972) has been a

success. 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 complete with pond now 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. Another former open burn dump will be reforested with pine seedlings in the near future.

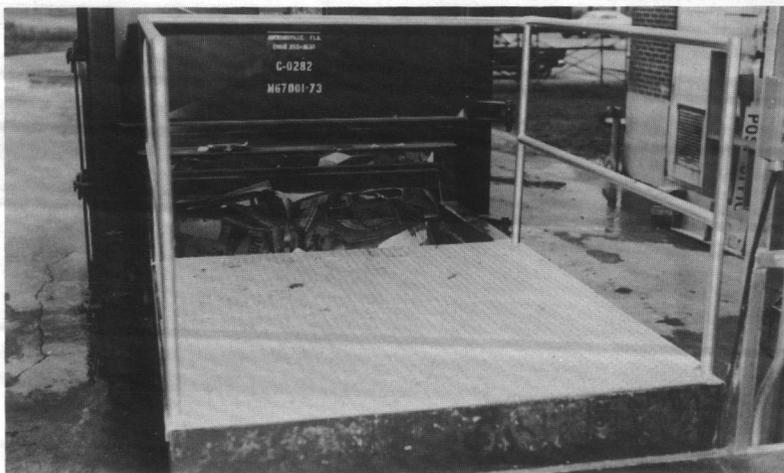


SANITARY LANDFILL IN OPERATION

## COMPACTION DEVICES

Shortly following the opening of the sanitary landfill, twenty-one compaction devices were installed in Base messhalls. Utilization has proven these devices 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 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.

In 1973 additional compaction equipment was installed at the Marine Corps Exchange to compress cardboard boxes. The device exerts a 4-to-1 compression ratio and is equipped with a container capacity of 4-1/2 tons of cardboard, greatly reducing the necessity for dumpsters. Similar equipment will be installed at other locations during 1974.



COMPACTION DEVICE WITH CONTAINER

## OIL SPILL PREVENTION

A complete Base-wide survey conducted to determine the extent of oil pollution in maintenance areas, motor pools, etc., revealed some minor soil and water pollution was occurring; action was initiated immediately to correct the situation. In addition to a personal explanation of the necessity for preventing oil spillage, time was spent with each unit in these areas instructing in the preparation of oil drip pans for oil dispensing drums and discussing other methods for prevention and containment. In 1973 approximately forty waste oil storage tanks with capacities of 280 and 550 gallons were modified and installed at different locations for utilization at the unit level.

Base Order 11090.1 (Appendix C) was published implementing the Base Spill Prevention, Containment, and Countermeasure Plan for oil and other hazardous substances. Oil contaminated soil has been replaced in various locations with new soil and reseeded. Further work is planned in the future to improve the appearance of the grounds around maintenance buildings, motor pools, etc.

In the past, most of the waste motor oil collected at Camp Lejeune was used for dust control on unpaved roads and parking lots. Now, a 272,000-gallon tank is available for storing excess waste oil that is not needed for dust abatement. It is expected to use this excess oil for either heating fuel or reclamation.



SMALL OIL SPILL IS CLEANED UP BY PUMPING OIL FROM THE DITCH WITH A PUMPER TRUCK



FORTY STORAGE TANKS HAVE BEEN INSTALLED AT VARIOUS MOTOR POOLS DURING THE PAST YEAR

## CHEMICAL DUMP

In the past, certain items of a chemical nature which could not be utilized, reconditioned for return to the supply system, sold, donated, or transferred were buried in specific areas of the Base. Although close control of the burying was maintained, this practice has been suspended 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. The Environmental Protection Agency is currently working on this problem and has been most cooperative.

## 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 Base Maintenance Department has been conducted to ensure that all personnel including pest controllers and supervisors are certified as competent.

Base Maintenance Officer is tasked with the responsibility of maintaining surveillance over the types of chemicals 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, Naval Facilities Engineering Command, Norfolk, has been most cooperative in providing necessary technical expertise as required.

In the summer of 1973, a new type ultra low volume sprayer was used by the Insect and Rodent Control Section for adult mosquito control. This machine, which provides a direct spraying of undiluted insecticide, conserved an estimated 4,000 gallons of fuel oil by eliminating its requirement as a dilutant.

## NATURAL BEAUTY

### BURN DUMP CONVERSION

Perhaps the most significant beautification project to be accomplished during the reporting period was the conversion of the Base burn dump site into an attractive and desirable recreation area. Prior to May 1972, 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. An average of 70 pounds of rodenticide was used weekly for the control of rats. Upon commencement of the sanitary landfill operation, a coordinated operation was launched to correct the situation at the burn dump. Initially, the entire area was covered with dirt; a tenant engineer battalion greatly assisted in this project transporting earth to the dump. A 3-acre man made lake was then prepared at the site of the former borrow pit, and extensive landscaping, including filling of the lake with water and the planting of approximately 900 plants including 600 azaleas and 75 flowering trees, followed throughout the area. The lake, completely stocked with fish, will be opened for fishing in July 1974. 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.

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



BEFORE



DURING



AFTER

## LANDSCAPING

During the past three years, Camp Lejeune has been the scene of an active beautification program through landscaping efforts. In addition to efforts of various clubs and organizations whose achievements have been listed elsewhere in the report, the Nursery and Landscaping Section of Base Maintenance Department has made excellent contributions. Completed projects include beautification efforts in the areas of 2d Marine Division, Force Troops, quarters and housing, industrial and central areas, headquarters buildings, road intersections, golf courses, and horse stables. In excess of 4,500 flowering trees, shrubbery, and flowers have been planted in support of the above projects. Principle plant life includes hetzi juniper, cedrus deodora, weeping willow, red cedar, flowering peach, dogwood, rose, etc.



FORMER BURN DUMP AREA NOW IN HARMONY WITH NATURE

## FORESTRY

Roadside zones are an intricate phase of the Base's Long Range 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 minimum disturbance is noted. During site preparation in clear-cut and seed tree cut areas, the dogwood is protected for its flowering beauty.

## ROADS AND GROUNDS

Contributions by the Grounds and Structures Section of Base Maintenance Department in enhancing the beauty of the Base include the removal 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 area. This system has proven to be especially responsive and effective, and the initiative of the individual area commanders has been recognized and encouraged.

## 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.

### WILDLIFE MANAGEMENT PLAN

The initial wildlife management plan for Camp Lejeune was formulated during fiscal year 1968 and has been updated each year with an annual increment for enhancing wildlife species. A new ten-year plan

was formulated during fiscal year 1973 for the purpose of improving management of all fish and wildlife. The new plan will be updated annually with an annual operational plan.

Under the new plan, the Base has been divided into fourteen wildlife units featuring a particular game species within a wildlife unit with management emphasis being directed toward improving the habitat for that particular species. All other game and nongame species also will be considered within the wildlife unit.

Progressive improvement is expected to be realized under the plan since it is adjusted to meet the increasing needs of the public using the local fish and wildlife resources. The plan is compatible with the forest management plan and with other land use of the Base.

#### MANAGEMENT PRACTICES

Local emphasis is directed primarily toward management of a variety of forest game species. Forest game populations are dependent upon timberlands which provide food and cover throughout the year and successful conservation of these populations depends upon sound management of timberlands from the commercial viewpoint.

The Base Forester and Base Wildlife Manager enter these timberlands together in prescribing plans for timber stands which best fit the multiple-use concept. Site plans are prepared for future roadway plantings for wildlife, new food plots, natural openings, clear cuts,

seed tree cuts, and thinning operations. This management procedure is necessary to ensure compatibility of the two programs and continuous progress in the future.

#### WILDLIFE FOOD PLOTS

Fifty-four food plots totaling 250 acres have been established to supplement the natural food supply, provide edge effects, and enhance natural brood range. One half of each plot is planted autumnally in improved varieties of rye and wheat to provide winter grazing. The remaining half of the plot is left fallow for invasion by grasses and succulent herbs. The food plots are seeded with millets and other annuals during the spring season.



VALUE OF SUPPLEMENTAL PLANTING FOR WILDLIFE IS DEFINITELY REALIZED IN THIS FOOD PLOT OF WINTER GRAIN

## SMALL GAME MANAGEMENT AREA

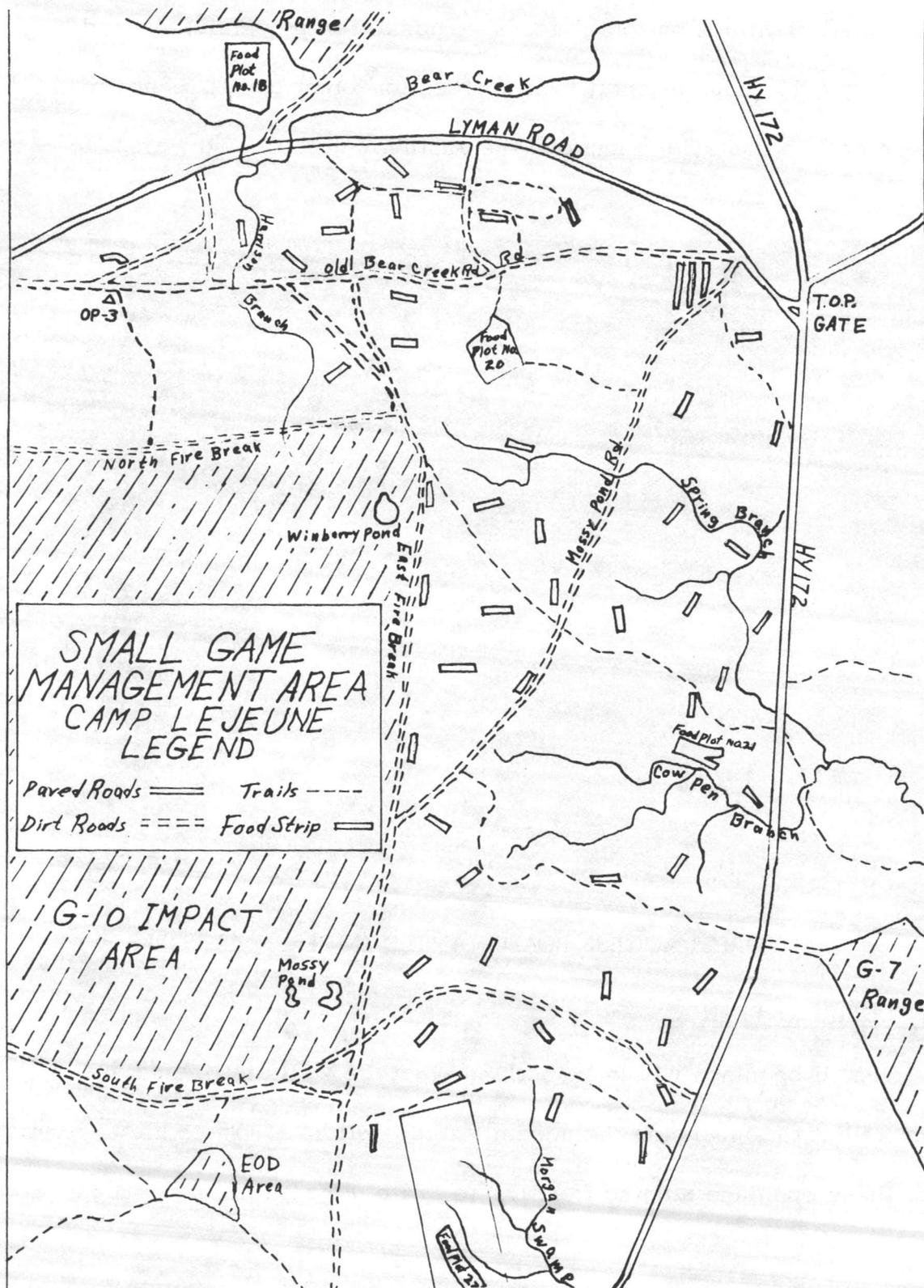
An area was maintained as an annual work project to provide additional recreational quail hunting and further enhance the wildlife resources program. The area covers a 1300-acre continuous tract of pine-hardwood stands which generally are open enough to provide excellent quail hunting.

Forty-eight strips were seeded in annual mixtures furnished by the State Wildlife Resources Commission. Perennials, such as sericea 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 2-year rotations. Management techniques are implemented to improve food sources, nesting, and escape cover. The area was prescribed burned in fiscal year 1973 to improve the quail habitat of the area.

## FOREST ACCESS ROAD PLANTINGS

Three miles of forest access roads were planted in perennial grasses such as rye 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 wild-fires, provide supplemental food sources for forest game, reduce road maintenance costs, and improve the aesthetic quality of the area.



FOREST ACCESS ROAD PLANTED IN PERENNIAL GRASS

#### 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 ranging from  $1/2$  to  $3/4$  of an acre in size. Edge

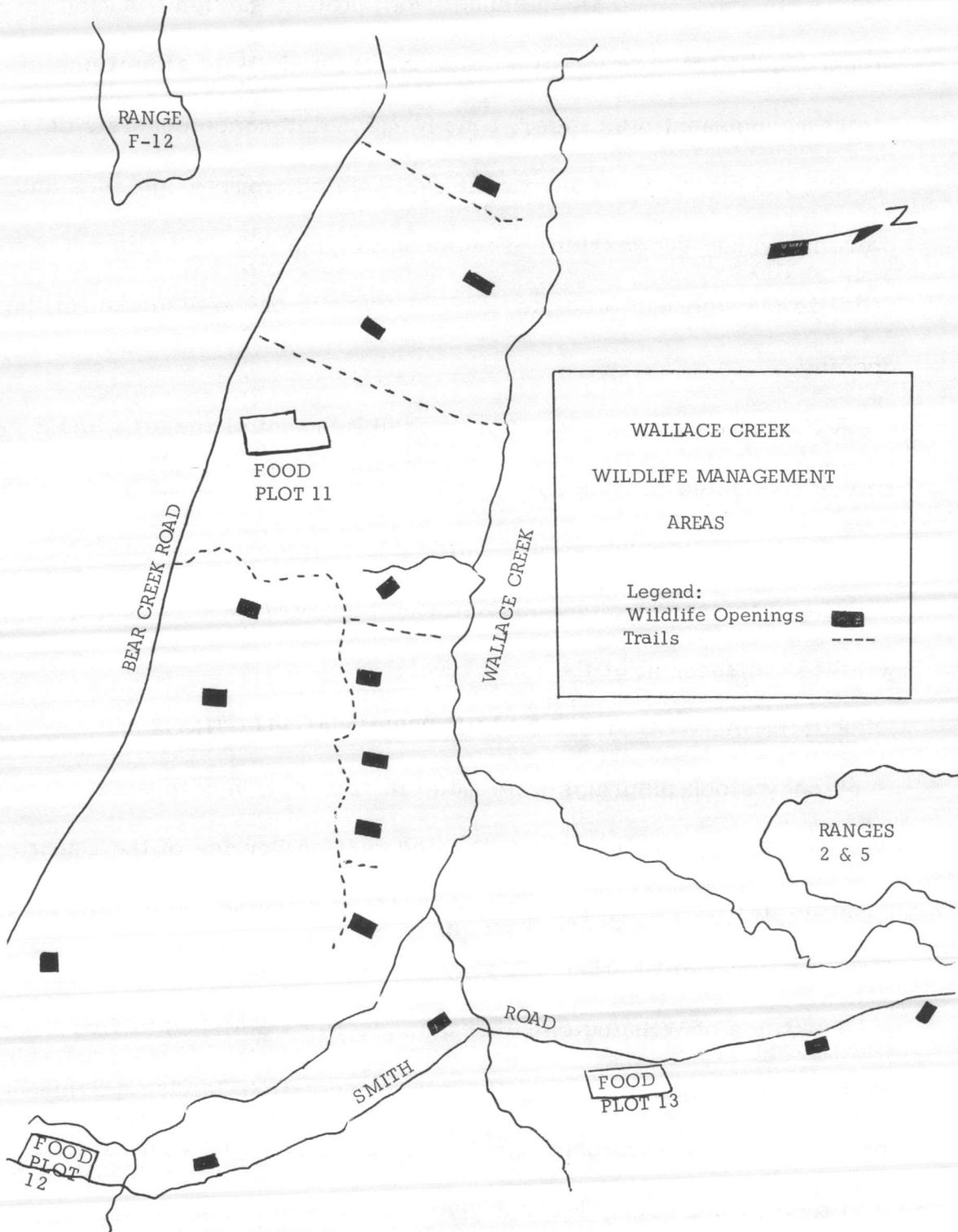
effects are maintained as an annual work project through trimming, proper placement of brush for escape cover, and slight alterations in forest management practices. Long range maintenance consists of mowing the clearings at 3-year intervals which promotes grasses and prevents woody succession. The accompanying map of Wallace Creek Wildlife Management Area provides an example of the dispersal of the openings.

A comprehensive survey prior to establishment of the area and a survey conducted in 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.

#### EXPERIMENTAL WOODY STOCK AND PERENNIAL PLANTINGS

Woody stock plantings were made in cooperation with the N. C. Wildlife Commission and the Soil Conservation Service of the Department of Agriculture. Plant materials were distributed through the Soil Conservation Plant Nursery, 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.





REPRESENTATIVES, N. C. SOIL CONSERVATION SERVICE,  
EXAMINE WOODY STOCK PLANTING OF AUTUMN OLIVE



FRUIT OF THE AUTUMN OLIVE

## DOVE MANAGEMENT AREAS

Five management areas for mourning dove were established as annual work projects to provide site locations for the successful harvesting of dove during the hunting season. Strips of millet were planted adjacent to strips of winter grain to provide food sources for the dove throughout the year. The strip planting method keeps breeding populations and young dove in the management areas.



TREES ADJACENT TO THE DOVE MANAGEMENT AREA ARE USED FOR RESTING

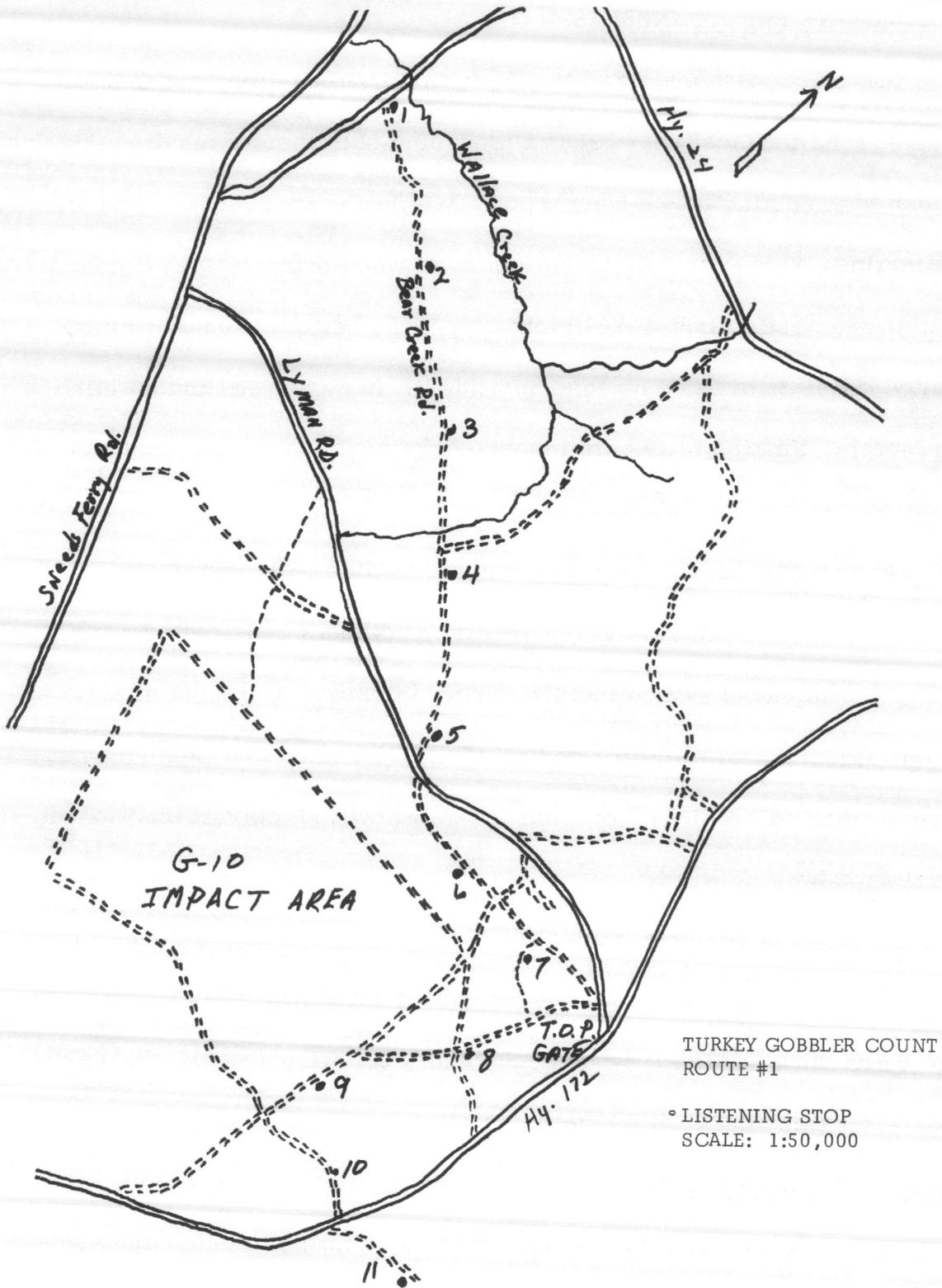
## WATERFOWL IMPOUNDMENTS

Continued management of the Town Creek Green-tree Impoundment established in fiscal year 1968 is producing satisfactory results. Twelve wood duck nesting boxes were erected within the impoundment and are maintained each year. Eighteen broods of wood duck were hatched within the nesting boxes during this reporting period. Annual maintenance consists of flooding the impoundment in September and draining in March. Nesting boxes are inspected for nests in early spring and nesting material is replaced in December.

Salliers Bay Impoundment , five acres in size , was established in fiscal year 1972. Marine Corps Reserve engineers constructed a road through a highland swamp in 1969 during an extended drought and , afterwards , normal rainfall flooding of the adjoining area created what appeared to be excellent potential for waterfowl. A culvert positioned in the roadway by wildlife management personnel maintains the desired water level and prevents roadway destruction adjacent to the impoundment. The impoundment is being managed as a permanently flooded area for black duck , mallard , wood duck , and green winged teal. Six nesting boxes for wood duck were established in fiscal year 1973.

## TURKEY GOBBLER COUNTS

Turkey gobbler counts are conducted each spring to determine year-to-year abundance. Accompanying charts indicate the established routes

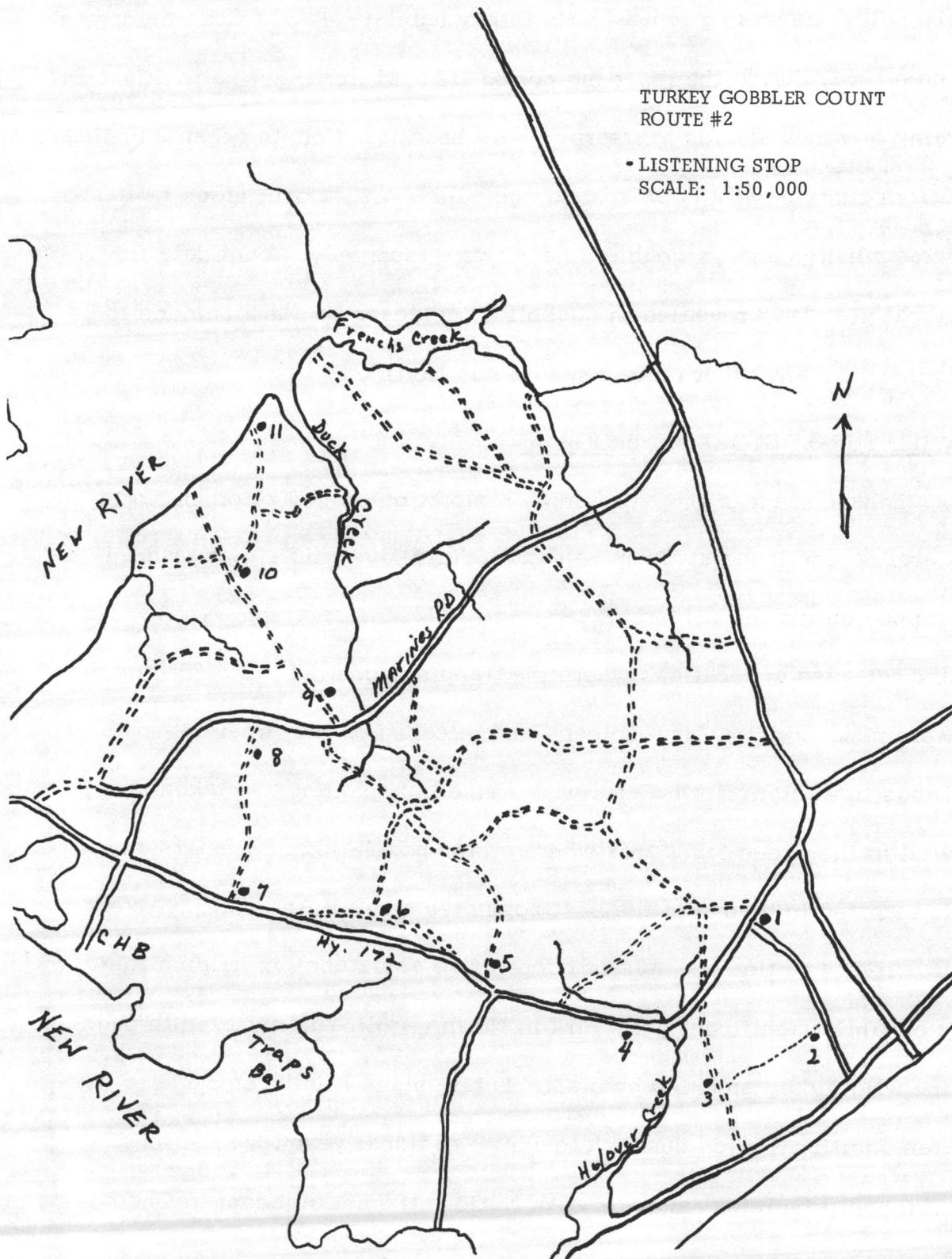


TURKEY GOBBLER COUNT  
ROUTE #1

° LISTENING STOP  
SCALE: 1:50,000

TURKEY GOBBLER COUNT  
ROUTE #2

• LISTENING STOP  
SCALE: 1:50,000



(10 miles) traversing typical wild turkey habitat. Each route was driven three times during the reporting period (16 - 21 April) during weather not rainy or windy enough to interfere with hearing. Counts began 30 minutes before sunrise with stops spaced one mile apart. Count stops lasted for three minutes and all gobblers heard were recorded. Count data from fiscal year 1973 revealed the gobbling incidence at Camp Lejeune to be higher than any other route conducted in North Carolina.

#### WILD TURKEY STOCKING PROGRAM

Enhancement of the wild turkey restoration project effort in North Carolina continued at Camp Lejeune. Forty-five wild turkeys were live-trapped during the winters of 1971 and 1972; ten of which were banded and released at locations where the trapping occurred. Twenty turkeys were removed from Camp Lejeune and released on the Green River Game Lands in western North Carolina. These transplants have taken very well to the Green River area where a high population now exists and is reported to be one of the best populated areas in the state. A very important and fine example of cooperative assistance in helping to restore this magnificent game bird in North Carolina is revealed through the wild turkey stocking program. Future plans have been made to live-trap additional birds during late winter of fiscal year 1974, some of which will be released in Croatan National Forest adjacent to Cherry Point Marine Corps Air Station.

## WILD HONEYBEE PROJECT

The honeybee, a very beneficial and important insect found at Camp Lejeune, unknowingly performs an invaluable service to nature in cross pollinating flowers while collecting nectar and pollen for food. The continued existence of many wild flowers which are aesthetically pleasing and numerous other plants which derive their beauty from colorful fruits, nuts, or berries is dependent upon pollinating insects such as the honeybee. These fruits, nuts, and berries, in turn, provide valuable food for many species of wildlife.

Honeybee colonies require some form of protective housing such as hollow trees for survival. During logging operations in which many hollow trees are destroyed, those trees containing honeybee colonies are marked to avoid accidental cutting during future timber harvests. Thusly, the continued existence of the honeybee at Camp Lejeune is ensured.

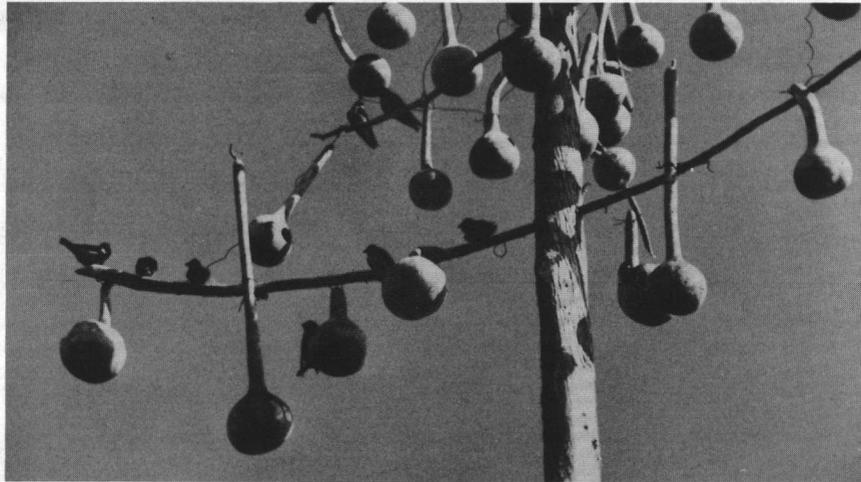
Two wild honeybee colonies were saved from destruction during the summer of 1973 by removing them to a standard beehive and then transporting the hive to a safe place in a forested area where they were protected from animal predators such as black bear. The first colony was removed from a fallen tree and the second was removed from a training building where the bees were annoying troops. Future plans are to further protect and preserve any colonies that might be so endangered.



CEMENT WALL OF AN ABANDONED TRAINING FACILITY PROVIDES A SANCTUARY FROM BLACK BEAR PREDATION FOR HIVES OF WILD HONEYBEES

## PURPLE MARTIN

8 The purple martin, termed by some conservationists as America's most wanted bird because of its voracious appetite for flying insects, is found at Camp Lejeune. This bird will eat as many as 2,000 mosquitoes per day and can be attracted to any area by erecting good housing. Gourds suspended from a high pole provide good nesting sites, and future plans call for the erection of additional gourds and martin houses at Camp Lejeune.



NESTING GOURDS FOR PURPLE MARTINS WERE GROWN ON LOCAL WILDLIFE FOOD PLOTS

## RACCOON TRAPPING PROGRAM

The first trapping season for controlling raccoon populations was established in 1973. Trapping was not permitted prior to 1973 and,

consequently, a very dense population of these animals occurred, as evidenced by the increasing number of raccoon visits to the housing areas in search of food. Large die-offs occurred through the years when populations reached critical densities. At present, the valuable raccoon resource is being retained from loss to the environment by trappers utilizing small leg-hold traps and live-trapping methods. Fifty-six raccoons have been made available to the North Carolina Wildlife Commission for further transporting to the mountains and release in improving populations there.

#### 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 nongame animals.

Recently, a program was initiated that does more than just protect these creatures. Surveys are being conducted to determine the number of animals present, whether the species is increasing or declining, 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 overaged 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 overaged pine trees.

Management practices at Camp Lejeune have been modified to leave suitable nesting trees wherever found. Seventeen nesting trees have been located and marked to ensure nonremoval during 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 near the northern boundary of the alligator's range. Several alligator sightings aboard Base are reported each year and, apparently, the population is on the increase. The habitat best suited for the alligator is on the upper reaches of the salt water creeks and the tributaries of New River where there is deep and brackish water. A nesting site was discovered near Freeman Creek which probably has been used for several years.



ESTUARINE HABITAT FOR ALLIGATOR IS ABUNDANT  
AT CAMP LEJEUNE

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 D. Peterson, Base Wildlife Manager.

Several other species inhabit Camp Lejeune that are not considered endangered but 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, approximately forty osprey nests have been located and plotted on a map with recorded observations concerning breeding, nesting, feeding, etc. More detailed information concerning the number of young per nest will be obtained this spring by use of a helicopter. Data previously collected has been forwarded to the North Carolina Fish and Wildlife Service to aid 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, twenty-five 6-foot juniper posts were established in open areas. Nesting cavities were drilled into the posts in preference to "bluebird houses" due to their natural appearance.



#### FLEDGLING OSPREYS ON THE NEST

Another animal requiring special management consideration is the black bear. During the past several years, a steady decline has been noted 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, with the assistance of North Carolina Wildlife Resources Com-

mission and Naval Medical Field Research Laboratory, natural resources personnel conducted a bear-tagging program during fiscal year 1973. Eight bears were trapped, tagged, weighed, aged, and released. The first bear trapped (May 1973) was equipped with a radio transmitter in a telemetry study to determine movement and home range. Telemetry data indicated an approximate home range of nine square miles (May-September). The last attempt to make radio contact with this bear from aircraft produced negative results (December 1973). Technical assistance for this study was provided by the North Carolina Wildlife Commission.



TRANQUILIZED BEAR FITTED WITH RADIO TRANSMITTER COLLAR

## 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. Principle freshwater game species are largemouth bass, bluegill, robin, redear sunfish, warmouth, pumpkinseed, yellow perch, redfin 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 freshwater 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	Heavy
New pond (unnamed)	3.0	Above Average	Open fiscal year 1974
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
Powerline	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. Feeding rings permit the floating pellets to remain in the prescribed area until completely utilized by the channel catfish.



EXCAVATION FOR CORE OF HENDERSON POND DAM



AERIAL VIEW OF HICKORY POND (L) AND HENDERSON POND

## STOCKING

Initial stocking in fresh water ponds was at the 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 are maintained as necessary. Trash disposal containers were provided at several sites where littering has 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 of 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 1973.

## SEINE SAMPLE ANALYSIS

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

## FISH STOCKING PROGRAM - 1973

<u>Species</u>	<u>Number Stocked</u>	<u>Source</u>
Channel Catfish	1,000	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.



BASS (5 lb 12 oz) AND BREAM TAKEN FROM HICKORY POND  
9 APRIL 1973

## HUNTING

Hunters enjoy a wide variety of game birds and animals which offer 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 harvested during fiscal years 1971-73. Wild turkey and raccoon are species which are underharvested and programs will be initiated to increase harvesting of these species.

Adequate harvest of deer is essential to keep the herd within carrying capacity of the Base. Examination of key browse species (cyrilla and yaupon) indicates present hunting techniques have been successful in controlling the population. Antlerless deer are usually harvested every other year. TABLE 2 - Deer Herd Reproductive Rates, 1959-74, and TABLE 3 - Age Structure of Antlerless Deer, 1973-74, indicate sufficient harvest of deer.

TABLE 2

### DEER HERD REPRODUCTIVE RATE

	<u>1959-60</u>	<u>1960-61</u>	<u>1963-64</u>	<u>1966-67</u>	<u>1968-69</u>	<u>1970-71</u>	<u>1973-74</u>
Female Deer Sampled	43	31	38	75	64	45	
Reproductive Rates*	.73	1.09	1.14	1.22	1.22	1.40	

\*Reproductive rates expressed as fawns per adult doe

TABLE 3

## AGE STRUCTURE OF ANTLERLESS DEER, 1973-74

<u>Age Class</u>	<u>Number Deer Weighed</u>	<u>Avg. Whole Weigh</u>
Male Fawns	9	61.4 lbs.
Female Fawns	11	49.5 "
Female 1-1/2	9	79.8 "
Female 2-1/2	14	81.8 "
Female 3-1/2	6	84.5 "
Female 4-1/2	2	92.8 "
Female 5-1/2	3	91.9 "
Female 6-1/2	2	93.4 "
Female over 6-1/2	1	91.8 "



WHITE-TAILED DEER PROVIDES RECREATION FOR BOTH THE HUNTER AND THE PHOTOGRAPHER

## OTHER UTILIZATION OF RESOURCES

Most wildlife species are protected and are never hunted in any manner. These species occupy 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 Schools, Girl and Boy Scouts, and students of Coastal Carolina Community College enjoyed field trips for observing numerous species present in the area.

## COOPERATION WITH STATE AND FEDERAL CONSERVATION ORGANIZATIONS

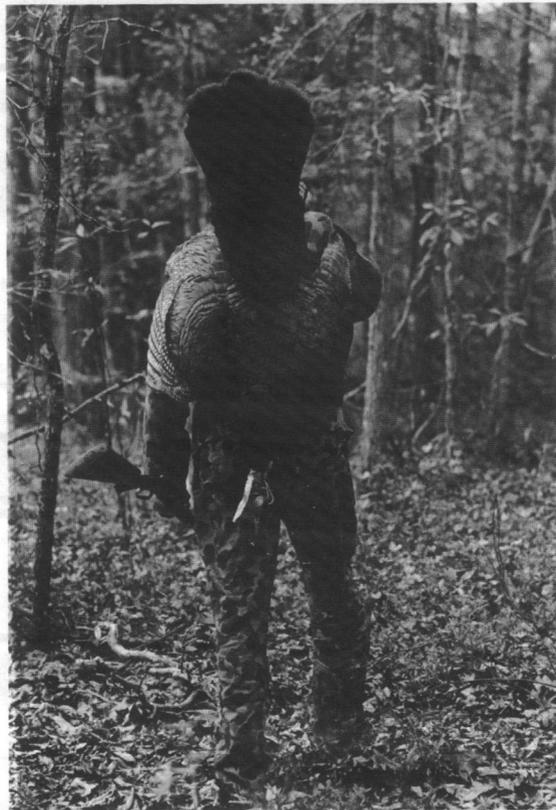
Management specialists from the N. C. Wildlife Resources Commission, the Bureau of Sport Fisheries and Wildlife, and the U. S. Soil Conservation Service made numerous visits to the Base during fiscal year 1973.

The State Small Game Biologist provided 750 pounds of annual seed mixtures and 5,000 shrub lespedeza seedlings for planting.

The wild turkey restoration project leader provided valuable management assistance for the wild turkey program. The endangered species program was also planned with the assistance of these specialists. 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 Sport Fisheries and Wildlife provided assistance through on-site inspections.



TURKEY HUNTER - "doing his thing"



RESULTS - enough said !

## WILDLIFE LAW ENFORCEMENT

10 The Base Game Protector position, formerly within the Base Provost Marshal office, has been transferred to the Fish and Wildlife Branch, Natural Resources and Environmental Affairs Division, Base Maintenance Department. Personnel include a gunnery sergeant, sergeant, and twelve volunteer deputies. Citations totaling 221 (hunting - 154/ fishing - 67) were issued during 1973. Aside from law enforcement, duties consist of administering hunting license tests, issuing fishing and hunting licenses, and disposing of road-killed deer.

During the hunting season, each hunter must obtain a permit for the specific area in which he wishes to hunt. This permit, which is issued by the Base Game Protector, must be returned by one hour after sunset on the same day issued. This method has several advantages: collection of harvest data through completion of forms listing the number of each species taken and number of hours spent hunting; deer kills are weighed and the lower jawbone removed for aging; and, from a safety standpoint, the number of hunters per acre can be regulated allowing immediate action to be taken in locating any hunter failing to return his permit.

Wildlife Law Enforcement program was improved during fiscal year 1972 through establishment of a Base Conservation Board with the accompanying issuance of punishment guidelines for disposition of infractions of State, Federal, and Base regulations.

## FOREST MANAGEMENT

### INTRODUCTION

It is the policy of this command to maintain a sustain-yield multiple-use forest management program that is commensurate with military training requirements. This program correlates timber management with the best wildlife habitat possible; Base recreational and natural study areas; and the ever expected aesthetic value of our forests. The following narration will express this policy.

### ANALYSIS OF FORESTED AREAS UNDER MODIFIED MANAGEMENT

Timber producing areas are under even-aged management with the exception of areas along major streams and swamplands. These areas are under a modified even-age management system 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 major transportation arteries running through the Base; Base Archery Range; Special Services bridle trails; Camp Lejeune Boy Scout area; areas surrounding Special Services recreation camp sites; and forested areas parallel and surrounding building complexes throughout the Base. Smaller areas are managed for enhancement of "endangered" wildlife species particularly the red-cockaded woodpecker and osprey.

### MANAGEMENT TECHNIQUES

Approximately 60,552 acres are under management at Camp Lejeune.

Timber management methods and techniques are similar to those used on other large acreages in the surrounding areas. Wherever practical, natural regeneration is utilized. This process occurs mainly through seed tree cuttings in blocks of 125 acres or less. Artificial reforestation is used on clear-cut areas in blocks not exceeding 50 acres and on areas being converted into timber producing lands after other nonproductive uses. Management practices include mixtures of pine-hardwood with ratios of 70% pine minimum on pine producing sites, and a maintenance of 90%-plus hardwood in hardwood producing sites. During site preparation operations in seed tree and clear-cut areas, scattered clumps of mast producing and fruiting hardwoods are left unharmed to produce food for wildlife. Older stands are thinned to provide ample sunlight for increased vegetative growth.



AERIAL VIEW - SEED TREE CUT



SITE PREPARATION FOLLOWING A CLEAR-CUT; AREAS LIMITED TO 50 ACRES IN SIZE WILL BE PLANTED IN PINE TREES.



"WHOPPER"  
CAMP LEJEUNE'S LARGEST AND PROBABLY OLDEST  
PINE TREE

The forest at Camp Lejeune is divided into 60 compartments, and each compartment into stands; six compartments receive annual silvicultural treatments. 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 fish pond sites
- d. Recreation and enhancement of natural beauty
- e. Soil erosion and stream pollution
- f. Site preparation needed after treatment (including prescribed burning)
- g. Protection of endangered wildlife species

After completion of prescription work, timber stands requiring treatment are marked, and products are placed for public bid. Other stand treatments occur in compartments which are closed following the sales.

#### REFORESTATION

Reforestation is increasing yearly to keep abreast with the even-age management plan and to keep every acre under fiber production where possible. Reforestation is carried out in two distinct methods - natural and artificial. Future plans are to have more natural regeneration through seed tree cuttings.

## NATURAL REFORESTATION

Natural reforestation (or natural regeneration) is the method of seeding a prepared area through seeds cast from surrounding trees, particularly the *Pinus* species, or from trees left scattered over cut areas. Seed trees usually are located 60' x 60', 12 per acre. Approximately 643 acres were prescribed for natural regeneration over the past three years. (Equipment used in preparing the areas is described later in the report.)

## ARTIFICIAL REFORESTATION

Artificial reforestation is the method whereby seedlings are actually planted in clear-cut, bare, or nonproductive areas. Seedlings, normally of one-year old stock purchased from a local N. C. State Forestry Nursery, are transplanted in the prepared areas by a tractor-towed planting machine. In areas where the planting machine cannot be utilized, hand planting with dibbles is done. Seedlings are transplanted in rows spacing 8' x 8', 680 per acre. Approximately 518 acres were prescribed over the past three years.



PINE PLANTATION

## TIMBER STAND IMPROVEMENT

Improvement in even-aged timber stands is accomplished by sanitation and salvage thinnings so that weakened trees are removed while yet harvestable. Major stand improvement work is accomplished by heavy equipment subsequent to clear-cuttings and seed tree cuttings. Undesirable debris such as logging slash, undergrowth, and unwanted species is removed from the sites by use of a KG blade. This debris is wind-rowed and either burned or allowed to decay. Occasionally, an 8,000-pound tandem disk is used in conjunction with the KG blade. Areas which are sparsely covered with debris may be single or double disked for seed bed/planting preparation. Planting experience has proved that the better the soil is prepared, the more vigorous the seedling growth is, for the first few years. A total of 1,161 acres of site improvement was prescribed in the past three years. In coordination with wildlife management, several clumps of mast and berry producing hardwoods are left scattered throughout the area during site preparation. In some instances, strips extending across the complete length of a prepared site are left for wildlife purposes. These clumps or strips produce game food annually, thus providing wildlife usage while reforestation needs on the same site are being met. The strips also provide cover while the large openings provide excellent bugging and dusting for wild game birds and browse for deer.

## TIMBER HARVEST

The Forestry Branch, Natural Resources and Environmental Affairs Division, is a self-sustaining unit and provides a large excess in profits used in support of other Department of the Navy forestry programs.

### TIMBER HARVEST FOR CALENDAR YEARS 1971 - 1973

1971

<u>Product</u>	<u>Volume</u>	<u>Gross Income</u>
Pine sawtimber	4,355,087 MBF	\$209,596
Pine pulpwood	6,890 Cds	42,939
Hardwood sawtimber	266,654 MBF	6,668
Hardwood pulpwood	1,210 Cds	<u>1,879</u>
		\$261,082

1972

Pine sawtimber	2,723,763 MBF	\$151,763
Pine pulpwood	4,925 Cds	41,997
Hardwood sawtimber	471,390 MBF	18,856
Hardwood pulpwood	1,595 Cds	<u>4,299</u>
		\$216,915

1973

Pine sawtimber	3,628,515 MBF	\$484,286
Pine pulpwood	4,492 Cds	84,123
Hardwood sawtimber	178,697 MBF	13,403
Hardwood pulpwood	844 Cds	<u>9,524</u>
		\$591,336

Grand total 1971 - 1973: \$1,069,333

Since the value of this timber as an end product is about \$8,000,000, approximately \$1,500,000 was injected into the local economy by contracting

timber companies. All income was generated and planned work was accomplished on a budget of \$325,801, including salaries and equipment costs. Acreage involved in timber sales totaled approximately 5,683 acres.

#### EROSION CONTROL

An area previously utilized as a heavy equipment compound was released recently from further use and was placed under forest management. Approximately 15 of the total 56 acres had been affected by a slow erosion problem. Slash and longleaf pine seedlings were planted over the area for erosion control and site stabilization. The longleaf seedling area will be replanted later for better erosion prevention.

#### PRESCRIBE BURNING

Prescribe burning, contrary to much adverse public opinion, has proven to be a very effectual and cheap silvicultural tool. Approximately 17,000 acres were prescribed and treated during the winters of 1971 and 1973. This burning is done as part of the multiple-use management system. Benefits derived: 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 for better seed beds for natural regeneration of pine; stimulation of new shrub sproutings and grasses in spring and summer months; and opening of the understory for better game and bird utilization.



FORESTER OBSERVING A PRESCRIBED BURN

## ACCESS ROADS

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

## 3-P FOREST INVENTORY

During the period October - December 1972, a timber inventory was conducted of the 60,552 acres under management. This inventory, normally occurring at 10-year intervals, furnishes vital information in sustain-yield forest management. The 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 for application of this system. 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. The final phase of accumulating field data by using the dendrometer was accomplished in the early spring and winter of 1973. Upon compilation of the work sheets, the information was forwarded to the U. S. Forest Service, State and Private Division, Atlanta, Georgia, for final computation of total volume of timber on the Base as to size, class, and forest type.



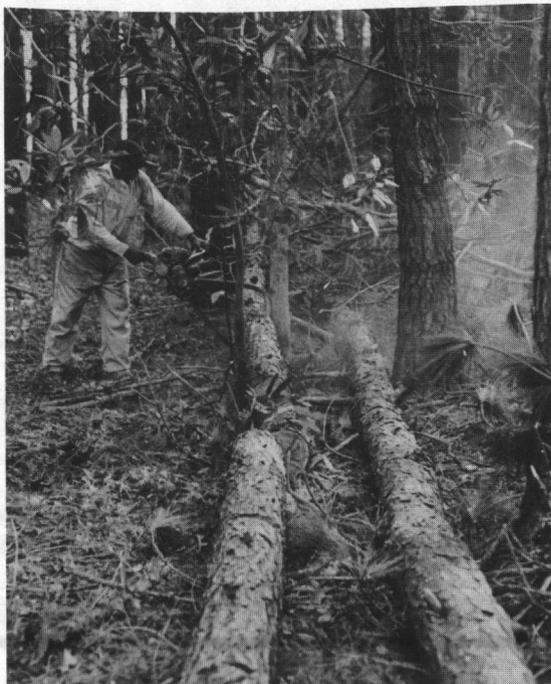
DENDROMETER BEING OPERATED BY FOREST  
TECHNICIAN IN COLLECTING DATA FOR 3-P  
FOREST INVENTORY

INSECT PROTECTION

Weather-wise, the autumn of 1973 was in a drought condition. For the first time since the 1967-70 epidemic, the southern pine beetle became prevalent at Camp Lejeune. According to N. C. Forest Service Pest Control Newsletters, this has been the worst southern pine beetle epidemic in the past twenty years in the south. Almost all of our attacked pine timber was salvaged and sold to local markets. Approximate statistics are recorded as follows:

Pine sawtimber	714.4 MBF	\$ 96,265
Pine pulpwood	1,589.0 Cds	<u>26,417</u>
Total products income . . . . .		\$122,682

Continued surveillance is being maintained for further outbreaks.



TREES KILLED BY SOUTHERN PINE BEETLE ARE BEING HARVESTED FOR PULPWOOD

## 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; 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 or group efforts 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 attendance of two members each year at the Annual North Carolina Wildlife Federation Convention.

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

Provided annually three huntsmasters and three assistant huntsmasters for proper control of the three organized deer hunts conducted weekly during the hunting season.

Provided six members to act as assistant deputy game protectors to assist the Base Game Protector in enforcing game and wildlife regulations.

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.

Annually promoted military and civilian harmony by hosting unaffiliated civilian personnel on organized deer hunts including the special hunt held annually in December.

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

Hosted the Annual Base Conservation Meeting with State and Federal Wildlife officials at the Rod and Gun Clubhouse.

Hosted Department of Defense Conservation Award Team along with Federal, State, and Base representatives for a dinner in conjunction with the acceptance by Camp Lejeune of the Department of Defense Conservation Award.

#### BASE SPECIAL SERVICES

The Recreation Section, 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.

The Base Stables is one of the more popular facilities offering the

outdoorsman a variety of activities to enjoy. Some of the organized activities include the annual 3-day rodeo, horse shows, and early morning breakfast rides that climax with a hearty meal of steak, eggs, and grits. There are 55 horses and ponies available for rent and boarding facilities for 50 privately owned mounts. Classes are available to the individual in Western and English riding.

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 beautifully wooded area just west of the Base Drive-in Theater.

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, 24 sailboats in Rebel, Lightning, and Sunfish 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 its program. Other boating facilities located aboard Base include the smaller, but popular, Courthouse Bay boating facility.

12

The Base Skeet and Trap Range, recently renovated, caters 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 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 1-1/2 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 65-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 \$9 to include rods, reels, bait, and ice.

Skin and scuba diving equipment is available also 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 28 camping sites in one and 24 in the other. These camping sites are adjacent to swimming, surfing, and fishing areas and are equipped with sanitary facilities and water. Shelters, water, electricity, and barbecue grills have been installed in the camp sites for the convenience of campers.

#### BOY SCOUTS

The Boy Scout Program 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 area of Northeast Creek. This site provides an excellent location to perfect 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 Boy Scouts have proven to be timely and effective. Examples include the planting of 1,500 pine seedlings near Landing Zone DOVE and 4,000 at Camp Hatcher. Under-

brush clearing projects and area clean-ups have been accomplished in several locations.



CHOW IS EAGERLY AWAITED BY THESE SCOUTS

## GIRL SCOUTS

Active participation in conservation projects by the Girl Scouts has been evidenced on many occasions. In addition to picnic area clean-ups and flower planting projects, the Girl Scouts participated in a well coordinated and effective cleanup of Onslow Beach.

Since March of 1972, 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 have 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.

## COMMUNITY RELATIONS

Utilization of Brown's Island as an impact area during military training operations has been a necessity for years, resulting in many claims for property damage by residents of nearby communities. Since the use of Brown's Island as a training area could not be discontinued, a workable solution had to be ascertained. Studies at Elgin Air Force Base, Florida, indicated that under certain atmospheric conditions, explosion overpressures could cause unexpected damage. Thusly, since February 1972, all bombing runs have been canceled when unfavorable atmospheric conditions prevail thereby minimizing complaints of damage.

During the Fall of 1972, 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. In April 1973, over a period of four days, 130 Marines helped control a large forest fire in an adjoining county.

Appropriate personnel attend wildlife, forestry, and environmental 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 discussed separately in this report, as has the guest speaker program, news articles, etc., provided by the Base.

On 2 July 1973, a dedication ceremony formally naming/opening Henderson Pond was held at the pond site. Friends and the family of the late Mr. W. N. HENDERSON were invited to attend the ceremony wherein Mrs. Henderson was presented a plaque by the Commanding General honoring her late husband, who served as the first civilian game protector at Camp Lejeune.



MRS. HENDERSON MAKES THE FIRST "OFFICIAL" CAST INTO THE POND NAMED FOR HER LATE HUSBAND

Under sponsorship of the Marine Corps Human Relations Program, approximately 30 Marines voluntarily constructed a nature trail and planted several hundred pine trees for a nearby public elementary school. The nature trail, located in a wooded area adjacent to the school, is proving invaluable to the school in teaching the basics of conservation. The pine trees were planted as a border around a bare portion of the school grounds.

## CONSERVATION EDUCATION

### GUEST SPEAKER PROGRAM

In addition to conservation education programs concerning proper and safe handling of guns, water safety, sportsmanship, and woodsmanship conducted by Base clubs and organizations (separately discussed in this report), personnel of the Natural Resources and Environmental Affairs Division take an active part in guest speaking engagements.

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, have been very much in demand by units, school classes, and civic organizations. In 1973, fifty-four presentations were made to a total of 2,569 people. In addition, three appearances were made on local television stations wherein wildlife conservation, forestry management, and pollution abatement were discussed. It is believed that explanations of Base plans and accomplishments in the conservation field are especially beneficial in fostering community relations and the exchange of ideas.

### POLLUTION ABATEMENT EDUCATION

The educational process will be used in 1974 in an effort to promote the pollution abatement program at Camp Lejeune. Classroom time was requested and granted for a slide/lecture presentation on the environment

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to be routinely included as a part of the Motor Transport School Company, Montford Point, student training program. The Base Ecologist will make the presentations with special emphasis being placed on oil pollution. By making each student more aware of the oil pollution problem, it is hoped that more desirable habits and better attitudes will be developed, resulting in better Marines and eventually better civilians.

#### FORMAL ADULT EDUCATION

Formal education on the Base for this period included an 8-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 thirty 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 between organisms and the 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 sequence 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 presently are using the program with grades 4 - 6 scheduled to start the program in the fall.

In addition to the formal science program at the Junior High School, the Ecology Club placed 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.

Plans for nature areas at each of the schools at Camp Lejeune are being developed. Two individuals from the Science Division of the State Department of Education visited each potential site and made appropriate recommendations. Personnel of the Natural Resources and

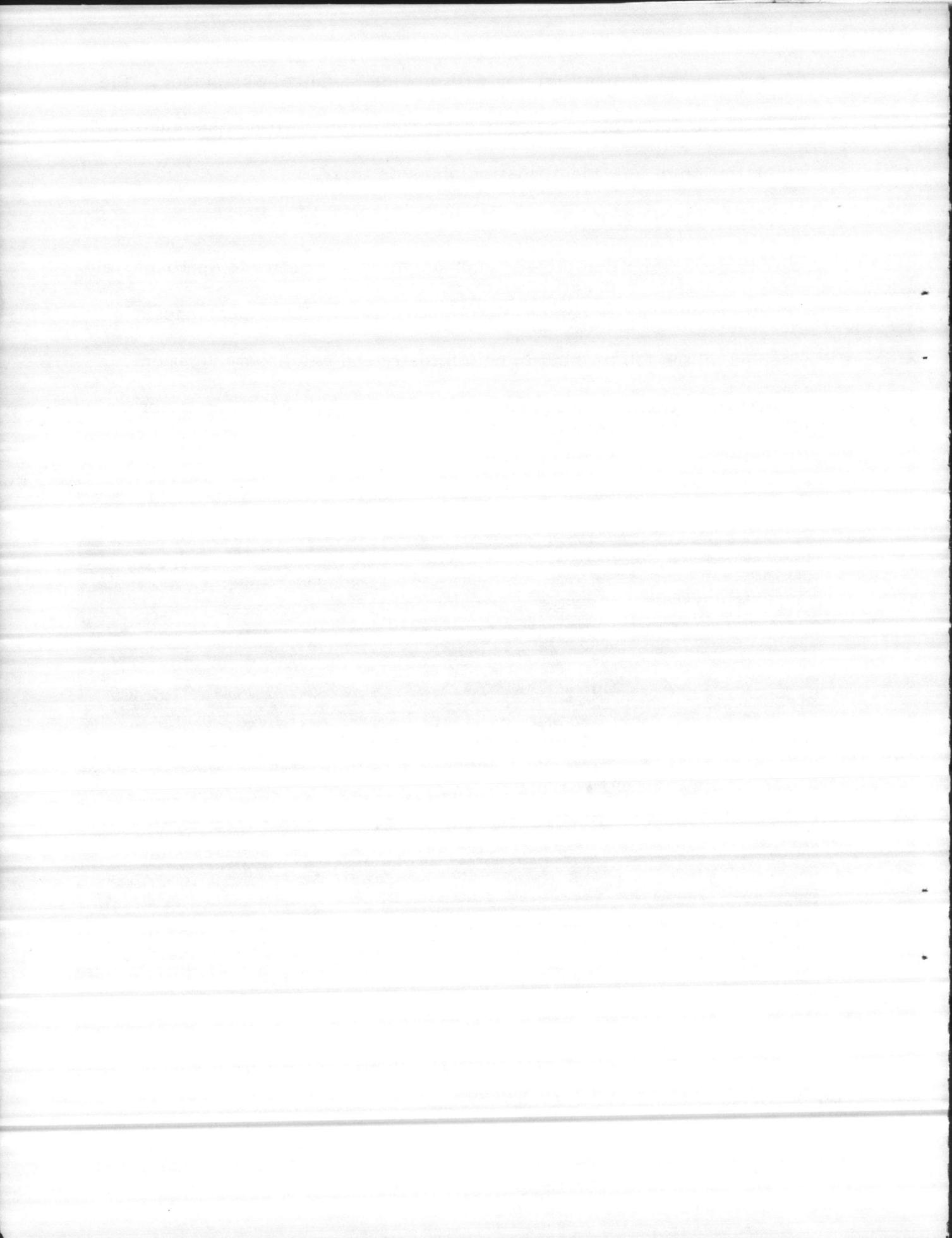
Environmental Affairs Division will provide technical assistance. The new horticultural class has renovated the nature trail by cleaning and the installation of new identification signs on trees.

#### PROJECT TRANSITION

Project Transition provided conservational benefits to approximately thirty-three military personnel during the year. These personnel received on the job training in both forestry and wildlife management, instilling a feeling for conservation goals and procedures in its broad aspects as well as practical experience in the field.



BASE FORESTER IDENTIFIES THE RARE CARNIVOROUS  
PLANT "VENUS FLY TRAP" FOR BIOLOGY STUDENTS  
FROM A NEARBY COLLEGE



APPENDIX A

RESPONSIBILITIES OF THE ENVIRONMENTAL ENHANCEMENT COMMITTEE



## RESPONSIBILITIES OF THE ENVIRONMENTAL ENHANCEMENT COMMITTEE

1. Conduct annually a comprehensive review of the Base hunting, fishing, boating, and trapping 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 and 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.

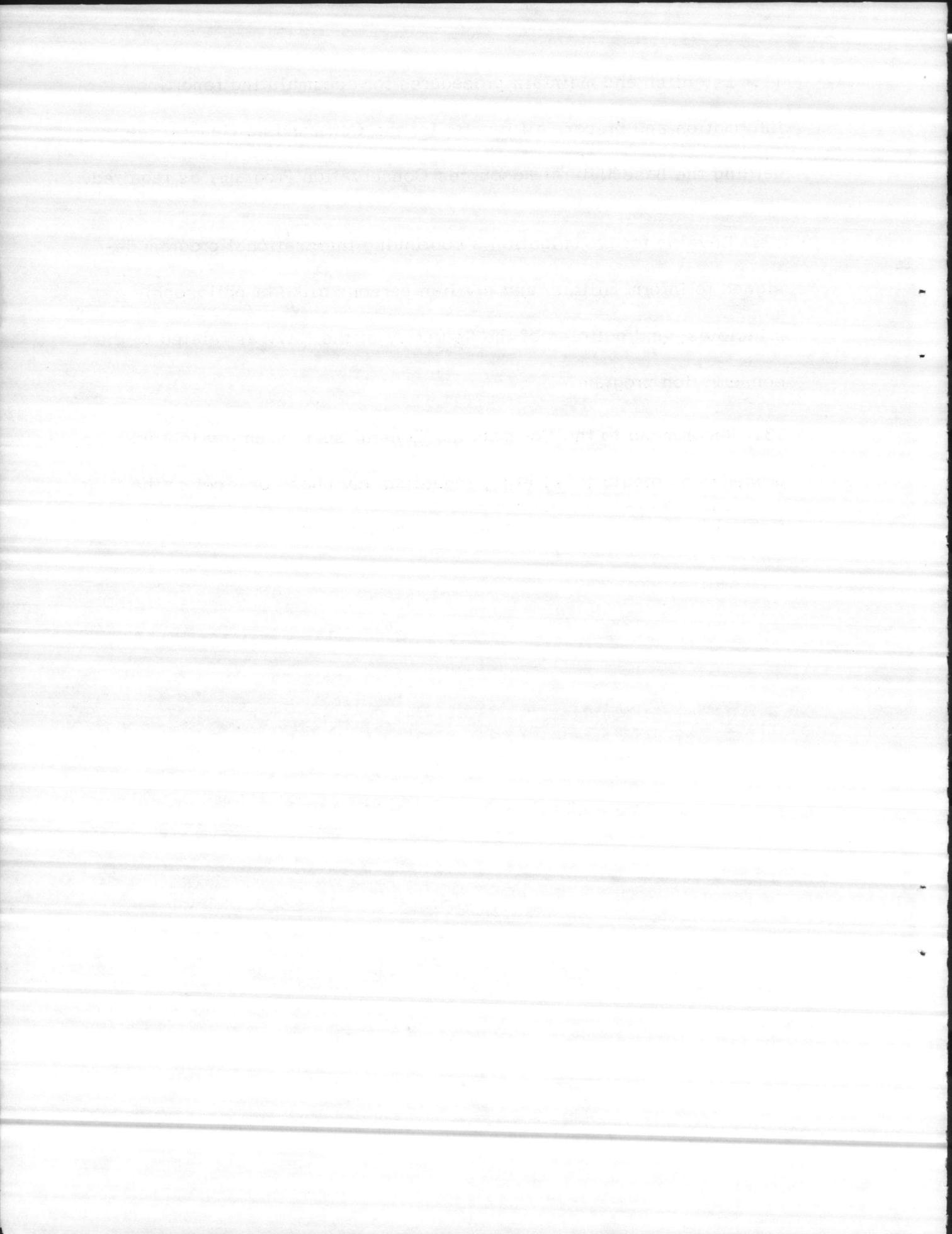
9. Monitor and make frequent reports to the Commanding General concerning all aspects of the Base Wildlife Food Plot Program.

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

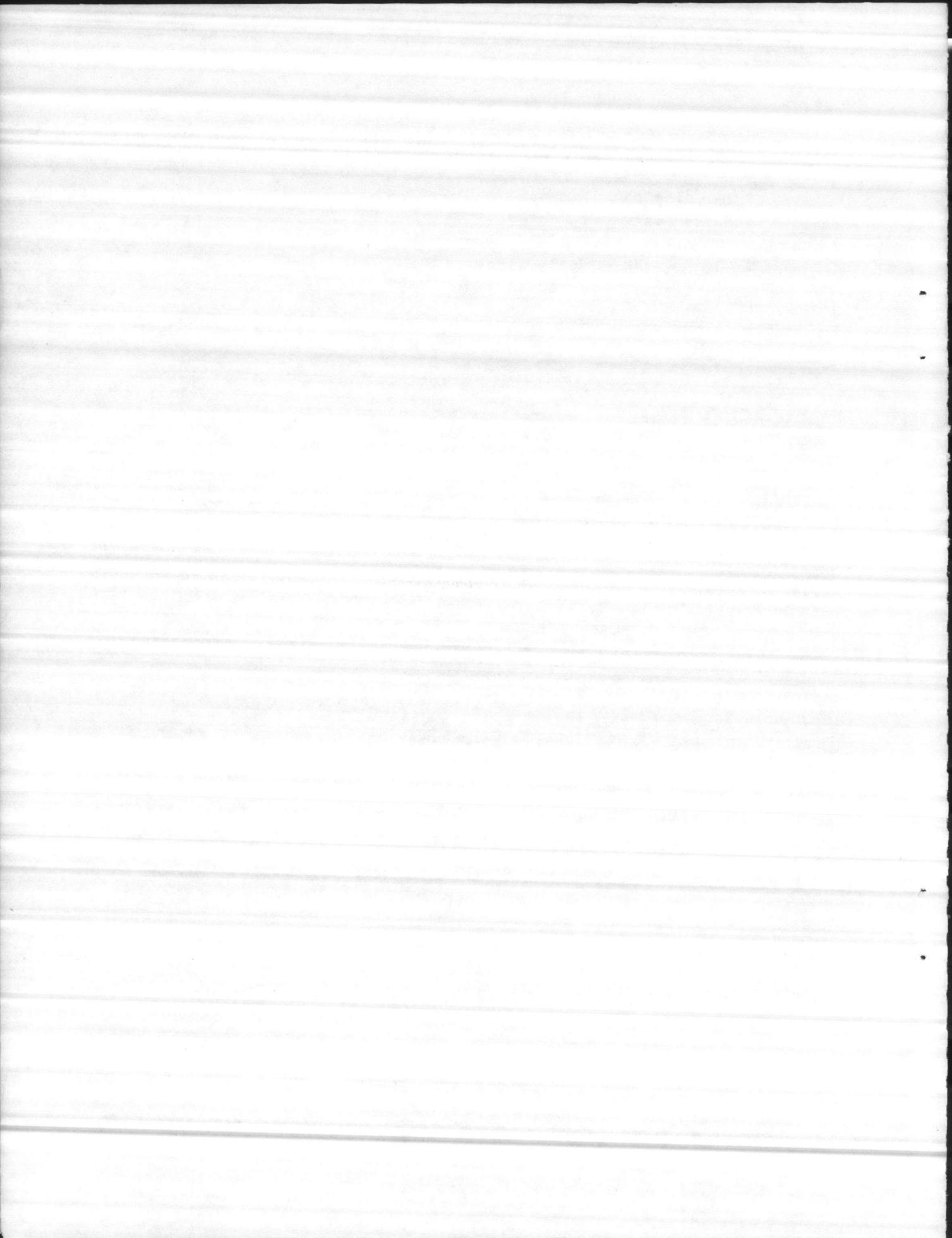
11. Establish and maintain procedures for accumulating reporting information and prepare all reports for the Commanding General regarding the Base Natural Resources Conservation Program, as required.

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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.

3. Responsibilities

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

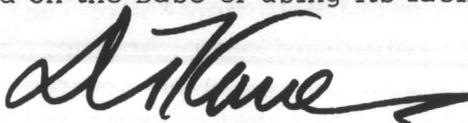
(1) Environmental Control Director (telephone 5003) is responsible to the Base Maintenance Officer for the day to day monitoring, surveillance, and up-channel reporting of events concerning pollution caused by oil or other hazardous substance spills.

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

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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

BO 11090.1  
29 Sep 1972

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.

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 re-seeded.

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 longinostis</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*)

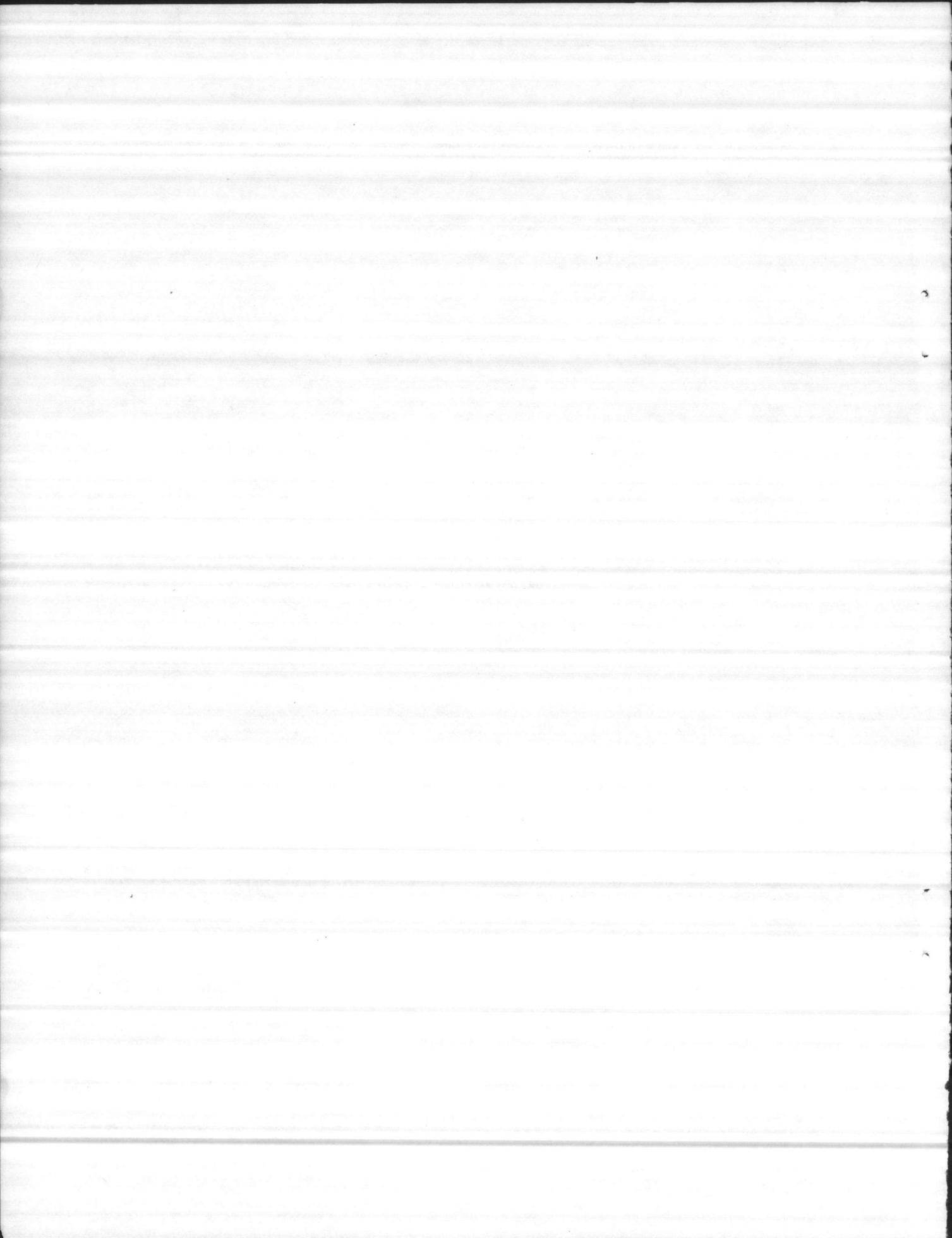
### Game Fish

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 (*Lepomis 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

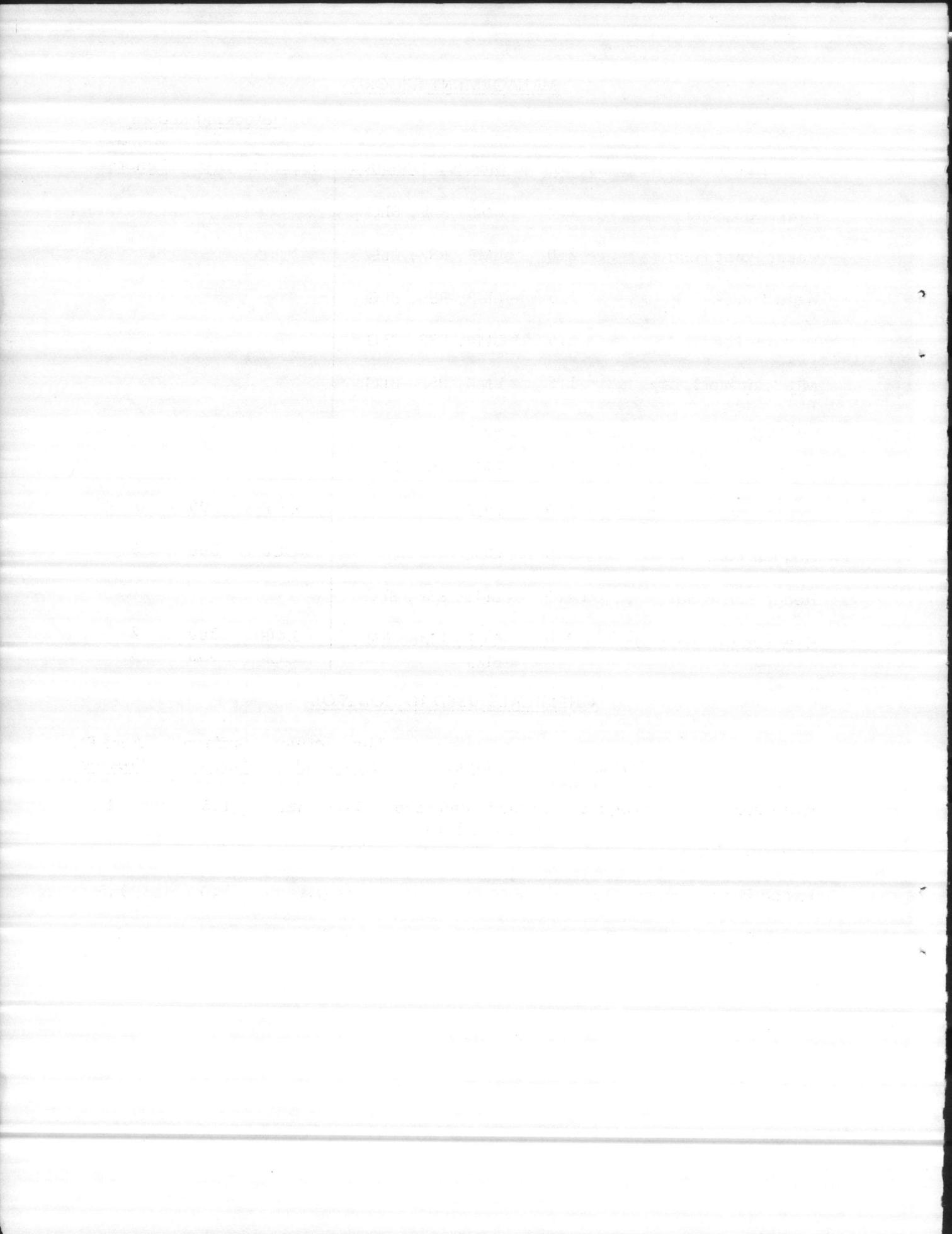


MANAGEMENT RECORD

<u>Name</u>	<u>Acres</u>	<u>Species Managed</u>	<u>Stocking Record</u>		
			<u>Species</u>	<u>No.</u>	<u>Average Length</u>
Powerline 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 Bay	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			
New Pond (unnamed)	3.0	CCF, LMB, RSF, BLG	LMB CCF	300 500	2 5

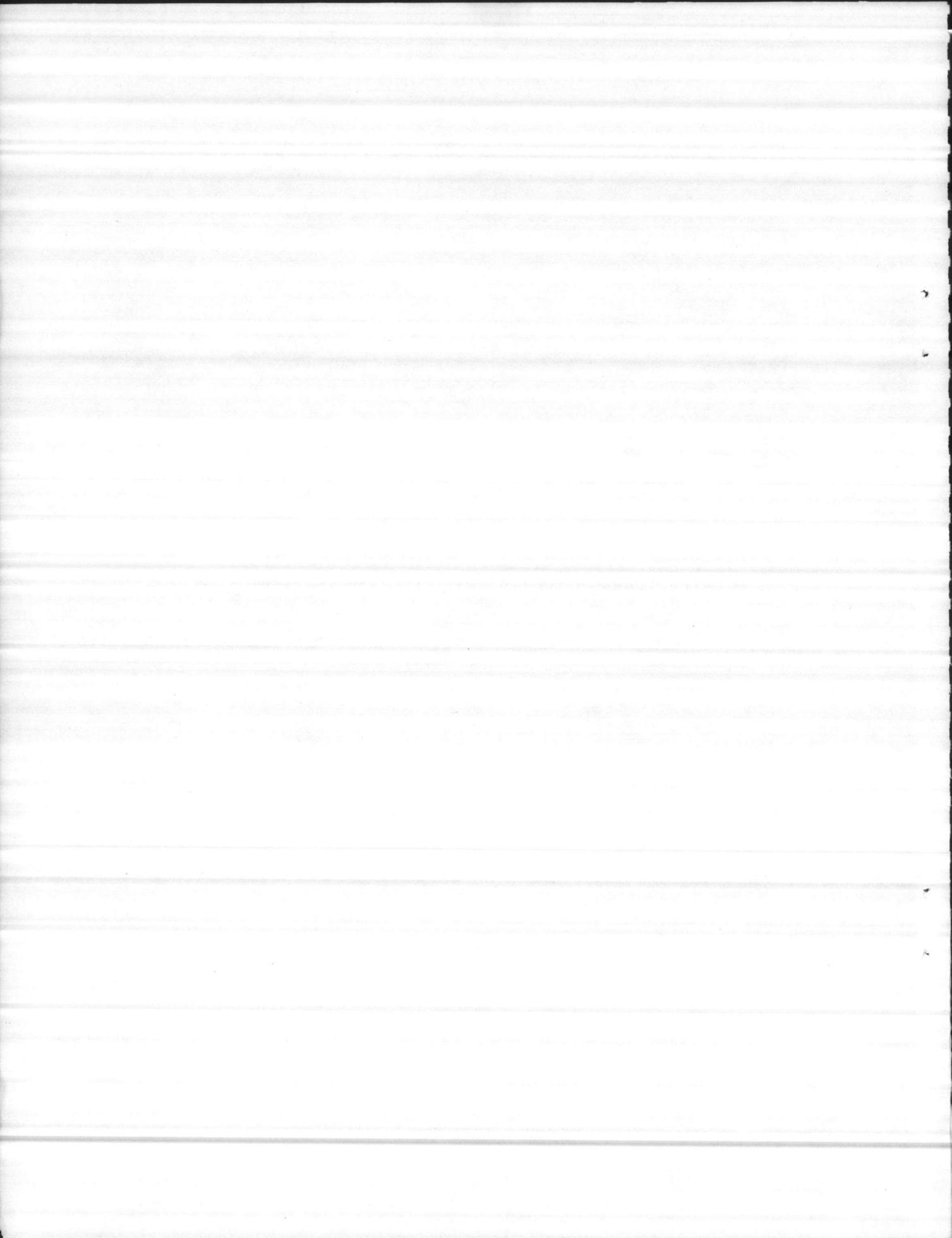
CHEMICALS USED IN CONTROL

	<u>Chemical</u>	<u>Target</u>	<u>Lbs. Active Ingredient</u>	<u>Surface Acres</u>	<u>Acre Ft. Treated</u>
Ward Pond	Diquat	Horned Pondweed (Zannichellia)	2-1/2 gal	1.5	3
Powerline Pond	"	"	2 gal	2.0	3
Prince Pond	"	"	1/2 gal	1.0	1.5
Cedar Point Pond	"	"	2 gal	2.0	6.0



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	279
Civilian Guest (daily)	2	226
Military Hunting and Fishing	2	1,513
Civilian Employee Hunting and Fishing	2	68
Military and Civilian Employee Fishing	1	1,092
Trapping	3	15
		<u>3,228</u>
Total: \$7,311		

Man-Days of Hunting

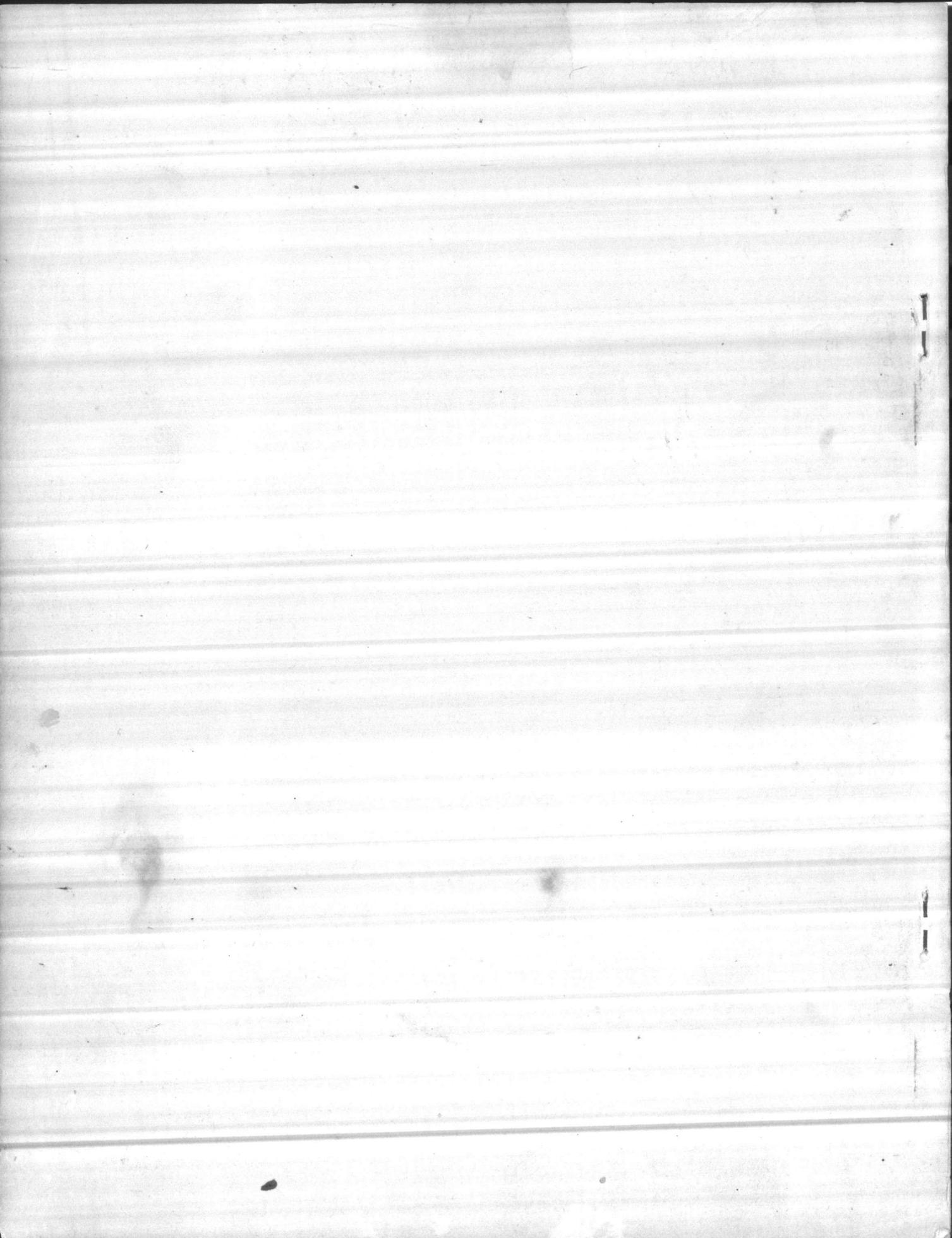
Civilian Guest	3,016
Military and Civilian Employee	11,067

Species Harvested (1971 - 1973)

White tailed deer	1,514
Wild Turkey	25
Squirrel	7,027
Rabbit	29
Quail	487
Dove	546
Raccoon	137
Rail	279
Woodcock	59
Waterfowl	1,250 (estimated)





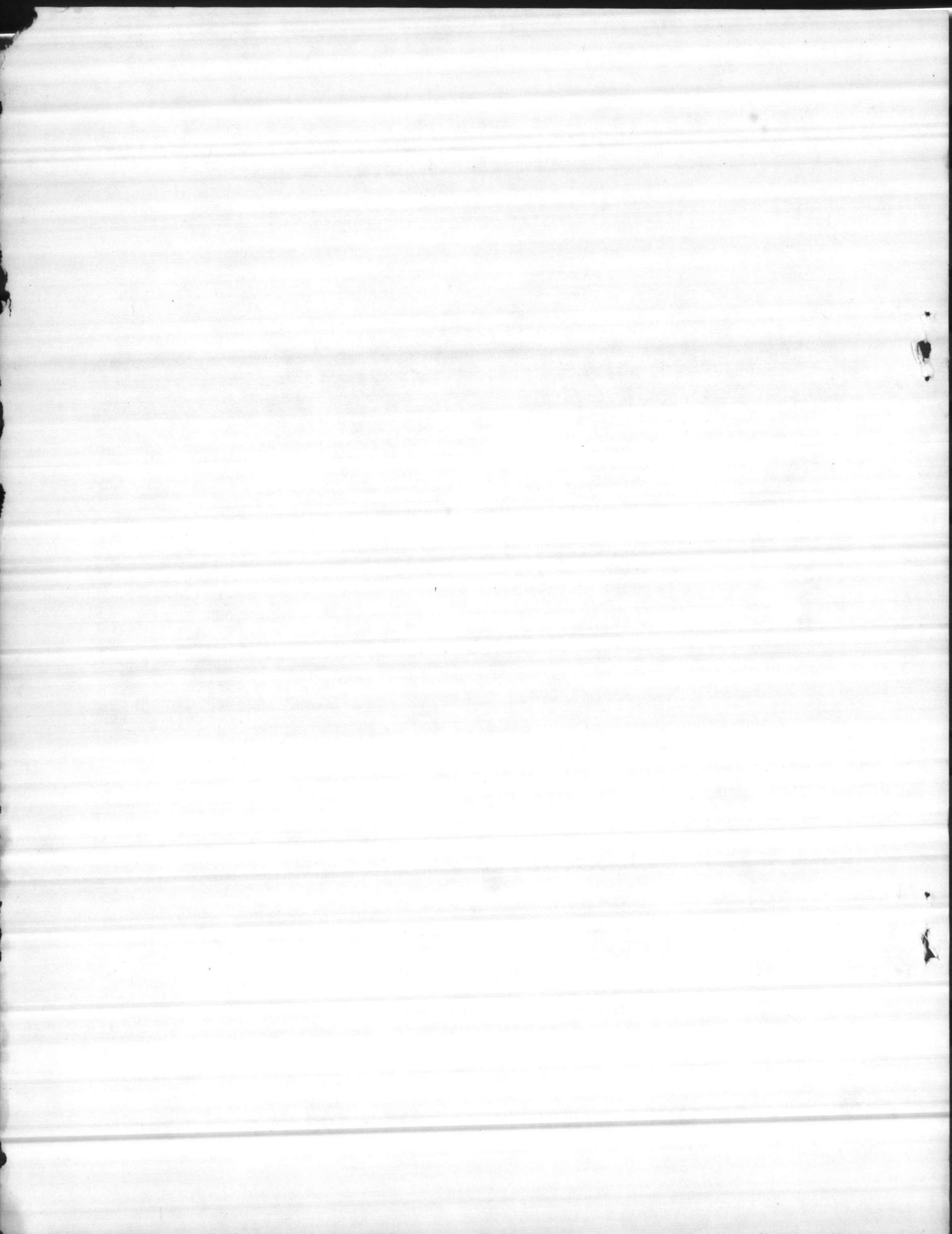


# ENVIRONMENTAL QUALITY

1977



MARINE CORPS BASE  
CAMP LEJEUNE, NORTH CAROLINA



2

ABOUT THE COVER . . . a downstream view of New River,  
a slow-moving tidal stream which bisects Camp Lejeune

The vantage point of the photograph is Hospital Point, a peninsula which extends into New River (See map on page 2). For many years New River and its tributaries have played an important role in amphibious military training at Camp Lejeune. For even a greater span of time New River has made significant contributions to the local economy through the sale of catches of fish, shrimp, oysters, and clams by commercial fishermen. Other outdoor enthusiasts visit the river at different seasons of the year to hunt, fish, ski, sail, swim, etc. Base personnel are aware of the many interests and as is illustrated in this booklet, many of Camp Lejeune's environmental efforts are directed toward protection of this vast body of water.

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## COMPOSITION AND MISSION

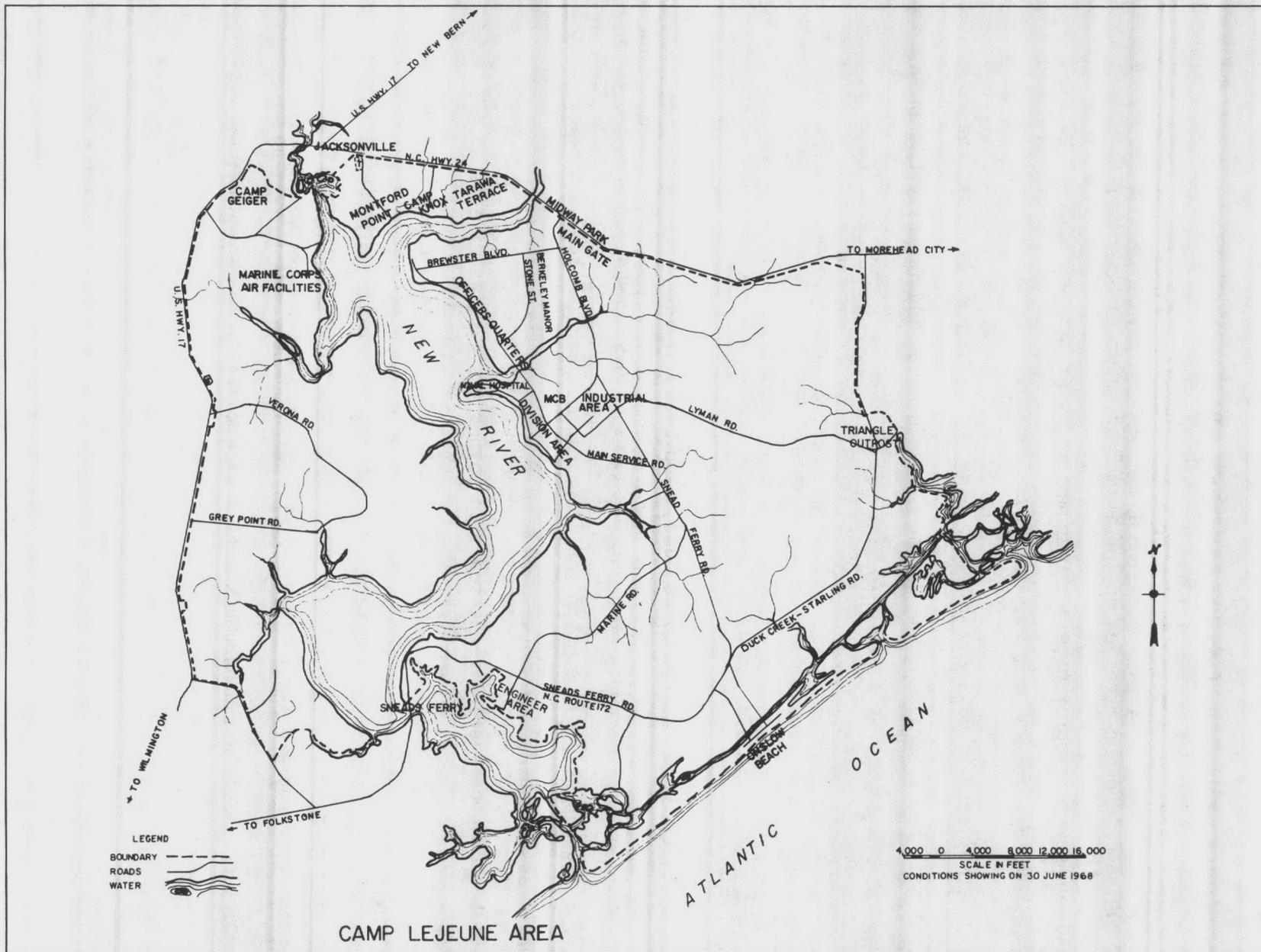
Marine Corps Base, Camp Lejeune, the world's most complete Amphibious Training Base, is situated on the southeast coast of North Carolina with a twelve-mile ocean front extending from Bear Inlet to New River Inlet and encompasses approximately 170 square miles of land and water. Report period is for calendar years 1975, 1976 and 1977.

Established in 1941 and named in honor of Lieutenant General John A. Lejeune, the base houses four Marine Corps Commands and two Navy Commands: Marine Corps Base; 2d Marine Division (Rein), FMF; Force Troops/2d Force Service Support Group (2dFSSG), FMFLant; Marine Corps Air Station (Helicopter), New River; Naval Regional Medical Center; and Naval Regional Dental Center.

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

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

The present military population of Camp Lejeune is approximately 40,000 military personnel, augmented by approximately 4,000 civilian employees. Military dependents are in excess of 32,000 on and off base.



## SUMMARY

The Environmental Quality Program for Camp Lejeune continues to progress with the implementation of the National Environmental Policy Act of 1969. In doing so, all practical means and measures to protect and enhance environmental quality at this facility are employed.

### Air Pollution Control

All open burning has been suspended with the exception of prescribed burning under the forest management plan. In 1973, a boiler fuel conversion project was completed at the Central Heating Plant enabling the plant to burn 100% fuel oil (No. 6) and smoke detectors were installed in smoke stacks at all heating plants. A contract for installation of electrostatic precipitators at the Central Heating Plant has been awarded and upon completion ambient air standards will be met as 100% coal is burned.

### Water Pollution Control

Sewage - NPDES (National Pollutant Discharge Elimination System) permits for all sewage treatment plants were issued by the Environmental Protection Agency (EPA) in 1974.

Oil Pollution - The Oil Spill Prevention, Containment and Countermeasure Plan was published to establish policy and procedures concerning oil pollution abatement. Since 1974 approximately 75 waste oil storage tanks have been installed at strategic locations throughout the base to be utilized at the unit level. Camp Lejeune has on hand 500 feet of oil containment boom and other equipment that can be used to contain and clean up oil spills.

Soil Erosion - Sedimentation caused by soil erosion can be a source of water pollution. To help control this sedimentation, tracked vehicles such as tanks and amphibian tractors are restricted to designated trails and training areas. In a cooperative agreement with the Marine Corps Base, the Soil Conservation Service made a survey of all soil conservation problem areas during 1974. Work on some of these problem areas has been accomplished. Other work is scheduled over the next seven years.

#### Noise Pollution Control

The Hearing Conservation Center of the Base Medical Department is responsible for establishing and maintaining a hearing conservation program. Objectives are to prevent hearing losses before occurrence. In the past three years, 70,000 hearing tests were conducted.

#### Solid Waste Management

All non-recyclable solid waste is placed in the sanitary landfill and covered daily. Compaction equipment has been installed aboard base. This equipment compacts waste thereby reducing the need for dumpsters and resulting in better utilization of the sanitary landfill. The Defense Property Disposal Office at Camp Lejeune awarded a contract for the reclamation of corrugated and other waste paper products generated at Camp Lejeune in 1976.

#### Toxic and Hazardous Materials

A new type ultra-low sprayer is being used for adult mosquito control. Use of these machines has resulted in the conservation of an estimated 45,000 gallons of fuel oil during the past three years. This also means the environment has been spared this 45,000 gallons of fuel oil.

### Environmental Enhancement

Keeping Camp Lejeune attractive requires constant endeavors of all military and civilians that work and visit the base daily. The Landscape Maintenance Section of Base Maintenance Department planted in excess of 4,000 flowering trees, shrubs and flowers in the past three years.

Forest and wildlife resources are an important part of Camp Lejeune's environmental program. These resources are managed using the latest techniques. Endangered species receive maximum protection.

### Education and Training Programs

Guest speaking engagements, accompanied with color slides, have been very much in demand by units, school classes and civic organizations. In 1975, 1976 and 1977 one hundred and nine presentations were made to a total of 12,000 people. In addition five appearances were made on local television wherein subjects related to the environmental program were discussed.

Further, approximately 2,500 Marines of the Motor Transport School Company, Montford Point have attended a slide/lecture presentation on the pollution abatement program. This presentation is a part of their regular classroom time.

SPECIFIC PROJECTS AND ACHIEVEMENTS COMPLETED, UNDERWAY, OR PLANNED

In 1974, the Courthouse Bay sewage treatment plant outfall line was repaired.

To comply with Environmental Protection Agency regulations, the following work on Camp Lejeune sewage disposal systems has been completed.

a. Seal by-passes at all sewage lift stations and sewage treatment plants.

b. Provide high liquid alarm system at all outlying sewage lift stations and sewage treatment plants.

c. Provide standby power at all sewage treatment plants and lift stations.

d. Recycle sludge drying bed liquor at all sewage treatment plants.

e. Provide four additional sludge drying beds at Tarawa Terrace sewage treatment plant.

f. Provide additional anerobic digester at Tarawa Terrace sewage treatment plant.

g. Add chlorine contact chamber at Tarawa Terrace sewage treatment plant.

h. Install oil separators at washracks.

i. Install electrostatic precipitators at Central Heating Plant.

In 1977 construction to upgrade and expand the Camp Geiger sewage treatment plant to accommodate sewage generated at Marine Corps Air Station (Helicopter), New River and to accomplish tertiary treatment was completed. The Air Station sewage treatment plant was closed.

j. A project which will bring about the elimination of miscellaneous discharges at Marine Corps Base and Marine Corps Air Station (H), New River is presently in the design stage.

3  
k. A new computerized utility control system is presently being installed at Camp Lejeune. This system will monitor sump high level and power failure at 24 major sewage lift stations.

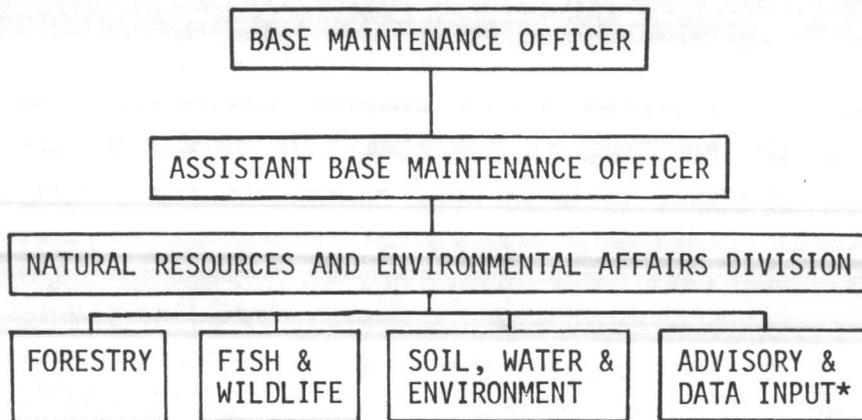
l. Plans are to revise the Base Spill Prevention, Containment and Countermeasure Plan in 1978.

m. 100 pitch-in type litter containers have been acquired and will be located at strategic locations throughout the base.

## ORGANIZATION

Responsibility and organization for environmental protection are established in Base Order 11080.2, Subject: Management of Natural Resources; Environmental Quality and Pest Control (Appendix A) and Base Order 11090.1A; Subject: Spill Prevention, Containment, and Counter-measure Plan for Oil and Other Hazardous Substances (Appendix B).

The Assistant Chief of Staff, Facilities exercises staff cognizance over all matters pertaining to environmental protection while the Base Maintenance Officer has direct responsibility for management of environmental affairs. Management is accomplished primarily through the Natural Resources and Environmental Affairs Division of the Base Maintenance Department. However, other divisions of Base Maintenance provide significant contributions. The Natural Resources and Environmental Affairs Division was organized in October 1972 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.

## NATIONAL ENVIRONMENTAL POLICY ACT

The National Environmental Policy Act (NEPA) establishes as federal policy the use of: "all practicable means and measures . . . to foster and promote the general welfare, to create and maintain conditions under which man and nature can exist in productive harmony . . ." Further NEPA states: " . . . to the fullest extent possible . . . all agencies of the Federal Government shall (systematically balance environmental amenities and values with economic and technical considerations) . . . (and shall) include in every recommendation or report on proposals for legislation and other major Federal actions significantly affecting the quality of the human environment; a detailed statement by the responsible official on . . . the environmental impact of the proposed action . . ."

It is the policy of this base to comply with the spirit as well as the letter of the NEPA of 1969. In doing so all practical means and measures to protect and enhance environmental quality at this facility are employed. Every effort is made to plan, initiate and carry out actions in a manner to avoid or minimize adverse effects on environmental quality.

Base Order 11000.1 (Appendix C) implements environmental program requirements as required by NEPA and contains guidelines for action sponsors in the preparation of Environmental Impact Assessments (EIA). Action sponsors are required to prepare preliminary environmental impact assessments on proposed, planned, or ongoing projects. The assessments are reviewed by the Committee for Environmental Enhancement/Environmental Impact Review Board which is composed of the following members: Chairman (as appointed by the Commanding General); Base Training Facilities Officer; Representatives from - 2d Marine Division (Rein), FMF; Force Troops/

2d Force Service Support Group, FMFLant; Marine Corps Air Station (H), New River; President, Rod and Gun Club; Director, Natural Resources and Environmental Affairs Division; Base Wildlife Manager; Base Ecologist and Design Director, Public Works Department. Advisors to the committee are: Base Maintenance Officer; Base Forester; Base Game Protector; Base Veterinarian; Base Special Services Officer; Base Provost Marshal and Director, Environmental Health, Naval Regional Medical Center.

This committee, originally established in 1962, assists and advises the Commanding General on matters pertaining to environmental enhancement, conservation and management of natural resources. Responsibilities of the committee encompass general cognizance over any phase or facet of the Natural Resources and Environmental Program with recommendations provided to the Commanding General for implementation, instructions, procedures, regulations and programs. The committee reviews EIA's and determines if the potential for controversy or environmental impact is significant. The committee takes an official position on EIA's and makes recommendations to the Commanding General.

The following EIA's were reviewed by the committee in 1976 and 1977: EIA concerning the regular utilization of the offshore target and bombing area located at Camp Lejeune by tank and artillery units; the combining of Brown's Island and its offshore area into a single firing range; proposed AV8A Harrier Training Sites; MOOSE Project; Marine Corps Exchange at Marine Corps Air Station (H), New River; Mechanized Infantry Training Site and Joint Exercise Solid Shield. A number of minor construction and repair projects were also examined by the committee to determine the significance of their environmental impact.

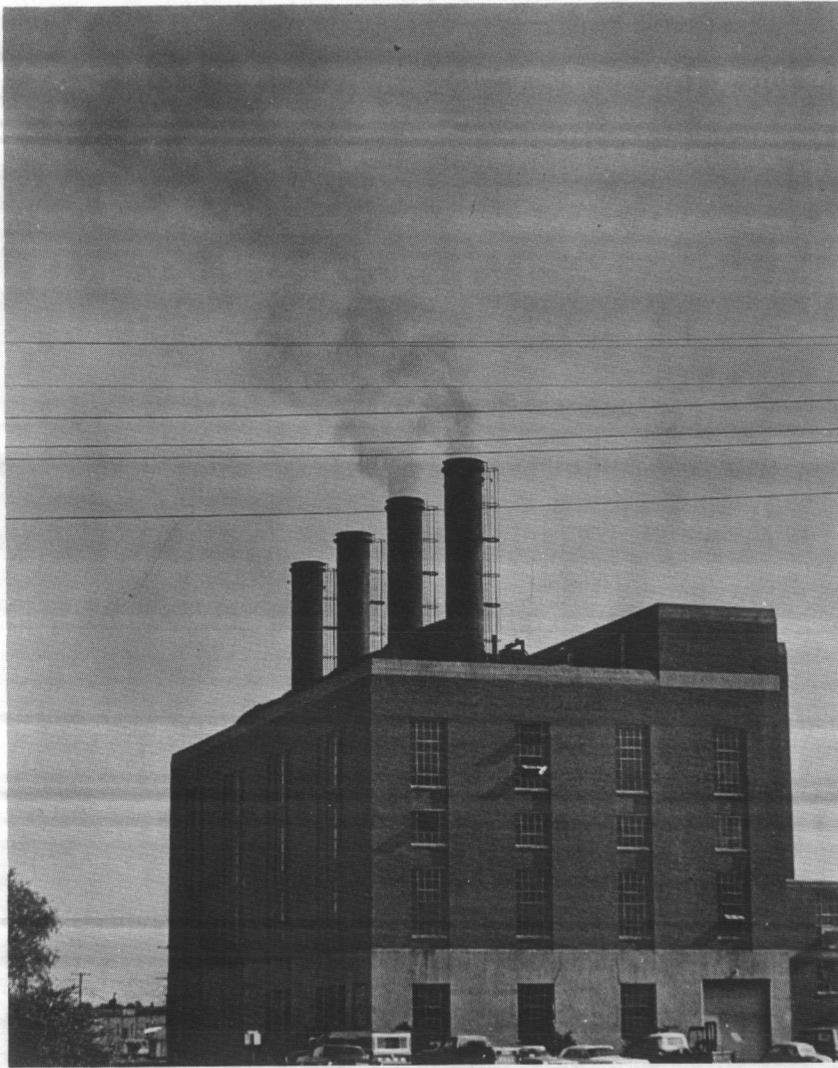
## AIR POLLUTION CONTROL

Air pollution at Camp Lejeune is not considered to be a serious problem as the base is adjacent to the Atlantic Ocean and is in a rural area with no large industry nearby.

Several heating plants are in operation aboard base, all of which utilize low sulfur fuels. As a fuel conservation measure, the Central Heating Plant has the capability of burning either coal or No. 6 fuel oil. Electrostatic precipitators have been designed for the Central Heating Plant and are scheduled for installation by the winter of 1978. When the electrostatic precipitators are installed, coal will become the primary fuel. By utilizing coal as the primary fuel, a great savings will be realized and a large volume of oil once used at Camp Lejeune will be available to other oil consumers.

All open burning at Camp Lejeune has been suspended except those fires used for fire training purposes and prescribed burning for forest management purposes. Prescribed burning is under criteria established by the North Carolina Department of Natural and Economic Resources.

In the event there is an air pollution emergency in the Camp Lejeune area, certain emergency measures are taken. Base Order 11090.2A (Appendix D) gives detailed instructions for air pollution emergencies.



CENTRAL HEATING PLANT IS SCHEDULED FOR ELECTROSTATIC  
PRECIPITATORS IN 1979

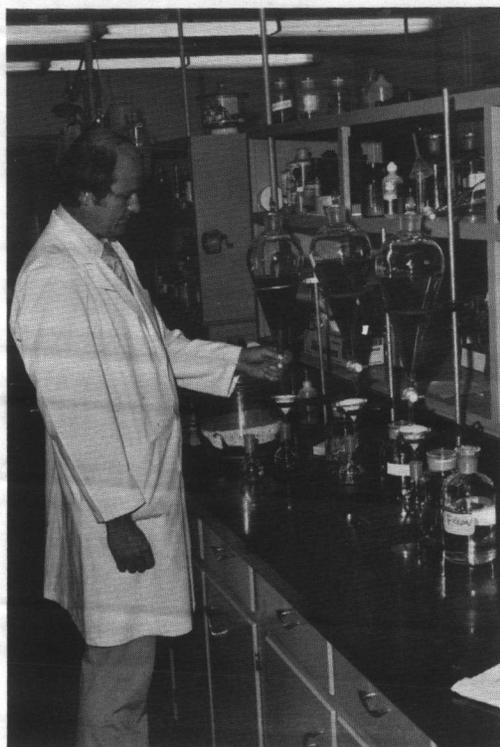
## WATER POLLUTION CONTROL

### SEWAGE TREATMENT

Secondary treatment is accomplished at all of the seven sewage treatment plants at Camp Lejeune. Construction of rotating trickling filters at each facility has provided the capability to process waste at a high state of purity, obtaining an efficiency of 90% in relation to the biological oxygen demand and suspended solids, thus assuring that the seven million gallons of wastewater that daily flows through the sewage treatment system will not degrade the quality of New River. During 1976-77 the Camp Geiger sewage treatment plant was upgraded to a tertiary treatment status. When the work was completed, the Marine Corps Air Station (H), New River sewage treatment plant was closed and the sewage generated at that activity is now pumped to the Camp Geiger sewage treatment plant. Continuous attention and control at these sewage plants by qualified personnel assure that effluents meet and exceed requirements of Environmental Protection Agency (EPA) and water quality standards established by the State of North Carolina. To help improve the qualifications of sewage treatment plant operators, all recently employed personnel are engaged in an intensive two-year on-the-job training program set up and administered by the Civilian Personnel Office. The final step of this training program requires the employee to pass the Wastewater Treatment Operator Examination (Grade II) administered by the North Carolina Department of Water and Air Resources. Twenty-nine sewage treatment plant operators and helpers have passed examinations for certification with grades ranging from I to IV.

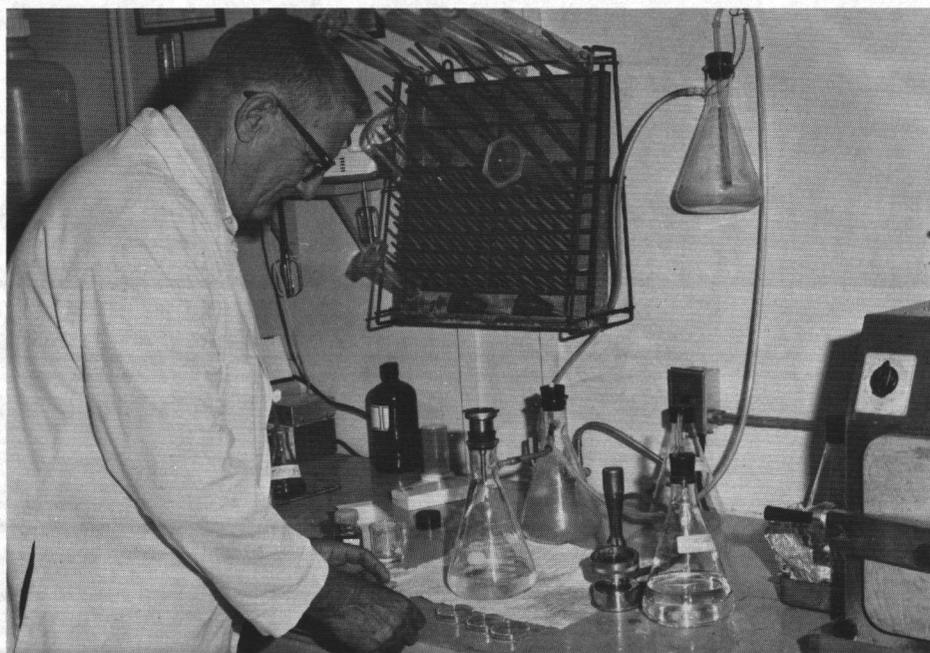


TAKING WATER SAMPLES (ABOVE) AND CHECKING THEM OUT (BELOW)





AN AERIAL VIEW OF THE HADNOT POINT SEWAGE TREATMENT PLANT WITH PART OF NEW RIVER IN THE BACKGROUND



TECHNICIAN PERFORMS BACTERIOLOGICAL TEST ON POTABLE WATER

On 18 January 1974 the EPA issued the National Pollutant Discharge Elimination System permits to Camp Lejeune authorizing the discharge of sewage effluent from all sewage treatment plants into receiving waters. Since 1 July 1974 sampling points established by the EPA have been used to monitor those water receiving effluent from base sewage treatment plants. The sampling analysis and subsequent reporting will meet requirements of the EPA and the State of North Carolina.

By checking the map on page 2, it is readily seen that New River is an important factor in the total environment of Camp Lejeune. It is the receiving stream for all effluent from seven sewage treatment plants while the eighth plant at Onslow Beach empties into the Intracoastal Waterway. In order to comply with State and EPA regulations on water quality standards, an intricate and comprehensive monitoring program is required. Water samples from nine established points on New River and the Intracoastal Waterway are taken monthly near the upstream and downstream side of the effluent outfall lines from all sewage treatment plants. In addition, samples are taken at a number of random sites. These samples are tested for fecal coliform count, biological oxygen demand, dissolved oxygen pH, salinity, temperature and oil and grease. Water samples from the influent and effluent of each sewage treatment plant is also tested weekly.

In 1975 during reorganization the Quality Control Laboratory function was shifted from the Utilities Division to the Natural Resources and Environmental Affairs Division, Base Maintenance Department. A chemist and three physical science technicians were assigned to the laboratory to accomplish monitoring and reporting requirements. The laboratory

performs certain support type work for other base organizations such as fluoridation tests for Naval Regional Dental Center and bacteriological tests for Preventive Medicine. The shift which consolidated the environmental program at Camp Lejeune enables a more efficient and credible monitoring program as sewage treatment plant personnel involved in EPA monitoring and reporting were returned to full time sewage treatment plant operator duties.

#### COMPUTERIZED MONITORING SYSTEM

The first increment of the new computerized Utility Control System at Camp Lejeune will automatically monitor sump high level and power failure at 24 major sewage lift stations at Camp Lejeune. This system should help eliminate potential sewage overflow problems and subsequent pollution at these stations since, upon issuance of a high sump or power failure alarm at the computer center, a serviceman can be quickly dispatched to the site to correct the problem.

#### OIL SPILL PREVENTION

A complete basewide survey conducted to determine the extent of oil pollution in maintenance areas, motor pools, etc. revealed some minor soil and water pollution was occurring; action was initiated immediately to correct the situation. In addition to a personal explanation of the necessity for preventing oil spillage, time was spent with each unit in these areas instructing in the preparation of oil drip pans for oil dispensing drums and discussing other methods for prevention and containment. In 1975-1977 approximately 75 waste oil storage tanks with capacities of 280 and 550 gallons were modified and installed at different locations for utilization at the unit level. Oil separators have been



TEMPORARY WASTE OIL TANK BEING INSTALLED



WASTE OIL COLLECTION TRUCK EMPTYING INTO THE 272,000-GALLON STORAGE TANK

installed at eight washracks in the Hadnot Point Area and at Marine Corps Air Station (H), New River where motor vehicles and aircraft are washed. This equipment separates oil and grease from wash water at these facilities.

Base Order 11090.1A (Appendix B) was published implementing the base Spill Prevention, Containment and Countermeasure Plan for Oil and Other Hazardous Substances. This plan will be updated in 1978. Marine Corps Bulletin 6240 dated 3 April 1974 directed field activities to comply with EPA regulations contained in Federal Register, Volume 38, Number 237, Part II of 11 December 1973, Subject: Oil Spill Prevention. To satisfy requirements of this Bulletin, an engineering investigation was conducted aboard base. A survey and inventory of petroleum storage facilities having an aggregated aboveground storage capacity of 1,320 gallons or more, or any single tank over 600 gallons, or underground storage capacity of 42,000 gallons or more, and non-transportation related facilities were made to identify potential oil spill sites. Fixes were proposed that will either eliminate the potential source or prevent any spill from entering navigable waters. The engineering report prepared by Public Works Department updates Base Order 11090.1A. A contract was recently awarded to build dikes, erect fences, install lockable drain valves and make other corrections identified in the report. Oil contaminated soil has been replaced in various locations with new soil and reseeded. Further work is planned in the future to improve the appearance of the grounds around maintenance buildings, motor pools, etc.

In the past, most of the waste motor oil collected at Camp Lejeune was used for dust control on unpaved roads and parking lots. This practice

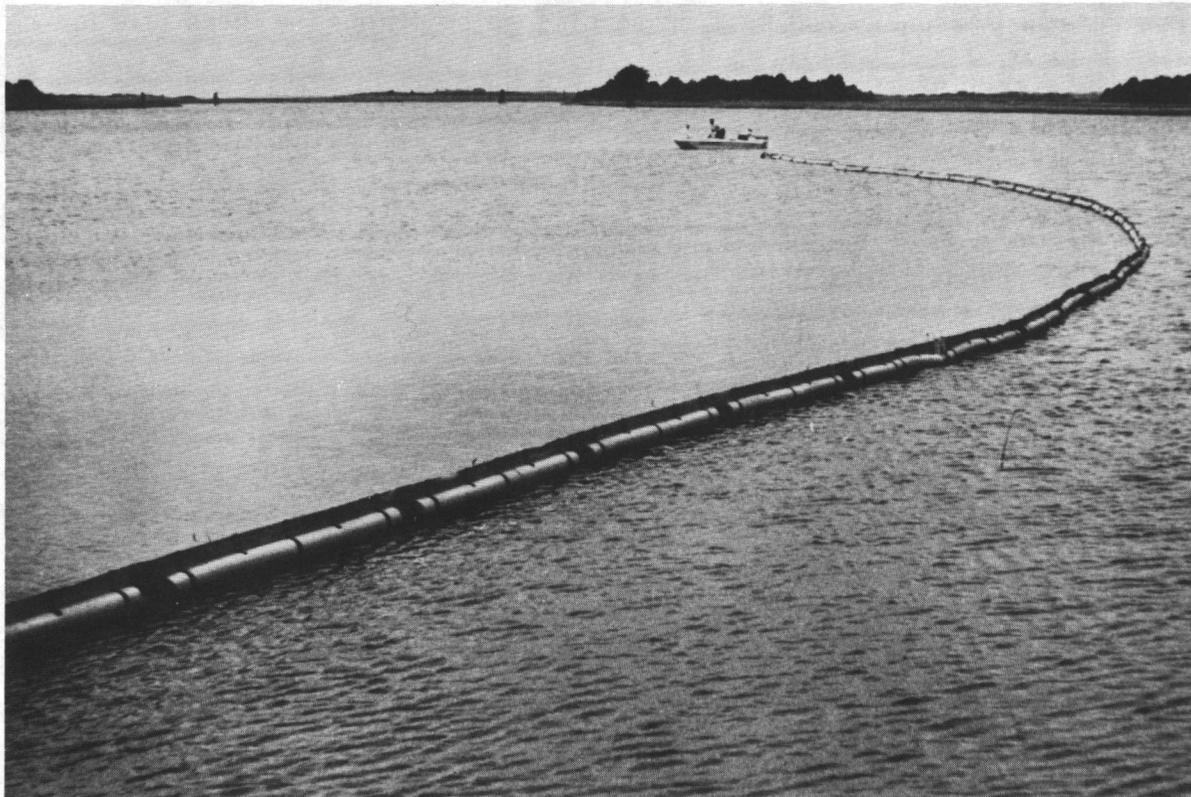
has been discontinued. Now, a 272,000-gallon tank is available for storing excess waste oil. Approximately 100,000 gallons of waste oil has been turned over to the Defense Property Disposal Office for disposition.

Marine Corps Bulletin 6240 of 28 August 1973 directed activities to have on hand certain oil containment and cleanup equipment to combat any possible oil spill. Camp Lejeune has a boat, oil skimmer, vacuum truck, sorbent mats, straw, 500 feet of oil containment boom and other equipment that can be used to contain and clean up oil spills. This equipment is located at Base Maintenance and, upon notification, can be transported to the site of an oil spill.

During the Summer of 1976 and 1977, 500 feet of oil containment boom were deployed at Mile Hammock Bay for training purposes. Personnel from Base Maintenance Department and the Base Fire Department were involved in the training session. If deployment of the boom to contain an oil spill becomes necessary, the same base personnel involved in the training will be used to assemble and position the equipment on the water.

In the Fall of 1976 an oil pollution survey which identified potential or actual oil spill situations was conducted at Marine Corps Base, Camp Lejeune and Marine Corps Air Station (H), New River by SCS Engineers, Reston, Virginia. The study was administered by Naval Facilities Engineering Command and covered all known areas of existing and potential oil spills and oily wastewater discharges. The report contains a brief description of the problems observed at each area that was visited and proposed solutions. The solutions are in accordance with the criteria for oil pollution prevention, control and containment facilities. Naval Facilities

Engineering Command is currently designing a project to eliminate the situations addressed in the study.



OIL CONTAINMENT BOOM IS MANEUVERED DURING TRAINING SESSION

## SOIL EROSION

The forces of nature (wind tide and wave action) cause some erosion at Onslow Beach and certain points along the banks of New River. Stone, concrete and masonry rubble from demolished buildings has been used to eliminate part of the New River bank erosion problem. This work has been approved by the District Office, U. S. Army Corps of Engineers, Wilmington, North Carolina.

It is recognized that some damage or wear and tear occurs to inland areas due to the nature of military training. For example, natural vegetation is destroyed and soil disturbed, resulting in a potential soil erosion problem. To avoid unnecessary damage incidental to field training, track vehicles have been restricted to designated training areas and access trails.

The Soil Conservation Service, in a Cooperative Agreement with Marine Corps Base, made a survey of all soil conservation problem areas during the Summer of 1974. Prescriptions were made for 230 different sites and information was incorporated into the Long Range Multiple-Use Natural Resource Management Plan. Work on some of the problem areas has been accomplished and several areas have been scheduled for treatment in FY 78.



MASONARY RUBBLE USED FOR SHORELINE STABILIZATION

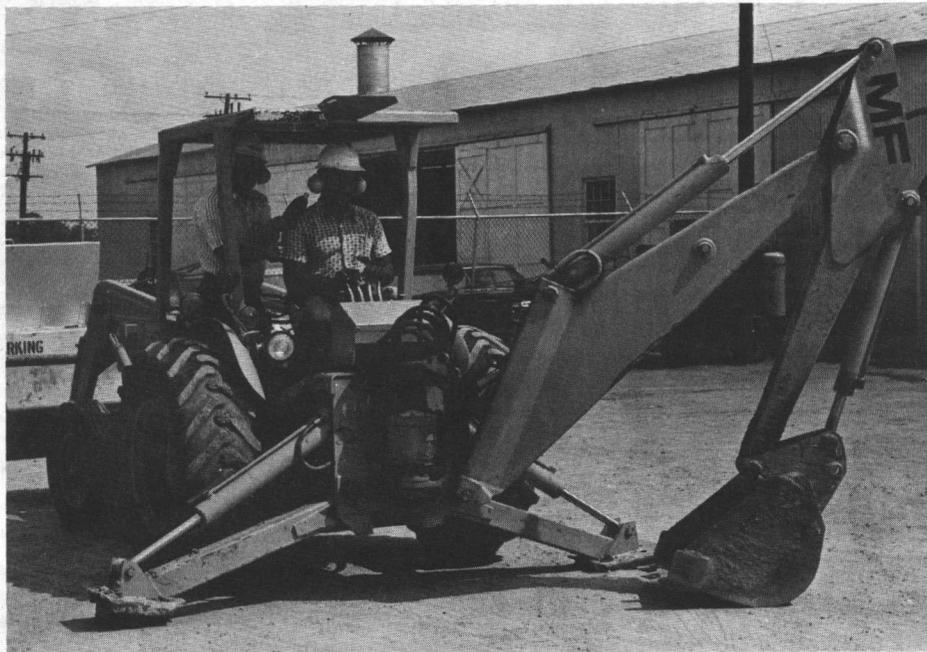


GRADING AND SUBSEQUENT SEEDING BEING DONE TO CORRECT A SOIL EROSION PROBLEM

## NOISE POLLUTION CONTROL

Sources of noise pollution are many and varied on base. In the Industrial Complex such areas as carpenter shops, metalworking shops, sand blasting, compressed air, heavy equipment, aircraft maintenance areas, and steam plants are sources of noise pollution. Areas and conditions under which military personnel in the field are subjected to noise pollution are: all types of gunfire, rockets, explosives, aircraft, tanks, heavy equipment, and motor vehicles. The Occupational and Preventive Medicine Service of the Naval Regional Medical Center is charged with the responsibility of establishing and maintaining a hearing conservation program in cooperation with the Base Safety Office. This responsibility is established in (Appendix E) Base Order 6260.2A, Subject: Hearing Conservation Program; administration of. The Occupational Medicine Branch tests and designates noise hazard areas and the Base Dispensary Hearing Conservation Center conducts approximately 20,000 hearing tests annually. The staff consists of two civilian industrial hygiene technicians in Occupational Health and five Navy audiometric technicians.

The objective of the Hearing Conservation Program is to prevent hearing loss before it becomes a problem. If, upon testing, it is found that machinery or equipment emits 90 decibels or more, signs are posted designating it to be a noise hazardous area and personnel in the area are required to wear hearing protective devices while in that area. Also, personnel who work regularly in noise hazardous areas are subjected to annual hearing tests. If it is determined that anyone has a hearing loss, he is tested more often and, if a loss continues, he is assigned work in an area where there is no noise hazard.



NOISE LEVEL IS MEASURED TO DETERMINE IF HEARING PROTECTION SHOULD BE WORN



HEARING TEST BEING ADMINISTERED

A recently completed noise control project was the acoustical treatment of the 2d Marine Division Band rehearsal area. Before treatment, the noise was well above the safe level. After treatment, tests showed a safe level of 86 decibels.

The Hearing Conservation Center has underway a special audio survey that will eventually involve a large number of personnel at Camp Lejeune. A hearing analysis data collection card will be established for about 25,000 personnel for data processing. This will greatly enhance the hearing conservation program by furnishing detailed hearing records and much needed hearing research data.

## RADIATION POLLUTION CONTROL

At the request of the Naval Regional Dental Center, a radiological survey of dental x-ray units at Building 15 was conducted. The Naval Regional Medical Center Inspectors conducted the survey and based on their findings recommended lead-lining of the x-ray room of 22nd Dental Company. A work request was submitted, and lead-lined walls and windows were installed in May 1976. The subject area now meets applicable standards.

No other known radiation problems exist aboard base as no military training, storage or testing involving these materials are conducted.

## SOLID WASTE MANAGEMENT

Waste disposal is a laborious and expensive operation as approximately 700,000 cubic yards of garbage and other waste must be disposed of at Camp Lejeune each year. Waste of all kinds is transported to the sanitary landfill for disposal. The sanitary landfill is located on a well-drained 40-acre site on Sneads Ferry Road. A large trench approximately 40 feet wide and 12 feet deep is excavated to receive waste material. A bulldozer is used to compact the refuse as it is placed in the trench. At the end of each work day, the filled area is covered with soil, which eliminates insect attraction, fly breeding, and rodent habitat. Shortly following the opening of the sanitary landfill, twenty-one compaction devices were installed in base messhalls. These devices exert a 10-to-1 compression ratio making them popular with mess personnel by greatly reducing the laborious task of transporting refuse to waste containers. Basewide requirements of waste containers 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.

Six additional compaction devices have been installed at selected points aboard base to compress cardboard boxes. This equipment exerts a 4-to-1 compression ratio and is equipped with a 45-cubic yard container which holds approximately 5-1/2 tons of cardboard, further reducing the necessity for waste containers.

Nine "pitch-in" containers have been installed at convenient locations aboard base. These containers have helped keep Camp Lejeune's roads clean by providing a place for motorists to deposit litter.

The volume of trash being removed from these containers indicates heavy utilization. Recently, the base purchased an additional 100 "pitch-in" type litter containers for installation at predetermined locations throughout Camp Lejeune. It is anticipated that these containers will further encourage utilization thereby improving Lejeune's environment.

In an effort to eliminate littering anywhere aboard Camp Lejeune, BO 11014.8 (Appendix F) was published and put into effect on 12 October 1977. The order prohibits anyone from willfully placing, depositing or leaving any litter, trash, refuse, garbage, debris or waste material of any kind anywhere aboard base other than in a receptacle for that purpose or in a place specifically designated and authorized for that purpose.

A rather large volume of scrap wood is generated at Camp Lejeune which includes used lumber or boxes not required for the foreseeable needs of the generating activity or in such condition as to be unacceptable for further use. This material will be turned in and disposed of according to procedures set forth in Base Order 4570.1B of 28 January 1974, (Appendix G).

Liquid garbage (produce and leftover food from messhalls, commissaries, etc.) is being handled by contract issued by the Defense Property Disposal Agency. A one-year contract was awarded a local hog farmer who pays the government \$180 per year for the garbage. Garbage is picked up by the farmer and transported off base where it is prepared and fed to swine. In addition to financial benefits, the contract also results in reduced usage of garbage disposal units and reduction of sewage treatment plant loads.

The recycling program at Camp Lejeune recently moved forward when a contract to recycle corrugated paper was awarded to Coastal Opportunities, a local non-profit organization for mentally/physically handicapped people.

This organization will process for sale between 2,400 and 3,600 net tons of paper per year. The recycling center which is located in a renovated base facility is equipped with necessary equipment to receive, bale and load for shipment corrugated paper generated at the Marine Corps Exchange, Commissary and warehouse. The center was formally dedicated during ceremonies aboard base on 10 September 1976.



ANOTHER LOAD OF CARDBOARD IS READY FOR DELIVERY TO THE ONSLOW COUNTY WORKSHOP'S RECYCLING CENTER AT CAMP LEJEUNE



VEHICLE IS WEIGHED DURING SOLID WASTE MANAGEMENT STUDY

6  
In 1977 a solid waste management study was conducted at Camp Lejeune by a private A & E Firm. The study was initiated as a result of considerable interest which has been generated in the Navy Department concerning the possibility of recovering resources (both energy and materials) from solid wastes generated at Naval activities. In conjunction with the U. S. Environmental Protection Agency and Navy and Marine Corps directives encouraging resource recovery, the Navy has initiated an R<sup>4</sup> Program (Recovery and Reuse of Refuse Resources). The study was a part of the R<sup>4</sup> Program.

The purpose of the project was to develop long range solid waste management plans for Marine Corps Base, Camp Lejeune with particular emphasis on resource recovery. Marine Corps Bulletin 6240 and several guidelines promulgated by the Environmental Protection Agency require federal facilities to recover resources (where economically feasible) in lieu of disposal.

In addition to developing approaches to resource recovery, the refuse collection and disposal aspects of solid waste management were evaluated. Recommendations for improved efficiency and the adequate protection of the environment were made. Finally, several complete alternatives to solid waste management were developed for the base. These incorporated the improvements to collection and disposal as well as various combination of approaches to resource recovery (both material and energy).

As a result of the study, the base is presently implementing a program designed to extract useful materials from the solid waste generated at Camp Lejeune.

## TOXIC AND HAZARDOUS MATERIALS MANAGEMENT

### CHEMICAL DUMP

In the past, certain items of a chemical nature which could not be utilized, reconditioned for return to the supply system, sold, donated or transferred were buried in a specific area of the base. Close control of the burying is maintained, and during the past three years, only two items (polychlorinated biphenyl and approximately 100 pounds of mercury contaminated soil) have been buried in the chemical landfill. The polychlorinated biphenyl waste was generated when a contractor had an accident with a transformer containing the chemical. The contaminated soil was cleaned up and disposed of through encapsulation by concrete. An EPA representative inspected the spill site and approved the cleanup and disposal operation. The mercury waste was generated when a gauge at a swimming pool was accidentally broken. Records of items buried in the chemical landfill are maintained. All other chemicals generated at Camp Lejeune during the reporting period have been transported to Marine Corps Air Station, Cherry Point for treatment and disposal in a new Industrial Waste Treatment Plant.

### HERBICIDE AND PESTICIDE SAFETY PRECAUTIONS

The base 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 Base Maintenance Department has been conducted to ensure that all personnel,

including pest controllers and supervisors, are certified as competent.

Base Maintenance Officer is tasked with the responsibility of maintaining surveillance over the types of chemicals 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, Naval Facilities Engineering Command, Norfolk, has been most cooperative in providing necessary technical expertise as required.

In the Summers of 1975-77, a new type ultra-low volume sprayer was used by the Insect and Rodent Control Section for adult mosquito control. This machine, which provides a direct spraying of undiluted insecticide, conserved an estimated 45,000 gallons of fuel oil during the past three years by eliminating its requirement as a dilutant. Two additional ultra-low volume sprayers are being used for cockroach treatment in messhalls and food handling facilities.

Pesticides used on base are listed below:

Botanical Pesticides

Pyrethrum SLN

Fumigants

Phostoxin Tablets  
Paradichlorobensene Flakes

Rodenticides

Warfrin Anticoagulant

Chlorinated Hydrocarbon

Chlordane EC (limited for  
termite and fire ant control)

Herbicides

2, 4-D  
Hybar-X  
Diquat

Natural Petroleums

Kerosene White Deodorized  
No. 2 Grade Fuel Oil  
Summer Oil Emulsion

Phosphorous Compounds

Diazinon 4E  
Diazinon 4S  
Malathion WP  
Malathion EC  
Dichlorvous EC  
Abate EC  
Cygon  
Dursban

Carbamates

Sevin Carbaryl WP  
Sevin Carbaryl Dust  
Baygon Granular  
Baygon EC



MOSQUITO POPULATIONS ARE DETERMINED BEFORE PESTICIDES ARE APPLIED



ULTRA-LOW VOLUME SPRAYER IN OPERATION

In February 1977, Insect and Rodent Control Section of Base Maintenance Department relocated to newer and more modern facilities. These facilities which were vacated by the disbanded Naval Medical Field Research Laboratory consist of segregated administrative areas, storage buildings and pesticide mixing facilities. Relocation has helped make the insect control operation environmentally acceptable.



PEST CONTROLLERS PREPARE FOR PESTICIDE APPLICATION AT NEW FACILITIES

## RESEARCH AND DEVELOPMENT

The two following paragraphs are descriptions of studies carried out by Naval Medical Field Research Laboratory during 1976.

Surveillance of natural animal resources is greatly enhanced by disease diagnosis and study. Consultative service in this regard was provided by the Naval Medical Field Research Laboratory's Veterinary Sciences Division. A contagious viral disease outbreak in raccoon and fox was diagnosed by the laboratory's veterinary pathologist after completing necropsies and histologic studies on many of the sick/dying animals. The histopathologic studies rendered much insight into some otherwise unknown parasitic disease problems within the raccoons. Reports of unique lesions found in this study will appear in a wildlife disease journal. During the reporting period the veterinary pathologist examined some neonatal sea turtles that had died shortly after hatching. Lesions, heretofore unreported, were found in these baby turtles.

The base has cooperated and supported the Naval Medical Field Research Laboratory, Camp Lejeune, in a program to develop effective insect control programs that are compatible with the environment. Work has been conducted in 100% biodegradable insecticides. Research on nonchemical control techniques for mosquitoes, flies, mites and ticks was also conducted during the reporting period. Part of the research involved the use of CO<sub>2</sub> to attract ticks to traps. New personal protection repellents are being screened in an effort to provide more protection for troops undergoing training in base areas which now carry higher vector populations as a result of increased wildlife populations, etc.

The Occupational and Preventive Medicine's Entomology Section has continued the insect control programs developed by the now disbanded Naval Medical Field Research Laboratory during the past year. The base has cooperated and supported these programs in an effort to make them compatible with the environment. Chemical control measures against ticks and mites using 100% biodegradable acaricides were conducted during 1977 at various sites throughout the base. This research is being conducted in an effort to develop more effective control methods and better equipment for application of pesticides under tactical conditions.

## ENVIRONMENTAL ENHANCEMENT

### BASE ATTRACTIVENESS

Camp Lejeune, with its natural beauty and well-designed layout, has long been noted as one of the most attractive military bases in the United States. To keep it this way requires constant endeavor by the various military units and the Groundskeeping Section, Base Maintenance Department.

During the past three years, the Landscaping Maintenance Section of Base Maintenance has completed landscape projects throughout Marine Corps Base. This includes the Main Gate area, central and industrial areas, the main commissary, road intersections and Division Area and the recreational area at Onslow Beach. There were approximately 4,000 shrubs, trees and flowering plants planted in these areas. General maintenance of plants was performed such as pruning, fertilizing, spraying, trimming and weeding to improve the visual looks and health of those plants. 190,000 American beachgrass plants were planted at Onslow Beach to help stabilize sand dunes by controlling wind erosion.



APPROXIMATELY 7,350 LINEAR FEET OF SNOW FENCE WAS INSTALLED AT ONSLOW BEACH DURING 1977 IN AN EFFORT TO CONTROL WIND EROSION.

## FOREST MANAGEMENT

7 It is the obligation of the Forestry Branch to manage for sustained-yield and multiple-use. This is to say that timber, wildlife, water, recreation aesthetics and military resources all receive equal consideration during management decisions. There are approximately 69,040 gross forested acres of which 57,929 acres comprise the productive or net forest acreage. Streamside zones, roads, roadside zones, ranges, permanent wildlife openings and food plots account for the difference in gross and net acreage. These net forest acres are divided into 62 compartments. Each compartment is then divided into timber types or stands. These compartments are the basic management unit used in forest management. Each year a professional forester will enter six compartments and determine through field samplings the indicated silvicultural needs of each stand. His draft prescription will then be reviewed by the entire Natural Resources and Environmental Affairs staff. Any changes or revisions will be made, along with field examinations if necessary. These indicated needs are then put into action.



FORESTER GATHERING STAND DATA FOR MAKING PROPER DECISIONS IN FOREST MANAGEMENT

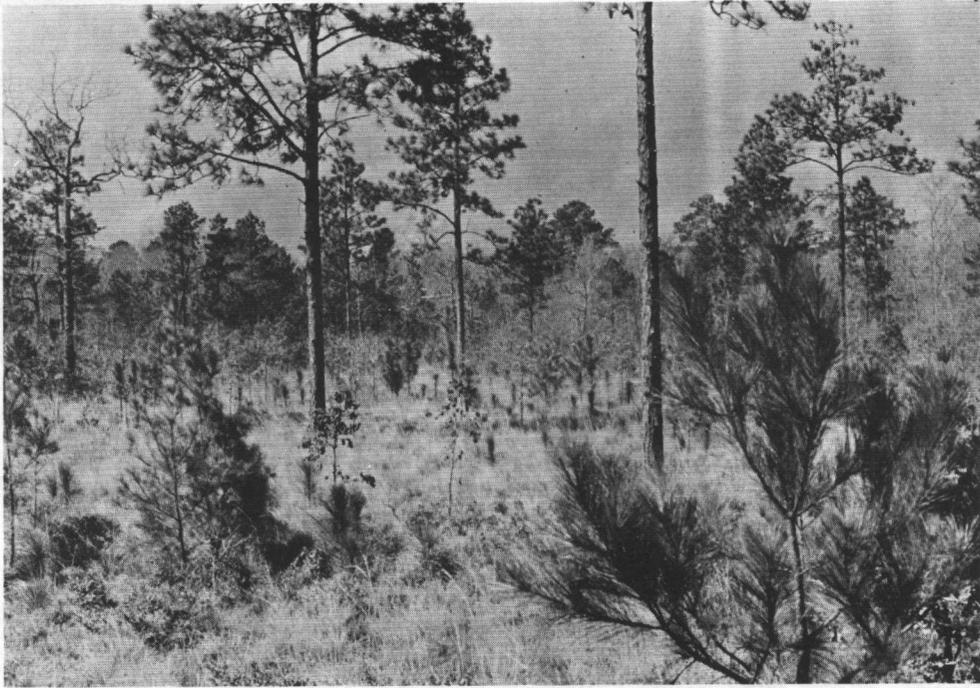
Timber harvesting here is a highly mechanized operation and is closely observed by personnel of the Forestry Branch. The receipts and volumes for the three preceding calendar years are listed below.

TIMBER HARVEST FOR CALENDAR YEARS 1975-1977

1975	<u>Product</u>	<u>Volume</u>	<u>Gross Income</u>
	Pine Sawtimber	8,439.150 MBF	\$398,273
	Pine Pulpwood	34,187 Cds	227,335
	Hardwood Sawtimber	- - -	- - -
	Hardwood Pulpwood	111 Cds	212
			<u>\$625,820</u>
1976	Pine Sawtimber	3,337,560 MBF	\$284,729
	Pine Pulpwood	2189.4 Cds	16,167
	Hardwood Sawtimber	56,541 MBF	2,435
	Hardwood Pulpwood	440.9 Cds	1,121
			<u>\$304,452</u>
1977	Pine Sawtimber	3,406,801 MBF	\$293,715
	Pine Pulpwood	5,305 Cds	39,904
	Hardwood Sawtimber	729 MBF	29
	Hardwood Pulpwood	10 Cds	20
			<u>\$333,668</u>



TIMBER HARVESTING - SKIDDER PULLING TREE LENGTH LOGS TO THE DECK FOR LOADING



NATURAL REGENERATION ESTABLISHED AFTER SEEDTREE CUT AND PROPER SEEDBED PREPARATION



BEDDING HARROW DOING SITE PREPARATION WORK PRIOR TO REFORESTING THE AREA

The base is recovering from a southern pine beetle infestation. All economically timber sale infested areas have been harvested. No new attacks have been observed during the past year. A careful watch continues even though the beetle infestation has subsided and research is still being conducted by North Carolina State University. Normal sale procedures are in progress again for the first full year of operation since 1973.

Reforestation is accomplished by both artificial and natural means, with the latter being used more during the past three years. Natural regeneration requires less soil disturbance for site preparation and permits a saving of fossil fuel with less heavy equipment use required. Other advantages of well planned natural regeneration methods permit the forester to accomplish silvicultural treatments throughout the life of the stand that are more beneficial to a variety of wildlife species as well as maintaining vigorous tree growth. The purchase of a drum chopper has made it possible to make precommercial thinnings in overstocked stands to lessen competition, reduce fuels, create deer browse, permit prescribe burning at an earlier age and reduce the possibility of southern pine beetle attack by maintaining healthier trees.

Some artificial regeneration is being done in stands where there are an insufficient number of genetically sound trees, beetle salvage, burned timber and other situations where natural regeneration methods are not considered adequate. Planting during the past three years has been accomplished by machine planting on an 8' x 12' spacing. Some use of temporary employees has also been used to plant seedlings on rough terrain. Acquisition and use of a bedding harrow has been employed which will

increase the survival rate and growth rate of seedlings particularly on the poorly drained sites.

Prescribed burning is one of the most useful and economical tools which we have at our disposal. Each year approximately 12,000 acres are prescribe burned. Areas which are more beneficial to wildlife and could be damaged by fire, such as transition zones, hardwood types and key areas, are plowed out and not burned. Prescribed burning is accomplished during the Winter months when most vegetation is dormant and as little damage as possible will be done. Prescribed burning serves several key functions such as rough reduction, improvement of wildlife habitat, control of undersirable vegetation, disease control and the improvement of training areas. The Division is also involved in a smoke management program with the State of North Carolina, Department of Natural and Economic Resources.



PRESCRIBED BURNING IS AN IMPORTANT TOOL IN BOTH FORESTRY AND WILDLIFE  
MANAGEMENT

Wildfires at Camp Lejeune continue to receive the highest priority by forest management personnel. Some of the actions taken (during the last three years) to prevent and control fires are as follows:

A new fire weather station has been installed and put into operation. Conversion to the new National Fire Danger Rating System was started in February 1977. Forest fire severity ratings have been established and published in a revised Base Order. This same information with controls on training has been printed on the new training map.

The Division has purchased a 1000-gallon helicopter water bucket to aid in the suppression of fires. The bucket was put into operation in March 1977 and has proven to be very successful on initial attack as well as support for conventional fire suppression equipment.

## WILDLIFE MANAGEMENT

Camp Lejeune's wildlife management program is designed to provide optimum environmental conditions for all present wildlife species. Balanced ecological conditions through multiple land use operations is the long range goal which the wildlife program is striving to attain. Wildlife management practices are programmed to interpret population levels, habitat requirements in the faunal complex and to gauge the way the population will respond to habitat changes.

The forest at Camp Lejeune is divided into 15 wildlife units where a particular wildlife species is featured. Basically, wild turkey, squirrel and deer are the three principle species which are featured in that order. All other game, nongame and endangered species receive due consideration within each wildlife unit. These wildlife units contain 62 forest compartments which are divided into separate stands of trees.

Wildlife management here is directed towards managing forest dwelling species. The management of forest dwelling species is mainly involved with the benefit derived through proper diversity within the plant community. It is essential that there be a compatible program when managing forest and wildlife resources.

The Base Wildlife Manager and Base Forester coordinate their management practices to harmonize the resource program for which they are responsible. Timber prescriptions, reforestation, prescribed burning, key wildlife areas and general habitat improvement receive maximum consideration through their coordinated efforts. Working together they are meeting established program goals and guidelines compatible with their respective programs.

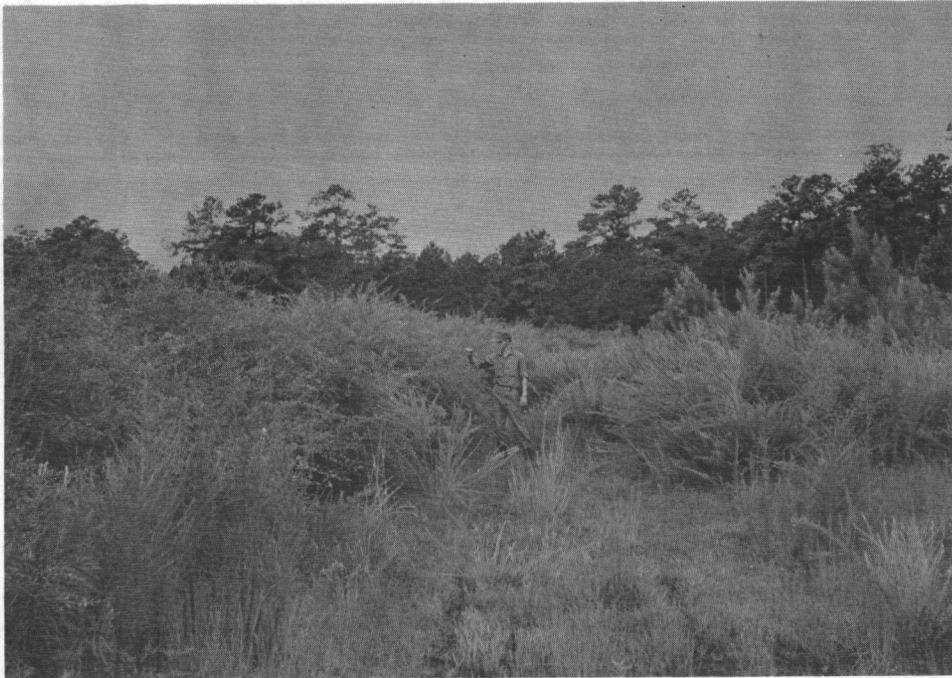
Eighty-five wildlife openings totaling 350 acres have been established for suitable plants in the woodland edge for wildlife species. These openings provide supplements to the natural food supply and enhance cover conditions along the woodland edge. Perennial grasses, grains, and legumes are established in these openings.

Portions of the openings are left fallow and portions are planted through crop rotation to maintain the desired stages of plant regeneration. Such openings add diversity within the plant community and enhance the general aesthetics of the forest area. The clear vistas of the openings provide the user with the opportunity to view, study or photograph wildlife from concealed vantage points. Hunter success increases around openings since game regularly visit these diversified sites.

Sixty miles of forest access roads have been seeded to perennial grasses to stabilize the soil, reduce road maintenance, provide food for wildlife and improving the aesthetics of the woodlands.

Management for bobwhite quail has been intensified in the 2,352-acre tract managed primarily for this species. New one-fourth-acre strips of bicolor lespedeza have been established in reaching the goal of one strip per twenty acres. Nesting cover is being enhanced by discing transition bands around these areas left for protection from annual prescribed burning. These protected areas are located near bicolor strips and occur at the rate of one per twenty acres. This practice along with annual prescribed burning and thinning of longleaf timber is expected to provide quality quail hunting in the future.

A cooperative program for monitoring the plant community and censusing the quail population has been established with North Carolina State University. Initial plant sampling and population censusing has been



A STRIP OF SHRUB LESPEDEZA IS INSPECTED BY A YOUNG MARINE ASSIGNED TO THE WILDLIFE MANAGEMENT BRANCH.



THESE WILD TURKEYS ARE FEEDING ON DRUG-TREATED GRAIN PRIOR TO RELOCATION ON THE BASE.

accomplished which will continue on an annual basis. Plant monitoring and population censusing is established for the quail management area as well as for a controlled area for comparison purposes.

A graduate student is doing research on the habitat performance, breeding success and population status of the Eastern bluebird at Camp Lejeune. Two hundred nesting boxes were established in selected habitat types for enhancing the bluebird population and providing nesting facilities necessary for this study.

Twenty-one wild turkeys were trapped from areas with high populations, east of New River and released in the Verona area on the western shoreline. The birds were captured with drug-treated grain and released in good condition. The purpose for this relocation was the restoration of wild turkey which existed there prior to FY-74 when the population level suddenly declined.

Protection of endangered species is in accordance with the National Environmental Policy Act of 1969 and the Endangered Species Act of 1973. Principle endangered species on the national list which are found here are the red-cockaded woodpecker and the American alligator. All known woodpecker sites are in the process of being mapped and marked for protection. Population censuses are being conducted to determine the status of both woodpeckers and alligators. The Atlantic loggerhead turtle nesting habitat at Onslow Beach is receiving maximum protection. The Atlantic loggerhead is on the North Carolina list of endangered species. Forty-two individual nests were protected from raccoon and fox depredation during FY-76-77. Twenty-one loggerheads were tagged during the same period. Turtle nesting surveys using helicopters were



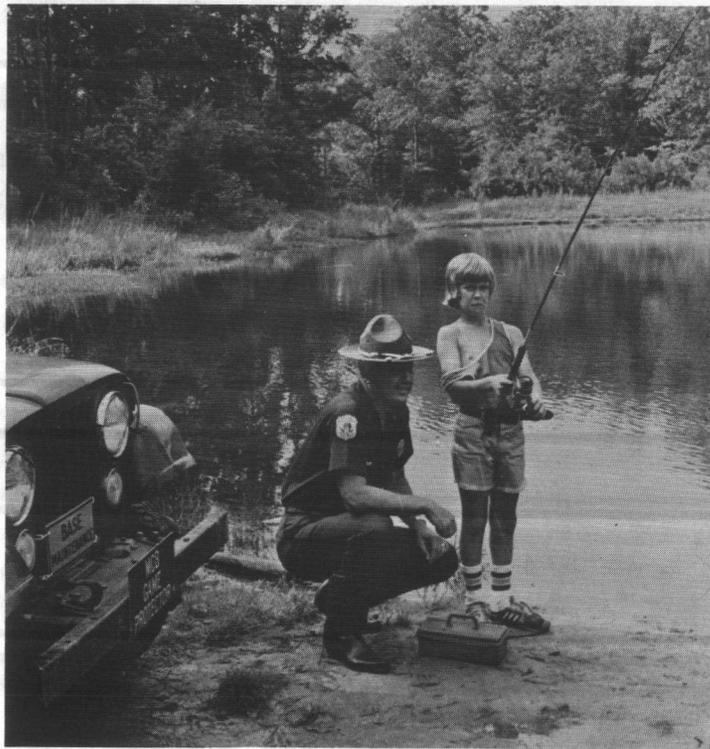
THIS ACTIVE ALLIGATOR NEST IS INSPECTED BY A NORTH CAROLINA WILDLIFE RESOURCES COMMISSION BIOLOGIST.



THIS NESTING ATLANTIC LOGGERHEAD AT ONSLOW BEACH WEIGHED APPROXIMATELY 250 POUNDS.

conducted during the peak nesting periods in July and August from New River Inlet to Cape Lookout. This is a cooperative project with the University of North Carolina Institute of Marine Sciences, Morehead City, North Carolina.

Protection of game, nongame and endangered species is a primary responsibility of the wildlife management program. Local, state and federal laws are adopted for insuring the protection of all present wildlife species. A civilian wildlife law enforcement billet has been staffed for adding continuity to the enforcement of conservation laws. Four military billets are established for wildlife law enforcement duty which are augmented by six additional military billets during the hunting seasons. These personnel are also responsible for issuing permits, assignment of hunters and collection of public use information.



THIS YOUNG FISHERMAN GETS A FEW TIPS ON SPIN CASTING FROM THE BASE GAME PROTECTOR.

## FISH MANAGEMENT

The fishery management program is designed to produce sustained annual crops of fish for recreational purposes. Thirteen freshwater ponds are currently under management totaling approximately 38 acres. Eight of these are natural and five are man-made all of which are stocked with warm water species. Management techniques consist of fertilization to promote plankton and other microscopic plant growth, liming to control pH factor and use of aquatic herbicide for weed control. Stocking is done on an as-necessary basis.

A wide variety of both freshwater and saltwater species inhabit the freshwater ponds and streams, saltwater bays and the Atlantic Ocean adjoining the base. The saltwaters provide commercial fisheries along the lower bays, Intracoastal Waterway and in the Atlantic Ocean. Extensive saltwater areas also produce bountiful supplies of shellfish for public use.



BASS (7 lbs 3/4 ozs) WAS TAKEN FROM POWERLINE POND 25 MARCH 1975

## THE MARSH

There are approximately 3,326 acres of salt marsh at Camp Lejeune. The marsh area is a unique and invaluable ecosystem, upon which most marine species are directly or indirectly dependent. Some species live and spawn in the sea as adults but enter the marsh for development; others enter the protective waters to spawn or to feed; while other species spend an entire life span in the marsh. It is the home and feeding ground of countless waterfowl and small mammals in addition to many amphibians and reptiles. The salt marsh areas remain in the natural state in that no dredging or channelizing has taken place.



THIS SALT MARSH AND ESTUARINE AREA NOT ONLY CONTRIBUTES TO NATURAL BEAUTY BUT IS A VERY IMPORTANT PART OF THE MARINE ECOSYSTEM.

## ENVIRONMENTAL EDUCATION AND TRAINING PROGRAMS

### GUEST SPEAKER PROGRAM

In addition to conservation education programs concerning proper and safe handling of guns, water safety, sportsmanship and woodmanship conducted by base clubs and organizations, personnel of the Natural Resources and Environmental Affairs Division take an active part in guest speaking engagements.

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, have been very much in demand by units, school classes, and civic organizations. In 1975, 1976 and 1977 one hundred and nine presentations were made to a total of 12,000 people. In addition, seven appearances were made on local television stations wherein wildlife conservation, forestry management, and pollution abatement were discussed. It is believed that explanations of base plans and accomplishments in the conservation field are especially beneficial in fostering community relations and the exchange of ideas.

### POLLUTION ABATEMENT EDUCATION

Beginning in January 1974, the educational process is being used in an effort to promote the pollution abatement program. Classroom time was granted for a slide/lecture presentation on the environment to be routinely included as a part of the Motor Transport School Company, Montford Point, student training program. The base ecologist gives the presentations with special emphasis being placed on oil pollution. By making each

more aware of environmental problems, it is hoped more desirable habits and attitudes will be developed, resulting in better Marines and better citizens. To date, approximately 2,500 students have attended the lecture.



BASE ECOLOGIST GIVES SLIDE PRESENTATION ON OIL POLLUTION TO STUDENTS OF MOTOR TRANSPORT SCHOOL COMPANY, MONTFORD POINT

## COMMUNITY RELATIONS

Utilization of Brown's Island as an impact area during military training operations has been a necessity for years, resulting in many claims for property damage by residents of nearby communities. Since the use of Brown's Island as a training area could not be discontinued, a workable solution had to be ascertained. Studies at Elgin Air Force Base, Florida, indicated that under certain atmospheric conditions, explosion overpressures could cause unexpected damage. Thusly, since February 1972, all bombing runs have been canceled when unfavorable atmospheric conditions prevail thereby minimizing complaints of damage.

During the Fall of 1972, 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, forestry and environmental meetings, training sessions, and symposiums sponsored by private, state and federal agencies in these fields. Professional personnel attend the meetings and conventions of the Society of American Foresters.

Under sponsorship of the Marine Corps Human Relations Program, approximately 100 Marines from Force Troops/2dFSSG have voluntarily constructed nature trails and planted several hundred pine trees for several nearby public elementary schools during the past two years. The nature trails, located in wooded areas adjacent to the schools are proving invaluable to the school in teaching the basics of conservation.



BIOLOGY STUDENTS RECEIVE "ON THE SCENE" INFORMATION



COASTAL CAROLINA COMMUNITY COLLEGE STUDENTS DURING TOUR OF WASTE WATER TREATMENT FACILITIES AT HADNOT POINT

The pine trees were planted as borders around bare portions of school grounds.

Marines from 2d Marine Division (Rein) have assisted Coastal Carolina Community College in clearing and establishing a nature trail for its Biology Department. The trail is located on a tract of land adjacent to and formerly a part of Camp Lejeune.

The general foreman and foreman of the sewage treatment plants, Utilities Division, Base Maintenance Department, are involved in a unique training program with the North Carolina Department of Air and Water Resources and the Coastal Carolina Community College, Jacksonville, North Carolina. Since 1973, the Camp Lejeune sewage treatment plant supervisors have been the instructors for a series of 13-week Wastewater Treatment Classes held at Coastal Carolina Community College. 200 students from throughout Eastern North Carolina have participated in the night classes since September 1975. Twenty-seven base sewage treatment plant personnel have successfully completed all requirements of the course and each was awarded Sewage Treatment Plant Operator Grade I to IV Certification by the State of North Carolina. Most of the training was conducted on campus; however, base sewage treatment facilities were visited on several occasions for special instructions with the laboratory being utilized for the chemical analysis part of the course.

According to the Director of Operator Training for the North Carolina Air and Water Resources Board, the training program was the most successful completed in this field; a comment well received by Camp Lejeune.

Good relations are maintained with local, state and federal authorities in our efforts to foster the environmental enhancement program at Camp Lejeune.

# Disaster averted at CHB

By Sgt. Brenda Lanclos

The fast action of a combined force of personnel from the Marine Corps Engineer School, Base Maintenance and the Base Fire Department turned what was a potentially disastrous situation into a massive "clean up" here Feb. 28.

The incident occurred at 9:45 a.m. when a delivery fuel truck swung too wide at the turn into the Courthouse Bay Service Station. This caused 8,200 gallons of gasoline to shift to one side tipping the tanker into a covert.

The driver of the tanker kicked out the window and left the truck. He was later treated for minor injuries at the Courthouse Bay Dispensary and released.

Approximately 5,000 gallons of fuel was spilled into the ditch. Immediately, Marines from Engineer School were called in to

begin hand shoveling dirt to form a dam that would prevent seepage of the fuel into the outlying areas. They were summoned by Frank A. Hinton, assistant manager of the Service Station.

Shortly afterwards, the Base Fire Department, sprayed the

ditch with light-water which lowered the combustion level of the fuel, and began a mopping up exercise. Base Maintenance cleaned up the area and

uprighted the toppled tanker.

Mr. Julian I. Wooten, Base ecologist, praised the teamwork, stating "Because of the quick response, the fuel was prevented

from flowing into the Courthouse Bay Housing area, which could have caused a fire hazard and also lead to the pollution of New River."

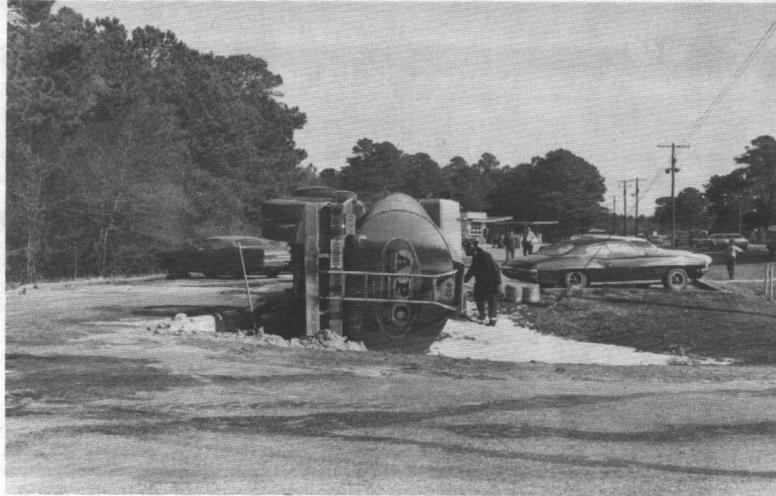


Photo by Sgt. D.M. Sullivan

**TOPPLED TANKER** — Approximately 5,000 gallons of fuel from an overturned fuel truck was spilled into a ditch located at the entrance to the Courthouse Bay Service Station, Feb. 28. Members of Engineer School, Maintenance and Fire Department diverted and cleaned up the potential disaster

Globe

March 6, 1975



**CONVEYOR** — Virgil Whaley (left) and Oscar Wooten sort and break down part of the seven tons of cardboard waste processed daily at the Base Recycling Plant. (USMC photo by Sergeant Erny Richardson)



**DISCARD ALL THE NEWSPAPERS** — Workers from the Base Recycling Plant, prepare the first load of newspapers for recycling processing since the plant increased its service capabilities. The plant has processed and shipped more than 1,000 tons of cardboard paper since opening its doors last September. (USMC photo by Sgt. Wesley Goodloe)

## Recycling helps local program

By Sgt. Erny Richardson

Seven tons of cardboard waste could be a lot of litter, but here at Lejeune it's helping develop a valuable natural resource—humans.

This development is one of the functions of the Base Recycling Plant, home of the Onslow County Workshop, a non-profit program run by Coastal Opportunities to aid handicapped persons in Onslow County.

The program began Sept. 10, 1976 and according to Jerome Freedman, plant foreman, it has been working well.

"I've 10 people working here and all have some sort of mental or physical disorder," he says. "Here, they are given, a job; taught how to give and take orders and build up their confidence in the process."

The plant is open Monday through Friday and processes about seven tons of cardboard and computer paper every day.

"We have 34 sites throughout the Camp Lejeune area where cardboard or computer paper can be placed for pick-up," said Freedman, "Twice daily, it's collected and brought to the plant."

This mountainous mass of paper is immediately attacked by several workers armed with a tractor, who load the piles of litter on a long conveyor belt running into a large green machine.

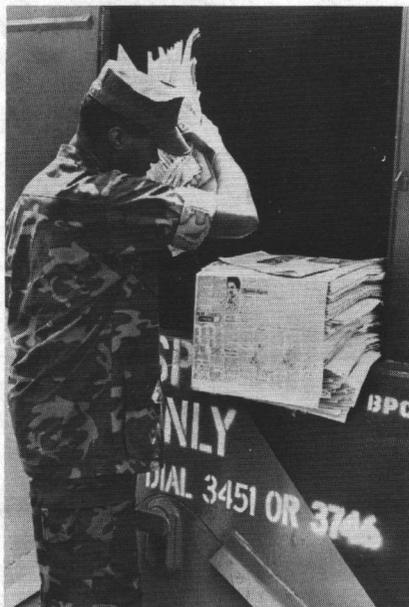
Other workers, standing along the belt, break large boxes into more manageable pieces and remove undesirable objects as cans and bottles. The machine then shreds the paper and compresses it into huge bales, each weighing half a ton.

"During a normal day we usually process 14 of these bales," explained Freedman. "They are loaded on railroad flatcars and shipped to a company in Richmond, Va., where they are reprocessed into boxes and the like."

One of the major problems the recyclers have is dumping the junk and trash collected with the cardboard.

"At the collection sites we have green dumpsters that have 'Cardboard Only' or 'Computer Paper' written on the sides," said Freedman. "Unfortunately, some people ignore this and dump bottles, can and even raw garbage in the dumpsters, making our job harder."

"Otherwise the program is working fine. It aids the Base by taking tons of waste off its hands and allows us to provide jobs and funds to keep the program going," he concluded. "The cooperation of the Marines in helping put this together has really been outstanding."



**FOR NEWSPAPERS ONLY** — Sgt. Glenn Proctor, a conservation conscious Marine deposits old newspapers in one of six specially marked containers placed around the base. The containers, painted red, white and blue are for 'newspapers only' and used here in a recycling program. They are located in parking areas at Tarawa Terrace shopping center, Midway Park Exchange, Golf House, the old outdoor theater, Berkeley Manor Seven-day store and the main fire station. (USMC photo by Sgt. Wesley Goodloe)



**OPERATING THE** Onslow County Workshop's cardboard reprocessing plant aboard Camp Lejeune are Virgil Whaley, Jerry Peoples, Joe Dillahunt, Oscar D. Wooten and Jimmy Forbes. (Staff photo by Sidney Stern)



**JERRY FREEDMAN**, who supervises the Onslow County Workshop's cardboard reprocessing plant, stands beside one of the plant's finished products: a 1,200 pound bale of shredded cardboard. The Workshop sells for \$40 apiece the cardboard bales, which can be chemically broken down into a substance resembling wood pulp. (Staff photo by Sidney Stern)



Photos by MSgt. Jim Paynter and SSgt. Tom Griggs  
Photo composition by Cpl. Larry Lindsey

**AERIAL FIRE BUCKET** — A CH-53 helicopter from the Marine Corps Air Station New River drops water on a brush fire at Camp Lejeune last week while Marines from Company M, 3d Battalion, Sixth Marines, 2d Marine Division helped contain the fire that could have destroyed seedling trees.

## **Marines snuff blaze**

By MSgt. Jim Paynter

Marines from an infantry unit turned fire-fighters last week and helped stop a brush fire that could have been dangerous and costly.

According to Assistant Base Fire Chief E.J. Padgett, members of Company M, 3d Battalion, Sixth Marines, 2d Marine Division "did a real good job. They jumped right on the fire and helped contain it. The fire could have done a lot more damage."

The fire, near the Combat Town training area here, burned about three acres before it was brought under control.

Ken Harrison, Base Forester, said the fire could have destroyed seedling trees in a natural reforestation area if it had not been stopped.

The Marines, who had been training where the fire started, were joined in their fire-fighting efforts by two trucks from the Base Fire Department and a Marine Corps Air Station New River helicopter dropping water from a huge aerial water bucket.

The cause of the fire is under investigation.

# Marines Win Conservation Battle

by Nancy J. LaLuntas



Preservation of wildlife habitat and conservation education are two aspects of the conservation plan developed by Marines at Camp Lejeune.

Marines at Camp Lejeune, N.C., have an award-winning conservation program for wildlife and forestry management, maintenance of recreation areas, and improved grounds maintenance.

For the third time in recent years, the Marine Corps Base—in competition with military installations throughout the United States—has won the Secretary of Defense Natural Resources Conservation Award. The award is presented annually to the U.S. military installation which has demonstrated, over a 3-year period, the greatest progress in applying resource conservation measures to the land.

Camp Lejeune covers 170 square miles in Onslow County on the southeast coast of North Carolina. Conservation of natural resources there has been a continuing concern for more than 20 years.

In 1956, a cooperative agreement was signed with the Lower Neuse Soil and Water Conservation District (SWCD) asking for assistance in developing a long-term conservation plan for erosion control and grounds maintenance. The Soil Conservation Service, working through the local SWCD, completed the plan in June of that year. It included soils inventory

data, soil interpretations, and maintenance requirements for the base grounds.

More than two-thirds of the marine base is in forest, and in 1964, a 10-year forest management plan was developed by the base with assistance from SCS and the USDA's Forest Service. A complete forest inventory and soil survey were made, and the plan—which provides for scheduled timber harvest, prescribed burning and reforestation, erosion control, and wildlife management—is still in effect.

The 1975 Natural Resources Management Plan was prepared by the Marine Corps Base and the Onslow Soil and Water Conservation District (formerly part of the Lower Neuse SWCD) with technical assistance from SCS. The plan provides for multiple use of all lands except firing ranges and other hazardous areas. It also provides measures to combat erosion and poor drainage; water, soil, and air pollution; wildfires; forest insect and disease damage; unproductive wildlife habitat; and damage or loss of vegetative cover.

Preservation of wildlife habitat, especially for endangered species, is an integral part of the conservation plan. Dredging and military training are not permitted in salt marshes, for

example, because these areas serve as spawning grounds for many species of aquatic life. Endangered species habitat is clearly identified to insure maximum protection.

Fifty-six wildlife food plots supplement natural food supply and enhance brood range. Rye, wheat, and chufa are planted for fall, winter, and early spring grazing. The vegetation on each site is left standing for nesting and feeding throughout the summer.

Well-spaced clearings assure diversity of habitat for many wildlife species. Roads and open areas are seeded to Kentucky 31 fescue and bahiagrass. Autumn olive and other shrubs have been planted in the clearings.

The base has seen a marked increase in wildlife populations, especially deer, turkey, mink, quail, and black bear. Endangered species such as the alligator, osprey, red-cockaded woodpecker, dusky seaside sparrow, and American bald eagle have been sighted during the last several years.

Special efforts are being made to increase the numbers of nongame wildlife. Shrews, bats, jumping mice, and armadillo are among the many species receiving special protection



Military training using amphibious assault vehicles, tanks, and front-end loaders aggravated the soil erosion problem.

and care. A variety of birds flourish in the region, and they, too, are protected. Included are pelicans, herons, sandpipers, owls, tanagers, wood warblers, nuthatches, and wrens.

Conservation education is an important part of training at Camp Lejeune. The base ecologist has given presentations to more than 17,000 students at the Motor Transport School Company, for example, where special emphasis is placed on oil pollution.

Conservation education is also carried into the neighboring community. Under the sponsorship of the Marine Corps Human Relations Program, Marines have constructed nature trails and planted several hundred pine trees for nearby public elementary schools.

Marine Corporal LaLuntas is a writer for the Joint Public Affairs Office, Camp Lejeune, N.C.



Charles Peterson, Camp Lejeune's wildlife manager, and Steve Thomas, North Carolina Wildlife Resources Commission, band a wild turkey that was trapped on the base and will be released in a nearby national forest.



Bobcats are well distributed throughout the 69,312 acres of habitat available to them.

Photos courtesy U.S. Marine Corps, Camp Lejeune, N.C.

# TURKEYS

## In The Fall?

by Curtis Wooten

*The success of the turkey restoration program at Camp Lejeune points the way to a brighter future for the wild turkey in North Carolina.*

**T**HE Camp Lejeune Marine Corps Base, located in Onslow County in coastal North Carolina, does not conform to the movie version of a military training installation. Granted, there are acres of concrete and asphalt, restricted areas, large training and parade fields, tanks, amphibian tractors, jeeps and a host of troops marching, jogging, digging fox holes and generally doing their thing.

But there is another side to Camp Lejeune: the quiet solitude of the long leaf pine, scrub oak forests, the pocosin bays, the estuarine river and creeks and the surf beating on uninhabited shores. The variety of wildlife—be it black bear, deer, wild turkey, osprey, red-cockaded woodpecker, bluebird, alligator or sea turtle—is surpassed nowhere in the state.

The variety of wildlife species and their abundance on the Base is no accident. It is the result of diverse habitats and the dedication of present and past Commanding Generals to sound environmental resource management, combined with hard work by the personnel of the Natural Resources and Environmental

**Whether this will once again become a fall scene depends on many factors. One of the primary objectives of turkey management is better hunting along with an abundant, healthy turkey population.**



Affairs Division which formulates and implements the management plans.

Camp Lejeune was granted a one-week (November 22-30) either-sex turkey season this past fall—the first and only fall season on wild turkey in North Carolina in several years. The growth of the turkey population which justified the fall season is a good example of the results expected from the preservation of habitat (in this case, a result of acquisition of land for the military base) and a sound turkey restoration program and management plan.

There are several reasons for the success of the turkey program at Camp Lejeune. There is adequate, good quality habitat—marked by mature pine and swamp hardwood forests interspersed with small openings and open ridges. Initially, a low but stable population of wild birds was present.

The backbone of their success story is the close coordination of timber and wildlife management activities coupled with intensive habitat improvements.

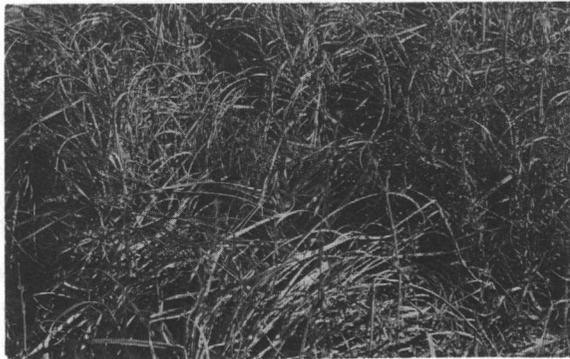
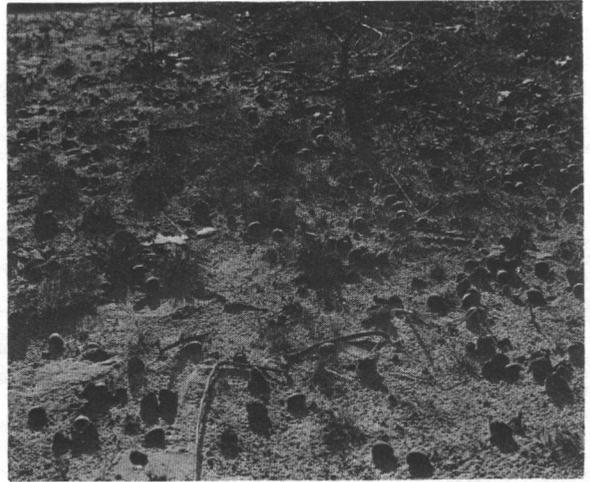
Excessive logging—the primary cause of the decimation of the turkey population in the state originally—generally has an adverse effect on turkey habitats, but those effects can be minimized if management plans are closely coordinated. Small clear-cut and thinning operations, controlled burns and reseedling have taken place on Camp Lejeune for a number of years with no serious adverse effects to the turkey population.

Extensive habitat improvements made in conjunction with timber harvests offset most of the adverse effects of timber cutting on the Base. Access roads have been systematically seeded to provide alternate food sources and travel lanes for wildlife and to check erosion. Nearly 200 food plots, from one to three acres in size and dispersed throughout the estimated 65,000 acres of suitable habitat, have been cleared and seeded to clover, winter rye, bahia grass or chufas. These serve as additional food sources and provide sunning, dusting and general loafing areas for the turkey and other wildlife (such improvements have been made and are presently being expanded on Game Lands throughout the state).

Forest openings and food plots with their diversity of plants and insects are important to most wildlife species. They are of particular value, however, to the wild turkey which utilizes them year-round.

Feral dogs and cats, serious obstacles to turkey restoration in some areas, are strictly controlled at

Forest openings planted with winter rye are checked by turkey specialist Wayne Bailey (below left) and Base wildlife technician Charles Peterson. These food plots serve turkeys the year 'round. Right, mast producing trees such as the turkey oak, provide important food for turkeys, and should be retained in timber cutting plans.



**Chufas, a member of the sedge family and also known as sweetrush, flatsedge, and galingale, are a choice food of wild turkeys. The tops (left) appear grass-like, and do produce some seeds, but it is the peanut-sized tubers (right) that are the main attraction to the turkeys.**

Camp Lejeune, a feat difficult to duplicate in most areas of the state. With strictly controlled access to the Base and continual patrolling by military wildlife protectors, illegal kills are kept to a minimum. State-wide, illegal hunting is a factor which is difficult to assess, but is known to be significant in some areas.

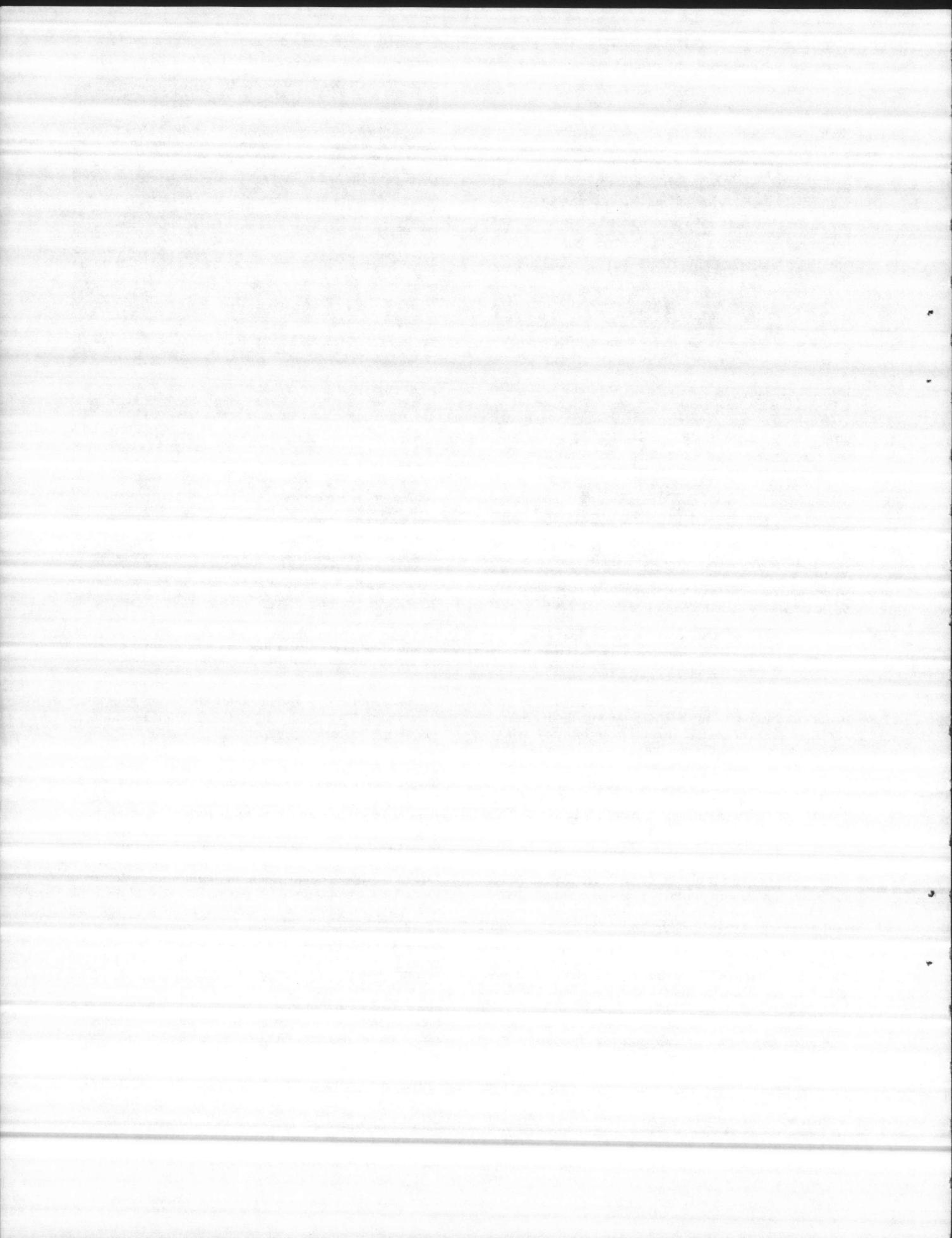
Already, the groundwork has been laid for the expansion of the wild turkey population in North Carolina, and hopes are that this expansion will be as spectacular statewide as it has been at Camp Lejeune. Long-range restoration plans and management guidelines have been formulated, turkey-oriented land management on Game Lands has been implemented, occupied range and suitable habitat have been mapped and trapping and restocking activities are well under way.

During the past five years, three major changes have been made which improve the chances of success and speed up the restoration program. First, the long winter, male-only season has been eliminated and replaced by the spring bearded-turkey only season (the spring season, scheduled during the period when the hens are nesting, largely eliminated the possibility of female birds being killed). Secondly, legislation preventing the release of pen-reared birds has been passed. (Pen-reared birds are often carriers of several wild fowl diseases, and when released into the wild, they may infect and decimate existing wild stock. They are also ineffective as a means of reestablishing wild populations.) And third, reporting turkey kills has

become mandatory, giving biologists better figures on harvests and occupied range—information essential in evaluating restoration efforts.

Over 200 wild turkeys have already been live-trapped on areas with stable populations (over 100 of these from Camp Lejeune) and released on 12 Game Lands areas across the state. According to Wayne Bailey, wildlife biologist and turkey specialist in charge of the turkey restoration program for the Wildlife Resources Commission, most of the stockings have been successful and all still provide hope. It is too early to fully evaluate some of them, but better than half of the populations appear to be expanding well. Live-trapping efforts were stepped up this winter, and as more seed stock becomes available from areas already restocked, the restoration program should continue to expand until wild populations are restored to suitable habitat throughout the state. Bailey says that we may have from 10,000 to 15,000 wild turkeys in the state by 1985 if nothing goes seriously awry. With a well established population of that size, a surplus of birds will be available for the hunter and a fall season will likely be reinstated statewide. In fact, establishment of such a season is one of the foremost objectives of the project.

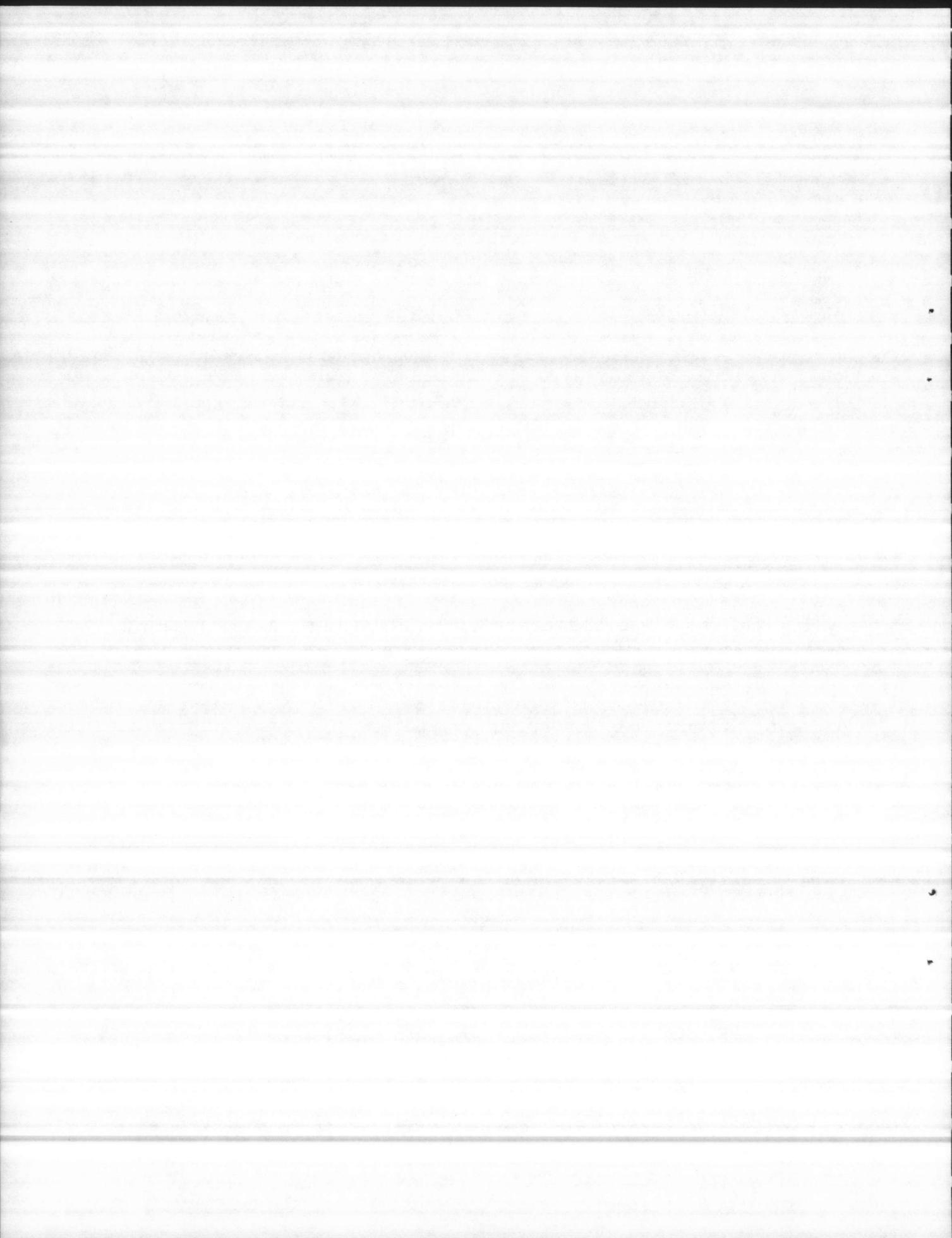
Perhaps, in the not too distant future, the hunter can once again take to the field in the fall to bag his Thanksgiving or Christmas turkey just as his forefathers did. In the meantime, spring hunting for gobblers is a sport that is hard to beat. ♦



APPENDIX A

BASE ORDER 11080.2

MANAGEMENT OF NATURAL RESOURCES; ENVIRONMENTAL QUALITY AND PEST CONTROL





UNITED STATES MARINE CORPS  
MARINE CORPS BASE  
CAMP LEJEUNE, NORTH CAROLINA 28542

IN REPLY REFER TO  
BO 11080.2  
15G/CFR/lp  
8 Mar 1973

BASE ORDER 11080.2

From: Commanding General  
To: Distribution List

Subj: Management of Natural Resources; Environmental Quality and  
Pest Control

Ref: (a) MCO P11000.8  
(b) BO 1710.20D  
(c) BO 11015.2E  
(d) BO 11090.2E  
(e) BO P11102.1G  
(f) BO 11350.1E

1. Purpose

a. To provide guidance and instructions for the implementation of an integrated Multiple-Use Natural Resources Management Program as established in reference (a).

b. To establish policy regarding evaluation and management of renewable natural resources, recognizing the interdependence of the related natural resource disciplines and their relationship with enhancement of the environment.

2. Background

a. The National Environmental Policy Act of 1969 (Pub. Law 91-190) declares that "it is the continuing policy of the Federal Government, in cooperation with state and local governments, and other concerned public and private organizations, to use all practicable means and measures, including financial and technical assistance, in a manner calculated to foster and promote the general welfare, to create and maintain conditions under which man and nature can exist in productive harmony and fulfill the social, economic, and other requirements of present and future generations of Americans."

8 Mar 1973

b. Executive Order 11514, "Protection and Enhancement of Environmental Quality," of 5 March 1970 directs Federal agencies to provide leadership in protecting and enhancing the Nation's environment to sustain and enrich human life. In addition, Federal agencies shall initiate measures needed to direct their policies, plans, and programs so as to meet national environmental goals.

3. Policy. It is the continuing policy of the Commanding General to promote restoration, improvement, and preservation of renewable natural resources and other environmental assets through wise use and management in cooperation with Federal, state, and local resource-oriented agencies. The land and water of Camp Lejeune will be managed to protect and conserve the watershed and natural landscapes, soil, beneficial forests and timber growth, and fish and wildlife as vital elements of an optimum natural resources program.

4. Public Access. Provisions will be made for controlled public access to land and water areas of this Base suitable for hunting, fishing, boating, and other recreational activities except where a specific finding has been made that a military mission requires a suspension of such use. Such access will be within manageable quotas (first-come, first-served basis), subject to safety requirements and military security, and at such times as such access can be granted without bona fide impairment to the military mission. Reference (b) provides detailed instructions for public access.

5. Responsibility

a. Assistant Chief of Staff, Facilities, shall exercise staff cognizance over all matters pertaining to management of natural resources.

b. Base Maintenance Officer is responsible for:

(1) Formulating and maintaining current the Long Range Multiple-Use Natural Resources Management Plan and annual operational plan thereto, and the cooperative plans for development of Soil and Water Conservation and Fish and Wildlife Management Programs at Camp Lejeune.

(2) Management of all natural resources.

11 (3) Supervision and/or coordination of all natural resources activities.

(4) Preparation and submission of reports as required.

(5) Liaison with Federal, state, and local conservation agencies on matters dealing with natural resources.

(6) Control of collection and expenditure of monies obtained from Base hunting and fishing permits.

(7) Employment of adequate measures to control insects, rodents, and other pests affecting the health, morale, efficiency, and comfort of personnel aboard the Base; prevent the loss of material and eliminate extensive and rapid deterioration of buildings and other structures; and avoid damage to grounds, forested areas, and other real property.

6. Base Environmental Enhancement Committee. Regulations governing the Base Environmental Enhancement Committee are contained in reference (c).

7. Natural Resources Conservation and Environmental Quality

a. Conservation and wise use of soil, water, vegetation, and wildlife is of vital concern to all personnel at Camp Lejeune. Proper utilization and protection of land and water resources is primarily the responsibility of Area Commanders in their respective areas. Technical assistance in this endeavor will be furnished upon request by the Base Maintenance Officer.

b. Disposition of waste oil and other hazardous substances shall be in accordance with reference (d).

c. Police of training facilities shall be in accordance with paragraph 201.3 of reference (e).

d. The taking of any fish or wildlife aboard Camp Lejeune will be in accordance with reference (b).

8 Mar 1973

e. Drilling and construction of water wells either for observation, Base supply, or field supply will not be initiated without prior approval of the Base Maintenance Officer.

f. It is recognized that military activity is inherently destructive to land resources, and some damage or wear-and-tear is a natural result of field operations. Commanding officers will make every reasonable effort, however, to avoid unnecessary damage incidental to field training under their control.

(1) Tactical vehicle operators will utilize existing roads and tank trails and will operate off the existing roads and trails network only with the approval of the commanding officer concerned.

(2) Training of engineer troops in earth moving operations will be restricted to specific areas assigned by the Commanding General. Construction or housekeeping projects involving heavy equipment work by engineer troops will be performed only as assigned or approved by the Commanding General.

(3) Soil displaced in official training operations, such as gun positions, foxholes, etc., will be restored as nearly as possible to its original condition by the using unit at the conclusion of each exercise.

g. Establishment or use of borrow pits for the removal of fill dirt, sand, or clay is not authorized without prior approval of the Base Maintenance Officer.

h. Areas established and so marked as wildlife food plots will not be used in any training exercise involving the use of wheeled or tracked vehicles, nor as tactical landing zones by helicopter. The soil will not be disturbed in any way.

i. Cutting, damaging, transplanting, or removal of trees, shrubs, or other plants, or the use of herbicides for the control of vegetation is prohibited except as authorized by the Base Maintenance Officer, or as authorized and conducted on a programmed basis by the Base Maintenance Officer.

j. Prescribed or controlled burning will be conducted only by Base Forestry personnel under cognizance of the Base Maintenance Officer.

k. Refuse disposal will be accomplished in accordance with reference (f).

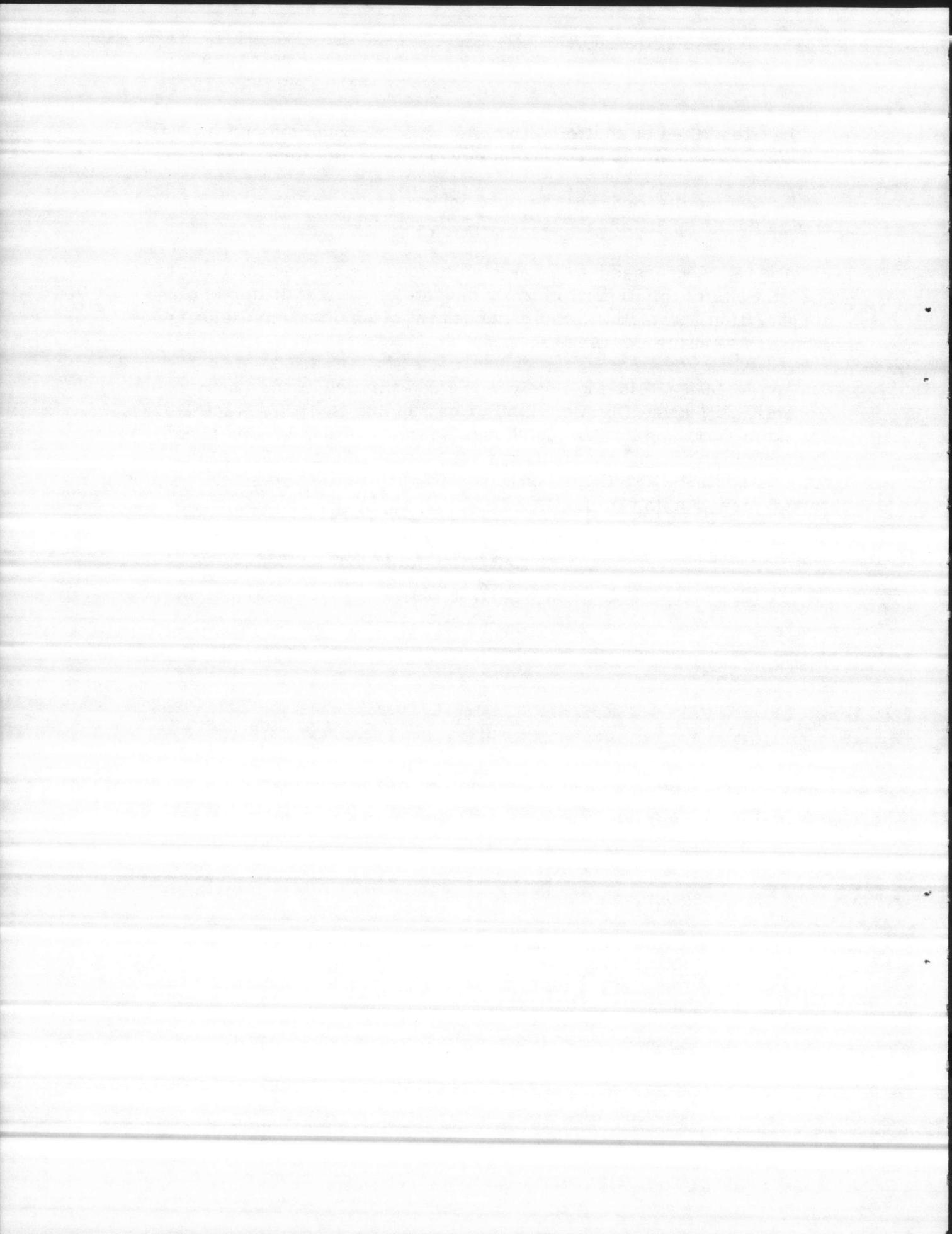
8. Action. Addressees are requested to familiarize themselves with the contents of this order to further develop and foster attitudes of conservation, protection, and enhancement of environmental assets throughout Marine Corps Base.

9. Applicability. Having received the concurrence of the Commanding General, 2d Marine Division, FMF; Commanding General, Force Troops, FMFLant; Commanding Officer, Naval Hospital, Camp Lejeune; and Commanding Officer, Marine Corps Air Station (H), New River, 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

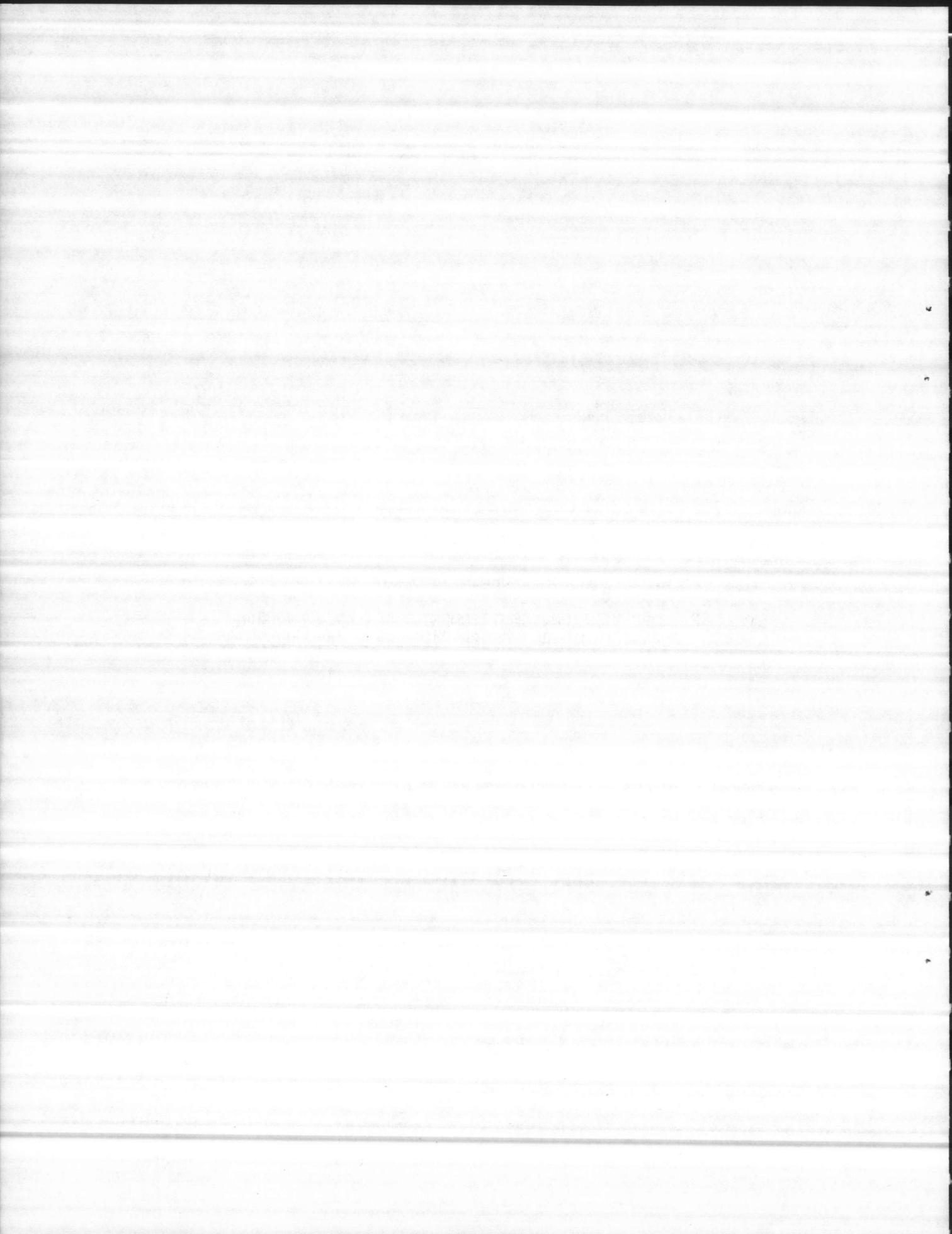
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APPENDIX B

BASE ORDER 11090.1A

SPILL PREVENTION, CONTAINMENT AND COUNTERMEASURE  
PLAN FOR OIL AND OTHER HAZARDOUS SUBSTANCES





UNITED STATES MARINE CORPS  
MARINE CORPS BASE  
CAMP LEJEUNE, NORTH CAROLINA 28542

BO 11090.1A  
MAIN/JIW/th  
31 Dec 1975

BASE ORDER 11090.1A

From: Commanding General  
To: Distribution List

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

Ref: (a) MCO P11000.8A  
(b) Engineering Report for SPCC Plan (NOTAL)  
(c) BO 5100.13B  
(d) NAVAIR 06-5-502 (NOTAL)  
(e) TM-066 74A-15 (NOTAL)

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/Marine Corps Air Station (Helicopter), New River Complex and assist the Commanding General in the implementation of reference (a) with respect to pollution abatement.

2. Cancellation. BO 11090.1

3. 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 from installations, equipment, vehicles and other Marine Corps facilities. This base and air station will conform to the provisions of the National Environmental Policy Act and 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, regardless of whether the acts pertain specifically to naval vessels and shore activities. The intent of this policy is to carry out the various measures of references (a) and (b) and prohibit the discharge of all oil, oily mixtures and other hazardous substances except in designated areas by qualified personnel.

4. Responsibilities

a. Base Maintenance Officer is charged with the overall responsibility of carrying out the various measures of this order. Natural Resources and Environmental Affairs 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.

BO 11090.1A  
31 Dec 1975

b. Commanding Officers/Area Commanders are charged with the responsibility of preventing oil spills or other hazardous substances within their own areas 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 Natural Resources and Environmental Affairs Director or his representative. The Crash Crew Officer or his senior representative will act as the OSC in spill areas aboard MCAS(H), New River in aircraft operating areas.

5. Action. Discharge of oils or other hazardous substances on the ground, 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. Commanding Officers/Area Commanders shall conform to the standards and criteria as set forth in enclosures (1) and (2).

6. Applicability. Having received the concurrence of the Commanding Generals, 2d Marine Division, FMF and Force Troops/2d Force Service Support Group, FMFLANT, and the Commanding Officers of Naval Regional Medical Center, Naval Medical Field Research Laboratory, Naval Regional Dental Center, this order is applicable to those Commands. Since the Commander, Marine Corps Air Bases East likewise concurs, it is further applicable to the Marine Corps Air Station (H), New River, Jacksonville, North Carolina.

*A. I. Fox*  
G. C. FOX  
Chief of Staff

DISTRIBUTION: "A"

SPILL PREVENTION AND CONTAINMENT PLAN

- 12
1. Oil spill prevention is the responsibility of all organizations/activities. Each Area 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, lube grease, JP-4, JP-5, hydraulic fluid, paint thinner, organic solvents, deteriorated cleaning solutions, poisonous chemical waste and corrosive acids through any drainage system (either surface or subterranean) is prohibited. Waste oil, kerosene, JP-4, JP-5, hydraulic fluid and paint thinner will be disposed of in accordance with paragraph nine below. Lube grease will be collected and disposed of at the sanitary landfill. For disposal of contaminated gasoline contact Natural Resources and Environmental Affairs Director (telephone 5003). Other substances mentioned herein will be disposed of as outlined in reference (c).
  4. Personnel wishing to change oil in privately owned vehicles will use facilities at Base Special Services Auto Hobby Shop, Building 1120, Hadnot Point or Special Services Auto Hobby Shop, Building 828, Marine Corps Air Station (H), New River or put the waste oil in one of the collection tanks found aboard base. At no time will oil be drained from a vehicle on the deck, into a storm drain or any other drainage system.
  5. 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 Defense Property Disposal Agency Office Lejeune, Building 906. Other containers will be disposed of at the sanitary landfill, or prepared for recycling if practical.
  6. Oil and gasoline storage tanks larger than 550-gallon capacity will be properly diked. The dike will be properly equipped with a 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. From time to time organic tactical refueling systems are installed and used on base. Installation of this equipment must be approved by the Base Maintenance Officer. Fuel stored in these tactical refueling systems will be properly diked in accordance with reference (d) or (e).

ENCLOSURE (1)

8. Certain units aboard base and the air station use tankers for temporary storage of fuel. In the past spillage has occurred around these vehicles during recirculation operations and while transferring fuel. To help alleviate this problem hoses, nozzles, and other equipment will be checked for serviceability. Before recirculation operations begin, nozzles will be secured in the tanker. Pump or truck operators will stay with the vehicle while loading, unloading, or recirculating fuel. Catch buckets will be placed under hose connections to tank trucks before connecting or disconnecting hose to prevent minor spills. Tankers containing fuel will be parked in a position that will prevent any spilled fuel from entering ditches and storm drains.
9. 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 5909) and a truck will be dispatched to remove the oil. 55-gallon drums will be used for temporary storage of waste oil in emergency situations.
10. Waste petroleum products generated during field exercises will be stored in 55-gallon drums. For disposal instructions contact Natural Resources and Environmental Affairs Director, Base Maintenance Department (telephone 5003). At no time will these products be poured on the ground.

CONTINGENCY 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. If possible, take necessary steps to contain the spill.
  - c. Notify Natural Resources and Environmental Affairs 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 Natural Resources and Environmental Affairs 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 water including between 3 and 12 miles from the coast will be made immediately by the Natural Resources and Environmental Affairs 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).

ENCLOSURE (2)

BO 11090.1A  
31 Dec 1975

In every case, a report of the incident will be made to the Commandant of the Marine Corps (Code LFF). 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.

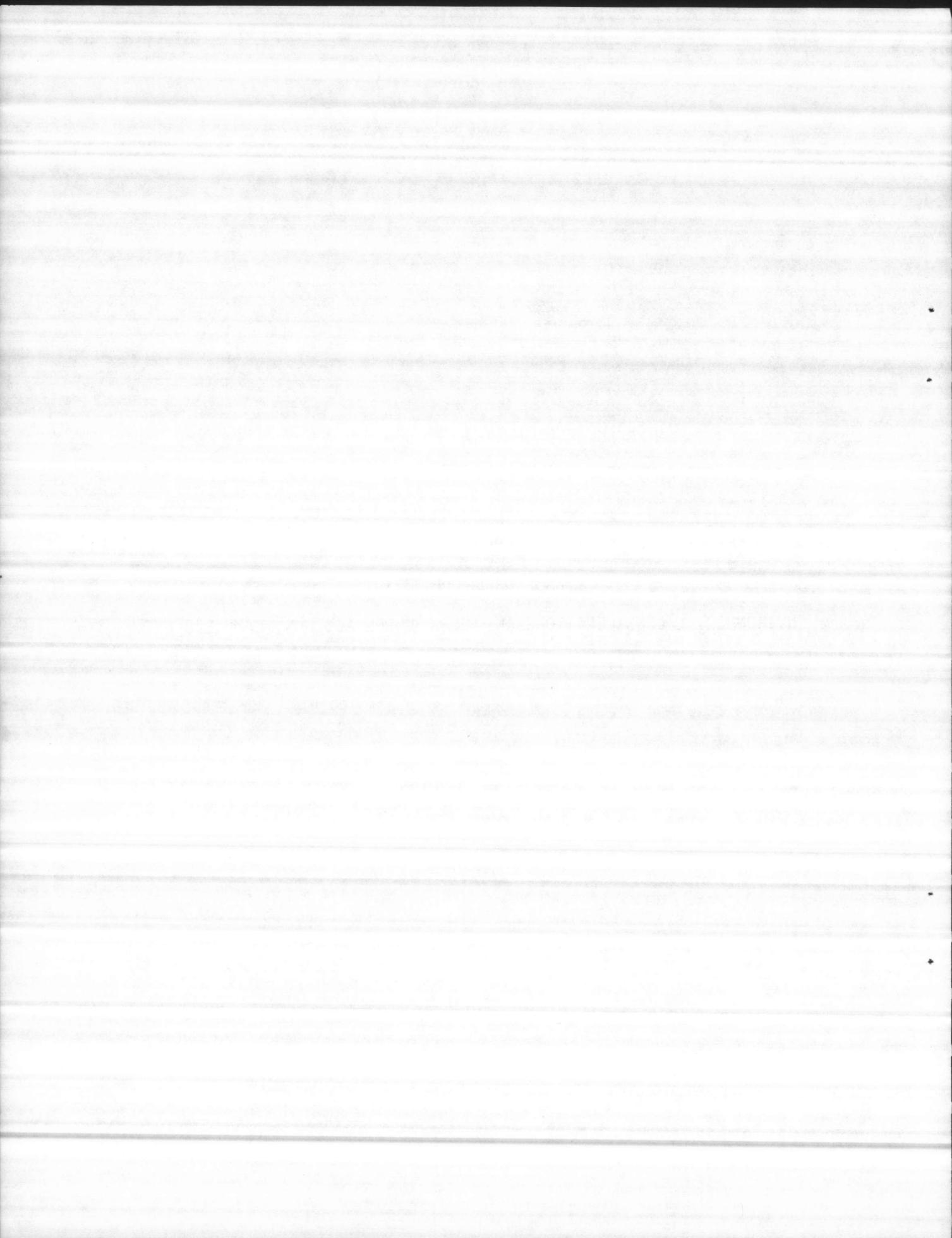
5. Small Spills. Occurrence of small gasoline and fuel oil spills on refueling aprons are very common. Gasoline and fuel oil spilled on refueling aprons will not be flushed into any ditch or storm sewer. To reduce the pollution and fire hazard, the spill will be covered with sand obtained from a nearby 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 C

BASE ORDER 11000.1

ENVIRONMENTAL CONSIDERATIONS IN MARINE CORPS ACTIONS, CAMP LEJEUNE





UNITED STATES MARINE CORPS  
MARINE CORPS BASE  
CAMP LEJEUNE, NORTH CAROLINA 28542

IN REPLY REFER TO  
BO 11000.1  
MAIN/CFR/th  
23 Jan 1976  
CH 1 - 1 Sep 76

BASE ORDER 11000.1 W/CH 1

From: Commanding General  
To: Distribution List

Subj: Environmental Considerations in Marine Corps Actions, Camp Lejeune

Ref: (a) MCO P11000.8A  
(b) BO 11015.2F

Encl: (1) Instructions for Preparation of Environmental Impact Statements

1. Purpose. To implement environmental program requirements as required by the National Environmental Policy Act (NEPA) and as provided by references (a) and (b).

2. Policy. It is the continuing policy of the Commanding General that:

a. All actions shall be planned, initiated and carried out in a manner to avoid adverse effects on the quality of the environment insofar as practicable.

b. At the inception of an action, an assessment of the probable environmental impact of the action shall be made by the action sponsor.

c. A candidate environmental impact statement shall be prepared and submitted to the Commandant of the Marine Corps (Code LFF) if the preceding assessment indicates a significant adverse environmental effect or potential for controversy.

3. Background

a. The NEPA establishes as Federal policy the use of: "all practicable means and measures . . . to foster and promote the general welfare, to create and maintain conditions under which man and nature can exist in productive harmony . . ."

b. To this end, Section 102 of the NEPA states: ". . . to the fullest extent possible . . . all agencies of the Federal Government shall (systematically balance environmental amenities and values with economic and technical considerations) . . . (and shall) include in every recommendation or report on proposals for legislation and other major Federal actions

significantly affecting the quality of the human environment; a detailed statement by the responsible official on . . . the environmental impact of the proposed action . . ."

4. Definitions. For the purpose of this order, the following definitions are provided:

a. Action - Includes, but is not limited to, policies, regulations, projects, programs and continuing acts.

b. Environmental Impact Assessment (EIA) - An initial evaluation of any action's impact on the environment by the action sponsor.

c. Candidate Environmental Impact Statement (CEIS) - Those written assessments of actions considered by the sponsor to have potential either for significant effect on the environment or to be highly controversial with regard to environmental effects and which have been submitted to the Commandant of the Marine Corps.

d. Draft Environmental Impact Statement (DEIS) - Those candidate statements which have been:

(1) Reviewed by the Marine Corps Environmental Impact Statement Review Board.

(2) Approved by the Commandant of the Marine Corps and the Secretary of the Navy.

(3) Forwarded by the Secretary of the Navy to the CEQ and other appropriate agencies for review and comment prior to the completion of a final EIS.

e. Final Environmental Impact Statement - The completed statement which incorporates all pertinent comments and information and is submitted to the CEQ as an evaluation of environmental impact for a particular action.

5. Requirements

a. Action sponsors will:

(1) Prepare an environmental impact assessment on all proposed and ongoing actions with respect to environmental effects.

(2) Modify proposed or ongoing actions so as to reduce adverse environmental effects to the extent possible.

(3) Where potential for environmental impact or controversy is determined by the Environmental Impact Review Board, prepare a CEIS for submission to the Commandant of the Marine Corps (Code LFF), via Commanding General, Marine Corps Base, Camp Lejeune, North Carolina.

- 13
- \* (4) Maintain cost records directly related and identifiable to preparation and processing environmental impact assessments as directed by reference (a).
  - \* (5) Will provide the Chairman of the Environmental Impact Review Board with a list of all environmental impact assessments to be prepared or under preparation.
  - \* (6) Will complete assessments in a timely manner and forward same to the Chairman, Environmental Impact Review Board.

b. Procedures for preparation of environmental impact assessments and/or statements are contained in enclosure (1). Detailed information and assistance may be obtained from the Natural Resources and Environmental Affairs Division, Base Maintenance Department (telephone 5003).

c. The Environmental Impact Review Board, as established in reference (b), has the following responsibilities:

(1) Make available to the Commanding General the broad environmental guidance prescribed by NEPA and assist him in understanding the responsibilities assigned to him by law.

(2) Receives and reviews environmental impact assessments and determines if the potential for significant environmental impact or controversy exists.

(3) Minutes of the board meeting shall be maintained by the Chairman and copies of written assessments reviewed by the board shall be made a part of the minutes. If adverse environmental impact or controversy exists, appropriate additional action will be recommended to the Commanding General, Marine Corps Base.

d. Tenant commands and Marine Corps Air Station (H), New River will be considered as action sponsors and will utilize the Environmental Impact Review Board as provided herein.

- \* 6. Special Requirements - Military Construction (MCON) Line Items. A written assessment discussing points outlined by reference (a) will be prepared for review by the Environmental Impact Review Board for all MCON line items except for family housing projects and projects under sponsorship of other federal agencies on Marine Corps Base.
- \* 7. Responsibilities
  - a. Base Maintenance Officer

BO 11000.1  
23 Jan 1976

(1) Provides and coordinates surveys and identification of pollution abatement deficiencies and interpretation of activity compliance with environmental standards.

(2) Reviews Navy Environmental Protection Support Service (NEPSS) reproduced pollution abatement reports and makes necessary changes.

b. Public Works Officer. Maintains a pollution abatement report file on active projects and prepares new project reports on planned pollution abatement projects and submits same to the Commandant of the Marine Corps.

c. Chairman, Environmental Impact Review Board. Responsibilities are established by reference (b).

8. Applicability. Having received the concurrence of the Commanding Generals, 2d Marine Division (Rein), FMF and Force Troops/2d Force Service Support Group, FMFLANT, and the Commanding Officers of Naval Regional Medical Center and Naval Regional Dental Center, this order is applicable to those commands. Since the Commander, Marine Corps Air Bases East likewise concurs, it is further applicable to the Marine Corps Air Station (H), New River, Jacksonville, North Carolina.

*G. C. Fox*

G. C. FOX  
Chief of Staff

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BMaintO (5)

INSTRUCTIONS FOR PREPARATION OF ENVIRONMENTAL IMPACT STATEMENTS

The body of an environmental statement shall contain the following separable sections with the length of each being adequate to identify and develop the required information:

1. Introduction

a. Project Description. A description of a proposed action, a statement of its purposes, and a description of the environment affected, including information, summary technical data, and maps and diagrams where relevant, adequate to permit an assessment of potential environmental impact by commenting agencies and the public. Highly technical and specialized analyses and data should be avoided in the body of the impact statement. Such materials should be attached as appendixes with adequate bibliography references.

b. Existing Environment of Proposed Site. The statement should describe the environment of the area affected as it exists prior to a proposed action, including other Federal activities in the area affected by the proposed action which are related to the proposed action. The interrelationships and cumulative environmental impacts of the proposed action and other related Federal projects shall be presented in the statement. The amount of detail provided in such descriptions should be commensurate with the extent and expected impact of the action, and with the amount of information required at the particular level of decision-making (planning, feasibility, design, etc.). In order to ensure accurate descriptions and environmental assessments, site visits should be made, where feasible. Commands should also take care to identify, as appropriate, population and growth characteristics of the affected area and any population and growth assumptions used to justify the project or program or to determine secondary population and growth impacts resulting from the proposed action and its alternatives. In discussing these population aspects, consideration should be given to using the rates of growth in the region of the project contained in the projection compiled for the Water Resources Council by the Bureau of Economic Analysis of the Department of Commerce and the Economic Research Service of the Department of Agriculture (the "OBERS" projection). In any event, it is essential that the sources of data used to identify, quantify, or evaluate any and all environmental consequences be expressly noted.

2. Relationship of Proposed Action to Land Use Plans, Policies and Controls for the Affected Area. This requires a discussion of how the proposed action may conform or conflict with the objectives and specific terms of approved or proposed Federal, State, and local land use plans, policies, and controls, if any, for the area affected, including those developed in response to the Clean Air Act or the Federal Water Pollution Control Act Amendments of 1972. Where a conflict or inconsistency exists, the statement should describe the extent to which the command has reconciled

ENCLOSURE (1)

23 Jan 1976

its proposed action with the plan, policy, or control, and the reasons why they decided to proceed notwithstanding the absence of full reconciliation.

### 3. Probable Impact of the Proposed Action on the Environment

a. Assessment of the positive and negative effects of the proposed action as it affects both the national and international environment. The attention given to different environmental factors will vary according to the nature, scale, and location of proposed actions. Primary attention should be given in the statement to discussing those factors most evidently impacted by the proposed action.

b. Secondary or indirect, as well as primary or direct, consequences for the environment should be included in the analysis. Many major Federal actions, in particular those that involve the construction (e.g., new installations, joint use of an installation, etc.), stimulate or induce secondary effects, in the form of associated investments and changed patterns of social and economic activities. Such secondary effects, through their impacts on existing community facilities and activities through inducing new facilities and activities, or through changes in natural conditions, may often be even more substantial than the primary effects of the original action itself. For example, the effects of the proposed action on population and growth impacts should be estimated if expected to be significant and an evaluation made of the effect of any possible change in population patterns or growth upon the resource base, including land use, water, and public services, of the area in question.

4. Alternatives. Alternatives to the proposed action, including, where relevant, those not within the existing authority of the responsible command. A rigorous exploration and objective evaluation of the environmental impacts of all reasonable alternative actions, particularly those that might enhance environmental quality or avoid some or all of the adverse environmental effects, is essential. Sufficient analysis of such alternatives and their environmental benefits, costs, and risks should accompany the proposed action through the review process in order not to foreclose prematurely options which might enhance environmental quality or have less detrimental effects. Examples of such alternatives include the alternative of taking no action or of postponing action pending further study; alternatives requiring actions of a significantly different nature which would provide similar benefits with different environmental impacts; alternatives related to different designs or details of the proposed action which would present different environmental impacts (e.g. cooling ponds versus cooling towers for a powerplant or alternatives that will significantly conserve energy); alternative measures to provide for compensation of fish and wildlife losses, including the acquisition of land, waters, and interests therein.

5. Any Probable Adverse Environmental Effects which cannot be Avoided should the Proposal be Implemented. This should be a brief section summarizing in one place those effects discussed in paragraph three, preceding, which are adverse and unavoidable under the proposed action. Included for purposes of contrast should be a clear statement of how other avoidable adverse effects discussed in paragraph two, preceding, will be mitigated.
6. The Relationship Between Local Short-term Use of Man's Environment and the Maintenance and Enhancement of Long-term Productivity. This section should contain a brief discussion of the extent to which the proposed action involved tradeoffs between short-term environmental gains and the expense of long-term losses, or vice versa, and a discussion of the extent to which the proposed action forecloses future options. In this context, short-term and long-term do not refer to any fixed time periods but should be viewed in terms of the environmentally significant consequences of the proposed action.
7. Any Irreversible and Irretrievable Commitments of Resources that would be Involved in the Proposed Action should it be Implemented. In this section identify from a survey of unavoidable impacts in paragraph five, preceding, the extent to which the action irreversibly curtails the range of potential uses of the environment. Avoid construing the term "resources" to mean only the labor and materials devoted to an action. "Resources" also means the natural cultural resources committed to loss or destruction by the action.
8. Considerations that offset the Adverse Environmental Affects. Indicate the extent to which these stated countervailing benefits could be realized by following reasonable alternatives to the proposed action (as identified in paragraph four, preceding). In this connection, cost benefit analysis of proposed actions should be attached, or summaries thereof, to the environmental impact statement and should clearly indicate the extent to which environmental risks have not been reflected in such analysis.
9. Summary Sheet. The environmental statement shall be accompanied by a summary sheet which must provide the following information:
  - a. Indicate whether the statement is draft or final.
  - b. Give the name of the action and indicate whether it is an administrative or legislative action.
  - c. Provide a brief description of the action and indicate what geographical region (states and counties) is particularly affected.
  - d. Summarize the environmental impact and adverse environmental effects.
  - e. List alternatives considered.

ENCLOSURE (1)

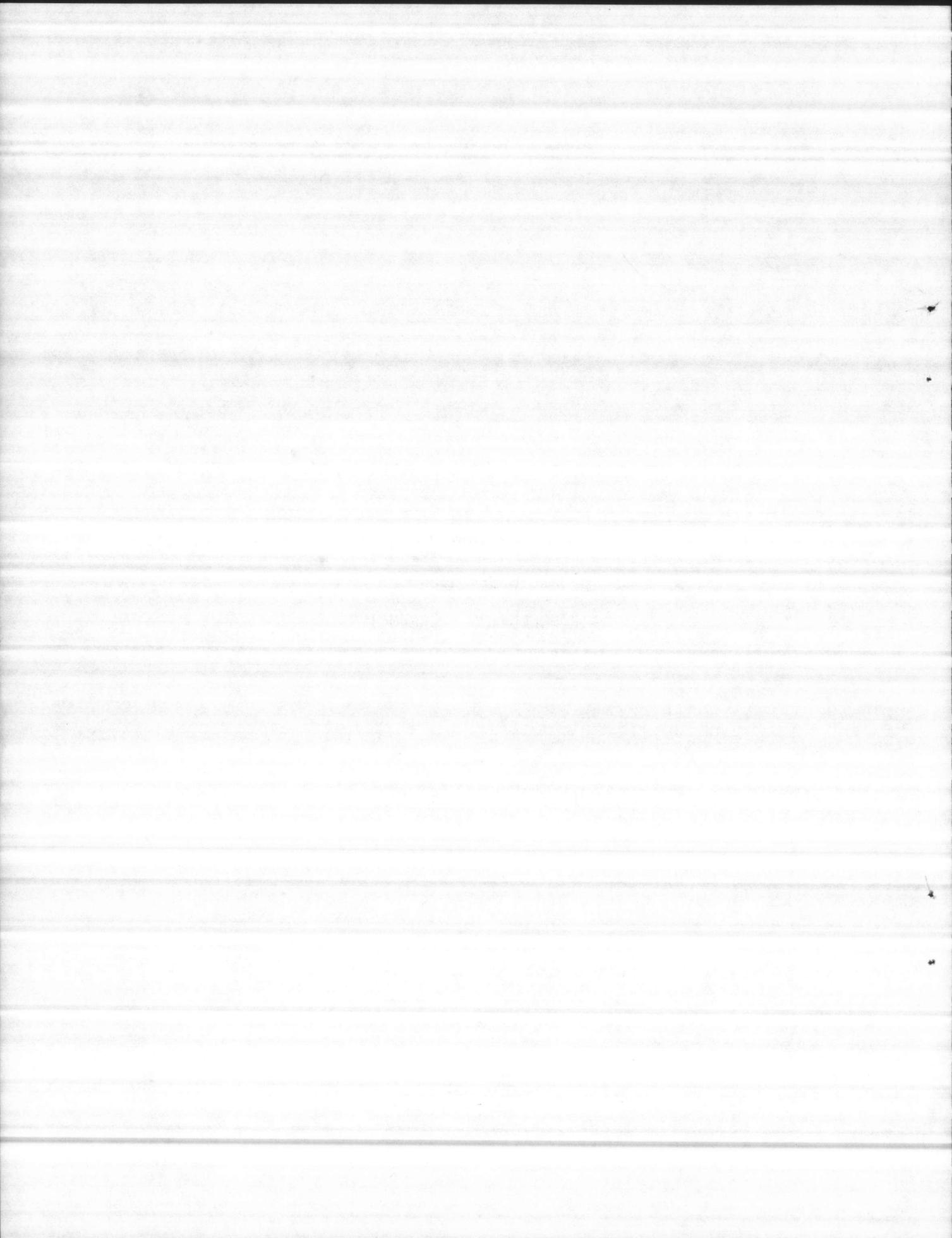
BO 11000.1  
23 Jan 1976

f. For draft statements, list all Federal, State and local agencies from which comments have been requested.

g. For final statements, list all Federal, State, and local agencies and other sources from which written comments have been received.

h. Provide the dates the draft statement and final statement were made available to the CEQ and the public.

APPENDIX D  
BASE ORDER 11090.2A  
AIR POLLUTION EMERGENCIES





UNITED STATES MARINE CORPS  
MARINE CORPS BASE  
CAMP LEJEUNE, NORTH CAROLINA 28542

IN REPLY REFER TO  
BO 11090.2A  
MAIN/WAN/th  
17 May 1977

BASE ORDER 11090.2A

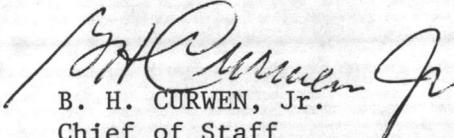
From: Commanding General  
To: Distribution List

Subj: Air Pollution Emergencies

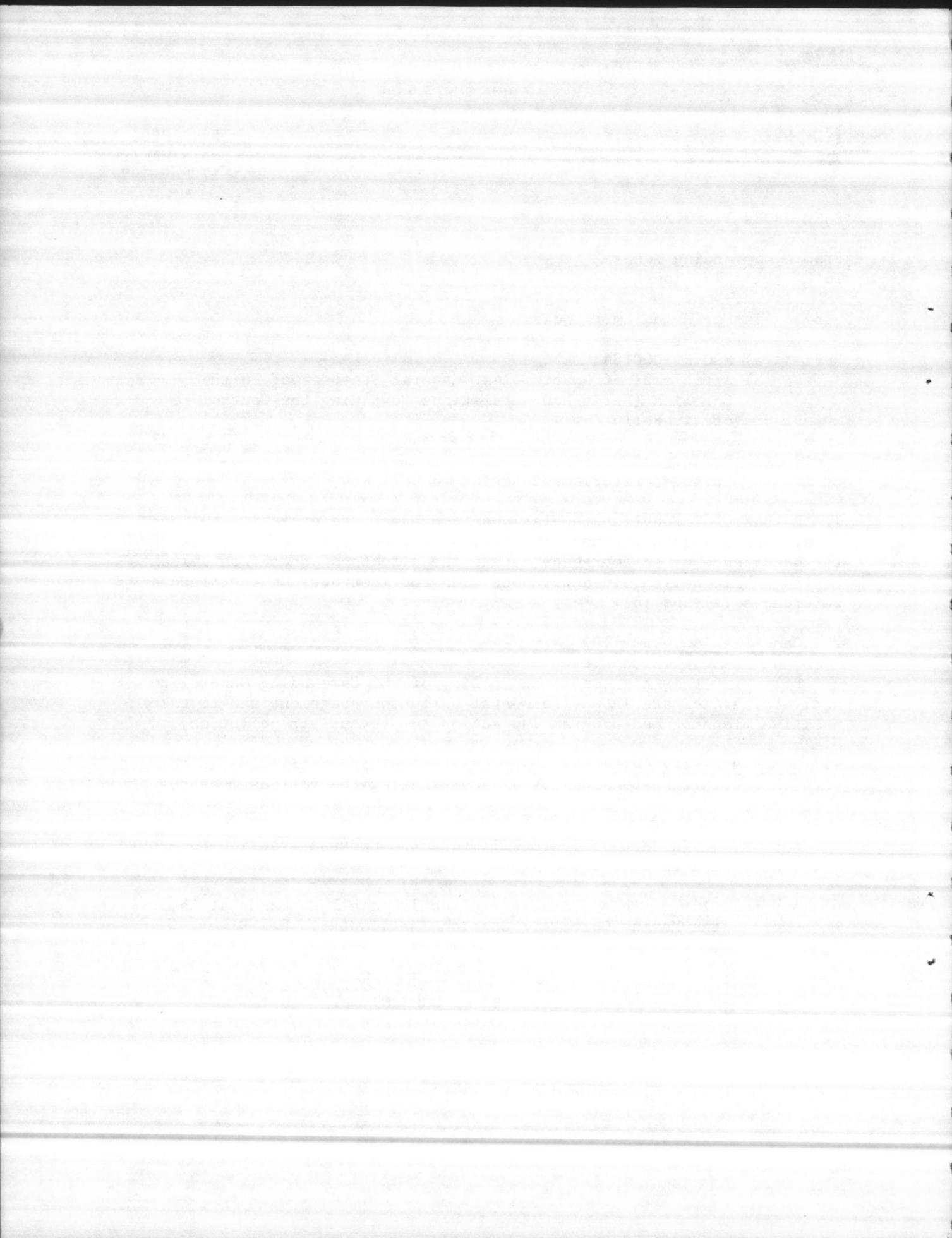
Ref: (a) MCO P11000.8A  
(b) Article 21 of Chapter 143, General Statutes of North Carolina (Rules and Regulations Governing the Control of Air Pollution)

Encl: (1) Definitions  
(2) Episode Criteria and Action to be Taken

1. Purpose. To publish regulations to prevent the excessive buildup of air contaminants during air pollution episodes, thereby preventing the occurrence of an emergency due to the effects of these contaminants on the public health, in accordance with the instructions contained in references (a) and (b).
2. Cancellation. BO 11090.2.
3. Policy. It is the continuing policy of the Commanding General to actively participate in environmental pollution abatement and to take positive planning and programming action to prevent air pollution.
4. Responsibility. The Assistant Chief of Staff, Facilities is charged with the overall responsibility of coordinating the various measures of this Order.
5. Action. Cognizant officers will take the necessary action to ensure compliance with this Order.
6. Applicability. This Order is applicable to all Commands at Camp Lejeune and the Marine Corps Air Station (Helicopter), New River.

  
B. H. CURWEN, Jr.  
Chief of Staff

DISTRIBUTION: "A"

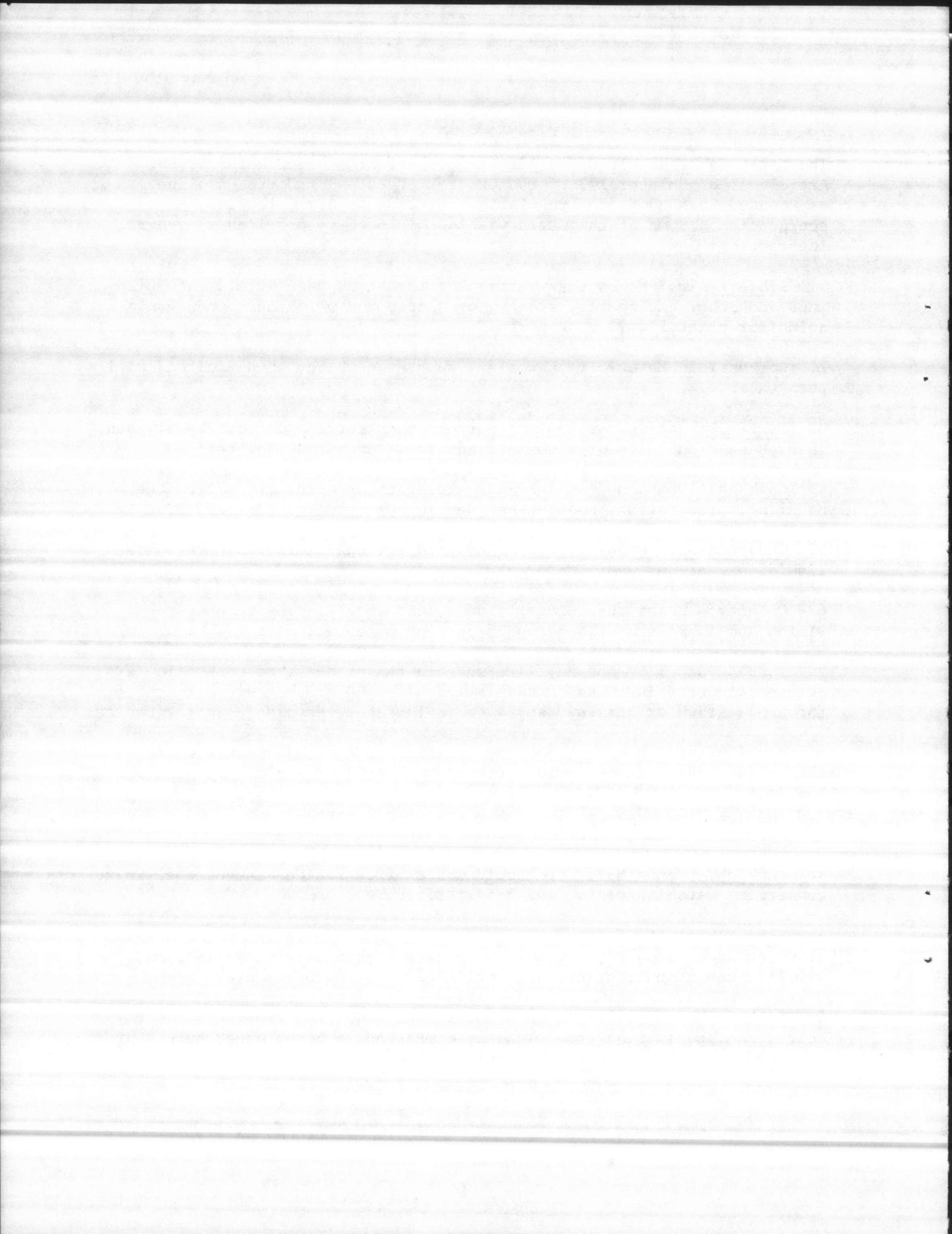


DEFINITIONS

The North Carolina Water and Air Resources Board, under authority of Article 21 of Chapter 143 of the General Statutes of North Carolina, as amended, has adopted a regulation relating to air pollution emergencies. Some of the terms within this Act are provided as general information:

1. Ambient Air: Means that portion of the atmosphere outside of buildings and other enclosures, stacks, or ducts, and which surrounds human, animal or plant life, or property.
2. Combustible Material: Means any substance which, when ignited, will burn in air.
3. Dustfall: Means particulate matter which settles out of the air and is expressed in units of grams per square meter per 30-day period.
4. Garbage: Means any animal and vegetable waste resulting from the handling, preparation, cooking and serving of food.
5. Incinerator: Means a device designed and engineered to burn solid, liquid, or gaseous waste material.
6. Opacity: Means that property of a substance tending to obscure vision and is measured in terms of percent obscuration.
7. Open Burning: Means any fire wherein the products of combustion are emitted directly into the outdoor atmosphere and are not directed thereto through a stack or chimney, approved incinerator, or other similar device.
8. Particulate Matter: Means any material, except uncombined water, that exists in a finely divided form as a liquid or a solid at standard conditions.
9. Refuse: Means any garbage, rubbish and trade waste.
10. Rubbish: Means solid or liquid wastes from residences and dwellings, commercial establishments, and institutions.
11. Rural Area: Means any area which is primarily devoted to, but not necessarily limited to, the following uses: agriculture, recreation, wildlife management, state park, or any area of natural cover.
12. Smoke: Means small gas-borne particles resulting from incomplete combustion, consisting predominantly of carbon, ash and other burned or unburned residue of combustible materials that form a visible plume.

ENCLOSURE (1)



EPISODE CRITERIA AND ACTION TO BE TAKEN

1. Conditions justifying the proclamation of an air pollution alert, air pollution warning, or air pollution emergency shall be deemed to exist whenever the accumulation of air contaminants in any place is attaining, or has attained, levels which could, if such levels are sustained or exceeded, lead to a threat to the health of the public. The Assistant Director, Department of Natural and Economic Resources, Office of Water and Air Resources, State of North Carolina will, via the news media, radio, television, etc., inform the State as to such episodes and the area included. Normally, such announcements will be in conjunction with the National Weather Service Advisory that an atmospheric stagnation advisory is in effect or the equivalent local forecast of stagnant atmospheric conditions exist. Normally, these conditions will occur during the summer months, if at all, in this area.
2. The atmospheric stagnation advisories are:
  - a. Air Pollution Alert - the first level of contamination.
  - b. Air Pollution Warning - the second level, indicating conditions are continuing to degrade.
  - c. Air Pollution Emergency - the third level, indicating that stagnation has become a public health hazard.
3. At such time as an atmospheric stagnation advisory is announced, the cognizant officers shall take such action as follows:
  - a. Air Pollution Alert. The alert level is that concentration of pollutant at which first stage control actions are to be taken.
    - (1) There shall be no open burning of waste, vegetation, refuse or debris in any form.
    - (2) The use of incinerators for the disposal of any form of solid waste shall be limited to the hours between 1200 and 1600.
    - (3) All unnecessary operations of motor vehicles shall be curtailed.
    - (4) Coal or oil-fired process steam generating facilities shall:
      - (a) Make maximum use of midday (1200-1600) atmospheric turbulence for boiler lancing and soot blowing.
      - (b) Substantially reduce steam load demands consistent with continuing plant operations.

ENCLOSURE (2)

b. Air Pollution Warning. The warning level indicates that air quality is continuing to degrade and that additional abatement actions are necessary. If announced first, carry out the instructions under Air Pollution Alert, and then the following:

- (1) Persons operating motor vehicles shall minimize such use through car pools.
- (2) All diesel burning vehicles shall cease to be operated; i.e., only nontactical vehicles burning gasoline will be operated.
- (3) All firing of weapons shall cease, to include the Rifle Range operations, and such field firing exercises that may be in progress.
- (4) Base Maintenance will prepare to close all steam valves except those providing steam to dining facilities; i.e., reducing steam plant operations to minimum requirements.

c. Air Pollution Emergency. The emergency level indicates that air quality is continuing to degrade to a level that should never be reached and that the most stringent control actions are necessary. If announced first, carry out those provisions of Air Pollution Alert/Warning, in addition to the following:

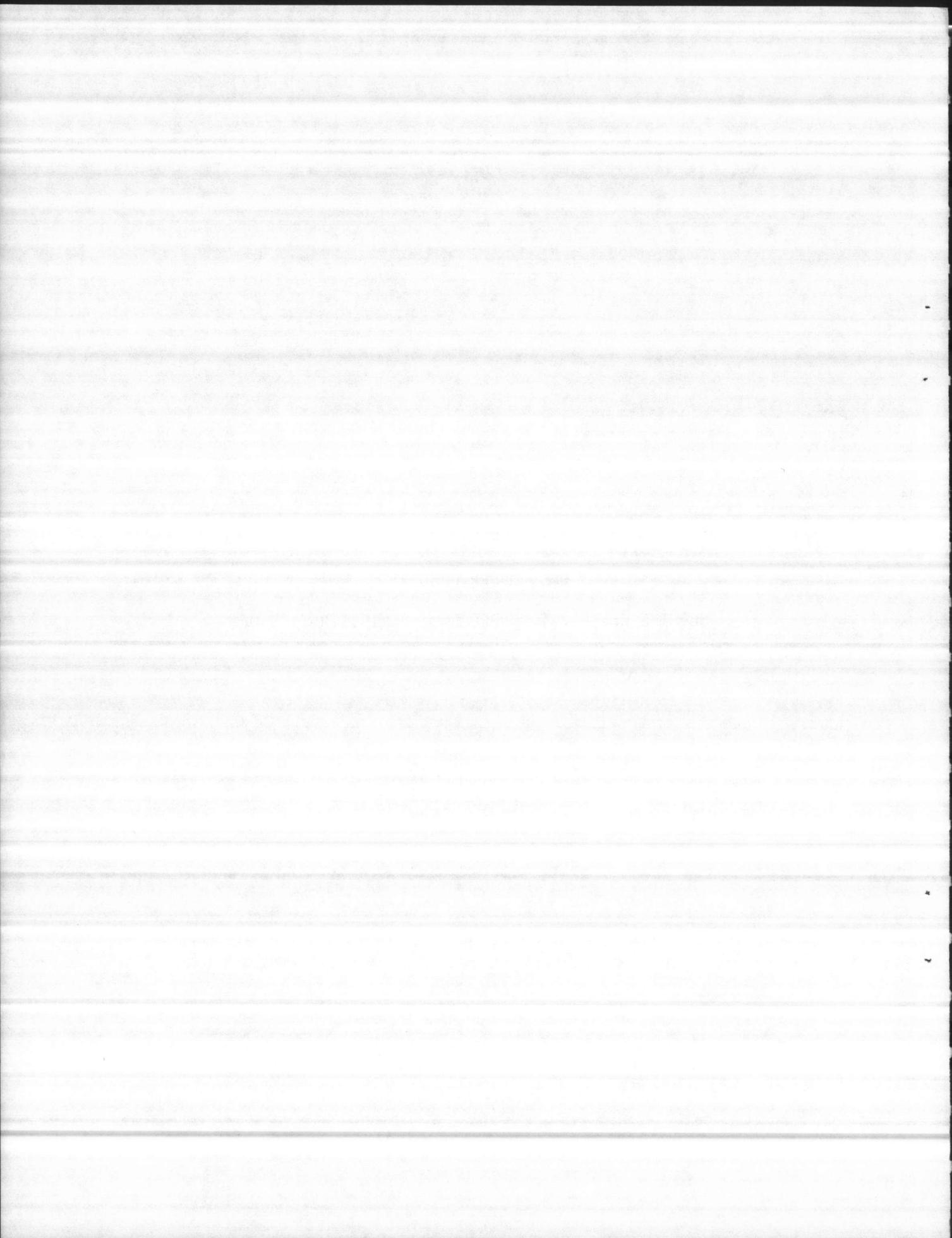
- (1) The use of motor vehicles is prohibited, except in emergencies with the approval of the Commanding General, Marine Corps Base; the Commanding General, 2d Marine Division (Rein), FMF; the Commanding General, Force Troops/2d Force Service Support Group, FMFLant; the Commanding Officer, Marine Corps Air Station (H), New River; and the Commanding Officers, Naval Regional Medical Center and Naval Regional Dental Center, and then only with the approval of the local or state police.
- (2) Coal or oil-fired process steam generation facilities will be reduced to absolute necessities consistent with preventing equipment damage, maintaining steam to dining facilities only.
- (3) All construction work involving grading or other operations which generate dust shall cease.
- (4) All Commissary, Marine Corps Exchange and Special Services facilities will be closed.
- (5) All dependent elementary, secondary, high and service schools shall close.
- (6) Complete elimination of the use of incinerators.

d. Termination. Once declared, any status reached by application of the above criteria will remain in effect until the criteria for that level is no longer met. At such time, the next lower status will be assumed.

APPENDIX E

BASE ORDER 6260.2A

HEARING CONSERVATION PROGRAM; ADMINISTRATION OF





UNITED STATES MARINE CORPS  
MARINE CORPS BASE  
CAMP LEJEUNE, NORTH CAROLINA 28542

BO 6260.2A  
ADJ/GJM/cac  
22 Jun 1977

BASE ORDER 6260.2A

From: Commanding General  
To: Distribution List

Subj: Hearing Conservation Program; administration of

Ref: (a) MCO 6260.1B  
(b) BUMEDINST 6260.6B

Encl: (1) List of Approved Hearing Protection Devices  
(2) Detailed Information on Audiometric Testing,  
Noise Reduction and Noise Measurement  
(3) List of Noise Hazardous Labels and Decals

1. Purpose. To provide guidance for the establishment and administration of a hearing conservation program, as required by references (a) and (b), for all military and civilian personnel at Camp Lejeune, North Carolina.

2. Cancellation. BO 6260.2.

3. Background. Potentially harmful noise levels are probably the most frequent occupational hazard encountered by military and civilian personnel. Noise at any level above 90dBA (decibels, "A" scale) is regarded as potentially dangerous to human hearing. Hearing loss may result from continuous or intermittent exposure to loud noises such as those created by aircraft, industrial activities, gunfire, rockets and other ordnance. The seriousness of these exposures cannot be over-emphasized. Hundreds of thousands of dollars are awarded each year in compensation for wholly preventable hearing loss in both civilian and military personnel.

4. Scope. The Hearing Conservation Program at Camp Lejeune shall consist of:

- a. Surveys to determine noise hazardous areas.
- b. Marking hazardous areas with appropriate noise hazard warning labels and decals.

c. Employment of Architectural and Engineering design methods of noise reduction; i. e., substitution of equipment, process or material; modification of noise sources.

d. Periodic audiometric evaluation of personnel employed in noise hazardous areas.

e. Protection of personnel through the use of personal sound attenuation devices; i. e., ear plugs, circumaural muffs or helmets.

f. Education of personnel in regard to the inherent operational (noise) hazards that may be associated with the equipment they work with daily, and the steps that may be taken to properly protect and reduce, to the greatest extent possible, exposure to these noise hazards.

g. The provisions of this Order are applicable to all military and civilian personnel employed and/or stationed at Camp Lejeune, North Carolina.

## 5. Action

### a. Area Commanders and Commanding Officers

(1) Commanding Officers are responsible for keeping informed of all noise hazards within their area of responsibility and shall institute and/or enforce corrective measures for noise abatement and protection of personnel working in these areas.

(2) Effect liaison with the Commanding Officer, Naval Regional Medical Center (Attn: Occupational and Preventive Medicine Service) for noise measurement surveys of the working environment and recommendations regarding hearing conservation.

(3) Label areas and equipment which are designated as noise hazardous and enforce the mandatory requirement for the wearing of hearing protection devices for all personnel exposed to the noise hazard.

(4) Fund for and procure hearing protection devices as an organic supply item. Hearing protection devices available through supply channels are listed in enclosure (1).

(5) Insure proper sizing, fitting and issuance of permanent type hearing protection devices (insert type ear plugs) are done by qualified members of the local area medical department.

(6) Require that all personnel exposed to gunfire, blast and impulse type noises wear hearing protection devices during the entire length of the exposure.

(7) Ensure appropriate entries regarding size and date of initial issue of hearing protection devices are made in military member's health record and service record book.

(8) When the decision is made to assign a person to an area designated as noise hazardous, schedule them for a reference audiogram prior to their commencing work in the area. Follow-up audiometric tests will be scheduled three (03) months after they begin work in these areas and annually thereafter. Enclosure (2) provides more detailed information.

b. Commanding Officer, Naval Regional Medical Center

(1) Establish audiometric testing facilities throughout the Camp Lejeune complex commensurate with available personnel and resources.

(2) Conduct annual noise hazard surveys as required by reference (a) and provide assistance to unit commanders in the identification, evaluation, monitoring, documentation and surveillance of noise hazardous procedures and conditions existing throughout the Camp Lejeune complex and make recommendations for the reduction and/or elimination of noise hazards.

(3) Maintain liaison with, and provide support to, Area Commanders and Commanding Officers concerning hearing conservation matters which may affect employees and/or surrounding communities.

(4) Review plans for new facilities and modifications to existing facilities within the complex, to ensure that engineering and architectural designs properly consider and provide for adequate environmental controls for the elimination/reduction of noise hazards.

(5) Monitor the effectiveness of hearing protection equipment used in noise hazardous areas.

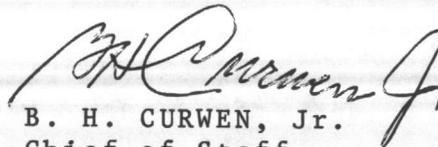
c. Civilian Personnel Officer

(1) Schedule audiometric tests on all civilian personnel receiving pre-employment and separation physical examinations.

(2) When the decision is made to assign civilian employees to an area designated as noise hazardous, schedule them for reference audiograms prior to beginning work, three (03) months after commencing work and annually thereafter.

d. Base Safety Officer. Ensure that all Base areas identified as noise hazardous are clearly labeled as noise hazardous. Labeling must indicate the mandatory use of hearing protection devices for all personnel exposed to the noise hazard. Enclosure (3) lists noise hazard warning labels available through the National Stock System.

6. Applicability. Having received the concurrence of the Commanding General, 2d Marine Division (Rein), FMF; the Commanding General, Force Troops/2d FSSG, FMFLANT; the Commanding Officer, MCAS(H), New River; the Commanding Officer, Naval Regional Medical Center; and the Commanding Officer, Naval Regional Dental Center, this Order is applicable to those commands.

  
B. H. CURWEN, Jr.  
Chief of Staff

DISTRIBUTION: "A"

LIST OF APPROVED HEARING PROTECTION DEVICES

Hearing Protection Devices available through supply channels:

- (1) Plug, Ear, Noise protection, (sized), 24s ("EAR DEFENDER" U-51R TYPE)
  - (a) NSN 6515-00-442-4765 Extra Small (White)
  - (b) NSN 6515-00-467-0085 Small (Green)
  - (c) NSN 6515-00-467-0089 Medium (Int. Orange)
  - (d) NSN 6515-00-442-4807 Large (Blue)
  - (e) NSN 6515-00-442-4813 Extra Large (Red)
- (2) Plug, Ear Noise Protection, (sized), 24s, ("COMFIT", Triple flange type)
  - (a) NSN 6515-00-442-4821 Small (Green)
  - (b) NSN 6515-00-442-4818 Medium (Int. Orange)
  - (c) NSN 6515-00-467-0092 Large (Blue)
- (3) NSN 6515-00-133-5416 Plug, Ear, Hearing Protection Cylindrical, Disposable 200s, Non-hardening Silicone ("Silaflex")
- (4) NSN 6515-00-137-6345 Plug, Ear, Hearing protection, Universal size, Yellow, 200 pair, Foam Plastic Insert ("EAR" or "Decidamp")
- (5) NSN 6515-00-299-8287 Case, Ear, Plugs (this case holds one pair of any of the above mentioned ear plugs)
- (6) NSN 6515-00-392-0726 Plug, Ear, Hearing protection, Universal size, Headband, Earcaps, ("Sound-Ban")
- (7) Ear Muffs. Listed below are the ear muffs available through regular supply channels:
  - (a) NSN 4240-00-759-3290 Aural Protector, Sound, 372-9AN/2, Circumaural Muffs, ("Straightaway Muffs")
  - (b) NSN 4240-00-674-5379 Replacement Filter, Dome (for 372-9AN/2)
  - (c) NSN 4240-00-979-4040 Replacement Seal, Dome, (for 372-9AN/2)
- (8) Ear Sizing Device. Listed below is the measuring device used to properly fit insert type ear plugs:
  - (a) NSN 6515-00-117-8552 Gauge, Earplug

DETAILED INFORMATION ON AUDIOMETRIC TESTING,  
NOISE REDUCTION, NOISE MEASUREMENT  
(EXCERPTED FROM MCO 6260.1B and BUMEDINST 6260.6B)

1. Audiometric Hearing Tests

a. Entrance and Separation Examinations. All military and civilian personnel who enter into or terminate service shall, to the extent feasible, receive audiometric examinations as a part of their entrance and separation physical examination. Tests shall be given by qualified medical department personnel in accordance with BUMEDINST 6260.6 series. The results of the test and all subsequent tests shall become a permanent part of the individual's health record. In addition, each person (civilian or military) assigned to duty involving exposure to high-intensity noise shall have a reference audiogram on file. This audiogram shall be clearly labeled "reference audiogram" and shall be recorded as such on a Standard Form 600 which shall remain permanently in the individual's health records.

b. Periodic Examination. The hearing of personnel shall be checked at the time of assignment to a noise hazardous area (90 dBA or above) if more than one (01) year has elapsed since the test in 1.a. above. Hearing of personnel assigned to a noise hazardous area shall be checked at the end of three (03) months and then reexamined annually, or as necessary whenever significant increases in noise levels occur in the designated area.

c. Personnel Showing Hearing Loss. When, as a result of a periodic examination, a threshold shift in hearing greater than 10dB at 2000 Hz or below or 15dB at 3000 Hz or above is noted, the person shall be considered as prone to hearing loss. A check shall be made to ensure these people are properly fitted with both ear plugs and muffs for double protection, or the duration of noise exposure should be decreased. They shall be reexamined within three (03) months. If the re-check audiogram shows a continuing lowering of hearing acuity, they shall be reassigned to work in a less noise hazardous area. The disposition of personnel showing loss of hearing should be decided on an individual basis. In general, the following audiometric change may be used as a guideline:

(1) Personnel showing threshold changes in excess of 25 dBA at any frequency through 3000 Hz should be re-checked in accordance with BUMEDINST 6260.6B. If changes persist, consultation, recommendations and disposition of personnel

should be decided in accordance with BUMEDINST 6260.6B.

2. Noise Reduction Measures. Noise reduction involved in the hearing conservation program involves major procedures as follows:

a. Personnel Protective Equipment

(1) Insert-type ear plugs or stoppers or circumaural-type muffs shall be worn by all personnel working in noise hazardous areas found to exceed 90 dBA. Where no sound communication is essential to job performance, workers in noise hazardous areas may be protected against noise damage by ear plugs. Where sound communication is essential for personnel in noise hazardous areas, circumaural muffs or sound attenuation helmet shall be provided. When the noise level exceeds 120 dBA, a combination of insert ear plugs and circumaural muffs should be worn.

(2) Military personnel shall be issued hearing protection (insert ear plugs) for permanent retention. Ear plugs should be carefully fitted by qualified members of the Medical Department, to each prospective user to ensure hearing protection and to gain a more general acceptance by those requiring protection. Fitting for recruits shall be accomplished during the initial physical examination at the recruit depot with the size recorded in each medical record. All other personnel should be fitted for protection prior to their exposure to potentially hazardous noise levels.

(3) Organizations, units and activities shall issue, as organizational property, hearing protection devices to all civilian personnel who work in high noise level areas. The Occupational Health Nurse or her representative will properly size, fit, and instruct patients in the proper use of insert-type ear plugs.

b. Noise Source Elimination. Noisy areas should be isolated when possible. It is often possible to reduce sound intensity by the installation of inexpensive sound baffles or sound absorbent materials. Where machinery is the primary source of possible noise hazards it may be possible to substantially reduce the hazard by the replacement of worn defective parts. Whenever feasible, the attenuation of noise shall be accomplished by engineering methods applicable to design and location of facilities and operation of such equipment and facilities.

### 3. Noise Measurement

a. A noise-level meter, and if considered necessary, an octave band analyzer, shall be utilized to determine where noise hazards exist and the effectiveness of noise-reduction measures.

b. In general, when the noise level approaches 90 dBA it becomes difficult to hear a spoken voice at a distance of one foot. This, and complaints of muffled hearing or ringing in the ears after working in noisy areas, should be a signal for supervisory personnel to request a sound level survey. The noise environment shall be analyzed by persons competent to perform the task. Requests for sound level surveys should be addressed in writing to the Commanding Officer, Naval Regional Medical Center (Attn: Chief, Occupational and Preventive Medicine Service), Camp Lejeune, North Carolina 28542.

c. Noise of impact, or impulse noises such as gunfire, cannot be accurately evaluated with a sound level meter. However, all personnel exposed to gunfire in training, or test situations and artillery fire, under any circumstances, shall wear hearing protection devices, regardless of the length of exposure.

d. High noise level environments and devices, including mobile support equipment where the noise level exceeds 90 dBA shall be clearly labeled as a noise hazard. Labeling will indicate the mandatory use of ear protection devices for all personnel exposed to the noise hazard.

4. Funding. Costs of providing required facilities, instrumentation, and personnel protective equipment to implement this program is to be accomplished under regular operation and maintenance funds available to unit commanders involved.

BO 6260.2A  
22 Jun 1977

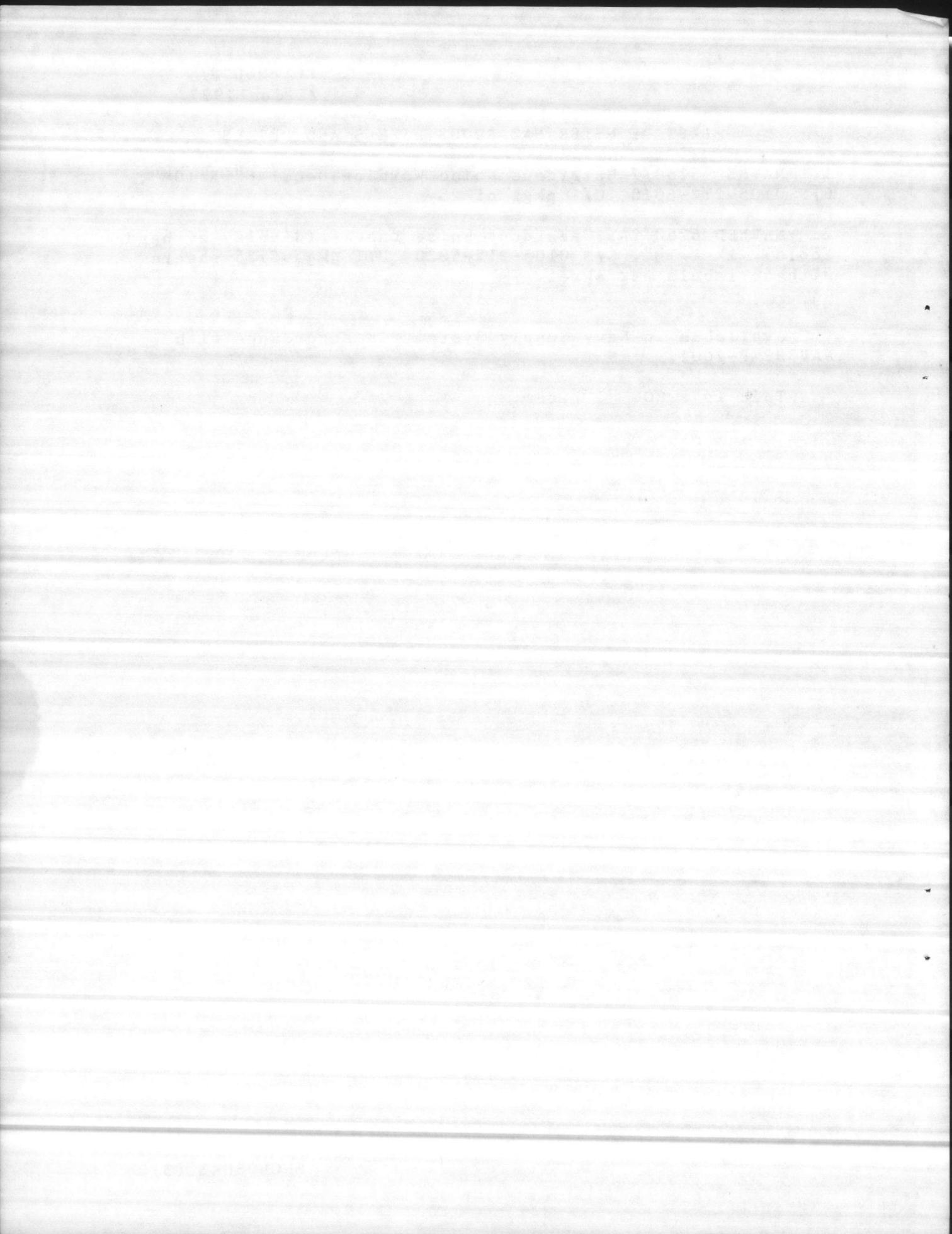
LIST OF NOISE HAZARDOUS LABELS AND DECALS

1. NAVMED 6260/2 Hazardous Noise Warning Decal 8" X 10½", S/N 0105-212-6010, U/I pkg. of 25.
2. NAVMED 6260/2A, Hazardous Noise Labels (display on hand tools), 1" X 1½", S/N 0105-212-6020, U/I pkg of 25 sheets with 56 labels per sheet.

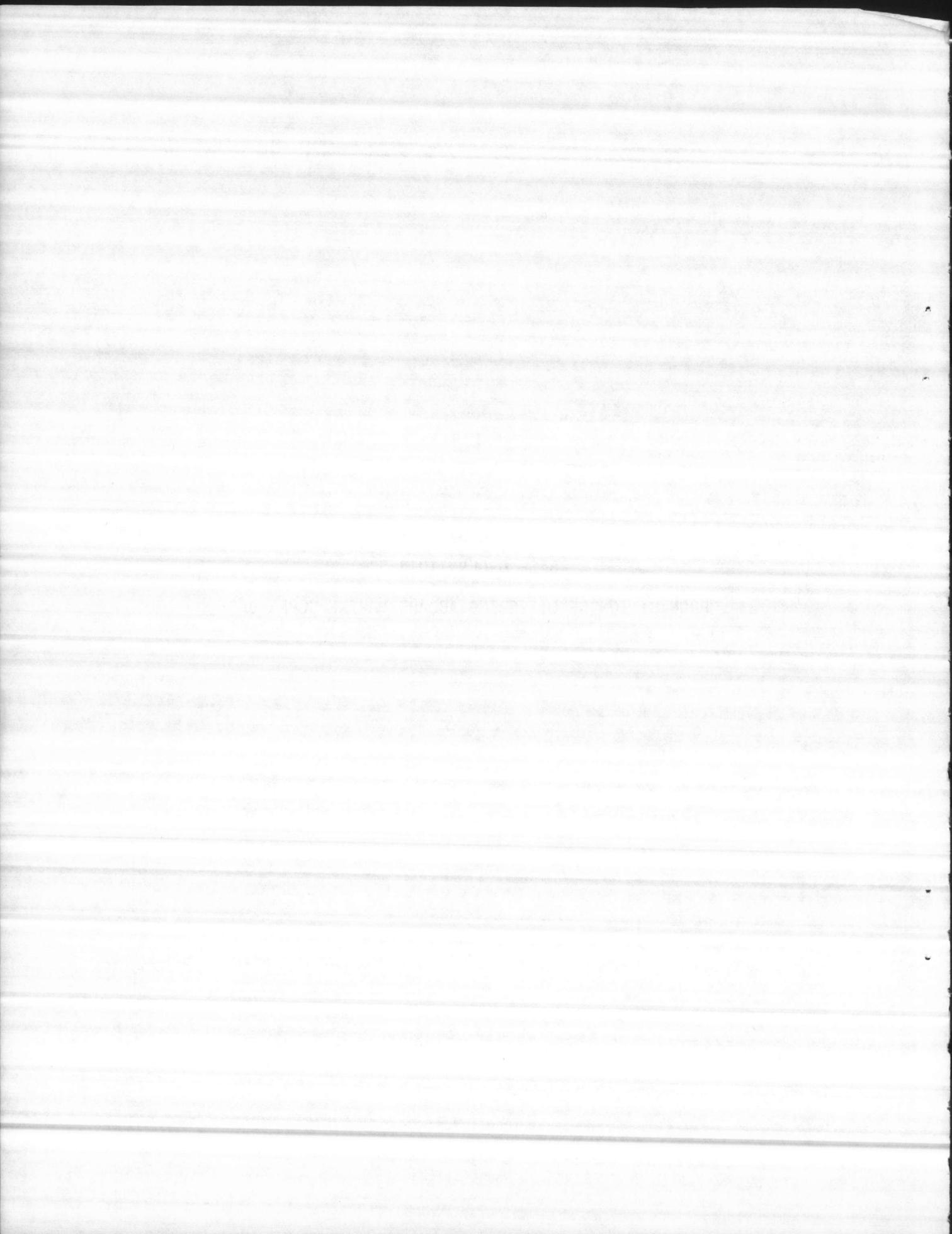
Available in Navy Supply System, in accordance with NAVSUP P-2001.

This is a COG "I" item.

ENCLOSURE (3)



**APPENDIX F**  
**BASE ORDER 11014.8**  
**PROHIBITION OF LITTERING ABOARD MARINE CORPS BASE**





**UNITED STATES MARINE CORPS  
MARINE CORPS BASE  
CAMP LEJEUNE, NORTH CAROLINA 28542**

BO 11014.8  
PMO/CKB/jem  
12 Oct 1977

BASE ORDER 11014.8

From: Commanding General  
To: Distribution List

Subj: Prohibition of Littering Aboard Marine Corps Base

Ref: (a) Manual for Courts Martial, 1969 (Revised)

1. Purpose. To prohibit littering anywhere aboard Marine Corps Base, Camp Lejeune by any person, military or civilian; to provide for punishment of violators; and to ensure enforcement by all commanding officers, officers-in-charge and other responsible persons.
2. Background. Accumulated litter aboard the Base is a health hazard and detracts from the natural beauty of the environment. Many man hours and dollars are required to remove this accumulated litter. If all persons aboard the Base would accept their individual responsibility to help keep the Base clean, the savings would be significant. It is my intention to ensure that our preservation of this Base reflects our discipline and the pride we have in ourselves and our profession.
3. Information Persons who litter aboard Marine Corps Base can now be prosecuted in Federal Court under the Assimilated Crimes Act, Title 18, United States Code, section 13 for violation of the General Statutes of North Carolina, Chapter 14, sections 134.1 and 399. These statutes prohibit littering of another's land or water and littering of roads and highways. In addition, persons on active duty in the military can be court-martialed for an offense against Article 134, under the Assimilated Crimes Act, for violations of the North Carolina anti-littering statutes. Persons on active duty in the military who violate this Order may be punished in accordance with reference (a) non-judicially under Article 15, UCMJ or may be court martialed for violation of Article 92, disobedience of a general order.
4. Littering Prohibited. No person shall willfully place, deposit or leave any litter, trash, refuse, garbage, debris or waste material of any kind anywhere aboard Marine Corps

BO 11014.8

12 Oct 1977

Base, Camp Lejeune, other than in a receptacle for that purpose or in a place specifically designated and authorized for that purpose. This prohibition is not applicable to:

a. Cuttings of plant growth, leaves, pine cones and pine straw, etc., placed in an appropriate manner for removal.

b. Occupants of government, family quarters within their assigned quarters or on the property adjacent thereto assigned to them as their personal responsibility.

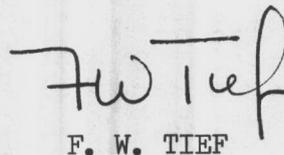
c. To the disposal of government and military property unless the person disposing thereof is provided by the government adequate means for disposal and the person fails to make use of the means provided.

5. Dissemination. Commanding Officers, officers-in-charge, supervisors and other responsible persons shall give this Order the widest dissemination as possible prior to its effective date and shall bring it to the attention of subordinate personnel as often as necessary to ensure compliance.

6. Effective date. This Order is effective upon signature.

7. Applicability. This Order is applicable to all persons aboard the Base both military and civilian. Having received the concurrence of the Commanding Generals, 2nd Marine Division (Rein), Fleet Marine Force; Force Troops/2nd Force Service Support Group, Fleet Marine Force Atlantic; the Commanding Officer, Marine Corps Air Station (H), New River; Commanding officers, Naval Regional Medical Center and Naval Regional Dental Center, this Order is applicable to those commands.

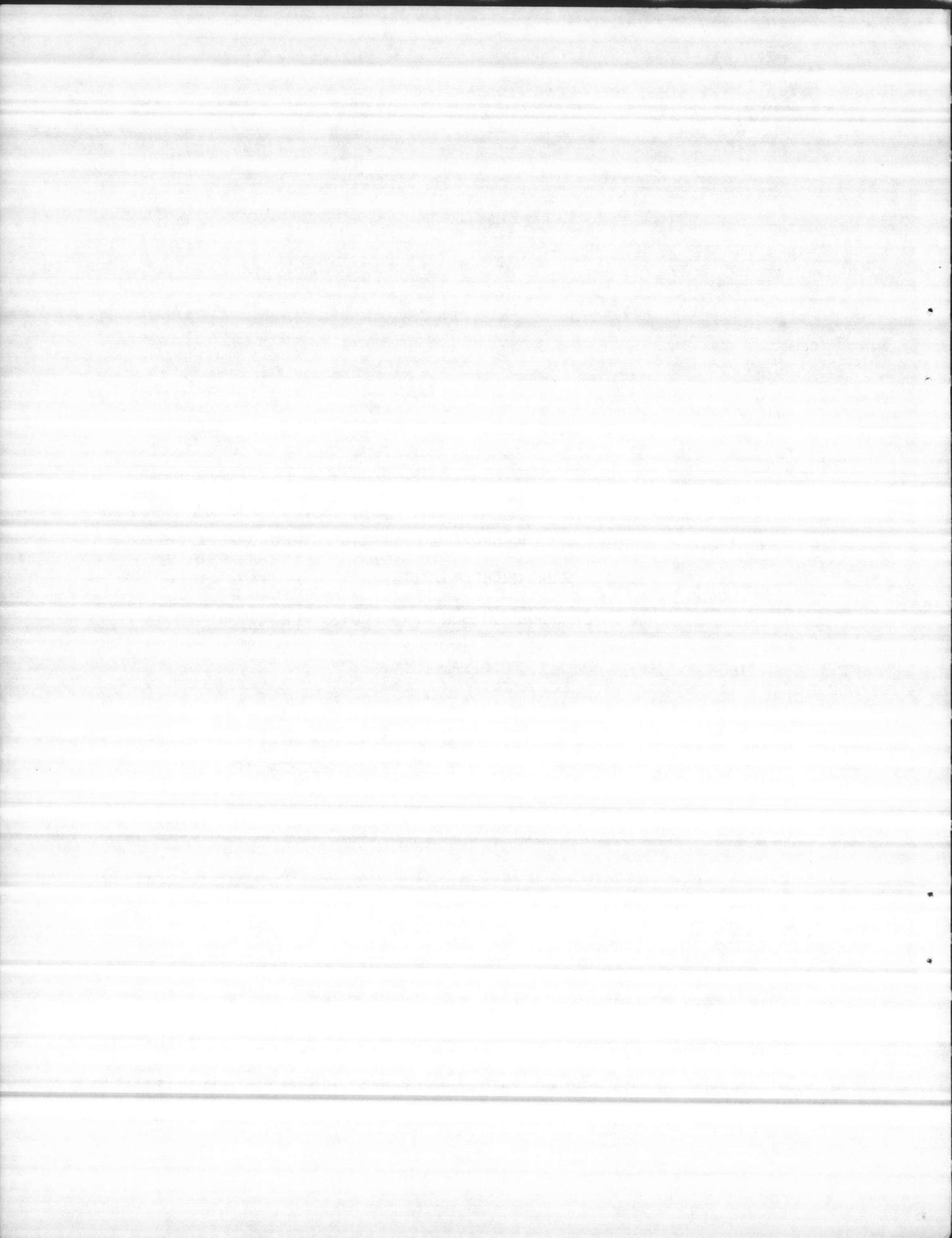
DISTRIBUTION: A

  
F. W. TIEF

APPENDIX G

BASE ORDER 4570.1B

TURN-IN OF SCRAP LUMBER: PROCEDURES FOR



HEADQUARTERS, MARINE CORPS BASE  
Camp Lejeune, North Carolina 28542

BO 4570.1B  
21/CEA/vap  
18 Dec 1974

BASE ORDER 4570.1B

From: Commanding General  
To: Distribution List

Subj: Turn-in of Scrap Lumber/Disposal of Unsalable Scrap  
Lumber Stored at the Base Sanitary Landfill;  
procedures for

Ref: (a) Department of Defense Disposal Manual  
4160.21-M of June 1973

1. Purpose. To establish procedures for disposal of scrap lumber/to inform all military and civilian personnel of the procedures to be followed in obtaining unsalable scrap lumber and boxes stored at the Base Sanitary Landfill (located on Sneads Ferry Road) for organizational and/or private use within the Camp Lejeune area.

2. Cancellation. BO 4570.1A and BBul 4570 of 11 June 1974.

3. Background

a. Chapter VI, paragraph 53, of reference (a) states that "used lumber or boxes not required for the foreseeable needs of the generating activity, or in such condition as to be unacceptable for further use, will be disposed of by retail or other sales method." In view of the contents of this paragraph, it has been determined that allowing pick up of scrap lumber and boxes would be in the best interest of the Government, rather than burying the items.

b. Experience has proven, however, that not all scrap lumber or boxes turned in to the disposal activity in the past was salable; therefore, it has become necessary to establish certain restrictions with respect to the turn-in of scrap lumber.

4. Action

a. Activities generating scrap lumber will process such lumber in accordance with the below listed procedures:

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(1) Scrap lumber will be grouped in short (6-12), medium (12-14) and long (14 and above) linear feet sizes.

(2) Useable pallets will be stacked.

(3) Scrap lumber, pallets and ammunition boxes will be delivered to Lot #203, after an escort has been obtained from Lot #201, on Tuesday and Thursday between 0830 and 1500. It will be the responsibility of the generating activity to furnish a work party for the purpose of placing the sized lumber in designated areas.

(4) Scrap in sizes less than stated in subparagraph 4a(1) above is not considered to have resale value; therefore, such lumber will be delivered to the Base landfill.

b. Pick up of subject scrap lumber and boxes for organizational and/or private use will be allowed in accordance with the following procedures:

(1) Scrap lumber and boxes may be picked up between 0830 and 1600, Monday through Friday, by contacting the operator of the landfill.

(2) Units or individuals desiring the scrap lumber or boxes assume responsibility for the loading and hauling thereof.

(3) Posted rules and regulations will be observed to ensure noninterruption of normal landfill operations, such as the flow of traffic. Scavenging in the solid waste being buried in the landfill trench is prohibited.

5. Applicability. Having received the concurrence of the Commanding Generals, 2d Marine Division, FMF, Force Troops, FMFLant, and the Commanding Officers of MCAS(H), New River, Naval Regional Medical Center, this Order is applicable to those Commands.

*G. C. FOX*  
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Chief of Staff

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