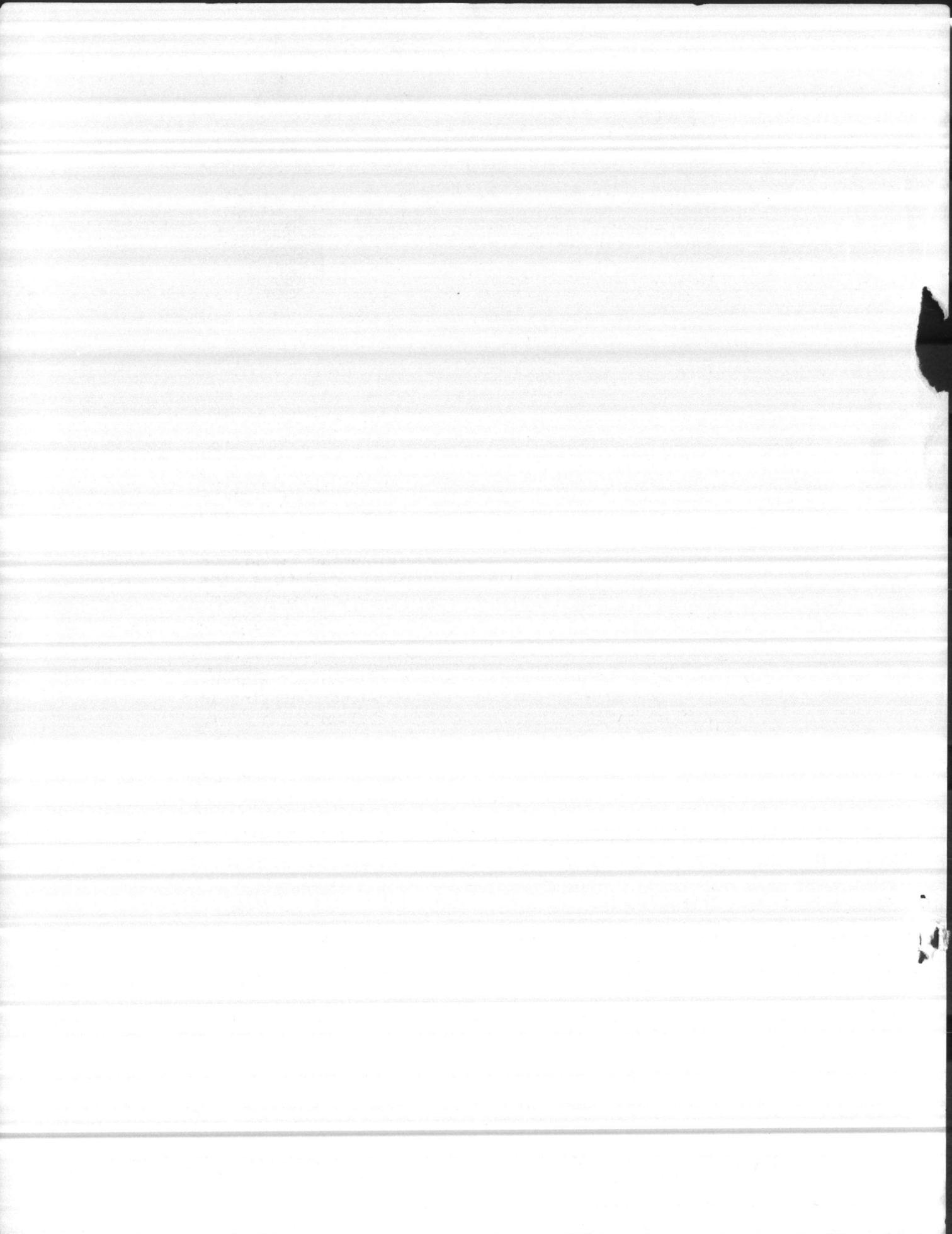


ENVIRONMENTAL QUALITY 1976



MARINE CORPS BASE
CAMP LEJEUNE, NORTH CAROLINA



2

ABOUT THE COVER . . . The Venus' Fly Trap (Dionaea muscipula), a unique and interesting carnivorous plant which grows only within a one hundred mile radius of Wilmington, North Carolina is found in savannah soils at Camp Lejeune. The lobes of the specialized Venus' Fly Trap leaves catch insects that have been attracted by a secretion and it has been suggested that the flesh of the insects supplement the food supply as the plant only grows in moist, acid, nutrient-deficient soils.

Charles Darwin and his sons studied the Venus' Fly Trap for years and called it "the most wonderful plant in the world." By catching and eating insects, the Venus' Fly Trap reverses the accepted pattern of life hierarchies by placing itself above animals on the food chain.

The Venus' Fly Trap makes spectacular catches of insects and does an equal job of capturing the imagination of those that observe this magnificent plant.

The Venus' Fly Trap, which is classified by the United States Department of Interior as threatened, and classified by the State of North Carolina as rare, is fully protected at Camp Lejeune.

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COMPOSITION AND MISSION

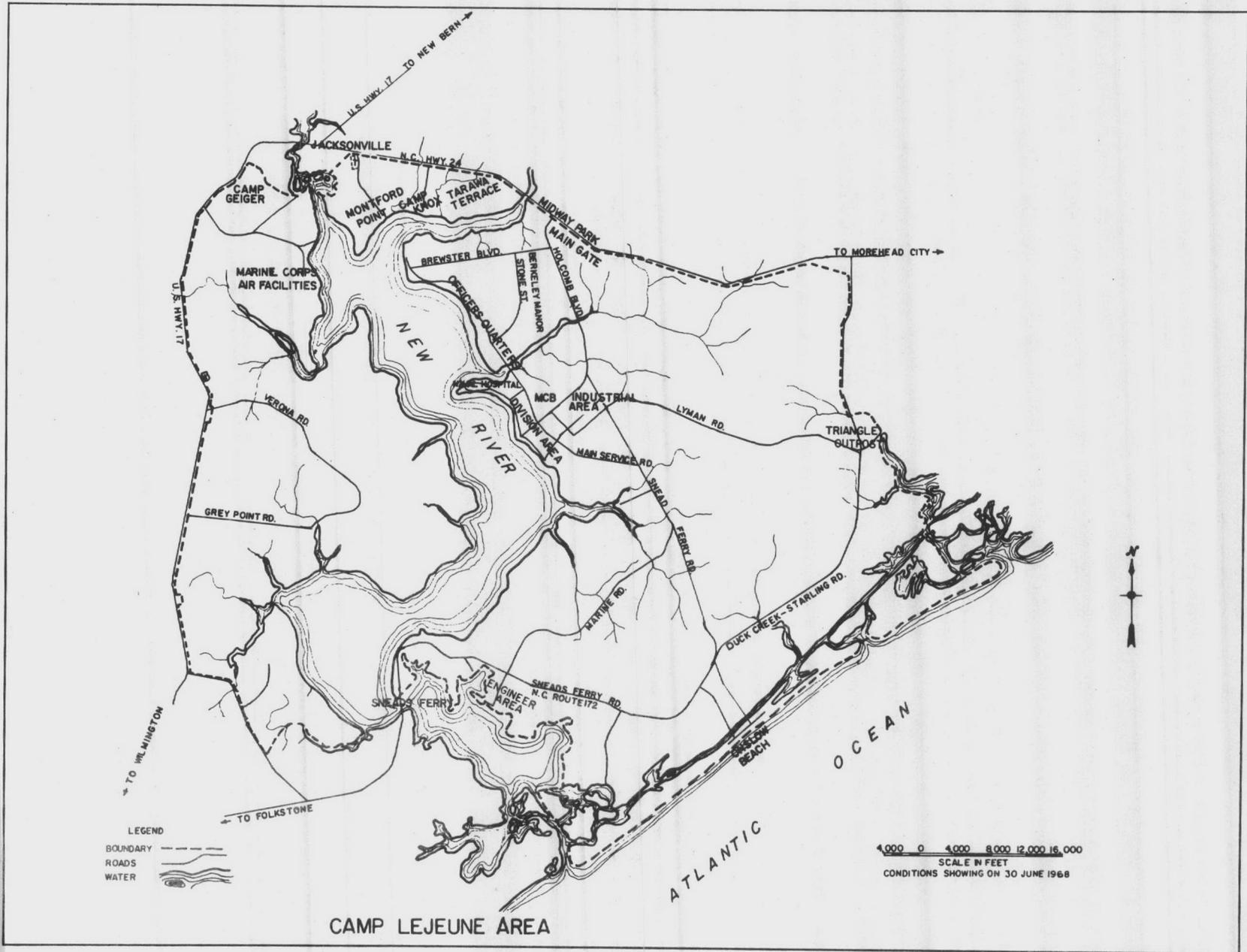
Marine Corps Base, Camp Lejeune, the world's most complete Amphibious Training Base, is situated on the southeast coast of North Carolina with a twelve-mile ocean front extending from Bear Inlet to New River Inlet and encompasses approximately 170 square miles of land and water.

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 Medical Regional 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. Electrostatic precipitators are being designed for the Central Heating Plant and are scheduled for installation by the winter of 1978.

Water Pollution Control

Sewage - Authorization to discharge permits for all sewage treatment plants were issued by the Environmental Protection Agency (EPA) in 1974, showing that sewage treatment facilities at Camp Lejeune meet EPA standards.

Oil Pollution - The Oil Spill Prevention, Containment, and Counter-measure Plan was published to establish policy and procedures concerning oil pollution abatement. Since 1973 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 is 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 eight 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. A contract has been awarded for the installation of corrugated paper recycling equipment at Camp Lejeune.

Toxic and Hazardous Materials

A new type ultra-low volume 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 3,200 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 1974, 1975, and 1976 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 2,000 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 proposals were made regarding Camp Lejeune sewage disposals:

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 anaerobic digester at Tarawa Terrace sewage treatment plant.

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

h. Install oil separators at washracks.

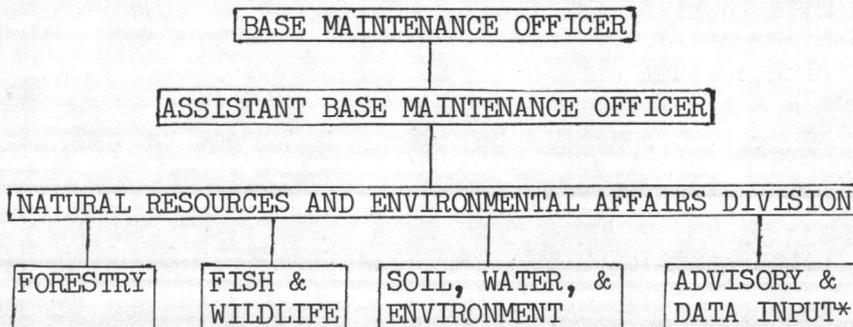
i. Install electrostatic precipitators at Central Heating Plant.

Construction is now underway 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. When the project is completed (January 1977), the Air Station sewage treatment plant will be closed.

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 Countermeasure 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 also 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 make recommendations to the Commanding General.

The following EIA's have been reviewed by the committee: EIA concerning the regular utilization of the offshore target and bombing area located at Camp Lejeune by tank and artillery units; and the combining of Brown's Island and its offshore area into a single firing range. Preliminary EIA for Joint Exercise SOLID SHIELD 1976 was reviewed. A number of minor construction and repair projects were also examined by the committee to determine the significance of their environmental impact.

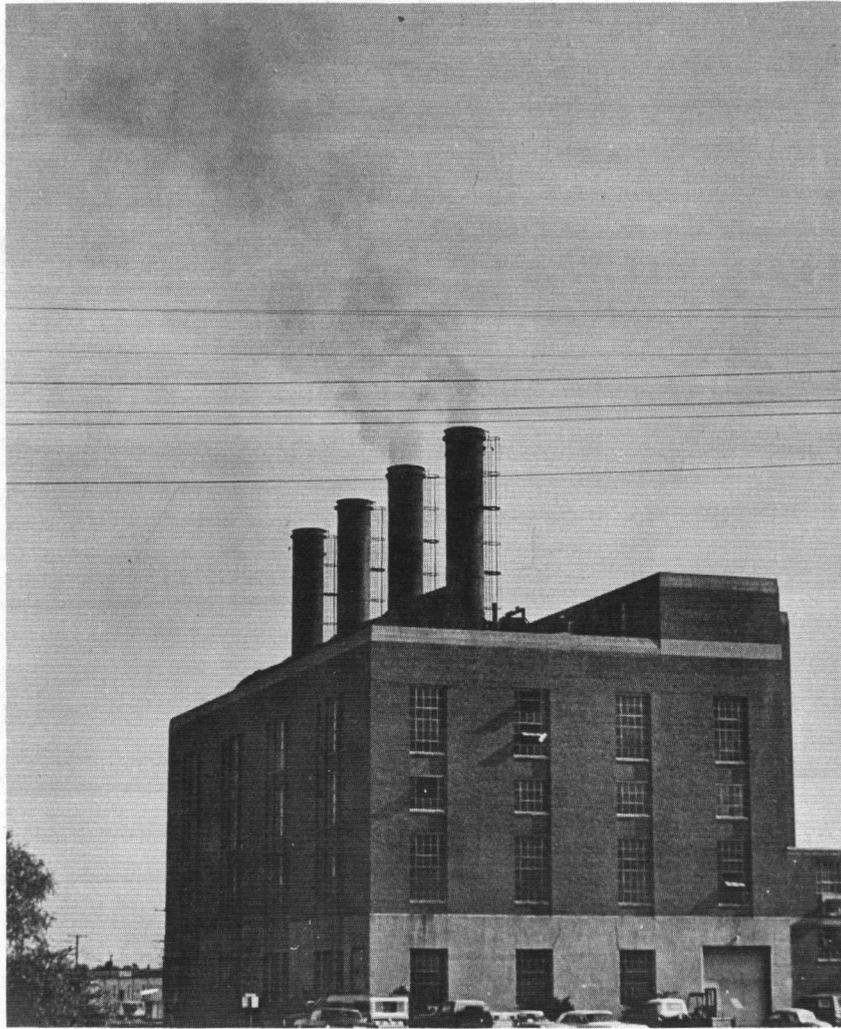
AIR POLLUTION CONTROL

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 are being 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 under the forest management plan. Prescribed burning is done within 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 11090.2 (Appendix D) gives detailed instructions for air pollution emergencies.



CENTRAL HEATING PLANT IS SCHEDULED FOR ELECTROSTATIC
PRECIPITATORS IN 1978

WATER POLLUTION CONTROL

SEWAGE TREATMENT

Secondary treatment is now accomplished at all of the eight 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. The Camp Geiger sewage treatment plant is being overhauled and upgraded to a tertiary treatment status. When this work is completed (early 1977) the Marine Corps Air Station (H), New River sewage treatment plant will close as the sewage generated at that activity will be pumped to the Camp Geiger sewage treatment plant. Continuous attention and control at these sewage plants by qualified personnel assures 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.

On 18 January 1974 the EPA issued the National Pollutant Discharge

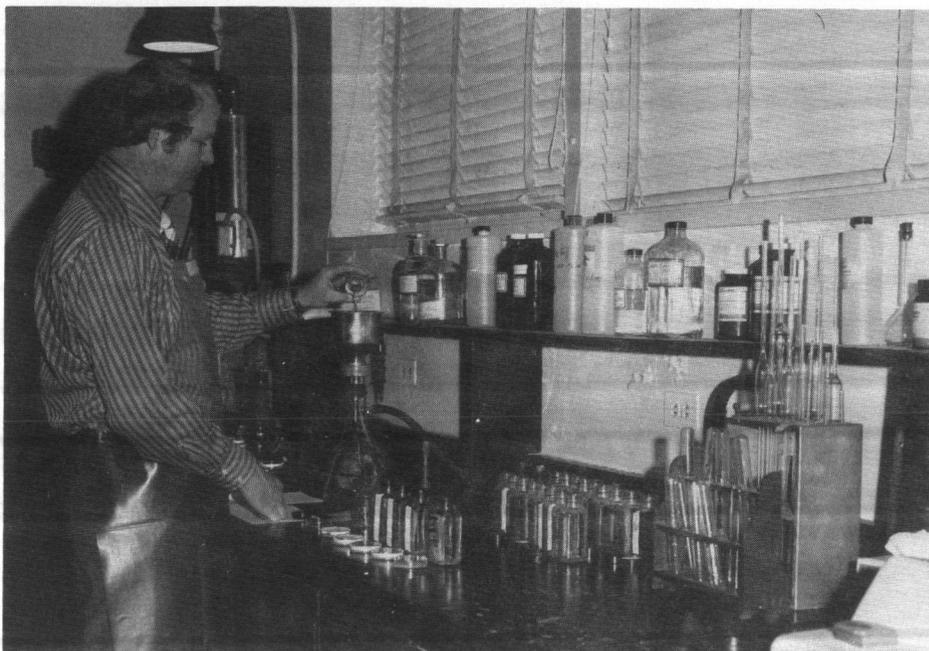


TAKING WATER SAMPLES (above) AND CHECKING THEM OUT (below)





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



CHEMIST PERFORMS BACTERIOLOGICAL TEST ON POTABLE WATER

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 waters receiving effluent from base sewage treatment plants. This sampling analysis and subsequent reporting will meet requirements of the EPA and the State of North Carolina.

4* 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 weekly near the upstream and downstream side of the effluent outfall lines from all sewage treatment plants. During the months of June, July, August, and September these river samples are taken twice a week. In addition, samples are taken at a number of random sites. These samples are tested for fecal coliform count, suspended solids, biological oxygen demand, dissolved oxygen pH, salinity and temperature. Water samples from the influent and effluent of each sewage treatment plant is also tested weekly.

4 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 test 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.

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 1974-1976 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 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. Marine Corps Bulletin 6240 dated 3 April 1974 directed field activities to comply with EPA regulations contained in



TEMPORARY WASTE OIL TANK BEING INSTALLED



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

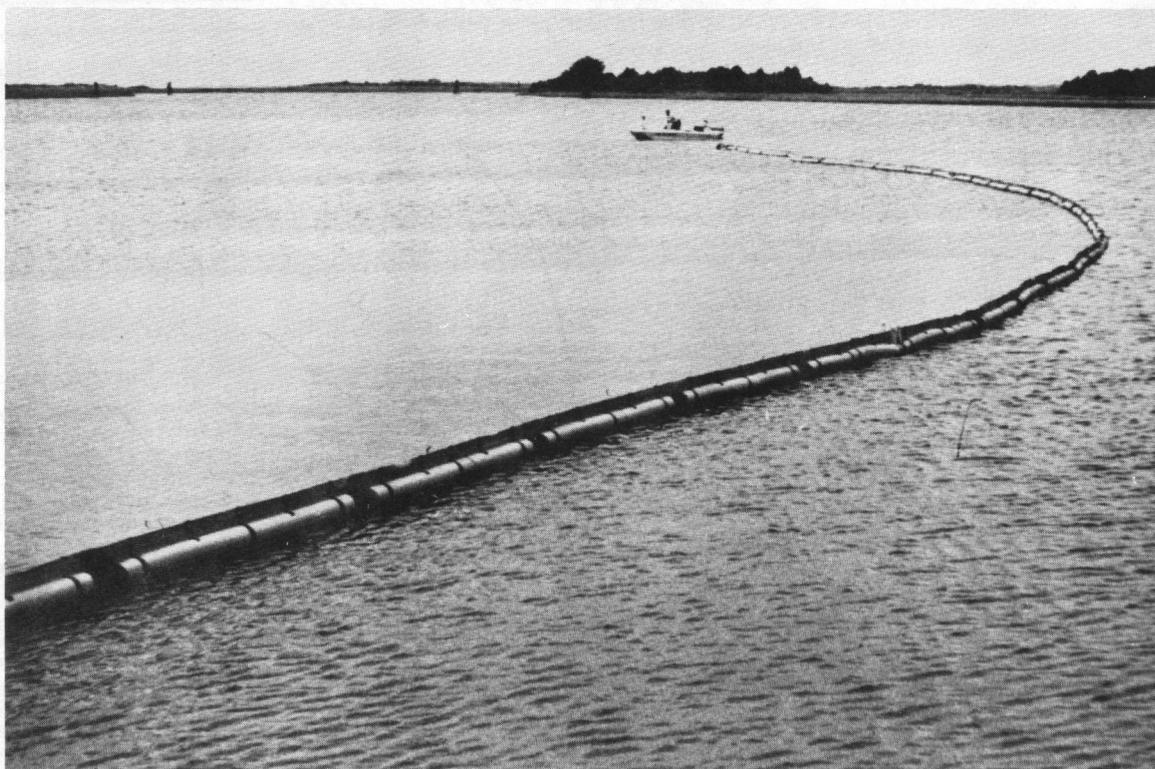
Federal Register, Volume 38, Number 237, Part II, of 11 December 1973,
Subject: Oil Spill Prevention. To satisfy requirements of this Bulletin,
an engineering investigation was conducted aboard base. A survey and
inventory of petroleum storage facilities having an aggregated aboveground
storage capacity 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 engineer-
ing 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 approved by the Environmental Protection Agency. Now,
a 272,000-gallon tank is available for storing excess waste oil that is
not needed for dust abatement. Approximately 140,000 gallons have been
stored in the tank. It is expected to use this excess oil for either
heating fuel or reclamation.

Marine Corps Bulletin 6240 of 28 August 1973 directs 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, 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.



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 have been used to eliminate part of the New River bank erosion problem. This work has been approved by Wilmington, North Carolina office, U. S. Army Corps of Engineers.

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 schedules for accomplishment by priorities over a ten year period. This 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 77.

An area previously utilized as a heavy equipment compound was released recently from further use and was placed under forest management. Approximately 25 of the total 56 acres had been affected by a slow erosion problem. Slash and longleaf pine seedlings were planted in 1973 over the area for erosion control and site stabilization. The longleaf seedling area was replanted in 1974 to slash pine for better erosion

prevention since the percent of survival of the longleaf seedlings was very low.



A COVER OF PINE NEEDLES HELPS CONTROL SOIL EROSION AFTER BEING DISTURBED BY TRACKED VEHICLES

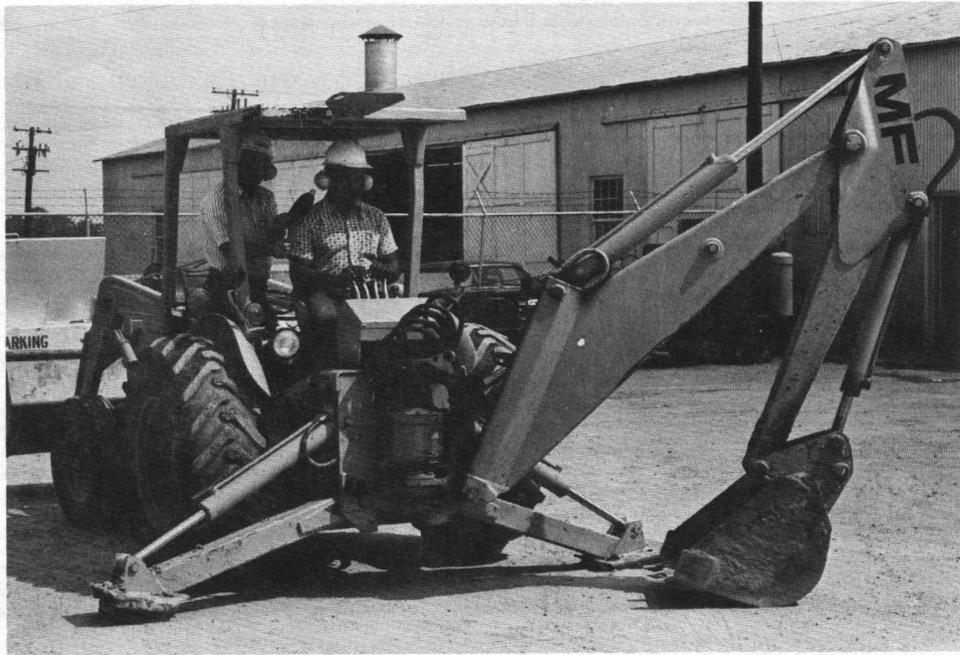


GRADING AND SUBSEQUENT SEEDING BEING DONE TO CORRECT A SOIL EROSION PROBLEM

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 6260.2, Subject: Marine Corps Base Hearing Conservation Program. 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 one civilian industrial hygiene technician in Occupational Health and three 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.

In 1974-1976 nine "pitch-in" containers were 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.



ANOTHER LOAD OF CARDBOARD IS READY FOR DELIVERY TO THE ONSLOW COUNTY WORKSHOP'S RECYCLING CENTER AT CAMP LEJEUNE



OTHER SOLID WASTE IS DISPOSED OF AT THE SANITARY LANDFILL

The volume of trash being removed from these containers indicates heavy utilization.

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 F).

Liquid garbage (produce and leftover food from messhalls, commissaries, etc.) is being handled by contract issued by the Defense Property Disposal Agency. A 5-year contract was awarded a local hog farmer who pays the government \$500 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.

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 one item (polychlorinated biphenyl) has been buried in the chemical landfill. This material was generated when a contractor had an accident with a transformer containing polychlorinated biphenyl. 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. 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 1974-76, 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)

Natural Petroleums

Kerosene White Deodorized
No. 2 Grade Fuel Oil
Summer Oil Emulsion

Phosphorous Compounds

Diazinon 4E
Diazinon 4S
Naled Dibrom
Malathion WP
Malathion EC
Dichlorovous 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

RESEARCH AND DEVELOPMENT

The two following paragraphs are descriptions of studies carried out by Naval Medical Field Research Laboratory during the past year.

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 on 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 CO₂ 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.

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. All main thoroughfares are policed daily by Groundskeeping personnel or by military units. During summer months, all grass or lawn areas are maintained at a maximum height of four inches.

During the past three years, the Landscaping Maintenance Section of Base Maintenance has completed landscape projects throughout Marine Corps Base. This includes areas of the Force Troops Complex, Central and Industrial Areas, road intersections and Division Area. There were 3,200 shrubs, trees and flowering plants planted in these areas. General maintenance of plants were performed such as pruning, fertilizing, spraying, trimming and weeding to improve the visual looks and health of those plants.



RECENTLY PLANTED SHRUBBERY CONTRIBUTES TO BASE ATTRACTIVENESS

FOREST MANAGEMENT.

It is the obligation of the Forestry Branch to manage for sustained-yield and multiple-use. This is to say that timber, wildlife, water 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. Stream-side 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 stands 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.



TIMBER MARKING: THINNING AN OLD FIELD STAND OF LOBLOLLY PINE

Timber harvesting here is a highly mechanized operation and is closely observed by the personnel of the Forestry Branch. The receipts and volumes for the three preceding calendar years are listed below.

TIMBER HARVEST FOR CALENDAR YEARS 1974-1976

1974	<u>Product</u>	<u>Volume</u>	<u>Gross Income</u>
	Pine Sawtimber	4,163.105 MBF	\$329,510
	Pine Pulpwood	24,293 Cds	194,339
	Hardwood Sawtimber	27.000 MBF	1,580
	Hardwood Pulpwood	119 Cds	<u>356</u>
			\$525,785
1975	Pine Sawtimber	8,439.150 MBF	\$398,273
	Pine Pulpwood	34,187 Cds	227,335
	Hardwood Sawtimber	- - -	- - -
	Hardwood Pulpwood	111 Cds	<u>212</u>
			\$625,820
1976	(PROJECTED)		
	Pine Sawtimber	3,638.565 MBF	\$283,927
	Pine Pulpwood	2,146 Cds	17,921
	Hardwood Sawtimber	56,541 MBF	1,276
	Hardwood Pulpwood	441 Cds	<u>1,477</u>
			\$304,601



TIMBER HARVESTING: SKIDDER PULLING TREE LENGTH LOGS TO THE DECK FOR LOADING

Reforestation is accomplished by both natural and artificial means. This year a bedding harrow and a mechanical planter were purchased. These machines will increase the survival rate and will reduce the number of temporary employees for short periods during planting season. We have also been fortunate enough to purchase a rolling chopper which will prevent overstocking in naturally regenerated areas.

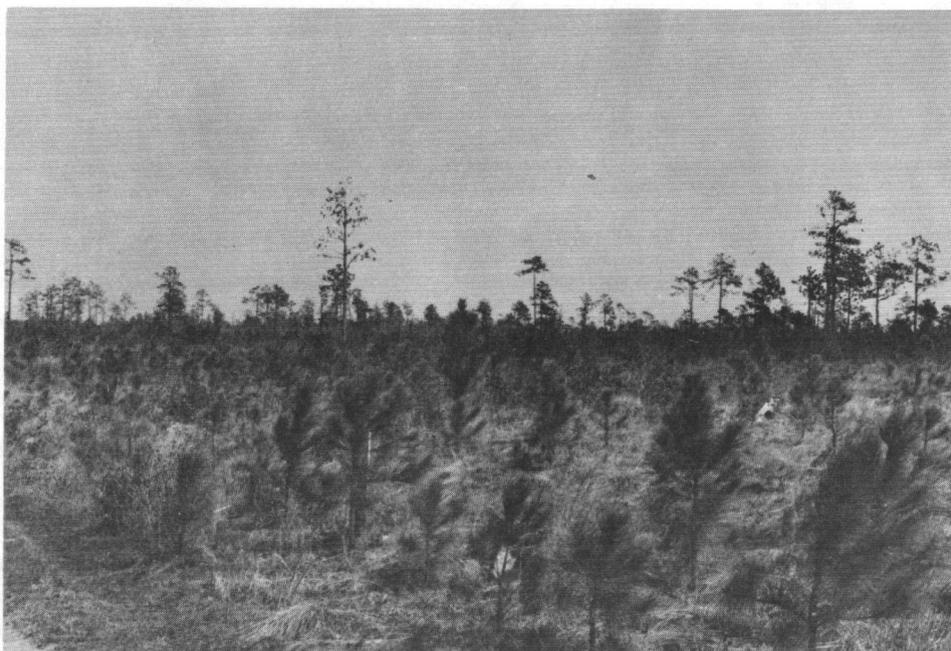
Planting during the last three years has been accomplished by hand planting on an 8' x 8' or a 10' x 10' spacing using temporary employees. Natural regeneration has been successfully accomplished by seedtree cuts.

Prescribed burning is one of the most useful and economical tools which we have at our disposal. Each year approximately 12,000 acres are prescribed burned. Areas which are 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 undesirable 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.

The base is recovering from a southern pine beetle infestation and is presently being harvested—the first regular sale in three years. The infestation has subsided but research is still being conducted by North Carolina State University and the United States Forest Service.



SITE PREPARATION: THIS AREA HAS BEEN SITE PREPARED FOR PLANTING BUT KEY HARDWOOD AREAS WERE LEFT AND A WILDLIFE FOOD PLOT PLANTED.



ARTIFICIAL REGENERATION: THIS AREA WAS PLANTED BECAUSE THERE WAS NO SUITABLE SEED SOURCE.

WILDLIFE MANAGEMENT

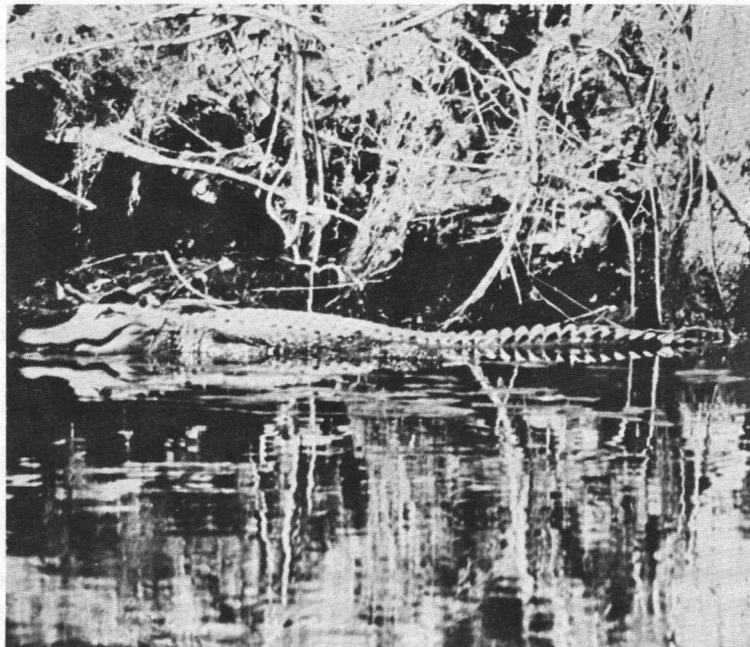
The wildlife management program of Camp Lejeune is designed to provide optimum environmental conditions for the wide variety of fauna that inhabit the base. Extensive habitat management programs, such as the proper harvest of timber, prescribed burning, creation of food plots, maintenance of wildlife openings, and the preservation of habitat occupied by unique species have resulted in abundant, healthy populations of wildlife available for both consumptive and nonconsumptive use. Federal, state and base game laws regulate the taking of all wildlife. A new ten-year management plan was formulated in FY-74 and placed into effect. Progressive improvement is being realized under the plan since it is adjusted to meet the increasing needs of the public using the local fish and wildlife resources.

Sixty-six food plots totaling 250 acres have been established to supplement the natural food supply, provide edge effects, and enhance natural brood range. A fall planting of rye or wheat is made on one-half of each plot annually to provide winter grazing, while the remaining half lies fallow for invasion by grasses and succulent herbs. Plantings of chufas for wild turkey were established at fifty-four sites varying in size from 1/8 to 1-1/2 acres. Forty-five miles of forest access roads were seeded to perennial grasses for wildlife, soil erosion control, and fire protection.

A 1,300-acre area is intensively managed for small game by making a summer planting in 1/4-acre strips of small grain at fifty-four locations. Sixteen miles of forest access roads were planted in perennial grasses to provide supplemental game food sources, reduce road maintenance cost, act as a green fire break, and to improve the aesthetic quality of the area.



RED-COCKADED WOODPECKER SCANS THE IMMEDIATE AREA BEFORE ENTERING ITS NEST.



ESTUARINE HABITAT FOR ALLIGATORS IS ABUNDANT AT CAMP LEJEUNE

Base regulations provide legal protection for all nongame species and endangered species. Ninety nesting boxes for Eastern bluebirds have been established. Thirty-four percent nesting utilization by these nongame birds occurred during FY-76. Twenty plantings of autumn olive were established for nongame birds. Autumn olive produces succulent fruits in later summer which are highly used by nongame birds. Also, management programs are designed to preserve the habitat of such endangered species as the red-cockaded woodpecker and the American alligator. Nesting habitat of the Atlantic loggerhead sea turtle, which is on the North Carolina List of Endangered Species, is receiving maximum protection. In a cooperative study with the University of North Carolina Institute of Marine Sciences, Morehead City, North Carolina, nineteen adult Atlantic loggerhead sea turtles were tagged during the summers of 1975-1976 as they came ashore on Onslow Beach to nest. More sea turtle work is planned next year to explore and help this species in its struggle to survive.



50 SEA TURTLE NESTS WERE PROTECTED FROM SUCH PREDATORS AS RACCOON AND FOX DURING THE SUMMERS OF 1975-1976



WILDLIFE PERSONNEL ESTABLISH NESTING BOX FOR EASTERN BLUEBIRDS



NEST PRODUCTIVITY OF EASTERN BLUEBIRDS

FISH MANAGEMENT

A wide variety of freshwater and saltwater fish inhabit the freshwater ponds and streams, saltwater bays, and the Atlantic Ocean adjoining the base. Twelve freshwater ponds are currently under management. Eight of these are natural ponds and four are man-made with a total of 38 acres under management. Management techniques consist of fertilization to promote plankton and other microscopic plant growth, liming to control pH factor, and use of aquatic herbicides for weed control. Stocking is done on an as-necessary basis. It is estimated that 160,000 man-days of fishing in both freshwater and saltwater have been provided at Camp Lejeune during the current year.



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 woodsmanship 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 1974, 1975, and 1976 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 student more aware of environmental problems, it is hoped more desirable habits

and attitudes will be developed, resulting in better Marines and eventually better citizens. To date, approximately 2,000 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. 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, 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. 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 Waste Water Treatment Classes held at Coastal Carolina Community College. 200 students from throughout Eastern North Carolina have participated in the night classes since September 1973. 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.



COASTAL CAROLINA COMMUNITY COLLEGE STUDENTS DURING TOUR OF WASTE WATER TREATMENT FACILITIES AT HADNOT POINT



BIOLOGY STUDENTS RECEIVE "ON THE SCENE" INFORMATION

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.

Nurturing our natural resources--ecology

By Sgt. Tom Griggs

This year, Marine Corps Base, Camp Lejeune, was selected as the Marine facility conducting the best work in protecting our surroundings. The award was the 1974 Secretary of the Navy's Environmental Protection Award.

A number of persons at Camp Lejeune were asked what they thought about environmental protection. Some related it to clean air, a few to ecology, but most did not know its meaning.

The individuals who related ecology to environmental protection were right. They are related.

"The word 'environment' means our surroundings," said Carroll F. Russell, director of Natural Resources and Environmental Affairs at Lejeune, "and ecology is the study of our surroundings."

Air pollution control, water pollution control, sewage treatment, oil pollution prevention, forest, fish and wildlife management are all areas of environmental protection.

These areas were covered by numerous departments and personnel who devoted much planning and talent to achieve this year's award. The ingredients came mostly from the Natural Resources and Environmental Affairs Division (NREAD), Utilities Division and other sections of Base Maintenance.

Management is handled mainly by NREAD. It is rather like a foundation for the overall environmental protection program at Camp Lejeune.

Organized in October 1972, NREAD employs professional people to conduct work in forest, fish and wildlife management, oil pollution control and other aspects of keeping our surroundings livable and enjoyable.

By directing the operation of effective water and sewage treatment plants, the Utilities Division can also be noted as a major contributor to a better Lejeune environment. The director, James E. Herndon, helps lead the fight against water and air pollution.

"We operate seven sewage treatment plants that effectively clean waste products before being discharged into New River," said Herndon. "After being inspected by the State Environmental Protection Agency (EPA), we were the first location to receive discharge permits."

"As far as air pollution is concerned," Herndon explained, "all our heating plants were converted to burn 100 percent oil rather than coal, which means much less waste released into the air."

Also in relation to air pollution, Russell noted, "We aren't too concerned with air pollution here. EPA tells us that our major air pollution comes from automobiles. In comparison to large cities, Lejeune has no real problem."

Oil has been a big pollution problem in the past, according to Russell.

He reflected, "A base as large as this uses large amounts of fuel — gasoline, diesel fuel, motor oil and more. There are opportunities in a large scale operation like this for much pollution to take place.



STILL WATER RUNS DEEP — And hopefully clean, is on the mind of this Utilities Division employee who's collecting water samples in New River. Regular collection sites on the river have been established by the Environmental Protection Agency.

"For instance," he continued, "around a typical motorpool, we find people performing all types of maintenance involving oil, and before we became conscious of pollution by oil, no doubt disposal was handled carelessly."

Things are different now. Assisted by Base Ecologist, Julian Wooten, Russell has seen that waste oil is disposed of properly and persons using oil are instructed as to its use and disposal.

Conservation of our forests, fish and wildlife is accomplished through the joint efforts of Ralph Gurganus, base forester, and Charles Peterson, fish and wildlife manager. These two professionals fall under Russell's direction and have numerous forestry and wildlife aids and technicians under their own direction.

The base ecologist coordinates work concerning some of our wildlife. His studies include endangered species living aboard the base. He has also researched Camp Lejeune's black bear population.

To round out the environmental protection effort, certain phases are handled by other sections on base. For example, noise control has been improved through the work of the Hearing Conservation Center of the Base Medical Department. Another phase, pesticides control, is the responsibility of the Base Medical Officer, while correct use is carried

out by Base Insect Vector Control.

Apart from Lejeune's everyday workers involved in areas of environmental protection, an Environmental Enhancement Committee was organized to help recognize certain problems.

"This committee consists of representatives from Base, Division and Force Troops, president of Rod and Gun Club, Base Maintenance Officer, Public Works Officer and others," commented Russell.

"We meet at least quarterly," he said, "and discuss environmental affairs, anything dealing with natural resources, or concerns about hunting and fishing areas."

All these people are important for the proper management of our environment aboard Camp Lejeune. However, we shouldn't let them do all the work.

"I think there's something everyone can do," Russell suggested. "The Marine in a motorpool should be sure oil is used and disposed of properly. Troops in the field can clean up after exercises. And everyone should take care not to throw trash out of cars. These are just a few ways."

We all can take care of our Camp Lejeune surroundings and take genuine pride in the 1974 Secretary of the Navy's Environmental Protection Award.

Beetles attack trees

Nature lovers might be wondering why trees are being cut in areas along the Main Service Rd. and Brewster Blvd.

According to Carroll F. Russell, director of Natural Resources and Environmental Affairs, the trees are being harvested because they've been infested by southern pine beetles.

"We have a very serious

southern pine beetle problem," Russell said.

"Our timber is steadily struck by the beetle, and we must continue selective cutting of infested trees.

"If the infested trees aren't removed before they die, the resource, or useful benefit of the timber, is lost.

"Also," he concluded, "I'm sure people don't want to look at dead trees along our roads."



PITCHING IN — This auto passenger knows what's happening in environmental protection by putting trash in one of the "Pitch In!" containers on

Holcomb Blvd. Everyone can pitch in for a better Lejeune environment.



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)

James, Roger Rochelle, Oliver Williams, Delores Cox, Kenny



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)

Prescribed Burning

CAMP LEJEUNE, N.C. — The owner of a home adjacent to Camp Lejeune called in a forest fire alarm last week. As a fire truck arrived, it was learned that the fire was under control. In fact, it had been under control from the minute it started.

It was started intentionally by a crew from the forestry section of the Natural Resources and Environmental Affairs Division, Base Maintenance, here. The fiery technique is called prescribed burning.

According to Base Forester Ken Harris, more than 62,000 acres here are managed woodlands. And each year, some 12,000 acres are cleared of underbrush through the prescribed burning program.

"The most important purpose behind prescribed burning," says Harris, "is the reduction of fuels." Fuels is the term he uses for built-up underbrush - growth that can feed a forest fire.

With each area on base receiving a prescribed burning treatment at least every five years, secondary growth on the forest floor here is kept to a minimum. The result is less chance of a forest fire during hot and dry summer months.

Harris pointed out that a

second benefit derived from prescribed burning is its effect on wildlife. "Wild turkey need open forest," he says. "Burning clears the forest floor and creates the open habitat necessary for turkeys."

It also creates browse for deer. "Browse," Harris explains, "includes greenbrier shoots, hardwood sprouts, new growth that is lush and tender. Old growth becomes woody and useless as food for deer."

Assistant Base Forester Pete Black made it clear that the fire is controlled, and the trees aren't injured. "Our methods of burning keep the fire heat less than 130 degrees," says Black. "Higher temperatures will cook the cambium, or inner core, of a pine tree and kill it. And a hardwood tree has an even thinner bark, so we burn as few hardwood areas as possible."

Prescribed burning here is usually conducted during January and February, when the proper conditions exist. The rules governing those conditions are strict. Harris says the temperature must be 20 to 50 degrees with a relative humidity of 20 to 50 percent and wind of five to seven miles per hour.

"Extremely important," he

claims, "is the wind direction. We must burn so that smoke blows away from heavily used areas, such as roads, the hospital and homes. This is called smoke management."

The foresters say that for the next month they will be burning near Berkeley Manor, Paradise Point and Tarawa Terrace housing areas here. Smoke management will be a priority in the prescribed burning, but Harris warns that sudden changes in wind direction often send smoke the wrong way.

If weather conditions cooperate, this year's prescribed burning program should be concluded by Mar. 1.



HOT JOB — James Harding, a Camp Lejeune forestry aide, uses a drip torch to start a ground fire during prescribed burning operations here. The prescribed fire will burn until it reaches a trail, road, plowed fire lane, or another fire, and weather conditions must be right to keep it under control. The results include better wildlife habitat and less chance of a forest fire. (Official U.S. Marine Corps Photo By: Sgt. Tom Griggs.)

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.

THE 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.

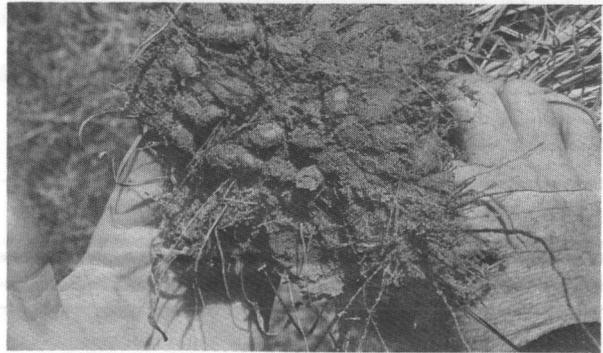
Excessive logging—the primary cause of the decimation of the turkey population in the state originally—generally has an adverse effect on turkey habitats, but those effects can be minimized if management plans are closely coordinated. Small clear-cut and thinning operations, controlled burns and reseedling 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 storation 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. ♦

9

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.

(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.

BO 11080.2
8 Mar 1973

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).

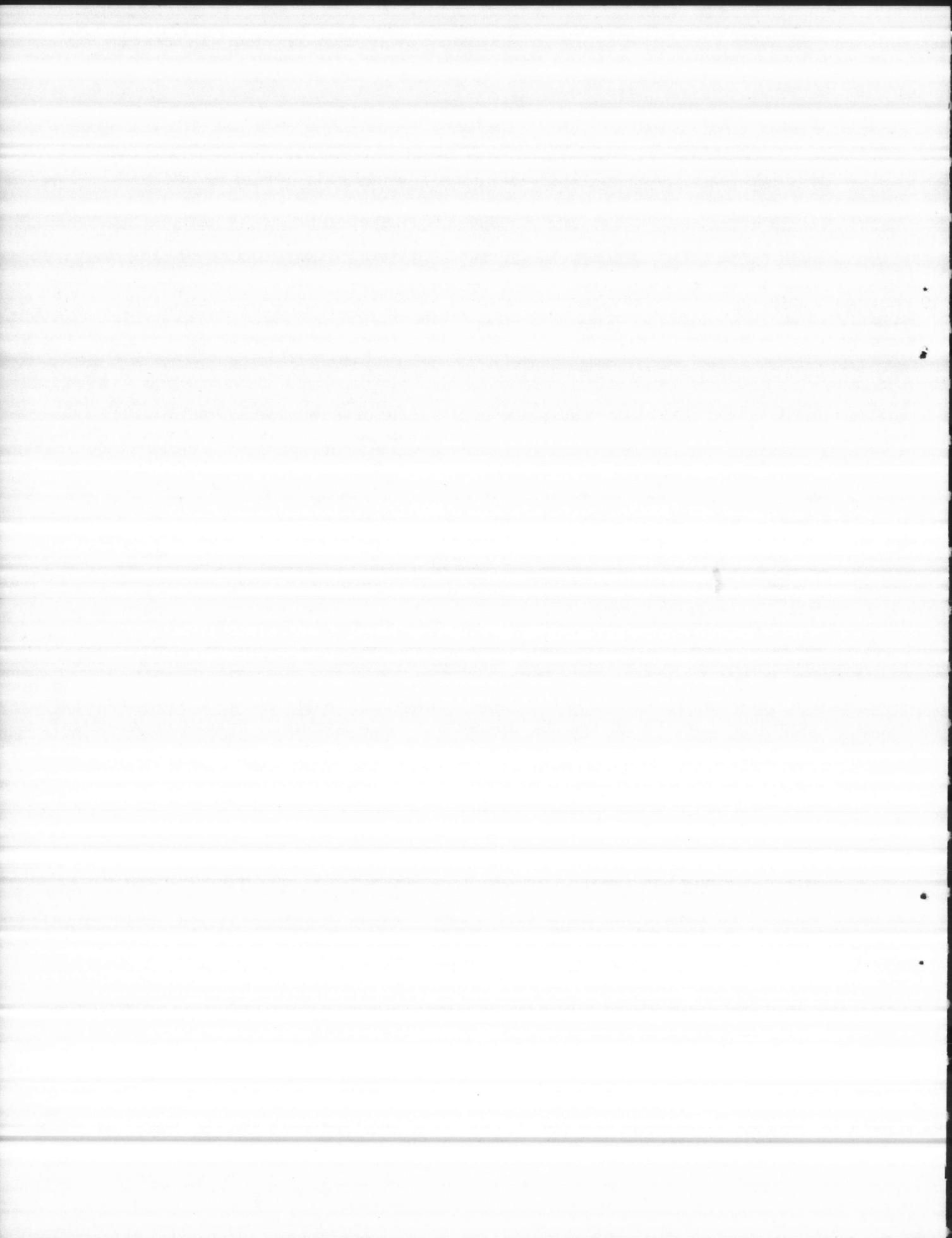
8. Action. Addressees are requested to familiarize themselves with the contents of this order to further develop and foster attitudes of conservation, protection, and enhancement of environmental assets throughout Marine Corps Base.

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

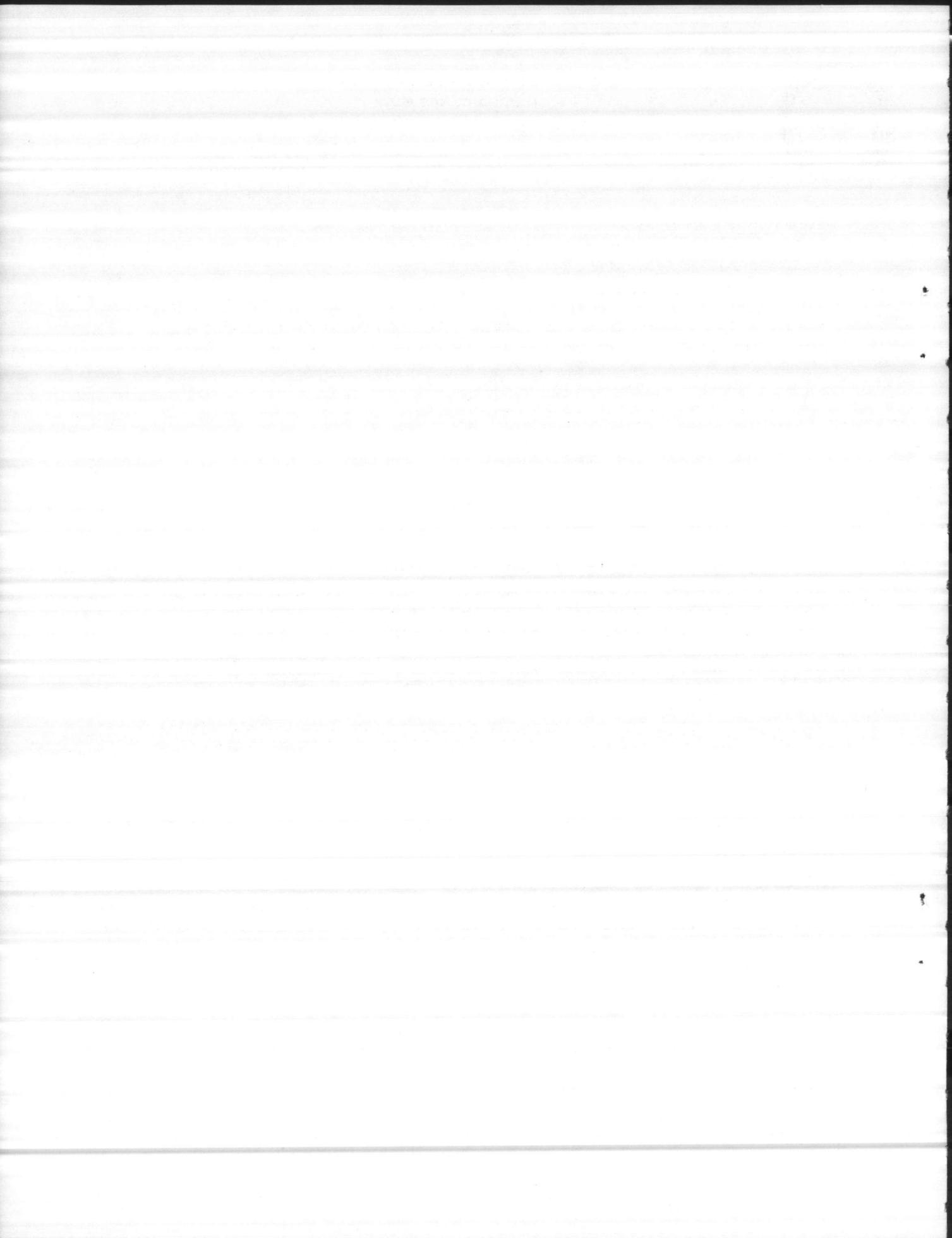
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APPENDIX B

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.

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

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)

31 Dec 1975

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.

ENCLOSURE (1)

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.

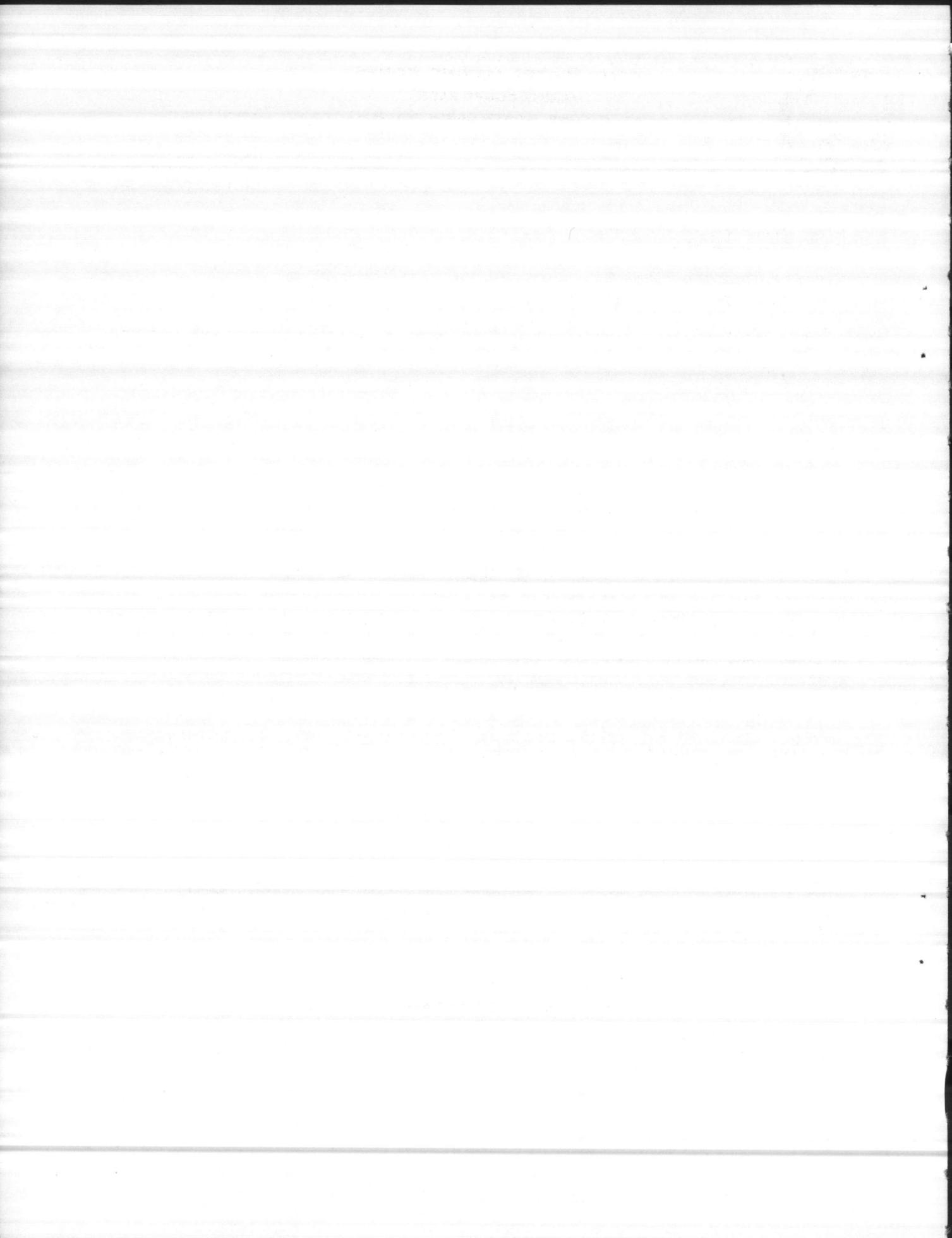
5. Small Spills. Occurrence of small gasoline and fuel oil spills on refueling aprons are very common. Gasoline and fuel oil spilled on refueling aprons will not be flushed into any ditch or storm sewer. To reduce the pollution and fire hazard, the spill will be covered with sand obtained from a nearby 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.

ENCLOSURE (2)

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 (CH 1) 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

BO 11000.1
23 Jan 1976

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.

- * (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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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 Irrecoverable 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.

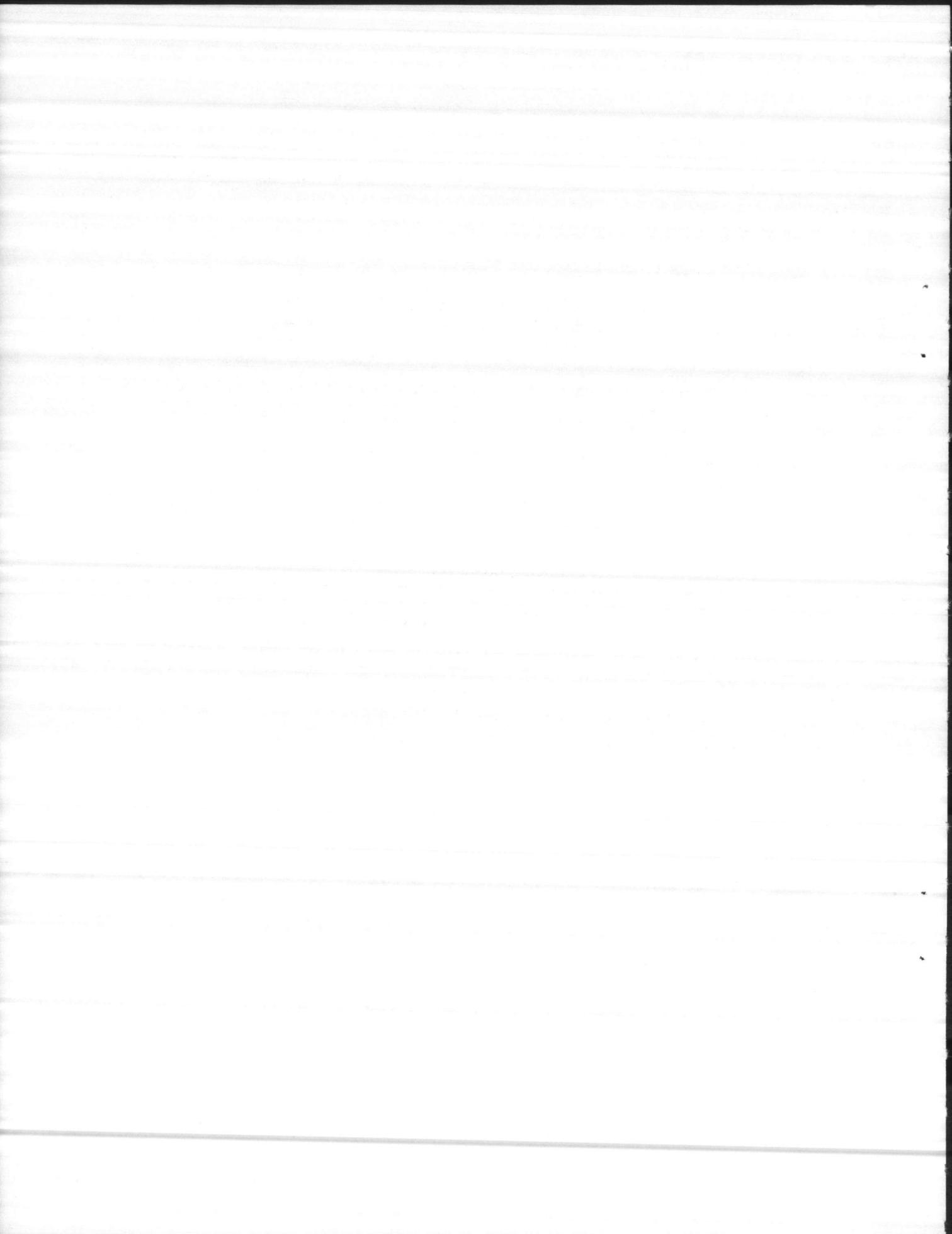
h. Provide the dates the draft statement and final statement were made available to the CEQ and the public.

ENCLOSURE (1)

APPENDIX D

BASE ORDER 11090.2

AIR POLLUTION EMERGENCIES



HEADQUARTERS, MARINE CORPS BASE
CAMP LEJEUNE, NORTH CAROLINA 28542

BO 11090.2
4B/LD/mkc
31 Oct 1972

BASE ORDER 11090.2

From: Commanding General
To: Distribution List

Subj: Air Pollution Emergencies

Ref: (a) MCO P11000.8
(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. 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.

3. Responsibility. The Assistant Chief of Staff, Facilities is charged with the overall responsibility of coordinating the various measures of this Order.

4. Action. Cognizant officers will take the necessary action to ensure compliance with this Order.

5. Applicability. Having received the concurrence of the Commanding General, 2d Marine Division, FMF; the Commanding General, Force Troops, FMF, Atlantic; the Commanding Officer, Marine Corps Air Station (H), New River; and the Commanding Officer, Naval Hospital, Camp Lejeune, this Order is applicable to those Commands.



D. T. KANE
Chief of Staff

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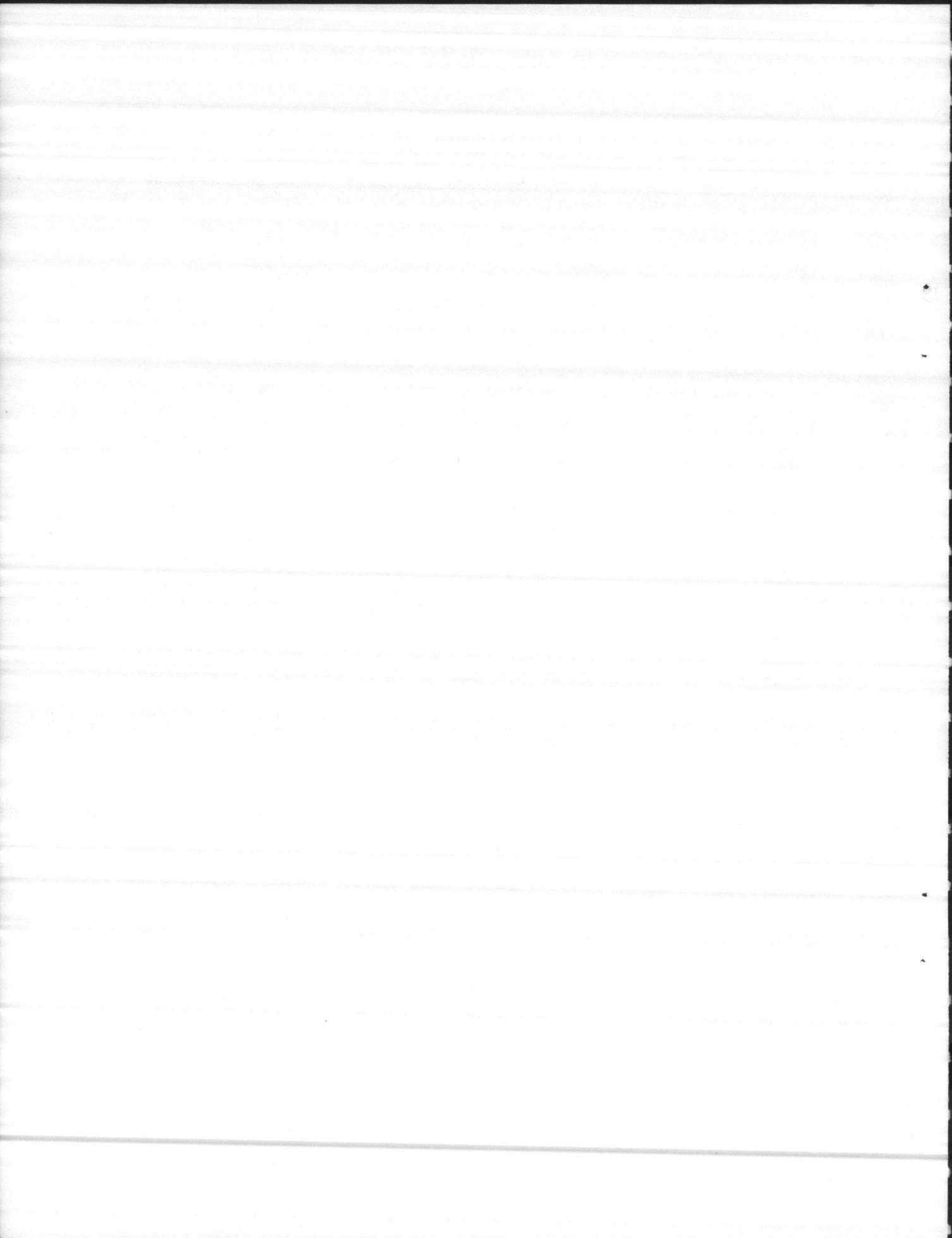


DEFINITIONS

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

13
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)

BO 11090.2
31 Oct 1972

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, FMF; the Commanding General, Force Troops, FMFLant; the Commanding Officer, Marine Corps Air Station (H), New River; or the Commanding Officer, Naval Hospital, 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.

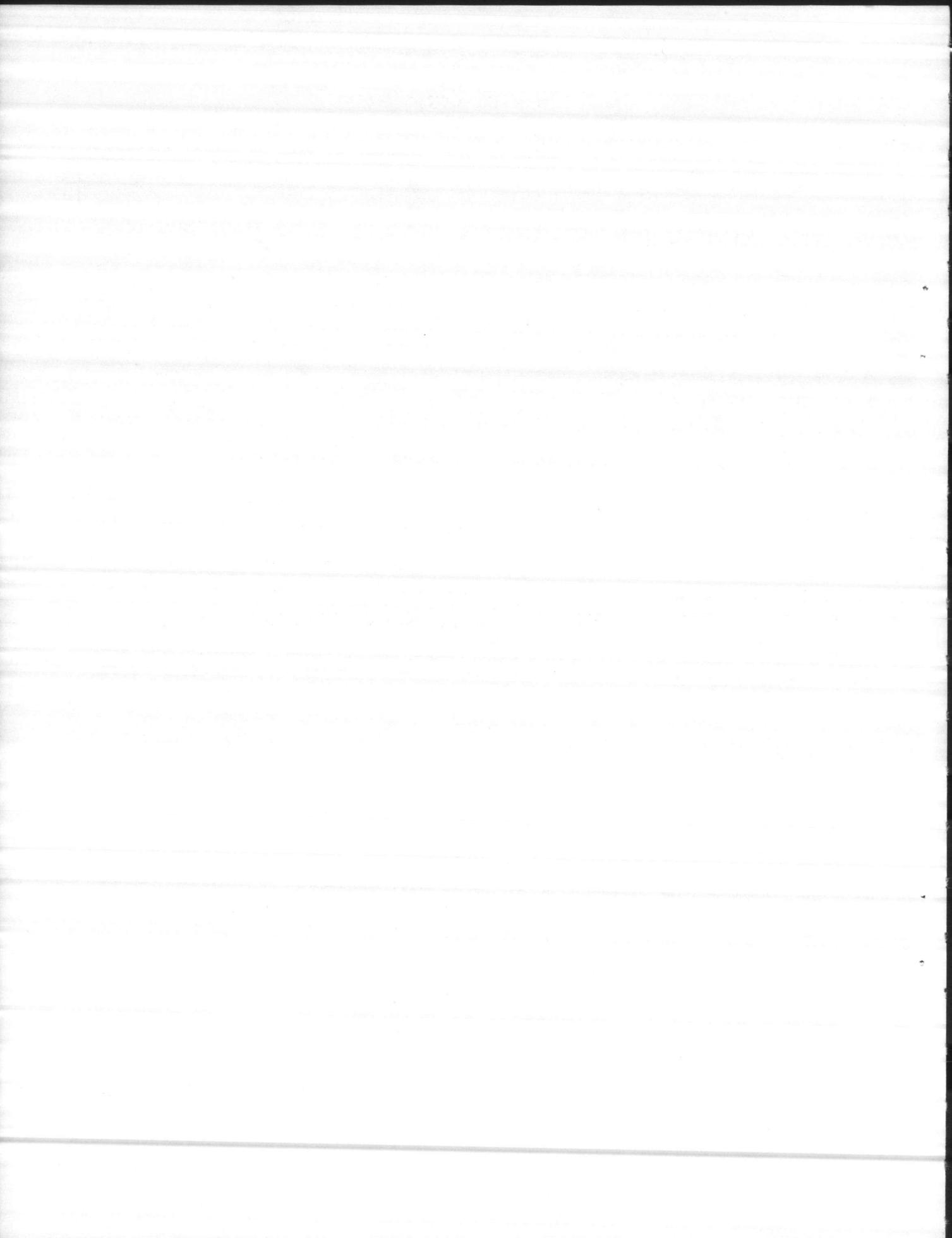
d. Termination. Once declared, any status reached by application of the above criteria will remain in effect until the criteria for that level is no longer met. At such time, the next lower status will be assumed.

Enclosure (2)

APPENDIX E

BASE ORDER 6260.2

MARINE CORPS BASE HEARING CONSERVATION PROGRAM



UNITED STATES MARINE CORPS
MARINE CORPS BASE
CAMP LEJEUNE, NORTH CAROLINA 28542

B0 6260.2
16/JJM/jb
14 Oct 1970

BASE ORDER 6260.2

From: Commanding General
To: Distribution List

Subj: Marine Corps Base Hearing Conservation Program

Ref: {a} MCO 6260.1A
{b} BUMEDINST 6260.6B

Encl: {1} Instructions on Audiometric Hearing Tests, Noise Reduction, and Personnel Protection

1. Purpose. To provide guidance for the establishment of a hearing conservation program, as required by references {a} and {b}, for Marine Corps and civilian personnel of the Tri-command, Camp Lejeune.

2. Background

a. The sounds generated by Marine Corps industrial, aviation, training, and other operations reach extremely high volumes and more sounds are continually being added.

b. Potentially harmful noise levels are probably the most significant occupational hazard faced by Marine Corps personnel. Hearing loss may result from continuous or intermittent exposure to loud noises such as those created by aircraft and industrial-type activities as well as the more widely recognized blast and impulse noises which result from gunfire, rockets, or other explosive material.

c. Noise levels above 90 decibels {dBA} are regarded to be potentially dangerous to human hearing. Noise levels generally produced by industrial operations lie within the 80- to 130- dBA range. Jet engine noise may measure 150 to 160 dBA.

3. Scope. The Marine Corps Hearing Conservation Program shall consist of audiometric hearing tests, noise-reduction measures, and personnel protection as described in enclosure {1}. This order is applicable to all areas within the Tri-command having high noise level intensities and to all military and civilian personnel employed at Camp Lejeune, North Carolina.

14 Oct 1970

4. Action

a. Area Commanders and Commanding Officers

{1} Commanding officers are responsible for keeping abreast of all noise hazardous areas within their command responsibilities and shall institute corrective measures for noise abatement and hearing conservation in these areas.

{2} Effect liaison with the Base Medical Officer for noise measurement surveys and recommendations regarding hearing conservation.

{3} Label areas and equipment which are designated as noise hazardous and clearly indicate the mandatory requirement for wearing ear protective devices for all personnel within the perimeter of the noise hazard.

{4} Fund and procure ear protective devices as an organic supply item. Ear protective devices available through Naval supply channels are listed in enclosure {1}.

{5} Ensure that all personnel exposed to gunfire, blast and impulse-type noises are wearing ear protective devices.

{6} Ensure appropriate entries regarding size and date of initial issue of ear protective devices are made in service man's health record and Service Record Book.

b. Base Medical Officer

{1} Establish an audiometric testing facility in Building 3b.

{2} Effect liaison with appropriate area commanders and commanding officers to implement the provisions of this order.

{3} Advise area commanders and commanding officers regarding medical aspects of Hearing Conservation Program.

c. CIVILIAN PERSONNEL OFFICER

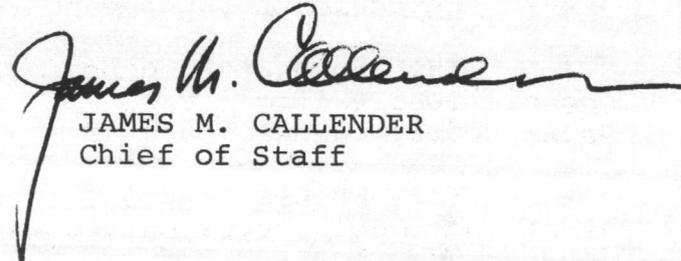
{1} Schedule audiometric tests on all civilian personnel receiving pre-employment and terminated physical examinations.

14 Oct 1970

{2} When the decision is made to assign a civilian employee to an area designated as noise hazardous, schedule him for a reference audiogram prior to actually beginning work in such an environment. Follow-up audiometric tests will be scheduled for the employee one month and six months after employment in his job.

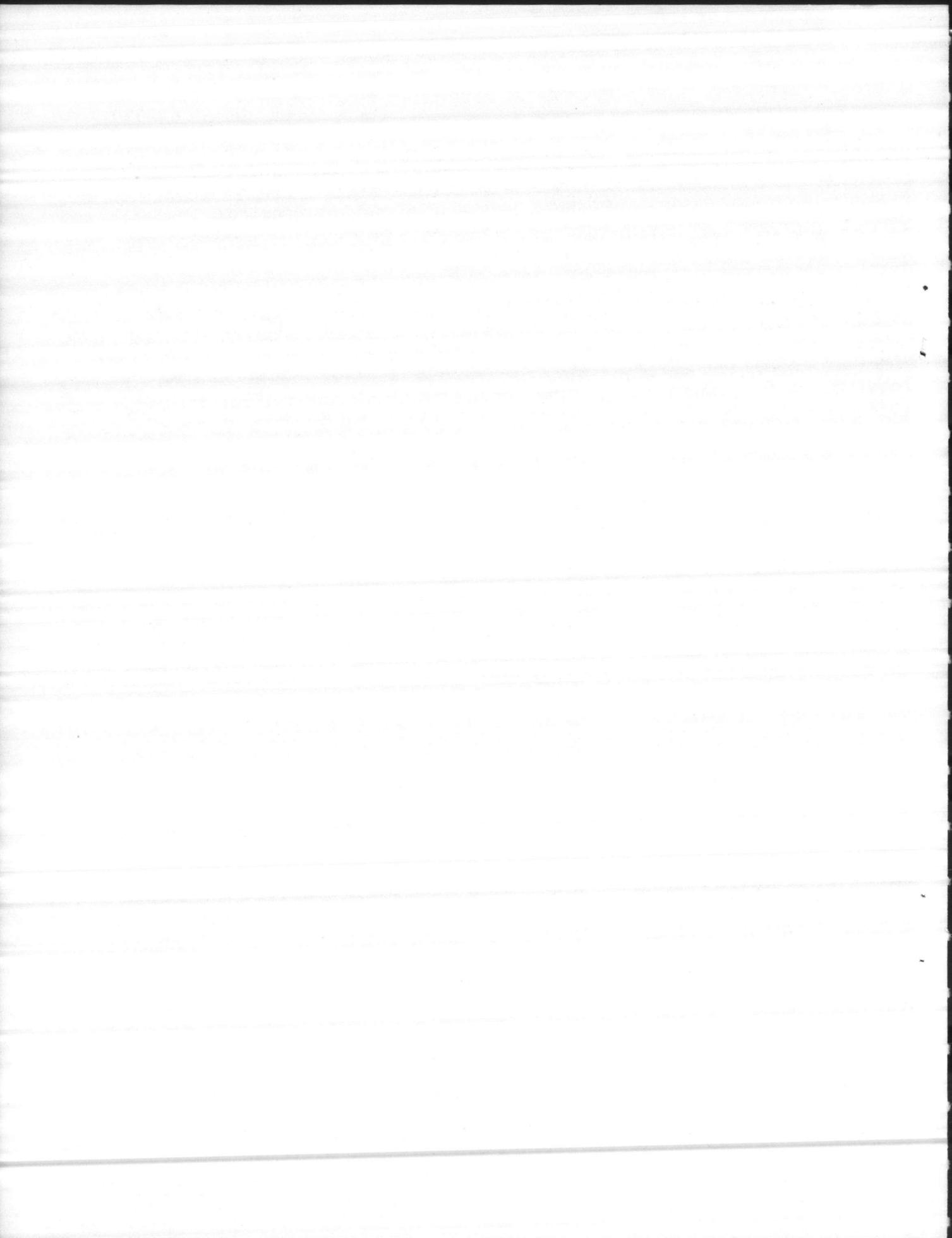
d. Base Safety Officer. See that all Base areas identified as noise hazardous are clearly labeled as to their noise hazards. Labeling must indicate the mandatory use of ear protective devices for all personnel within the perimeter of the noise hazard.

5. Applicability. Having received the concurrence of the Commanding General, 2d Marine Division, FMF, and the Commanding General, Force Troops, FMF, Atlantic, this order is applicable to those commands.



JAMES M. CALLENDER
Chief of Staff

DISTRIBUTION: "A"
plus BMed0 {25}



Instructions on Audiometric Hearing Tests, Noise
Reduction, and Personnel Protection

1. Audiometric Hearing Tests

14
a. Entrance and Separation Examinations. All military and civilian personnel who enter into or terminate service with the Marine Corps 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 record. Audiometric examinations are conducted at Building 3b, Marine Corps Base. Hours for the examinations are 0800-1130 and 1300-1530 each normal working day.

b. Periodic Examination. The hearing of personnel shall be checked at the time of assignment to a high noise area {90 decibels {dBA} or above} if more than 1 year has elapsed since the test in 1a, above. Hearing of personnel assigned to a high noise area shall be checked at the end of 1 month, at the end of 6 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 5 dBA in any of the test frequencies {as recommended in BUMEDINST 6260.6 series} is noted the person shall be considered as prone to hearing loss. A check shall be made to make certain these people are properly fitted with ear protection. They shall be reexamined within 30 days. If the recheck audiogram shows a continuing lowering of hearing acuity, they shall be reassigned to work in areas with noise intensities lower than 90 dBA. The disposition of personnel showing loss of hearing should be decided on an individual basis. In general, the following audiometric changes may be used as guidelines:

Personnel showing threshold changes in excess of 15 dBA at 1000 or 2000 cycles per second {cps} and threshold changes in excess of 20 dBA at 3000, 4000, or 6000 cps above the

original finding {Reference Audiograms} should be rechecked at the start of each workweek. If the changes persist they should be removed from noise hazard areas.

2. Noise Reduction Measures. Noise reduction involved in the hearing conservation program involves major procedures as follows:

a. Personnel Protective Equipment

{1} Insert-type earplugs or stoppers or circumaural-type muffs shall be worn by all personnel working in high noise areas found to exceed 90 dBA. Where no sound communication is essential to job performance, workers in high noise areas may be protected against noise danger by earplugs. Where sound communication is essential for personnel in high noise areas, circumaural muffs or sound attenuation helmet shall be provided. When the noise level exceeds 120 dBA, a combination of insert earplugs and circumaural muffs should be worn. BUMEDINST 6260.6 series contains current stock numbers for earplugs and sound attenuation helmets.

{2} Marine Corps military personnel shall be issued ear protection {insert earplugs} for permanent retention. Earplugs should be carefully fitted 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 Marine's medical record {actual issue of the earplugs may be delayed until commencement of marksmanship training}. All other personnel should be fitted for ear protection prior to participating in any field firing exercises, annual requalification or other high noise areas or operations.

{3} Organizations, units and activities shall issue, as organizational property, ear protectors to all civilian personnel who work in high noise level areas.

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 or defective parts. Wherever practicable, the attenuation of noise shall be accomplished by engineering of the equipment, facility or operation.

3. Noise Measurement

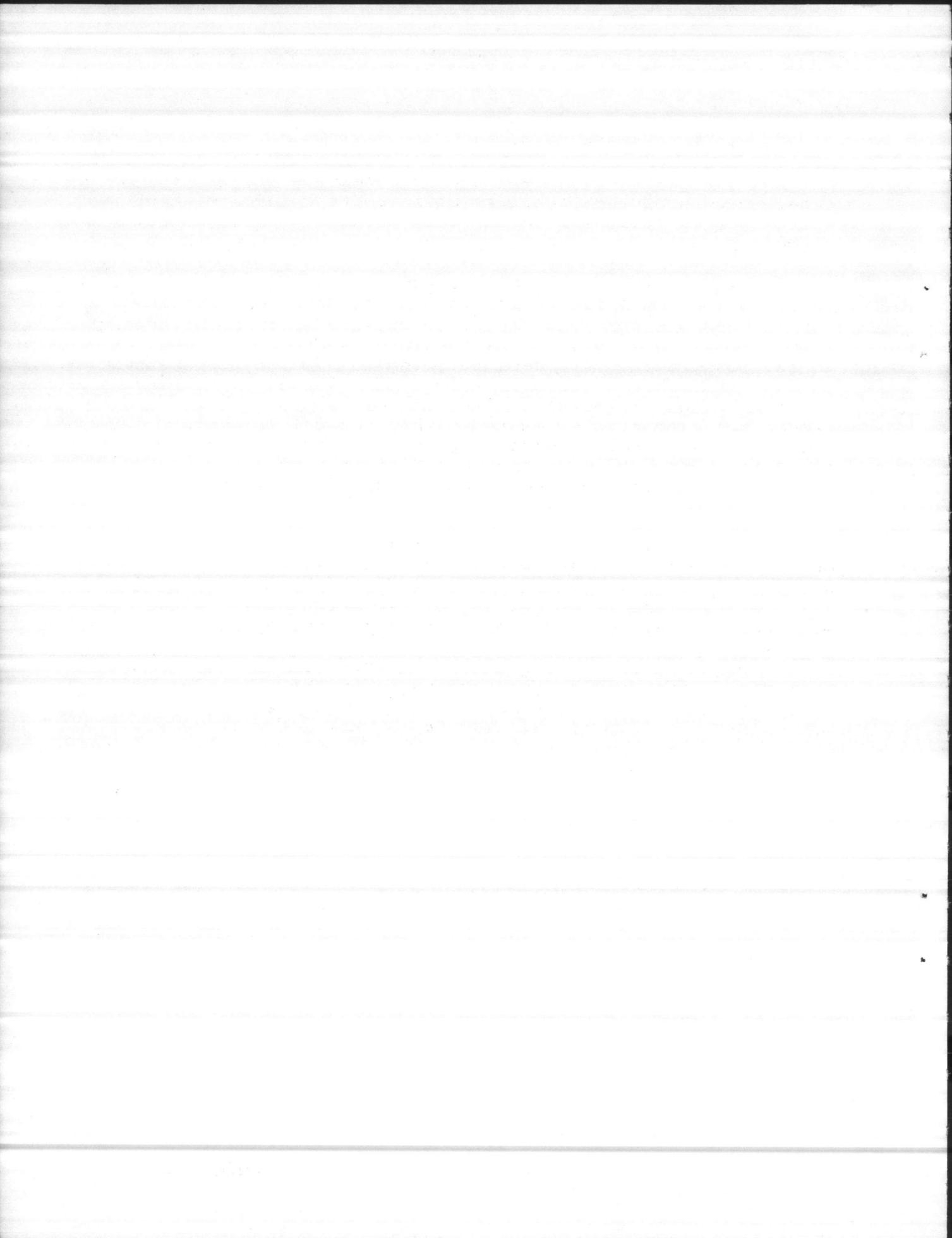
a. A noise-level meter, and if considered necessary, an octave band analyzer, shall be utilized to determine where noise hazards exist and the effectiveness of noise-reduction measures.

b. When the noise level exceeds 90 dBA the noise environment shall be analyzed by persons competent to perform the task. Requests for noise level surveys in areas suspected as being "noise hazardous" areas should be addressed in writing to the Base Medical Officer, Building 15, Marine Corps Base.

c. Noises 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 ear protective 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 to their noise hazard. Labeling will indicate the mandatory use of ear protective devices for all personnel within the perimeter of the noise hazard.

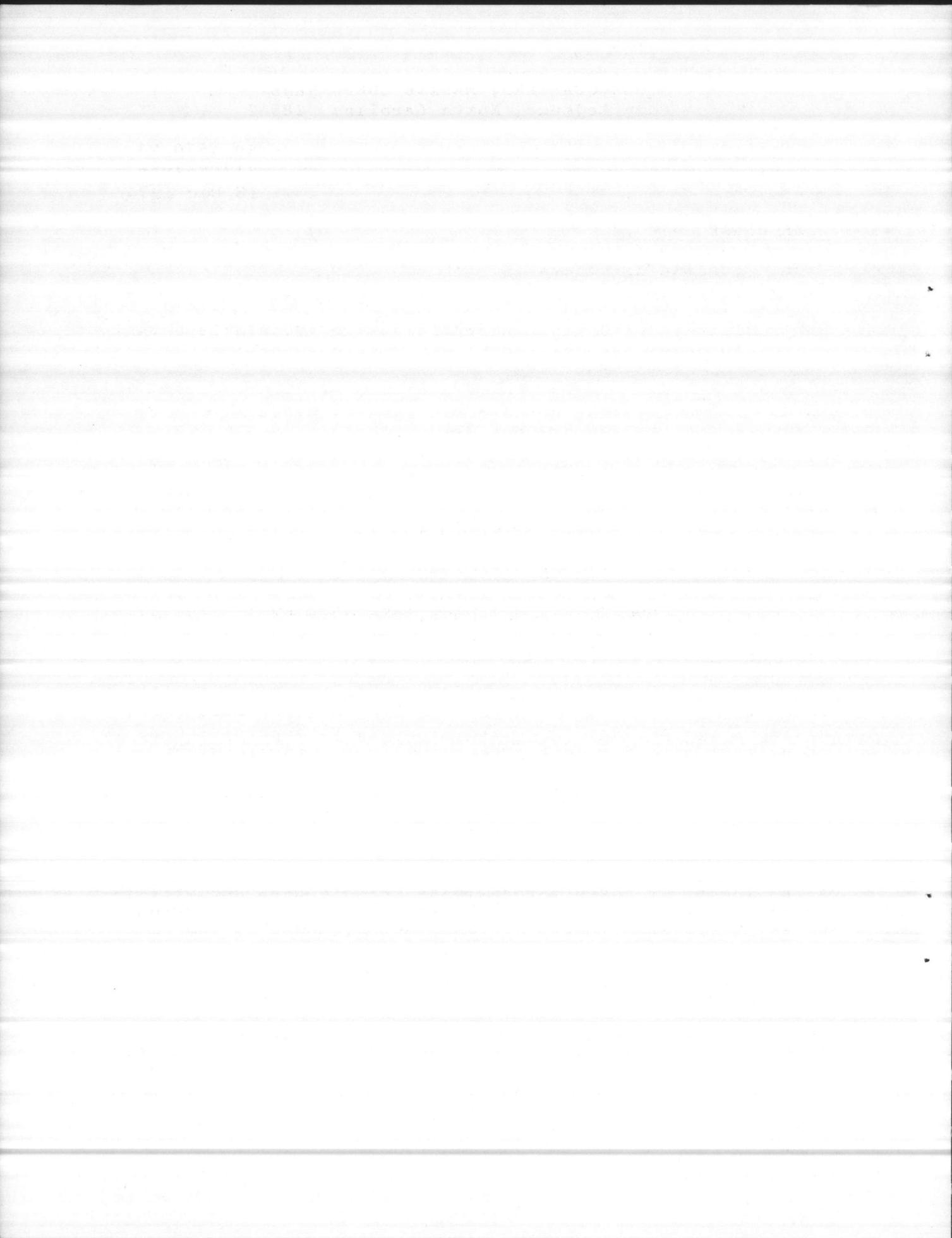
4. Funding. Costs of providing required facilities, instrumentation, and personnel protective equipment to implement this program is to be accomplished under regular operation and maintenance funds available to the commander involved.



APPENDIX F

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:

BO 4570.1B
18 Dec 1974

(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
G. C. FOX
Chief of Staff

DISTRIBUTION: "A" plus the Defense Property Disposal
Chief, Camp Lejeune Field Office

