SUMMARY

page 3

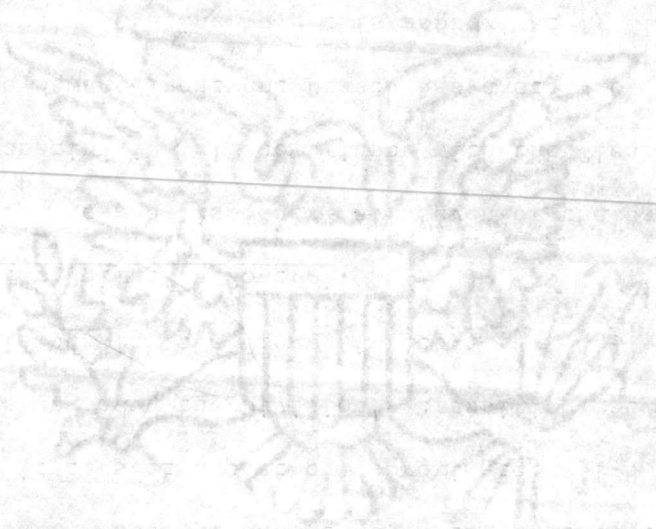
GENERAL

The Camp Lejeune program to protect and enhance the environment advanced steadily during the entire decade of the seventies toward consistency with the intent of the National Environmental Policy Act of 1969 and compliance with the wide range of environmental laws and regulatory programs which resulted from the environmental movement. In doing so, the planning and implementation of means and measures to abate and prevent pollution and degradation of the environment have become a responsibility of all local organizations involved in planning and programming. This report will cross section accomplishments during the past Three years.

Air Pollution Control. Open burning has been suspended with the exception of fire fighting training and prescribed burning under the forest management plan. Development of the capability to burn coal or oil in compliance with the Clean Air Act has been effected at the base Central Heating Plant. This has been accomplished through the installation of the electrostatic precipitators at a cost of approximately $1.8 million. The 2d Marine Division has upgraded the Division's classified materials disposal facilities in compliance with the Clean Air Act.

Water Pollution Control.

Sewage Disposal - All seven of the base sewage treatment plants are operating in full compliance with the Clean Water Act and required permits. The Sewage Treatment Branch has a staff of 44 operators and supervisors. The annual operating budget is approximately $1.34 million. Approximately 2.64 billion gallons of sewage are treated annually.


1980

Drinking Water - All eight of the potable water systems are operated in compliance with the Safe Drinking Water Act. Monitoring requirements are met. The Water Treatment Branch has a staff of 46 operators and supervisors and an annual operating budget of approximately $1.67 million. Approximately 2.56 billion gallons of water are produced annually.

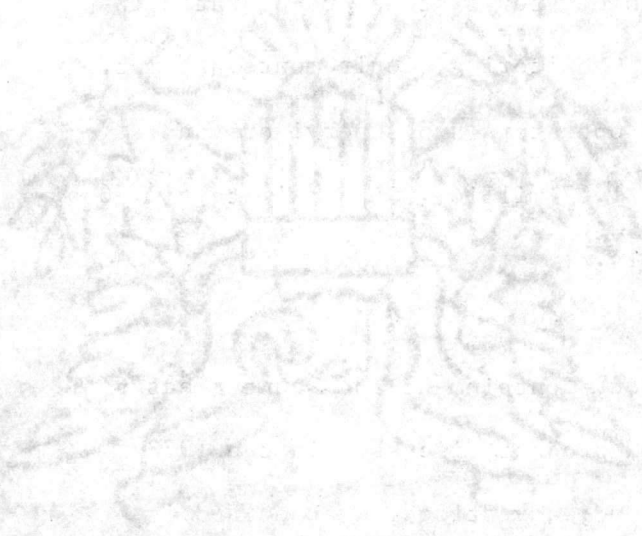
Oil pollution - The Oil Spill Prevention, Containment and Countermeasure plan was published in 1978. Also, the MILCON project discussed in the 1978 environmental quality report has been developed, advertised, awarded and is now under construction (approximately $8.7 million). This project provides the facilities required to prevent and abate oil pollution and other miscellaneous discharges from shops, utilities, fire training facilities, and other pollution sources identified in the NPDES permit and a related compliance agreement between the Environmental Protection Agency and the Base.

New Page → 4

Soil Erosion and Sedimentation - Each year approximately $100,000 is identified in the Base Maintenance budget to correct existing and new erosion problems. Priorities for projects were established in the Natural Resource Management Plan developed in 1974 by the Base in cooperation with the Soil Conservation Service under a cooperative agreement with the Onslow Soil and Water Conservation District.

Noise Pollution Control - The Hearing Conservation Center of the Base Medical Department is responsible for establishing and maintaining a hearing conservation program. In the past three years, 60,000 hearing tests were conducted.

Radiation Pollution Control - Monitoring and response to radiation emergencies or problems is carried out by the Industrial Hygiene organization of the Preventive Medicine Unit, Naval Regional Medical Center in cooperation with Base Safety Officer.



Solid Waste Management - Non-recyclable wastes are placed in the sanitary landfill and covered daily as required by State regulations. Compaction equipment has been installed at key locations aboard the installation. This equipment reduces the need for dumpsters, aids handling and provides better utilization of the landfill. Modern compacters are used at the landfill to spread and compact the refuse and garbage as it is emptied. The Onslow County sheltered workshop's Coastal Opportunities Resource Recovery Plant located on board base celebrated it's fourth anniversary on 10 September 1980. 126 pitch in receptacles have been installed as part of the base Keep America Beautiful program.

Toxic and Hazardous Material Management - The use of pesticides aboard base is controlled in accordance with the Federal Insecticide, Fungicide and Rodenticide Act. Pesticides are applied only by properly trained and certified personnel. Hazardous materials and wastes are managed in accordance with the requirements of the Federal Clean Water Act, Toxic Substances Control Act and the Resource Conservation and Recovery Act. In addition, related state regulations are being followed.

Environmental Research and Development Programs - Wildlife specialists from North Carolina State University are currently conducting plant population studies in the Quail Management area.

Environmental Enhancement - Camp Lejeune's goals and objectives are to do more than meet the minimum requirements of environmental laws and programs. Constant attention is given to landscaping and beautification. The public, for example students, scouts and educators, is encouraged to participate in our efforts. Energy conservation and new technology, for example solar heating, are an important part of project and program development.

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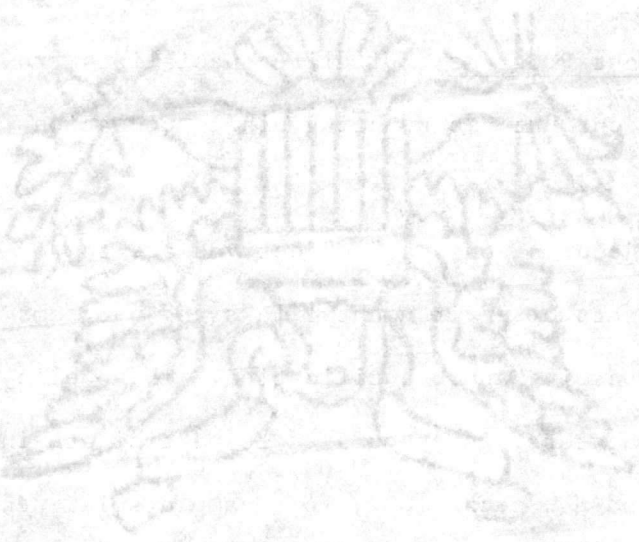


New page 5

SPECIFIC PROJECTS AND ACHIEVEMENTS COMPLETED, UNDERWAY OR PLANNED DURING PAST YEAR

1. Electrostatic precipitators were installed at Central Heating Plant at a cost of approximately 1.8 million dollars.

2. A survey of erosion and sedimentation problems on the tracked vehicle trails at stream crossings has been completed by Base Maintenance Department. An appropriate pollution abatement project was developed in cooperation with the Public Works Officer and submitted to Headquarters Marine Corps for approval and funding.

3. Transformers on hand awaiting disposal have been analyzed for PCB content, properly labeled and stored in facilities meeting the requirements of the Toxic Substances Control Act. The analysis was funded through pollution abatement funds (approximately $45,000.) provided by Atlantic Division, Naval Facilities Engineering Command, Norfolk, Virginia.

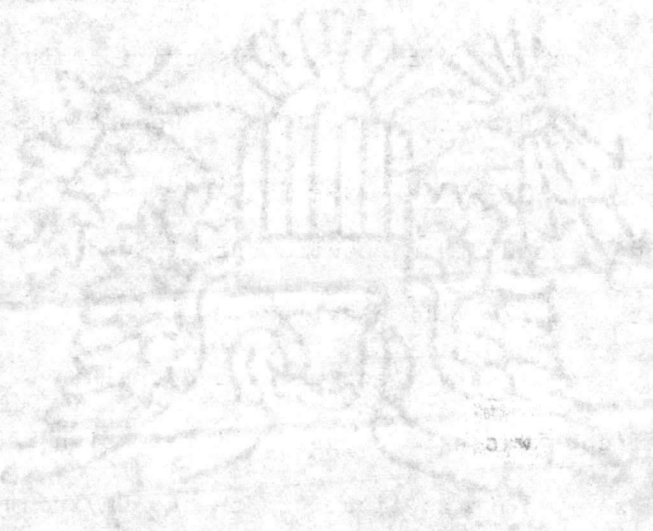
4. A project to install two amphibious land ramps along New River to control erosion and sedimentation pollution associated with amphibious craft training exercises has been developed and advertised by the Public Works Department.

5. An industrial waste treatment and collection project required for compliance with the Clean Water Act and Related State requirements is under construction at a cost of approximately $8.7 million dollars.

6. A hazardous material and waste disposal survey and a related training session for safety and logistics officers were held to gather information required to prepare and submit notifications and permit applications to the Environmental Protection Agency in accordance with the Resource Conservation and Recovery Act.

7. A hazardous material storage facility to be operated by 2d Force Service ~~Service~~ Support Group, was completed at a cost of approximately $250,000.

8. The following testing program of Base drinking water supplies was established as required by the Safe Drinking Water Act:



a. A year long sampling of radionuclides in all eight systems.

b. Trialomethanes content in Hadnot Point and Marine Corps Air Station (H) New River water systems.

c. Inorganic chemicals, trace metals, fluorides and nitrates present in all eight water systems.

In addition, weekly and daily monitoring required by the Act is being carried out.

New page → 6

9. Permit applications required by the Clean Air Act have been prepared and submitted to the Environmental Management Commission of North Carolina for all no. 6 fuel oil fired boilers aboard the installation.

10. A Mobile Hearing Conservation Audiometric Testing Center (MOHCAT) began in March, 1980 and will travel throughout the installation. The unit will increase the number of hearing tests by 10,000 annually.

11. Four new barracks with solar water heating panels have been constructed. This will provide valuable information and experience regarding this new technology.

12. The Water Quality Control Laboratory was certified in November 1980 by the Naval Energy and Environmental Support Activity, Port Hueneme, California for analysis of the following NPDES parameters; oil and grease, BOD, suspended solids, pH, and residual chlorine.

13. Field Work for a base wide archeological study was completed during 1980 and preparation of report by the contractor is underway.

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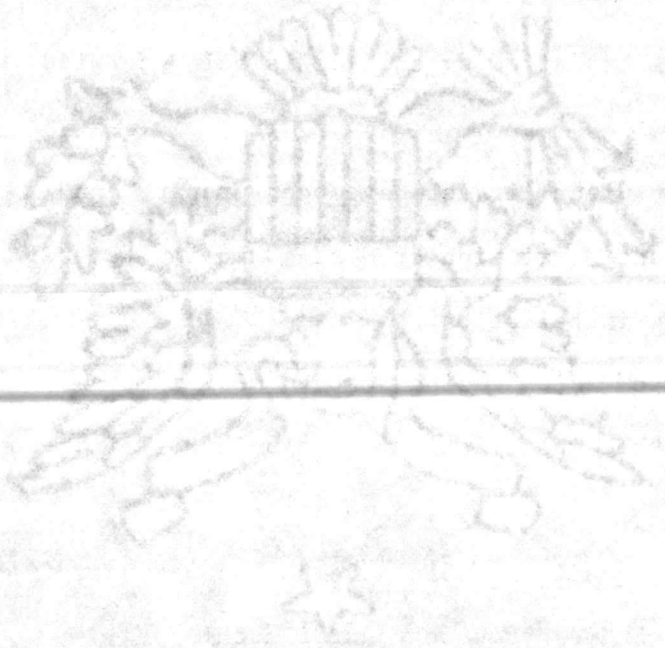

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ORGANIZATION

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

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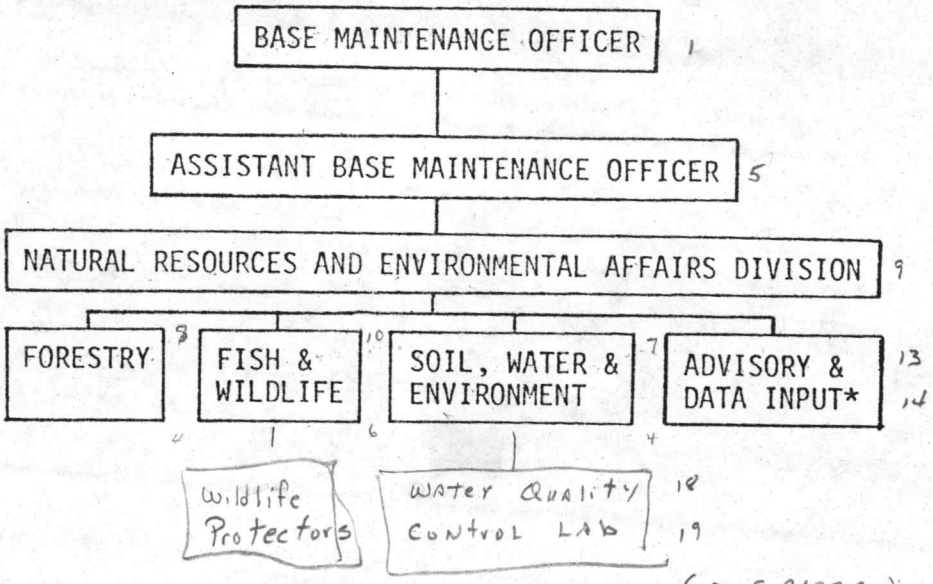

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*This section consists of advisory and coordinating personnel from Base Public Works Department and other divisions of Base Maintenance Department on a collateral duty basis.

BASE MAINTENANCE OFFICER

ASSISTANT BASE MAINTENANCE OFFICER

NATURAL RESOURCES AND ENVIRONMENTAL AFFAIRS DIVISION

FORESTRY	FISH & WILDLIFE	SOIL, WATER & ENVIRONMENT	ADVISORY & DATA INPUT*
	WILDLIFE PROTECTORS	WATER QUALITY CONTROL LAB	

page #8

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 11000.1A (Appendix A) 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 submitted to the Committee for Environmental Enhancement/Environmental Impact Review Board. The Board is composed of the following members: Chairman (as appointed by the Commanding General); Base Training Facilities Officer; Representatives from 2d Marine Division, FMF: 2d Force Service Support Group, (Rein), FMFLant; Marine Corps Air Station (Helicopter), New River; President, Rod and Gun Club;

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Director, Natural Resources and Environmental Affairs Division; Base Wildlife Manager; Base Ecologist, and Design Director, ~~S.I.A., Base Safety~~, 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.

The Committee was originally established in 1962. Responsibilities of the Committee originally focused on review and evaluation of the Natural Resources and Environmental Program and providing advice to the Commanding General on program development and updating. The Committee's responsibilities have been broadened to include the review of environmental assessment documentation and making appropriate recommendations to the Commanding General regarding matters related to the implementation of NEPA.

New Page 9 →

AIR POLLUTION CONTROL

Although air pollution in Camp Lejeune is not considered to be a serious problem as the area is rural with few industrial sources of air pollution, the base program objectives are to operate all facilities as free of air pollution as practical. Over 200 sources have been listed with the State Environmental Management Commission and EPA. Air quality considerations are evaluated during assessment of proposed new facilities. All heating plants in operation aboard base utilize low sulfur fuel as an air pollution prevention measure.

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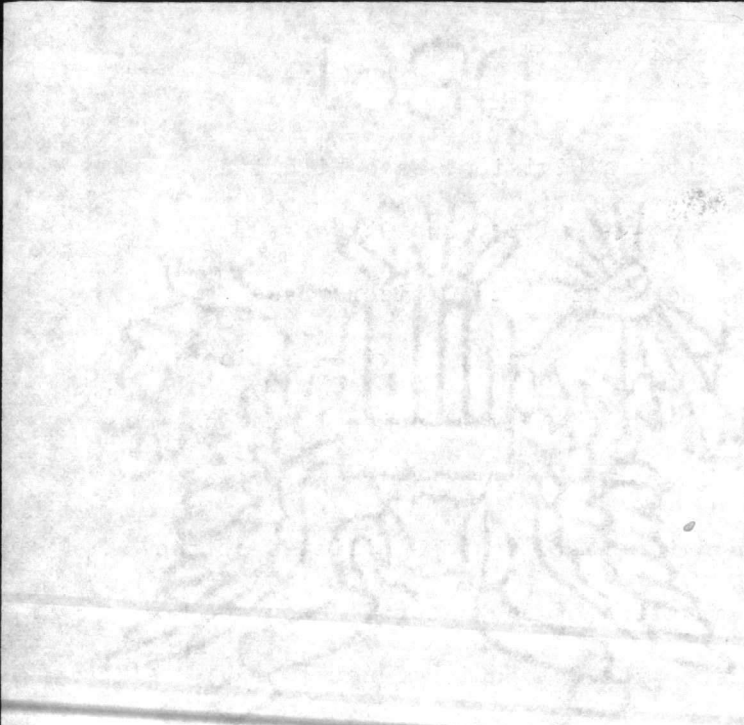
All open burning at Camp Lejeune has been suspended except those fires used for fire training purposes and prescribed burning for forest management purposes. These activities are carried out under criteria established by the North Carolina Department of Natural and Economic Resources.



page 10

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

P 2

water Pollution Control

WATER POLLUTION CONTROL

GENERAL

Water pollution control efforts are directed towards five areas of concern. These are (1) oil pollution prevention and abatement, (2) sewage treatment, (3) the collection and treatment of minor industrial waste discharges, (4) prevention and abatement of erosion and related sedimentation pollution during construction and (5) the prevention and abatement of erosion and sedimentation pollution associated with ongoing training activities.

MONITORING

In 1975 the task of monitoring water quality associated with sewage treatment, drinking water, storm drains and miscellaneous related activities was assigned to the Natural Resources and Environmental Affairs Division, Base Maintenance Department. A chemist and four physical science technicians were assigned to the laboratory to accomplish both in house and EPA mandated sampling, testing and reporting related to water quality. Under the supervision of the base ecologist, all five areas of concern shown above are routinely monitored, problems are identified and recommendations for corrective action are made. Although the monitoring program operates independently from the Utilities Division, daily contacts are made to exchange information required for the proper operation of both the sewage and water treatment plants.

OIL POLLUTION PREVENTION AND ABATEMENT

Base efforts to implement a program consistent with national oil pollution control objectives outlined in the Clean Water Act took a large step forward when an $8.5+ million MILCON project for the collection and treatment of industrial wastes began this year. This project includes oil spill prevention and containment facilities required to furnish an adequate level of pollution control throughout the installation. The project provides the latest pollution control technology. A study administered by the Naval Facilities Engineering Command in 1976 was the basis for the project.

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Photo 9+10 P. 11

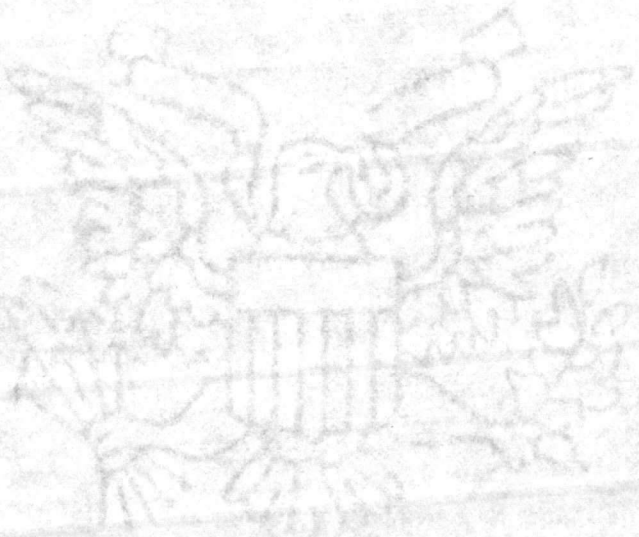

Photo # 3

New Page 12 →

Photo # 4

New PAGE 12 →

Photo # 5

Photo # 6

New PAGE 13 → In the past, most of the waste motor oil collected at Camp Lejeune was used for dust control on unpaved roads and parking lots. This practice has been discontinued. Now, a 272,000 - gallon tank is available for storing excess waste oil. In 1978 approximately 100,000 gallons of waste oil collected at Camp Lejeune was sold by the Defense Property Disposal Office to a Georgia based reclamation firm for 13¢ per gallon. To date, 425,000 gallons have been recovered.

Marine Corps Bulletin 6240 of 28 August 1973 directed activities to have on hand certain oil containment and cleanup equipment to combat any possible oil spill. Camp Lejeune has a boat, oil skimmer, vacuum truck, sorbent mats, straw, 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 direction, can be transported to the site of an oil spill.

During 1978 five 20-foot sections of oil containment boom were purchased and installed across drainage canals and receiving streams from Hadnot Point and Marine Corps Air Station. This precautionary action was taken to prevent any possible oil spill from reaching navigable waters.

Photo #11

Photo #12

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1980

Photo #11

Photo #12

#7

#8

page →

sewage Treatment

#11

#12

SOIL EROSION

The forces of nature (wind tide and wave action) cause some erosion at Onslow Beach and certain points along the banks of New River. Stone, concrete and masonry rubble from demolished buildings has been used to eliminate part of the New River bank erosion problem. This work has been approved by the District Officer, U. S. Army Corps of Engineers, Wilmington, North Carolina.

In a cooperative effort with North Carolina State University Extension Service, planting of marsh grass at designated segments of shoreline along New River has been accomplished. The work is an experiment to determine if shoreline erosion can be controlled by establishing a marsh using native vegetation.

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 damaged and soil disturbed, resulting in a potential soil erosion problem. To avoid unnecessary damage incidental to field training, tracked vehicles have been restricted to designated training areas and access trails.

Same Paragraph. ← The Soil Conservation Service, through a cooperative agreement between Marine Corps Base and the Onslow Soil and Water Conservation District, made a survey of all soil conservation problem areas during the summer of 1974. Prescriptions were made for 230 different sites and information was incorporated into the Long Range Multiple-Use Natural Resource Management Plan. Work on some of the problem areas has been accomplished and several areas have been scheduled for treatment in FY-81. While approximately $100,000 is budgeted annually by Base Maintenance, experience has shown that much of the work will require projects beyond local capability. Efforts have been redirected and during 1980 the Public Works Department has designed a project to provide amphibious vehicle landing ramps. Also Base Maintenance and Public Works personnel developed a $750,000 project to correct pollution problems associated with use of tracked vehicles.

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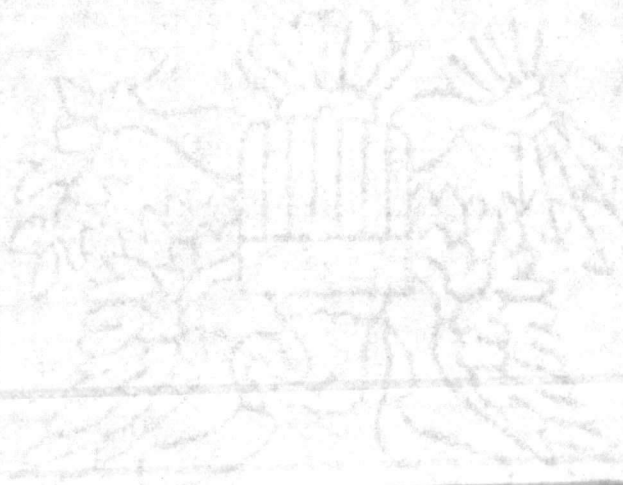
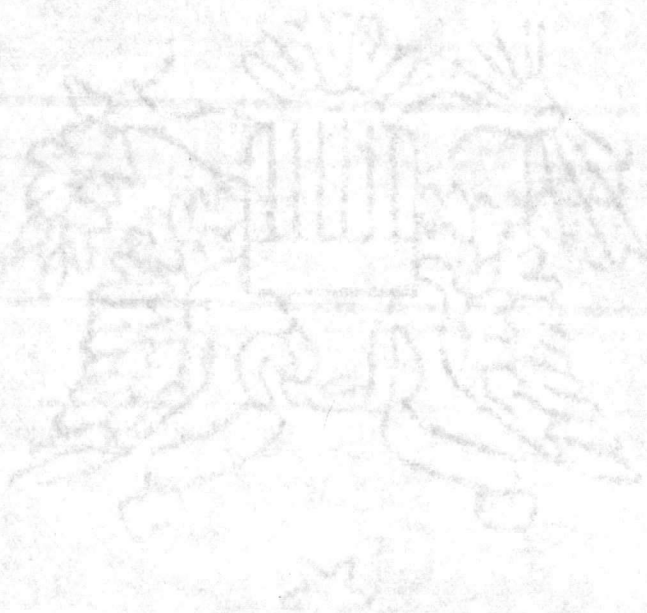


Photo # 13

Photo # 14



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SEWAGE TREATMENT

14 A minimum of secondary treatment is accomplished at all of the seven sewage treatment plants at Camp Lejeune. Construction of rotation 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. Therefore the seven million gallons of wastewater that daily flows through the sewage treatment system does not degrade the quality of New River. During 1976-77 the Camp Geiger sewage treatment plant was upgraded to a tertiary treatment status. When the work was completed, the Marine Corps Air Station (H), New River sewage treatment plant was closed and the sewage generated at that activity is now pumped to the Camp Geiger sewage treatment plant. Continuous attention and control at these sewage plants by qualified personnel assure that effluents meet and exceed requirements of Environmental Protection Agency (EPA) and water quality standards established by the State of North Carolina. To help improve the qualifications of sewage treatment plant operators, all recently employed personnel are engaged in an intensive two-year on-the-job training program set up and administered by the Civilian Personnel Office. The final step of this training program requires the employee to pass the Wastewater Treatment Operator Examination (Grade II) administered by the North Carolina Department of Water and Air Resources. Thirty-one sewage treatment plant operators and helpers have passed examinations for certification with grades ranging from I to IV.

Photos 11 + 12 Page 14 Bottom

New Page 15

The new computerized Utility Control System at Camp Lejeune automatically monitors sump high level and power failure at 24 major sewage lift stations at Camp Lejeune. This system helps eliminate potential sewage overflow problems and subsequent pollution at these stations since, upon issuance of a high sump or power failure alarm at the computer center, a mechanic can be quickly dispatched to the site to correct the 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 Base Order 6260.2A (Appendix D).

The Occupational and Preventive Medicine Service manages the Quad Command Hearing Conservation Program, and is responsible for monitoring noise hazardous areas and providing audiometric examinations (hearing tests) for all military and civilian personnel covered by the program. The Hearing Conservation Centers located in Building 36 and various Branch Clinics conduct approximately 20,000 hearing tests annually. A recent addition to this program is the Mobile Hearing Conservation Audiometric Testing Center (MOHCAT) which began operation in March 1980. The MOHCAT is a mobile hearing test trailer which can travel to all base units and will increase the number of audiograms by 10,000 annually.

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 Inspector 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.

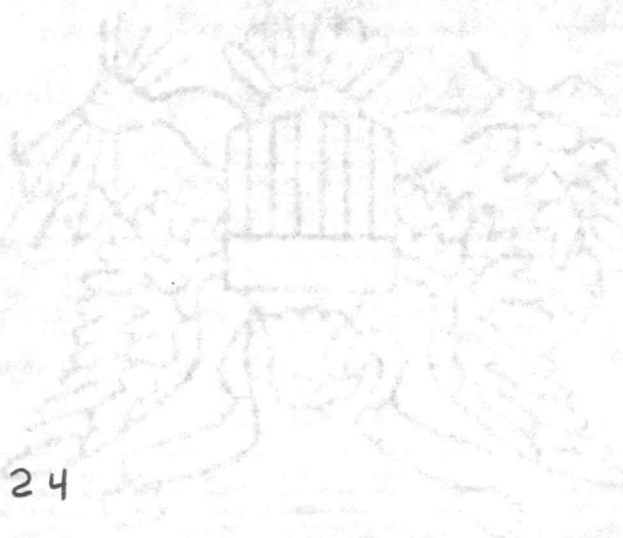
SOLID WASTE MANAGEMENT

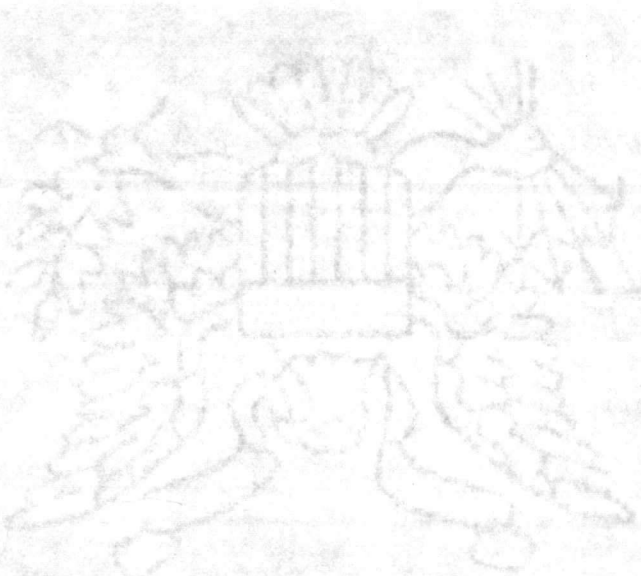
Solid waste management is a rapidly changing technology nationwide. In 1977 a solid waste management study was conducted at Camp Lejeune which focused on the recovery of natural resources (both energy and raw materials) from solid wastes. This study, a result of the Navy R^4 program (Recovery and Reuse of Refuse Resources), generated a published masterplan for Camp Lejeune. The plan focuses on alternatives for resource recovery. In addition to developing approaches to resource recovery, the refuse collection and disposal aspects of solid waste management were evaluated. Recommendations for improved efficiency and the adequate protection of the environment were made. Finally, several complete alternatives to solid waste management were developed for the base. These incorporated the improvements to collection and disposal as well as various combinations of approaches to resource recovery (both material and energy). As a result of the study, the base has implemented a program designed to extract useful materials from the solid waste generated at Camp Lejeune.

Solid waste collection and disposal is a laborious and expensive operation as approximately 750,000 cubic yards of garbage, trash, and other waste must be disposed of at Camp Lejeune each year. Wastes of all kinds, excluding that considered dangerous, hazardous or recyclable, are transported to the sanitary landfill for disposal. The sanitary landfill is located on a well-drained 100-acre site on the Sneads Ferry Road. The ramp method is used. An area approximately forty feet wide and twelve feet deep has been excavated to receive waste materials. A bulldozer is used to compact the refuse as it is placed on the slope. At the end of each work day the filled area is covered with soil which eliminates insect attraction, fly breeding and rodent habitat. Surrounding streams are monitored weekly.

Photo # 17

Photo # 18





Twenty-one compaction devices with a 10-to-1 compaction ratio have been installed in the base messhalls. Eight additional compaction devices with a 4-to-1 compaction ratio and a 45 cubic yard container have been installed at selected points aboard the base to compress cardboard boxes. Each compacter holds approximately 5½ tons of cardboard.

There are 126 "pitch-in" containers installed along roadsides and areas with heavy pedestrian traffic aboard the base. These containers have helped keep Camp Lejeune's roads and walkways clean by providing a place for the deposit of litter generated by motorist and pedestrian. The volume of trash being removed from these containers indicates heavy utilization.

BO 11014.8A (Appendix F), was revised on 6 July 1978. The order prohibits anyone from willfully placing, depositing or leaving any litter, trash, refuse, garbage, debris or waste material of any kind anywhere aboard base other than in a receptacle for that purpose in a place specifically designated and authorized for that purpose.

A rather large volume of scrap wood is generated at Camp Lejeune which includes used lumber or boxes not required for the foreseeable needs of the generating activity or in such condition as to be unacceptable for further use. This material will be turned in and disposed of according to procedures set forth in Base Order 4570.1C of 13 Jan uary 1978.

The Resource Recovery Program is set forth in Base Order 4100.8, (appendix G). This order covers the recycling of cardboard, newspaper, computer paper and tab cards. The Onslow County Workshop of Coastal Opportunities, a local non-profit sheltered workshop for mentally and/or physically handicapped individuals, operates the recycling plant under contract. The workshop employs a varying number of handicapped persons at this facility in the last phase of a program of training prior to receiving employment in the outside community.

TOXIC AND HAZARDOUS MATERIALS MANAGEMENT

GENERAL

Recent events such as the Love Canal hazardous waste dump and the dumping of PCB's along hundreds of miles of North Carolina road shoulders and the public's response to them have clearly shown that federal agencies must carry out their use and disposal of hazardous materials properly. Three major laws guide this command's actions in this area:

(1) Resource Conservation and Recovery Act

(2) Toxic Substances Control Act

(3) Federal Insecticide, Fungicide and Rodenticide Act

This Command is committed to compliance with the intent of these regulations and the related objectives of the Clean Water Act.

HAZARDOUS WASTE DISPOSAL

In summary, the local program to dispose of hazardous materials and wastes require that any organization having physical custody of a hazardous material or waste has the primary responsibility of ensuring the item is not improperly discharged into the environment. A centralized interim safe storage and disposal program has been established by Marine Corps Base which is available to all local commands. Permits, applications, notifications and other procedural requirements of the Resource Conservation and Recovery act have been accomplished. The local Defense Property Disposal Office is cooperating with this command in setting up a program to ensure expeditious and environmentally sound disposal of hazardous materials and wastes.

A $250,000 storage facility has been constructed to store incoming hazardous material with dangerous properties which preclude storage in regular warehouse facilities. Operated by the SASSY Management Unit of 2d Force Service Support Group (REIN) (2d FSSG), the facility has modern hazardous

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material handling technology. In addition to operating this facility, 2d FSSG plays an important role in ensuring that hazardous materials and wastes are properly packaged prior to shipment on public highways.

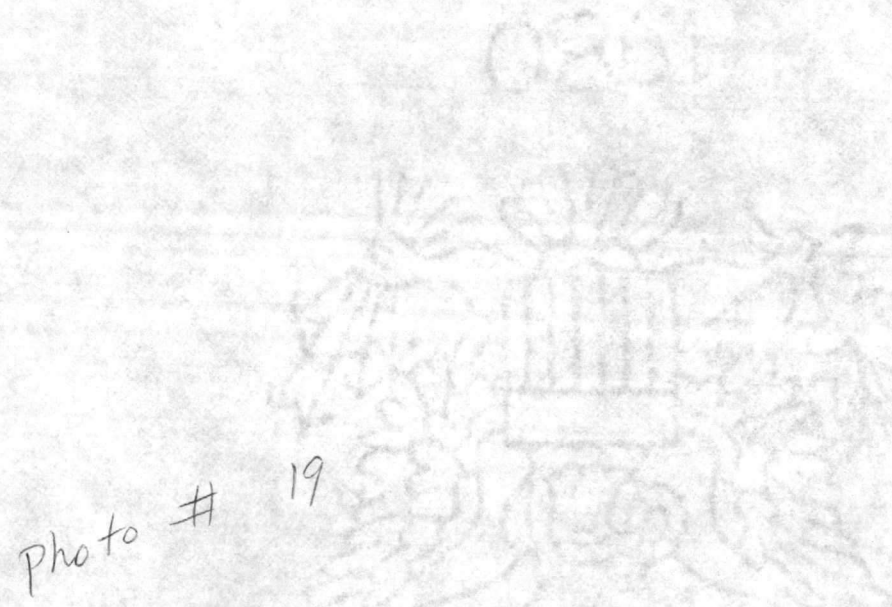
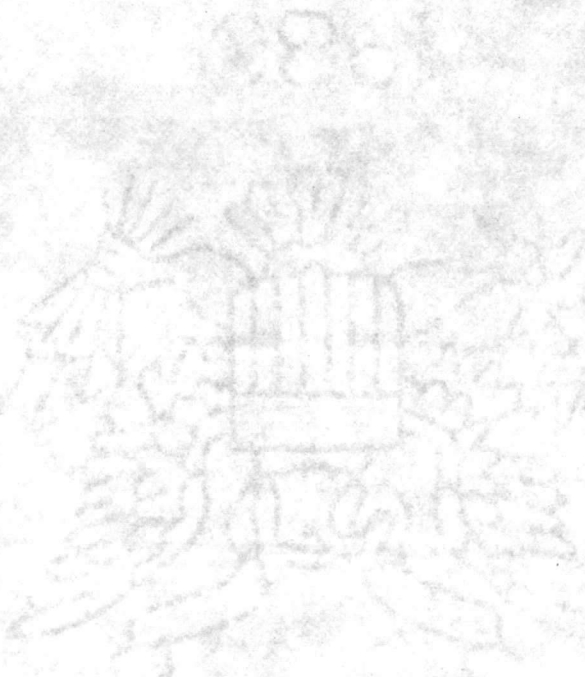


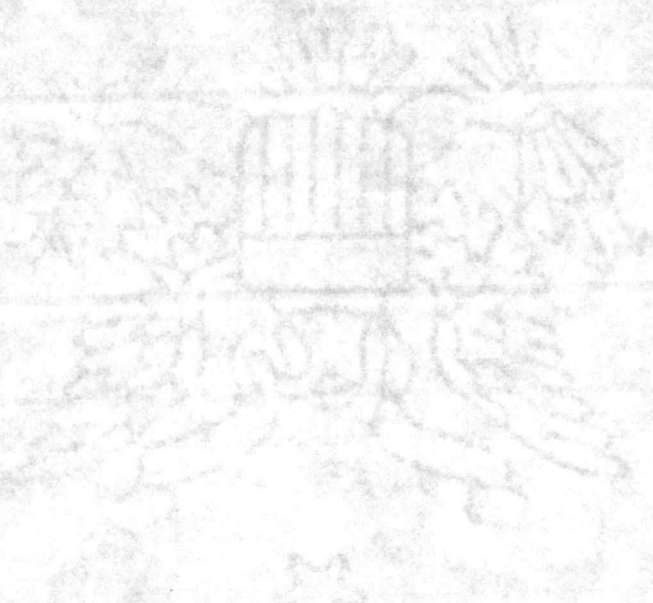
Photo # 19

TRANSFORMER DISPOSAL

During 1980, several hundred used transformers were tested for contamination by Polychlorinated Biphenyls (PCB's) at a cost of approximately $45,000. Base storage facilities have been upgraded and essential containment curbing and required labeling effected. All used transformers are analysed when taken out of service. This analysis determines how the transformer will be stored until a proven means of safe disposal is developed and approved by EPA.

Photo # 20

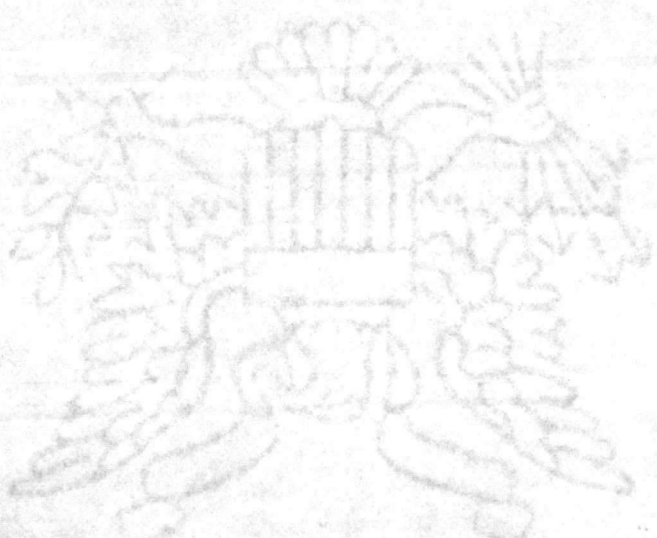




HERBICIDE AND PESTICIDE SAFETY PRECAUTIONS

The base has made several changes in utilization of herbicides, insecticides and other pesticides in order to protect environment and comply with current regulations. A vigorous training and certification program is carried out on a continuing basis for all personnel involved in application of pesticides. All pesticides are stored in locked facilities at the Insect Vector Shop which has been upgraded to meet all requirements of the Federal Insecticide, Fungicide and Rodenticide Act.

Photo # 21



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

IN REPLY REFER TO

INSTRUCTIONS

1. USE BLACK RIBBON. ALL LETTERS MUST APPEAR OPEN AND SHARPLY DEFINED.
2. TYPE INSIDE SOLID LINE.
3. FIRST PAGE: START BELOW BROKEN LINE.
4. SUCCEEDING PAGES: USE ENTIRE AREA WITHIN SOLID LINE.
5. WHEN NO COMMAND OR ACTIVITY HEADING IS REPRODUCED, THE ENTIRE AREA WITHIN THE SOLID LINE MAY BE USED.

EVEN PAGE ENCLOSURE IDENTIFICATION	PAGE	ODD PAGE ENCLOSURE IDENTIFICATION

SUMMARY

GENERAL

The Camp Lejeune program to protect and enhance the environment moved steadily during the entire decade of the seventies toward consistency with the intent of the National Environmental Policy Act of 1969 and compliance with the wide range of environmental laws and regulatory programs which resulted from the environmental movement. In doing so, the planning and implementation of means and measures to abate and prevent pollution and degradation of the environment ~~has~~ have become a responsibility of all local organizations ~~with~~ involved in planning and programming ~~responsibilities~~. This report will cross section accomplishments during calendar years 1978, 1979 and 1980 with emphasis on accomplishments during the past year.

Air Pollution Control. Open burning has been suspended with the exception of fire fighting training and prescribed burning under the forest management plan. Development of the capability to burn coal or oil in compliance with the Clean Air Act has been effected at the base Central Heating Plant. This has been accomplished through the installation of electrostatic precipitators at a cost of approximately $1.8 million. The 2nd Marine Division has upgraded the Division's classified materials disposal facilities in compliance with the Clean Air Act.

Water Pollution Control.

Sewage Disposal - All seven of the base sewage treatment plants are operating in full compliance with the Clean Water Act and required permits. The Sewage Treatment Branch has a staff of 44 operators and supervisors. The annual operating budget is approximately $1.34 million. Approximately 2.64 billion gallons of sewage are treated annually.

Drinking Water - All eight of the potable water systems are operated in compliance with the Safe Drinking Water Act. Monitoring requirements are met. The Water Treatment Branch has a staff of 46 operators and supervisors and an annual operating budget of approximately $1.67 million. Approximately 2.56 billion gallons of water are produced annually.

— FOUR SPACES —

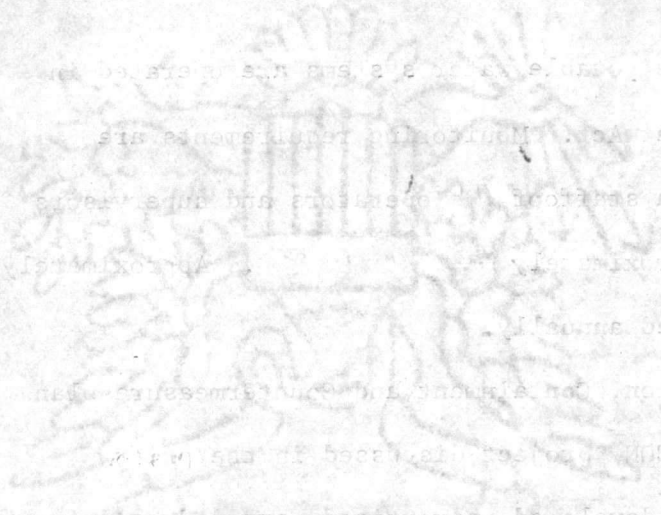
(Indent) Oil Pollution - The Oil Spill Prevention, Containment and Countermeasure plan was published in 1978. Also, the MILCON project discussed in the 1978 environmental quality report has been developed, advertised, awarded and is now under construction (approximately $8.7 million) to provide facilities required to prevent and abate oil pollution and other miscellaneous discharges from shops, utilities, fire training facilities, and other pollution sources identified in the NPDES permit and related compliance agreement between the Environmental Protection Agency and the Base.

— FOUR SPACES —

Soil Erosion and Sedimentation - Each year approximately $100,000 is identified in the Base Maintenance budget to correct existing and new erosion problems in accordance with priorities established in the Natural Resource Management Plan developed in 1974 by the Base in cooperation with the Soil Conservation Service under a cooperative agreement with the Onslow Soil and Water Conservation District.

Noise Pollution Control - The Hearing Conservation Center of the Base Medical Department is responsible for establishing and maintaining a hearing conservation program. In the past three years, 60,000 hearing tests were conducted.

Radiation Pollution Control - Monitoring and response to radiation emergencies or problems is carried out by the Industrial Hygiene organization of the Preventive Medicine Unit, Naval Regional Medical Center in cooperation with Base Safety Officer.



Solid Waste Management - Non-recyclable wastes are placed in the sanitary landfill and covered daily as required by State regulations. Compaction equipment has been installed at key locations aboard the installation. This equipment reduces the need for dumpsters, aids handling and provides better utilization of the landfill. Modern compacters are used at the landfill to spread and compact the refuse and garbage as it is emptied. The Onslow County sheltered workshop's Coastal Opportunities Resource Recovery Plant located on board base celebrated it's fourth aniversary on 10 September 1980. 126 pitch in receptacles have been installed as part of the base Keep America Beautiful program.

Toxic and Hazardous Material Management - The use of pesticides aboard base is controlled in accordance with the Federal Insecticide, Fungicide and Rodenticide Act. Pesticides are applied only by properly trained and certified personnel. Hazardous materials and wastes are managed in accordance with the requirements of the Federal Clean Water Act, Toxic Substances Control Act and the Resource Conservation and Recovery Act. In addition, related State regulations are being followed.

Environmental Research and Development Programs - Wildlife specialists from North Carolina State University are currently conducting plant population studies in the Quail Management area.

Environmental Enhancement - Camp Lejeune's goals and objectives are to do more than meet the minimum requirements of environmental laws and programs. Constant attention is given to landscaping and beautification. The public, for example students, scouts and educators, is encouraged to participate in our efforts. Energy conservation and new technology, for example solar heating, Are an important part of project and program development.

SPECIFIC PROJECTS AND ACHIEVEMENTS COMPLETED, UNDERWAY OR PLANNED DURING PAST YEAR

1.Electrostatic precipitators were installed at Central Heating Plant at a cost of approximately .

2. A survey of erosion and sediment problems on the tracked vehicle trails related to stream crossings has been completed by Base Maintenance Department and a pollution abatement project developed and submitted in cooperation with Public Works Officer.

3. Transformers on hand awaiting disposal have been analyzed for PCB content, properly labeled and stored in facilities meeting the requirement of the Toxic Substances Control Act. The analysis was funded through pollution abatement funds totalling approximately $45,000 provided by Atlantic Division, Naval Facilities Engineering Command, Norfolk, Virginia.

4. A project to install two amphibious land ramps along New River to control erosion and sedimentation pollution associated with amphibious craft training exercises has been developed and advertised by the Public Works Department.

5. The Industrial Waste Treatment and Collection Project required for compliance with the Clean Water Act and Related State requirements is underway at a cost of approximately $8.7 million dollars.

6. A hazardous material and waste disposal survey and a related training session for safety and facilities officers(S-4) was held as required to prepare and submit notifications and permit applications to the Environmental Protection Agency in accordance with the Resource Conservation And Recovery Act.

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 11000.1A (Appendix A) 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, FMF; 2d Force Service

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

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

AIR POLLUTION CONTROL

Although air pollution in the Camp Lejeune is not considered to be a serious problem as the area is rural with few industrial sources of air pollution, the base program objectives are to operate all facilities as free of air pollution as practical. Over 200 sources have been listed with the State Environmental Management Commission and EPA. Air quality considerations are evaluated during assessment of proposed new facilities. Several heating plants are in operation aboard base, all of which utilize low sulfur fuel as an air pollution prevention measure.

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

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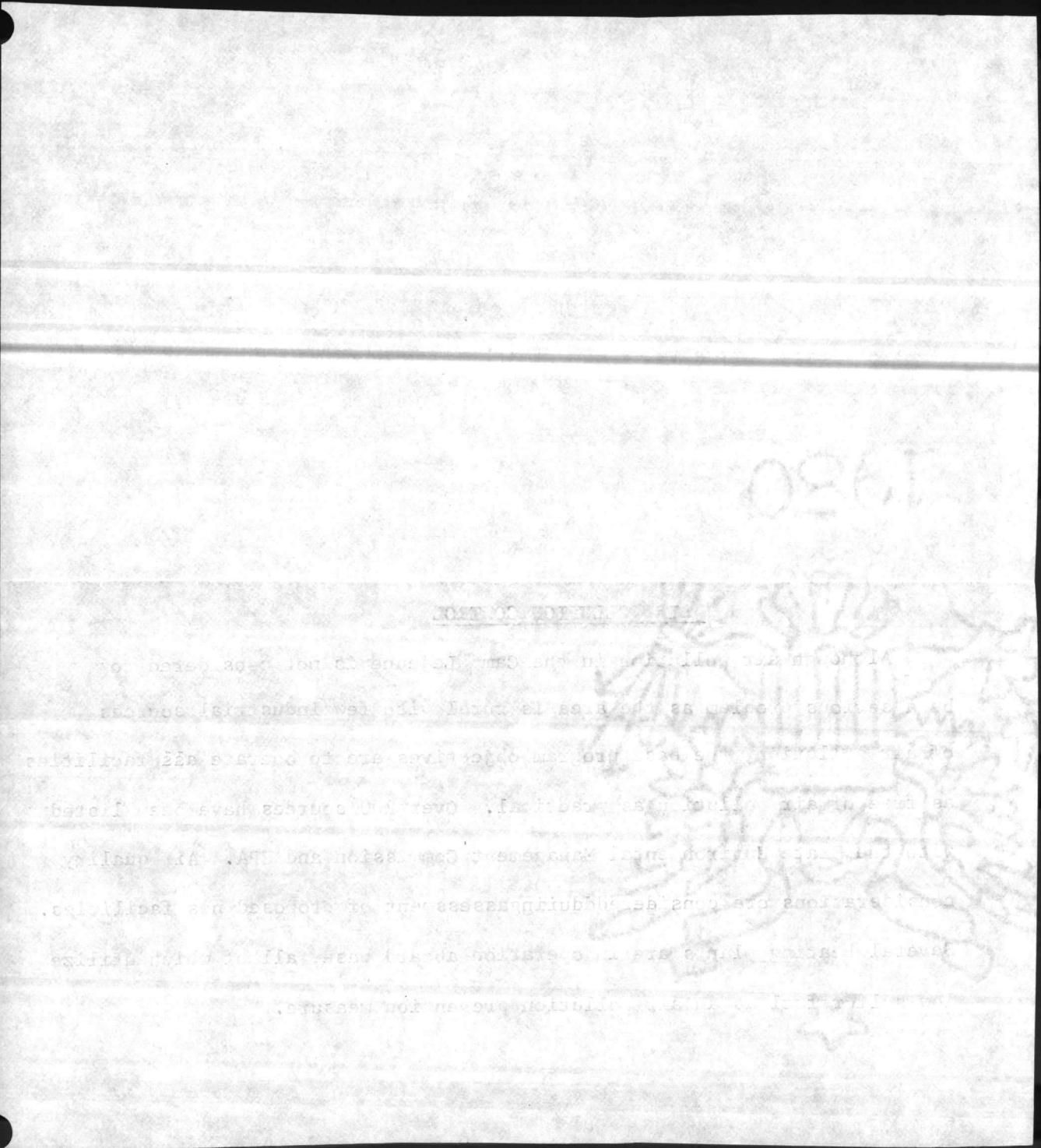


WATER POLLUTION CONTROL

GENERAL

Water pollution control efforts are directed towards five areas of concern. These are (1) oil pollution prevention and abatement, (2) sewage treatment, (3) the collection and treatment of minor industrial waste discharges, (4) prevention and abatement of erosion and related sedimentation pollution during construction and (5) the prevention and abatement of erosion and sedimentation pollution associated with ongoing training activities.

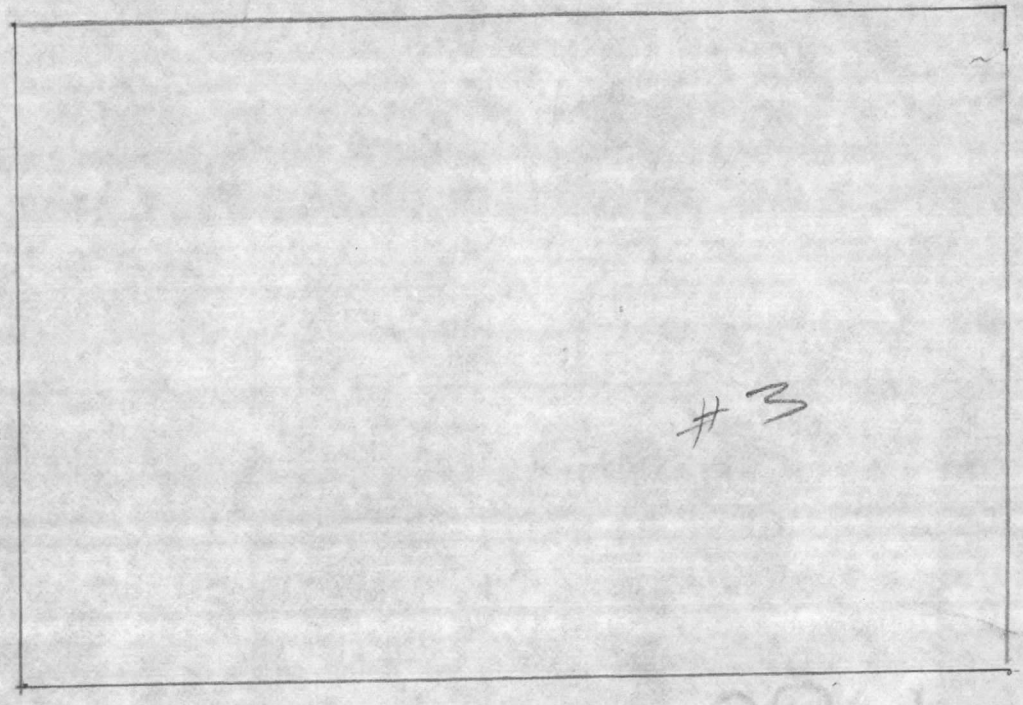
MONITORING

In 1975 during reorganization, primary monitoring of water quality associated with sewage treatment, drinking water, storm drains and miscellaneous related activities were relocated under the Natural Resources and Environmental Affairs Division, Base Maintenance Department. A chemist and four physical science technicians were assigned to the laboratory to accomplish both in house and EPA mandated sampling, testing and reporting related to water quality. Under the supervision of the base ecologist, all five areas of concern shown above are routinely monitored, problems identified and recommendations for corrective action are made. Although the monitoring program operates independently from the Utilities Division, daily contacts are made to exchange information required for the proper operation of bothe sewage and water treatment plants.

OIL POLLUTION PREVENTION AND ABATEMENT

Base efforts to implement a program consistent with national oil pollution control objectives outlined in the Clean Water Act and implementing regulations took a large step forward when the $8.5+ million MILCON project for the collection and treatment of industrial wastes which included oil spill prevention and containment facilities required to furnish adequate level of pollution control throughout the installation. All new construction incorporates the latest pollution control technology.

Air Pollution control cont

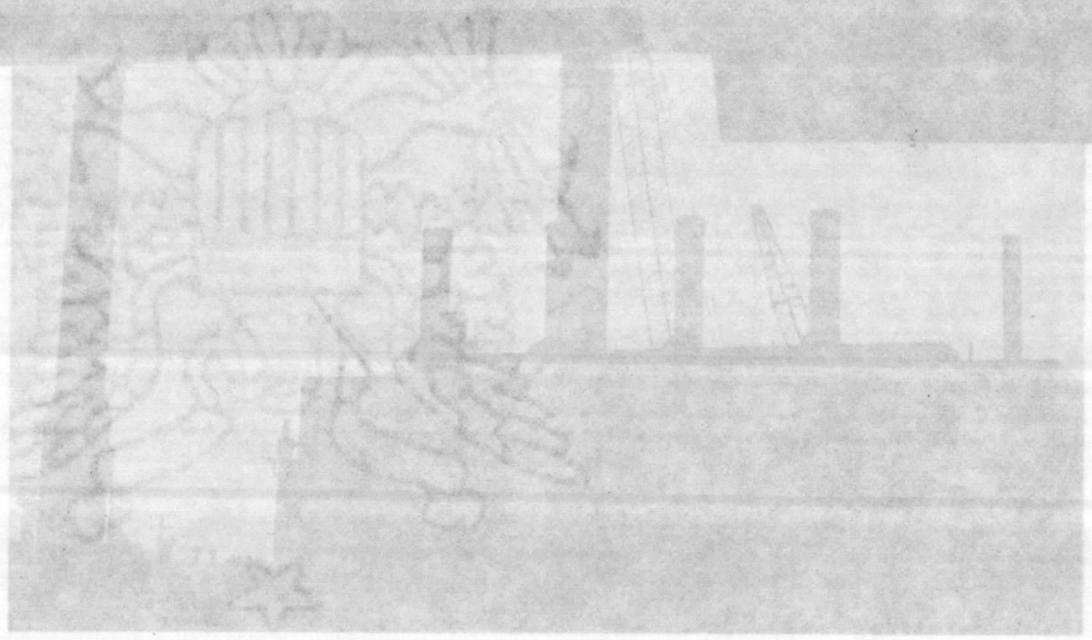


Electrostatic Precipitators at Central Heating Plant

As a fuel conservation measure, the Central Heating Plant has the capability of burning either coal or No. 6 fuel oil. Electrostatic precipitators have been designed for the Central Heating Plant and installation was completed during 1980. By removing pollutants the electrostatic precipitators permit use of coal as the primary fuel. By utilizing coal as the primary fuel, a great savings will be realized and a large volume of oil once used at Camp Lejeune will be available to other oil consumers.

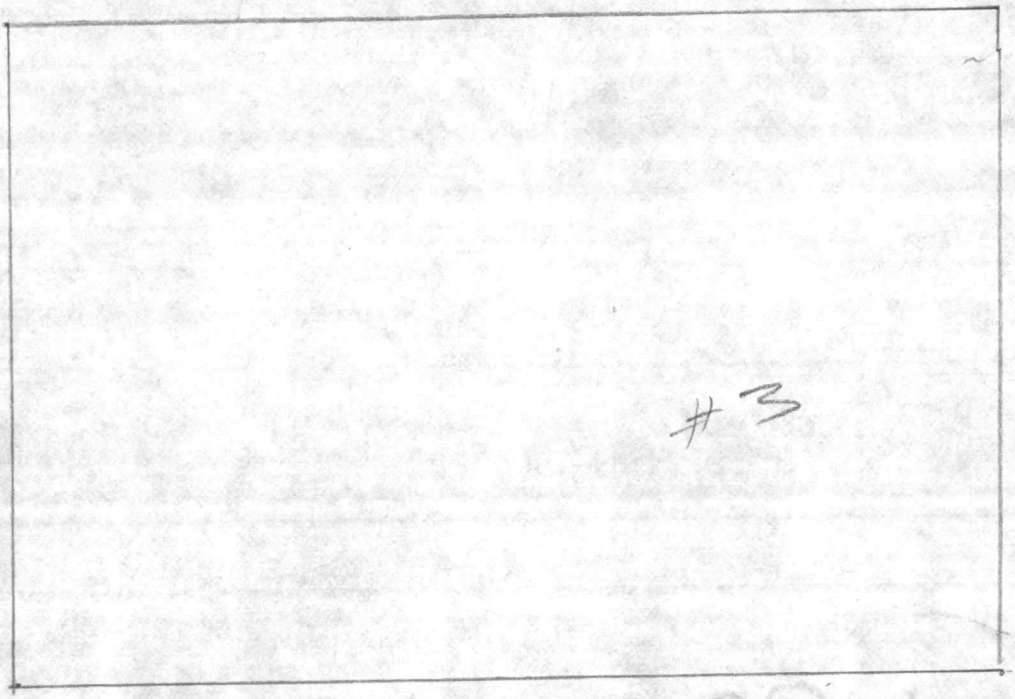
All open burning at Camp Lejeune has been suspended except those fires used for fire training purposes and prescribed burning for forest management purposes. Prescribed burning is under criteria established by the North Carolina Department of Natural and Economic Resources.

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



ELECTROSTATIC PRECIPITATORS BEING INSTALLED

Air Pollution control cont



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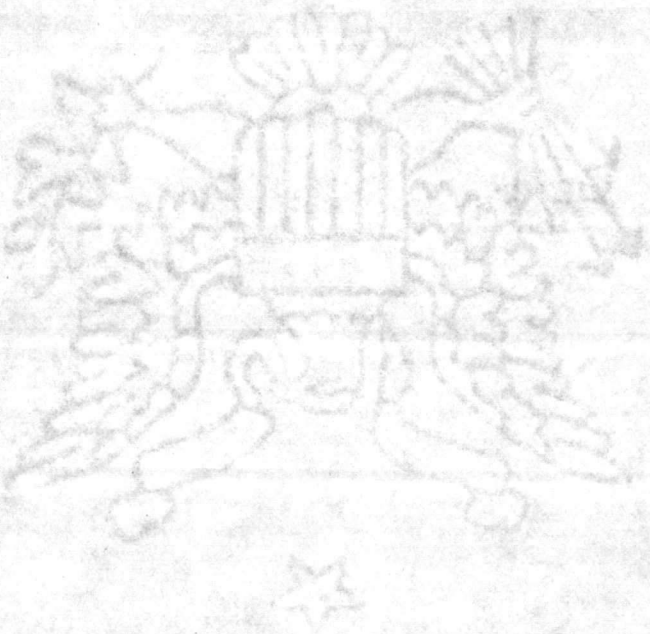
Sixth Graders Clean Up Air Pollution Problem



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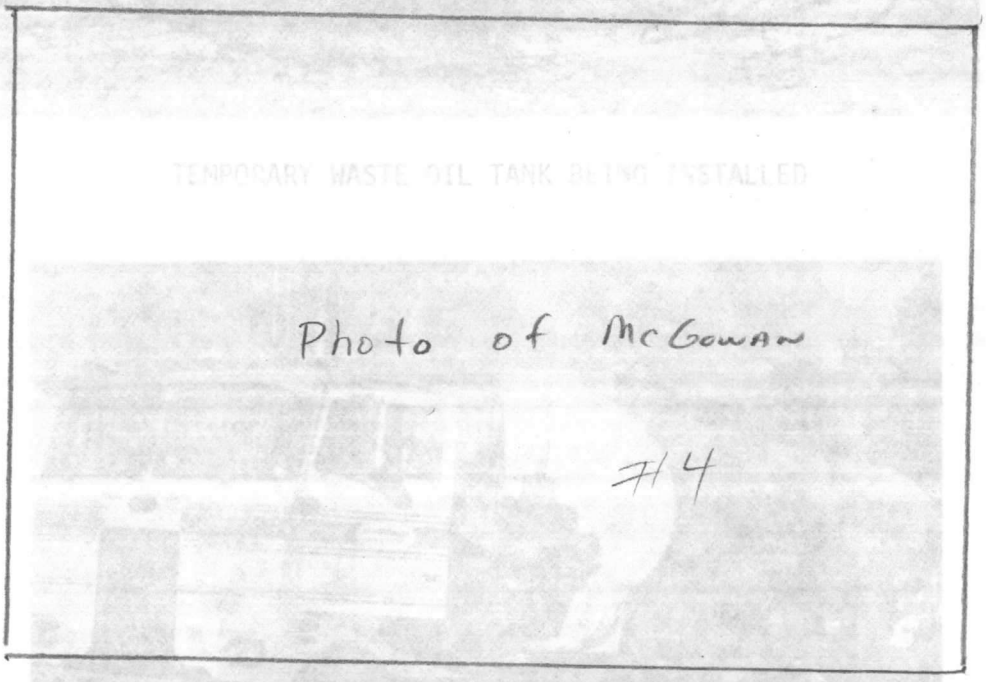
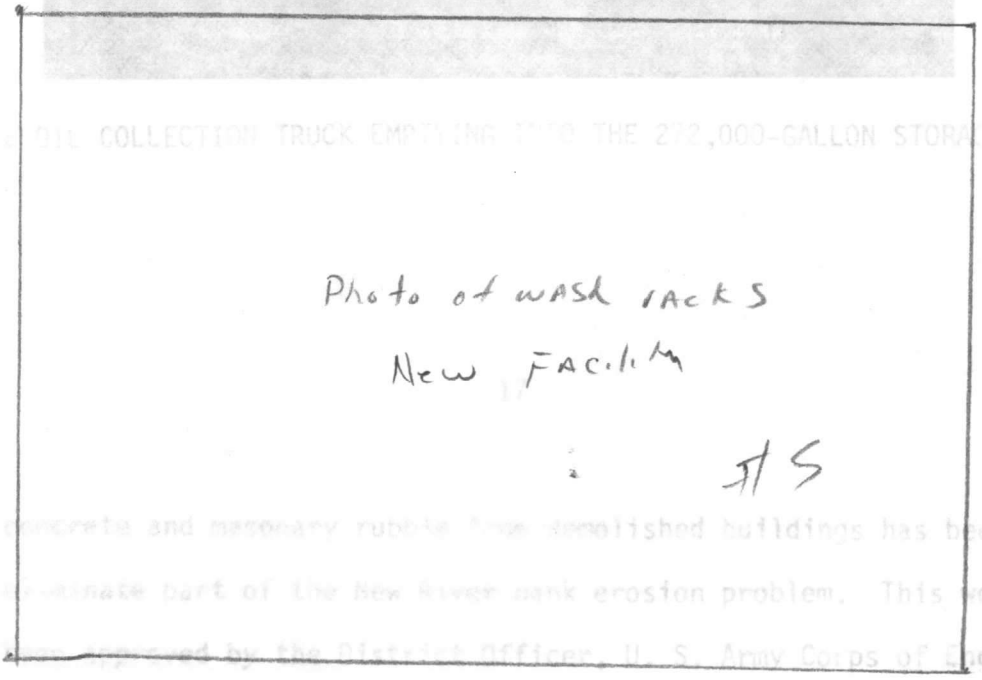


Preventive Maintenance at Marine Corps Exchange service station will correct Potential Oil Pollution problem



New Facilities for 10th Marine incorporate latest Oil pollution abatement technology

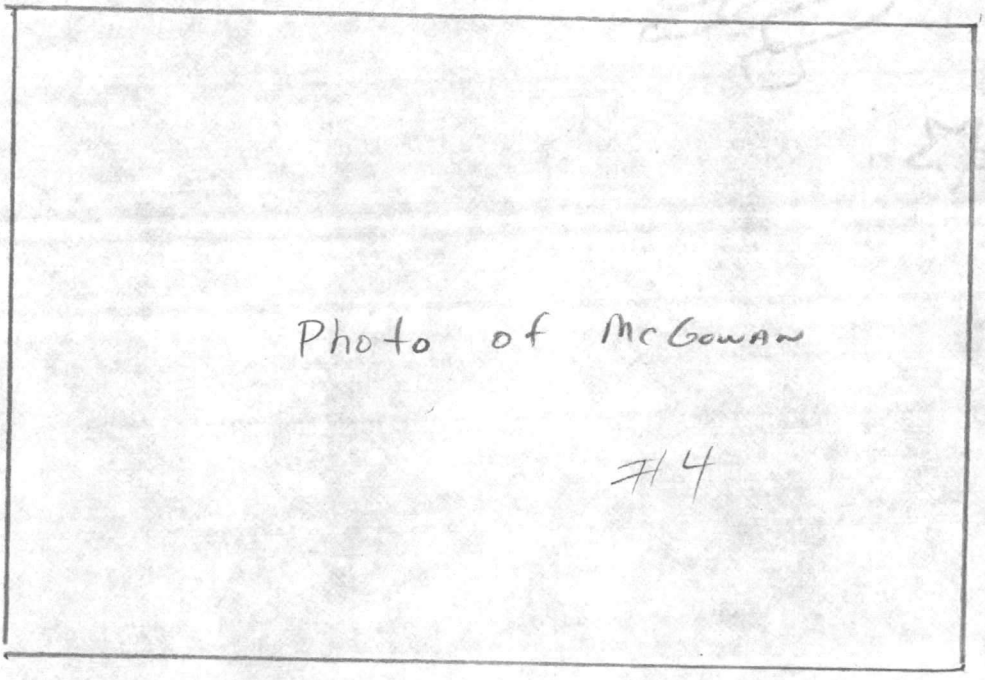
In the past, most of the waste motor oil collected at Camp Lejeune was used for dust control on unpaved roads and parking lots. This practice has been discontinued. Now, a 272,000-gallon tank is available for storing excess waste oil. In 1978 approximately 100,000 gallons of waste oil collected at Camp Lejeune was sold by the Defense Property Disposal Office to a Georgia based reclamation firm for 13¢ per gallon. To date 425,000 gallons have been recovered.

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

During the summer of 1976 and 1977, 500 feet of oil containment boom were deployed at Mile Hammock Bay for training purposes. Personnel from Base Maintenance Department and the Base Fire Department were involved in the training session. If deployment of the boom to contain an oil spill becomes necessary, the same base personnel involved in the training will be used to assemble and position the equipment on the water.

During 1978 five 20-foot sections of oil containment boom were purchased and installed across drainage canals and receiving discharges from Hadnot Point and Marine Corps Air Station. This precautionary action was taken to prevent any possible oil spill from navigable waters.

In the fall of 1976 an oil pollution survey which identified potential or actual oil spill situations was conducted at Marine Corps Base, Camp Lejeune and Marine Corps Air Station, New River by SCS Engineers, Reston, Virginia. The study was administered by Naval Facilities Engineering Command AND was the basis for MILCON Project Discussed Above.



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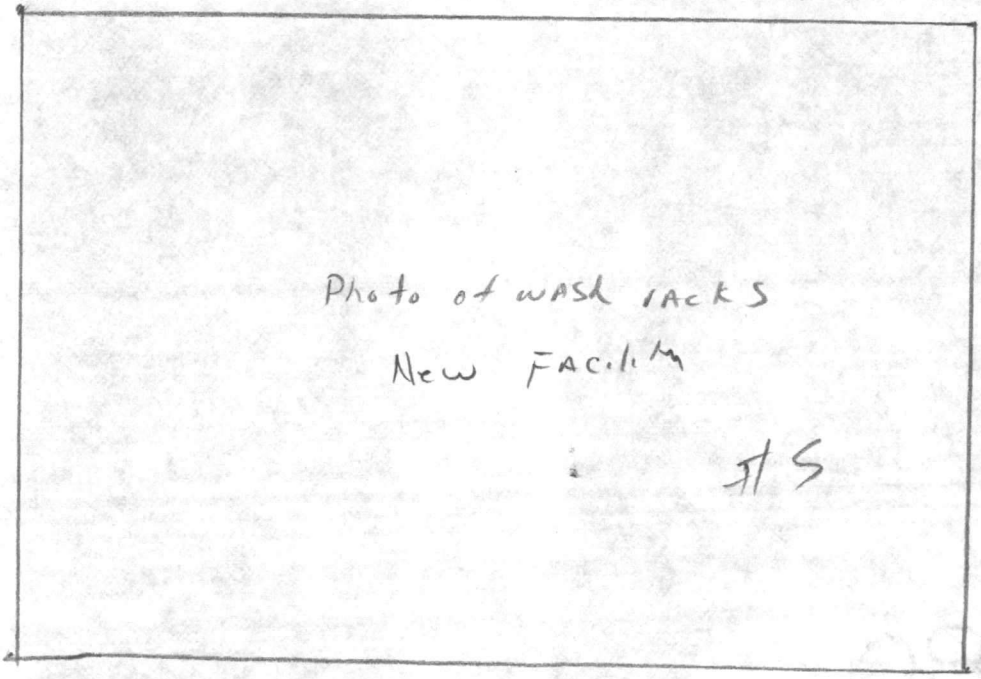

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TEMPORARY WASTE OIL TANK BEING INSTALLED

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

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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 masonary rubble from demolished buildings has been used to eliminate part of the New River bank erosion problem. This work has been approved by the District Officer, U. S. Army Corps of Engineers, Wilmington, North Carolina.

In a cooperative effort with North Carolina State University Extension

#6

Boat + Equipment

#7

Equipment required for oil spill response and clean up has been procured and available for use BASE wide

Thousands of acres of prime wetlands place great responsibility on Camp Lejeune to control all types of pollutant discharges

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

#8

#9

FACILITIES shown here are being provided by the $8.5+ million dollar pollution abatement project now underway at over 150 sites aboard Camp Lejeune

New facilities constructed aboard Camp Lejeune incorporate latest pollution abatement technology such as the modern wash racks shown here

SEWAGE TREATMENT

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

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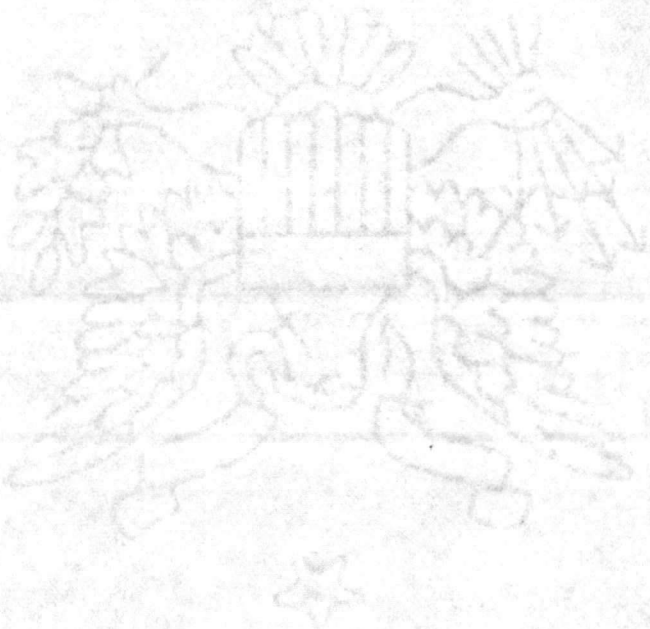

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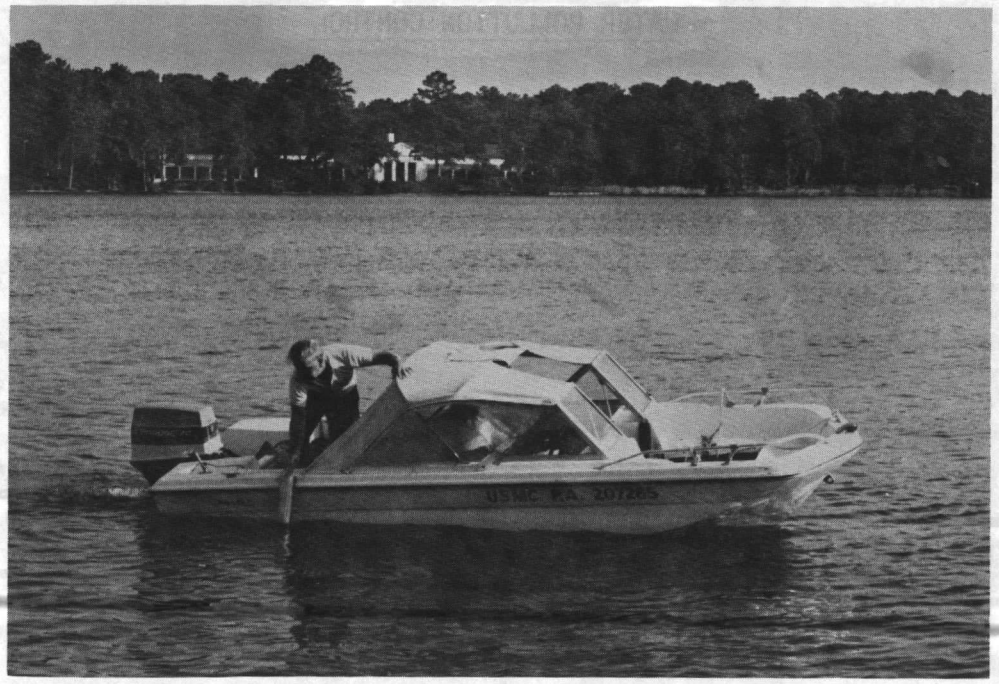

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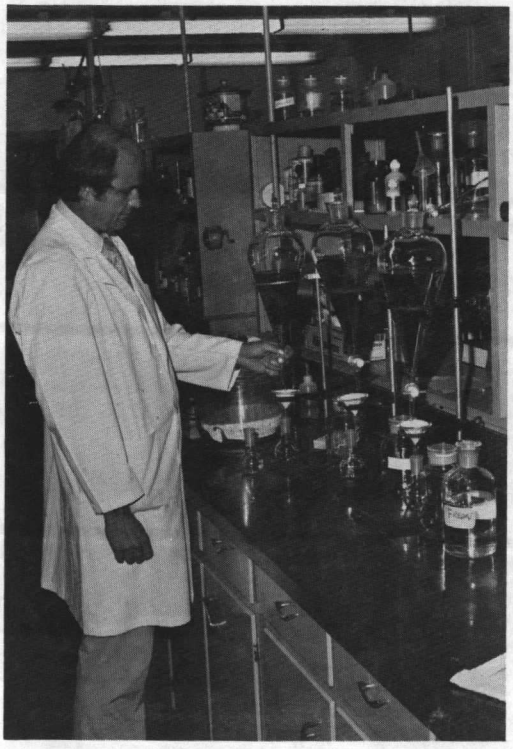


#10

This Aerial view shows Hadnot Point Sewage treatment plant in Back ground and a reclaimed Open dump in the foreground

#11

Lab shot

#12

Lab shot

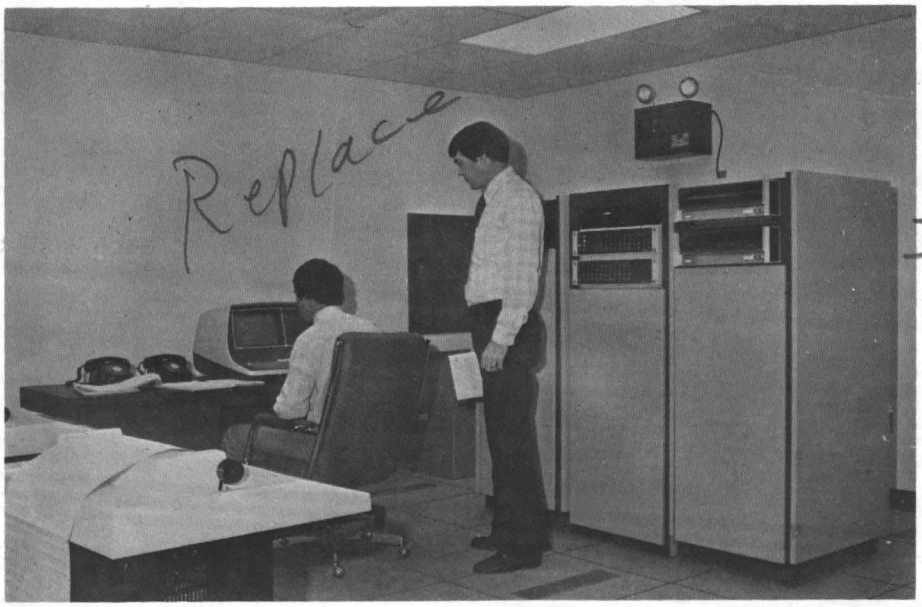
#13

Lab shot

#12

#13

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



BASE MAINTENANCE DEPARTMENT PERSONNEL CHECK OUT NEW COMPUTER MONITORING SYSTEM

OIL SPILL PREVENTION

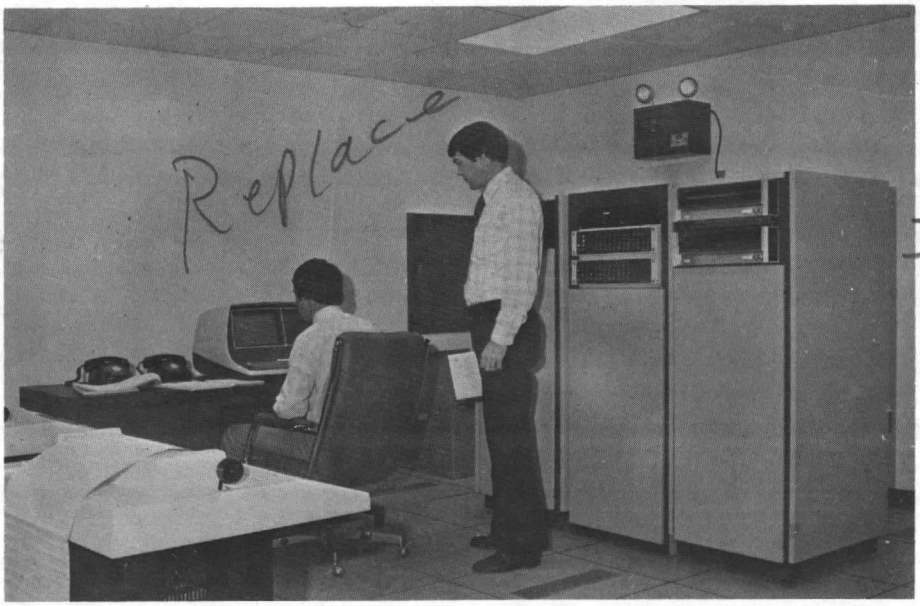
A complete basewide survey conducted to determine the extent of oil pollution in maintenance areas, motor pools, etc. revealed some minor soil and water pollution was occurring; action was initiated immediately to correct the situation. In addition to a personal explanation of the necessity for preventing oil spillage, time was spent with each unit in these areas instructing in the preparation of oil drip pans for oil dispensing drums and discussing other methods for prevention and containment. In 1975-1978 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~~ were 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. All new construction is planned to include required facilities for pollution prevention. ~~This equipment separates oil and grease from wash water at these facilities.~~

Base Order 11090.1A (Appendix C) was published implementing the base Spill Prevention, Containment and Countermeasure Plan for Oil and Other Hazardous Substances. ~~This plan will be updated in 1979~~. Marine Corps Bulletin 6240 dated 3 April 1974 directed field activities to comply with EPA regulations contained in Federal Register, Volume 38, Number 237, Part II of 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 aggragated aboveground storage capacity of 1,320 gallons or more, or any single tank over 600 gallons, or underground storage capacity of 42,000 gallons or more, and non-transportation related facilities were made to identify potential oil spill sites. Fixes were proposed that will either eliminate the potential source or prevent any spill from entering navigable waters. ~~The engineering~~

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

COMPUTERIZED MONITORING SYSTEM

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



BASE MAINTENANCE DEPARTMENT PERSONNEL CHECK OUT NEW COMPUTER MONITORING SYSTEM

OIL SPILL PREVENTION

A complete basewide survey conducted to determine the extent of oil pollution in maintenance areas, motor pools, etc. revealed some minor soil and water pollution was occurring; action was initiated immediately to correct the situation. In addition to a personal explanation of the necessity for preventing oil spillage, time was spent with each unit in these areas instructing in the preparation of oil drip pans for oil dispensing drums and discussing other methods for prevention and containment. In 1975-1978 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~~ were 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.~~ All new construction is planned to include required facilities for pollution prevention.

Base Order 11090.1~~A~~B (Appendix C) was published implementing the base Spill Prevention, Containment and Countermeasure Plan for Oil and Other Hazardous Substances. ~~This plan will be updated in 1979.~~ Marine Corps Bulletin 6240 dated 3 April 1974 directed field activities to comply with EPA regulations contained in Federal Register, Volume 38, Number 237, Part II of 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 aggragated aboveground storage capacity of 1,320 gallons or more, or any single tank over 600 gallons, or underground storage capacity of 42,000 gallons or more, and non-transportation related facilities were made to identify potential oil spill sites. Fixes were proposed that will either eliminate the potential source or prevent any spill from entering navigable waters. ~~The engineering~~

During 1978 five 20-foot sections of oil containment boom were purchased and installed across drainage canals and receiving discharges from Hadnot Point and Marine Corps Air Station. This precautionary action was taken to prevent any possible oil spill from navigable waters.

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* move to page 16

And

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OIL CONTAINMENT BOOM IS MANEUVERED DURING TRAINING SESSION

(Hzd waste here)

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 masonary rubble from demolished buildings has been used to eliminate part of the New River bank erosion problem. This work has been approved by the District Officer, U. S. Army Corps of Engineers, Wilmington, North Carolina.

In a cooperative effort with North Carolina State University Extension Service, planting of marsh grass at two points along New River has been accomplished. The work is an experiment to determine if shoreline erosion can be controlled by establishing a marsh using native vegetation.

It is recognized that some damage or wear and tear occurs to inland areas due to the nature of military training. For example, natural vegetation is destroyed and soil disturbed, resulting in a potential soil erosion problem. To avoid unnecessary damage incidental to field training, track vehicles have been restricted to designated training areas and access trails.

The Soil Conservation Service, in a Cooperative Agreement with Marine Corps Base, made a survey of all soil conservation problem areas during the summer of 1974. Prescriptions were made for 230 different sites and information was incorporated into the Long Range Multiple-Use Natural Resource Management Plan. Work on some of the problem areas has been accomplished and several areas have been scheduled for treatment in FY-

While approximately $100,000 is budgeted annually by Base Maintenance, experience has shown that much of the work will require projects beyond local capability. Efforts have been redirected and during 1980 the Public Works Department has designed a project to provide Amphibious landing ramps. Also Base Maintenance personnel and Public Works developed a $750,000 project to Correct Pollution problem associated with Tracked vehicle

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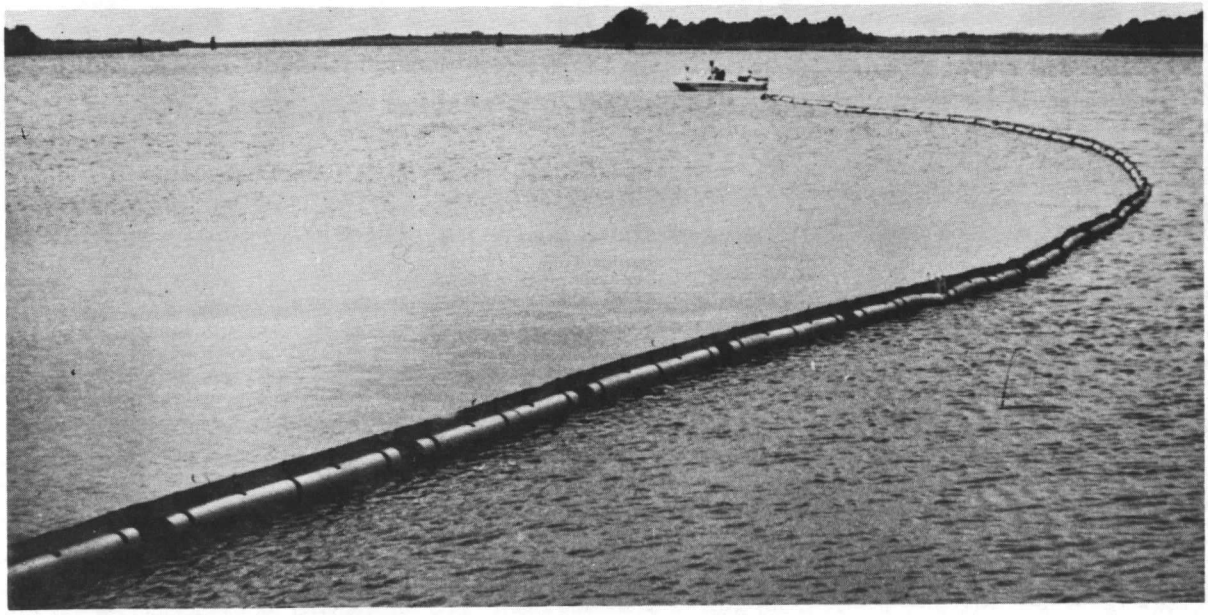

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Be

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 Base Order 6260.2A, Subject: Hearing Conservation Program; administration of. The Occupational and Preventive Medicine Service manages the Quad Command Hearing Conservation Program, and is responsible for monitoring noise hazardous areas and providing audiometric examinations (hearing tests) for all military and civilian personnel covered by the program. The Hearing Conservation Centers located in Building 36 and various Branch Clinics conduct approximately 20,000 hearing tests annually. A recent addition to this program is the Mobile Hearing Conservation Audiometric Testing Center (MOHCAT) which began operation in March 1980. The MOHCAT is a mobile hearing test trailer which can travel to all base units and will increase the number of audiograms by 10,000 annually.

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 85 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 placed on the Hearing Conservation Program. If it is determined that someone has a hearing loss, the person is tested more often and, if a loss continues, he is assigned work in an area where there is no noise hazard.

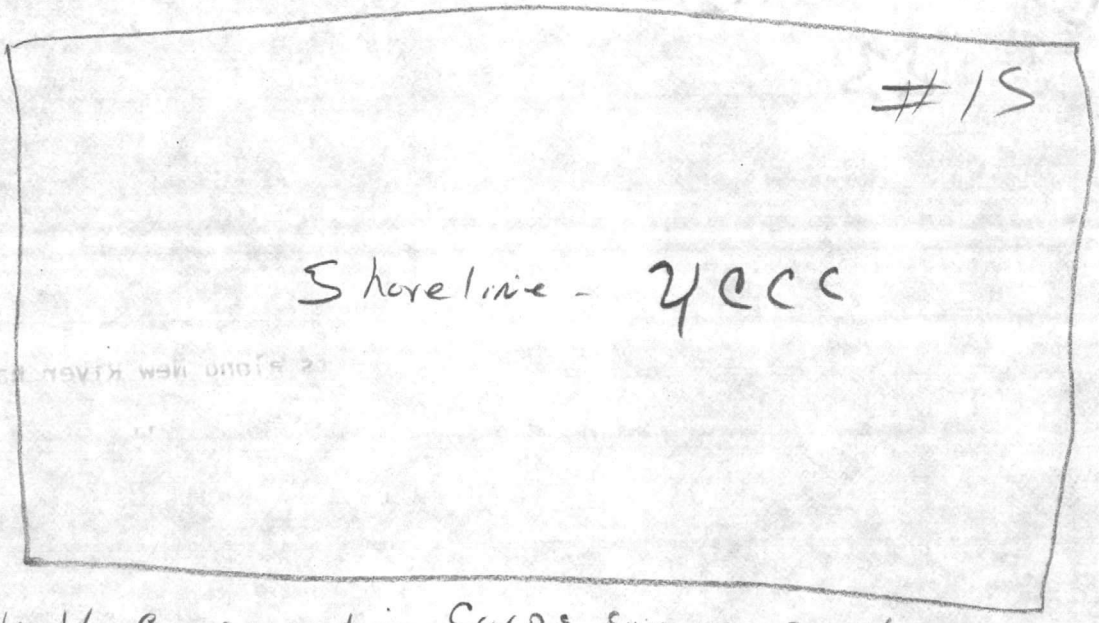
RADIATION POLLUTION CONTROL

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.

Trail stream crossings.

#15

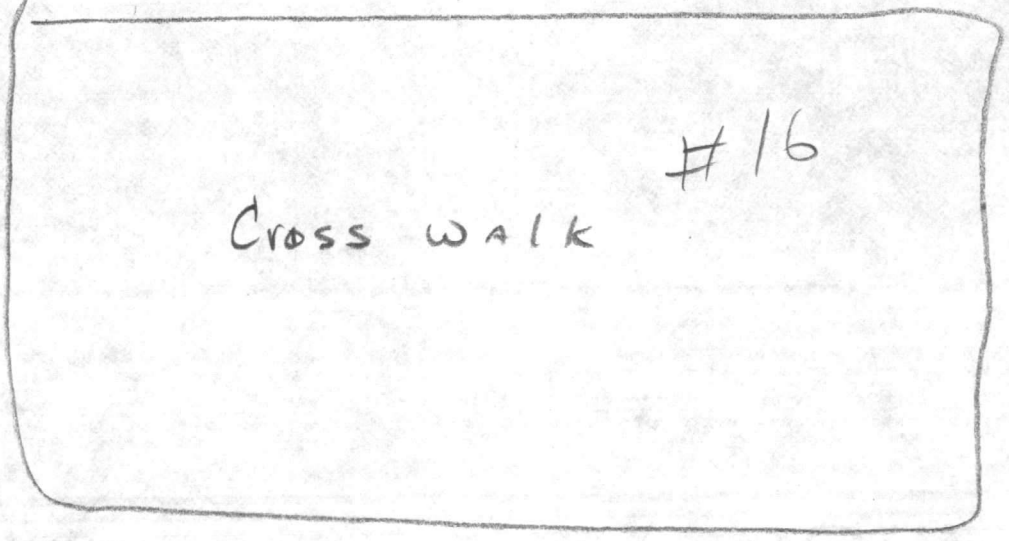
Shoreline - YCCC



Youth Conservation Corps Summer employees use Marsh Grass to stabilize shoreline along New River.

#16

Cross walk



Youth Conservation Corps Summer Employees Construct cross walk to protect sensitive Frontal Dune vegetation from DAmage

SOLID WASTE MANAGEMENT

In 1977 a solid waste management study was conducted at Camp Lejeune by a private A&E firm. The study was initiated as a result of considerable interest which has been generated in the Navy Department concerning the possibility of recovering resources (both energy and materials) from solid wastes generated at Naval activities. In conjuction with the US Environmental Protection Agency, Navy and Marine Corps directives encouraging resource recovery, the Navy has initiated an R^4 Program (Recovery and Reuse of Refuse Resources). The study was a part of the R^4 Program.

The purpose of the project was to develop long range solid waste management plans for Marine Corps Base, Camp Lejeune with particular emphasis on resource recovery. The Resource Conservation and Recovery Act of 1976, Marine Corps Bulletin 6240 and several guidelines promulgated by the Environmental Protection Agency require federal facilities to recover resources (where economically feasible) in lieu of disposal.

In addition to developing approaches to resource recovery, the refuse collection and disposal aspects of solid waste management were evaluated. Recommendations for improved efficiency and the adequate protection of the environment were made. Finally, several complete alternatives to solid waste management were developed for the base. These incorporated the improvements to collection and disposal as well as various combination of approaches to resource recovery (both material and energy).

As a result of the study, the base has implemented a program designed to extract useful materials from the solid waste generated at Camp Lejeune.

Solid waste is a laborious and expensive operation as approximately 750,000 cubic yards of garbage, trash and other waste must be disposed of at Camp Lejeune each year. Waste of all kinds, excluding that considered dangerous, hazardous or recoverable, is transported to the sanitary landfill for disposal. The sanitary landfill is located on a well-drained 40-acre site on the Sneads Ferry Road. The ramp method is used. An area approximately forty feet wide and twelve feet deep has been excavated to receive waste materials. A bulldozer is used to compact the refuse as it is placed on the slope. At the end of each work day, the filled area is covered with soil which eliminates insect attraction, fly breeding and rodent habitat. Surrounding streams are monitored weekly.

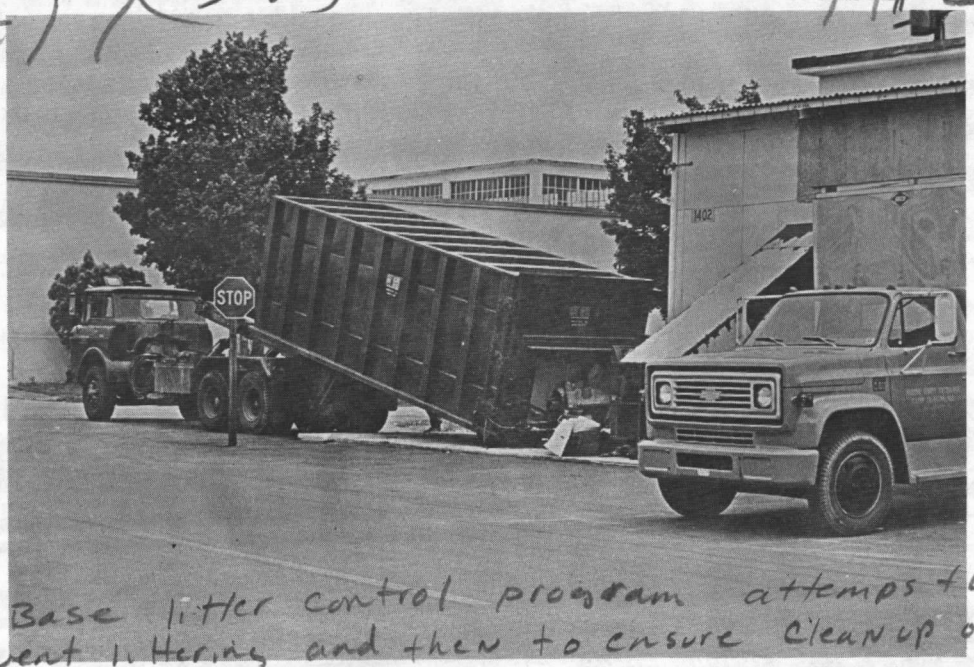
Camp Lejeune was certified by Keep America Beautiful Incorporated into the Clean Community System on 29 March 1978. The Clean Community Systems Coordinator (CCSC) is the contact point for the solid waste disposal program. The CCSC oversees the operation of the anti-litter and recycling programs as well as coordinating with the Onslow Clean County Committee. It is the point where problems involving area police, litter, landfill, recycling, garbage and trash collection are sent for solution. Talk and slide shows are available for awareness training of individuals to solid waste litter problems on board Camp Lejeune.

Twenty-one compaction devices with a 10-to-1 compaction ratio has been installed in the base messhalls. Eight additional compaction devices with a 4-to-1 compaction ratio and a 45 cubic yard container have been installed at selected points aboard the base to compress cardboard boxes. Each compacter holds approximately 5-1/2 tons of cardboard.

There are 126 "pitch-in" containers installed along roadsides and areas with heavy pedestrian traffic aboard the base. These containers have

#17 (Sign)

#18 (Litter Card)



The Base litter control program attemps to First Prevent littering and then to ensure cleanup of littering which occurs

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

#19

Erosion Control at Land fill

Erosion Control is only ONE of several Environmental Constraints impacting on The Operation of the base Sanitary Landfill. Natural Mulch (leaves collected From housing areas) is used as a temporary Erosion Control measure.

helped keep Camp Lejeune's roads and walkways clean by providing a place for the deposit of litter generated by motorist and pedestrian. The volume of trash being removed from these containers indicates heavy utilization.

BO 11014.8A, Appendix E, was revised on 6 July 1978. The order prohibits anyone from willfully placing, depositing or leaving any litter, trash, refuse, garbage, debris or waste material of any kind anywhere aboard base other than in a receptacle for that purpose or in a place specifically designated and authorized for that purpose.

A rather large volume of scrap wood is generated at Camp Lejeune which includes used lumber or boxes not required for the foreseeable needs of the generating activity or in such condition as to be unacceptable for further use. This material will be turned in and disposed of according to procedures set forth in Base Order 4570.1C 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 Office (DPDO) Agency. A one-year contract was awarded a local hog farmer who pays the government [redacted] 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 usuage of garbage disposal units and reduction of sewage treatment plant loads. Messhall grease is sold by DPDO to rendering firms who recycle the wastes.

The Resource Recovery Program is set forth in Base Order 4100.8, Appendix G. This order covers the recycling of cardboard, newspaper, computer paper and tab cards. The Onslow County Workshop of Coastal Opportunities, a local non-profit sheltered workshop for mentally and/or

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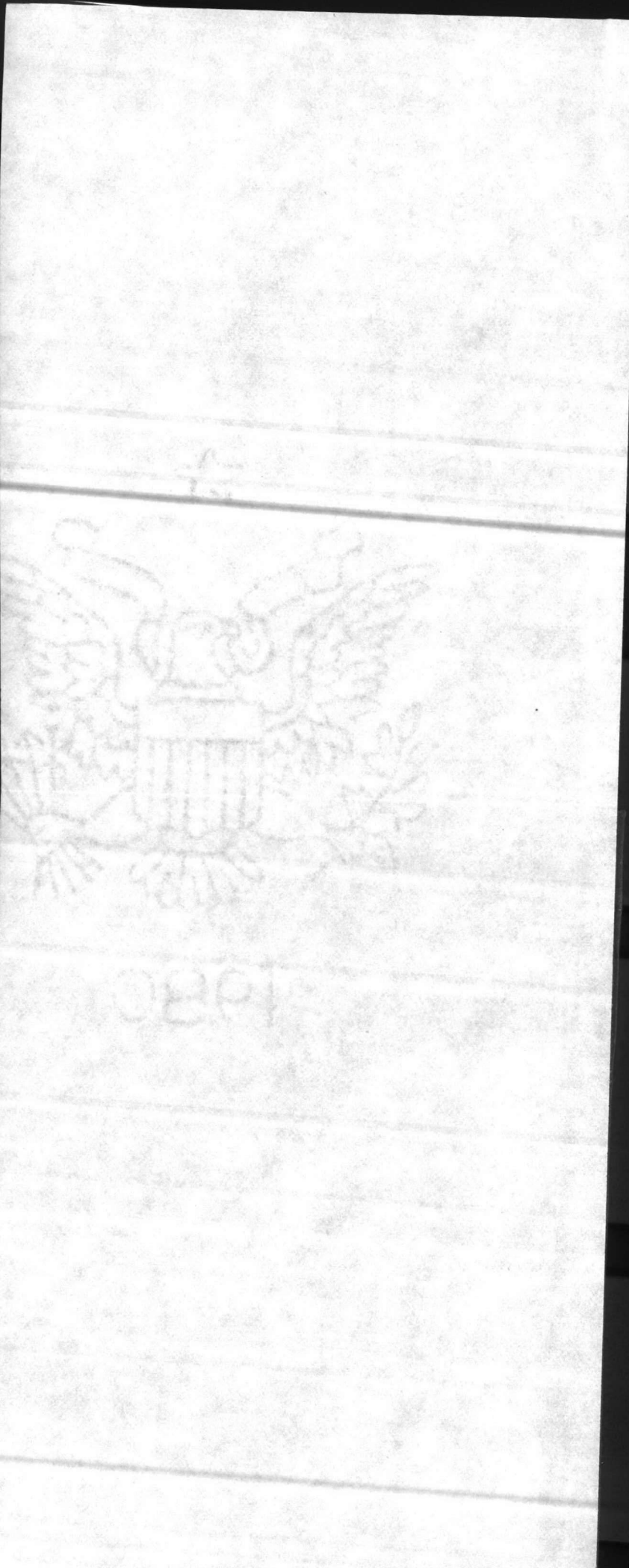

physically handicapped individuals, operates under contract the recycling plant. The workshop employs a varying number of handicapped persons in the last phase of a program of training prior to receiving employment in the outside community. This plant processed for sale 2,180,030 pounds of paper products this year. The plant is located in a renovated base facility equipped with the necessary machinery and to receive, sort, shread, bale and load for shipment corrugated and paper products generated on board the Marine Corps Base. The plant celebrated it's second anniversary of operation on board the base during ceremonies on 10 September 1978.

#20

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HERBICIDE AND PESTICIDE SAFETY PRECAUTIONS

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

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

In the Summers of 1975-77, a new type ultra-low volume sprayer was used by the Insect and Rodent Control Section for adult mosquito control. This machine, which provides a direct spraying of undiluted insecticide, conserved an estimated 45,000 gallons of fuel oil during the past three years by eliminating its requirement as a dilutant. Two additional ultra-low volume sprayers are being used for cockroach treatment in messhalls and food handling facilities.

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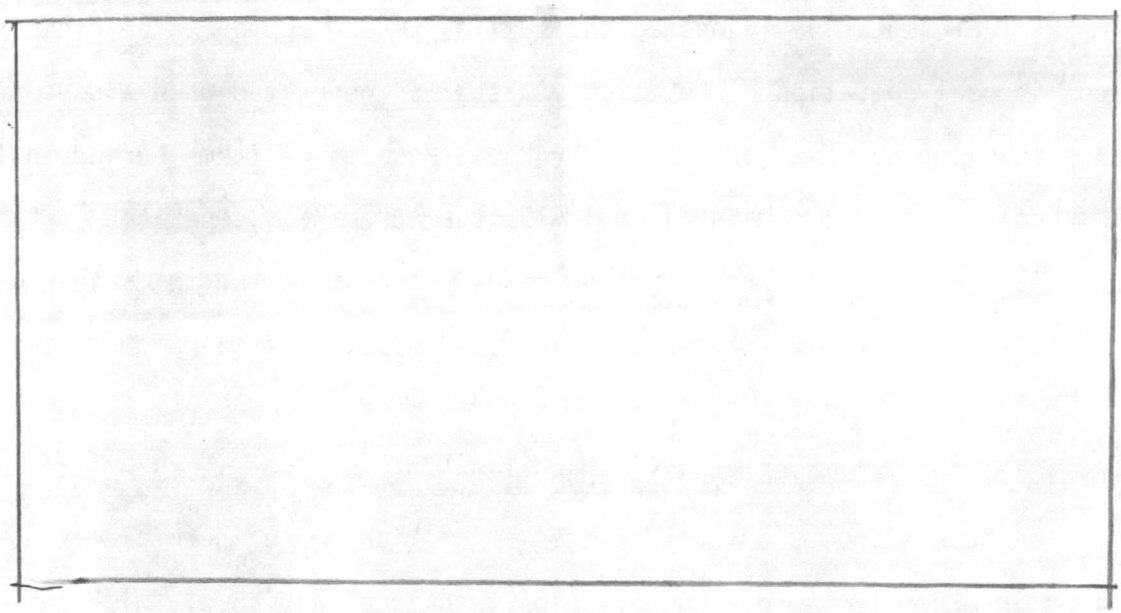

CHEMICAL DUMP

In the past, certain items of a chemical nature which could not be utilized, reconditioned for return to the supply system, sold, donated or transferred were buried in a specific area of the base. Close control of the burying is maintained, and during the past three years, only two items (polychlorinated biphenyl and approximately 100 pounds of mercury contaminated soil) have been buried in the chemical landfill. The polychlorinated biphenyl waste was generated when a contractor had an accident with a transformer containing the chemical. The contaminated soil was cleaned up and disposed of through encapsulation by concrete. An EPA representative inspected the spill site and approved the cleanup and disposal operation. The mercury waste was generated when a gauge at a swimming pool was accidently broken. Records of items buried in the chemical landfill are maintained. All other chemicals generated at Camp Lejeune during the reporting period have been transported to Marine Corps Air Station, Cherry Point for treatment and disposal in a new Industrial Waste Treatment Plant.

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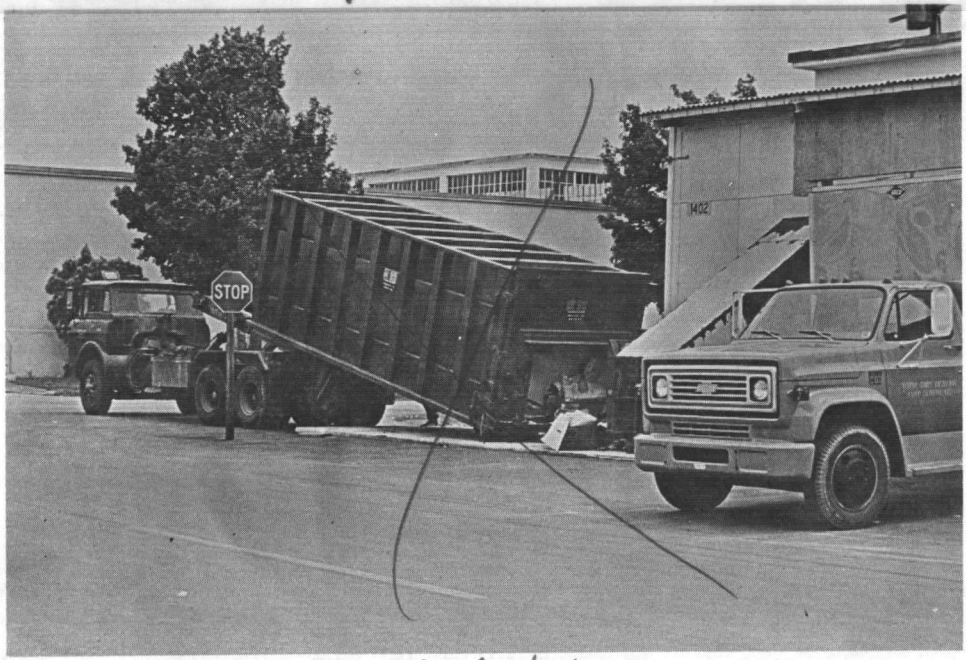

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MOSQUITO POPULATIONS ARE DETERMINED BEFORE PESTICIDES ARE APPLIED


TO WILMINGTON
U.S. HWY

Toxic And Hazardous Materials Management

General

Recent events such as the Love Canal hazardous waste dump and the dumping of PCB's along hundreds of miles of North Carolina roadshoulders and the public's response to them have clearly shown that federal agencies must carry out their use and dispesal of hazardous materials properly. Three major laws guide this Commands actions in this area:

(1.) Resource Conservation and Recovery Act.

(2) Toxic Substances Control Act

(3) Federal Insecticide, fungicide and Rodenticide Act

This Command is committed to compliance with the intent of these regulations and the related objectives of the Clean Water Act.

Hazardous Waste Disposal

In summary, the local program to dispose of hazardous materials and wastes require that any organization having physical custody of a hazardous material or waste has the primary responsibility of ensuring the item is not improperly discharged into the environment. A centralized interim safe storage and disposal has been established by Marine Corps Base which is available to all local commands. Permits, Notifications and other procedural requirements of the Resource Conservation and Recovery act have been accomplished

The local Defense Property Disposal Office has assumed responsibility for final disposal and is cooperating in setting up a program to ensure expeditious and environmentally sound disposal of all hazardous material and waste.

A $\_\_\_\_\_$ storage facility has been constructed to store ~~incoming~~ hazardous material with dangerous properties which preclude storage in regular warehouse facilities and which pose an excessive threat to employee safety. Operated by the SASSY Management Unit of 2d Force Service Support Group (REIN) (2d FSSG), the facility has a modern hazardous material handling technology. In addition to operating this facility, 2d FSSG ~~will~~ plays an important role in ensuring that hazardous material and waste are properly packaged prior to shipment on public highways.

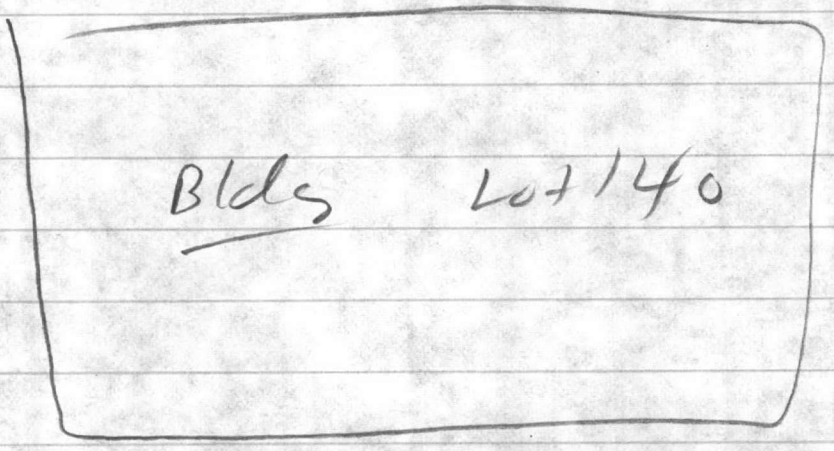
New Page

Toxic Substances Management

During 1980 several hundred used transformers were tested for Polychlorinated Biphenyls (PCB) content at a cost of approximately $45,000. As a result, base PCB storage facilities were upgraded and proper storage effected.

PCB Label

Although not required by Toxic Substances Control Act, Transformers with PCB content of 50-499 ppm were labeled with a locally produced Sticker to further ensure safe management of the Transformers.



Improved curbing, new markings, and proper storage of PCB contaminated transformers and PCB transformers has been effected as shown above at a relatively modest cost ~~on~~

This command is committed to proper disposal of PCB fluids. All used transformers are considered to be PCB contaminated until lab analysis indicates otherwise. These items will be properly stored until an proven means for safe disposal can be established

Herbicide and Pesticide Safety Precautions

The base effected several changes in utilization of herbicides, insecticides and other pesticides in order to protect environment and comply with current Regulations. A vigorous training and certification program is carried out on a continuing basis for all personnel involved in application of pesticide. All pesticide are stored in locked facilities at the Insect Vector Shop which has been upgraded to meet all requirement of the Federal Insecticide fungicide and Rodenticide act. ~~The Base Health Officer is also~~

Environmental Enhancement

General

This Command is not satisfied with merely meeting the minimum requirement of Environmental regulations. Within the constraints of available funds and overall priorities, substantial effort is made to maximize the enhancement and utilization of environmental values and natural resources. Four broad categories are involved.

(1) Aesthetics

(2) [redacted]

(2) Forest Management

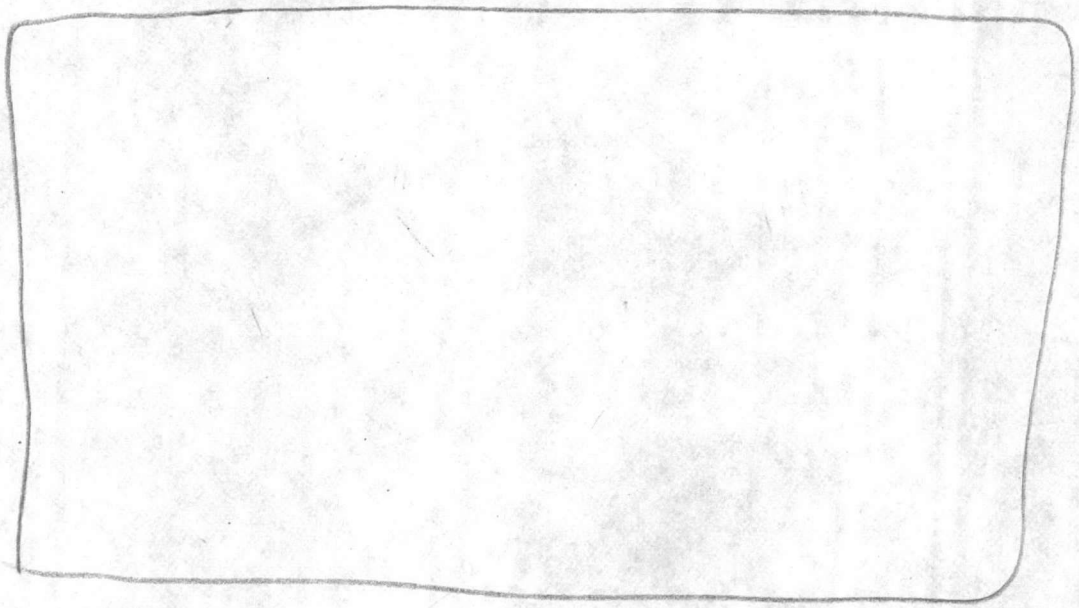
(3) Wildlife Management

(4) Energy Conservation

~~ENVIRONMENTAL ENHANCEMENT~~

AESTHETICS

Camp Lejeune, with its natural beauty has long been noted as one of the most attractive 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. A 13-member crew constantly perform pruning, spraying, trimming, weeding, fertilization and planting required to maintain the appearance and health of the tens of thousands of landscape plants throughout the base. In addition, continuous effort is required to prevent and clean up littering. Pitch in trash receptacles have been located throughout the base as part of a cooperative effort with Onslow County and Keep America Beautiful to promote community wide beautification throughout Onslow County, including the base.



An attractive environment is important to the welfare and morale of base residents and workers.

FOREST MANAGEMENT

The forested acreage at Camp Lejeune is comprised of approximately 69,100 gross acres. The net or productive land base is established at 54,935 acres; a difference of approximately 14,165 acres. Ranges, Impact Areas etc. make up the difference in gross and net acreage.

It is the obligation of the Forestry Branch to manage these acres for sustained yield and multiple-use. This is to say that timber, wildlife, water, recreation aesthetics and military requirements all receive equal consideration in management decisions.

In order to facilitate management the forest acres are divided into 62 compartments. Each compartment is then divided into timber types or stands. These compartments are the basic management unit used in forest management. A professional forester enters a compartment before any cultural work begins and gathers data in each stand to determine the indicated silvicultural needs. This information is then formulated into a draft prescription for review by the Division Director and his staff. All aspects of multiple-use management are discussed during the review process.

Additional field examinations are made by the Director or members of his staff if deemed necessary. Any changes or revisions will be incorporated into the final compartment prescription before actual field work begins. A careful monitoring of field work is done to insure that specifications of the prescibed treatments are being carried out as planned.

1978-79-80 CALENDAR YEAR PROCEEDS From Timber Sales

1978	Volumes	Proceeds
Pine Sawtimber	4,955.103 MBF	$592,113.
Pine Pulpwood	4,833.7 cds.	$54,779.
Hardwood Sawtimber	27.864 MBF	$1,682.
Hardwood Pulpwood	81.4 cds	$276.
Penalty Payments		$3,854.
		$652,704.

1979		
Pine Sawtimber	6,078.517 MBF	$940,757.
Pine Pulpwood	5,224.6 cds	73,261.
Hardwood Sawtimber	50.080 MBF	1,556.
Hardwood Pulpwood	241.4 cds	563.
Mixed Pine/Hdw. Pulpwood	179,014 Ft^3	18,080.
Penalty Payments		1,136.
		$1,035,353

1980		
Pine Sawtimber	3,169.196 MBF	$512,782.
Pine Pulpwood	3,372.9 cds.	$40,291.
Hardwood Sawtimber	1.450 MBF	$50.
Hardwood Pulpwood	37.3 cds.	$187.
Mixed Pine/Hdw Pulpwood	131,870 Ft^3	$20,066.
Penalty Payments		$1,266.
		$574,642.

The timber harvests shown above came from approximately one-half of the available ~~annual~~ acres for harvest each year. It was determined that the available assets in both personnel and equipment was not adequate to support a further increase. Therefore, a request for an expanded forestry program was initiated in October 1980. The initial stages of the expanded program have begun. Announcements for applications to employ an additional professional foresten and three forestry technicians have been issued. Awards have been made for the purchase of two heavy

hauling units and two tractors (bulldozers) with assorted attachments to perform site preparation and other cultural work generated by increased timber harvest. The expanded program will generated additional income, provide jobs, produce additional good and services, ~~and~~ aid in the sustained yield, multiple-use management of resources that would otherwise be lost through poor growth, loss from insects and disease and wildfires in the forested areas.

The base forests have again been plagued with a southern pine beetle infestation in 1980. However, early discovery coupled with a rapid aggressive control program has kept the spread of beetle and loss of resources to a minimum. The U.S. Forest Service Insect and Disease Management ~~Entomolo~~ personnel were called in to help evaluate the infestation; prepare an environmental assessment, develop a project control plan and provide aid in funding the control effort. Funding in the amount of $28,448 was received during FY80 for control

The number of new beetle spot attacks appears to be subsiding. However, evaluation, work. a new environmental assessment and project control plan ~~have~~ has been prepared, ~~for FY 81~~ with a request for funding ~~for~~ beetle control work in FY 81. A careful watch on the beetle situation will continue and if needed another rapid, aggressive attack will be launched to control beetle spread and minimize resource loss.

NATURAL REGENERATION ESTABLISHED AFTER SEEDTREE CUT AND PROPER SEEDBED PREPARATION

BEDDING HARROW DOING SITE PREPARATION WORK PRIOR TO REFORESTING THE AREA

The base is recovering from a southern pine beetle infestation. All economically timber sale infested areas have been harvested. No new attacks have been observed during the past year. A careful watch continues even though the beetle infestation has subsided and research is still being conducted by North Carolina State University. Normal sale procedures are in progress again for the first full year of operation since 1973.

Reforestation is accomplished by both artificial and natural means, with the latter being used ~~more~~ often during the past three years. Natural regeneration requires less soil disturbance for site preparation and permits a saving of fossil fuel with less heavy equipment use required. Other advantages of well planned natural regeneration methods permit the forester to accomplish silvicultural treatments throughout the life of the stand that are more beneficial to a variety of wildlife species as well as maintaining vigorous tree growth. ~~The purchase~~ Continued use of a drum chopper has made it possible to make precommercial thinnings in overstocked stands to lessen competition, reduce fuels, create deer browse, permit prescribe burning at an earlier age and reduce the possibility of southern pine beetle attack by maintaining healthier trees.

~~Some~~ Artificial regeneration is being done in stands where there are an insufficient number of genetically sound trees, beetle salvage, burned timber and other situations where natural regeneration methods are not considered adequate. Planting during the past three years has been accomplished by machine planting on an 8' x 12' spacing. Some use of temporary employees has also been used to plant seedlings on rough terrain. ~~Acquisition and~~ Use of a bedding harrow has been employed which ~~will~~

increases the survival rate and growth rate of seedlings particularly on the poorly drained sites.

Prescribed burning is one of the most useful and economical tools which we have at our disposal. Each year approximately 12,000 acres are prescribe burned. Areas which are more beneficial to wildlife and could be damaged by fire, such as transition zones, hardwood types and key areas, are plowed out and not burned. Prescribed burning is accomplished during the Winter months when most vegetation is dormant and as little damage as possible will be done. Prescribed burning serves several key functions such as rough reduction, improvement of wildlife habitat, control of undersirable vegetation, disease control and the improvement of training areas. The Division is also involved in a smoke management program with the State of North Carolina, Department of Natural and Economic sources.

PRESCRIBED BURNING IS AN IMPORTANT TOOL IN BOTH FORESTRY AND WILDLIFE MANAGEMENT

Wildfires at Camp Lejeune continue to receive the highest priority by forest management personnel. Some of the actions taken (during the last three years) to prevent and control fires are as follows:

A new fire weather station has been installed and put into operation. Conversion to the new National Fire Danger Rating System was started in February 1977. Forest fire severity ratings have been established and published in a revised Base Order. This same information with controls on training has been printed on the new training map.

The Division has purchased a 1000-gallon helicopter water bucket to aid in the suppression of fires. The bucket was put into operation in March 1977 and has proven to be very successful on initial attack as well as support for conventional fire suppression equipment.

In 1978, a 2,352-acre tract of timberland was designated as a quail management area. This area is especially suited for quail and all forestry management practices will be modified to produce optimum quail habitat. Timber, which is primarily longleaf pine, is being thinned to basal areas most beneficial for quail. Prescribed burning will be done annually during middle or late winter to aid in the production of desirable vegetation to enhance quail habitat.

The quail management area was also set up as a work project for the Youth Conservation Corps (YCC). The YCC, in their first year at Camp Lejeune, trimmed small unmerchantable stems along the roads which greatly increased the aesthetics value of the area.

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Wildfires at Camp Lejeune continues to receive the highest priority by forest management personnel. In the last three years 213 wildfires were suppressed by management personnel. The average acres burned per fire were held to 14.3 acres.

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WILDLIFE MANAGEMENT

Camp Lejeune's wildlife management program is designed to provide optimum environmental conditions for all present wildlife species. Balanced ecological conditions through multiple land use operations is the long range goal which the wildlife program is striving to attain. Wildlife management practices are programmed to interpret population levels, habitat requirements in the faunal complex and to gauge the way the population will respond to habitat changes.

The forest at Camp Lejeune is divided into 15 wildlife units where a particular wildlife species is featured. Basically, wild turkey, squirrel, deer and quail are the four principle species which are featured in that order. All other game, nongame and endangered species receive due consideration within each wildlife unit. These wildlife units contain 62 forest compartments which are divided into separate stands of trees.

Wildlife management here is directed towards managing forest dwelling species. The management of forest dwelling species is mainly involved with the benefit derived through proper diversity within the plant community. It is essential that there be a compatible program when managing forest and wildlife resources.

The Base Wildlife Manager and Base Forester coordinate their management practices to harmonize the resource program for which they are responsible. Timber prescriptions, reforestation, prescribed burning, key wildlife areas and general habitat improvement receive maximum consideration through their coordinated efforts. Working together they are meeting established program goals and guidelines compatible with their respective programs.

A STRIP OF SHRUB LESPEDEZA IS INSPECTED BY A YOUNG MARINE ASSIGNED TO THE WILDLIFE MANAGEMENT BRANCH

THESE WILD TURKEYS ARE FEEDING ON DRUG-TREATED GRAIN PRIOR TO RELOCATION ON THE BASE

Add after last paragraph on page 41

A Cooperative Management Agreement for the conservation of fish and wildlife resources has been executed by the Commanding General, Marine Corps Base and Executive Director, North Carolina Wildlife Resources Commission and Regional Director, Department of the Interior. Under the agreement a meeting was conducted during May, 1980 to evaluate the existing Forest-Wildlife Management Program.

A copy of the evaluation is included in enclosure (WL-1). Modification of our present management plans have be implemented since the evaluation process. Basically, increased emphasis is being placed on the protection of hardwood stands and mixed pine-hardwood stands. Forestry and wildlife personnel are working together closely in the field to implement the management recommendations provided during the evaluation.

One hundred ~~nine~~ and seventy-two wildlife openings totaling ~~366~~ 560 acres have been established for suitable plants in the woodland edge for wildlife species. These openings provide supplements to the natural food supply and enhance cover conditions along the woodland edge. Perennial grasses, grains, and legumes are established in these openings.

Portions of the openings are left fallow and portions are planted through crop rotation to maintain the desired stages of plant regeneration. Such openings add diversity within the plant community and enhance the general aesthetics of the forest area. The clear vistas of the openings provide the user with the opportunity to view, study or photograph wildlife from concealed vantage points. Hunter success increases around openings since game regularly visit these diversified sites.

~~Seventy~~ Forty eight miles of forest access roads have been seeded to perennial grasses to stabilize the soil, reduce road maintenance, provide food for wildlife and improving the aesthetics of the woodlands.

Management for bobwhite quail has been intensified in the 2,352-acre tract managed primarily for this species. New one-fourth-acre strips of bicolor lespedeza have been established in reaching the goal of one strip per twenty acres. Nesting cover is being enhanced by discing transition bands around these areas left for protection from annual prescribed burning. These protected areas are located near bicolor strips and occur at the rate of one per twenty acres. This practice along with annual prescribed burning and thinning of longleaf timber is expected to provide quality quail hunting in the future.

A cooperative program for monitoring the plant community and censusing the quail population has been established with North Carolina State University. Initial plant sampling and population censusing has been

THIS ACTIVE ALLIGATOR NEST IS INSPECTED BY A NORTH CAROLINA WILDLIFE RESOURCES COMMISSION BIOLOGIST

THIS NESTING ATLANTIC LOGGERHEAD AT ONSLOW BEACH WEIGHED APPROXIMATELY 250 POUNDS

Female

~~ABOUT THE COVER...~~PHOTOGRAPHS ~~ON THE COVER~~ RECORD THE FIRSRT DOCUMENTED NESTING OF THE GREEN SEA TURTLE, CHELONIA mydas mydas, ALONG THE EAST COAST OF THE UNITED STATES, NORTH OF GEORGIA. UNDER THE PROTECTION OF THE BASE ENDANGERED SPECIES PROGRAM, THE FEMALE SHOWN ~~ON THE COVER~~ above NESTED FIVE TIMES DURING THE SUMMER OF 1980, LAYING A TOTAL OF 819 EGGS. THE YOUNG HATCHLINGS OF THIS THREATENED SPECIES ARE SHOWN below SCRAMBLING FOR THE SURF ALONG ONSLOW BEACH, CAMP LEJEUNE.

Don't Type yet

Hatchlings

accomplished ~~which will~~ and is continuing on an annual basis. Plant monitoring and population censusing is established for the quail management area as well as for a controlled area for comparison purposes.

A graduate student has completed a research project on habitat preference, breeding success and population status of the Eastern bluebird at Camp Lejeune. Two hundred nesting boxes were established in selected habitat types for enhancing the bluebird population and providing nesting facilities necessary for this study. Over 50% of these boxes were used for nesting during the past nesting season.

Twenty-two wild turkeys were trapped from areas with high populations, east of New River and released in the Verona area on the western shoreline. The birds were captured with drug-treated grain and released in good condition. Numerous broods of turkey poults observed during the past summer indicate success of these releases. The purpose for this relocation was the restoration of wild turkey which existed there prior to FY-74 when the population level suddenly declined.

INSERT

* Thirty-four wild turkeys were also trapped through a cooperative project with the North Carolina Wildlife Resources Commission. The birds were relocated to an area in Bertie County, North Carolina. The purpose of the relocation is to establish a population there which will hopefully provide a trapping source for restocking other suitable habitat in the Coastal Plain.

Replace at end of last paragraph on page 45

* Kridel

There were five nestings by the Green Sea turtle at Ondow Beach during 1980. Four of the nestings were indentified through tag returns as being the same turtle on each occasion. The Atlantic loggerhead and the Green turtle have both been recently ~~been~~ placed on the national list of threatened species. Tabin of each nesting and surveys by helicopter are taken to coincide with the night surveys.

The helicopter surveys were conducted during 1980 in cooperation with the Nation-wide survey conducted by the U.S. (over)
for marine corps ~~air~~ ... air station, New River. No significant sites have been located as yet which would qualify any existing site for listing in the National Register. The survey will be completed in the near future after HOC 7, Oak Grove has been surveyed.

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Protection of endangered species is in accordance with the National Environmental Policy Act of 1969 and the Endangered Species Act of 1973. Principle threatened and endangered species on the national list which are found here are the Red-cockaded woodpecker, Loggerhead sea turtle, Green sea turtle, Eastern brown pelican and the American alligator. All known woodpecker sites ~~are in the process of being~~ have been mapped and marked for protection. Population censuses are being conducted to determine the status of both woodpeckers and alligators. ~~The Atlantic loggerhead turtle nesting habitat at Onslow Beach is receiving protection. The Atlantic loggerhead has recently been placed on the National list of threatened species. Seventy-six individual nests were~~ One hundred fifty-nine

protected from raccoon and fox depredation during FY-76-78. Thirty-three loggerheads were tagged during the same period. Turtle nesting surveys using helicopters were conducted during the peak nesting periods in July and August from New River Inlet to Cape Lookout. This is a cooperative project with the University of North Carolina Institute of Marine Sciences, Morehead City, North Carolina.

A new responsibility of the Wildlife Management Branch of Natural Resources is protection of archaeological resources. Sensitivity mapping of known sites has been completed. Two sites are considered significant for possible nomination to the National Listing of Important Archaeological Sites.

Protection of game, nongame and endangered species is a primary responsibility of the wildlife management program. Local, state and federal laws are adopted for insuring the protection of all present wildlife species. Four military billets are established for wildlife law enforcement duty which are augmented by six additional military billets during the hunting seasons. These personnel are also responsible for issuing permits, assignment of hunters and collection of public use information.

* Thirty-four wild turkeys were also trapped through a cooperative project with the North Carolina Wildlife Resources Commission. The birds were relocated to an area in Pender County, North Carolina. The purpose of the relocation is to establish a population there which will hopefully provide a trapping source for restocking other suitable habitat in the Coastal Plain.

Replace at end of last paragraph on page 45

There were five nestings by the Green Sea turtle at Ordona Beach during 1980. Four of the nestings were identified through tag returns as being the same turtle on each occasion. The Atlantic loggerhead and the Green turtle have both been recently placed on the national list of threatened species. During the reporting period there have been 164 loggerhead nests on Ordona Beach.

Two wildlife technicians were temporally employed during the summer nesting period to work with the Sea Turtle Program. They conduct nesting surveys during peak nesting periods at night along the beach. Nests are protected from predators by placing wire cages over the nests with mesh size large enough for hatchlings to move through. Turtles are tagged, physical data is taken of each nesting and surveys by helicopter are taken to coincide with the night surveys.

The helicopter surveys were conducted during 1980 in cooperation with the Nation-wide survey conducted by the U.S.

(over)

Fish and Wildlife Service and the North Car
Wildlife Resources Commission.

A survey of archeological and historic resources was conducted under public works contract for Marine Corps Base and Marine Corps Air Station, New River. No significant sites have been located as yet which would qualify any existing site for listing in the National Register. The survey will be completed in the near future after HOC 7, Oak Grove has been surveyed.

FISH MANAGEMENT

The fishery management program is designed to produce sustained annual crops of fish for recreational purposes. Thirteen freshwater ponds are currently under management totaling approximately 38 acres. Eight of these are natural and five are man-made all of which are stocked with warm water species. Management techniques consist of fertilization to promote plankton and other miscroscopic plant growth, liming to control pH factor and use of aquatic herbicide for weed control. Stocking is done on an as-necessary basis.

A wide variety of both freshwater and saltwater species inhabit the freshwater ponds and streams, saltwater bays and the Atlantic Ocean adjoining the base. The saltwaters provide commercial fisheries along the lower bays, Intracoastal Waterway and in the Atlantic Ocean. Extensive saltwater areas also produce bountiful supplies of shellfish for public use.

BASS (7 lbs 3/4 ozs) WAS TAKEN FROM POWERLINE POND 25 MARCH 1975

THE MARSH

There are approximately 3,326 acres of salt marsh at Camp Lejeune. The marsh area is a unique and invaluable ecosystem, upon which most marine species are directly or indirectly dependent. Some species live and spawn in the sea as adults but enter the marsh for development; others enter the protective waters to spawn or to feed; while other species spend an entire life span in the marsh. It is the home and feeding ground of countless waterfowl and small mammals in addition to many amphibians and reptiles. The salt marsh areas remain in the natural state in that no dredging or channelizing has taken place.

THIS SALT MARSH AND ESTUARINE AREA NOT ONLY CONTRIBUTES TO NATURAL BEAUTY BUT IS A VERY IMPORTANT PART OF THE MARINE ECOSYSTEM.

GUEST SPEAKER PROGRAM

In addition to conservation education programs concerning proper and safe handling of guns, water safety, sportsmanship and woodmanship conducted by base clubs and organizations, personnel of the Natural Resources and Environmental Affairs Division take an active part in guest speaking engagements.

One of the most popular methods of providing information to groups desiring knowledge in the conservation field has been the guest speaker program. Guest speaking engagements, accompanied with slides, have been very much in demand by units, school classes, and civic organizations. ~~In 1976, 1977 and 1978 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

During 1980 Programs on hazardous material management ~~Beginning in January 1974, the educational process is being used in~~ were given to 2d Marine Division and 2d Force Service Support an effort to promote the pollution abatement program. ~~Classroom time was~~ Group S-4 officers at the battalion and regimental level. An ~~granted for a slide/lecture presentation on the environment to be routinely~~ additional program was given to a group of 40 ~~included as a part of the Motor Transport School Company, Montford Point,~~ members of the local society of military Engineers. ~~student training program. The base ecologist gives the presentations~~ with special emphasis being placed on oil pollution. By making each

more aware of environmental problems, it is hoped more desirable habits and attitudes will be developed, resulting in better Marines and better citizens. To date, approximately 3,500 students have attended the lecture.

NREAD PERSONNEL

BASE ECOLOGIST GIVES SLIDE PRESENTATION ON OIL POLLUTION TO STUDENTS OF MOTOR TRANSPORT SCHOOL COMPANY, MONTFORD POINT

The three provision mechanisms for providing information on environmental protection and environmental health are the personnel of Natural Resources and Environmental Affairs Division, Base maintenance Dept, Base Safety Offices and Preventive Medicine Office. Cooperatively, these organizations have capabilities for addressing the full scope of environmentally related issues.

COMMUNITY RELATIONS

During the Fall of 1972, Mutual Fire-fighting Assistance Agreements were entered into with the City of Jacksonville, North Carolina, Onslow County, and the US Department of Agriculture Forest Service. In addition, the existing agreement with the North Carolina Department of Natural and Economic Resources was updated. Under these agreements, mutual available fire fighting support is rendered when required.

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

Under sponsorship of the Marine Corps Human Relations Program, approximately 100 Marines from 2d Force Service Support Group 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.

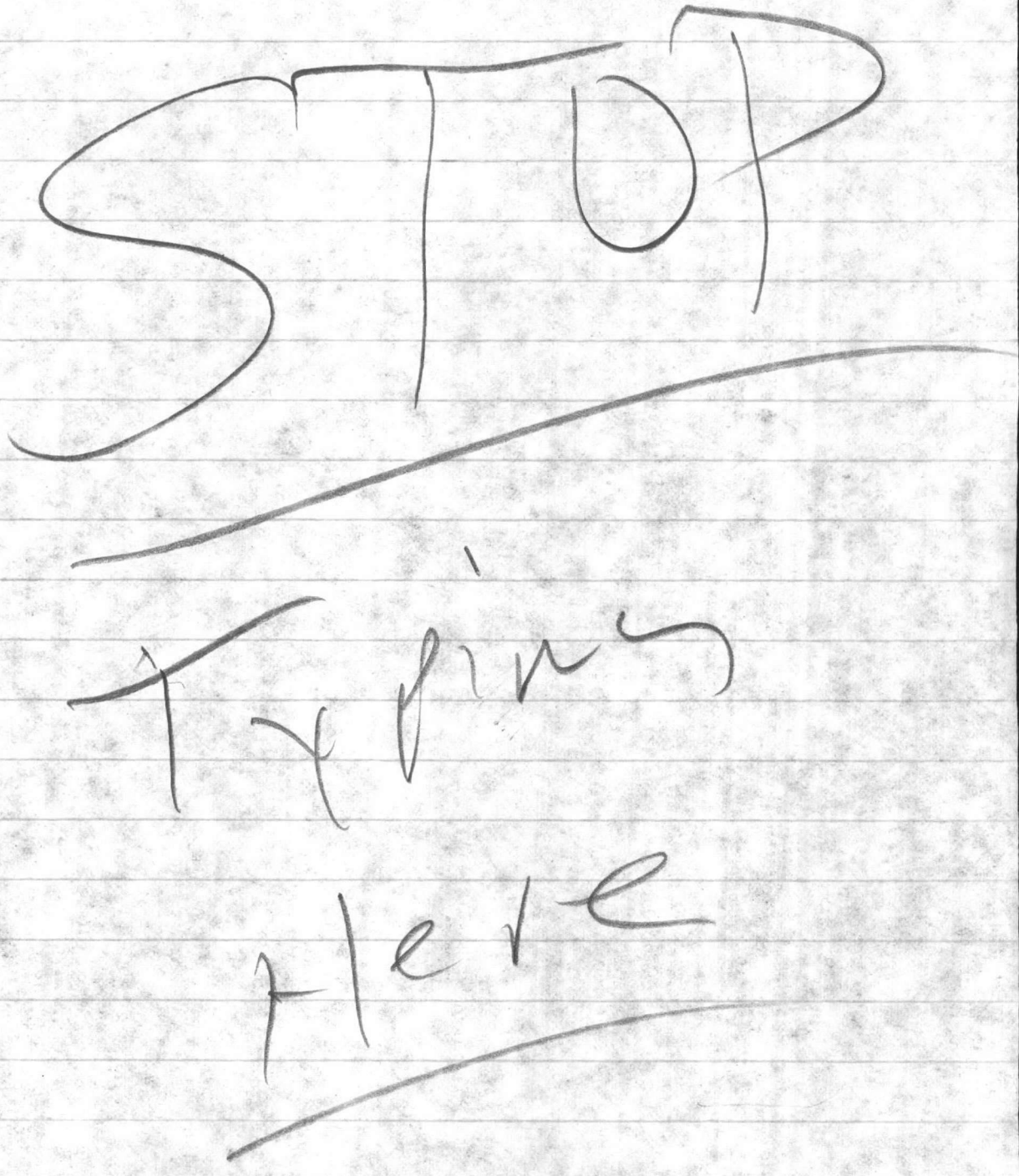
BIOLOGY STUDENTS RECEIVE "ON THE SCENE" INFORMATION

Marines from 2d Marine Division have assisted Coastal Carolina Community College in clearing and establishing a nature trail for its Biology Department. The trail is located on a tract of land adjacent to and formerly a part of Camp Lejeune.

The general foreman and foreman of the sewage treatment plants, Utilities Division, Base Maintenance Department, are involved in a unique training program with the North Carolina Department of Air and Water Resources and the Coastal Carolina Community College, Jacksonville, North Carolina. Since 1973, the Camp Lejeune sewage treatment plant supervisors have been the instructors for a series of 13-week Wastewater Treatment Classes held at Coastal Carolina Community College. 200 students from throughout Eastern North Carolina have participated in the night classes since September 1975. Thirty-one 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.


STOP
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United States Department of the Interior

FISH AND WILDLIFE SERVICE
Refuges and Wildlife Resources
P. O. Box 25878
Raleigh, North Carolina 27611

June 19, 1980

Major General D. B. Barker
Camp Lejeune Marine Corp Base
Camp Lejeune, North Carolina 28542

Attention: Base Maintenance Officer

Dear Sir:

On May 28 and 29, 1980, a field reconnaissance was conducted on Base to evaluate the existing Forest-Wildlife Management Program. The following personnel attended:

U. S. Fish and Wildlife Service

John Bardwell, Jr., Chief, Wildl. Assistance
Donald T. Harke, State Supv., Wildl. Assistance
Douglas I. Hall, Wildlife Biologist, Wildl. Assistance

U. S. Forest Service

Patrick J. Barry, Supervisory Entomologist

N. C. Wildlife Resources Commission

R. Wayne Bailey, Asst. Supv., Wildl. Biologist
John M. Collins, Asst. Supv., Wildl. Biologist
Jack A. Donnelly, Supv., Wildl. Biologist
Randy C. Wilson, Wildl. Biologist

N. C. State University

Dr. Phillip D. Doerr, Assoc. Prof., Zoology

Our tour inspection specifically included Forestry Compartments 11, 12, 16, 25, 31, 34, 36, 43, 46, 48, 50, and 51.

WL-1

The Natural Resources and Environmental Affairs Division is to be highly commended for its professionalism in management of the forest and wildlife resource. Their dedication is evident by a request for outside evaluation of the forestry program. It is the concensus of this committee that the statements below will serve to complement and enhance a multiple-use resource management program.

1. From our short visit, it appears that a possibility exists for the forestry program to become intensified to the possible detriment of wildlife. Land-use objectives and priorities should be continually re-evaluated for multiple-use of the resource and not for maximum production of pulpwood and timber.

2. Continue to manage for pine stands only where they naturally occur.

3. Selectively manage hardwood stands where they naturally occur.

4. Mixed stand management is not being practiced sufficiently enough to achieve optimum acreages of this stand classification. Pine-hardwood stands should be managed as mixed stands. Pine regeneration will decrease in these areas but to the benefit of hardwood species beneficial to wildlife.

5. Compartment management should be continued but the overall percentage of hardwoods and mixed hardwood stands on Base should eventually equal 50 percent of the entire forested acreage.

6. Transition zones should be expanded and protected from burning, clear-cutting or site preparation; they should also be managed to favor hardwood species utilized by wildlife. Compartment 50 is an example of complete destruction of the transition zone; the transition zone in compartment 25 has generally been adequately protected.

7. Prescribed burning of pine-only stands should be on a three-year rotation schedule wherever feasible. Avoid burning on both sides of a bayhead, creekbottom or swamp during the same season.

8. Salvage cuts due to pine bark beetle infestations should only include the infested trees and a 70 foot buffer strip beyond the green trees at the head of the spot infestation. Subsequent management of the site should favor overstory species that would naturally occur on the area, not automatic pine conversion.

9. Maintain young, vigorous pine stands below 100 sq. feet basal area and mature stands at 60 to 80 sq. ft. basal area to deter pine bark infestation.

10. Camp Lejeune currently provides high quality wildlife habitat that supports the densest wild turkey population in North Carolina as well as abundant black bear and red-cockaded woodpeckers. Forest management practices should favor these three species. Naturally, any management favoring turkey, bear, and woodpeckers will also enhance populations of white-tailed deer and a diversity of other wildlife species.

11. Effective management of the resource is possible only when enough trained personnel are available to adequately administer policy. Additional field personnel are needed to implement the Natural Resource Program.

In addition to the above statements we would like to acknowledge the Natural Resources and Environmental Affairs Division for their active interest in management and protection of threatened and endangered species. The Division should also be commended for actively cooperating with State and University personnel in collecting biological data from harvests of deer and bear and from sampling the deer herd. Without this information, it would be impossible to properly manage these wildlife populations.

Lastly, without Marine Corps assistance the State wild turkey program would not have moved forward as rapidly as has been the case. For example, the Base turkey population has steadily increased, as has the harvest. In fact, the density may be sufficiently high to cause concern about controlling further growth. Since fall either-sex hunting is not currently feasible, greater use of the population can be made through hunting and live-trap removal for the restoration program without harm and, possibly, with benefit to, the population.

We appreciate the opportunity to review the Base Forest-Wildlife Management Program. Please feel free to contact us for any additional information you may desire.

Sincerely,

Douglas I. Hall

Douglas I. Hall
Wildlife Biologist

DIH:jtc

cc: Julian Wooten

9

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

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 disasterous 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."

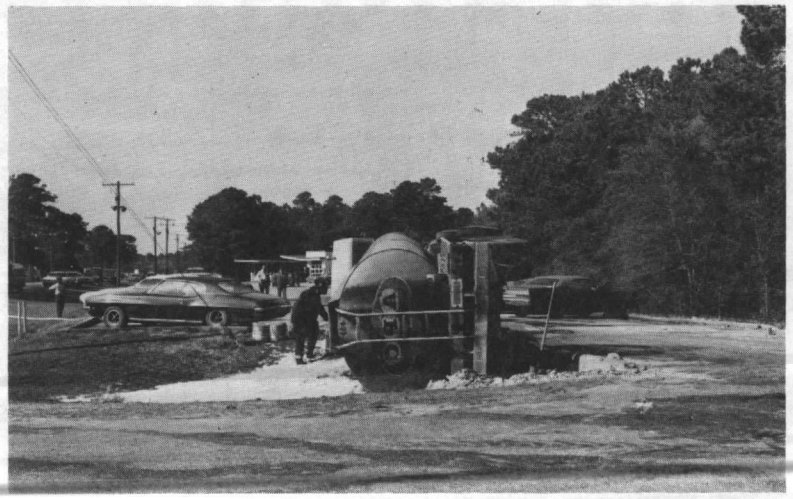


Photo by Sgt. D.M. Sullivan

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

Saving historical Olde Towne Point

By SSgt. Tom Griggs

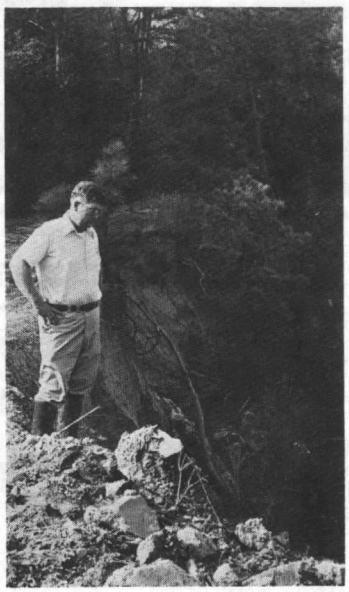
The town of Johnston, N.C., was destroyed by a severe storm 225 years ago. It was located at a site in Onslow County along the New River called Olde Towne Point, located on what is now Camp Lejeune. Today, the site itself is threatened by erosion.

Olde Towne Point is historically significant because the first Onslow residents settled there in 1705. And in 1741 Johnston was established, becoming the first Onslow County Seat. Camp Lejeune conservationists from the Natural Resources and Environmental Affairs Division, Base Maintenance, are determined to save the historical site.

Base ecologist Julian Wooten ays four feet of the river's bank have eroded in the last six months at Towne Point. He points out natural forces have been the cause. "Wind and tide cause water to cut it away, especially in storm conditions, where there's much wave action," he says.

Steps already have been taken to halt the erosion. About 300 yards of the 1200-yard problem area are under treatment now. Wooten says the heavy equipment section of Base Maintenance is covering the bank with masonry rubble from old sidewalks and demolished buildings here.

The rubble isn't attractive, but Wooten says that will remedy itself. "After the bank has stabilized, natural vegetation will grow up around the concrete rubble, and eventually pine trees will grow," he explains.



SAVING THE POINT — Camp Lejeune base ecologist Julian Wooten looks over the first load of masonry rubble dumped on the bank of the New River at Olde Towne Point. The point - site of the first settlement in Onslow County - is being treated for erosion. (USMC photo by SSgt. Tom Griggs)

While preserving the historical site and protecting the real estate are important, there's another vital reason for stopping the erosion, the ecologist says. "Soil erosion is the largest form of pollution in the country, according to the Soil Conservation Service (SCS)," Wooten claims. "It results in sedimentation - particles of the soil being washed into the water - which can eliminate spawning areas for fish, wipe out oyster beds and require dredging, just to name a few."

The ecologist says the stabilization work at Towne Point had to be approved first by the U.S. Army Corps of Engineers. Lejeune was required to obtain a permit to place materials below the high tide line.

Erosion at Olde Towne Point was recognized by the Camp Lejeune Natural Resources Management Plan. Prepared jointly by the base and the Onslow Soil Conservation District, the plan identifies conservation problems throughout the base, including soil erosion. "It has provided us a schedule over a 10-year period for the treatment or correction of erosion problems," Wooten explains. "Each case is scheduled according to priority - or the worst first."

Assisting the Lejeune conservationists has been Danny Sharpe, the SCS District Conservationist. "We can call on him for expert opinion," Wooten says.

Olde Towne Point is located on the opposite side of New River from the Naval Regional Medical Center here. An historical marker has been placed there.

CONVEYOR — Virgil Whaley (left) and Oscar Wooten sort and break down part of the seven tons of cardboard waste processed daily at the Base Recycling Plant. (USMC photo by Sergeant Erny Richardson)

DISCARD ALL THE NEWSPAPERS — Workers from the Base Recycling Plant, prepare the first load of newspapers for recycling processing since the plant increased its service capabilities. The plant has processed and shipped more than 1,000 tons of cardboard paper since opening its doors last September. (USMC photo by Sgt. Wesley Goodloe)

Recycling helps local program

By Sgt. Erny Richardson

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This development is one of the functions of the Base Recycling Plant, home of the Onslow County Workshop, a non-profit program run by Coastal Opportunities to aid handicapped persons in Onslow County.

The program began Sept. 10, 1976 and according to Jerome Freedman, plant foreman, it has been working well.

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The plant is open Monday through Friday and processes about seven tons of cardboard and computer paper evey day.

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This mountainous mass of paper is immediately attacked by several workers armed with a tractor, who load the piles of litter on a long conveyor belt running into a large green machine.

Other workers, standing along the belt, break large boxes into more manageable pieces and remove undesirable objects as cans and bottles. The machine then shreds the paper and compresses it into huge bales, each weighing half a ton.

"During a normal day we usually process 14 of these bales," explained Freedman. "They are loaded on railroad flatcars and shipped to a company in Richmond, Va., where they are reprocessed into boxes and the like."

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Recycling plant provides two-fold mission

By Sgt. Dave Smith

The Base Recycling Plant personnel here celebrated the second anniversary of the plant's opening September 15.

Since August 1976, handicapped people there have processed more than four million pounds of recyclable paper and cardboard products for resale.

"The money we receive in the sale of recyclable cardboard is used for the repayment of our equipment, paying wages and daily maintenance of the machinery," said Jerry Freeman, a retired Marine First Sergeant who has been the plant's manager since opening.

Coastal Opportunities, which started the project, is a local nonprofit organization devoted to helping handicapped people in the Onslow County area become functional citizens in the community.

"Coastal Opportunities works with the county in helping physically or mentally handicapped people adjust to working in a competetive environment," said Freeman. "After they have worked here and progressed enough so that we are confident they can function in a competitive job market, we locate a job and get them placed."

One of the important things about the recylcing plant is it is self-sufficient for funding.

"Recyclable paper and cardboard is worth $40 a ton," said Freeman. "The people here produce an average of 10 bales of cardboard a day. A bale weighs approximately 1,100 pounds. But the daily figures vary, depending on how heavily contaminated the pepaer products are," he added.

"Our main problem stems from people mixing garbage and non-paper products into the dempsey dumpsters marked 'cardboard only," Freeman explained. "If people didn't do this, we could produce more bales per day."

But working at the plant has definite advantages. "We really appreciate the co-operation we receive from the various base and civilian organizations we deal with," said Freeman. "Yet the support doesn't end after the contracts are signed. The people working here take pride in their work. This is proved by the fact we trained and placed 11 people in regular jobs in the community since opening."

Remember the Camp Lejeune recycling effort.

Red, white and blue—Newspapers only

Green—Cardboard only Silver—Trash

SORTING PROCESS — Virgil Whaley and Sabrina James, workers at the Base Recycling Plant, Camp Lejeune, N.C., sort and load cardboard products being pushed to them by co-worker Oscar Wooten onto the conveyor leading into the shredding machine inside. (USMC photo by Sgt. Dave Smith)

Marines Win Conservation Battle

by Nancy J. LaLuntas

Preservation of wildlife habitat and conservation education are two aspects of the conservation plan developed by Marines at Camp Lejeune.

Marines at Camp Lejeune, N.C., have an award-winning conservation program for wildlife and forestry management, maintenance of recreation areas, and improved grounds maintenance.

For the third time in recent years, the Marine Corps Base—in competition with military installations throughout the United States—has won the Secretary of Defense Natural Resources Conservation Award. The award is presented annually to the U.S. military installation which has demonstrated, over a 3-year period, the greatest progress in applying resource conservation measures to the land.

Camp Lejeune covers 170 square miles in Onslow County on the southeast coast of North Carolina. Conservation of natural resources there has been a continuing concern for more than 20 years.

In 1956, a cooperative agreement was signed with the Lower Neuse Soil and Water Conservation District (SWCD) asking for assistance in developing a long-term conservation plan for erosion control and grounds maintenance. The Soil Conservation Service, working through the local SWCD, completed the plan in June of that year. It included soils inventory data, soil interpretations, and maintenance requirements for the base grounds.

More than two-thirds of the marine base is in forest, and in 1964, a 10-year forest management plan was developed by the base with assistance from SCS and the USDA's Forest Service. A complete forest inventory and soil survey were made, and the plan—which provides for scheduled timber harvest, prescribed burning and reforestation, erosion control, and wildlife management—is still in effect.

The 1975 Natural Resources Management Plan was prepared by the Marine Corps Base and the Onslow Soil and Water Conservation District (formerly part of the Lower Neuse SWCD) with technical assistance from SCS. The plan provides for multiple use of all lands except firing ranges and other hazardous areas. It also provides measures to combat erosion and poor drainage; water, soil, and air pollution; wildfires; forest insect and disease damage; unproductive wildlife habitat; and damage or loss of vegetative cover.

Preservation of wildlife habitat, especially for endangered species, is an integral part of the conservation plan. Dredging and military training are not permitted in salt marshes, for example, because these areas serve as spawning grounds for many species of aquatic life. Endangered species habitat is clearly identified to insure maximum protection.

Fifty-six wildlife food plots supplement natural food supply and enhance brood range. Rye, wheat, and chufa are planted for fall, winter, and early spring grazing. The vegetation on each site is left standing for nesting and feeding throughout the summer.

Well-spaced clearings assure diversity of habitat for many wildlife species. Roads and open areas are seeded to Kentucky 31 fescue and bahiagrass. Autumn olive and other shrubs have been planted in the clearings.

The base has seen a marked increase in wildlife populations, especially deer, turkey, mink, quail, and black bear. Endangered species such as the alligator, osprey, red-cockaded woodpecker, dusky seaside sparrow, and American bald eagle have been sighted during the last several years.

Special efforts are being made to increase the numbers of nongame wildlife. Shrews, bats, jumping mice, and armadillo are among the many species receiving special protection

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Conservation education is an important part of training at Camp Lejeune. The base ecologist has given presentations to more than 17,000 students at the Motor Transport School Company, for example, where special emphasis is placed on oil pollution.

Conservation education is also carried into the neighboring community. Under the sponsorship of the Marine Corps Human Relations Program, Marines have constructed nature trails and planted several hundred pine trees for nearby public elementary schools.

Marine Corporal LaLuntas is a writer for the Joint Public Affairs Office, Camp Lejeune, N.C.

Charles Peterson, Camp Lejeune's wildlife manager, and Steve Thomas, North Carolina Wildlife Resources Commission, band a wild turkey that was trapped on the base and will be released in a nearby national forest.

Bobcats are well distributed throughout the 69,312 acres of habitat available to them.

Photos courtesy U.S. Marine Corps, Camp Lejeune, N.C.

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."

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.

COMMUNITY RELATIONS

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

During the Fall of 1972, Mutual Fire Fighting Assistance Agreements were entered into with the City of Jacksonville, North Carolina, Onslow County, and the U. S. Department of Agriculture Forest Service. In addition, the existing agreement with the North Carolina Department of Natural and Economic Resources was updated. Under these agreements, mutual available fire fighting support is rendered when required.

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

Under sponsorship of the Marine Corps Human Relations Program, approximately 100 Marines from Force Troops/2dFSSG have voluntarily constructed nature trails and planted several hundred pine trees for several nearby public elementary schools during the past two years. The nature trails, located in wooded areas adjacent to the schools are proving invaluable to the school in teaching the basics of conservation.

BIOLOGY STUDENTS RECEIVE "ON THE SCENE" INFORMATION

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

The pine trees were planted as borders around bare portions of school grounds.

Marines from 2d Marine Division (Rein) have assisted Coastal Carolina Community College in clearing and establishing a nature trail for its Biology Department. The trail is located on a tract of land adjacent to and formerly a part of Camp Lejeune.

The general foreman and foreman of the sewage treatment plants, Utilities Division, Base Maintenance Department, are involved in a unique training program with the North Carolina Department of Air and Water Resources and the Coastal Carolina Community College, Jacksonville, North Carolina. Since 1973, the Camp Lejeune sewage treatment plant supervisors have been the instructors for a series of 13-week Wastewater Treatment Classes held at Coastal Carolina Community College. 200 students from throughout Eastern North Carolina have participated in the night classes since September 1975. Twenty-seven base sewage treatment plant personnel have successfully completed all requirements of the course and each was awarded Sewage Treatment Plant Operator Grade I to IV Certification by the State of North Carolina. Most of the training was conducted on campus; however, base sewage treatment facilities were visited on several occasions for special instructions with the laboratory being utilized for the chemical analysis part of the course.

According to the Director of Operator Training for the North Carolina Air and Water Resources Board, the training program was the most successful completed in this field; a comment well received by Camp Lejeune.

Good relations are maintained with local, state and federal authorities in our efforts to foster the environmental enhancement program at Camp Lejeune.

Disaster averted at CHB

By Sgt. Brenda Lanclos

The fast action of a combined force of personnel from the Marine Corps Engineer School, Base Maintenance and the Base Fire Department turned what was a potentially disasterous situation into a massive "clean up" here Feb. 28.

The incident occurred at 9:45 a.m. when a delivery fuel truck swung too wide at the turn into the Courthouse Bay Service Station. This caused 8,200 gallons of gasoline to shift to one side tipping the tanker into a covert.

The driver of the tanker kicked out the window and left the truck. He was later treated for minor injuries at the Courthouse Bay Dispensary and released.

Approximately 5,000 gallons of fuel was spilled into the ditch. Immediately, Marines from Engineer School were called in to begin hand shoveling dirt to form a dam that would prevent seepage of the fuel into the outlying areas. They were summoned by Frank A. Hinton, assistant manager of the Service Station.

Shortly afterwards, the Base Fire Department, sprayed the ditch with light-water which lowered the combustion level of the fuel, and began a mopping up exercise. Base Maintenance cleaned up the area and uprighted the toppled tanker.

Mr. Julian I. Wooten, Base ecologist, praised the teamwork, stating "Because of the quick response, the fuel was prevented from flowing into the Courthouse Bay Housing area, which could have caused a fire hazard and also lead to the pollution of New River."

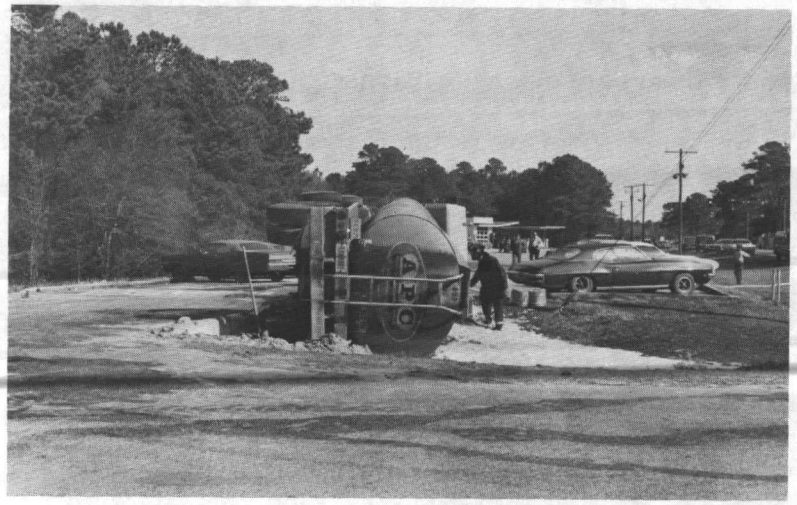

Photo by Sgt. D.m. Sullivan

TOPPLED TANKER — Approximately 5,000 gallons of fuel from an overturned fuel truck was spilled into a ditch located at the entrance to the Courthouse Bay Service Station, Feb. 28. Members of Engineer School, Maintenance and Fire Department diverted and cleaned up the potential disaster

Globe March 6, 1975

CONVEYOR — Virgil Whaley (left) and Oscar Wooten sort and break down part of the seven tons of cardboard waste processed daily at the Base Recycling Plant. (USMC photo by Sergeant Erny Richardson)

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OPERATING THE Onslow County Workshop's cardboard reprocessing plant aboard Camp Lejeune are Virgil Whaley, Jerry James, Roger Rochelle, Oliver Williams, Delores Cox, Kenny Peoples, Joe Dillahunt, Oscar D. Wooten and Jimmy Forbes. (Staff photo by Sidney Stern)

JERRY FREEDMAN, who supervises the Onslow County Workshop's cardboard reprocessing plant, stands beside one of the plant's finished products: a 1,200 pound bale of shredded cardboard. The Workshop sells for $40 apiece the cardboard bales, which can be chemically broken down into a substance resembling wood pulp. (Staff photo by Sidney Stern)

Photos by MSgt. Jim Paynter and SSgt. Tom Griggs
Photo composition by Cpl. Larry Lindsey

AERIAL FIRE BUCKET — A CH-53 helicopter from the Marine Corps Air Station New River drops water on a brush fire at Camp Lejeune last week while Marines from Company M, 3d Battalion, Sixth Marines, 2d Marine Division helped contain the fire that could have destroyed seedling trees.

Marines snuff blaze

By MSgt. Jim Paynter

Marines from an infantry unit turned fire-fighters last week and helped stop a brush fire that could have been dangerous and costly.

According to Assistant Base Fire Chief E.J. Padgett, members of Company M, 3d Battalion, Sixth Marines, 2d Marine Division "did a real good job. They jumped right on the fire and helped contain it. The fire could have done a lot more damage."

The fire, near the Combat Town training area here, burned about three acres before it was brought under control.

Ken Harrison, Base Forester, said the fire could have destroyed seedling trees in a natural reforestation area if it had not been stopped.

The Marines, who had been training where the fire started, were joined in their fire-fighting efforts by two trucks from the Base Fire Department and a Marine Corps Air Station New River helicopter dropping water from a huge aerial water bucket.

The cause of the fire is under investigation.

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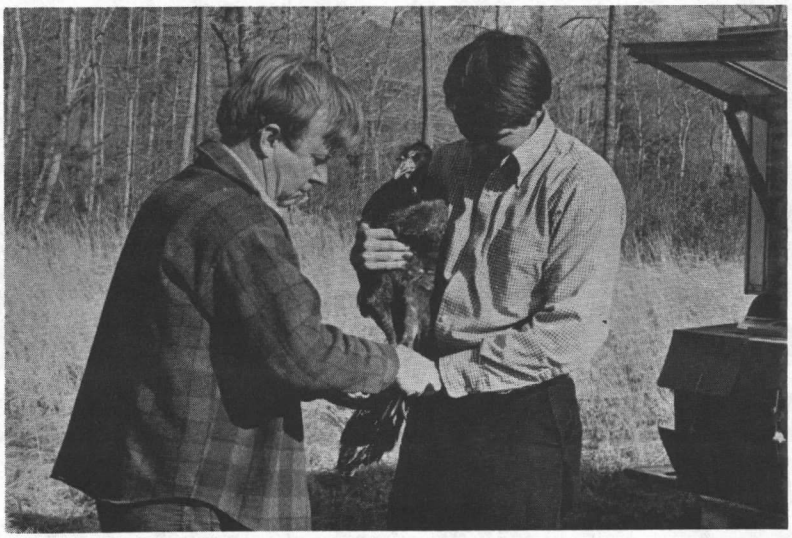

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Photos courtesy U.S. Marine Corps, Camp Lejeune, N.C.

TURKEYS In The Fall?

by Curtis Wooten

The success of the turkey restoration program at Camp Lejeune points the way to a brighter future for the wild turkey in North Carolina.

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 Affairs Division which formulates and implements the management plans.

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.

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.

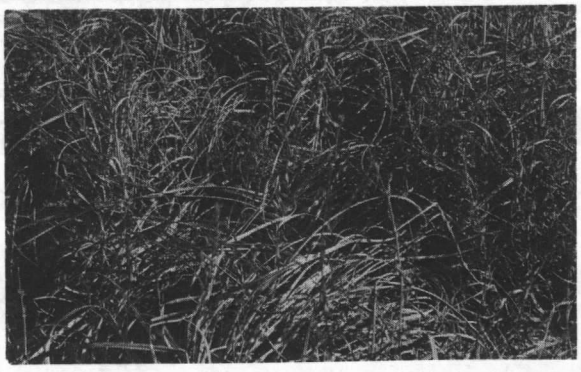
Excessive logging—the primary cause of the decimation of the turkey population in the state originally—generally has an adverse effect on turkey habitats, but those effects can be minimized if management plans are closely coordinated. Small clear-cut and thinning operations, controlled burns and reseeding have taken place on Camp Lejeune for a number of years with no serious adverse effects to the turkey population.

Extensive habitat improvements made in conjunction with timber harvests offset most of the adverse effects of timber cutting on the Base. Access roads have been systematically seeded to provide alternate food sources and travel lanes for wildlife and to check erosion. Nearly 200 food plots, from one to three acres in size and dispersed throughout the estimated 65,000 acres of suitable habitat, have been cleared and seeded to clover, winter rye, bahia grass or chufas. These serve as additional food sources and provide sunning, dusting and general loafing areas for the turkey and other wildlife (such improvements have been made and are presently being expanded on Game Lands throughout the state).

Forest openings and food plots with their diversity of plants and insects are important to most wildlife species. They are of particular value, however, to the wild turkey which utilizes them year-round.

Feral dogs and cats, serious obstacles to turkey restoration in some areas, are strictly controlled at

Forest openings planted with winter rye are checked by turkey specialist Wayne Bailey (below left) and Base wildlife technician Charles Peterson. These food plots serve turkeys the year 'round. Right, mast producing trees such as the turkey oak, provide important food for turkeys, and should be retained in timber cutting plans.



Chufas, a member of the sedge family and also known as sweetrush, flatsedge, and galingale, are a choice food of wild turkeys. The tops (left) appear grass-like, and do produce some seeds, but it is the peanut-sized tubers (right) that are the main attraction to the turkeys.

Camp Lejeune, a feat difficult to duplicate in most areas of the state. With strictly controlled access to the Base and continual patrolling by military wildlife protectors, illegal kills are kept to a minimum. Statewide, 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. ◆

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