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FINAL

COMMUNITY RELATIONS PLAN

MARINE CORPS BASE, CAMP LEJEUNE, NORTH CAROLINA

CONTRACT TASK ORDER 0172

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1.0 INTRODUCTION

This document is the updated Community Relations Plan for the Marine Corps Base (MCB), Camp Lejeune, North Carolina. The original Community Relations Plan was issued September 1990. This report has been prepared by Baker Environmental, Inc. (Baker) for the Atlantic Division, Naval Facilities Engineering Command (LANTDIV). Section 2.0 reviews the MCB Camp Lejeune area and history and provides site descriptions. In Section 3.0 the background information describing the community is presented while Section 4.0 outlines the Community Relations Plan. Section 5.0 provides a summary and Section 6.0 presents the bibliography. The following appendixes are included as supporting information:

Appendix A	Installation Restoration Program Abbreviations
Appendix B	Historical Newspaper Articles
Appendix C	Technical Review Committee (TRC) Members
Appendix D	Locations of Information Repositories
Appendix E	Program Points of Contact
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MCB Camp Lejeune has been conducting a series of environmental studies under the Department of Defense's Installation Restoration (IR) Program. Appendix A contains abbreviations used in the Installation Restoration Program as well as other Navy/Marine Corps applicable abbreviations. These studies focus on areas which are contaminated or potentially contaminated as a result of past, formerly accepted hazardous waste disposal practices. Included in the Installation Restoration Program is the development of a Community Relations Plan.

The Community Relations Plan is a requirement of Federal policy for hazardous waste sites on the National Priorities List and of U.S. Navy/Marine Corps policy for sites in the Installation Restoration Program. The National Priorities List is a list of sites determined by the U.S. Environmental Protection Agency to pose a significant threat to human health and the environment. As part of the efforts to study and cleanup the site, community relations activities are required.

The Community Relations Plan is part of the "community right-to-know" process. It is the public's right to be aware of hazardous waste and to have a chance to review and comment on the plans to address the waste sites. For this Community Relations Plan, the primary community is the Base residents and personnel due to their proximity to the waste sites. The citizens of Onslow County, in particular Jacksonville and Sneads Ferry, are the other focus communities.

The primary purpose of the Community Relations Plan is to provide site information and to suggest a variety of communication techniques to promote constructive, effective communication between MCB Camp Lejeune, the MCB Camp Lejeune community, the Onslow County community, the U.S. Environmental Protection Agency and the North Carolina Department of the Environment, Health and Natural Resources (DEHNR). This plan outlines measures to inform the public and regulatory agencies, receive responses and provide a central point of contact for inquiries.

2.0 MCB CAMP LEJEUNE AND THE IR PROGRAM

The following section describes the location and history of MCB Camp Lejeune. The history and process of the Installation Restoration Program are also presented. A subsection detailing the past and present Installation Restoration Program activities at MCB Camp Lejeune is included.

2.1 MCB Camp Lejeune Location and Description

MCB Camp Lejeune is located in eastern North Carolina, near the City of Jacksonville, Onslow County. MCB Camp Lejeune and New River Marine Corps Air Station (MCAS) are approximately 150 miles south of Virginia and 100 miles north of South Carolina. These installations (military facilities) are bordered by the Atlantic Ocean, and the communities of Jacksonville, Sneads Ferry, Piney Green, Hubert and Dixon. The facility currently covers approximately 234 square miles and is bisected by the New River.

Onslow County was subdivided into five townships in 1869 by the County Commissioners. It is comprised of the Cities of Jacksonville, Swansboro, Richlands and the Townships of White Oak and Stump Sound.

2.2 History of MCB Camp Lejeune

In the late 1930s, a selection board chose the New River area for a new Marine training Base and construction began in April 1941. In May, 1941, Lieutenant Colonel W.P.T. Hill became the first commanding officer of what was then known as Marine Barracks, New River. In December 1942 the Base was named in honor of Lieutenant General John A. Lejeune, 13th Commandant of the Marine Corps.

The Base's first warehouse was a converted tobacco barn while a summer cottage acted as Base headquarters. Over the years, the Base has changed considerably. Today, there are six major Marine Corps and two Navy Commands aboard MCB Camp Lejeune: Marine Corps Base owns all the real estate, operates entry-level formal training schools, and provides support and training for tenant commands; Headquarters Nucleus, II Marine Expeditionary Force (II MEF) coordinates operational planning for Fleet Marine Commands; 2d Marine Division (2d MAR DIV) is the ground combat element of the Force; 2d Force Service Support Group (2d FSSG) is the service and support element of the Force; 2d Surveillance,

Reconnaissance and Intelligence Group (2d SRIG) obtains, produces, and releases information and intelligence during planning and execution of exercises and combat operations; the Naval Hospital and the Naval Dental Clinic provide primary medical and dental care to Marines and Sailors stationed at MCB Camp Lejeune and medical care to their families.

MCB Camp Lejeune and the New River Air Station are operated as installations which train and deploy forces, organized into Marine Air-Ground Task Forces (MAGTFs), to locations around the world. The main task of both is to provide the necessary facilities for units to maintain their combat readiness. The MCB Camp Lejeune/New River Complex is the largest concentration of Marines and Sailors in the world and is known as the "Home of Expeditionary Forces in Readiness." Appendix B, Historical Newspaper Articles, presents additional information concerning the Base, environmental issues, and community relations.

2.3 The Installation Restoration Program Process

The following section provides a description of the development of the Installation Restoration Program and its current structure.

2.3.1 Development of the IR Program

Until the late 1970s, both industry and the Department of Defense followed conventional, accepted hazardous waste disposal practices, primarily landfilling. Over time, better waste disposal practices were discovered and used. Therefore, the formerly acceptable waste disposal sites had to be investigated to ensure the safety of human health and the environment.

During the mid-1970s, both the Department of Defense and U.S. Congress began environmental programs and passed laws to address hazardous waste disposal. In 1975, the Department of Defense began a pilot program to investigate past hazardous and toxic materials storage and disposal activities. The goal of this program, the Installation Restoration Program, is to address uncontrolled hazardous waste sites by reducing or eliminating hazards to health and the environment.

In 1976, shortly after the Department of Defense's program began, Congress passed the Resource Conservation and Recovery Act (RCRA). One aspect of RCRA is to manage the present and future disposal of hazardous wastes. In 1980, the Comprehensive Environmental

Response, Compensation, and Liability Act (CERCLA) was passed to investigate and cleanup problems resulting from past, formerly accepted, hazardous waste management practices. A Superfund was established by Congress to fund environmental cleanup, or remediation, for those sites which were either abandoned or where the owners were unable to pay for the action. Together, RCRA and CERCLA address the past, present and future disposal management of hazardous waste.

A 1980 Department of Defense Memorandum required all Department of Defense Installations to identify their formerly active hazardous waste sites and to establish a program to conduct record searches. In 1981, as a result of this direction and to comply with CERCLA requirements, the Department of Defense's Installation Restoration Program was revised. In this revision, the Secretary of Defense was delegated additional responsibilities and authorities specified in CERCLA. In response to the Department of Defense's environmental program, the Department of the Navy initiated the Navy Assessment and Control of Installation Pollutants (NACIP) Program in 1981.

The NACIP program used a three-phased approach to study and cleanup sites that posed unacceptable human health and ecological risks. The program was comprised of an Initial Assessment Study (IAS), Confirmation and Characterization Studies, and Remedial Measures. The sites at MCB Camp Lejeune were studied under this program. These reports will be explained, along with the current studies, in Section 2.5 of this document.

In 1986, the Superfund Amendments and Reauthorization Act (SARA) was passed by Congress which, among many things:

- Outlined broader roles for the U.S. Environmental Protection Agency and the states in determining appropriate action at federal facilities with respect to the investigation and remediation of waste disposal sites.

- Established the Emergency Planning and Community Right-to-Know Act of 1986. This act focuses on community awareness and promotes preparedness for dealing with hazardous substance releases.

To comply with the many policies outlined in SARA, the Navy/Marine Corps restructured its Installation Restoration Program to match the terminology and structure of CERCLA. The former NACIP terminology and study phases are no longer used. For example, the former

Initial Assessment Study is equivalent to the current Preliminary Assessment. Figure 2-1 illustrates the change in terminology.

Resulting cleanup of sites at federal facilities is funded either by the individual installation or through the Defense Environmental Restoration Account (DERA), established by the Defense Environmental Restoration Program.

The current Installation Restoration Program is entirely consistent with applicable state and federal environmental laws. See Table 2-1 for an illustration of the regulatory history and Figure 2-2 for a diagram of the Installation Restoration Program study process.

2.3.2 The Current Installation Restoration Program

As discussed in the preceding section, the Department of Defense's Installation Restoration Program is organized with matching terminology to the Environmental Protection Agency's Comprehensive Environmental Response, Compensation and Liability Act program. Aside from different funding mechanisms, the programs are very similar. Both are structured with the same goal: to investigate past waste disposal sites and protect human health and the environment.

The Installation Restoration Program is initiated with a Preliminary Assessment/Site Inspection (PA/SI) to identify potential threats to human health or the environment. This stage involves a review of historic information, a visual site inspection, and limited sampling of environmental media, such as soil or sediments. If contamination is suspected, a Remedial Investigation (RI) is conducted to learn more about possible site contamination and to determine if any known contamination is leaving (migrating from) the site. After studying the historic information, a sampling program is designed to investigate potential contamination. Samples may be taken of soil, groundwater, surface waters such as creeks or lakes, sediments and sometimes air. Resulting data provide information about the extent of possible contamination and rate of migration.

If the Remedial Investigation results indicate that a cleanup is necessary based on potential adverse impacts to human health or the environment, a Feasibility Study (FS) is initiated to evaluate remedial alternatives that can meet environmental standards considering factors such as the degree of contamination and potential human health and environmental risks. A variety of remedial methods are considered, including the "No Action" alternative. The "No

FIGURE 2-1

IR PROGRAM TERMINOLOGY CHANGES

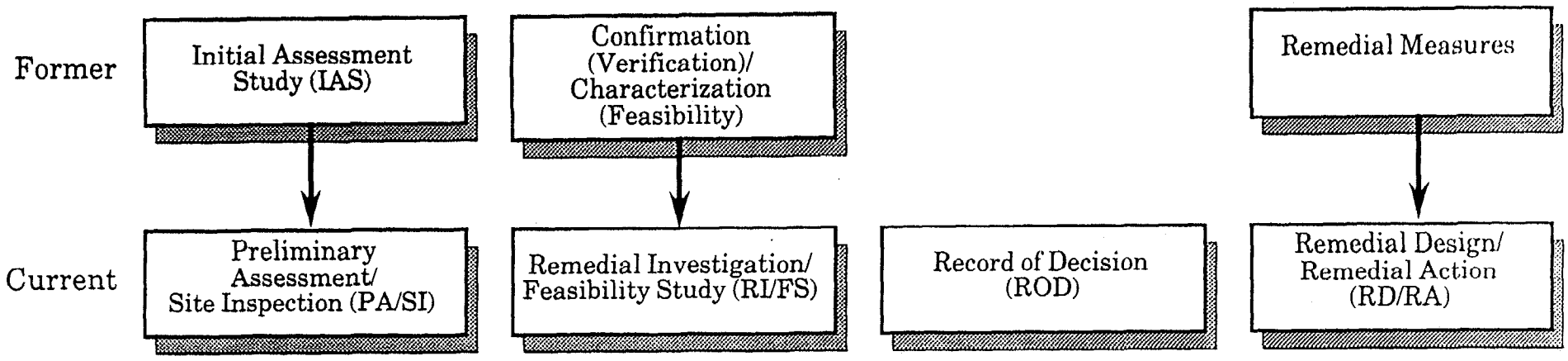


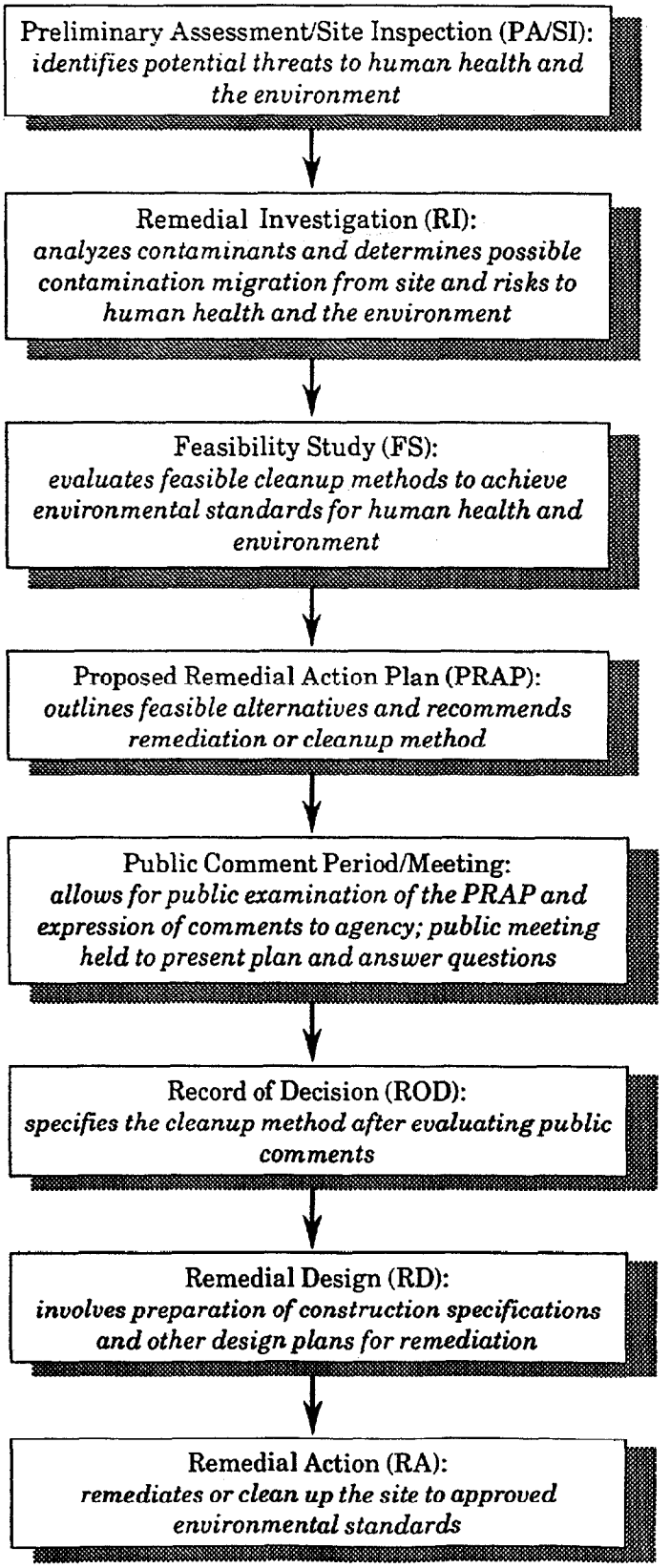
TABLE 2-1

REGULATORY HISTORY

Year	Direction/Program/Law	Originator (Administrator)
1975	Installation Restoration (IR) Program	Department of Defense (DOD)
1976	Resource Conservation and Recovery Act (RCRA)	Congress (United States Environmental Protection Agency - EPA)
1980	Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA)	Congress (USEPA)
1981	Revise IR Program	(DOD)
981	Navy Assessment and Control of Installation Pollutants (NACIP)	Department of the Navy (DON)
1986	Superfund Amendments and Reauthorization Act (SARA)	Congress (USEPA)
1987	Reorganize IR Program to address SARA/CERCLA issues	(DON/DOD)

FIGURE 2-2

Installation Restoration Program Process



Action" alternative is required to be included under CERCLA to serve as a baseline against the other feasible alternatives. Following the Feasibility Study, a Proposed Remedial Action Plan (PRAP) is issued, outlining all of the feasible alternatives and recommending the remedial method.

The public has an opportunity to comment on the PRAP during a formal public comment period. The comment period is required to be at least 30 days but no more than 60 days. At this time, a public meeting is held to provide the community an opportunity to learn more about the site and the proposed action. The public comments are reviewed and the responses are recorded in a document called the Responsiveness Summary. After this public comment period, an appropriate remedial alternative is chosen that is protective of human health and the environment. The Record of Decision (ROD) document, which explains the chosen action, is issued. The State of North Carolina and the EPA must concur with the selected remedy. Following the signing of the ROD by the Navy/Marine Corps, the third phase, Remedial Design/Remedial Action (RD/RA), is started. This phase involves preparing construction specifications of the selected cleanup/remedial method and implementing the action. Under CERCLA, remedial construction must be initiated within 15 months from the signing of the ROD. "Initiation" of remedial action is satisfied with the award of a construction contract.

Public comment and input are received throughout the Installation Restoration Program process. Aside from formal public comment periods and public meetings, a Technical Review Committee (TRC) meets to study documents at various stages in the Installation Restoration Program process. The committee members include Federal and State regulatory personnel, local government officials, and other community members. Appendix C is a list of current Technical Review Committee members. The program documents are also available for public review at the MCB Camp Lejeune Central Library and the Onslow County Library (see Appendix D).

2.4 The Installation Restoration Program at MCB Camp Lejeune

The facility has been actively involved in various environmental investigation and remediation programs since 1983, beginning with the Initial Assessment Study (NACIP, 1983). This study identified areas of concern that may potentially cause threats to human health and the environment as a result of past storage, handling, and/or disposal of hazardous materials. Based on a review of historical records, field inspections, and personal interviews, 76 areas of concern (AOCs) were identified. The Initial Assessment Study concluded that,

while none of the sites pose an immediate threat to human health or the environment, 22 sites warrant further investigation to assess long-term impacts. During preliminary investigation of the AOCs, an additional AOC (Site 78, Hadnot Point Industrial Area) was identified. Subsequent sampling and monitoring activities of these sites have been initiated since 1984.

MCB Camp Lejeune was placed on the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA) National Priorities List effective October 4, 1989 (54 Federal Register 41015, October 4, 1989). The National Priorities List is a list of hazardous waste sites which require expedited study and cleanup. Following the listing of MCB Camp Lejeune on the National Priorities List, a Federal Facilities Agreement (FFA) between the United States Environmental Protection Agency Region IV (EPA), the North Carolina Department of Environment, Health, and Natural Resources (DEHNR), and the Department of the Navy was signed in February 1991. The objectives of the FFA are:

- To ensure that the environmental impacts associated with past and present activities at MCB Camp Lejeune are thoroughly investigated and appropriate response actions are developed and implemented as necessary to protect the public health, welfare and the environment;

- To establish a procedural framework and schedule for developing, implementing and monitoring appropriate response actions at MCB Camp Lejeune in accordance with the appropriate environmental laws (CERCLA, the National Contingency Plan (NCP), and EPA policy relevant to remediation at MCB Camp Lejeune); and

- To facilitate cooperation, exchange of information and participation of the parties in such action.

The FFA identified 23 sites where Remedial Investigation/Feasibility Study (RI/FS) activities are to be conducted (Table 2-2). Since that time, two sites (Sites 22 and Site 45) will be investigated as Underground Storage Tank sites and will not require an RI/FS at this time. In addition, Site "A" and Site 68 will require a Site Inspection prior to undertaking, if necessary, RI/FS activities.

Based on the results of Site Inspections conducted at MCB Camp Lejeune during the period 1991-1993, the following sites will be included under the RI/FS phase:

TABLE 2-2

IR PROGRAM AREAS OF CONCERN/SITES IDENTIFIED IN THE 1991 FEDERAL FACILITIES AGREEMENT

Site No.	Site Description
1	French Creek Liquids Disposal Area
2	Former Nursery/Day-Care Center
3	Old Creosote Site
6	Storage Lots 201 and 203
7	Tarawa Terrace Dump
9	Fire Fighting Training Pit at Piney Green Road
12	Exposure Ordnance Disposal
16	Montford Point Burn Dump (1958-1972)
21	Transformer Storage Lot 140
22 (1)	Industrial Area Tank Farm
24	Industrial Area Fly Ash Dump
28	Hadnot Point Burn Dump
30	Sneads Ferry Road - Fuel Tank Sludge Area
35	Camp Geiger Area Fuel Farm
36	Camp Geiger Area Dump near Sewage Treatment Plant
41	Camp Geiger Dump near former Trailer Park
43	Agan Street Dump(2)
44	Jones Street Dump
45 (1)	Campbell Street Underground AVGAS Storage and Adjacent JP Fuel Farm at Air Station
48	MCAS New River Mercury Dump Site
54 (2)	Crash Crew Fire Training Burn Pit
63	Verona Loop Dump(2)
65	Engineer Area Dump(2)
68 (2)	Rifle Range Dump
69	Rifle Range Chemical Dump
73	Courthouse Bay Liquids Disposal Area
74	Mess Hall Grease Pit Area
75 (2)	MCAS Basketball Court Site
76 (2)	MCAS Curtin Road Site
A (2)	MCAS (H) Officer's Housing Area
78	Hadnot Point Industrial Area
80	Paradise Point (Gold Course Pesticide Area)
82	VOC Disposal Area at Piney Creek Road
84	Building 45 Area(2)
85	Camp Johnson Battery Dump(2)
86	Tank Area AS419-AS421 at MCAS

Note: Other specific locations may be added to the above list upon identification of the need to perform an RI/FS at those locations resulting in the corresponding modification to the Scope of Work Primary Document (described in the Federal Facilities Agreement).

(1) UST Petroleum Site (UST Petroleum Investigation/Corrective Action Regulations).

(2) Site Inspections will initially be conducted. The SI will determine the need to conduct an RI/FS.

- Site 3 (Old Creosote Plant)
- Site 7 (Tarawa Terrace Dump)
- Site 43 (Agan Street Dump)
- Site 44 (Jones Street Dump)
- Site 54 (Crash Crew Fire Training Burn Pit)
- Site 63 (Verona Loop Dump)
- Site 65 (Engineer Area Dump)
- Site 80 (Paradise Point)
- Site 82 (VOC Disposal Area at Piney Green Road)

With these changes, a total of 27 sites will require RI/FS activities. These sites are grouped together for study purposes as Operable Units (OU). According to the National Contingency Plan, "Operable units may address geographical portions of a site, specific site problems, or initial phases of an action, or may consist of any set of actions performed over time or any actions that are concurrent but located in different parts of a site. The cleanup of a site can be divided into a number of operable units, depending on the complexity of the problems associated with the site." The grouping of sites into OUs often expedites the study and cleanup process by combining adjacent sites or those with similar contamination.

This section identifies the 13 recommended Operable Units at MCB Camp Lejeune where Installation Restoration Program activities are or will be implemented. The study schedule for the sites coincide with the priority of the Operable Units with respect to their potential for groundwater contamination, proximity to receptors, verified contaminants, and potential ecological impacts. Figure 2-3 illustrates the Operable Units and site locations at MCB Camp Lejeune. It is important to note that the shaded areas do not represent areas of contamination but encircle the study area associated with each Operable Unit.

2.5 Site Descriptions

In accordance with guidance provided in the National Contingency Plan, the Navy/Marine Corps has recommended that the 27 current Installation Restoration Program sites be grouped into 13 Operable Units (OU) for the purposes of proceeding with RI/FS activities (see Table 2-3). The 27 RI/FS sites represent an increase of nine sites (Sites 3, 7, 43, 44, 54, 63, 65, 80, and 82) from the previous year.

The following presents site descriptions of the Operable Units at MCB Camp Lejeune.

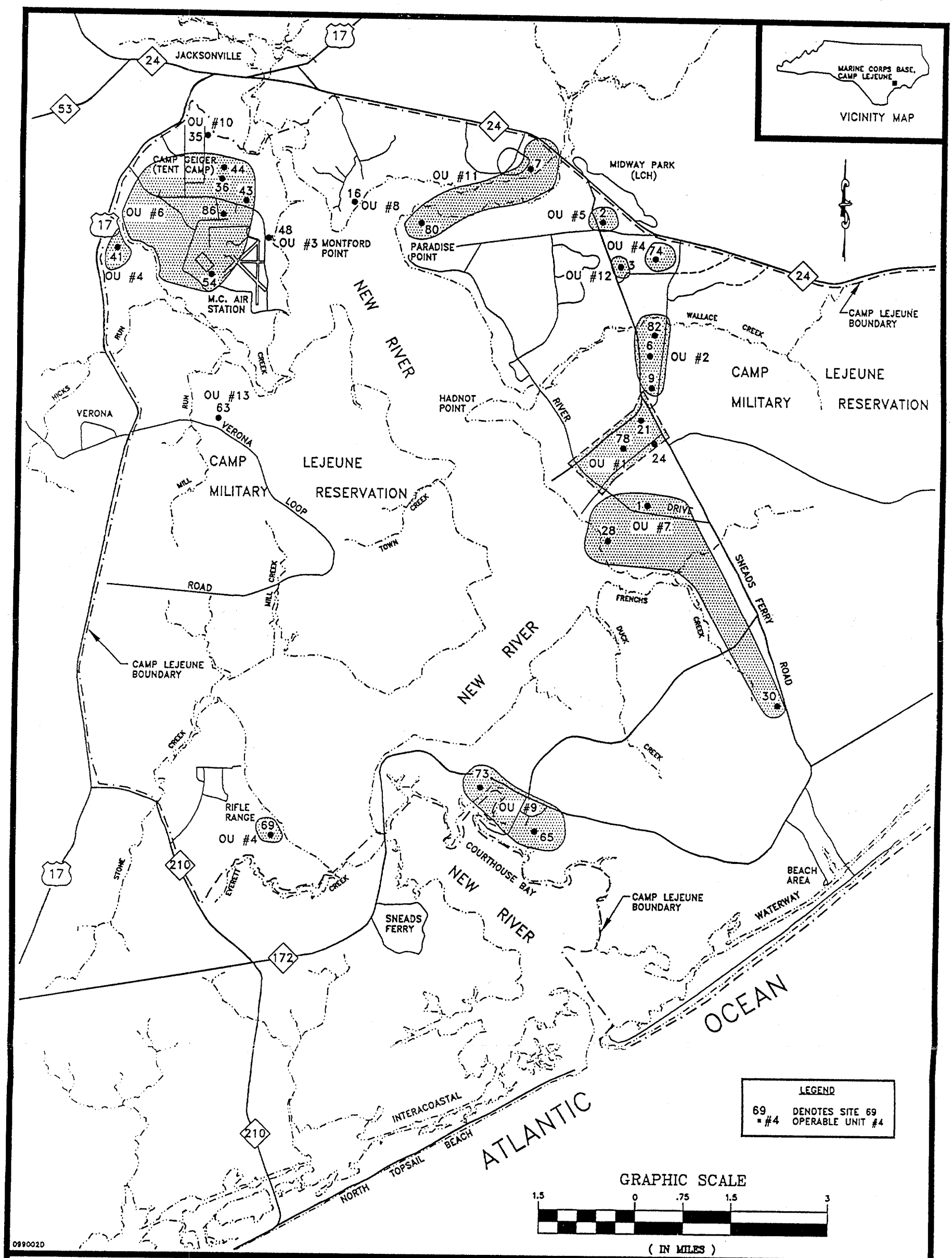


FIGURE 2-3
OPERABLE UNITS AND SITE LOCATIONS AT
MARINE CORPS BASE CAMP LEJEUNE

MARINE CORPS BASE, CAMP LEJEUNE
NORTH CAROLINA

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TABLE 2-3

RECOMMENDED OPERABLE UNITS FOR
MARINE CORPS BASE CAMP LEJEUNE, NORTH CAROLINA

Operable Unit No.	Site No(s).	Site Name(s)	Primary Reasons for OU Selection
1	21	Transformer Storage Lot 140	Sites are geographically located in the same area.
	24	Industrial Area Fly Ash Dump	
	78	Hadnot Point Industrial Area	
2	6	Storage Lots 201 and 203	Sites are located near each other.
	9	Firefighting Training Pit at Piney Green Road	Sites are currently undergoing RI/FS activities (development of RI/FS Project Plans).
	82	Piney Green Road VOC Area	
3	48	MCAS New River Mercury Dump Site	Unique characteristics of the site involving the disposal of mercury, which is highly toxic and bioaccumulates.
4	41	Camp Geiger Dump Near Former Trailer Park	Unique characteristics of the site involving the disposal of chemical wastes generated on the base.
	69	Rifle Range Chemical Dump	
	74	Mess Hall Grease Disposal Area	
5	2	Former Nursery/Day Care Center	Similar characteristics of materials disposed (pesticides).
6	36	Camp Geiger Area Dump near Sewage Treatment Plant	Similar characteristics of materials disposed (POL, waste oils, solvents) and contaminants detected (metals, VOCs, O&G). Sites are located in the Brinson Creek and Tank Creek watershed.
	43	Agan Street Dump	
	44	Jones Street Dump	
	54	Crash Crew Fire Training Burn Pit	
	86	Tank Area AS419-AS421 at Marine Corps Air Station	

TABLE 2-3 (Continued)

RECOMMENDED OPERABLE UNITS FOR
MARINE CORPS BASE CAMP LEJEUNE, NORTH CAROLINA

Operable Unit No.	Site No(s).	Site Name(s)	Primary Reasons for OU Selection
7	1	French Creek Liquids Disposal Area	Sites are located near each other and are located in the French Creek watershed. Similar contaminants detected (metals, O&G).
	28	Hadnot Point Burn Dump	
	30	Sneads Ferry Road Fuel Tank Sludge Area	
8	16	Montford Point Burn Dump	Isolated site which requires additional site investigation.
9	65	Engineer Area Dump	Geographic proximity.
	73	Courthouse Bay Liquids Disposal Area	
10	35	Camp Geiger Area Fuel Farm	Accelerated cleanup necessary to support highway project.
11	7	Tarawa Terrace Dump	
	80	Paradise Point	
12	3	Old Creosote Plant	Isolated site with unique waste source.
13	63	Verona Loop Dump	Isolated site.

2.5.1 Operable Unit No. 1 (Sites 21, 24, and 78)

Operable Unit No. 1 consists of Site 21 (Transformer Storage Lot 140), Site 24 (Industrial Area Fly Ash Dump), and Site 78 (Hadnot Point Industrial Area). These sites are described below.

Site 21 - Transformer Storage Lot 140

Site 21 is located between Ash Street and Sneads Ferry Road on Center Road. A transformer oil pit was located in the northeastern end of Lot 140 across the railroad tracks from Building 702. The entire lot is approximately 220 feet by 890 feet with the dimensions of the pit measuring 25 to 30 feet long by 6 feet wide by 8 feet deep.

Lot 140 was used from 1958 to 1977, for pesticide mixing and as a cleaning area for pesticide application equipment. The mixing area for the pesticides is believed to have been the southeast corner of the lot. Pesticide contamination possibly occurred as a result of small spills, washout, and excess disposal. In 1977, before activities were moved to a different location, washout was estimated to be about 350 gallons per week of overland discharge.

In 1950 and 1951, an on-site pit was used as a drainage receptor for oil from transformers. Sand was occasionally placed in the pit when oil was found standing in the pit bottom. The total quantity of oil drained in this manner is unknown.

Site 24 - Industrial Area Fly Ash Dump

Site 24 is located south and east of the intersection of Birch and Duncan Streets. Four separate disposal locations were investigated as potential areas of contamination. Site 24 was used for the disposal of fly ash, cinders, solvents, used paint stripping compounds, sewage sludge, and water treatment sludge from the late 1940s to 1980. Approximately 20 to 25 acres in size, the site lies adjacent to upstream portions of Cogdels Creek.

Site 78 - Hadnot Point Industrial Area

The Hadnot Point Industrial Area (HPIA) is located on the east side of the New River. The HPIA is defined as that area bounded by Holcomb Boulevard to the west, Sneads Ferry Road to the north, Louis Street to the east, and the Main Service Road to the south.

The establishment of MCB Camp Lejeune began in the early 1940s with the construction of the HPIA. Water supply for the Base was furnished by wells that tapped a potable aquifer 50 to 300 feet below the Base. In 1941, a water treatment system, including 21 water supply wells, was placed on-line at HPIA. The system serviced most of the Base until the 1950s, when additional wells and treatment facilities were installed because of the expanding needs of the Base. Today, eight water treatment facilities and over 160 water supply wells serve the MCB at Camp Lejeune.

The HPIA is comprised of approximately 75 buildings/facilities. These include maintenance shops, gas stations, administrative offices, commissaries, snack bars, warehouses, and storage yards. A steam plant and training facility occupy the southwest portion of HPIA. In addition, numerous underground storage tanks, stormwater drains, and oil/water separators are present.

A transformer storage yard (Site 21) and a petroleum UST fuel tank farm (Site 22) are located within the northern portion of HPIA.

2.5.2 Operable Unit No. 2 (Sites 6, 9, and 82)

Operable Unit No. 2 consists of Site 6 (Storage Lots 201 and 203), Site 9 (Fire Fighting Training Pit at Piney Green Road), and Site 82 (Piney Green Road VOC Area). These sites are described below. As of the issue of this document, a Remedial Investigation/Feasibility Study, Proposed Remedial Action Plan, and Record of Decision have been completed for this Operable Unit. The Navy/Marine Corps is starting a remedial action design based on the selected alternative described in the Record of Decision. This document is available in the information repositories, listed in Appendix D. Specific fact sheets detailing the studies and selected remedy for Operable Unit Nos. 2 and 3 are in Appendix E.

<u>Site 6 - Storage Lots 201 and 203</u>

Storage Lots 201 and 203 are located on Holcomb Boulevard between Wallace and Bearhead Creeks. Lot 201 is estimated to be approximately 25 acres in size, and Lot 203 is approximately 46 total acres. The area between the storage lots and surrounding these lots is primarily wooded. However, random disposal areas in the woods have been documented.

These lots have a long history of various uses, including disposal and storage. The land surface is flat and unpaved, and surface soils have been moved about as a result of regrading and equipment movement. The site was and still is used to store hazardous materials. DDT is reported to have been disposed of at Lot 203 when it served as a waste disposal area in the 1940s. Transformers containing PCBs have also been stored at this site. No spills or leaks have been reported.

Site 9 - Firefighting Training Pit at Piney Green Road

This 2-acre site is located between Piney Green Road and Holcomb Boulevard, south of Bearhead Creek. This AOC has been used for firefighting training exercises from the 1960s to the present. Until 1981, the fire training activities were carried out in an unlined pit. Flammable liquids, including used oil, solvents, and contaminated fuels (nonleaded), were burned in the pit. An oil-water separator has been installed at the site as a means of pollution control.

Site 82 - Piney Green Road VOC Area

The Piney Green Road VOC Area is a forested area between Lot 203 and Wallace Creek and appears to have been used as a disposal area at some point in the past. It is estimated to be 30 acres. There is visual evidence of debris piles and small depressions as identified by ES&E in the Site Summary Report, June 1990. A ravine, which is filled with debris in various sections, bisects the site. This site is bounded on the north by Wallace Creek and to the south by Storage Lot 203. The site is therefore a reasonable source of the observed VOCs in groundwater and Wallace Creek.

2.5.3 Operable Unit No. 3 (Site 48)

Operable Unit No. 3 is the Marine Corps Air Station (MCAS) Mercury Dump (Site 48). The MCAS New River Mercury Dump Site is located on Longstaff Road next to Building AS-804. The disposal area was utilized from 1956 to 1966 and covers a 100- to 200-foot wide corridor extending from the rear of Building AS-804 (photo lab) to the edge of the New River. These dimensions correlate with an area of approximately 20,000 square feet. Metallic mercury was periodically drained from the delay lines of the radar units and disposed of at this AOC. Approximately 1 gallon per year of mercury was deposited over a 10-year period, amounting to more than 1,000 pounds total. The best information available indicates that the material was

carried by hand and dumped or buried in small quantities at randomly selected spots. Appendix E, Fact Sheets, has additional information regarding the studies and proposed remedial action plan.

2.5.4 Operable Unit No. 4 (Sites 41, 69, and 74)

Operable Unit No. 4 is comprised of Site 41 (Camp Geiger Dump Near Former Trailer Park), Site 69 (Rifle Range Chemical Dump) and Site 74 (Mess Hall Grease Pit Disposal Area). These sites are described below.

Site 41 - Camp Geiger Dump near Former Trailer Park

The Camp Geiger Dump is located south of the terminus of Robert L. Wilson Boulevard and south of the abandoned trailer park. The area lies between an unnamed creek and Tank Creek. This 30-acre disposal area was operated from 1946 to 1970, and was used as an open burn dump that received mixed industrial waste, commercial waste, construction debris, waste oils, solvents from the air station, garbage, trash, asphalt, concrete, old batteries, Mirex, and ordnance. The size estimate for Site 41 is based on map and photographic information. Field estimates have been made, but no field measurements were performed.

Based on interviews with MCAS New River and MCB Camp Lejeune personnel, it is estimated that 10,000 to 15,000 gallons of waste oils and solvents were disposed of at this site. Most of these wastes were probably burned. The number of old lead-containing batteries disposed of is assumed to be relatively small. Tons of Mirex in bags were disposed of in 1964. The disposed quantity of ordnance is estimated to include thousands of mortar shells. At least one case of grenades and one 105mm howitzer shell were also reported to have been disposed of within the filled area. In the mid-1960s over a 1- to 2-year period, at least two waste disposal incidents occurred during which two truckloads of drummed wastes were unloaded at the site. These wastes were described as being similar to those disposed of at the Rifle Range Chemical Dump (Site 69). This could mean that chemical agents (e.g., training kits) may have been disposed at this dump. No other information concerning drum content is available. Based on an estimated fill depth of 5 feet, the total estimated volume of the site is approximately 110,000 cubic yards.

Site 69 - Rifle Range Chemical Dump

The Rifle Range Chemical Dump is located approximately 9,000 feet east of the intersection of Range Road and Sneads Ferry Road, north of Everett Creek. The site is an estimated 6 acres in size. Available records indicate the site was active from the early 1950s until 1976. It is reported that the site was utilized as a disposal area for all chemical wastes generated on the Base. The list of materials disposed of at the site include the following materials: pentachlorophenol, DDT, trichloroethylene, malathion, diazinon, lindane, gas cylinders, HTH, PCBs, drums that appeared to contain training agent consisting of chloroacetophenone (CN) gas, all other hazardous materials generated or used on the Base, and chemical agent test kits for chemical warfare. The materials were disposed of in trenches or pits that were between 6 to 20 feet deep. At least 12 different disposal events have been documented.

Site 74 - Mess Hall Grease Disposal Area

The Mess Hall Grease Disposal Area is located in a wooded area approximately 1/2 mile east of Holcomb Boulevard in the northeast portion of MCB Camp Lejeune. The Pest Control Area is located approximately 20 to 50 yards south of the grease pit and 75 yards east of Supply Well 654. The disposal area north of the dirt access road is approximately 3 acres in size. The grease pit measured 135 feet long, 30 feet wide, and 12 feet deep. The total size of the Pest Control Area has been estimated at 100 feet by 100 feet. Available information indicates the site was active from the early 1950s until 1960. Disposal activities at the site included the placement of mess hall grease and some waste food into a pit. Records indicate that there was at least one unsuccessful attempt to burn the grease using a more volatile substance. The material was washed out of the pit in 1954, when Hurricane Hazel passed through the area. Use of the pit was discontinued at this time. No estimates regarding the quantity of grease disposed of at the site have been made.

Drums and pesticide-soaked bags were dumped near the grease pit. Detailed information regarding the contents of the drums is not available. Personnel involved with disposal of the drums were not informed of the drum's contents or origin. It is speculated that the drums may have contained pesticides and/or transformer oil containing PCBs. Best estimates indicate that approximately 500 gallons of pesticides were released from the deposition of the bags. Approximately 2,200 gallons of pesticides, contained in drums, were deposited at the site. It is estimated that 1,100 gallons of PCB-containing oil were buried at the site. One internal memorandum indicated that drums which were supposed to be taken to Site 69 were instead

taken to Site 74. It is unknown whether these drums contained chemical agents, which are suspected to be buried at Site 69.

2.5.5 Operable Unit No. 5 (Site 2)

Operable Unit No. 5 consists of Site 2 (Former Nursery/Day Care Center). From 1945 to 1958 this building was used for the storing, handling, and dispensing of pesticides. The building at this location was later used as a children's day-care center. Chemicals known to have been used include chlordane, DDT, diazinon, and 2,4-D. Chemicals known to have been stored on site include dieldrin, lindane, malathion, silvex, and 2,4,5-TP. Areas of suspected contamination are the fenced playground, mixing pad, wash pad, and railroad drainage ditch. Contamination is believed to have occurred as a result of small spills, washout, and excess disposal. A preliminary soil sampling investigation conducted at this site in 1982 indicated the presence of DDE, DDD, DDT, and chlordane. Based on these results, the day-care activities were moved to another location.

2.5.6 Operable Unit No. 6 (Sites 36, 43, 44, 54, and 86)

Site 36 (Camp Geiger Area Dump Near the Sewage Treatment Plant), Site 41 (Camp Geiger Dump Near Former Trailer Park), Site 43 (Agan Street Dump), Site 44 (Jones Street Dump), Site 54 (Crash Crew Fire Training Area), and Site 86 (Tank Area AS419-AS421) will be investigated as an Operable Unit. These sites are described below.

<u>Site 36 - Camp Geiger Area Dump near Sewage Treatment Plant (STP)</u>

The Camp Geiger Area Dump is located east of the Camp Geiger STP approximately 200 feet on the south side of Brinson Creek, downstream of Site 35. An unnamed ditch is located less than 100 feet southeast of the filled area. Site 36 was used for the disposal of municipal wastes and mixed industrial wastes including garbage, trash, waste oils, solvents, and hydraulic fluids from the air station from the late 1940s to the late 1950s. Most of the material was first burned and then buried. However, some unburned material was buried. According to interviews conducted during the IAS process, less than 5 percent of all hydrocarbons used at the air station were disposed of at the site. The remainder was used for dust control on roads or went directly into storm drains. A conservative estimate of the quantities used for dust control is 700 to 1,000 gallons per week. A smaller but undetermined amount was washed down the storm drains. Using a 5 percent estimate for dumping over the 9 years of operation,

approximately 25, 000 gallons of material could have been disposed of in the landfill areas. If it is assumed that this amount was split between this site and the trailer park dump (Site 41), 10,000 to 15,000 gallons of solvents and oils may have been placed into Site 36. The records state that all waste solvents and oils were burned after disposal at this site.

The site covers about 25,000 square feet and rises about 10 to 12 feet above grade. Based on an average depth of fill of 15 feet, the estimated volume of the disposal area is 14,000 cubic yards. These estimates are based on map and photographic information only. No field measurements have been performed for this purpose.

Site 43 - Agan Street Dump

Site 43 is located at Marine Corps Air Station, New River. The site is located about one mile north of the main entrance to MCAS and one mile west of the runway. Site 43 is located off of Agan Street and adjacent to an abandoned sewage treatment plant. To the immediate north of the site is Edwards Creek. Strawhorn Creek, which discharges into Edwards Creek, borders the site to the east and south. Edwards Creek discharges into the New River approximately one-half mile north of the site.

The Agan Street Dump is approximately 20 acres in size. Boards, trash, fiberglass, and wastewater treatment plant sludge were disposed on the ground surface. The years of operation are unknown. However, the STP ceased operations in 1975. There is little evidence of the construction debris at the site. In addition, the area(s) where sludges were disposed of are not evident. Much of the area is heavily overgrown and wooded. Various dirt roads are present throughout the site area. The dirt roads are very narrow. It is unlikely that these roads are utilized by military vehicles. It is more probably that the roads are used for biking or just walking.

During the site inspection (July-August 1991), much of the site experienced flooding due to several rainy periods. Marshes are present around most of the site.

Site 44 - Jones Street Dump

The Jones Street Dump (Site 44) is located at Marine Corps Air Station, New River. The site is situated adjacent to a Base housing complex. The site is approximately five acres in size and is

bordered to the north by Edwards Creek and to the south by Jones Street. Woods are present to the east and west.

The dump operated in the 1950s and received mainly debris, cloth, boards, and paint cans. It is reported that small quantities of hazardous materials may also have been disposed of on site (Water & Research, 1983). However, no other details are available with respect to the types or quantities of hazardous materials.

Site 54 - Crash Crew Fire Training Burn Pit

This 1.5-acre site within MCAS New River is located adjacent to the southwest end of Runway 5-23 near Building AS-3614. This AOC is believed to have been used in the mid-1950s for crash crew training and continues into the present. Contaminated fuels (principally JP-type and possibly leaded fuels) and waste fuels were used in the training exercises. Originally, the training was conducted on the ground surface with the area surrounded by a berm. Later, a burn pit was used which was lined in approximately 1975.

Site 86 - Tank Area AS419 - AS421 at Marine Corps Air Station

Site 86 is located at Marine Corps Air Station, New River, Jacksonville, North Carolina, on the southwest corner of Foster Street and Campbell Street. Two hundred feet to the south is the Marine Corps Air Station fire station. The taxiway is located approximately 800 feet to the south of the site. Office buildings, aircraft hangers, machine shops and a commissary are located in close proximity to the site.

The site consists of an area which was once occupied by three aboveground storage tanks (AGSTs), each with a 25,000 gallon capacity. The tanks were surrounded by an earthen berm and a pump house. It has been reported that the tanks were used to store No. 6 fuel oil and waste oil. The tanks have been removed.

In November 1990, a soil and groundwater investigation of the area was completed. Total petroleum hydrocarbons (TPH) were detected in only one out of 22 surface soil samples above 10 ppm (124 ppm). The location and depth of soils containing TPH concentrations above the North Carolina action level of 10 ppm suggest the source to be from localized surficial spills. Although the soil only reflects minor problems associated with surficial product spills, groundwater was found to be contaminated with trichloroethene (TCE) above the MCL. For

this reason, this site has been included with other CERCLA sites at MCB Camp Lejeune. The source of the TCE in groundwater is unknown.

2.5.7 Operable Unit No. 7 (Sites 1, 28, and 30)

Operable Unit No. 7 will consist of Site 1 (French Creek Disposal Area), Site 28 (Hadnot Point Burn Dump), and Site 30 (Sneads Ferry Road Fuel Tank Sludge Area). These sites are described below.

Site 1 - French Creek Liquids Disposal Area

This site is located on both the north and south sides of Main Service Road at the western edge of the Gun Park Area and Force Troops Complex. The total area for the site is approximately 7 to 8 acres. Site 1 has been used by many different Marine Corps organizations since the 1940s. Liquid wastes from vehicle maintenance activities were poured on the ground as part of routine operations.

Batteries and used battery acid were also disposed of at this location. Suspected quantities of waste are estimated to be 5,000 to 20,000 gallons of waste petroleum, oil, and lubricants (POL) and 1,000 to 10,000 gallons of battery acid.

Site 28 - Hadnot Point Burn Dump

The Hadnot Point Burn Dump, which is located east of the Hadnot Point Wastewater Treatment Plant, is on both sides of Cogdels Creek. A variety of solid wastes, including mixed industrial waste, trash, garbage, oil-based paint, and refuse, was burned and subsequently covered with dirt on this 23-acre disposal area, which was in operation form 1946 to 1971. On its closure in 1971, the surface was graded, and grass was planted. The volume of fill is estimated at 185,000 to 379,000 cubic yards. Since the waste was burned, no approximation of the remaining amount of specific substances can reasonably be made. The site is currently used as a recreational area, including a stocked fishing pond.

Site 30 - Sneads Ferry Road Fuel Tank Sludge Area

The Sneads Ferry Road Fuel Tank Sludge Area is located along a tank trail that intersects Sneads Ferry Road from the west, about 6,000 feet south of the intersection with Marines

Road. The site is located approximately 1,500 feet east of French Creek. In 1970, sludge from fuel storage tanks storing leaded gasoline (containing tetraethyl lead and related compounds) and tank washout waters were disposed of at the site by a private contractor. It is estimated that, at a minimum, 600 gallons of sludge or tank bottom deposits were dumped at the site. Two 12,000-gallon tanks were pumped out while the type of fuel stored was changed. The 600-gallon estimate is based on tank capacity below the tank outflow ports. Additional washout water may also have been present. Additional information suggests that the site had also been used for similar wastes from other tanks. Composition of the sludge and/or washout is unknown and may vary from containing substantial amounts of tetraethyl lead to containing mostly cleaning compounds.

2.5.8 Operable Unit No. 8 (Site 16)

Operable Unit No. 8 is the Montford Point Burn Dump (Site 16). Site 16 was opened about 1958 and was closed in 1972, although unauthorized dumping subsequently occurred. The site contains building debris, garbage, tires, and waste oils. The quantity of these wastes is not known, but only a small amount of oil disposal is suspected. Materials reportedly have been dumped on the surface and included asbestos insulation material for pipes. The asbestos on the surface has been removed from this 4-acre site.

2.5.9 Operable Unit No. 9 (Sites 65 and 73)

Operable Unit No. 9 consists of Site 65 (Engineer Area Dump) and Site 73 (Courthouse Bay Liquids Disposal Area). These sites are described below.

Site 65 - Engineer Area Dump

Site 65 is located in the Courthouse Bay area of MCB Camp Lejeune. The Courthouse Bay area ranges in elevation from about 45 feet to sea level. The terrain at Site 65 is relatively flat with an average elevation of 40 feet within the site area. Site 65 is a local high elevation area.

The Engineer Area Dump is approximately four to five acres in size. Two separate disposal areas have been reported: a battery acid disposal area and a liquids disposal area. The types of liquids which have been disposed are petroleum, oil, and lubricant products. In addition, the dump was used to burn construction debris. The dump was in operation from before 1958 until 1972.

There are two small ponds at the southeast part of Site 65. The area surrounding the ponds is marshy and wetland-like. The two ponds appear to be joined together during periods of high precipitation. A small intermittent stream flows from the southwest into the west pond. The ponds do not appear to drain to a specific location. Stormwater runoff from Site 65 and the surrounding areas eventually drains into Courthouse Bay.

The Site 65 area is no longer used for dumping. The area is currently heavily wooded with a marshy area existing around the two previously mentioned ponds. A large open area consisting of dirt is used for military training exercises. Heavy equipment operators use the area to train on their earthmoving machinery. The roads surrounding Site 65 are not paved. There are no buildings or facilities existing on Site 65. The nearest facilities are Buildings 201, 239, and 237 located on an access road off of Poe Road. These facilities are used to store and transfer waste oil, diesel fuel, kerosene, and product POL. A generator building also exists to the northwest of the site.

Site 73 - Courthouse Bay Liquids Disposal Area

The Courthouse Bay Liquids Disposal Area is located on both sides of Courthouse Road approximately 200 feet northwest of Courthouse Bay. This AOC was used from 1946 until 1977. Available information indicates that disposal activities occurred within a 13-acre area. An estimated 400,000 gallons of waste oil were disposed of in this area. The waste oil was generated during routine vehicle maintenance. The oil drained directly on the ground surface. In addition, approximately 20,000 gallons of waste battery acid were reportedly disposed of in this area. Waste battery acid was poured into shallow hand-shoveled holes that were backfilled after disposal.

2.5.10 Operable Unit No. 10 (Site 35)

Camp Geiger Area Fuel Farm (Site 35) is located north of the intersection of G and Fourth Streets, approximately 400 feet southwest of Brinson Creek. This 2,500-square-foot site was used in 1957 and 1958 for storing and pumping fuel. Gas was released to the soil through a leak in an underground line near an aboveground storage tank and tank pad. The MCB Camp Lejeune Fire Department has estimated the amount of fuel released to be in the thousands of gallons. Exact quantities released cannot be determined because the records were destroyed. The spill migrated east and northeast toward and into Brinson Creek. Fuel at the surface of

the shallow aquifer was disposed of by digging holes to the water table and igniting the fuel. Fuel which contaminated Brinson Creek was also ignited and burned.

Little information is available with respect to another spill in 1990. Although a spill was reported at the site, the cause of the spill was not documented.

2.5.11 Operable Unit No. 11 (Sites 7 and 80)

Operable Unit No. 11 consists of Site 7 (Tarawa Terrace Dump) and Site 80 (Paradise Point). These sites are described below.

Site 7 - Tarawa Terrace Dump

Tarawa Terrace Dump is a landfill located east of the sewage treatment plant between Tarawa Boulevard and Northeast Creek. Its size is estimated at 5 acres. The landfill was closed in 1972, but the years of operation are not known. As far as is known, no hazardous materials were disposed of in this facility. Only construction debris, sewage treatment plant filter media, and household trash are known to have been disposed.

Site 80 - Paradise Point Golf Course

The study area of this site consists of a 1-acre area at the back of the machine shop and the truck wash area at the Paradise Point Golf Course. The site contains an area of bare, hummocky soil, with a large soil mound. There are areas of dead and/or dying vegetation in the vicinity of the soil mound. In addition, there are unvegetated areas where soils have been disturbed. A drainage ditch runs from the truck wash area around the back of the machine shop.

In addition to the machine shop, which is a potential source of waste oils, the routine application of pesticides and herbicides on the golf course and the potential inadvertent disposal of excess pesticides and herbicides behind the machine shop may also have contributed to potential contamination in this area. The truck wash area consists of a concrete pad and sumps that collect washwater from the sprayers, but prior to the construction of this pad, the disposition of washwater may have been completely uncontrolled. The presence of dead vegetation indicates that, at a minimum, waste herbicides may have been disposed of

behind the machine shop. There is no indication that other chemicals have been used or disposed of in this area.

2.5.12 Operable Unit No. 12 (Site 3)

Operable Unit No. 12 consists only of Site 3 (Old Creosote Plant). The old creosote plant operated from 1951 to 1952 to supply treated lumber during construction of the railroad on the Base. The facility was located approximately 800 feet east of Building 613, on the opposite side of Holcomb Boulevard. Logs were cut into railroad ties at the on-site sawmill, then pressure treated with hot creosote stored in a railroad tank car. There is no indication of creosote disposal on site, and records show that creosote remaining in the pressure chamber at the end of a treatment cycle was stored for future use. On completion of the railroad, the plant and mill were dismantled and sold. The only site features remaining are concrete pads and the boiler chimney.

2.5.13 Operable Unit No. 13 (Site 63)

The Verona Loop Dump (Site 63) is located along Verona Loop Road, approximately one and one-half mile east of Highway 17. The site is located south of Marine Corps Air Station, New River.

The Verona Loop Dump is approximately three to four acres in size. The site is primarily wooded except for the haul roads formerly used to take debris to the dump. The site is bordered by Verona Loop Road to the south, an intermittent stream to the east, and woods to the north and south. The site is situated in a relatively flat area with an elevation of approximately 45 to 50 feet above mean sea level (msl). The area surrounding the disposal area, however, is hilly for the MCB Camp Lejeune area. The site area slopes downward (i.e., west to east) toward an intermittent stream, which is at an elevation of about 20 feet msl. The area north of the site gradually increases in elevation.

Site 63 is no longer used for disposal. The area is heavily wooded and a locked gate is present at the entrance, which restricts vehicular access. Approximately one mile north of the site is the advanced infantry training school. Ammo supply magazines are located approximately one-half mile east of the site. The only use of the land is for recreational hunting and training. In the vicinity of Site 63, infantry training is periodically conducted. Although hunting is permitted, a permit/pass must be obtained.

3.0 COMMUNITY BACKGROUND

The target community for the Installation Restoration Program Community Relations program is the Base, including military and civilian personnel and dependents, because the studies to date have not indicated that any contamination has migrated off Base. Additionally, Onslow County, in particular the Jacksonville and Sneads Ferry communities, will also be targeted for information distribution efforts.

This section will describe the communities and their involvement with the Base. The community relations interview program will be described, and the results of the interviews will be presented with a brief analysis and recommendations.

3.1 Community Demographics

MCB Camp Lejeune is located within the Jacksonville metropolitan statistical area. Population and economic data discussed in this document was obtained from the 1980 and 1990 U.S. Census. A brief description of the community's demographics follow.

3.1.1 Population

The population of Onslow County is directly related to the MCB Camp Lejeune military population. In general, from 1980 to 1990 the county population grew 32.9%; the active duty military personnel grew by 27.1% and the number of dependents per active duty military persons increased from 0.7 in 1980 to 1.2 dependents in 1990.

Predictions are difficult to make due to troop deployments, the ratio of dependents and any reductions or changes in force. Thus, by leaving the military-related population at the 1990 level, the Onslow County Planning Commission predicted the following population growth through the year 2000.

Year	1990	1995	2000
Onslow County Total Population	149,838	157,538	165,238
Military-related *	96,768	96,768	96,768
Non-Military	53,070	60,770	68,470

* Estimated active duty military and dependents.

Breakdown:

43,812	Active duty
12,226	On-Base dependents
42,448	Off-Base dependents
98,486	Total: July 1990
(1,718)	Less adjustment for persons living outside of Onslow County
96,768	Total county resident military and dependent

(Source: Land Use Plan 1991 Update, Onslow County Board of Commissioners).

3.1.2 Economy

Since its construction, MCB Camp Lejeune has been the major factor in the local economy. The Base's largest contribution to the local economy is from the wages and salaries paid to the civilian and military personnel. In the Fiscal Year 1992, the gross pay for military personnel, civilian employees and employees of the Marine Corps Exchange and non-appropriated fund organizations totaled over $954 million. The gross dollar figures include more than basic pay. For military personnel, subsistence, housing and clothing, hazardous pay, jump pay, and sea duty pay are included in the gross pay figure, while for civilians, the data includes the government's portion of the health benefit program, group life insurance, severance pay, cash awards, and the funded portion of the civil service retirement.

MCB Camp Lejeune's top contractors for fiscal year 1992, other than construction, are listed below.

Contractor	Cost
Moore's Cafeteria Services, San Antonio, TX	$6,524,328
Motorola, New Bern, NC	$1,970,593
The Parts House, Jacksonville, FL	$1,576,172
National Liene, Wilmington, NC	$1,407,018
Carolina Daries, Kinston, NC	$1,275,841
GTSI, Atlanta, GA	$1,057,464
Thomasville Furniture, Thomasville, NC	$1,045,698
Wang Laboratories, Lowell, MA	$1,015,242
Eastman Kodak, Arlington, VA	$ 973,773
Martin Marietta, New Bern, NC	$ 841,806

A total of 280 facilities construction contracts valued at approximately $65.7 million were awarded to date during fiscal year 1992. The top ten contractors for Fiscal Year 1992 are listed below.

Contractor	Contract
J.W. Cook & Sons, Whiteville, NC	$10,108,300
Sauer, Inc. , Jacksonville, NC	$ 4,734,146
Pro Construction, Jacksonville, NC	$ 4,615,831
Dawson Builders, Jacksonville, NC	$ 2,683,411
Lanier Construction, Snow Hill, NC	$ 2,171,634
Morton Construction, Jacksonville, NC	$ 1,940,300
C.L. Price & Associates, Morehead City, NC	$ 1,448,868
Blizzard Construction, Beulaville, NC	$ 1,419,293
Faulkner & Son, Jacksonville, NC	$ 1,348,500
Delphi Construction, Jacksonville, NC	$ 1,375,324

The Morale, Welfare and Recreation (MWR) Operations also provide an economic impact to the area. MWR operates recreational and support facilities from tennis courts to snack bars, serving officers, staff noncommissioned officers, enlisted personnel, and civilians. Table 3-1 provides Fiscal Year 1990 sales figures for the MWR Operations. Overall, the total direct and indirect impact of the Base for Fiscal Year 1992 was $1,191,900,676 (Source: MCB Camp Lejeune Public Affairs Office).

Apart from the Base, agriculture, services, tourism are significant areas of the economy. Although the agriculture income has been declining slightly, the industry is still a large component for parts of Onslow County, especially the City of Richlands and Township of White Oak. The total acreage in farms and the percentage of land farmed in 1991 is listed below.

Area	Acreage in Farms	% Total of Land
Jacksonville	7,838	13.5
Richlands	23,258	40
Stump Sound	6,477	11.1
Swansboro	4,000	7.9
White Oak	15,970	27.5

Commercial forestry also contributes significantly to the County's economy. Approximately 93,451 acres are involved. Other forestry areas include Hofmann Forest, 79,927 acres, which is reserved by the North Carolina State University for a Silvaculture Research Station. Additionally, the Base has the largest forest management program in the Marine Corps. In 1991, $111,750 was donated to the local schools from the harvest sales at MCB Camp Lejeune.

TABLE 3-1

SALES FIGURES
Morale, Welfare and Recreation Operations
Camp Lejeune
FY 1990 (January 29, 1990 - January 27, 1991)

Category	Sales Direct Operations (millions)	Sales Contracted Operation (millions)	Sales Total (millions)
Retail (includes merchandise, military clothing, convenient stores, branch stores, service stations, fuel, liquor, etc.)	$61.686	$.578	$62.264
Food/Hospitality (includes clubs, snack bars, hotdog houses, mobile units, cafeterias, temporary lodging facility, bingo operations, contracted fast food operations, etc.)	$9.140	5.102	14.242
Services (includes vending, barber and beauty shops, clean and press shops, laundromats, pay telephones, contracted vending and services operations, etc.)	9.910	3.400	13.310
Recreation (includes golf courses, bowling alleys, hobby shops, fitness centers, marinas, gyms, community centers, athletic programs, swimming pools, stables, tickets and tours, beach areas, fishing pier, camping areas, cabins and cottages, etc.)	1.923	0.000	1.923
Totals	**$82.659**	**$9.080**	**$91.739**

Source: Moral, Welfare and Recreation Department, Marine Corps Base, Camp Lejeune

The harvesting of fish and shell fish is historically a strong part of the area's heritage and economy. This industry in centered in Sneads Ferry and Swansboro. The tourism industry and the service industry also thrive in the County (Source: Land Use Plan 1991 Update, Onslow County Board of Commissioners). Table 3-2 is a list of the local industry.

3.2 Community Involvement History

Community relations at the Base is certainly a priority that is taken seriously. MCB Camp Lejeune has developed ways to promote positive interaction with the off-Base community over the years as the Base's economic role in the area has grown. The Base strives to bring together the civilian and military communities for the common goal of a stronger community. This goal is achieved through many ways.

The Joint Military Affairs Committee is the cornerstone in the relationship of the communities. The Committee combines a mix of local professionals, politicians, business and service persons for the purpose of fostering goodwill and understanding in the community. The organization sponsors events such as fish frys, sporting events and reciprocal receptions to achieve the enhancement of relations.

The speakers bureau, sponsored by the MCB Camp Lejeune Public Affairs Office, provides citizen groups the opportunity to meet and hear from Marines and Sailors in subjects ranging from leadership to sports. Various units such as the Provost Marshall's Office (PMO) also support community relations. This office sponsors "Officer McGruff" and Project "DARE" crime/drug prevention programs at local schools among other projects.

Community outreach may be seen in the volunteer efforts by units of the Base to the distribution of food to the needy; and by the Base's participation in the Christmas Cheer Program, providing food and gifts to local needy families. Additionally, the MCB Camp Lejeune Marine Engineers constructed artificial reef material for the Department of Fisheries for areas near Onslow Beach. The 2nd Medical Battalion sponsored Community Awareness Day while the Public Affairs Office sponsored luncheons with all local television, radio and print media to present issues and increase awareness and cooperation.

In the area of environmental community relations, the Base has sponsored community meetings at the various stages of the Installation Restoration Program progress, providing the

TABLE 3-2

LOCAL INDUSTRY

Onslow County
July, 1991

Name of Company	Location	Product	No. of Employees (Range)
Barrus Construction	Jacksonville	Asphalt, Ready-Mix Concrete	50-99
Belle-Dream, Inc.	Jacksonville	Lingerie, Piece-Goods	100-249
Catherine Lake Feed Mill	Richlands	Feed	1-4
Cosco Printing Company	Jacksonville	Typesetting and Printing	10-19
Daily News	Jacksonville	Newspaper	50-99
Del-Mar Garments, Inc.	Jacksonville	Ladies Dresses	250-499
Holly Ridge Foods, Inc.	Holly Ridge	Frozen Turnovers	50-99
Martin-Marietta Aggregates	Maysville	Crushed Stone	20-49
Mine Safety Appliances Co.	Jacksonville	Safety Equipment	100-249
Progressive Service Co.	Jacksonville	Cutting Dies	20-49
Ravens Metal Products	Jacksonville	Aluminum Flat-Bed and Dump Trailers	50-99
Pellamy Manufacturing	Richlands	Ladies Knit Sportswear, Piece Goods	250-49
Richlands Milling Company	Richlands	Feed, Seed, Fertilizer, Farm Supplies, Grain Buyers	5-10
Specialty Mode	Jacksonville	Garments	75-80
Stanadyne, Inc.	Jacksonville	Diesel Injection Pumps and Nozzles	250-499
Swansboro Garment Co.	Swansboro	Ladies Dresses, Pants	100-249
Thompson Sign Company	Jacksonville	Neon and Plastic, Electric Signs, Lettering, Plexiglass	10-19
Thorn Apple Valley of Carolina	Holly Ridge	Bacon Packaging	500-999
United Parcel Service	Jacksonville	Bulk Mail and Package Delivery	50-100

Source: Onslow County Economic Development Commission

community the opportunity to ask questions and learn about the program. The study documents and public meeting minutes have been placed in two information repositories established by the Base. See Appendix D for the addresses, phone numbers and hours of operations of these libraries.

3.3 Community Interview Program

The Base conducted environmental community relations interviews from February 5, 1990, to March 23, 1990. A total of 41 interviews were conducted with a wide range of persons including Base personnel, residents, local officials, and off-Base residents. The responses were recorded, studied, and formed the Community Relations Plan, issued in September 1990. The Base decided to conduct additional interviews in 1993 to ensure that the community remained informed and to provide an update of the Installation Restoration Program process. These additional interviews were conducted from August 2 through August 6, 1993. Nineteen persons were interviewed, representing local businesses, civic groups, on and off-Base residents, military and civilian interests. The responses were recorded and compared to the community interviews of 1990. A discussion of the interview results, subdivided into main topics, follows.

Awareness of the Installation Restoration Program at MCB Camp Lejeune

Many of the participants were aware that the Base was studying waste sites, but they were not aware of any details about the Installation Restoration Program or the sites. Most of the people confused the program with the base wastewater treatment studies. The majority of public officials interviewed have not received any complaints or questions about the sites from the public. Rather, the questions asked of officials are about the Base's proposed disposal method of sewage sludge from the newly proposed treatment plant.

The Installation Restoration Program appeared to be a subject that some people were "uninformed by choice" because they do not feel it directly affects them. Some remarked, "I don't know enough to be concerned" or "it (the program) wouldn't really concern me; I'm not a very environmental person." Based on the survey, the public generally appears confident with the Base's efforts for, as one participant remarked, "as long as it doesn't directly interfere with my family or my home." As with many issues, increased media coverage of the Installation Restoration Program sites may result in an increased awareness and interest in the sites.

Information Availability

Most participants were unaware of the information repositories. It was suggested that the availability of the documents be publicized periodically in the local newspapers. Other participants suggested that the county officials be made aware of the repositories so that they may reference others.

As with the awareness and interest level in the sites, the desire for information was also mixed. The opinion was expressed that if people were concerned and wanted information, they would call the Base and eventually locate the repositories. It was remarked that "you can't force people to be interested or to come to the public meetings."

One official remarked that the available information is too technical and admitted that it is "tough to reduce" the information for public consumption. Several persons suggested a periodic newsletter for the public to alleviate this problem.

Concerns

It was discovered during the interviews that the majority of the people were not concerned directly with the waste sites. Rather, the public expressed general concern about local groundwater water quality and the New River water quality. Again, most questions posed for the Base were regarding the sewage treatment plant, not the Installation Restoration Program sites.

Base personnel posed questions about the recent elevated levels of lead in the water and appeared to be satisfied with the action to date. The participants interviewed who work near some of the sites were well informed and expressed the desire to be kept informed of the study findings and progress. Several questions were asked about the nature of materials disposed in sites and the possibility of groundwater contamination.

Some officials asked, "When is actual remediation?" Apparently, people are satisfied with the Base's program but are concerned with the timeframe. The document review process and the various stages in the Installation Restoration Program were explained to participants to provide a better understanding of the timeframe required to study and cleanup sites.

One participant was concerned that the Sneads Ferry community may not be aware of the program and remarked that a more "proactive" approach be used to inform the communities. Conversely, some participants echoed the sentiment that a community is as informed as the members wish to be.

Others expressed concern regarding newspaper articles. They explained that "the Base doesn't have a chance to present their side of the story" and that sometime articles are "very slanted and one sided." As a result of these concerns, participants suggested other modes of information distribution be used, such as the public information channel, where the Base is more "in control" of the presentation. Regarding possible "sensationalization of environmental issues," one participant remarked of the Installation Restoration Program, "This is not a big issue; the media makes issues."

One gentleman expressed concern about possible health affects associated with working near sites and suggesting tracking Base personnel health records to discover if there is any problems. He recommended a public health assessment be conducted and commented that he has received inquiries from the public regarding the safety of fish consumption from the New River. He also expressed a concern about "the lack of interest" in the sites from the public.

Opinion of MCB Camp Lejeune

All of the participants appeared confident with the Base's efforts and with the Base's role as a community member. One participant remarked that she and her husband "trust the Marine Corps to take care of it (waste sites)." She said that most people she know share her sentiment of "if the Marine Corps made a problem, they'll take care of it." One public official explained that she has a "high level of confidence with the Base" through working with the wastewater treatment projects.

One official remarked that he had heard that some are disappointed with the pace of investigation and that Base does not have an independent contractor review the government contractor's documents. He continued, saying that some told him their impression was that the Base community relations are an effort "to whitewash or cloud the issue."

Community Suggestions

Community members suggested a variety of ways to provide information. In general, the participants recommended using the conventional modes such as the print media. One gentleman suggested for the Base to use "radio to pique interest then follow up with a newspaper article." Others recommended using the public information channel. The use of existing newsletters was suggested, as was initiating a newsletter solely for the Installation Restoration Program. Others recommended a brief, periodic letter to Technical Review Committee members to keep members interested and informed.

Presentations to small groups of interested parties was highly recommended. Participants cited various civic groups which may be interested in presentations. Additionally, educational programs with the schools were recommended to increase interest and knowledge of the sites. One participant suggested for the Base to present a brief training program about the waste sites to the Base school teachers, who may then better answer any inquiries.

For the MCB Camp Lejeune community, participants suggested posting Installation Restoration Program updates and notices in prominent places. Also, one person recommended for the Base to make a map of the sites for hunters and fishers so they know to avoid the areas. Use of the union bulletin was also recommended.

A general comment about the information repository was that people confused it with the Administrative Record. The information repository is more general information while the Administrative Record is the legal record of all the material reviewed prior to proposing action on a site. It was recommended to provide a brief description of each and post it at the library. Apparently, a citizen was looking at the information repository, assuming it was the Administrative Record, and complained that it was not complete. The Administrative Record is currently prominently labeled.

4.0 COMMUNITY RELATIONS PLAN

Through the Installation Restoration Program, MCB Camp Lejeune has started to inform and educate the public about environmental issues. The Community Relations Plan serves as a guidance to improve communication between MCB Camp Lejeune and the military and civilian communities. This plan has been prepared in part through community interviews and historical community relations. The plan provides recommended activities to improve the information distribution to the community. An actual schedule of recommended and required (under Federal, state, and Navy environmental guidance) activities was provided to the Base Environmental Management Department and Public Affairs Office. The effectiveness of this Community Relations Plan will rely on timely information distribution, feedback from the public, and Base response to community concerns.

4.1 Goal and Objectives

The main goal of the Community Relations Plan is to promote improved communication between the local community, military and civilian personnel, elected and public officials, and MCB Camp Lejeune.

To meet the goal of improved communication, the public must be informed of Installation Restoration Program activities and have an opportunity for input and comments. This goal will be meet through several strategies, including site Fact Sheets and community meetings. The Installation Restoration Program reports, Fact Sheets and other information is available at the two information repositories for review. Additional public meetings will be scheduled at the Proposed Remedial Action Plan stages of the program (this is the document which outlines the proposed method to cleanup the sites). Additionally, public comments will be received through Technical Review Committee meetings. Lastly, members of the public are free to call the Base's point of contact, the Public Affairs Officer, to learn about the Installation Restoration Program.

This Community Relations Plan has been prepared in general accordance with the following guidelines:

1. The Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA) of 1980 (Public Law 96-510), as amended, including Section 117 of the

Superfund Amendments and Reauthorization Act (SARA) of 1986 (Public Law 99-499, October 17, 1986).

2. EPA's Public Involvement in the Superfund Program (WH/FS-86-004) and CERCLA Compliance with other environmental statutes [Federal Register 50(20):592859321].

3. Community Relations in Superfund: A Handbook [Office of Solid Waste and Emergency Response (OSWER) Directive Number 9230.0-3C, January, 1992].

4. The National Oil and Hazardous Substances Pollution Contingency Plan (NCP).

The Community Relations Plan's main objectives are to:

1. Inform all participants in the Installation Restoration Program of the Community Relations Plan and encourage their involvement.

2. Assure the community that their health and safety, and their environment are of primary importance to MCB Camp Lejeune.

3. Develop, maintain, and use, as necessary, an "interested party mailing list" for distribution of information. Encourage interested community members to be added to the list.

4. Provide general information regarding the Installation Restoration Program, and specific information concerning sites at critical stages in the process to all members of the community. The information should be timely and expressed in layman's terms.

5. Provide all interested members of the community the opportunity to review and comment on all Installation Restoration Program technical reports.

6. Provide all interested members of the community opportunities to present opinions and ideas during the Installation Restoration Program.

7. Provide the media with interviews, briefings and requested information, as available, in a timely manner to ensure accurate coverage of the Installation Restoration Program.

8. Swiftly and effectively respond to expressed concerns of the community.

9. Cultivate and maintain a cooperative and productive, two-way dialogue with the community by a proactive Public Affairs Officer to promote trust and understanding during the Installation Restoration Program .

10. Provide one point of contact (the Public Affairs Officer) through which all inquires are directed to ensure continuity and reduce confusion.

11. Periodically evaluate the effectiveness of the Community Relations Plan during the Installation Restoration Program process and revise its methods and activities as deemed appropriate.

In summary, MCB Camp Lejeune's community relations efforts will focus on providing the community with accurate and timely information about findings and developments at each site and promoting community communication.

4.2 Responsibilities

The Commanding General, MCB Camp Lejeune has the Community Relations Plan implementation responsibilities. The Commanding General is assisted in the Community Relations Plan implementation by sharing tasks with the Environmental Management Division, Public Affairs Officer, MCB Camp Lejeune military and civilian personnel, state and Federal regulatory agencies, and technical personnel contracted to assist in the Installation Restoration Program process. These main responsibilities are outlined below.

1. MCB Camp Lejeune:

   a. Implements the Community Relations Plan.
   b. Holds/participates in any public meetings regarding site activities.

2. Public Affairs Officer:

   a. Plans, schedules and coordinates all activities and necessary requirements for implementing the Community Relations Plan. Activities may include specific

communication techniques for regulatory agencies, the local community, media, military personnel, and resident and civilian work force as listed in the following sections.

b. Informs and coordinates with Naval Facilities Engineering Command (NAVFACENGCOM) as appropriate, the development and distribution of new releases and fact sheets relating to the site investigation.

c. Provides an on-the-scene spokesperson for the site investigation program and responds to media queries using statements or plans.

d. Informs the state and all appropriate Federal agencies of activities and findings relative to the site, in a timely manner.

e. Insures that Freedom of Information Act (FOIA) requests are properly forwarded to the appropriate staff section.

f. Remains sensitive to the needs and concerns of the local community regarding the site, and implements activities of the Community Relations Plan as appropriate.

g. Updates the Community Relations Plan as new developments and/or changes occur at the site.

3. Naval Facilities Engineering Command (NAVFACENGCOM):

a. Provides general public affairs guidance and support for the implementation of the MCB Camp Lejeune Community Relations Plan.

b. Provides timely and accurate information to MCB Camp Lejeune regarding the site activities and technical data/results.

c. Refers to appropriate technical and legal personnel for clearance and/or coordination of all material intended for public release that has not been previously cleared or specifically authorized for release in the MCB Camp Lejeune Community Relations Plan.

4. United States Environmental Protection Agency (EPA):

   a. Acts as a spokesperson on policy or questions regarding programs within EPA's area of responsibility.

   b. Provides a spokesperson to respond to appropriate questions from briefings for local officials, interested community groups, citizens and the media.

   c. Responds to press questions, as required, and notifies other involved agencies of responses and potential concerns.

5. North Carolina Department of the Environment, Health and Natural Resources (DEHNR):

   a. Acts as a spokesperson on policy or questions concerning programs within DEHNR's area of responsibility.

   b. Provides a spokesperson to respond to appropriate questions from briefings for local officials, interested community groups, citizens and media.

   c. Responds to press questions, as required, and notifies other involved agencies of responses and potential concerns.

4.3 Communication Activities and Techniques

Building and maintaining an effective communication network is important for successful community relations. Developing different communication techniques for several audiences and adapting these techniques according to changes in the public attitude is necessary to create and maintain public trust and participation. The following approaches were developed, in part, as a result of suggestions offered during the community interviews and from Department of Defense and Environmental Protection Agency guidance documents.

4.3.1 Agency Communication Techniques

As emphasized in Environmental Protection Agency guidance, effective communication between MCB Camp Lejeune, and State and Federal regulatory agencies is necessary for a

successful community relations program. These agencies must be updated to coordinate participation in the Installation Restoration Program. Currently, MCB Camp Lejeune has a cooperative relationship with the agencies. The following communication techniques should continue this agency/Base relationship. The Agency contacts are listed with the Installation Restoration Program contacts in Appendix F.

1. Technical Review Committee (TRC) Meetings

   The TRC meetings allow for outside sources, including representatives of the local community, to review and comment on technical documents and matters relating to the Installation Restoration Program. Members of the TRC include State and Federal agency representatives, public officials, technical and business persons, and MCB Camp Lejeune personnel. TRC meetings will be scheduled periodically, whenever a major project milestone is reached. Appendix C is the list of current TRC members.

2. Telephone Conference Calls/Meetings

   Whenever a major project milestone is reached, MCB Camp Lejeune and NAVFACENGCOM will schedule telephone conference calls and/or meetings with appropriate regulatory agencies to maintain the lines of communication and flow of information.

4. Prior Notice of Scheduled Public Meetings

   In order to ensure adequate scheduling time for attendance by the agencies and the public, maximum advance notice is required. The notice for public meetings will be announced both on the local community announcement cable television station and in the Jacksonville Daily News and The Globe, at least two weeks ahead of the scheduled meeting date.

4.3.2 Local Community and Media Communication Techniques

The MCB Camp Lejeune Public Affairs Officer is the established general information and communications contact for the public and media. The Public Affairs Officer will serve as the main contact for implementing the Community Relations Plan activities. The following

recommended techniques are recommended to improve communication. Appendix G is a list of the local/regional media.

4.3.2.1 Information Repositories

To provide public access to Installation Restoration Program information, the study documents were placed in the Onslow County and MCB Camp Lejeune Main Branch libraries. Documents are available for review by the community. Appendix D lists the libraries and pertinent information. These repositories will be referred to as information sources in future Fact Sheets. The MCB Camp Lejeune Public Affairs office will maintain these repositories.

4.3.2.2 Fact Sheet/News Releases

Fact Sheets will be prepared to update the community and mailing list individuals of project milestones or major developments. For example, a fact sheet will most likely be prepared explaining the final results of the Remedial Investigation, and also to explain the preferred method of remediation. The Fact Sheets will be prepared in a clear, concise manner free of excessive technical jargon. The Fact Sheets will be distributed according to the mailing list (the libraries are included on the mailing list). Appendix E provides two recent Fact Sheets.

4.3.2.3 Site Brochure

It is recommended for an Installation Restoration Program Summary Brochure to be prepared which briefly explains the physical characteristics of the various sites (e.g., location, size, etc.) as well as the types and nature of wastes present at each site. A site map and individual site photographs may be included, illustrating site locations and conditions. The Installation Restoration Program process may be described in general to provide an understanding of the work MCB Camp Lejeune is undertaking. This brochure may be distributed according to the mailing list.

4.3.2.4 Special Briefings for Local Officials

When the community has concerns or questions, they often call their local officials to get information or to register a complaint. In order to keep these key people informed, telephone contact will be made by the Public Affairs Officer or Environmental Management Division personnel. These contacts will provide an avenue for community concerns to be voiced by

officials and for Installation Restoration Program updates to be explained by the Public Affairs Officer. Appendix H is a listing of local officials.

4.3.2.5 On-Site Tours

On-site tours are valuable in presenting a realistic view of the sites and a better understanding of the investigation and cleanup methods. In order to facilitate the time and energy involved with tours, one main tour may be arranged at the discretion of the Commanding General through the Public Affairs Officer for elected and civic, state and local officials, media and community group leaders as necessary.

4.3.2.6 Presentations to Civic Groups and Schools

An effective method to communicate to groups is to address small groups. No presentations are currently scheduled, but presentation requests from special interest groups and others will be honored as time and support factors allow. During the presentation, the Base personnel will also review Installation Restoration Program progress to date and answer specific questions. These informal presentations are an effective means of distributing information and receiving feedback. Appendix I is a listing of the Onslow County civic clubs.

4.3.2.7 Public Meetings

Public Meetings may continue to be held to explain the Installation Restoration Program progress, findings and recommendations and also to address ideas and concerns from the community. A public meeting must be held when the Proposed Remedial Action Plan is issued. It is important for the community to have the opportunity to talk face to face with MCB Camp Lejeune personnel. Advance notice for the meeting will be published in the local newspapers. Technical personnel as well as the Public Affairs Officer will be involved in the meeting. The meeting will be recorded by a stenographer and the resulting document placed in the information repository. To date, three public meetings have been held.

4.3.3 MCB Camp Lejeune Personnel, Residents, and Civilian Work Force Communication Techniques

Effective communication with residents, military personnel, and civilian employees must be a priority due to the proximity of housing and office units to the sites. The activities under

Section 4.3.2 Local Community and Medial Communication Techniques, will also apply to Base residents. The following activities are additional ways to improve communication with the Base.

4.3.3.1 Commanding General's Staff Meeting

The Public Affairs Officer, or a member of the environmental staff, will provide periodic briefings of the Installation Restoration Program site activities, conclusions, recommendations and action to the Commanding General and staff to ensure leaders are informed and aware of progress or concerns.

4.3.3.2 MCB Camp Lejeune Information Repository

The MCB Camp Lejeune repository will contain the same appropriate site information as the library and will be maintained jointly by the Installation Restoration Division and the Public Affairs Officer. The repository will be located at MCB Camp Lejeune, Building 67, Room 238.

4.3.3.3 The Globe

This weekly newspaper is commonly looked to for short, factual updates as well as feature stories regarding celebrations, awards and daily life aboard the Base. The notices for the public meetings were published in The Globe and additional information will be published at major stages in the Installation Restoration Program or to solicit comments.

5.0 SUMMARY

This Community Relations Plan has been prepared for MCB Camp Lejeune to provide guidance to appropriately inform and receive information from the local military and civilian community. The plan has been developed through interviews with the community and published information. The activities outlined in the plan serve to improve communications between the Base and the community so that information is distributed in a more regulated manner and so that the community's opinions and concerns may be expressed in a constructive manner. MCB Camp Lejeune is committed to environmental restoration and strives to work with its community.

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1980 U.S. Census.

1990 U.S. Census.

Appendix A
Installation Restoration (IR) Program Abbreviations

APPENDIX A

ABBREVIATIONS IN THE INSTALLATION RESTORATION PROGRAM

CERCLA - Comprehensive Environmental Response, Compensation, and Liability Act; original 1980 Act setting up "SUPERFUND" for hazardous waste (HW) site cleanups nationwide.

CRP - Community Relations Plan

DEHNR - (North Carolina) Department of the Environment, Health, and Natural Resources

DERA - Defense Environmental Restoration Account; established by Congress, under SARA, to fund DoD HW site cleanups, building demolition, and HW minimization projects.

EPA - Environmental Protection Agency

FFA - Federal Facilities Agreement

HRS - Hazard Ranking System; data from PA/SI is scored by EPA using this methodology.

HW - Hazardous waste

IAS - Initial Assessment Study; Phase I under the old NACIP program, equivalent to the IR program's PA/SI.

IAG - Inter-Agency Agreement; Three party agreement between DoD, EPA, and the affected state for NPL sites only.

IR - Installation Restoration; DoD's program to assess and clean up old HW sites; funded by DERA.

MCB - Marine Corps Base

NACIP - Navy Assessment and Control of Installation Pollutants Program; old terminology equivalent to IR program.

NCP - National Oil and Hazardous Waste Contingency Plan

NPL - National Priorities List; sites with HRS scores above 28.5 are considered of national concern and are eligible for SUPERFUND if no "responsible party" can be found; DERA funds apply to cleanup efforts at Navy sites.

PAO - Public Affairs Office/Public Affairs Officer

PA/SI - Preliminary Assessment/Site Inspection; first phase in the DoD IR and EPA Superfund programs, consists of record searches, interviews, initial data collection for scoring purposes.

PRAP - Proposed Remedial Action Plan; the document outlining feasible remedial alternatives and recommending the cleanup method. Available for public comment.

RCRA - Resource Conservation and Recovery Act; 1976 Act addressing present and future disposal of hazardous waste.

RD/RA - Remedial Design/Remedial Action; third phase of DoD IR and EPA SUPERFUND programs; consists of design and cleanup phase; emerging technologies for decontamination required where "practicable."

RI/FS - Remedial Investigation/Feasibility Study; second phase of DoD IR and EPA SUPERFUND programs; consists of groundwater profiles, site sampling, pollutant characterization and detailed analysis of remedial alternatives.

ROD - Record of Decision; signed at the end of the RI/FS process, following public comment period on the PRAP.

SARA - Superfund Amendments and Reauthorization Act; makes major changes to CERCLA and RCRA; sets requirements for DERA and TRCs.

TRC - Technical Review Committee; made up of representatives of the Activity, federal, state and local agencies and the community at large to review and comment on actions taken under the IR program.

Appendix B
Historical Newspaper Articles

Marines called in to save the day for migrating fish on Neuse River

Troops will destroy dams built in 1949

GOLDSBORO (AP) – Each spring, guided by internal clocks and compasses, they leave the deep waters of the Atlantic Ocean and the Albemarle Sound.

Shad, striped bass and river herring by the thousands swim hundreds of miles up coastal North Carolina rivers. They battle the river current, elude fisherman, scramble over obstacles to lay their eggs in rivers like the Roanoke, the Cape Fear and the Neuse.

Then humans made it even more difficult, erecting dams and locks on the rivers, sealing off spawning areas and cutting reproduction.

That may end soon on the Neuse.

If all goes well, Marine Corps demolition teams from Cherry Point will blow up two dams at Goldsboro later this summer. It's the first time environmental agencies have cooperated to take a down a dam in the Southeast for the sake of migrating fish, the Charlotte Observer reported today.

It's part of an innovative program to revive fish that fed and enriched North Carolina settlers.

"We know they have a whole bunch of habitat not being used," said Dr. Wilson Laney of the U.S. Fish and Wildlife Service in Raleigh.

On the Little River, a tributary of the Neuse, migrating fish face the obstacle of a 4-foot-high dam. It was built in 1949 to provide water for state-run Cherry Hospital.

Unlike salmon, fish like shad can't jump. They pool up at the base of a dam, eager to get to faster-moving waters upstream for lovemaking. However much they wriggle, they can only get over in years when the water's high.

"If the water is not to the dam level," said Don Edwards, a Cherry Hospital supervisor, "that's the end of the line."

Clearing out the Cherry Hospital dam and a nearby dam on the Neuse River would reopen 120 miles of water, said Kristin Rowles of the Albemarle-Pamlico Estuarine Study. Opening the Neuse is part of a larger state-federal effort to restore the Albemarle-Pamlico sounds.

American shad and striped bass lay their eggs in rushing water typical of the lower Piedmont; herring spawn in the still waters of the rivers' flood plains, said Jess Hawkins of the Division of Marine Fisheries.

At one time, the spawning runs represented a scaly treasure. Naturalist John Brickell wrote 250 years ago of spawning runs in the millions:

"The herrings ... come in such great shoals to spawn in the months of March and April," he wrote, "that I have seen the Christian inhabitants catch as many barrels full as they pleased ... with sieves and shovels, instead of nets ... "

Enterprising North Carolinians capitalized on the abundant fish, selling salted catch to northern markets. One fishery on the Chowan River hauled in as much as 3 million herring a year between 1835 and 1874, according to The North Carolina Historical Review.

PUBLICATION Daily News PAGE 7B

CITY, STATE Jacksonville, N.C. DATE Aug 6, 1993

River watcher keeps an eye on the Neuse

By KIRSTEN B. MITCHELL
Staff Writer

NEW BERN — Richard Dove's 22-foot Twin Step cuts through choppy waters on the Trent River, where Spanish moss drips from trees and dragonflies dart through the heavy air. Despite the serenity, trouble lurks.

Mr. Dove spots dark earth spilling into the water where a 30-foot section of shoreline has been bulldozed behind a spacious waterfront home in the River Bend community south of New Bern.

"Oh no," he groans.

The retired Marine Corps colonel maneuvers the *Lonesome Dove* to the pier. A crew is extending a bulkhead under a local permit authorizing the work, a man overseeing the project tells Mr. Dove.

Learning the project is kosher, the river keeper revs up his 200-horsepower Suzuki and whizzes away.

"I stop so many places and they say, 'A permit? What's a permit?' " he says.

Man's use of the waterway — legal and illegal — has jeopardized its health over hundreds of years.

As the guardian of a portion of the Neuse River from Streets Ferry near Weyerhaeuser to Bay River, Mr. Dove spends his days watching the Neuse and the waterways that branch from it for pollution, illegal activity, fish kills, algae blooms — anything detrimental to the water's health.

■ ■ ■

Since he started watching the water full time in April, he's met with industry leaders, asking them to keep the river's health in mind during their day-to-day operations. In a few cases, he's spotted people violating environmental regulations.

"I haven't yet had to call state officials and say, 'Go

Please see NEUSE *on page 5A*

PUBLICATION The Sunday Star-News
CITY, STATE Wilmington, N.C.
PAGE 1A (cont)
DATE 1 August 93

Neuse

Continued from page 1A

get 'em, boys; they aren't cooperating,' " he said.

To keep up with the 45 creeks that finger from the Neuse, Mr. Dove oversees a crew of 23 volunteer creek keepers.

He's visited marinas at 5:30 a.m. on a Sunday or Monday searching for signs of careless weekend activity: boat fuel sheens on the water, trash or sewage dumped overboard. He's posted watch near industries at 2 a.m. looking for illicit dumping in the darkness.

Sometimes he goes out in unmarked vessels. Whichever of his five boats he's in, a video camera is always within arm's reach.

On this cloudy day, Mr. Dove, 54, cruises the river looking for anything out of the ordinary and chatting with fishermen reaping the river's harvest.

"One of the things I've done early on is talk with people about what they think is wrong with the river," he said. "The interesting thing is the finger is always pointed in a different direction."

State environmental officials have issued so many waste discharge permits for the river that its health is failing. Most industries don't discharge as much waste as their permits allow, said Mike Scoville, a supervisor with the Division of Environmental Management.

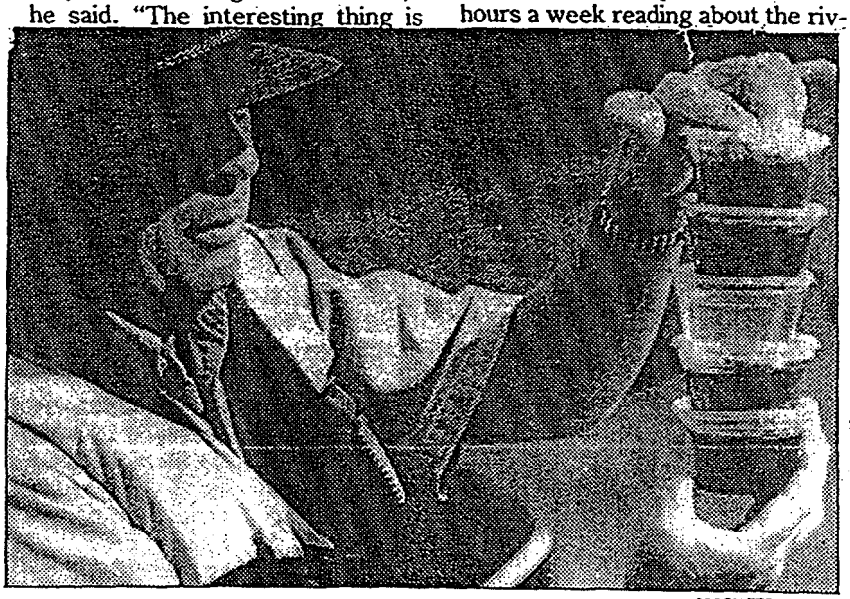
"If everyone discharged what they are permitted for, we'd be in trouble," he said.

Mr. Dove puts it this way: "Everyone knows the Neuse River is sick. It's not dead; it's sick. It's being hit in the shins. It's being popped in the jaw. No one has struck the fatal blow."

A $25,000 grant from the Z. Smith Reynolds Foundation to the Neuse River Foundation, a volunteer advocacy group, pays for his work, which he hopes will help prevent the fatal strike.

"I have no authority," Mr. Dove said. "Authority comes from wearing a badge, and I don't have one. But power comes from knowledge, and I have that."

On land, he spends about 10 hours a week reading about the river and talking with scientists who study it. He also documents what he sees on the water.



ASSOCIATED PRESS

Richard Dove shows water samples taken from Wilson's Creek.

Part of his knowledge comes from living on the river for nearly 20 years. The military lawyer came to Cherry Point Marine Corps Air Station in 1975 and remained in Carolina Pines after his retirement in the 1980s. He established a military law practice in Jacksonville before turning to the river for his livelihood. He spent three years dropping 600 crabpots into the river and occasionally dragging a gill net until deciding the catch was dangerously

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CITY, STATE Wilmington, N.C. DATE 1 August 93

polluted.

"The reason I quit is I refused to eat what I was catching," he said. "I couldn't in good conscience take it to market."

Mr. Dove and 71 other people spotted an advertisement for the river keeper's job and applied for the position.

"I saw the ad, and I said to my wife, 'I'm going to get that job,' and she said, 'You're crazy,' " said Mr. Dove, who grew up in Maryland on the shores of the Chesapeake Bay and watched its water quality decline.

Grace Evans, on the board of the 13-year-old Neuse River Foundation, helped search for a river keeper but learned about the concept nearly 20 years ago.

"I read about it back in the 1970s in *The Wall Street Journal*, and I just got carried away with it," she said. "All of a sudden this year it came together."

Mr. Dove is one of a very few, if not the only, river keeper in the Southeast, said Suzi Wilkins, director of outreach and education for American Rivers, a national conservation organization.

"We're aware of only a half dozen," she said. "They're usually on some of the larger bodies of water and are doing some of the whistle-blowing."

■ ■ ■

Three months into his job, Mr. Dove is already seeing results. He takes a visitor through River Bend, where he points to lush lawns sloping to water's edge.

"When you come in on the roads, it looks beautiful," he said. "When you come in by water it looks terrible."

A green sheen of algae blankets the water's surface, glistening in the sporadic sun.

"This is all a product of River Bend and its fertilizer," he said.

If he sees someone working on his lawn, he'll stop to chat about the most enviromentally friendly ways to fertilize. The river keeper took his concerns and observations to the River Bend Town Council, which has an open ear.

"The Town Council is very concerned and they're looking at it, and I believe they're going to do something about it," he said.

PUBLICATION The Sunday Star-News PAGE cont from 1A
CITY, STATE Wilmington, N.C. DATE 1 August 93

Onslow County

Despite cutbacks, military dominates; industry sought

By KIRSTEN B. MITCHELL
Staff Writer

Camp Lejeune, the world's largest Marine Corps base, carves off a big piece of Onslow County, from the halls of Jacksonville to the shores of the Atlantic Ocean.

The huge military presence dominates the county's economy and makes the county statistically like no other in Southeastern North Carolina.

Onslow County has fewer people living below the poverty level – 12.1 percent – than any other in the region. On average, 13 percent of North Carolinians live below the poverty level, a $581 monthly income for one person, $991 a month for a family of three.

Ralph Leeds, manager of the Jacksonville office of the Employment Security Commission, points to the base as a savior from poverty for some people.

But, "we also have the fourth lowest per capita income in the country," he said. "We may have the lowest living below the poverty rate, but we don't have a whole lot of people living too much above it."

Citing figures from the state library, Mr. Leeds said Onslow County's per capita income was $10,537 in 1991, compared with the state average of $16,848 and a national average of $19,091. But servicemen receive housing allowances, commissary privileges and other benefits, skewing the figures somewhat.

About 41,000 servicemen are stationed at Camp Lejeune, where about 4,700 civilians work. The base is the lifeblood of Jacksonville.

"Let's be honest. If the base wasn't there, there wouldn't be a Jacksonville," Mr. Leeds said. "The town grew up around the base. Our strongest sector of the economy is the retail sector."

During Desert Storm, Marines and sailors shipped off to war left the town seemingly deserted. A committee formed during the deployment to come up with alternatives to the base economy has since disbanded.

But the torch of economic diversification has been passed to industrial recruiting groups looking for light industry requiring "very little water and sewage usage," Mr. Leeds said.

Thorn Apple Valley, a bacon processor in Holly Ridge, at the southern end of the county, is the second largest employer with more than 500 workers. The county has six employers with between 250 and 500 workers and 18 employers with 100 to 249 employees, Mr. Leeds said. Many of those workers are skilled, he said.

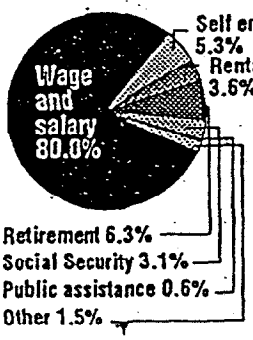
"We see some of the best workers coming out of the Corps," he said. "They're sharp, they're trained and they have that can-do attitude."

- County population below poverty line: 12%
- State's population below poverty line: 13%
- 1990 residents who moved into county since 1985: 64.5%
- 1990 residents born in North Carolina: 31.5%
- Workers on government payroll: 10%
- 1991 per capita income, Onslow County: $10,537.
- 1991 per capita income, Camp Lejeune: $11,495.
- 1991 per capita income, North Carolina: $16,848.
- Unemployment: Male, 4.5%; Female, 13.0%.

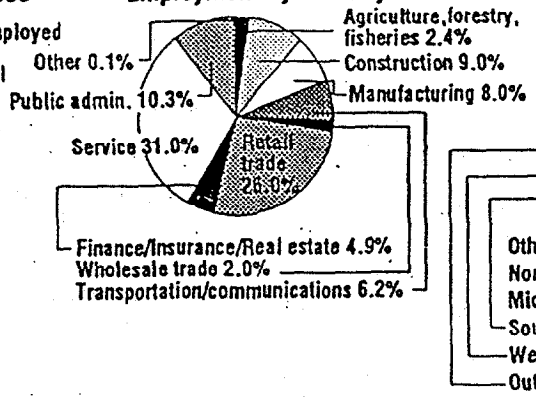
PUBLICATION The Sunday Star-News PAGE 6B
CITY, STATE Wilmington, N.C. DATE 1 August 93

Onslow County

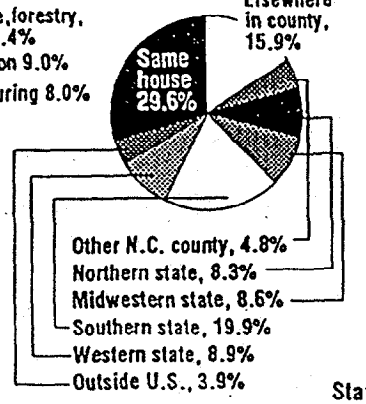
Household income sources



Employment by Industry



Where did you live in 1985



Unemployment in 1989

White	7.6%	Male	4.5%
Non-white	14.8%	Female	13.0%
Overall: 9.2%		State avg.: 4.8%	

Means of transportation to work

Drive alone	61.6%
Car pool (2 persons)	14.0%
Car pool (3+ persons)	4.6%
Public transportation	0.3%
Other	18.0%

Average travel time 18.9 min.

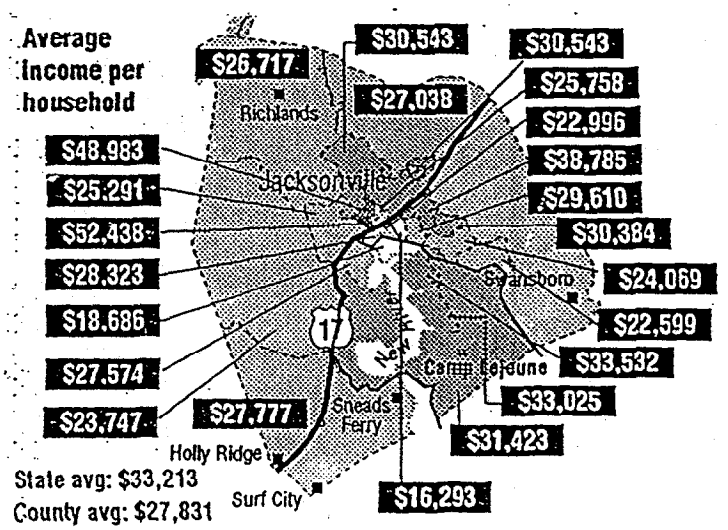
Residents who work across county line

Onslow 4.2%
State average 19.9%

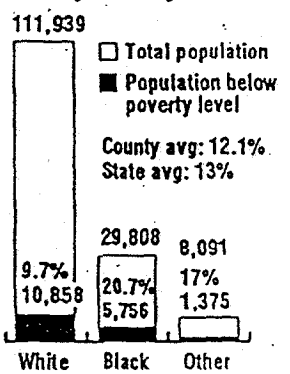
Born in North Carolina

Onslow 31.5%
State average 70.4%

Average income per household



Poverty level by race



PUBLICATION The Sunday Star-News PAGE 7B
CITY, STATE Wilmington, N.C. DATE 1 August 93

Hearing draws concerns about base sewage plan

By JIM SWARTZENBERG
Star-News Correspondent

JACKSONVILLE — More than 100 people attended a public hearing Tuesday night at Jacksonville High School to voice their concerns about upgrading the wastewater treatment plants at Camp Lejeune.

Base spokesman Maj. Mark Hughes reviewed a draft environmental impact statement, which he said recommends replacing the existing seven treatment plants with one facility at Hadnot Point.

That would discharge up to 15 million gallons of treated water daily into the New River.

The plan has drawn objections from fishermen and environmental groups concerned about the effect of the discharges on the river's water quality.

A second alternative, ocean discharge, and a third alternative, which is a combination of land application and river discharge, were also listed in the impact statement.

Maj. Hughes said other alternatives, such as a joint venture with the city of Jacksonville and discharging waste to a private contractor off base, were considered but not deemed to be viable options.

About 25 people signed up to make comments. Most of them opposed the plan favored by the base.

Gail Earley read a statement from U.S. Rep. Charlie Rose, D-N.C.

"This is not a witch hunt," the statement said. "Everyone must assume responsibility."

The statement said that Jacksonville will stop discharging its treated water into the New River in 1995, and it asked the base to join in that decision to save the river.

Onslow County Commissioner Tony Padgett said the proposed system would harm the salinity of the water in the river and thus affect the livelihood of Onslow Country fishermen.

Dr. Bill Hogarth, director of the N.C. Division of Marine Fisheries, said the new system would not correct the problems in the river, but only shift them downstream.

Since August, the New River has been designated by the state as "nutrient sensitive" because of the amount of material that is in the water.

Comments from Tuesday's public hearing will be sent to the office of the secretary of the Navy.

A decision on the plan is expected in early 1994.

Additional comments can be made in writing through Aug. 2 to Commander, Atlantic Division, Naval Facilities Engineering Command, 1510 Gilbert St., Norfolk, Va., 23511-2699.

PUBLICATION The Morning Star PAGE 1B
CITY, STATE Wilmington, NC DATE 14 July 1993

Base waste hearing set for tonight

Lejeune: Complaints will be heard

BY WILLIAM L. HOLMES
DAILY NEWS STAFF

Military officials will respond to public comments from a hearing tonight about Camp Lejeune's proposed sewage treatment plant, a base spokesman said Monday.

As a matter of fact, they have to. According to the Code of Federal Regulations, a document guiding action for all federal agencies, the base must respond to all comments it receives about its draft environmental impact statement.

A state employee incorrectly told The Daily News last week that the base had no obligation to respond to state or public comments.

"We're not trying to ram our preferred alternative down anyone's throat," said Maj. Mark Hughes of Lejeune's Joint Public Affairs Office. "We're complying with the spirit and the letter of the law."

The draft lists river discharge – pouring its treated sewage into New River – as the way it likely to continue handling wastewater. Area fishermen and town officials from Topsail Island have opposed the idea. They say it will further harm New River's water quality.

The draft also lists why the base is avoiding ocean discharge and land application, the method preferred by fishermen and town officials.

At tonight's Jacksonville High School hearing, Hughes said a court reporter will record the comments. The contractor hired by the Marine Corps to draft the study will incorporate responses to comments into the final study, Hughes said.

The meeting will begin at 7 p.m.

PUBLICATION The Daily News PAGE 1B
CITY, STATE Jacksonville, NC DATE 13 July 1993

DO YOU WANT TO SWIM, BOAT, SKI FISH AND DRINK SEWAGE

And Or

CHEMICALS USED TO TREAT SEWAGE?

Attend The Public Hearing

TUESDAY, JULY 13, 1993

LET CAMP LEJEUNE & NORTH CAROLINA

PUBLICATION The Daily News
CITY, STATE Jacksonville, NC
PAGE 6C
DATE 12 July 1993

KNOW HOW

YOU FEEL!

CAMP LEJEUNE MUST REPLACE THEIR SEWAGE TREATMENT PLANTS THAT ARE 40-50 YEARS OLD. NOW IS THE TIME FOR THE DISCHARGE OF EFFLUENT AND THE "ACCIDENTAL" SPILLS OF RAW SEWAGE TO BE MOVED OUT OF NEW RIVER.

TO DATE, CAMP LEJEUNE HAS IGNORED THE PROVED LAND APPLICATION POSSIBILITIES AND ARROGANTLY PURSUES RIVER DISCHARGE IN CLEAR VIOLATION OF THE FEDERAL CLEAN WATER ACT AND NORTH CAROLINA'S ANTIDEGRADATION POLICY.

"Sewage spills are common with systems that discharge into rivers. I don't know any of them (river outfall systems) that don't malfunction."...George Gilbert, N.C. State Shellfish Sanitation.

"Spills (sewage) are just a part of the business."...A.F. McRorie, Retired City of Jacksonville Utilities Director.

"During the last five (5) years Camp Lejeune has reported spilling 236,000 gallons of raw sewage into New River."...Daily News

PUBLICATION The Daily News
CITY, STATE Jacksonville, NC
PAGE 6C
DATE 12 July 1993

"Currently, our coastal waters receive 2.3 trillion gallons of municipal effluent and 4.9 billion gallons of industrial waste water each year...The struggle to save the global environment is in one way much more difficult than the struggle to vanquish Hitler, for this time the war is with ourselves. We are the enemy, just as we have only ourselves as allies."

Vice President Al Gore (The Earth in Balance, Senator Al Gore)

PUBLIC HEARING
ON THE
ENVIRONMENTAL IMPACT
STATEMENT ON CAMP LEJEUNE'S WASTEWATER TREATMENT PLANS

PUBLICATION The Daily News
CITY, STATE Jacksonville, NC
PAGE 6C
DATE 12 July 1993

At

JACKSONVILLE HIGH SCHOOL

7PM, TUESDAY, JULY 13, 1993.

Paid For By The Southeastern North Carolina Waterman's Association

PUBLICATION The Daily News PAGE 6C

CITY, STATE Jacksonville, NC DATE 12 July 1993

State takes comments on sewage treatment

Lejeune not required to listen

BY WILLIAM L. HOLMES
DAILY NEWS STAFF

You can put in your 2 cents about Camp Lejeune's proposed new sewage treatment system Tuesday, but it may not amount to a wooden nickel, state officials say.

They point out that because the base is federally owned, officials are not required to take public comments, or even state comments, into consideration when they draft their final environmental impact study.

A draft copy of the report was released last month. In it, Lejeune officials said they would like to continue dumping their treated sewage into the New River.

Officials from the three towns on Topsail Island and area fishermen have objected because New River is already considered nutrient rich or polluted. New River runs around the north end of Topsail Island.

But their comments won't amount to much unless Lejeune cares to listen.

"There's no legal obligation for them to do so," said Melba McGee, project review coordinator for the state Department of Environment, Health and Natural Resources.

Lejeune also can ignore state comments about its study, which lists potential threats to the environment and surrounding areas. But that's probably not likely since the state does not have to grant a permit to the project unless it feels satisfied with the EIS, Ms. McGee said.

"That's really our only hope," she said.

Besides DEHNR, eight other state agencies are reviewing the plan. Their comments will be submitted to the Department of Administration, which will work out the differences and submit a single set of comments to Lejeune.

Public comments will be taken at Jacksonville High School at 7 p.m. Tuesday. Written comments will be accepted until Aug. 2.

State workers will attend the hearing, Ms. McGee said.

PUBLICATION The Daily News PAGE 3A
CITY, STATE Jacksonville, NC DATE 12 July 1993

Lejeune wastewater study released

Public hearing scheduled July 13

BY ELLIOT FUS
DAILY NEWS STAFF

The Marine Corps has released an environmental impact statement for a proposed wastewater treatment upgrade at Camp Lejeune, according to a letter obtained by The Daily News.

The proposed upgrade would eventually close the base's existing wastewater treatment plants and build a central facility in the Hadnot Point area. It would treat 15 million gallons a day with a high level of nutrient removal, said a letter issued by Camp Lejeune's Robert L. Warren, assistant chief of staff, Environmental Management.

What the impact statement says was not available to The Daily News Monday. A base public affairs official did not respond to an information request. The letter said the statement is available for review at several locations, but two of them — the Onslow County Manager's Office and the Onslow County Public Library — were not able to locate the document when questioned.

State records from February showed that the base has spilled about 236,000 gallons of raw sewage into the New River in the past five years. In addition to the proposed upgrade, the base has also considered an ocean outfall system; a combination of advanced treatment with river discharge and limited land application; and no action, the letter said.

The Marine Corps will hold a public hearing to receive comments on the impact statement at 7 p.m. July 13 at Jacksonville High School, the letter said. Graphics showing the various wastewater alternatives will be available at 6 p.m.

One group concerned about the base's choice is the Southeastern North Carolina Waterman's Association, which is determined to see a wastewater upgrade that will prevent continued river discharge, said president Melvin Shepard Jr. of Sneads Ferry.

"They're ignoring completely the possibility of going to land application," Shepard said. "This is not a dead issue at all."

Study indicates Lejeune favors river discharge

Wastewater hearing on July 13

BY WILLIAM L. HOLMES
DAILY NEWS STAFF

Camp Lejeune officials favor continuing to discharge treated wastewater into New River, according to a draft environmental impact study, confirming what some in the area suspected long ago.

"We anticipated it because we've never had a cooperative conversation with them," said Melvin Shepard, president of the Southeastern North Carolina Waterman's Association. "It's always been river discharge."

Shepard's group has been the most outspoken opponent of base river discharge plans.

"At the public hearing, we are not going to be cooperative. We're going to oppose it with all our might," Shepard said. The public hearing on the draft study will be at 7 p.m. July 13 at Jacksonville High School.

Base officials contended in the past that they did not favor any one option and were considering all

SEE RIVER/2A

Publication Daily News 1A cont 2A
City, State Jacksonville NC

RIVER/FROM 1A

alternatives.

The study, which may still change, lists what harm the four alternatives the base is considering to upgrade its system will cause to traffic, animal and plant life, recreational areas and other issues of concern.

Camp Lejeune is considering river discharge; ocean outfall, a process that carries waste to the ocean for disposal; and a combination of river discharge and land application, where sewage is sprayed onto fields after being treated.

The state also is required to list "no action" as an alternative, however the state Division of Environmental Management ordered Lejeune to improve its facilities by 1996.

Continuing to dump treated sewage into the river would be a controversial decision, the study by Espey, Huston and Associates of Williamsburg, Va. states.

"While no long-term adverse impacts to the man-made or natural environment are expected as a result of the proposed action, the project is expected to be controversial."

Commercial and recreational fishermen oppose dumping into the river, the study states, and others may oppose ocean outfall, the base's second alternative.

The river discharge alternative eliminates all but one of Lejeune's seven discharge points, according to the study. Wastewater at Hadnot Point would be treated with additional chlorine before going into the river.

The project will cost an estimated $80 million.

Possible difficulties earning a Environmental Protection Agency permit and the lack of a state policy on ocean outfall are drawbacks for that alternative, the agency said.

Ocean outfall will cost about $100 million, according to the study.

The study concedes ocean outfall may improve the water quality of New River, which has been classified by the state as "nutrient sensitive" since August. That means the river has too much pollution in it. Stormwater runoff will continue to pollute the river, the study indicates.

The third option, river discharge and land application, was the least desirable of the three options because base officials believe it would use too much of the land they need for training.

More than 100,000 of the base's 151,200 acres are used for training. Land application requires about 750 acres, the study states.

Other drawbacks are that the base would have to maintain two facilities and two staffs instead of one and that appropriate sites for the application cannot be found.

Written comments about the draft study can be submitted to the Naval Facilities Engineering Command in Norfolk, Va. until Aug. 2.

Publication Daily News Page 2A
City, State Jacksonville NC Date 17 June 93

COMMERCE CORNER

SUSANNE SARTELLE

Chamber's ties with military strengthened

Today kicks off the chamber's Military Affairs Committee's annual schedule of fish fries for our military friends. Committee members will begin serving up fried fish and hush puppies this afternoon to some 100 sergeant-and-below enlisted personnel from Camp Lejeune and New River Air Station.

During the next few months, the committee will host three more fish fries for other ranks of military personnel.

This is just one of the many programs carried out each year by the Military Affairs Committee to foster good military and civilian relations in our community.

They also recognize an outstanding service member monthly, host a black-tie reception, invite special guests to monthly meetings, sponsor a golf tournament, host a ladies night and collect food for the needy.

This committee has recently been revamped and carries a maximum of 80 civilian members. The group is committed and does an outstanding job at maintaining the excellent rapport we enjoy.

Most recently, military affairs members agreed to assist the Caring Community Committee in greeting troops returning from lengthy deployments.

The chamber is proud of its Military Affairs Committee, but it is not a one-sided relationship. The support of the Marine Corps and the Navy here makes this a desirable place to live.

And since we are gearing up for the All-America City finals, it is appropriate to note that this is one of many reasons that Jacksonville is indeed an All-America.

Susanne D. Sartelle is executive vice president of the Greater Jacksonville/Onslow Chamber of Commerce.

PUBLICATION Daily News PAGE 7A

CITY, STATE Jacksonville, N.C. DATE 21 May 1992

NEW TESTS SHOW LEVELS DOWN

Marine base says EPA study misleading

Associated Press

CAMP LEJEUNE — A second round of water testing at Hadnot Point shows lead levels in drinking water are below dangerous levels, but the results have not been verified, a base spokesman said.

Even so, the Marine Corps has issued guidelines to people who live in the housing area because of an EPA report that cites high lead levels in the drinking water, said the spokesman, Maj. Jay Farrar. The guidelines can help minimize exposure to lead.

Tap water at the base housing area had the highest lead level among more than 800 water systems around the nation with excessive lead, the Environmental Protection Agency said Tuesday.

The lead is a "serious concern" for public health, the EPA said.

But the report is misleading, Maj. Farrar said, because the high lead level was found in only one building — a maintenance shop — at Hadnot Point.

A second round of testing at the shop had samples "well below" the EPA limit, he said. Those tests have not been verified, however.

Hadnot Point is an area of about 5,000 acres with hundreds of buildings including both industrial, housing and school areas. The housing and school buildings meet EPA requirements for lead levels, Maj. Farrar said.

The Marine Corps has issued guidelines advising Hadnot Point residents to run water for two minutes, which can flush some lead from the system, Maj. Farrar said. Water treatments also are being tried to lessen the amount of lead that leaches from pipes into the water, he said.

The system serving the Marine Corps' New River area had the second-highest lead level found in North Carolina.

That level was found in a housing area for enlisted men, Maj. Farrar said. A second test, which has not been verified, found lead levels "well below" the EPA limit, he said.

The EPA found 819 water systems, serving 30 million people, that had lead levels higher than EPA limits. Twenty-six of the systems are in North Carolina. EPA monitoring was conducted between last July and December.

The EPA said lead pipes, banned in newer construction, are to blame for many of the problems. There have also been problems with lead solder on copper pipes installed in the 1980s.

In adults, excessive lead can increase blood pressure and damage hearing, and at very high levels cause anemia, kidney damage and mental retardation.

Lead exposure is regarded as especially dangerous to children. It can impair a child's mental and physical development and can reduce birth weight and cause premature birth.

Since 1991, when the existing EPA rules took effect, one child at Camp Lejeune has had a higher-than-normal blood lead level. The source was believed to be exterior paint at the family's home on base, which is not in the Hadnot Point area, Farrar said.

The family was moved and more tests are being conducted, he said.

PUBLICATION MORNING STAR DATE 13 May 93
CITY, STATE WILMINGTON, N.C. PAGE

Tarawa Terrace parents concerned by lead paint

'Everybody's worried about it,' mother says

BY JILL HEBERT
DAILY NEWS STAFF

Base officials have discovered lead in paint on one porch in the Tarawa Terrace housing area according to a notice released by Camp Lejeune.

Thus far, tests have only found lead in exterior paint. Base officials said Tuesday that testing would continue.

Still, the initial discovery has some parents up in arms.

"Everybody's worried about it," Dawn Clark, 187 Tarawa Blvd., said of the flyer. "I don't want my kids getting paint in their mouths, on their clothes, all over them."

Ms. Clark said she found a paint chip in her 2-year-old's mouth over the weekend.

"The only reason I saw that it was in his mouth was that he smiled at me," she said.

The flyer notifies parents of recent testing on outside and in-

SEE PAINT/2A

PAINT/FROM 1A

sid· ·int

ıg the past week," the fly. reads, "tests were conducted on one Tarawa Terrace Housing Unit. The preliminary results of those tests showed that the paint contained lead."

No lead showed up in preliminary tests of inside paint, however, the notice says.

Maj. Jay Farrar of the Camp Lejeune Public Affairs Office said that the base will continue testing the inside and outside paint in the housing area. Then, he said, "We'll determine who is the contractor, which houses they painted and what kind of paint they used."

Ed Norman, a public health epidemiologist with the state Childhood Lead Poisoning Prevention Program, said that lead levels vary in paint from one half of one percent to 50 percent. Paint must be at least one half of one percent lead to be considered lead-based.

liminary tests only show the ence of lead and not the percentage. Farrar said.

The base tests for lead under a federal mandate, he said, but even before the rules came down in 1991, base officials were encouraging parents to have children tested for blood lead levels.

According to the Associated Press, since 1991, one child at Camp Lejeune has had a higher-than-normal blood lead level. The source was believed to be exterior paint at the family's home on base.

The dangers of lead-based paints vary greatly with the amount of lead in the paint, Norman said. Children 6-years old and younger are particularly at risk of lead poisoning, he said.

Children must ingest the lead in the paint or breathe lead dust to become sick. Lead is not absorbed through the skin, he said, but he advised parents to keep children's hands washed often to prevent them from ingesting any paint or dust that could be on them.

Farrar said that Camp Lejeune is making aggressive efforts toward determining the possible danger of lead found in the porch paint.

"It's an aggressive process — we're testing the water, we're testing the paint, we're informing the parents," he said. In addition, base officials are working on a plan to combat the problem.

Part of the plan includes random testing of a certain percentage of children under 6-years old for blood lead level during regular visits to the doctor. That percentage will increase over the next four years until it reaches 100 percent.

"The system can't probably handle any greater number at any one time," he said. "We're doing it incrementally each year."

Norman said it is important for all children, at risk or not, to be tested for lead poisoning.

"It's really universal," he said. "Even if it weren't a hazard, we recommend that all children be tested for lead poisoning. The prevalence of lead poisoning is very high in this state."

The notice advises that children should:

- be supervised while playing on porches;
- not be allowed to crawl or play around surfaces where paint is chipped;
- not be allowed to chew on the wood of exterior fixtures;
- wear shoes while playing outdoors;
- wash hands before eating or drinking.

PUBLICATION Daily News PAGE 1A
CITY, STATE Jacksonville, N.C. DATE May 12, 1993

EPA WATER REPORT

Hadnot Point lead levels rank highest

From staff and wire reports

WASHINGTON — Lead levels in the drinking water system serving part of Camp Lejeune were the highest found among more than 800 systems nationwide that fail to protect tap water from excessive lead, the Environmental Protection Agency said.

Wilmington's water system also made EPA's list of systems that exceed the standard acceptable level for lead.

The highest lead levels were found in the system serving Camp Lejeune's Hadnot Point.

A base spokesman called the EPA report somewhat misleading.

"We don't dispute the number gotten for that particular site, but that is from one sample in one building within the entire Hadnot Point system," said Maj. Jay Farrar, a spokesman for the Marine Corps base.

"So the EPA results they are announcing today are: one, preliminary because they involve only one sample; and two, categorize the entire water distribution system when in fact the sample was taken from only one point within the system."

The system serving Lejeune's New River area had the second-highest lead level found in the state.

EPA monitoring conducted nationwide between last July and December found lead above what it considers a safe level in 819 systems that serve 30 million people.

An additional 1,100 water systems did not complete EPA's required monitoring and will be sub-

Unsafe levels

The Environmental Protection Agency has identified these large- and medium-size water systems as exceeding the safe lead level of 15 parts per billion.

Monitoring was conducted between July and December 1992 at 7,500 large and medium public water systems throughout the country. Numbers show lead levels in parts per billion.

Lejeune, Hadnot Point	484
Lejeune, New River	189
Hope Mills	71
Davie County	44
Craven	42
Kill Devil Hills	41
Bogue Banks Water Corp.	39
Tuckeseegee	36
Spruce Pine	34
Hendersonville	29
Fuquay-Varina	28
Pamlico County	28
Troy	28
Asheville	27
Southern Pines	26
Brevard	25
Mocksville	25
Tryon	25
Currituck County	23
Carolina Beach	20
Louisburg	20
Dare County	19
Fayetteville	18
Lincoln County	17
Wilmington	16
Shelby	16

PUBLICATION Morning Star
CITY, STATE Wilminton, N.C.
PAGE 1B continued
DATE May 12, 1993

ject to enforcement action, the agency said. A list of those systems was not immediately available.

EPA released the list Tuesday of water systems with lead problems — defined as those exceeding the acceptable level of 15 parts per billion.

The highest lead levels were found in medium-sized systems, those serving between 3,301 and 50,000 people. Among those were Camp Lejeune-Hadnot Point, with 484 ppb; Grosse Pointe Park, Mich., at 324 ppb; and Goose Creek, S.C., at 257 ppb.

Among the large systems, serving more than 50,000 people, the worst was in Charleston, S.C., with 165 ppb. Wilmington had 16 ppb, Asheville had 27 and Fayetteville had 18.

Most of the faulty systems are on the East Coast and in older communities with lead pipes, which have been banned in new construction. A subsequent problem resulted from lead solder on copper pipes installed in the 1980s.

Lead exposure is regarded as especially dangerous to children. It can impair a child's mental and physical development, reduce birth weight and cause premature birth.

In adults, excessive lead can increase blood pressure and damage hearing, and at very high levels cause anemia, kidney damage and mental retardation.

Wilmington started publicizing its lead test result in January, sending water and sewer customers inserts in their bills on precautions residents can take, said Susan Dankel, assistant city manager.

For example, city officials suggest running tap water in the morning until the temperature changes. That will flush water left in pipes overnight.

Another tip from city officials: avoid using water from the water heater for cooking or drinking. Hot water contains higher levels of dissolved metals.

The city also has increased the amount of additive it uses to reduce corrosion in the pipes.

EPA's survey does not mean that all households served by a given water system have excessive lead, because the testing was conducted in areas with pipes that were expected to have high lead levels.

Thus, homes served by the same treatment facility may have different results depending on factors such as whether they are served by lead service lines or interior pipes containing lead.

A system was found to be above the allowable levels if more than 10 percent of its high-risk residences exceeded the safe concentration.

Staff Writer Kirsten B. Mitchell contributed to this report.

PUBLICATION Morning Star PAGE 1B

CITY, STATE Wilmington, N.C. DATE May 12, 1993

Lejeune ranks worst in water lead readings

Hadnot Point problem is most severe

BY WILLIAM L. HOLMES
DAILY NEWS STAFF

Lead levels in drinking water at Camp Lejeune are the highest in the nation among more than 800 systems required to test for the toxin between June and December 1992, the Environmental Protection Agency said.

Lead levels in some areas serviced by Lejeune's Hadnot Point water treatment plant are more than 30 times the EPA standard of 15 parts per billion, according to tests conducted on base.

Sixty tests were conducted last year in Lejeune's Hadnot Point area, according to base spokesman Maj. Jay Farrar. Fewer than 20 percent, or 12, of the tests exceeded the EPA limit, according to Farrar.

Ten percent of the tests exceeded or matched 484 ppb, the amount reported in the EPA report, according to Jeff Cohen, chief of the EPA's Lead Task Force.

To meet EPA lead standards, no more than 10 percent of a series of tests can exceed the 15 ppb standard, Cohen said.

"The bottom line, though, is that Camp Lejeune needs to figure out where the lead is coming from and do something," Cohen said.

State officials said the lead may come from pipes carrying the water to buildings in the affected area. But Farrar contends the problem comes from pipes within the buildings.

"Only plumbing in the buildings doesn't usually make levels that high," said Johanna Reese, a

SEE WATER/2A

Lead levels in drinking water

Listed below are the top ten medium sized* public water systems in North Carolina that the Environmental Protection Agency has identified as exceeding the safe lead level of 15 parts per billion:

1 USMC-Lejeune Hadnot Point (484)
2 USMC-Lejeune New River (189)
3 Town of Hope Mills (71)
4 Davie County Water System (44)
5 Craven (41)
6 Town of Kill Devil Hills (41)
7 Bogue Banks Water Corp. (39)
8 Tuckeseegee Water and Sewer (36)
9 Town of Spruce Pine (34)
10 Hendersonville Water Treatment (29)

Number in parenthesis is parts per billion lead level of particular water system

* serving populations between 3,301 and 50,000

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Jacksonville, N.C.
CITY, STATE

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May 12, 1993
DATE

WATER/FROM 1A

public information officer with the public water supply section of the state Department of Environment, Health and Natural Resources.

New River air station posted the state's second-highest lead levels on the list released Tuesday, according to the report. New River lead levels were reported to be 189 ppb.

The third-highest level in North Carolina was at Hope Mills, which showed 71 ppb. Bogue Banks Water Corp. in Carteret County is among 24 other North Carolina utilities exceeding the EPA limit and had 39 ppb.

No family housing units are in the affected areas aboard Lejeune, Farrar said but several barracks at Camp Lejeune and New River are included. He declined to identify the tainted barracks.

Farrar also said he was uncertain how many people were served by the water systems. The EPA classified Lejeune and New River as mid-sized systems, with between 3,301 and 50,000 users.

Officials conducted a second round of tests on the base, but Farrar would not release the results. Tests at one New River barracks show levels less than half of what was reported during the first tests, Farrar said.

Despite its ranking, base officials continue to downplay the significance of the tests, following a precedent they set when the levels were first reported last month. Farrar said the lead levels at Lejeune are not unlike those in any other city or municipality.

Cohen agreed and added that Lejeune would handle the problem properly.

"Camp Lejeune is not alone," Cohen said. "I'm confident they can deal with this problem because what I hear is it's a well-run base in terms of facilities."

The base is taking several steps to keep the levels down and ease the fears of those at Lejeune and New River, base and state officials said.

Officials are offering lead screenings to children at the base hospital, Ms. Reese said, as well as periodically flushing the pipes on base, which rinses out lead.

In addition, Farrar said base workers are putting chemicals in the water to prevent leaching — a process where lead is chemically extracted from the pipes. The base also is checking pipes to make sure they have not been used as grounding for electrical lines, a practice that can hasten leaching, Farrar said.

Lejeune officials are recommending that pregnant women and other users in high-risk situations switch to bottled water, Ms. Reese said.

Ingesting too much lead can stunt growth and intellectual development in children, Ms. Reese said. It may also reduce birth weight and cause premature birth.

It can also lead to lethargic behavior, high blood pressure and hearing damage in adults and at very high levels cause kidney damage and mental retardation.

PUBLICATION Daily News PAGE 2A

CITY, STATE Jacksonville, N.C. DATE May 12, 1993

Marines aid fishy rescue mission

Exercise saves endangered fish

BY WILLIAM L. HOLMES
DAILY NEWS STAFF

ROANOKE RAPIDS — Some local Marines participated in an unorthodox rescue mission Monday, saving hundreds of lives and innumerable unborn babies.

But it wasn't in Bosnia or some other combat zone. These Marines were in a Roanoke River fishing zone, hauling stranded and spawning striped bass out of isolated pools of water and taking them upstream to rejoin other stripers.

"It's critical to that fishery that those fish were rescued and allowed to fulfill their biological functions upstream," said Charlie Rawls, an administrative assistant to Rep. Martin Lancaster, D-Goldsboro. Lancaster's office helped coordinate the project.

The fish were trapped in pools left by lowering water levels below the dam at Roanoke Rapids. Striped bass are an endangered species of fish closely monitored by state and federal officials.

Two CH-46 Marine helicopters, also aptly known as "Sea Stallions," helped state wildlife officials relocate the fish. About eight Marines from New River helped with the relocation. About a dozen members of Camp Lejeune's 2nd Landing Support Battalion also assisted in what Marine officials described as a training exercise.

"It was an emergency situation and we responded," said Gunnery Sgt. Sylvia P. Gethicker, a public affairs officer at New River air station.

Workers in boats would give the fish an electric shock, stunning them briefly and allowing the workers to put the fish in

SEE MISSION/2B

PUBLICATION The Daily News PAGE 1B
CITY, STATE Jacksonville, NC DATE 11 May 93

Waters undergo spring cleaning

Volunteers collect 563 bags of trash

Y CAROLYN ALFORD
ILY NEWS STAFF

SNEADS FERRY — Judging om. the mounds of garbage led on the shore in the wake River Sweep II Sunday, the ores and marshes of the surunding waters could be called nslow County's dumping ounds.

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"There was some trash that came out of that river today," commercial fisherman Clipper Pierce said.

River Sweep was sponsored by the Southeastern North Carolina Waterman's Association. The North Carolina Coastal Federation, local and state politicians, the Coast Guard and 35 businesses contributed food, money and other items to help clean up the county's waters.

The state Department of Transportation provided the garbage bags, Onslow Clean County provided gloves to protect the volunteers' hands and Onslow County provided a truck to transport of the garbage collected to the county landfill.

The garbage collected along the banks amounted to about 15,200 plastic foam cups, 12,950 plastic soda bottles, 6,200 plastic bottles of other types, 4,500 glass bottles, 4,500 aluminum cans, and 1,125 light bulbs, David Clement said. Clement counted and sorted some of the garbage as it was piled on the shore near Jack Millis' Fish House in Sneads Ferry.

"The biggest thing we learned was the devastation," said Melvin Shepard, president of the Waterman's Association. "Before it was nothing, everything went overboard. It was worse near marinas."

Volunteers came from as far away as Pamlico County and Chapel Hill. Thirty-two Marines from Camp Lejeune also provided a portion of the manpower for River Sweep.

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SEE WATER/

WATER/FROM 1B

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Wooden signs, barrels, two tires and a broom also were found.

House and Pierce joined the River Sweep about noon after fishing since 3 a.m. Although they were tired, House said fishermen participated because they are concerned about conservation and protecting the waters.

"We want people to know we are not rapers and pillagers of the environment," House said. "This water is not only important to our livelihood but hell, it is dear to our hearts."

People do not throw trash into the waters maliciously, House said, it is just a habit. Once it is out of sight, it is out of mind. Participating in the River Sweep has made believers of those who use the waters, House said.

"It has certainly made us more aware of not throwing stuff out," House said. "People will say, 'Man, I didn't know there was that much out there.' You don't realize it until you start stooping over to pick it up," he said.

Volunteers ended the day with a pig picking in front of the fish house.

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MISSION/FROM 1B

large buckets hanging from the helicopters, according to Gethicker.

The fish were then flown about four miles upstream and released.

Several hundred fish, ranging in size from three to 15 pounds, probably were moved, according to Scott Van Horn, a fisheries biologist with the commission.

Those involved with the project were unsure when and if it would come off until Friday, Rawls said. Because of the military participation, Pentagon officials had to approve the project before it could start.

Spawning stripers run the Roanoke River every year, Van Horn said. For now, it seems the project is a one-time fling.

Gethicker said defense department officials only approved this year's project.

Once is better than nothing, according to Van Horn. "If nothing else, (we) get some idea how many fish are involved."

PUBLICATION The Daily News PAGE 2B
CITY, STATE Jacksonville, NC DATE 11 May 93

Officials reporting another base spill

BY WILLIAM L. HOLMES
DAILY NEWS STAFF

A cleaning tool stuck in a sewage pipe at Camp Lejeune led to a 2,500-gallon spill into New River earlier this week, according to state officials.

Inner View, a private contractor was cleaning a pipe leading to Lejeune's Hadnot Point sewage treatment center when the cleaning tool stuck at about 5 p.m. Tuesday, Maj. Jay Farrar of the Camp Lejeune Public Affairs Office said.

SEE SPILL/2A

SPILL/FROM 1A

As little as a few hundred gallons may have made it into the river, Farrar added.

And so far, water tested from the spill area meets state water quality standards, he said.

Lejeune officials reported the spill to state officials Wednesday morning, said David Adkins, head of the Division of Environmental Management Wilmington office.

The spill was the second of its kind at the base since January. Earlier this year, 50,000 gallons of water was lost. Some was cleaned up before making it to the river, according to base spokesmen.

Lejeune has reported 20 spills totaling 238,500 gallons since February 1988.

About 10,000 gallons was lost during the latest spill when base officials opened a flap on the 36-inch pipe to dislodge the tool, Adkins said. About three-fourths of the spill was pumped back into the system.

The spill led Lejeune officials to stop their current project with Inner View, Adkins said.

"They thought this was a one-time accident and now they know it's not," Adkins said.

The contractor will revamp the current system before continuing with the project, Farrar said.

Lejeune officials want to have the base's sewage system cleaned and inspected within the next few years, Farrar said.

The current project has been ongoing for the last several months and covers miles of pipe at the base, Farrar said.

PUBLICATION DAILY NEWS PAGE 1A/2A
CITY, STATE JACKSONVILLE, N.C. DATE 4 April 93

DATELINE

CAMP LEJEUNE

Two sites make list of buried chemicals

By MERTON VANCE

Regional Editor

Two sites at Camp Lejeune are on a Department of Defense list of 144 former or current military installations where chemical munitions, agents or other chemicals are buried.

Camp Lejeune spokesman Maj. Jay Farrar said the two sites on the base were placed on the list because they contain chemical waste. Neither site contains chemical munitions.

Chemicals such as fire retardants and pesticides were buried in the two sites at Camp Lejeune in the 1960s and 1970s, when burial was an approved disposal method, he said.

Both locations were already on a list of sites to be cleaned up, and steps were taken in the early 1980s to isolate the contamination. They should be cleaned up by 1995, Maj. Farrar said.

The Department of Defense list of sites targeted for environmental cleanuup was submitted Tuesday to Congress.

It indicated that remnants of chemical weapons may be contaminating as many as 190 sites in 31 states, one-fourth of them on land the military no longer controls.

Pentagon officials say they hope to develop a cleanup plan by fall.

"We have physically looked at all of these sites . . . and we see no immediate threat to public safety," said Brig. Gen. Walter Busbee, commander of the Army's chemical destruction program.

The report on potential chemical contamination followed a report a day earlier on sites where old munitions could be buried.

Two sites on the munitions list are also in Southeastern North Carolina: Camp Davis near Holly Ridge and Fort Fisher south of Wilmington.

Both were used as training bases during World War II and had ranges for machine guns, anti-aircraft guns and artillery.

The Army Corps of Engineers office in Wilmington has conducted preliminary checks of both the Camp Davis and Fort Fisher sites without finding any munitions. A team from Huntsville, Ala., will be sent to each site later to do a more detailed search and make disposal plans if anything is found.

Marty van Duyne, spokesman for the Corps of Engineers in Wilmington, said the next survey at the Camp Davis site is scheduled for the fiscal year beginning in October 1994. The Fort Fisher site will be surveyed the following year.

She said the corps is interested in hearing from anyone who might know of any old ordnance at either site. People with any information can call the Corps of Engineers at 1-800-488-0648.

Ken Crawford, a spokesman for the Army Corps of Engineers division office in Huntsville, said the Defense Environmental Restoration Program identified about 1,200 sites where munitions were at one time used, stored, tested or destroyed.

The Army Corps of Engineers is planning to inspect all of those sites to see if any munitions are left and take steps to remove anything they find.

This report includes material from The Associated Press.

Two sites at base on toxic arms list

Study downplays health hazards

■ **LOCAL MAN** was blown off grader at Camp Lejeune dump site/**3A**

BY RICHARD F. SMITH
DAILY NEWS STAFF

The U.S. Army says Camp Lejeune has two sites with potential for contamination by old, buried chemical-warfare agents.

In addition, the Army has revealed a 1970 Lejeune explosion and forest fire which blew chemical drums from a pit 40 yards into a forest.

The potential of threat to human health and safety from the sites exists, but does not appear to be significant at this time, according to the Army report. No residual chemical-agent contamination has been found in the investigations.

The Army released the report on Tuesday to Congress. It inventories 190 places in the United States and its territories identified as having a potential for con-

SEE **DUMPS/2A**

PUBLICATION The Daily News
CITY, STATE Jacksonville, NC
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taining old chemical-warfare material.

Included in the report is the ny's program to safely and effectively manage the sites.

The Army is the Department of Defense executive agent for destruction of chemical-warfare material. Congress directed the Army to prepare the report in the 1993 National Defense Authorization Act.

Lejeune is on the U.S. Environmental Protection Agency's National Priorities List of installations slated for clean-up of contamination or pollution.

"Lejeune has 22 installation restoration sites currently under investigation to assess long-term impacts," the Army report states.

"Two of these sites, Sites 69 (Rifle Range Chemical Dump) and 74 (Mess Hall Grease Pit), have potential for contamination from chemical agents.

"At Site 69, chemical agent test kits are known to exist as well as possible hazardous material including glass vials, white powder, PCBs, fire retardants, pentachlorophenol, DDT, TCE, malthion, diazinon, lindane, calcium hypochlorite, gas cylinders and HTH," the report states.

PCBs are cancer-causing polychlorinated biphenyls formerly used in electrical transformers.

"During a disposal incident at Site 69, 50 blue and blue-green unmarked drums of what was believed to be a training agent (chloroacetophenone gas) were buried in trenches by personnel wearing adsorption canisters and other protective clothing," said the review.

Lejeune is on the EPA's priorities list of installations slated for cleanup of contamination or pollution.

"In 1970, another burial incident occurred where five-gallon cans and 55-gallon drums were placed together in a pit approximately six to 20 feet deep.

"When covering the pit with soil, an explosion and fire occurred which caused a forest fire and blew drums from the pit about 40 yards into the forest. Site 74 also has the potential for chemical-agent contamination. Reportedly, several drums left over from a Site 69 burial incident may be buried at Site 74," said the report.

"To date, no residual chemical agent contamination has been found in the investigations. A fence was constructed around Site 69 in 1990 for precautionary measures. A full remedial investigation/feasibility study will commence this year for Sites 69 and 74. Currently, draft RI/FS Work Plans, Sampling and Analysis Plans, and Health and Safety Plans are being developed.

"The RI/FS effort for Sites 69 and 74 has been and will continue to be coordinated with and approved by the U.S. Army Chemical Material Destruction Agency. It is estimated the investigations for Sites 69 and 74 will be complete by 1995," said the report.

"The potential of threat to human health and safety from Sites 69 and 74 exists, but does not appear to be significant at this time. Both sites are located away from high-traffic areas and Site 69 is fenced," said the Army.

The 190 sites nationwide are in 75 locations. Of the total site inventory, 144 are on military installations where the general public has no access, and where potential hazards are closely guarded and well-understood, said the report. Only 46 are in areas where there may be public access.

The Army believes there is no immediate threat to public health or safety. This evaluation is based on extensive research; and arrived at through a combination of site identification and isolation of most of the sites, along with the Army's past procedures for handling chemical warfare material at these sites, according to Army officials.

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CITY, STATE Jacksonville, NC DATE 21 Apr 93

Area man blown off grader at chemical dump

BY RICHARD F. SMITH
DAILY NEWS STAFF

The Rev. Herman Earl "Preacher" Parker doesn't need an Army report to convince him of potential danger of chemical dumps at Camp Lejeune.

He was burying chemical drums with a grader during 1970 at the Rifle Range dump when a massive explosion erupted, setting fire to the woods.

Parker, 71, was a civil service worker and retired from the base in 1984. He lives at 3007 Gum Branch Road.

He said during 1970, he dug two large holes. Military vehicles brought the chemicals in barrels and five-gallon cans.

"I don't know what it was, they wouldn't tell me. They never would tell me," said Parker.

Base firemen and a safety officer were present. Some water seeped into the holes from the water table, said Parker.

Marines placed the barrels and cans in the holes. "I filled it up as quickly as I could," he said.

The soil started to smoke. "In less than a minute, it exploded. It was a roll of fire, as bad as any bomb I saw in World War II," said Parker, who was blown off the grader.

"It blew all the dirt back out and set the wooded area on fire" and the safety officer and firemen took to their heels, he said.

"I finally got myself away from it," said Parker.

He was taken to the base naval hospital and treated for breathing problems and a burning sensation in his chest. Parker was released that night. He says no one else was hurt.

"They never did tell me what was in those drums. There's lots of stuff buried in that area, I'll tell you that," he said.

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CITY, STATE JACKSONVILLE, N.C. DATE 21 April 93

Aging explosives may be buried at many former military sites

Chemicals may also be buried

STAFF AND WIRE REPORT

WASHINGTON — Aging explosives, including hand grenades, artillery shells and chemical ordnance, may be buried at more than 250 former military sites now in civilian hands across the country, according to an Associated Press review.

In addition, one-fourth of an estimated 190 sites where old chemical warfare agents may be buried are in civilian areas accessible to the public, though many are isolated and none are deemed an imminent threat, the Pentagon said in a report to Congress on Tuesday.

From an inventory of nearly 7,600 former defense sites, the U.S. Army Corps of Engineers is trying to determine how many still have buried explosives, toxic and chemical agents — some dating back 75 years or more.

One of the sites includes Camp Fort-Davis in Holly Ridge. In addition, some explosives are believed buried at Camp Battle in New Bern and Fort Fisher in Wilmington. No other information was immediately available.

Defense officials estimate the search may take 15 years and cost $4 billion.

The effort is further complicated by incomplete recordkeeping on former defense sites.

According to scores of documents and computer lists examined by The AP, the Army Corps has at least 268 projects at 259 sites where officials believe explosives may be buried. Another roughly 1,200 sites may contain buried toxic chemicals, and 3,000 other former defense locations have yet to be scrutinized at all

Hidden explosives

A breakdown of cleanup projects currently planned at former Defense Department sites that government suspects contain explosives and other hazardous waste.

TYPE OF PROBLEM	NUMBER OF PROJECTS	PROJECTED COSTS
Ordnance/Explosive Waste	268	$398.3 million
Hazardous Toxic and Radioactive Waste	485	$1.25 billion
Containerized Toxic/Radioactive Waste	813	$296.6 million
Building Demolition and Debris Removal	211	$75.6 million
TOTALS	1,777	$2.02 billion

- Number of sites still to be analyzed: 3,000
- Total cleanup costs projected by year 2010: $4 billion

Source: Army Corps of Engineers AP

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CITY, STATE JACKSONVILLE, N.C. DATE 21 April 93

Waters undergo spring cleani

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Y CAROLYN ALFORD
ILY NEWS STAFF

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The state Department of Transportation provided the garbage bags, Onslow Clean County provided gloves to protect the volunteers' hands and Onslow County provided a truck to transport of the garbage collected to the county landfill.

The garbage collected along the banks amounted to about 15,200 plastic foam cups, 12,950 plastic soda bottles, 6,200 plastic bottles of other types, 4,500 glass bottles, 4,500 aluminum cans, and 1,125 light bulbs, David Clement said. Clement counted and sorted some of the garbage as it was piled on the shore near Jack Millis' Fish House in Sneads Ferry.

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SEE WATER/2

WATER/FROM 1B

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DATE 27 APR 92

Base says water OK at homes

Official details lead problems

BY WILLIAM L. HOLMES
DAILY NEWS STAFF

Recent reports of lead in water at Camp Lejeune left residents alarmed and searching for answers, a base spokesman said Friday.

"Not that people shouldn't be concerned, but they are overwhelmed," Maj. Jay Farrar of the Camp Lejeune Public Affairs office said.

According to an Onslow County Health Department spokeswoman, the agency got several phone calls Friday from military p[illegible] wanting lead screenings [illegible]r children. The parents were referred to NavCare, a clinic for military dependents, said Marilyn Burns, a child health nurse with department.

But base officials contend that all the alarm is unnecessary. Only 20 percent of the 60 samples taken by a private testing firm exceeded state mandated levels of lead in the water, Farrar said.

"This puts it back in perspective," Farrar said. "We didn't miss the requirement by very much."

North Carolina allows only 10 percent of a series of tests to exceed the limit, Farrar said. State law lists 15 parts of lead per billion as the maximum amount al-

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■ WATER/FROM 1A

lowed in water, according to state public water supply officials.

Base samples barely exceeded the level in some cases, Farrar said. In others, it was more than 30 times the allowable amount.

No single-family housing units are in the affected areas, Farrar said.

French Creek, the Old Hospital area, the Industrial area and the Marina are areas where the recommended standard is violated, according to base reports.

Berkeley Manor, the naval hospital, Paradise Point, Camp Johnson, Midway Park, Watkins Village, the rifle range, Courthouse Bay and Onslow Beach are within state standards.

Farrar also reiterated that pipes, not water treatment plants, are the source of the contamination. Water running through the lead pipes draws lead into the water, he said.

State officials have recommended that people in affected areas not use the water for drinking or cooking.

A base press release said cold water in the affected areas can be used for drinking, cooking and making baby formula.

Hot water leeches more lead into the water, the release said. It recommends boiling water if it is needed for cooking.

The base also recommends running the cold water tap for about two minutes before using the water if the tap is unused for more than six hours.

Lead screenings are available to parents at the Health Department or by a private pediatrician, according to Burns.

State warning base residents water is unsafe

Lead content 30 times higher than EPA likes

BY WILLIAM L. HOLMES
DAILY NEWS STAFF

The state is warning residents of Camp Lejeune and other area bases not to drink water with lead contamination that is 30 times higher than the U.S. Environmental Protection Agency recommends.

High levels of lead were found in the Hadnot Point and New River air station water treatment plants, said Lejeune spokesman Maj. Jay Farrar. He was unsure how many people are served by the two systems.

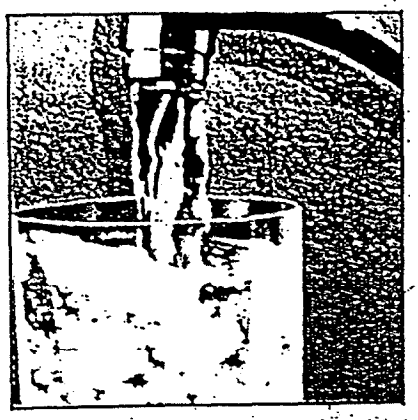
Lead exceeds recommended levels in French Creek, the Old Hospital area, the Industrial area and the Marina area of Lejeune, the base reported. All of New River and Camp Geiger are affected except for single-family housing.

State regulations allow only 15 parts of lead per billion, according to Siraj Chohan, an environmental engineer with the Public Water Supply Section of the N.C. Department of Environment, Health and Natural Resources public water supply section.

New River lead levels are about 190 parts per billion, according to Farrar. Hadnot Point lead levels are more than 480 parts per billion.

"I'm kind of shocked," said Johanna Reese, a spokeswoman with the Public Water Supply Section, when told of the levels in the water.

"It's very high," Ms. Reese said. "If you have any children do not let them drink it and do not cook with it."



Lead can stunt growth and intellectual development in children, Ms. Reese said. It can also lead to lethargic behavior in adults.

"It sounds worse than it is," Farrar said. "You've got to look at our water system.

"This is not an unusual situation for an organization or city the size of Camp Lejeune."

Some pipes in the system are as old as 50 years, he said. Lead in the pipes has been leeched out over time, producing the levels found in the water, Farrar said.

A consultant hired by the base found the contamination, Farrar said. The base was notified of the violation in March.

Base workers are running tests on the system to determine what needs to be done to fix the problem, Farrar said.

"Once we have those tests figured out, then we can start working," he said.

Adding chemicals to the water to stop leeching is the most viable alternative, Ms. Reese said. "If that doesn't work — they've got to fix it one way or another," she said.

The only other alternative is to replace the pipes, something Ms. Reese said the state has never before mandated.

Lejeune recycling under way

Base program is mandatory

BY RICHARD F. SMITH
DAILY NEWS STAFF

A mandatory recycling program takes effect starting today for all residents of military housing at Camp Lejeune and the New River air station.

Each base household has received a green 18-gallon container as a recycling bin and a flier explaining the program, said Sammy Gwynn, an environmental control specialist with the base Environmental Management Department.

"We're collecting glass — brown, green and clear. We're collecting two types of plastic and aluminum, bimetal or tin cans," Gwynn said.

Paper collections will include newspapers, telephone books, magazines and brown-paper bags.

It is best to put paper on the bottom of the bin so the paper will not blow away. The contractor — Waste Industries Inc. of Raleigh — will pick up the materials and sort them at curb side.

Plastic and glass containers should be rinsed with water by residents. All cans should be drained of contents.

Bins should be kept indoors and placed next to garbage cans on pickup day for recyclables.

"We're trying to meet guidelines from the state for a 25-percent reduction of solid waste at the landfill by January of 1993," Gwynn said.

Organic materials such as leaves, grass clipping, pine cones, tree limbs, branches, twigs, Christmas trees and smaller roots also will be picked up.

The contractor gets the recyclable materials as part of the service, Gwynn said.

Concerning how much material will be gathered for recycling, Gwynn said: "We don't know yet. We've tasked the contractor to give us updated data each month."

Waste Industries will serve about 4,500 homes at Lejeune and New River. Days for pickup of recyclable material, organics, trash and garbage are listed by base housing section in the flier.

PUBLICATION DAILY NEWS PAGE 2B
CITY, STATE JACKSONVILLE, N.C. DATE 1 APR 1992

COMMERCE CORNER

SUSANNE SARTELLE

Military bases impact big on Onslow County

Several chamber leaders have had the opportunity to take part in a series of briefings at Camp Lejeune. We have gather information about military funding sources, statistics on population and other demographics, the facts about wastewater treatment, information about the Morale, Welfare and Recreation program and more.

We all know that Camp Lejeune and New River air station have a significant economic impact on our community. But when you look at the facts and figures on paper, it is overwhelming.

For example, MWR means $3 million to Onslow County and $26 million to North Carolina. The base uses many contracted services from right her in our own community and they buy products from local businesses, too.

I knew that there were more than 40,000 Marines and sailors stationed here. But what I didn't know it that 66 percent of them have either purchased homes or are renting. And naturally that impacts retail stores, grocery stores, gas stations and every type of business here.

We also learned how to do business with the military. As I wrote about, the Marine Corps and Navy buy a lot locally, so there are already businesses here taking advantage of this opportunity. Together with the Small Business Center at Coastal Carolina Community College, we'll be working on putting together a program to teach local companies how to go about doing business with the military.

P.S. Take a look at today's special supplement in The Daily News on Business Expo '93. Don't miss this exciting opportunity to see Onslow County's business community on display — all the products and services you've been looking for. Admission is $1, but if you clip the coupon from the supplement, you get in free. See you at the expo.

Susanne D. Sartelle is executive vice-president of the Greater Jacksonville/Onslow Chamber of Commerce.

New River waste spills exceed a million gallons

City, base records charted over past 5 years

BY WILLIAM L. HOLMES
DAILY NEWS STAFF

Jacksonville municipal and Camp Lejeune wastewater systems have spilled about 1.3 million gallons of raw sewage during the past five years, according to state records.

Sizes of the 32 spills range from negligible amounts to almost 500,000 gallons.

But one state official is not disturbed by the spills — 17 by Camp Lejeune and 15 by Jacksonville. Jacksonville has spilled about 1.17 million gallons while Camp Lejeune has spilled about 236,000 gallons.

"With the age of the (base's sewage) system, the miles of pipes and the potential for spills — it's not alarming to see," said David Adkins, head of the Division of Environmental Management's regional office in Wilmington.

Although the city has spilled a greater volume of sewage, the location of its spills has less effect on water quality, he said.

The Wilmington municipal wastewater treatment plant has had more spills in that time span, he said.

Jacksonville and Camp Lejeune officials defined their records as good and said they strive to prevent spills.

"Camp Lejeune views any spill as unacceptable and we work closely with the state of North Carolina to prevent spills from happening," said Maj. Jay Farrar of the Camp Lejeune Joint Public Affairs Office.

Contacted late Friday about the spill history, Farrar said military officials did not have enough time to prepare a detailed response.

Spills are just a part of the business, said A.F. McRorie, who retired Friday as Jacksonville public utilities director. The city's spills are not significant to the river's long-term water quality, he said.

The spills do contribute to pollution in the river, Adkins said, but the daily discharges lead to long-term problems.

"There's no doubt they contrib-

SEE RIVER/2A

RIVER/FROM 1A

ute," Adkins said. "But we have not been able to link any of these discharges to fish kills."

Officials would prefer to see no spills from the base, Adkins said, but that's not realistic because of the age of Camp Lejeune's system and the volume of water it handles.

Jacksonville, Adkins said, has a much better record than Camp Lejeune. Although the city has spilled a greater volume of sewage, the location of its spills has less effect on water quality, he said.

The majority of the city's spills, Adkins said, were caused by blockages like basketballs and shopping carts being placed in the pipes. Also, heavy rainfall backs up the system and causes overflows, according to state records.

Camp Lejeune's spills are the result of base efforts to incorporate runoff pollution from parking lots and other areas into their system, Adkins said. The added volume of water that runs through the base's system makes it more apt to have problems.

Sewage spills are common with systems that discharge into rivers, according George Gilbert, who monitors water quality for the state Shellfish Sanitation Section.

"I don't know of any of them (river outfall systems) that don't malfunction. They're all going to do it," Gilbert said.

But the base and the city are working on improving their treatment plants.

Jacksonville, which also discharges wastewater into New River, agreed last year to build a land application system, one that will treat waste and spray it back on the land.

Base officials have been meeting with county and local officials to discuss their plans for a new system at Lejeune. The base is looking at three options: continuing discharge into New River, a land application system or ocean outfall.

Adkins noted that Lejeune's latest spill — a 50,000-gallon accident that flowed into New River and closed shellfishing — was the result of efforts to improve the system. An instrument searching for leaks stuck in a pipe and sewage backed up and flowed out of a nearby manhole.

Melvin Shepard, president of the Southeastern North Carolina Waterman's Association, said he thinks little can be done to avoid similar accidents, no matter how advanced a treatment system is. That's why he wants the base to consider building a land application system instead of another river outfall system.

"I think that Jacksonville is doing the right thing. It's time for the accident to be moved to a place where the accidents can be treated," Shepard said.

CAMP LEJEUNE

Base gives timber funds to back schools

Brig. Gen. Lawrence H. Livingston, commanding general of Camp Lejeune, presented a check Thursday for $111,750 to Larry Fitzpatrick, chairman of the Onslow County Board of Commissioners.

The money will be used for the Onslow County school system. The funds came from the Lejeune timber program, which earns money from the sale of timber cut from base forests.

During fiscal year 1992, the base harvested almost four million board feet of timber products from its training areas.

Since the start of the program and through efforts of the Lejeune Forestry Division, base officials have contributed $975,000 to Onslow County schools, according to the Lejeune Public Affairs Office.

PUBLICATION THE DAILY NEWS PAGE 1B

CITY JACKSONVILLE, N.C. DATE 22 February, 1993

Waste fight to proceed

Fishermen not convinced after recent forum

BY WILLIAM L. HOLMES
DAILY NEWS STAFF

SNEADS FERRY — Good will may be nice, but it isn't necessarily helpful.

That's the opinion of some who attended a public forum in Sneads Ferry last week to talk about Camp Lejeune's proposed wastewater system.

Camp Lejeune officials, who are pondering a system that may continue to dump sewage in the New River, agreed to attend the meeting a few days before it was scheduled, after being invited several weeks in advance.

While some attendees said they appreciated cooperation by base officials, and their spokesman Maj. Jay Farrar, who attended the meeting, they said the meeting offered little insight to the base's plans.

"I don't think they really talked about their plans," said Melvin Shepard, president of Southeastern North Carolina Waterman's Association, the group sponsoring the forum. "He (Farrar) was caught in a position where he could only echo prior decisions."

About 100 people, including some county and local officials, turned out to the meeting Thursday night. Most opposed any plan that would continue to dump into New River.

David Adkins, a representative of the state Division of Environmental Management, said he thought the meeting, despite its shortcomings was helpful.

"It was well-conducted. The majority of questions that I heard were there to seek information," Adkins said. "Obviously, we didn't have all the answers."

The forum, according to Shepard, is only one of many things his group will do to combat the plant. By Friday, he had already composed a letter to state officials to cease giving any special considerations to Camp Lejeune.

Fishermen especially will continue to fight against the plan, Shepard said, because many fault the base for the closing of shellfishing areas throughout the New River.

"There's a whopping amount of interest out there," he said. "It gets personal. It gets real personal."

SEE WASTE/2C

Camp Lejeune gives to schools

Onslow County Board of Commissioners Chairman Larry Fitzpatrick picked up a check for more than $111,000 Thursday from Brig. Gen. Lawrence Livingston, the commander of Camp Lejeune.

The money will go to the county school system and comes from the sale of timber from base property. The base has contributed more than $1 million under the program.

.ICATION MORNING STAR PAGE 2B

ITY WILMINGTON, N.C. DATE 19 FEBRUARY 1993

Wastewater worries fishermen

By JIM SWARTZENBERG
Star-News Correspondent

SNEADS FERRY — As Camp Lejeune moves ahead with plans for a new sewage treatment plant, commercial fishermen worry that treated wastewater from the plant will harm fishing in the New River.

The base, home to about 40,000 people, needs the new system to replace aging facilities that won't be able to meet new environmental quality rules. But fishermen are concerned that treated wastewater discharged into the river's brackish water will harm critical nursery areas for shellfish and hurt fish stocks.

"Even if a freshwater discharge were totally pure, introducing it into a saline stream might be good for goldfish, but that's not what trout and flounder use," said Melvin Shepard, president of the Southeastern North Carolina Waterman's Association. "Fresh water also kills shellfish."

Mr. Shepard said New River is a critical nursery area for shellfish and provides about $4.6 million per year in revenue from commercial fishing.

A fish kill on the river this month may have been linked to an accident on Feb. 1, when a company working on sewer lines inadvertently caused 50,000 gallons of raw sewage to spill into the river.

About 100 people attended a forum Wednesday night, organized by the fishermen's association, to hear from representatives from state environmental agencies, the base, a private company that operates sewage treatment plants and the Environmental Defense Fund.

Although no decision has been made, the base is favoring a treatment plant near Hadnot Point that would discharge up to 15 million gallons per day of treated wastewater into the New River.

The new system would replace seven smaller treatment plants scattered around the base that discharge about 8 million gallons per day. Most of that goes into the New River or Northeast Creek, which flows into the river. One plant at Onslow Beach discharges into the Intracoastal Waterway.

The existing plants date to the 1940s and 1950s, and although they have been improved over the years, they are expected to be unable to meet stricter state water quality requirements after 1997, said Maj. Jay Farrar, a base spokesman.

For about three years, the base has been looking at alternatives that could also include a system that would discharge treated wastewater directly into the ocean. A third alternative proposed by a private company would spray treated wastewater onto large fields, where the water could be absorbed into the ground.

A decision has not been made on what type of plant will be built, but a recommendation will be included in an environmental impact statement to be issued soon.

Both the land application and ocean discharge plans pose problems, leaving the base to lean toward the river discharge system.

"We don't have a lot of options," said Bob Warren, who heads the Environmental Management Department at Camp Lejeune. "Ocean outfall looks good, but there are a lot of problems with that."

The federal Environmental Protection Agency regional office in Atlanta, which has authority on

LICATION MORNING STAR PAGE 2B
ITY WILMINGTON, N.C. DATE 19 FEBRUARY 1993

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the decision, has never issued an ocean outfall permit.

Neal Littman said his company, Enviroserve, proposes to treat wastewater from the base with a land application system on several thousand acres the company is negotiating to buy. The land near the base is bordered by N.C. 172, N.C. 210 and U.S. 17.

The fishermen's group favors the land treatment method. Doug Rader, of the Environmental Defense Fund, also recommended the land application approach, but he noted that pollution from the land can also affect the river.

"Rainfall washing off the land contributes to about half the problem," he said.

Maj. Farrar said the land application method may not be suitable, however, because the amount of land involved could interfere with land needed for Marine training.

The base also is concerned about the cost of buying land and the problems of finding enough suitable land in an area of sandy soil and high water tables.

When the first draft of an environmental impact statement is completed, the base plans to brief the Onslow County Commissioners, accept written public comments for 45 days, and hold a public meeting to answer questions and receive comments that will be considerd in a final version of the environmental impact statement.

The final decision on a new plant will be made by the Secretary of the Navy. If it proceeds on schedule, construction would begin in the 1994 budget year and be completed by the year 2000.

Regional Editor Merton Vance contributed to this report.

Camp Lejeune isn't New River culprit

To the editor:

I resent the people, especially those from Sneads Ferry, who have commented that Camp Lejeune is dumping toilet paper and fecal material into New River. This is not true. Each wastewater plant on base has a licensed wastewater plant operator. The state sets the guidelines for the base to follow.

All wastewater plants have a process to go through, and at the end of the process, the waste is treated with chlorine. When it flows out into the river, it is as clear as your drinking water. Since I am only a wife of one of these operators, I cannot explain as well as the operators can, but I have been to the plants and have observed all functions.

For the gentleman who wrote to The Daily News that Camp Lejeune can do what they want, etc., I can tell he is not too educated concerning wastewater treatment plants. Had he bothered to ask, he would know that no one dumps raw sewage into the river, especially on base, but off base, probably so.

Raw sewage has been dumped into the river by septic tanks along the banks also. Raw sewage has been dumped recently by someone, but not Camp Lejeune, as the base dumps water after waste is processed. It ends up only water, not fecal material or toilet paper.

Go look for the real culprit and get better educated concerning the base, Mr. Fishermen and those not familiar with wastewater treatment plants on base.

Eloys S. Charett
Sneads Ferry

PUBLICATION THE DAILY NEWS PAGE 11A
CITY JACKSONVILLE, N.C. DATE 19 FEBRUARY 1993

■ **CAMP LEJEUNE SEWAGE TREATMENT** will be discussed at a public forum at 7 p.m. today at the Sneads Ferry Community Building. State officials, water quality specialists and conservationists will be available to take questions. The forum is being conducted by the Southeastern North Carolina Waterman's Association.

Pollution meeting tonight

Opinions sought on base sewerage

BY WILLIAM L. HOLMES
DAILY NEWS STAFF

SNEADS FERRY — Opponents of Camp Lejeune's proposed wastewater treatment plant will have an chance to speak out at a meeting tonight.

Maj. Jay Farrar, head of the Camp Lejeune's Joint Public Affairs Office, and representatives of the state's Division of Environmental Management, Division of Marine Fisheries, Shellfish Sanitation Section and the N.C. Environmental Defense Fund are scheduled to attend. U.S. Rep. Charlie Rose, D-Fayetteville has also been invited.

Rose, who will send a representative to the citizens forum, toured the base Monday. He met with the commanding general, Brig. Gen. Lawrence Livingston.

"The general opinion," Rose said, "is the pollution in New River comes from both point and non-point sources," meaning it comes from both specific sites, such as sewage discharge pipes, and unidentifiable sources, such as runoff pollution.

Base officials plan to upgrade wastewater treatment plants and build a new plant. The base may continue dumping into the river, a plan many oppose.

"The thing is that Camp Lejeune is saying, 'We're going to do a better job of doing our sewerage,'" said Melvin Shepard, president of the Southeastern North Carolina Waterman's Association. "Right now, they're destroying the river. It's not good for the system and we'll fight it till the bloody end."

The is at 7 p.m. at the Sneads Ferry Community Building.

PUBLICATION THE DAILY NEWS PAGE 1B

DATE 17 FEBRUARY 1993

Joint efforts needed to save the river

To the editor:

As Oscar Marine of Sneads Ferry stated in his Feb. 11 letter on recent fish kills in New River, the concerns between commercial and sports fishermen may differ, but the differences are of no importance, because if we don't clean up New River, there will not be any fish, oysters or clams for anybody.

Mr. Melvin Sheppard, president of the Southeastern North Carolina Waterman's Association, extends to all concerned fishermen, developers, politicians, civic and military personnel, an invitation to attend a meeting at 7 p.m. Feb. 17 at the Sneads Ferry Community Building.

What is needed is a "Save The River Committee" under one or all of the fine environmental organizations in this area. Possibly, with enough signatures on a petition for political clout, they would turn a few heads in Raleigh and Washington, D.C.

For the military not to participate in local meetings and organizations, and have closed meetings, and request and receive approval to exceed normal legal limits in polluting New River are not at the top of things necessary to clean up New River.

Tom Mattison
Midway Park

Publication Daily News Date 14 Feb 93
City, State Jacksonville, N.C. Page 2D

Base sewage spill closes part of river

50,000 gallons backs through pipe; water tests to run through Friday

BY WILLIAM L. HOLMES
DAILY NEWS STAFF

A clogged pipe at Camp Lejeune caused raw sewage to pour into the New River Monday, closing the area to shellfishing.

About 50,000 gallons of sewage backed through the pipe, according to Maj. Jay Farrar of the Camp Lejeune Public Affairs Office. An undetermined portion of the sewage ran out of a nearby manhole and into the river.

Farrar attributed the clog to an electronic probe inserted in the pipe by a civilian worker employed by Inner:View. The instrument lodged in the pipe at about 6 p.m. Monday.

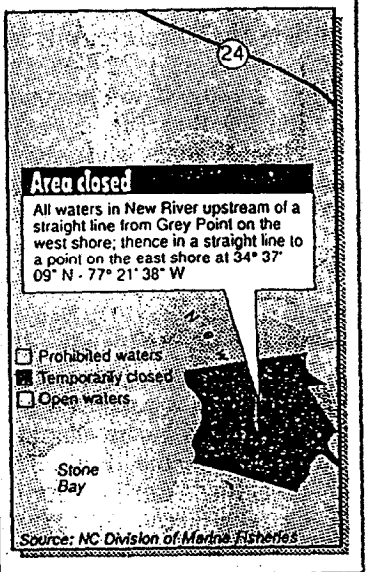
Base officials rerouted sewage Tuesday morning, after reporting it to the state Division of Environmental Management, according to Ed Beck, an environmental engineer with the division.

Workers at the site dammed some areas to prevent sewage from running into the river, Farrar said. The pooled water was treated and pumped back into the waste treatment plant.

SEE RIVER/2A

Temporarily closed to shellfishing

An unrestricted portion of New River has been temporarily closed to shellfishing due to a sewer line malfunction and the discharge of raw sewage into the river.



THE DAILY NEWS/DP

RIVER/FROM 1A

State shellfishing sanitation officials closed the area Tuesday after the leak was reported, Beck said.

Base officials are sampling waters in the area to determine the "impact of the spill," Beck said. Testing in the river likely will continue until Friday.

"There's been no indication that this has had an adverse effect on fish or wildlife in the area," Farrar said.

Several thousand fish were killed in a nearby section of New River from Jan. 25-27. An N.C State University researcher attributed the kill to excessive sewage in the river.

"This leak is not in any way connected with the fish kills along the New River over the last two weeks," Farrar said.

Sewage dumping cited in New River fish kill

Expert: Pollution is no threat to people

BY WILLIAM L. HOLMES
DAILY NEWS STAFF

Several thousand fish found dead in the New River last week likely were killed as a result of too much sewage in the water, according to a scientist.

Six sites, including three Marine Corps locations, currently have permits to dump sewage into the river, according to a state Department of Environment, Health and Natural Resources official.

Thirty-five other sites have permits to dump into New River tributaries, including Jacksonville's and Richlands' municipal wastewater treatment systems.

The situation poses no threat to humans, said Dr. JoAnn Burkholder, an North Carolina State University researcher.

Originally, scientists thought the kill may have been caused by a one-celled organism that releases a toxin that strips fish of their skin, eats the skin, kills the fish and then hibernates in the river bottom. About one-fourth of all major fish kills in North Caro-

SEE RIVER/3A

■ RIVER/FROM 1A

lina can be attributed to the toxic organism, Miss Burkholder said.

Miss Burkholder said she found evidence of the organism at a fish kill near Topsail Beach last month. The kill involved several thousand menhaden, she said.

Tests for the organism, called a dinoflagellate, showed no signs of it in water samples from the recent New River kill, Miss Burkholder said.

Several species of fish were killed in the incident, including sheepshead, mullet, flounder and menhaden. The dead fish, found along river banks midway between Jacksonville and Sneads Ferry, mostly died on Monday through Wednesday of last week, according to state fisheries officials.

The number of fish killed is undetermined, according to Rich Carpenter, southern district manager for the state Division of Marine Fisheries. Strong winds pushed the fish through the river, making a count difficult.

Todd Miller, executive director of the North Carolina Coastal Federation, said high levels of sewage are common in coastal rivers, but other factors usually contribute to fish deaths.

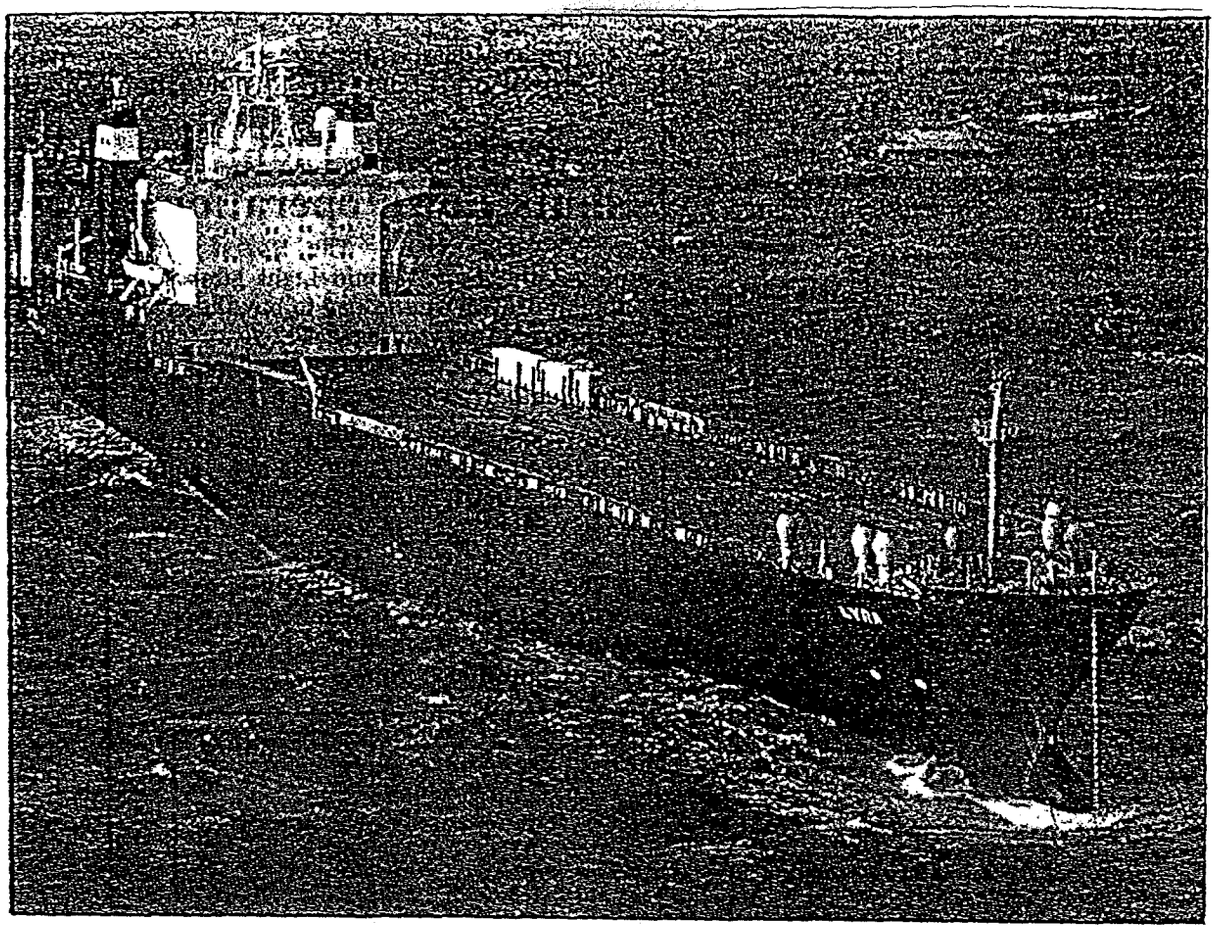
"What we're seeing up and down the coast is that our waters are being stressed," Miller said.

Runoff pollution from heavy rain likely contributed to the recent kill, Miller said. Even with the added stress of runoff pollution, Miller said water quality should be able to support fish life.

"If waters aren't capable of supporting fish, they demand special attention by the water quality agencies," he said.

Publication DAILY NEWS Page 1A
City/State JACKSONVILLE, N.C.

Freighter under control



DAILY NEWS/ROB HAMMONDS

Anchors dropped Tuesday night lessened the danger of an oil spill off the N.C. coast

Quick response is cited in averting N.C. oil spill

Ship anchored off Cape Fear

BY RICHARD F. SMITH
DAILY NEWS STAFF

Quick response by the Coast Guard and civilian sailors dropped on a drifting freighter from a Marine helicopter prevented a potential oil spill along the stormy North Carolina coast.

Four civilian crew members lowered aboard the oil-laden freighter Lyra by a Marine Corps helicopter were able to manually drop two anchors into the ocean at 11:55 p.m. Tuesday, said Lt. (j.g.) Doug Schwalm at the Fort Macon Coast Guard station.

The double-hulled, 600-foot ship is no longer in danger of breaking up, said Schwalm.

The Lyra "is stable. She's about 16 miles east/northeast of the Frying Pan Shoals light" off Cape Fear near Wilmington, Schwalm said.

The vessel's tanks contain 338,940 gallons of heavy crude oil and 39,900 gallons of Number 2 diesel fuel. The ship is owned by Lykes Lines of New Orleans.

The Lyra snapped its towline at 7:40 a.m. Tuesday in heavy seas south of Cape Lookout. The container ship was being towed by the tugboat Mark McAllister from Baltimore to New Orleans. There was no crew aboard the Lyra at the time.

The anchors were manually lowered "because they were never able to get the generators going and still can't. Unless you get the generators working, you can't get the anchors back up," Schwalm said Wednesday evening.

SEE SHIP/2A

The Daily News
Jacksonville, NC

SHIP/FROM 1A

Coast Guard Boatswain's Mate 1st Class Jack Musgrave at Fort Macon said at 8:45 p.m. Wednesday that it may be several days before the generators are working.

"They've got parts coming for the generators. It'll take two days to get the parts up," Musgrave said.

Coast Guard and Lykes Lines officials will meet today to discuss the possibility of using portable generators to raise the anchors, Musgrave said.

The situation was monitored Wednesday by crews of the nearby Coast Guard cutter Cowslip, a 180-foot buoy tender from Portsmouth, Va.; the Navy ocean-going tugboat Mohawk from Little Creek, Va.; and the McAllister.

Another civilian tug — the Tora Como Boy — has been hired by Lykes Lines. The Tora Como Boy is en route from Charleston, S.C., and will tow the Lyra to New Orleans, Schwalm said.

After generators are fixed on the Lyra and "once the heavy weather subsides, the assisting units will try to re-establish the tow and the vessel will proceed to New Orleans," Schwalm said.

Seas were 16 to 18 feet on Wednesday afternoon, compared to 20 feet on Tuesday. "That's still not good, but it's a heck of a lot better," Schwalm said.

The Lyra civilian crew members were lowered at 4:20 p.m. Tuesday to the deck of the freighter in winds gusting up to 60 miles per hour.

The civilian sailors were lowered in safety harnesses from a CH-46 "Lobo" Marine Corps search-and-rescue helicopter from Cherry Point air station in Havelock.

"Getting the experienced captain and crew on board the vessel was essential. They proved instrumental in getting the anchors down even without the ship's power," said Schwalm.

After the near-disaster was reported, "The Coast Guard was on the scene almost immediately. The cutter Staten Island remained with the vessel throughout the night in very rough conditions, keeping a close watch on the situation," said the lieutenant.

"The Coast Guard worked closely with Lykes Lines as well as the Marine Corps and Navy. Teamwork was called for and received," said Schwalm.

Publication The Daily News Page 2 A

City/State Jacksonville, NC Date 28 JAN 93

CAMP LEJEUNE / Where plants and soldiers dare to trod

Officials protect Marines and their environment

By JIM SWARTZENBERG
Star-News Correspondent

CAMP LEJEUNE — The rough leaf loosestrife normally grows about 10 inches tall, sometimes a bit larger.

"It's an endangered species plant with a small but beautiful yellow flower," said Charles Peterson, whose job is to make sure loosestrife and other plant and animal life coexist with tanks, helicopters and infantry.

Mr. Peterson, who has 38 years of experience with wildlife, described the plant as though protecting the rare flower were a matter of personal concern.

"It only grows in coastal North Carolina," he said. "Some have been found in the Croatan National Forest and in Brunswick County, here and at Fort Bragg — only about 10 sites in all."

In Mr. Peterson's domain, these plants grow among the familiar stands of longleaf pines. Young Atlantic white cedars grow in open meadows, cypress knees jut up in fern-spread bogs. Wild turkeys, woodpeckers, loggerhead turtles, black bears, American alligators and wood ducks all coexist.

This is Camp Lejeune. Be careful where you step.

Mr. Peterson and his associates see Camp Lejeune as more than just a training base where Marines shoot and maneuver and learn their trade. To them, it's a vast 151,000-acre spread of land, water, swamps and pocosins where people must live and animals and plants must survive.

Bob Warren, head of the base Environmental Management Department, said the most important part of his job is to make sure Marines have a place to train.

During Ocean Venture '92, a joint military services exercise held last year, 30,000 troops maneuvered with tanks, trucks and helicopters.

"We did it without great environmental expense," said Mr. Warren. It went off well because there was good planning, with briefings to all the participants before the exercise began.

Mr. Warren is modest about their accomplishments, but the base won the Secretary of Defense Natural Resources Conservation Award for 1989 through 1992.

"Camp Lejeune is a leader in terms of envi-

PUBLICATION Morning Star PAGE 1B
CITY, STATE Wilmington, N.C. DATE 20 Jan 93

Photo / JIM SWARTZENBERG

Charles Peterson clears weeds from a base fishing pond.

ronmental issues," he said.

His job is to carry out requirements of 16 major federal acts and countless other state and federal regulations.

He is the taskmaster for programs covering everything from clean air to archaeological resources and historic preservation.

Pete Black, the base forester, oversees about 106,000 acres of forest land, about 80,000 of which have commercial value.

The base sells its timber under a program that minimizes the practice of clear cutting.

In the past five years, more than $3.8 million dollars has been raised from timber sales, enough to make the base forestry division self-supporting and provide $634,000 to Onslow County schools, which get 40 percent of the timber profits under a federal law.

Mr. Black, Mr. Peterson and Mr. Warren face a new challenge this year: preparing environmental plans for the 40,000-plus acres of the Sandy Run Pocosin, which the Marine Corps is buying to expand the base.

The base is working on a wildlife enforcement program for the Sandy Run Pocosin. The work includes a wetlands management study and a survey for anything of archaeological and historical significance.

Putting that data together is the big job, incorporating it with mapping and plans for both training in the area and hunting regulations.

While the Environmental Management Department is proud of its accomplishments, the staff knows it faces future challenges.

PUBLICATION Morning Star PAGE 1B

CITY, STATE Wilmington, N.C. DATE 20 Jan 93

Jacksonville workers still lowest in wages

Report shows 2.2 percent pay increase

BY KAREN FOX
BUSINESS EDITOR

For the third consecutive year, Jacksonville civilian workers hold the bottom spot on the nation's pay scale, according to a U.S. Labor Bureau Statistics study released this week.

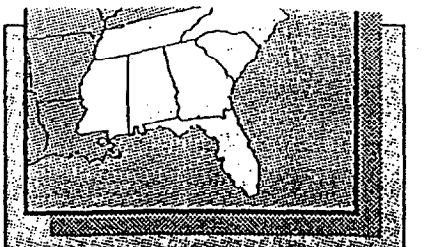
The average annual salary in Jacksonville in 1991 was $14,930. This figure — the lowest of all metropolitan area salaries in the Southeast and in the nation — represents a 2.2 percent increase over the 1990 average salary of $14,603.

The study, drawn from nationwide unemployment insurance records, does not include salaries of military personnel, said Patricia Nielsen, regional economist of the bureau's Atlanta branch. It does include salaries of federal government workers, including civil service employees working at Camp Lejeune and New River air station.

In 1991, the average pay for workers in the Southeast was $21,522, an increase of 4.4 percent over the 1990 average of $20,624 for the region. The Southeast ranked above the nationwide increase of 4.1 percent, but pay levels fell below the national annual pay average of $24,575.

Atlanta and Huntsville, Ala.

SEE PAY/2A



Lowest salaries in the southeast

City	Average annual salary
1. Jacksonville, N.C.	$14,930
2. Clarksville, Tn.	$17,708
3. Fort Walton Beach, Fla.	$18,163
4. Daytona Beach, Fla.	$18,212
5. Panama City, Fla.	$18,227
6. Ocala, Fla.	$18,281
7. Biloxi, Ms.	$18,542
8. Bradenton, Fla.	$18,833
9. Naples, Fla.	$18,928
10. Burlington, N.C.	$18,972

THE DAILY NEWS

ranked highest in pay among all metropolitan areas in the region. Atlanta salaries averaged $26,635, while Huntsville, a defense and technology center, averaged $26,625. Burlington, N.C. saw the largest pay increase in the region, at 8.1 percent.

Within the region, Florida and Georgia had the highest average pay at $21,991 and $23,164 respectively. Officials noted these states have higher-than-average pay due to three major industry divisions: Finance, insurance and real estate; transportation, communications and public utilities; and wholesale trade.

Jacksonville still trails the city with the second-lowest pay by almost $2,800. The town of Clarksville-Hopkinsville on the Tennessee-Kentucky border — and near the Fort Campbell, Ky. army base — pays an average civilian wage of $17,708.

Onslow County Employment Security Director Ralph Leeds said he was sorry to see Jacksonville claim the bottom spot for the third year in a row.

"But it's probably going to stay that way. Everybody is making a push for economic development. But you've got to get one prize employer or a bunch a small employers to come in here to get us out of this. We've got to get industry that pays a wage with some disposable income," Leeds said.

About 29 percent of the jobs in the Jacksonville area are in the retail sector. The average salaries for these jobs is about $202 per week, Leeds said.

"When you're operating with a tight profit margin, you must cut expenses to survive — in salaries, anywhere you can. Without profits, you don't have jobs," Leeds said.

"The grass is not always greener on the other side. I've seen people leave here and come back. You look at Eastern Airlines, IBM. Things are getting this way across the country," he said. "The survey doesn't include the military salaries, but at least we've got the base to be thankful for."

PUBLICATION The Daily News PAGE 1A
CITY, STATE Jacksonville, N.C. DATE 12 January 1993

CAMP LEJEUNE

Chemical spill poses no danger

A small-scale insecticide spill occurred at Camp Johnson Friday afternoon, a Marine Corps official said. Less than half of a gallon of an insecticide used to control ticks was spilled while it was being transferred, said Maj. Jay Farrar, public affairs director at Camp Lejeune. After calling the fire department and environmental workers, the affected dirt was picked up and disposed of by government standards, he said. He added that the spill causes no threat.

PUBLICATION The Daily News PAGE 2B

CITY, STATE Jacksonville, NC DATE Dec. 19, 1992

DAILY NEWS/ROB HAMMONDS

Much obliged: Windell Shepard, front, and his family needed wood to stay warm this winter

RELIEF WORK AT HOME

Lejeune Marines give aid to Onslow's needy residents

BY ELLIOT FUS
DAILY NEWS STAFF

While hundreds of U.S. Marines spend Christmas bringing humanitarian aid to Somalia, some Camp Lejeune leathernecks are assisting the needy right here in Onslow County.

Among many volunteers who participate in Christmas Cheer, a charity program that links sponsors with needy families, are Marines from the 2nd Reconnaissance Battalion.

About 50 members of the unit have been hard at work at the Southwest home of Windell and Barbara Shepard this week. They have raked the yard, built steps to the house and cut and delivered six cords of wood.

Suffering from diabetes and also confined to a wheelchair because of a decaying backbone, Shepard, a 51-year-old former vending machine service worker, said, "I've been down about 10 years or better."

Shepard and his wife, who mainly looks after him, live on $144 a month in social security payments and food stamps. Though a van sits in the yard, neither of them can drive it, relying on a daughter for errands.

"We met the family, found out what their needs were, and we're trying to accommodate them," said Sgt. Scott Rabine, whose comrades were hard at work while a little rock music leaked out of a nearby pick-up truck. Wood was at the top of the priority list.

Since the Shepards, who have been Christmas Cheer recipients for a number of years, rely on their wood-burning stove for heat, Shepard said if he didn't receive wood donations "I would've been in a mess. That's something I can't afford."

PUBLICATION The Daily News PAGE 1B
CITY, STATE Jacksonville, NC DATE Dec. 19, 1992

Base waste presentation is lauded

But officials not swayed

BY WILLIAM L. HOLMES
DAILY NEWS STAFF

Camp Lejeune officials seemed to support continued dumping in the New River at a closed Thursday meeting with Stump Sound authorities, according to some attendees.

The presentation listed the negative aspects of ocean outfall and land application waste treatment systems and the pluses of the river outfall plan, said Melvin Shepard, president of the Southeastern Waterman's Association, a fisherman lobbying group that has opposed the plan.

"It does appear what they have decided upon to some degree," Stella Tripp, mayor pro-tem of North Topsail Beach, said.

The meeting did not sway Shepard to support the river alternative, though.

"There's a chance now to correct a mistake," Shepard said. "That's not to us a viable alternative."

Base spokesmen say final plans for the project have not been determined.

The alternative they seem to support would threaten water quality on Topsail Island and in

SEE BASE/2B

BASE/FROM 1B

surrounding areas, residents and officials say. New River runs around the north end of Topsail Island and into the Atlantic Ocean.

The meeting, despite the message, was well-received by officials, though.

"They did do it really, really well. I have nothing but really good things to say," Shepard said.

Stella Tripp, mayor pro-tem of North Topsail Beach, also was content with the meeting's outcome.

"I felt very comfortable and relaxed," Tripp said. "I was just very pleased with the entire meeting. I think it enlightened me to some degree."

After the informational session, officials toured the base's current facility.

"I was very proud we have a military base with that technology," Tripp said. "I was real proud."

PUBLICATION THE DAILY NEWS DATE 23 OCT 1992
CITY JACKSONVILLE, NC PAGE 1B

Last troops leaving after helping in Andrew cleanup

The largest-ever military operation in peacetime ends

BY JON MARCUS
ASSOCIATED PRESS

HOMESTEAD, Fla. — The Marines retreated Wednesday from their south Florida encampment, effectively ending the largest-ever peacetime military operation: the cleanup after Hurricane Andrew.

"We helped out a lot of people, but our job's done and it's time for people to do for themselves," said Lance Cpl. Mark Wiseman. "They've got a lot of work ahead of them."

Three remaining tent cities house about 2,000 homeless people. Private companies have taken over providing meals, the last job left for the Marines.

More than 23,000 federal troops and 6,400 National Guardsmen were sent to help after the hurricane Aug. 24.

The 2nd Marine Expeditionary Force was among the first units to arrive and virtually the last to leave. The troops were scheduled to stay overnight at Homestead Air Force Base and fly to Camp LeJeune, N.C., Thursday.

The same unit responded to Hurricane Hugo in Charleston, N.C.

"You take things back with you that you never forget: the faces, the destruction, the importance of being protected, the good feeling of being able to help," said N. Christopher Stice, a chaplain's assistant.

"Everywhere we went, people shook our hands."

The last Marines rode to the base past homemade banners thanking them. "I don't know what we would have done without them coming here," said Florence Quinn.

But some residents voiced apprehension.

"I'm glad they'll get back with their families," said Sally Rubio, who still lives with her children in a tent city. "But once they leave, people might want to take advantage of the situation and take whatever little we have left. People here are already talking about arming themselves."

Homestead's main tent city, on a busy highway, is to be dismantled by week's end, according to the Federal Emergency Management Agency. Its last 730 residents are to be moved to mobile homes or other tents.

"We want to show the visible return to normalcy," said Lynne Keating, a FEMA spokeswoman.

Andrew killed 55 people in Florida, Louisiana and the Bahamas and did $20 billion damage in Florida alone.

Wiseman said he planned to take a trip back to Homestead next time he has leave, to visit with a family he met here.

"It was a community. We were a neighborhood here," said Capt. Cathy Engels.

PUBLICATION Daily News PAGE 3A

CITY STATE Jacksonville N.C. DATE 15 October 1992

Base officials set waste meeting

Lejeune to answer civic questions

BY WILLIAM L. HOLMES
DAILY NEWS STAFF

Camp Lejeune officials will brief area leaders about the base's wastewater facilities Oct. 22.

"We felt it was only proper to let them know what options are being considered," said Maj. Jay Farrar of the Camp Lejeune Joint Public Affairs Office. "It actually didn't have anything to do with their resolutions (against the dumping).

"We want to make sure local officials know where we stand so they can communicate that to their constituents. One of our big goals is to make sure everyone is informed."

The three towns on Topsail Island and the Southeastern North Carolina Waterman's Association have issued resolutions opposing a proposed treatment plan that would dump waste into the New River, which runs around the north end of Topsail Island into the Atlantic Ocean. The plan is similar to one the base already uses, according to Farrar.

Final plans for the new facility have not been determined, Farrar said.

"I know that a local misconception is that all plans are locked in. That's not the case," Charlie Hedgepeth, North Topsail Beach town manager, said.

The state granted an exemption for the base to exceed its wastewater dumping limit while it is considering its new system.

Town managers and mayors from North Topsail Beach, Surf City and Topsail Island have been invited to the tour, as well

SEE WASTE/2B

■ WASTE/FROM 1B

as community leaders from Sneads Ferry. City and county officials have also been invited, according to Farrar.

The briefing and tour is closed to the press and public, Farrar said, so officials can speak freely without the worry of a public forum.

Hedgepeth said, "In all fairness to the Marine Corps, they're seeking the opportunity to present their side."

"All of us intend to oppose anybody going back to the river with their wastewater when there's other alternatives" said Melvin Shepard, president of the SENCWA.

PUBLICATION Daily News PAGE 1B
CITY, STATE Jacksonville, N.C. DATE 14Oct. 1992

Noise is viewed as disturbance, freedom sound

Coastal leaders hold meetings to air concerns

BY BETH MARTIN
DAILY NEWS STAFF

The screeching rumble of an aircraft ripping through the sky or the thunderous boom of shelling on the ground can disrupt a peaceful day or night in parts of Carteret and Onslow counties.

"It's deafening, especially when the Harrier flies," said Cape Carteret resident Linda Gorman. "It's very loud."

Ms. Gorman has borrowed a noise meter to record levels near Bogue. She said her readings have surpassed those quoted by military officials.

But officials from Cherry Point air station and Camp Lejeune say every effort is made to keep training noise down and the public notified.

Military and civilian leaders from Swansboro, Cape Carteret and Emerald Isle met this month in Swansboro to discuss public concerns. Another meeting may be held in November in Cape Carteret.

At Cherry Point, an average of 20-to-25 complaints are logged per month.

"We get complaints on the hotline number on aircraft all the way over to Tennessee," according to a statement issued by the Cherry Point public affairs office.

ASSOCIATED PRESS

Noise: Area officials say they get few complaints about aircraft sound

Camp Lejeune averages about two complaints per month. About two thirds of all complaints are about noise from artillery blasts. Other complaints are about vibrations, said Maj. Jay Farrar, a base spokesman.

"We're sensitive to noise and our neighbors, but the reality is we have to train," Farrar said. "We will work with our neighbors

SEE **NOISE/2A**

PUBLICATION Daily News PAGE 1A

CITY, STATE Jacksonville, N.C. DATE 27Sept92

NOISE/FROM 1A

to ensure a happy medium — where we can train to the level needed to stay proficient and try to minimize the disturbance."

Cherry Point officials say that flying over towns is unavoidable in high-population areas but that all possible consideration is given to minimizing noise levels.

"Training is required if we are to maintain the combat readiness shown to be so vital during the Gulf War. That training is conducted locally for a fraction of what it would cost taxpayers to conduct it further away," according to a statement from the base.

At bases, training schedules vary and are altered or suspended in inclement weather. Advance flight schedules for Cherry Point and Bogue are publicized by the local media.

Farrar said all artillery shelling at Camp Lejeune is confined to a central impact area on base. The impact area is buffered and distant from the base's outer boundary.

"The problem is with blast focus. Blast focus is the boom created from the muzzle of the gun. Range varies and can be lesser or greater, depending on weather conditions," Farrar said. "Sound travels quicker in dense atmosphere."

Shelling schedules at Camp Lejeune have changed over the last decade. "We're doing more night firing now than we did in the mid to late 70s," he said. "The way we do war has changed. We train to fight at night because that's when we have the advantage."

Night training paid off in Desert Storm when Marines were able to surprise Iraqi troops, he said.

But fewer airplanes are being flown in the now than in the 1980s because of a shrinking budget and other associated reasons.

For a long time Carteret County residents have objected to low-level flights, especially those over schools and neighborhoods. Flight noise scares children, jars houses and can interfere with waterfowl populations.

For the most part, the lowest altitude for flyovers is 2,000 feet, unless in the landing pattern at Bogue field. The 2nd Marine Aircraft Wing flies no lower than 500 feet above ground level.

"All our flights are governed by the Federal Aviation Administration; and all meet FAA guidelines," Farrar said. "Every attempt is made to fly over unpopulated areas, but there are very few areas that are void of homes."

Swansboro Town Administrator Bill Price said the military is willing to try and rearrange training schedules when towns hold public events.

During Ocean Venture '92, aircraft was rerouted to keep flights from disturbing Emerald Isle's beach music festival, according to the Cherry Point's Joint Public Affairs Office.

Residents who want to complain about noise problems can call Cherry Point at 1-800-468-4005 and Camp Lejeune at 1-919-451-5655 or 451-5782. They should note the time, location, direction and estimated altitude of the flight and the type of aircraft, if possible.

PUBLICATION Daily News PAGE 2A
CITY, STATE Jacksonville, N.C. DATE 27Sept92

DAILY NEWS/ROB HAMMONDS

Moving out: Boats carried Big Sweep volunteers to littered areas along the shore

Big Sweep uncovers surprising mess

Strange garbage picked up

BY BETH MARTIN
DAILY NEWS STAFF

ATLANTIC BEACH — Folks still need to learn lessons about litter's harmful affects on the environment based on Big Sweep finds in Onslow and Carteret Counties.

Eight hundred and seventy-five volunteers picked up 1,144 bags of trash along 45 miles of shoreline in Onslow County, said Clean County Coordinator Sarah Humphries.

About 700 to 800 volunteers gathered between 10 and 15 tons of trash Saturday from 22 Carteret zones, said Carteret Clean County Executive Director Diane Warrender.

Big Sweep '92 is North Carolina's sixth annual beach cleanup, Warrender said. Each year, she and Mrs. Humphries agreed, there is less trash for volunteers to pick up. Still, what they find is startling.

"I think the families are becoming more aware that they have to take trash back with them," Mrs. Warrender said. "The people not reached are the boating people. The remote islands are still very trashy."

On two islands in Bogue Sound across from Salter Path, volunteers collected 1,307

SEE SWEEP/2C

PUBLICATION The Daily News
CITY, STATE Jacksonville, N.C.
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DATE 20 Sep 92

SWEEP/FROM 1C

pounds of trash, including two average old stoves and one pot belly stove.

Along the beach in Onslow County, 10,507 cigarette butts were found, Mrs. Humphries said. At Jacksonville's Wilson Bay Park dozens of used condoms were discovered and on Camp Lejeune volunteers uncovered underwear.

Deloris Clark was with a Newport Girl Scout troop that cleaned Radio Island in Carteret. "We found a rusty kerosene heater back in the woods. We also found what appeared to be a car grill," she said.

Zone Captain Dan Krautheim said about 30 volunteers along the Beaufort waterfront found two full bottles of bourbon, a Christmas tree and a 5-inch steel pipe about 20 feet long. They also collected 166 food containers, 212 soda bottles and 523 cigarette butts, he said.

In Emerald Isle, "One lady picked up 600 cigarette butts by herself," said Zone Captain Linda Willis said. Even Jones County got involved. Six volunteers from First Citizens Bank picked up trash along two miles of White Oak River. Zone Captain Buddy Mills said they found a color television and a lamp.

Sneads Ferry hosted Onslow's largest number of Big Sweep volunteers with 405. They picked up 1,293 bags of trash. North Topsail Beach came in second with 243 people picking up garbage. Mrs. Humphries said the volunteers' efforts are making a difference.

PUBLICATION The Daily News PAGE 1/2 C
CITY, STATE Jacksonville, N.C. DATE 20-Sep 92

SURF CITY

Town follows its call against more dumping

Surf City town leaders are following through on their resolution against Camp Lejeune dumping more wastewater into the New River.

Town officials mailed a copy of the resolution to U.S. Sen. Jesse Helms Tuesday, Town Manager David Serrell said. Copies will also be sent to Brig. Gen. Lawrence H. Livingston, general commander of Camp Lejeune, and the head of the N.C. Division of Environmental Management.

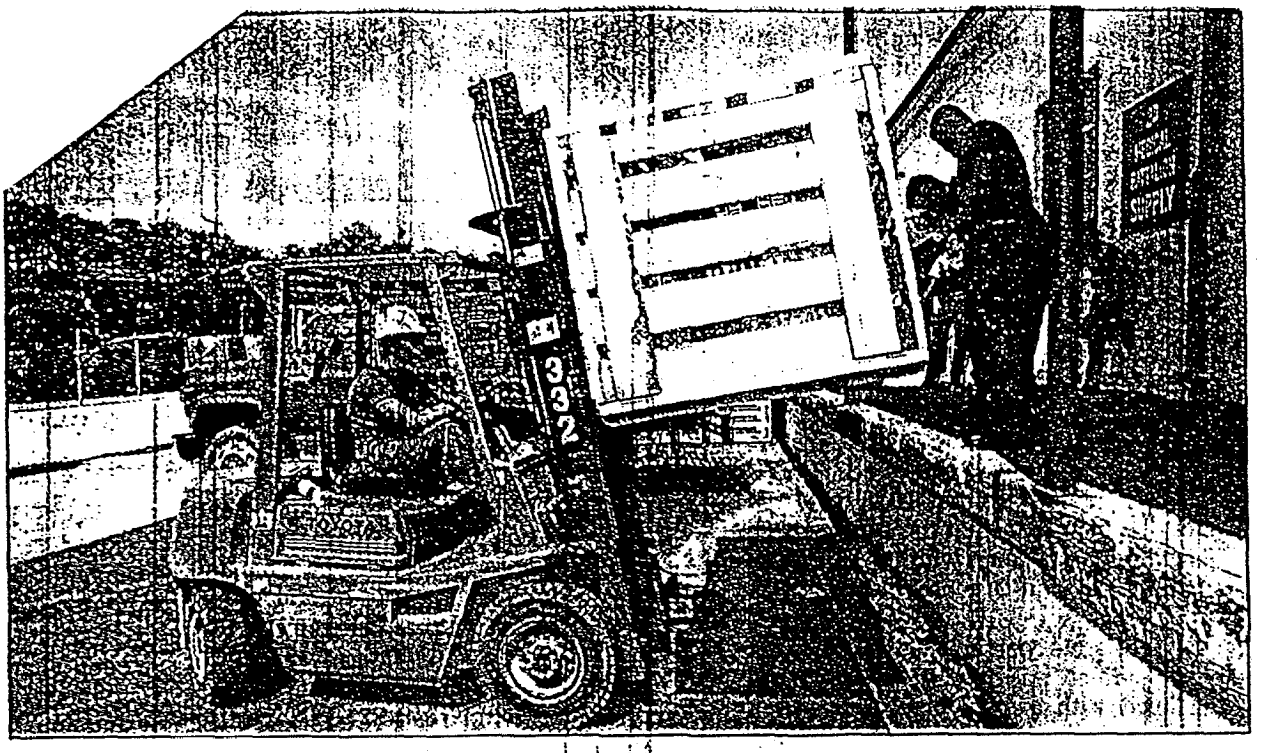
The resolution, passed last week, calls for Camp Lejeune to build a land-based waste treatment unit instead of the proposed unit that would dump into the New River.

The New River runs around the north end of Topsail Island.

Town officials plan to be present at a state environmental impact hearing about the system, also.

PUBLICATION Daily News PAGE 1B

CITY, STATE Jacksonville, North Carolina DATE 11 Sept 92



DAILY NEWS/ROB HAMMONDS

Preparing to deploy: 2nd Medical Battalion personnel get equipment ready to move

Lejeune troops Florida-bound

Advance team to assess needs in the disaster area

BY RICHARD F. SMITH
DAILY NEWS STAFF

Camp Lejeune Marines have gotten the green light for a massive air deployment to aid Florida victims of Hurricane Andrew.

A detachment from 2nd Medical Battalion of Lejeune's 2nd Force Service Support Group was scheduled to leave Cherry Point air station in Havelock at 3 a.m. today. The flight will carry a field medical facility.

A 52-man advance team of leathernecks flew on Friday to hurricane-battered south Florida.

Those leaders are from the 2nd FSSG and a command element of II Marine Expeditionary Force. They were sent to Florida to determine further support needs of tens of thousands of hurricane victims.

Part of the II MEF command element remains at Lejeune to

SEE **MARINES/2A**

PUBLICATION Daily News
CITY, STATE Jacksonville, N.C.
PAGE 1A
DATE 29 AUG 1992

coordinate the deployment.

The Marine advance team left about 3 p.m. Friday on a C-9 jet aircraft out of Cherry Point that was flying to Opa-Locka Airport north of Miami.

"This advance party is going out to check on the feasibility and location of two camps designed to house 2,500 people each," said Gunnery Sgt. Cliff Hill of the Cherry Point Public Affairs Office.

The advance team is part of a force of up to 1,000 Marines that President George Bush ordered to south Florida.

The camps have been approved, said Maj. Jay Farrar, director of the Lejeune Public Affairs Office.

Farrar said preliminary plans call for all the leathernecks to come from Lejeune. The troops are ready to bring medical facilities, food, mobile kitchens, tents and water-purification gear, Farrar said.

"We're going in prepared to establish two 2,500-person camps in close proximity to each other. We're awaiting word now for the exact location," Farrar said at 5 p.m. Friday.

No total of troops to be deployed has been determined. "It's premature for me to give you an exact number," Farrar said.

Troops of the 2nd FSSG to be deployed include 2nd Landing Support Battalion, 8th Engineer Support Battalion and detachments from a truck company, military police, 2nd Supply Battalion and 2nd Maintenance Battalion.

A unit of the 2nd Marine Division will also be flown to Florida. That unit has not been designated, Farrar said.

The overall deployment starts today "until they're on the ground. They'll go as we need them," Farrar said.

He was not sure when the movement will be completed or when the troops will return.

"The initial elements are going out by air. The precise mode of transportation further along is still undetermined," Farrar said.

However, an official familiar with the deployment said he expects most, if not all, troops and material will be moved by air. The remainder of the material would be sent by railroad, if necessary.

The Lejeune units "are capable of providing everything from medical services to food and water-purification type services. Units can put up tents if they need to, water purifiers if they need to, different services that deal with the health and comfort of the people. They've packed up and are prepared to go," said Lejeune spokeswoman Capt. Cathy Engels.

Personnel and aircraft at Cherry Point are also braced for action.

"The entire command is poised to do whatever is necessary. That's why this advance team is going out, to determine what support is needed," Hill said.

"They'll survey the area and see if additional support is needed in addition to the Red Cross and other agencies. After that report is received, the Marine Corps will have a better idea whether more aircraft or support are required in the area."

PUBLICATION Daily News PAGE 1A
CITY, STATE Jacksonville, N.C. DATE 29 AUG 1992

Lejeune discharge endangers environment

To the editor:

I am disheartened at recent reportings that Camp Lejeune has taken steps and may likely be permitted to continue discharge of wastewater into New River in both the near term and future. Daily News articles of Aug. 9 and 15 and the Opinion of Aug. 16 refer.

The planning, true, long-term alternative considerations, and decisions that affected the New River discharge appear convenient and accommodating for the base and state Division of Environmental Management. These actions, though, smell of waste and abuse of the environment. If globally and nationally we're attacking potential environmental disasters and restoring that which has been endangered by mankind, then we're not following suit with the reported Camp Lejeune discharge.

In keeping with this global and national effort and true, local interests, the city of Jacksonville has planned and programmed for a land-application wastewater treatment system. Since the base is considered part of the city and both have common, long-term community interests, it would seem that the base would select a land-application system, too, and maybe tie-in (in whole or part) with the city. Convenience and least cost alternatives should not be overriding when the environment and total community

interests are at stake, e.g., New River ecological system, marine industry, tourism.

With Camp Lejeune's recent acquisition of 39,000 acres for training in the Holly Ridge area, it may be feasible to develop a land-application system in the eastern part of the base where older training areas may no longer be heavily used and where most of the wastewater treatment is required.

As for the ocean outfall alternative apparently still viable, it also is a loser. Mankind has already destroyed and endangered river ecological systems by population growth, development and industrial discharge. I would hope we truly learn from this sad historical record and plan and do things smarter and more wisely and stay away from the oceans.

Marines study military history to be smarter warriors. Seems Marines can do the same to be smarter environmental users. And seems state environmental officials should be smarter environmental safeguarders.

W.C. Blaha
Jacksonville

PUBLICATION Daily News
CITY, STATE Jacksonville, N.C.
PAGE 11A
DATE 26 Aug 92

Base is planning new $75 million wastewater plant

BY ELIZABETH BIRO
DAILY NEWS STAFF

Camp Lejeune officials for now have decided not to take advice from consultants who suggested the base dump its treated wastewater into the Atlantic Ocean.

Instead, military officials are planning a new $75 million wastewater treatment system that would put treated effluent into New River near the mouth, said base spokesman Maj. Jay Farrar.

Proposed is a central treatment plant at Hadnot Point capable of handling 15 million gallons of wastewater per day. The system would be operational by December 31, 1998.

"Ocean outfall is one option

PUBLICATION DAILY NEWS PAGE 1A
.Y, STATE JACKSONVILLE, N.C. DATE 920809

■ WASTEWATER/FROM 1A

that an engineering firm presented as an alternative," Farrar said. "At this time, it is still an option that is being looked at."

Last summer, engineers from Greenhorne & O'Mara Inc. of Raleigh recommended a facility that could treat 15 million gallons of wastewater per day and release the effluent into the Atlantic Ocean. But another option proposed by the firm was discharging effluent into other portions of New River.

An ocean outfall was the firm's "recommended alternative" because increased pollution in the New River has persuaded the state to try to upgrade water quality in the river. As a result, permits to discharge wastewater into the river will be more difficult to obtain in the future, Greenhorne and O'Mara predicted.

Farrar noted the proposed discharge point is not far from the ocean and it probably would not cost much more to discharge into the ocean. But he could not provide cost differences.

Until the new system is built base officials want permission from the state to transfer 1 million gallons a day of effluent from six wastewater treatment plants to the existing Hadnot Point plant. Five of the plants discharge into New River. The other discharges into the Intracoastal Waterway near Onslow Beach.

The Hadnot Point plant then would discharge 9 million gallons of wastewater per day into New River, the same amount the base now emits from all seven of its plants, said Debbie Crane, a spokesman for the N.C. Division of Environmental Management.

The plants that would transfer wastes to Hadnot Point are old and unable to meet new, stricter state standards on wastewater discharges, Farrar said. Waste from those plants would continue to be transferred to Hadnot Point under the new system.

The division plans to grant the base's request unless additional information is provided giving the agency cause to reconsider, Ms. Crane said. Public comments on the request are being accepted until Aug. 15. As of Friday no comments had been received, Ms. Crane said.

The director of the Division of Environmental Management may schedule a public hearing on the request if he finds a significant amount of citizen interest in the base's request, she added.

A copy of the base's request is available at the Division of Environmental Management on 127 Cardinal Drive in Wilmington. Written comments on the proposal should be mailed to Water Quality Section Chief, P.O. Box 29535, Raleigh, N.C. 27626-0535.

PUBLICATION DAILY NEWS PAGE 2A
, STATE JACKSONVILLE, N.C. DATE 920809

Don't ignore damage by government plants

Environmentalists spend much time and energy harping about the damage developers and other private interests are doing to the environment. Usually they are appealing for government to intervene and bring a halt to the pollution.

The fact remains, however, that government is an environmental villain of great magnitude. Much of the pollution endangering our sensitive waters, for example, can be traced to government-operated sewage plants.

Operators of small private facilities are the targets of costly regulation and considerable public criticism. But the damage they do often pales in comparison with the adverse environmental impact of huge government sewage plants.

Right in our own backyards, wastewater treatment facilities for both Camp Lejeune and Jacksonville would not be able to operate without special exemptions from state water-quality regulations.

The city operates its overburdened Wilson Bay wastewater treatment plant under a consent order from the state Division of Environmental Management. Under the order, the city must have a new waste-water treatment facility on line by July 1, 1995. The city has positioned itself to meet that requirement with a land-application system that was funded by voters in a $20 million sewer-bond referendum back in December.

Meanwhile, Camp Lejeune officials have asked the Division of Environmental Management for permission to increase the amount of pollution its wastewater plants dump into the New River and other area waters. There would be no limits on how much phosphorus and nitrogen the base could emit monthly. A base spokesman says relaxation of the limits is needed because Lejeune's aging wastewater treatment plants simply are unable to meet state requirements.

The state has issued a notification of intent to issue the consent order. The new standards would be in effect until 1999, when completion of a new treatment plant at Hadnot Point is expected.

The consent order is filled with the detailed measurements that are inherent in sewage-discharge regulation. But the bottom line of all those confusing numbers seems to be that the base is being allowed to continue to pollute area waters far in excess of state guidelines for the next six years.

There seems to be cause for considerable concern here, and we hope the situation receives the full attention of the environmentalists. Six years is a long time for that level of pollution. Pressure should be exerted on the federal government to step up funding and planning to resolve the problem.

If the names on the consent orders were those of private operators such as Tommy Pollard and Marlo Bostic instead of the Marine Corps base, one can only imagine the hue and cry that would result.

PUBLICATION Daily News PAGE 2D

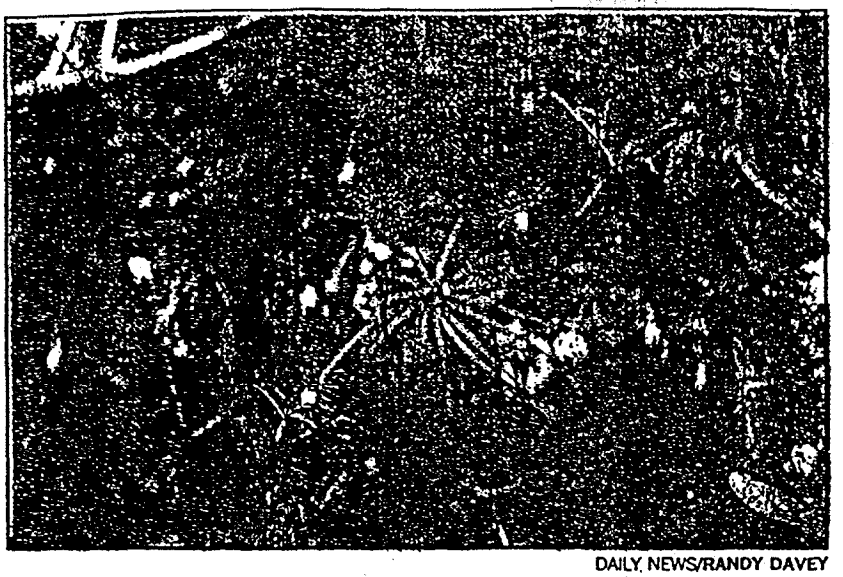
CITY, STATE Jacksonville, N.C DATE 16 AUG 90

DAILY NEWS/RANDY DAVEY

Reflection of the times: Swansboro botanist Richard LeBlond wades through waist-high pond water taking inventory of life

PUBLICATION DAILY NEWS PAGE 1D

CITY, STATE JACKSONVILLE, NC DATE 16 AUG 92



DAILY NEWS/RANDY DAVEY

What should be there ...

At left, one of the rare plants botanists protect in the Croatan National Forest.

DAILY NEWS/RANDY DAVEY

... and what should not

At right, beer cans and tire ruts mar the beauty of Patsy Pond, a special wildlife area in the Croatan National Forest. The longleaf pine/wiregrass community encompasses at least six protected species.

PUBLICATION DAILY NEWS PAGE 1D

CITY, STATE JACKSONVILLE, NC DATE 16 AUG 92

RARE/FROM 1D

there are other recreational uses, such as fishing and bird watching.

"Every time you lose one of these species, our lifestyle changes — every so slightly — but it deg ades our quality of life," Starnes said.

Getting involved

The Croatan National Forest does not restrict areas but restricts uses in protected areas as a means of conservation. Hunting, fishing and bird watching are allowed in some areas with transportation allowed down specific roads or paths.

Forest staff continuously exchange information with the Natural Heritage Program, as well as working with the state Wildlife Resources Commission and other agencies, Starnes said.

At Croatan National Forest and Camp Lejeune, controlled burnings are used to help reduce the chance of wildfire and to improve habitat for plants and animals.

Charles Peterson, Camp Lejeune's Fish and Wildlife Division director, said the Marine Corps has an active natural resources conservation program committed to protecting endangered species and wildlife areas.

Linda Pearsall, director of the North Carolina Natural Heritage Program, said the level of protection for an area depends on many factors, such as the relative rarity of its features and their vulnerability.

The Registry of Natural Heritage Areas is one way to encourage conservation of outstanding natural areas. Landowners and administrators are honored for being good conservationists in the non-binding, non-regulatory program and natural areas are registered voluntarily, the Natural Heritage Program brochure states.

Gifts of land to public agencies or nonprofit preservation organizations also can be made and are tax-deductible, the brochure states.

"I think people who have rare plants or special natural areas would be interested in preserving them. But they make an arrangement for land conversion and they don't know (about their options)," Ms. Pearsall said.

"And that's where I think additional staff could be more helpful."

Ms. Pearsall said the biggest obstacle in the Natural Heritage Program's path is the lack of funding and staff to work with landowners and to educate them about the program and its efforts.

"People can become involved in local land trusts or local conservation group work or can work with biologists or ecologists to help locate areas of interest they may know of," she said.

For more information about the North Carolina Natural Heritage Program, call 1-919-733-4181 or write: The Natural Heritage Program, state Department of Environment, Health and Natural Resources, P.O. Box 27687, Raleigh, 27611-7687.

PUBLICATION DAILY NEWS PAGE 1D

CITY, STATE JACKSONVILLE, NC DATE 16 AUG 92

witchgrass. Red-cockaded woodpeckers, sea turtles, Bachman's sparrows and diamondback terrapins are among the rare animals, he said.

"I was inventorying this one area at Camp Lejeune, and I was captured briefly by a squad of Marines who were training in a savanna," LeBlond said.

"Even though they were all disguised as shrubs, I correctly identified THEIR species."

LeBlond said the rarest species he has seen in Onslow and Carteret counties is the Hirst's witchgrass — formerly known only to grow at one site in Delaware, two sites in New Jersey and two sites in Georgia.

"It's about 3 feet high, slender and inconspicuous individually. It's usually found in wet meadows or cypress savanna," he said.

In the Croatan National Forest, there are at least 50 rare plants. Ten of them are listed as federally endangered species or are candidates for listing. There are at least four rare animals. These include many of the same species registered at Camp Lejeune.

Protected habitats

The forest also recognizes habitats slated for protection because of their limited distribution, said Warren Starnes. Starnes is a wildlife biologist for the Croatan and the Uwharrie national forests.

One special area, called Patsy Pond, is at the southern end of the forest in Carteret County. The area includes at least 80 species of plants. Six of the species are listed in a protected category, he said.

"Patsy Pond is surrounded by a longleaf pine/wiregrass community that used to be very extensive in the world and now is getting rarer and rarer in its natural state because it's controlled by fire," Starnes said. The community is fire dependent and many of the species, including longleaf pine and wiregrass, successfully fruit only after fire.

Equipped for the job

LeBlond approaches the task of an inventory with the preparation of a Boy Scout and the tenacity of any other scientist.

He equips himself for field

PUBLICATION DAILY NEWS PAGE 1D
CITY, STATE JACKSONVILLE, NC DATE 16 AUG 92

RARE AND WILD

Protecting nature from man

BY BETH MARTIN
DAILY NEWS STAFF

Swansboro botanist Richard LeBlond waded through waist-high pond water taking inventory of plants in the Croatan National Forest. He ended up taking inventory of his blessings when he discovered a cottonmouth moccasin.

"The time I realized there was a cottonmouth in the pond, I was eight feet away. When you're looking down the mouth of a very dangerous snake, eight feet doesn't make you feel safe," LeBlond said.

The snake thrashed about in the water to alert the human that he was in animal territory.

"It opened every gland in my body, but it was very kind to warn me," LeBlond said. "It lay in the water, and I was able to make a semicircle around it. It did not advance ... I've not been bitten by anything above the level of bugs — chiggers, ticks, deer flies and mosquitoes."

Unlike the cottonmouth, rare species of plants and animals often cannot warn people who threaten their existence.

People who lack the awareness and understanding of the biological significance of natural areas, such as ponds, often destroy those precious places without knowing it.

Living laboratories

Natural areas are living laboratories where plants and animals can be studied in their own environment. They are havens for a multitude of species, some of which cannot survive outside that specific habitat, according to a brochure distributed by the North Carolina Natural Heritage Program.

The North Carolina Natural Heritage Program tries to identify significant natural areas so action can be taken to protect them from destruction. Identification is accomplished through intensive statewide inventory, the brochure states.

LeBlond has inventoried natural areas within the Croatan National Forest and Camp Lejeune. He is taking inventory of the Great Sandy Run area at Camp Lejeune and areas within Marine Corps Air Station, Cherry Point.

"In an inventory, I identify rare species — how many there are, what conditions they're in and threats to the habitat. And I make species management recommendations," LeBlond said. "Identification of individual species is very gratifying. It's like a good detective novel for me."

Endangered species

At Camp Lejeune, there are at least 55 rare plants, 13 of which are — or are candidates to be — listed as endangered species. There are at least 15 rare animals at the base. Species can either be listed by federal agencies as endangered species or candidates to be endangered species. A separate category lists species that are rare in that state, he said.

PUBLICATION DAILY NEWS PAGE 1D
CITY, STATE JACKSONVILLE, NC DATE 16 AUG 92

Base waste permit raising concerns of environmentalists

BY ELIZABETH BIRO
DAILY NEWS STAFF

Environmentalists are concerned about a special state permit that would loosen restrictions on wastewater Camp Lejeune dumps into New River.

Base officials have asked the N.C. Division of Environmental Management for permission to release wastewater that is more polluted than what Lejeune now discharges from its seven treatment plants.

There would be no limits on how much phosphorus and nitrogen the base could emit monthly. Lejeune also would be able to discharge more organic wastes.

SEE WASTE/2A

WASTE/FROM 1A

As those wastes decay they use up oxygen vital to aquatic life, said Doug Rader, senior scientist with the N.C. Environmental Defense Fund.

"This could be a lot of serious pollution for a lot of years," Rader said.

Less stringent limits on effluent are being sought by the military because Lejeune's wastewater treatment plants are old and can not meet state standards, said base spokesman Maj. Jay Farrar.

The relaxed limits would be in effect until Dec. 31, 1998. By then the base would have constructed a new sewage treatment plant at Hadnot Point that would be able to treat 15 million gallons of wastewater per day. Sewage from the older plants would be transported to the new Hadnot Poin plant.

The plant can not be buil sooner because of the large amount of study and work involved in the project and the time it takes to acquire funds from Congress, Farrar said.

But Radar questioned if that "is a good enough excuse" to allow the base to exceed effluent limits. "There has got to be a more expeditious way to deal with that problem," he said.

The Division of Environmental Management plans to grant the base's request based on information it has received from the base about the installation's sewerage problems and proposed solutions, said Debbie Crane, a spokeswoman for the agency.

PUBLICATION The Daily News PAGE 1A

CITY, STATE Jacksonville, N.C. DATE Aug. 15

River may get base wastewater

Camp Lejeune officials have decided not to take advice from consultants who suggested the base dump its treated wastewater into the Atlantic Ocean.

Instead, military officials are planning a new $75 million wastewater treatment system that would put treated waste water into New River near the mouth, base spokesman Maj. Jay Farrar says.

A central treatment plant at Hadnot Point capable of handling 15 million gallons of wastewater per day, has been proposed. The system would be operational by Dec. 31, 1998.

Last summer, engineers from Greenhorne & O'Mara Inc. of Raleigh recommended a facility that could release wastewater into the Atlantic Ocean and another option to discharge into other portions of New River.

The Hadnot Point plant then would discharge 9 million gallons of wastewater per day into New River, the same amount the base now emits from all seven of its plants, said Debbie Crane, a spokesman for the N.C. Division of Environmental Management.

PUBLICATION THE MORNING STAR PAGE 2B

CITY, STATE WILMINGTON, NC DATE 11 AUG 1992

LETTERS TO THE EDITOR

All-America status is based on a lie

To the editor:

Jacksonville, All-America City — ha! It's a joke, right?

I observe the contrary. Jacksonville refers to blacks as "stupid niggers"; visitors remain unwelcomed; and the military are dissuaded from becoming voters so they may overturn a stagnant, self-serving city government.

Here, a woman is held in low regard whether she is wife and mother; business woman; or one exploited by pornography, prostitution or sex symbolism. The latter is a major concern to residents — and nothing is ever done to stop the spread. It's out of control.

Adult entertainment is not a sex issue. I know of no one who opposes sex. This is an attitude issue, involving exploitation of women and men for money. The backward concede that adult relaxation parlors comfort and relieve men who otherwise rape. This is myth. Incest, rape and sexual violence are more prevalent in Jacksonville than in pornography-free cities. This is fact.

We the people must reclaim control over the issues and over those who conveniently hide behind their "constitutional rights" and otherwise disregard the Constitution of our beloved United States. These "rights" bellowers placate themselves by complying with vague laws. If what goes on here is lawful, we better change the laws!

Let's look at the losing video of Jacksonville — an expose of topless bars, adult entertainment, movie mates, adult relaxation houses, massage parlors and prostitutes working the streets by the Sheriff's Department. Visualize the shoddy roadwork, rip-off businesses and small industry. This All-America City is home of extreme illiteracy, backward thinking, high unemployment, corruption and major drug fronts. These are problems Jacksonville has never "nipped in the bud."

I refuse to accept Jacksonville as All-America. It's a lie.

Lee Stanford
Jacksonville

CAMP LEJEUNE

Base is honored for conservation

Marine Corps Base at Camp Lejeune has been selected to receive the Secretary of the Navy's Natural Resources Conservation Award for installations for 1991.

The award is given every three years. It covers 1989, 1990 and 1991, according to the Lejeune Public Affairs Office.

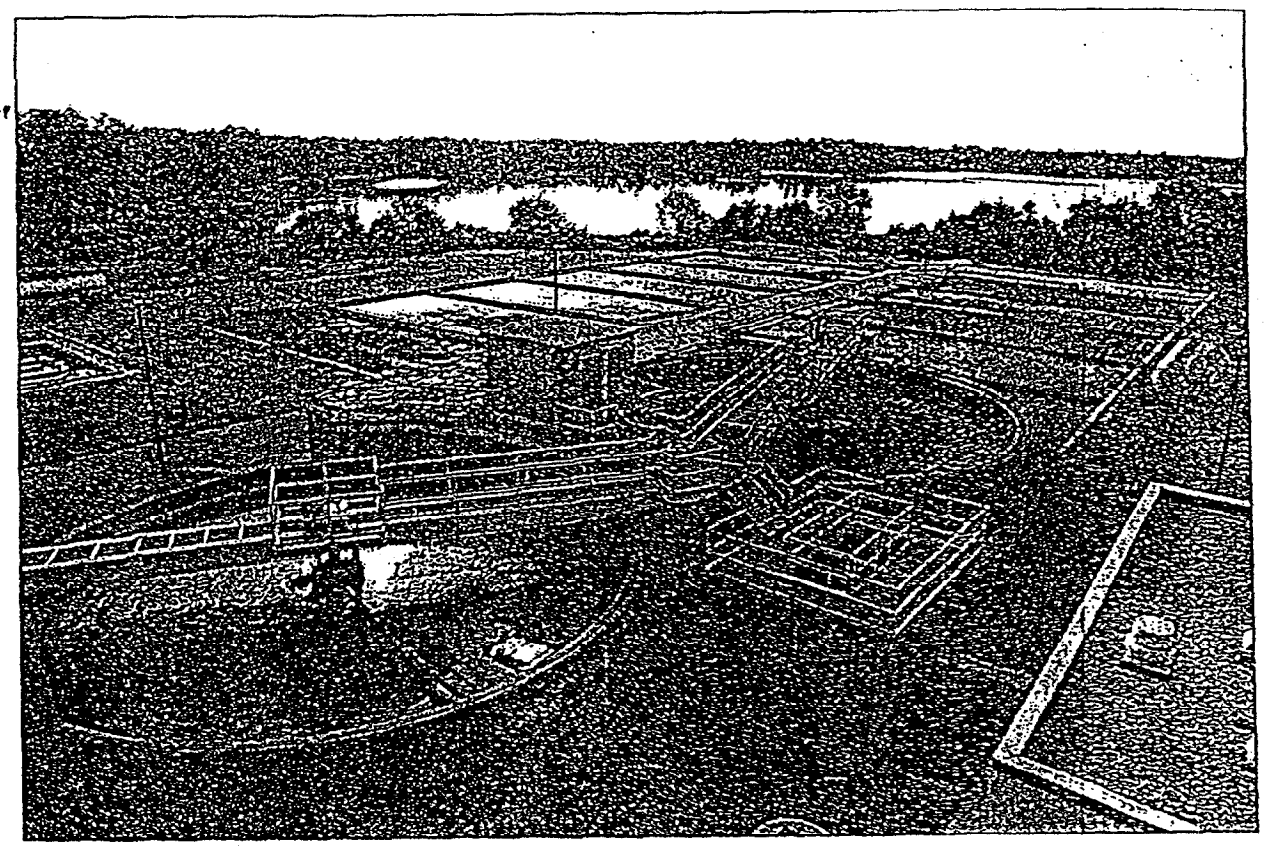
As a result of the selection, Lejeune will represent Marine Corps installations in the Secretary of Defense competition on June 17 in Washington, D.C.

Lejeune has had professional natural-resources management since 1946. The program includes protection of threatened or endangered plants and animals and soil and water conservation.

ION The Daily News PAGE 1C

ATE Jacksonville, N.C. DATE 920606

City awaits voters' decision on sewer bond referendum



DAILY NEWS/RANDY DAVEY

Overtaxed: Land-application system in the Southwest community will replace Jacksonville's Wilson Bay Park sewage-treatment plant

PUBLICATION DAILY NEWS PAGE 1D DATE 1 DEC 91

CITY, STATE JACKSONVILLE, NC

Jacksonville plans to build land application treatment system

BY KAREN FOX
DAILY NEWS STAFF

On Tuesday, Jacksonville voters will go to the polls to decide how the city should pay for a land application wastewater treatment system.

Tuesday's referendum will not determine if land application is the alternative the city should choose.

Land application has already been determined by consulting engineers Malcolm Pirnie Inc. to be the most economical and environmentally smart choice for treating the city's wastewater.

To help Jacksonville voters understand what land application is and how the system will affect the city, The Daily News has asked Jacksonville city officials a series of questions about land application and the bond referendum.

The answers given by city officials reflect a compilation of information from several sources: the city's Water and Sewer Advisory Board; Clean Water Task Force; city Public Utilities, Planning and Finance Department staff; and project consulting engineering firm Malcolm Pirnie Inc.

Following are the questions and the answers supplied by the officials:

How much will the land application system raise sewer user fees? What are current fees? How much will the increase be if revenue bonds must be used?

The city's consulting engineers, Malcolm Pirnie Inc., estimate that user charges for a consumer using 8,000 gallons per month will be $39 per month. The average single family residence in Jacksonville uses about 5,000 gallons per month. At this use rate, the sewer user charge would be approximately $34 per month.

The current sewer user charge for a consumer using 8,000 gallons per month is $16.64.

The above estimates assume the use of general obligation bonds, which can be sold at an interest rate of 7 percent. If revenue bonds are used, the interest rate will be about 8.5 percent.

In that case, the city's consulting engineers estimate the user charge for a consumer using 8,000 gallons per month to be about $2 more, or $41 per month. A "yes" vote on the bond referendum will allow the city to use the lower-interest general obligation bonds.

What is the timetable for construction and operation of the land application once the bond issue is held?

The city's state-mandated special order by consent requires that the city:

- Complete preliminary engineering and system design by Dec. 31, 1992.
- Start construction of the land application system by July 1, 1995.
- Have the facility completely operational so as not to violate environmental quality standards by Jan. 1, 1996.

The city is proceeding on the basis that it will comply with the state's special order.

Where will the land application system be located and what will it look like?

The 6,280-acre land application site is about 8 miles west of Jacksonville between Blue Creek and Catherine Lake roads.

The system will have a series of large lagoons, some with aerators to treat the sewage and some which will look like large ponds to store treated wastewater in the event of inclement weather. The majority of the site will remain a managed forest. Buffer strips at least 100 feet wide containing trees will surround application areas.

Why is the discharge in the New River environmentally undesirable? What pollutants are presently in the discharge? What dangers does this create?

Present discharges add oxygen-consuming materials and nutrients to the river. When the amount of oxygen in river water is lowered, aquatic life is adversely affected. The nutrients nitrogen and phosphorus are present in wastewater discharges. These fertilizing chemicals cause an overabundance of algae in the river. When present in sufficient concentration, the algae causes a body of water to cover with green slime, fish deaths and other undesirable effects.

Also present is ammonia, a compound containing nitrogen, produced by the bacterial decomposition of sewage.

PUBLICATION DAILY NEWS PAGE 1D DATE 1 DEC 91
CITY, STATE JACKSONVILLE, NC

Ammonia consumes oxygen and can be toxic in high concentrations.

The state contends that high amounts of algae already are present because of the discharges and that oxygen levels in the river are depressed during critical periods. Both result in violations of the state's water quality standards.

Could the city join with Camp Lejeune to build a wastewater treatment facility?

According to base spokesman Maj. Jay Farrar, Camp Lejeune officials have decided not to combine with Jacksonville to build a new wastewater system. The base is working under a special order by consent issued by the state Department of Environmental Management to improve its facilities by 1998.

The base's plan has three phases:

- Consolidate all wastewater treatment at a central Hadnot Point facility.
- Construct new facilities to more than meet state standards.
- Continue discharge into the New River through 1998.

Farrar said that ocean outfall discharge remains a distant option for the base.

Based on the growth of the city and the requirements of the Marine Corps, the tie-in of sewer between city and base would limit both, Farrar said.

What environmental impact will the land application plan have on the area where it will be located? Will vegetation and wildlife be affected?

Applied wastewater will be treated by physical, chemical and biological actions that occur in the soil and vegetative cover of the site. If the soil and its vegetative cover are allowed to deteriorate, the quality of wastewater treatment will decline and the process will not meet environmental and EPA-required goals.

The overall goal of the process is to improve the site relationship that occurs between the soil and its vegetation, similar to the situation which occurs when fertilizer and water are added to improve agricultural production.

In addition to improved growth of trees, other vegetation on the forest floor important to wildlife habitat will be improved. A greater diversity of plants will likely occur due to the improved nutrient and moisture conditions, and groundwater will meet drinking water standards.

What effect has land application had on economic development and industrial recruitment in other areas where it is used?

Land application systems usually have a positive effect on economic and industrial recruitment. Its backers say land application is cost-effective, provides a high level of wastewater treatment and contains reserve capacity to accept additional wastewater.

In many locations where land application is used, limits have been placed on surface discharge capacities that limit the potential for industrial development. By presenting an alternative to surface discharges, land treatment results in an increased growth potential above other communities that cannot obtain permits for additional discharges to surface waters.

The land application system can be an economic advantage to the surrounding area by enabling development that could not occur without central sewer service.

What happens after 20 years when the land application system has reached its capacity? Is there a possibility of the system reaching its capacity before 20 years?

The system is designed to treat 9 million gallons per day (mgd) of wastewater. That amount of discharge is projected to be generated by the city over the next 20 years. When the discharge reaches that amount, the city either will have to increase the amount of land available for irrigation or find some other method of disposal for the flows in excess of 9 mgd. The system should be able to treat 9 mgd of wastewater indefinitely.

If city growth is faster than is projected by the city's consultants, then the system may reach capacity in less than 20 years. If, on the other hand, growth is slower than projected, then the system will serve adequately for longer than 20 years.

Why will passing a bond referendum allow the city to secure lower interest bonds?

General obligation bonds — which are authorized by a referendum — pledge the full faith and credit of the community to retirement of the debt, meaning that the city's taxing power could be used. While Jacksonville plans to repay the bonds by sewer user charges, the ability to use property taxes makes the likelihood of repayment more attractive to bond buyers; therefore, the rate of interest on the bonds is less.

Revenue bonds can be issued without a vote and must be repaid using system revenues. Revenue bonds therefore are not as attractive to bond buyers and have an interest rate of approximately a 1.5 percentage points higher than general obligation bonds.

PUBLICATION DAILY NEWS PAGE D DATE 1 DEC 9:
CITY, STATE JACKSONVILLE, NC

The city's bond counsel is Poyner and Spruill of Raleigh. This firm advises on and prepares any necessary documentation to assure bond sales are carried out in accordance with state law. The North Carolina Local Government Commission markets all bonds that are sold for North Carolina state or local governments.

If area residents oppose the land application plan, when could that opposition be voiced to affect the city's plans? When a public hearing was conducted concerning the proposed site in February 1990, a few residents expressed concern about odors and effect on property values. Member of the city's Water and Sewer Advisory Board, City Council members and representatives of Camp Lejeune have toured operational land application systems and were to lessen the concerns of ents with favorable reports o. and application systems observed. Other alternatives to land application have been evaluated, but officials say none have been found to be as cost-effective or environmentally safe as land application — the U.S. Environmental Protection Agency's preferred alternative for wastewater treatment.

The city's elected officials and staff have fully addressed the concerns raised about land

SEE BOND/5D

BOND/FROM 1D

application and will continue to listen and respond to all inquiries. City Council meetings have always been available for citizens to express their views.

How would the land application system be able to handle large amounts of water (i.e. rainfall, flooding)? Is it possible the system would overflow or have other problems?

The system will be conservatively designed so that "overflow" or surface runoff will not occur. The wastewater application rate will be based on a "water budget," which takes into account the long-term, maximum regional rainfall. This budget is based on 30 years of records and computer models of the rate of movement of ground water, developed from analysis of the site's soils and geology.

In addition, facilities will be provided for storage of wastewater when there are adverse conditions such as flooding or freezing weather. Additional "contingency area" will be set aside for use when some portions of the site are unavailable due to wet soils, tree harvesting or other management activities.

Will mosquitoes be a problem from water in the lagoons?

The aerated lagoons are stirred constantly by mechanical mixers; therefore, mosquitoes do not breed on the surface. Mosquitoes are not a problem in open water but will thrive in stagnant and backwater areas such as edges of a pond or lagoon where vegetation exists.

The control of vegetation on lagoon slopes, periodic spraying, variation of water level within the storage lagoons and the addition of martin nesting boxes will be used to control mosquitoes. The land application system at Clayton County, Ga., reports that mosquitoes have been satisfactorily controlled there by these methods.

How will wastewater be treated before it is sprayed at the land application site? What health hazards could this present for area residents?

The raw wastewater will be pretreated in aerated lagoons and will be disinfected using chlorine prior to spray irrigation. The potential for spreading harmful virus or bacteria is very low since the wastewater is disinfected, the site is in a relatively remote area and vegetative buffers around the site will be left intact.

PUBLICATION DAILY NEWS PAGE 1D DATE 1 DEC 91

CITY, STATE JACKSONVILLE, NC

Marines: Troops not in waste site

The battalion surgeon determined the Marine was dehydrated and suffering from an upper respiratory infection unrelated to any chemical contamination.

By Jack Murphy
Star-News Correspondent

JACKSONVILLE — A Marine who became ill during a training exercise last month was suffering from a respiratory infection and had not been in a hazardous waste site at Camp Lejeune, base officials said this weekend after a barrage of inquiries.

Capt. Scott Campbell, a base spokesman, said word that a Marine had gotten sick apparently contributed to the concern of family members and contributed to rumors that a platoon of Marines had entered the hazardous waste site on the base.

He said the mother of one of the Marines, who lives in the Chicago area, called a radio station there, which led to some news media inquiries.

Base officials said that about 37 Marines from a platoon in "K" Company, 3rd Battalion, 8th Marines were involved in a training exercise on the night of April 26 until about 5 a.m. April 27, maneuvering through an area at Lejeune's Stone Bay Rifle Range.

The platoon commander moved his troops west toward a creek to avoid a hazardous waste site east of the platoon's position.

Campbell said the platoon followed the creek for about 200 meters, at times wading waist and chest deep, until it could no longer proceed. The platoon retraced its steps to the point it entered the creek and turned northwest to a road, where the Marines were picked up by their unit.

"At the pickup point one Marine complained of fever, headache and general malaise. He was brought in from the field and examined by the battalion surgeon who determined he was dehydrated and suffering from an upper respiratory infection unrelated to any chemical contamination," Campbell said.

Campbell said the platoon never came closer to the site than 700 meters. However, to ease any fears within the unit, all have been examined by naval doctors.

He said results of the complete physicals were all normal and that follow-up blood tests would be taken in 30 days.

PUBLICATION THE MORNING STAR DATE 900515 PAGE 3C

CITY, STATE WILMINGTON, NC

Marines say trek avoided chemical site

Exams failed to show signs of contamination

STAFF REPORT

A Marine Corps spokesman said Friday that 37 troops performing a night training exercise aboard Camp Lejeune on April 27 were not exposed to dangerous chemical pollutants and that physical exams have failed to show any signs of contamination.

According to Maj. Stuart Wagner, director of Joint Public Affairs, members of Kilo Company, 3rd Battalion, 8th Marines came no closer than 700 meters to a site suspected of containing hazardous materials.

One Marine complained of having fever like symptoms, headache and general malaise after the exercise. Following examination by the battalion surgeon, the Marine was diagnosed as suffering from dehydration and an upper respiratory ailment not related to exposure to hazardous chemicals, Wagner said.

"Because all the Marines in the platoon were fully aware of the chemical site, and one of the Marines was subsequently ill, many in the platoon erroneously assumed they had walked through the site," Wagner said.

"Because of an increased anxiety by the Marines in

■ TREK/ FROM 1A

the platoon, all the Marines have since been examined by Naval doctors," he added.

The physicals revealed no signs of chemical exposure, and subsequent treatment would depend on the results of blood tests, which will be available soon, according to the spokesman. Blood samples will also be retaken in thirty days, he said.

Two dump sites at local military bases are suspected of being environmental "hot spots," according to Stephany Del Rey, an environmental specialist hired by the Marine Corps to help clean up hazardous waste sites.

One site is a chemical landfill at a rifle range near Sneads Ferry on Camp Lejeune. According to a 1983 study, records on the site have been lost, but PCBs, pesticides and metals were disposed there from the mid-1950s to about 1976.

Publication The Daily News Page 1A Date May 12, 1990

City Jacksonville, N.C.

CAMP LEJEUNE

Funds received for fuel cleanup

As the result of a fuel oil spill discovered at Camp Geiger on April 18, the Installation Restoration Program will receive $100,000 to conduct a full site assessment to determine remedial actions necessary.

The money will come from emergency Defense Environmental Restoration Account funds of the Department of the Navy.

Field work will begin in about three weeks, according to a release from the Camp Lejeune Joint Public Affairs Office. Monitoring wells will be installed to determine the presence or absence of "selected contaminants in the ground water in the vicinity of suspected old underground diesel tanks at Geiger," according to the release.

In addition to the wells, ground water samples, soil, sediment and surface water samples will be analyzed, according to the release.

A risk assessment and feasibility study will also be prepared to determine the need, if any, for additional cleanup.

PUBLICATION DAILY NEWS PAGE 1-C DATE 29 APR 90

CITY, STATE Jacksonville, NC

Fuel fouls Geiger ditch

JACKSONVILLE — Camp Lejeune planned cleanup operations Thursday at Camp Geiger, where an undetermined amount of fuel was discovered Wednesday in a ditch, a base spokesman said.

Staff Sgt. Rick Lynch said the source of the fuel had not been identified. He said that an initial investigation by the N.C. Division of Environmental Management indicated the fuel could have been dumped and probably is not from the Geiger fuel farm.

He said that an absorbent mat had been placed in the ditch as a precautionary measure and that the incident is being investigated by Lejeune's Environmental Management Division.

NEWSPAPER: The Morning Star DATE: 900420 PAGE: 2C

Base is seeking waste comments

Hazardous material sites involved

BY RICHARD F. SMITH
DAILY NEWS STAFF

Camp Lejeune officials are seeking input from area residents on and off-base for a Community Relations Plan that will address public concern about hazardous waste sites on base.

A total of 48 interviews will be conducted with "a spectrum of individuals — city and county officials, local business people, civic group representatives and environmental groups," said Maj. Stuart Wagner, director of Lejeune's Joint Public Affairs Office.

Wagner said interviews will begin Monday and conclude by the end of the month.

"We want an across-the-board sample of community leaders and those people interested in the process" of cleaning up the sites, Wagner said.

"We'll take the feedback and concerns of the people we've talked to and put those into the Community Relations Plan. It's our way of going out into the community to talk about the problem and how we'll clean it up," the major said.

"We've caused the problem and we're going to clean it up. The community should be able to voice their concerns," Wagner said.

The sites pose no danger to base residents or the water table, he said.

The base has set up an environmental hotline at 451-5100.

Interviews will be conducted by Wagner or 1st Lt. Ken White, also of Joint Public Affairs.

A technical representative from Lejeune's Environmental Management Department will also attend the interviews.

Lejeune was added to the National Priorities List for clean up of hazardous waste on Oct. 4, 1989. That action was taken by the U.S. Environmental Protection Agency.

The listing has made the base eligible for federal funding for

SEE WASTE/2A

PUBLICATION Jacksonville Daily News PAGE 1A DATE 4 Feb. 90

CITY, STATE Jacksonville N.C.

Measures taken to prevent future water contamination

EDITOR'S NOTE: This is the final part in a series about the drinking water in the Camp Lejeune/MCAS New River system, and focuses on the base's future plans and concerns.

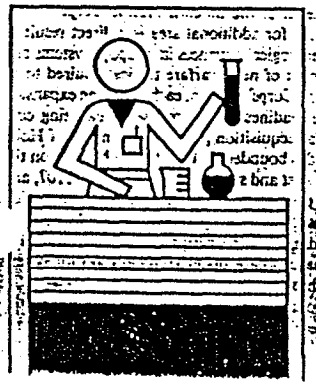
By Cpl. Dave Mundy

As base officials embark on a cleanup of old waste sites that have threatened the water supply, the institution of programs to effectively manage hazardous wastes is slated to prevent future contamination of ground water in the Camp Lejeune/MCAS New River area.

"Most of the problems we are dealing with stem from years ago, when solvents and fuels were used all over the place and routinely dumped," said B. W. Elston, assistant chief of staff, facilities, MCB. "Over the years, it built up. But now we have a very intensive hazardous waste/hazardous material program."

Regular inspections of all sites where hazardous materials and wastes are used or stored is at the heart of the base's management program.

"We inspect units and work sites on a regular basis," Elston said. "Fleet Marine Force, Atlantic and Headquarters, Marine Corps also inspect, plus we are inspected by the state and the federal Environmental Protection Agency. Very few municipalities, I'd say, are inspected as often or as thoroughly as our public works are. Violations are reported promptly and corrected immediately."



The inspections, rules and regulations regarding the handling and storage of hazardous materials all make for a lot of paperwork.

"It is time-consuming and, technologically and logistically, very difficult," Elston admitted. "It's frustrating to everyone involved, because those units have another mission: training their Marines for combat. But it's necessary to ensure that the environment is maintained and public health is protected."

The management goes beyond mere inspections. The base recently sponsored a week-long training program for Marines involved with the handling and storage of hazardous materials and wastes, and included briefings about state and federal regulations and procedures. One session of the course was set aside for unit commanders as well.

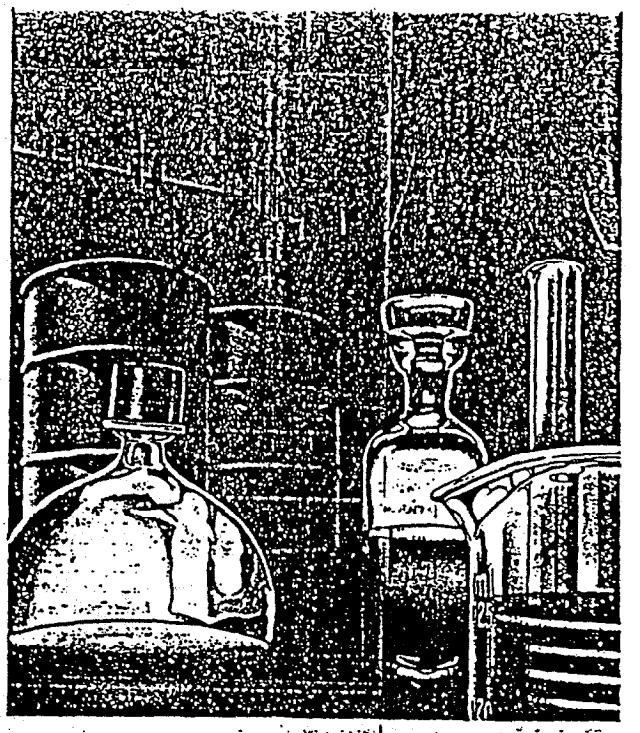
"It's important for unit commanders to be aware of their responsibilities," Elston noted. "They can be held personally responsible for the hazardous waste disposal practices of their units."

Even as the base stands guard against future contamination, the cleanup of old hazardous waste sites will soon begin. The base will soon have a Federal Facilities Agreement to outline the coordination between the base, state and federal agencies in the cleanup effort, which is Phase III of the Installation Restoration Program.

Camp Lejeune is awaiting the release of the EPA's National Priorities Listing, which is that agency's ranking of the nation's most threatening hazardous waste sites. A listing on the NPL will qualify the base for Federal funds in the cleanup effort.

Part of the cleanup process is already underway. In the Hadnot Point Industrial Area, for example, monitoring of wells known to be contaminated is continuing, as well as testing of soil gases and air monitoring in underground workspaces.

In addition to cleaning up the sites where contaminants are known to have



trying to get a step ahead.

"The U. S. Geological Survey is doing a study right now, mapping how contamination might move through the groundwater in our soil," Elston said. "If we know the nature, type and consistency of the soil and how the groundwater moves within it, we can predict where contaminants might move and then take preventive action."

But, whatever the cleanup method used, the process will be lengthy and costly. "Initially, we hope to have funding from DERA," Elston said. "Thereafter, we'll be using our own funds. I don't know how long it will take, but it will be very, very expensive."

"We always take measures to go at least a step beyond what is required by law and to ensure that we do not provide water that is unsafe for those using it. The commanding general will not accept anything less."

B. W. Elston

eliminate mistakes of the past, it remains the concern of Marines aboard Camp Lejeune and MCAS New River to avoid future mishaps.

"The best way to avoid future contamination is to have good housekeeping in maintenance areas," said Elizabeth Betz, base chemist. "If some one is sloppy, it will get into the system.

"We always take measures to go at least a step beyond what is required by law and to ensure that we don't provide water that is unsafe for those using it," Elston said. "The commanding general will not accept anything less."

NOW OPEN

Cam_ Lejeune cleans up(s act

IN ITS PLACE— The Hazardous Waste Compound at 8th Comm. Bn. Motor Transport Shop is as it should be. All of the waste and materials are properly stored and labeled.

Story and photo by
Cpl. C. M. Abercrombie

Camp Lejeune is like any other military base in the United States.

"Camp Lejeune is basically a big city. We use a large quantity of hazardous materials; therefore, we produce a substantial amount of hazardous waste," said Sammy Gwynn, Environmental Control Specialist for Camp Lejeune. The label Hazardous Materials covers a wide variety of substances, from dental resin to trichloroethane."

The Enviornmental Protection Agency conducts annual inspections of Camp Lejeune. Each year, the same discrepancies are found.

"The EPA issues a copy of their findings to this department. Using these records I can pinpoint the areas we most often get hit on," Gwynn said.

Some of the most common problems at this base are paperwork related.

"Training records, manifests and storage labels improperly filled out are the things they usually find," Gwynn said.

Each unit has a Hazardous Materials Disposal Officer, but the responsibility actually lies with the individual Marine.

"If each Marine would adhere to the guidelines we provide for them these problems would be a thing of the past," Gwynn said.

"The handlers are the key," he continued. "If the person on the job site takes the job seriously, it would prevent a lot of headaches later on."

The Marine Corps, along with the Natural Resources and Environmental Affairs Department, have developed several programs to make the hazardous materials and waste program as efficient as possible.

Last year a program was initiated to supply the Marines on the job, as well as their unit leaders, with accurate information on the proper handling and storage of hazardous materials and waste.

"I feel this is the most important step we have made," Gwynn said. "Using the training courses we can give accurate information to everyone from the Private at the ramp to his commanding officer who makes the units policies."

NREAD in coordination with the base fire department have developed a spill response system to cover any emergency.

"The Spill Response Program is crucial," Gwynn said. "Through proper training we can give the firemen at the site the information and equipment to effectively control any hazardous spill we may encounter at Camp Lejeune."

The Oil Waste Program can save the Marine Corps an enormous amount of money. This system of recycling also makes monitoring of oil waste much simpler.

"This program enables us to recycle used oil for three or four cents a gallon. If we had to buy this oil from outside sources it may cost as much as four or five dollars a gallon," Gwynn explained. "With the oil put back into the system to be recycled we know where it is, and the disposal process is eliminated."

Despite all of the progress made here during the past year or two there is still some work to do. As with any education program in the Marine Corps, personnel turnover is still a problem.

"Each unit needs to make sure the knowledge is first obtained, then ensure the information is passed on to the next man," Gwynn stated.

The source to obtain the know how has been supplied. Now it is up to the individual Marine to see the mission is completed and the information passed on to those who relieve him.

Storage lot reopens briefly

CAMP LEJEUNE — The Defense Reutilization and Marketing Office's Lot 203 was reopened Wednesday and will remain open long enough for the office's workers to recover surplus property stored there, base officials said.

The storage lot, off Holcomb Boulevard near Wallace Creek, was closed in March after a number of 55-gallon drums — including one marked "DDT" — were found buried there.

Base officials said the decision to reopen the lot temporarily was based on the results of soil tests showing no shallow contamination exists that could threaten the health or safety of workers at the site.

Following the removal of the stored property, the lot will be closed again to test for subsurface and groundwater contamination.

PUBLICATION NEWS AND OBSERVER PAGE 2 C DATE 1 DEC 89

CITY, STATE RALEIGH, NC

CAMP LEJEUNE

Study allows lot reopening

Findings of a site-safety report on possible health risks to workers at the Defense Reutilization and Marketing Office's Lot 203 have led Camp Lejeune officials to temporarily reopen the lot today because no apparent risk to human health was found.

The decision is based on results from a number of soil-gas tests conducted in February and this month, according to the base Joint Public Affairs Office.

Results indicated no health-threatening soil contamination exists, said Lejeune spokesmen.

Lot 203 is maintained by the DRMO as a site for surplus government property.

It was closed in March when two 55-gallon drums, one labeled DDT, were unearthed while an employee was relocating metal bunk beds.

Base personnel plan to reopen the site long enough to retrieve the surplus property stored there.

The site will again be closed so a full remedial investigation of subsurface and groundwater contamination can be conducted.

ATION DAILY NEWS PAGE 1B DATE 891129

TE Jacksonville, NC

Fuel leak clean up

Base officials are nearing completion on an engineering study report for the clean up of fuel leaks discovered at the Camp Lejeune Bulk Fuel Storage Facility at the Hadnot Point Industrial Area.

This report and subsequent clean up are part of the base's ongoing program to identify, evaluate, control and correct past deficient waster disposal sites and practices involving ground water contamination, associated with the placement of Camp Lejeune on the National Priorities List (NPL).

Monitoring well studies have determined the fuel product to be gasoline, and a preliminary report was made to North Carolina in May.

Previous studies in 1986-87, showing these fuel compounds to be detectable in the groundwater of the Hadnot Point Industrial Area, led the Commanding General to make the decision to close the fuel farm on June 12. By early 1989, the fuel farm operation should be replaced by an interim fuel operation in the Industrial Area.

The clean up is expected to begin following final design of a fuel recovery system.

Base officials will continue to monitor all ground water wells for possible contamination. The drinking water at Camp Lejeune is continually tested with the base meeting all treatment standards required by the EPA.

Wells and disposal sites do not pose health hazards to people living or working on or near the base as long as they drink water from approved sources. People should not drink water out of streams or from unchecked wells on the base.

There is no danger of any contamination in the drinking water on or off base, and all contaminated ground water wells have been sealed.

Camp Lejeune has set up a 24-hour phone line for people with questions or comments about the sites. The number is 451-5100.

LOCATION The GLOBE PAGE 3A DATE 27 Oct 89

STATE CAMP LEJEUNE, NC

Lejeune waste sites placed on federal list

Hadnot fuel farm spill is first to be cleaned up

BY RICHARD F. SMITH
DAILY NEWS STAFF

Camp Lejeune has been placed on the federal National Priorities List for identification and cleanup of hazardous-waste sites.

The list is used by the U.S. Environmental Protection Agency to deal with old-waste sites on federal land under the Comprehensive Environmental Response, Compensation and Liability Act of 1980, usually called the Superfund.

Installations are ranked on the list by the Harzard Ranking System, which assigns values relating to the risk of movement of contaminants through ground water, surface water and air, according to the Lejeune Joint Public Affairs Office.

Studies at Lejeune during 1982 revealed 76 separate sites for past hazardous waste management operations.

Of those, 26 sites warranted more study because they represented a potential threat to health and the environment.

A follow-up probe of these sites in 1984 resulted in the closure of eight drinking wells in the Hadnot Point Industrial Area because of verified contamination from fuel compounds.

Two wells were closed in base housing in Tarawa Terrace because of pollution from an off-base dry cleaner. Other sites are still in the preliminary stages of investigation.

Base spokesmen say there is no immediate health threat from the sites, but base officials instituted safety measures during 1988 to detect any movement of pollutants from the most severely affected sections.

For more information on the program or Lejeune's listing on the NPL, call the NPL hotline at 451-5100.

The Hadnot Point fuel farm will be the first area on base to be cleaned up under a new agreement with federal officials.

PUBLICATION Daily News DATE 23 Oct 89 PAGE 1 B

CITY, STATE Jacksonville, NC

Dump cleanups dragging as EPA adds Lejeune, other sites to list

STAFF AND WIRE REPORT

WASHINGTON, D.C. — The federal government is losing ground in its program to clean up the nation's most dangerous hazardous waste dumps.

In eight years, cleanup work has been completed on only about three dozen sites, and on Thursday the Environmental Protection Agency added 93 new properties in 32 states — including Camp Lejeune and four other sites in North Carolina — that need to be cleared of hazardous waste and debris.

Camp Lejeune and EPA officials recently reached agreement on a cleanup plan, with the Hadnot Point fuel farm set to be the first site addressed. The construction phase is scheduled to begin in January 1990.

The additional sites bring to 1,194 the waste dumps scheduled to be decontaminated under the Superfund program, which is aimed at dealing with the nation's most hazardous waste problems. EPA officials have said the program likely will cost tens of billions of dollars and take decades.

Other North Carolina sites added to the list are Benfield Industries, Inc., Hazelwood; Geigy Chemical Corp., Aberdeen; JFD Electronics-Channel Master, Oxford; and National Starch & Chemical Corp., Salisbury.

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HEADQUARTERS FOR
LOCAL SCHOOL DESIGNS
Western Plaza

ATION DAILY NEWS DATE 890929 PAGE 12A

ATE JACKSONVILLE, N.C.

Hadnot fuel farm is first on list of cleanup sites

BY RICHARD F. SMITH
DAILY NEWS STAFF

The Hadnot Point fuel farm will be the first hazardous-waste site at Camp Lejeune to be cleaned up under a new agreement with federal officials, according to a base spokeswoman.

The fuel farm was confirmed as the initial site to be cleaned up during meetings on Sept. 7 and 8 between base officials and U.S. Environmental Protection Agency personnel at EPA regional headquarters in Atlanta.

Lejeune officials attending the meeting were Lt. Col. Joe Wellington and Capt. Steve Hinkle of the Staff Judge Advocate's Office and Stephany Del Re, an environmental specialist at Lejeune.

Base personnel "will clean up the most hazardous sites first, the Hadnot Point fuel farm being the most hazardous," said 1st Lt. Colleen Ryan of the Lejeune Joint Public Affairs Office.

The cleanup effort "is now in the design phase and will enter into the construction phase sometime in January 1990. Further studies will be conducted to define the lower aquifer in the Hadnot Point Industrial Area beginning in October 1989," said a statement from Joint Public Affairs.

"Based upon this characterization, remedial alternatives will be developed to clean up the upper and lower aquifers in the Hadnot Point Industrial Area," said the release.

"It is not technically feasible to estimate completion of the cleanup. The base will be required to treat and monitor the groundwater until EPA/state standards have been met," according to Joint Public Affairs.

Estimated cost of the clean-up will be developed in a feasibility study that will be completed in fiscal year 1990. The U.S. government will pay for the effort to remove the hazardous waste.

Gasoline leaks at the bulk fuel storage facility in Hadnot Point caused the fuel farm tanks to be closed in June 1988.

Monitoring tests confirmed existence of the problem in April 1988. Leaks from an underground tank system were confined to an area two square blocks around the fuel farm.

The spill was contained by the section's natural flat terrain and water-table conditions, according to Joint Public Affairs. The number of gallons spilled was unknown.

Studies of monitoring wells determined the leaking fuel was gasoline and a preliminary report was made in May 1988 to North Carolina environmental officials.

After the leak was discovered, fuel bladders were used instead of tanks.

The study report on the fuel leak was prepared by engineers from the Naval Facilities Engineering Command in Norfolk, Va.

PUBLICATION DAILY NEWS DATE 890916 PAGE 1C
STATE JACKSONVILLE, N.C.

Private group lists 22 worst groundwater pollution sites

By TOM MATHER
Staff Writer

The 22 worst sources of groundwater pollution in North Carolina were listed in a report released Tuesday by a private environmental group.

The report by the Clean Water Fund of North Carolina concludes that state and federal agencies have not done enough to clean up groundwater even though about half of the state's residents get drinking water from wells.

"I don't think groundwater has ever been high on anybody's list," said Joseph T. "Chip" Hughes Jr., a researcher with the environmental group and the author of the report. "That's why we're trying to draw attention to it.

"There is a lot of tracking of the problems and a little monitoring, but very little cleaning up."

Three sites are in Wake County: an abandoned landfill at N.C. State University, Schrader Bellows, a valve-manufacturing plant near U.S. 1 and N.C. 98 in Wake Forest, and a tract owned by Bahlsen Inc., formerly known as Austin Foods Co., in downtown Cary.

The other sites are in 17 counties, and all had pollutants at levels more than 1,000 times higher than allowed, the report said.

"We'd like to see real enforcement happen at all of these contaminated sites," Mr. Hughes said.

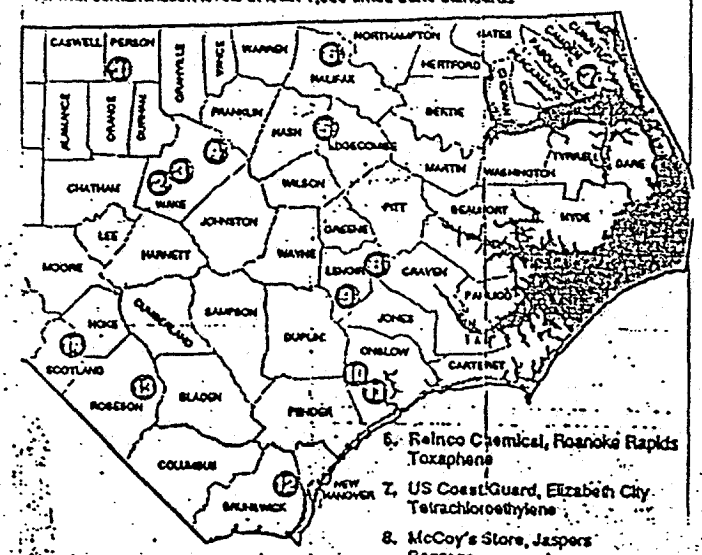
State officials, responding to the report, acknowledged that they had been slow to clean up groundwater but said they had acted quickly to prevent people from drinking contaminated water.

"The report gives the impression that a lot of people continue to drink that contaminated water, and they're not," said Debbie K. Crane, a spokesman for the state Division of Environmental Management.

[illegible] the state identifies prob[illegible] he said, it provides bottled water to affected residents. And, in some cases, nearby cities have extended water lines to areas with polluted wells.

Groundwater contamination in Eastern North Carolina

All with contamination levels at least 1,000 times state standards



1. Otha Day residence, Roxboro
   Benzene
2. Bahlsen Inc., Cary
   1,2 Dichloroethane
3. NCSU, Raleigh
   Benzene
4. Schrader Bellows, Wake Forest
   Trichloroethylene
5. Ilco Unican, Rocky Mount
   Methylene Chloride
   Schlage Lock, Rocky Mount
   Trichloroethylene
6. Reinco Chemical, Roanoke Rapids
   Toxaphene
7. US Coast Guard, Elizabeth City
   Tetrachloroethylene
8. McCoy's Store, Jaspers
   Benzene
9. Borden Chemical, Kinston
   Toxaphene
10. ABC 1 Hour Cleaners, Jacksonville
    Tetrachloroethylene
11. Hadnot Point Tanks, Camp Lejeune
    Benzene
12. Potter's Pits, Maco
    Benzene
13. C. Shipman, St. Pauls
    Benzene
14. Colonial Freight, Laurinburg
    Benzene

Source: Clean Water Fund of N.C.

"Admittedly the cleanup process is slow, but people aren't drinking the water at that point," she said. "We have a lot of people that are on alternative water supplies."

The Clean Water Fund's list was drawn from the study of 84 confirmed groundwater pollution cases ranked as high priorities for government cleanup. The group's report charges the following:

- No cleanup has taken place at any of the 84 sites.
- No fines, penalties or enforcement actions were taken at 59, or 70 percent, of the sites.
- One-third of the pollution sources were hazardous-waste [illegible]
- Drinking water wells are within three miles of 75, or 88 percent, of the sites, and thousands of nearby residents have ingested varying levels of toxic chemicals.

Cleanup measures have been hampered by lack of money, insufficient staffing and difficulties in tracing the sources of pollution, Ms. Crane said.

"You have to find the responsible party in order to do the cleanup," Ms. Crane said. "It's usually not real clear-cut."

Nevertheless, she said, the state's enforcement of groundwater pollution laws should improve in the near future. The state [illegible] adopted stricter ground- [illegible] Page 30

Another state official said cleanups were not necessarily the best way to handle the contamination because of high costs, problems with disposing of the pollutants and other potential problems.

"If the contamination is static, and there is no evidence to suggest that it will move and cause harm to the public health or the environment, it makes sense just to leave it alone," said Stephen T. Reid, spokesman for the state Solid Waste Management Division.

Much of the pollution documented in the report came from landfills, septic tanks, leaking underground storage tanks and hazardous-waste dumps, the Clean Water Fund said.

The NCSU landfill, a 1.5-acre site between Carter-Finley stadium and Interstate 40, contains hazardous and radioactive wastes that were buried in unlined trenches between 1969 and the early 1980s. The pollutants included benzene, a cancer-causing compound found at levels that were 128,000 times the state standard of 1 part per billion.

Dr. Charles W. Welby, an NCSU professor and groundwater expert, said the university had installed more than 30 wells to monitor the landfill. The contamination has spread very little and does not threaten drinking water supplies, streams or lakes, he said.

"The hazard we have out there is really very small," said Dr. Welby, a professor of marine, earth and atmospheric sciences. "This thing is geologically isolated from anything it is likely to impact."

The U.S. Environmental Protection Agency has identified the landfill as a "Superfund" site, meaning that it qualifies for federal cleanup money.

"We aren't to a point yet where EPA has approved a cleanup plan," he said. "Don't ask me why we aren't. When we get to that point, then EPA will say, 'Go clean it up.'"

In 1983, a 70-gallon spill of trichloroethylene, a toxic element, contaminated the Schrader Pollution site in Wake Forest, the report said. Sampling studies of groundwater there have found trichloroethylene levels as high as 34,573 parts per billion — more than 12,000 times the state standard.

Contamination at the Bellaire site in Cary apparently was caused when the agricultural chemical company W.R. Grace owned the site, the report said. Groundwater testing there has found contamination from lead, xylene, dichloroethane and other pollutants — some at levels more than 3,000 times state standards.

City: Raleigh, NC
Pub: News & Observer
Date: Wednesday, 13 Sep 89
Pages: 1C & 2C

Base officials are negotiating waste cleanup

Meeting held with the EPA

BY RICHARD F. SMITH
DAILY NEWS STAFF

Three Camp Lejeune officials were in Atlanta last week to meet with personnel of the U.S. Environmental Protection Agency.

The base and federal workers are in the final stages of negotiating a draft Federal Facilities Agreement that will outline Lejeune's approach to cleanup of old hazardous waste sites on base, according to the Lejeune Joint Public Affairs Office.

The meetings were held at the EPA's regional headquarters.

Attending from Lejeune were Stephany Del Re, an environmental specialist with Marine Corps Base, and Lt. Col. Joe Wellington and Capt. Steve Hinkle of the base Staff Judge Advocate's office.

The FFA will specify the schedule and milestones for removal of 22 past hazardous waste sites aboard the base. The sites were identified in 1983 as part of the Navy's Installation Restoration Program.

Negotiations also involved officials from the state of North Carolina and the Navy.

The resulting document will be released for public comment when negotiations are complete and a final draft is prepared.

Public notification of the document's availability will be made by the EPA.

The EPA will accept comments from the public for a period of 45 days after the announcement of availability.

At the conclusion of the comment

LICATION DAILY NEWS DATE 890911 PAGE 1B
Y, STATE JACKSONVILLE N.C.

period, all parties will review and discuss all comments before finalizing the FFA.

Base administrators are continuing an effort to identify, evaluate, control and correct past deficient waste-disposal sites and practices involving groundwater pollution.

The base and ABC One Hour Cleaners in Jacksonville were among 229 sites nationwide that the EPA has proposed for cleanup of past inadequate waste-disposal areas.

The EPA's Superfund normally finances 90 percent of cleanup costs on civilian land, but federal agencies must use their own money for such efforts on U.S. property.

The cleanup at Lejeune is being funded by the Navy's Defense Environmental Restoration Account.

A chemical used in dry cleaning leaked from a tank behind ABC cleaners at 2127 Lejeune Blvd. during 1985 and contaminated three wells, including two wells at base housing in Tarawa Terrace, according to EPA and Lejeune officials. Those wells are now closed.

Lejeune personnel continue to monitor all groundwater wells for possible pollution. Drinking water at Lejeune is continually analyzed with the water meeting all treatment standards required by the EPA.

Wells and disposal sites do not pose any danger to persons living or working at or near the base as long as they drink water from approved sources. People should not drink water out of streams or from wells that are not monitored.

There is no hazard of pollution in drinking water on or off base. All contaminated groundwater wells have been sealed, according to Lejeune spokesmen.

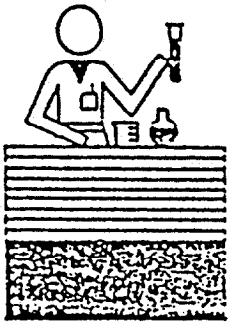
PUBLICATION DAILY NEWS DATE 890911 PAGE 1B

STATE JACKSONVILLE N.C.

Efforts underway to ensure safe drinking water

EDITOR'S NOTE: This is the second in a three-part series about drinking water in the Camp Lejeune/New River system, and examines the base's efforts to provide safe drinking water.

By Cpl. Dave Mundy



The discovery of hazardous waste sites at Camp Lejeune during testing from 1982-84 brought about the immediate closure of eight wells from which drinking water was drawn.

Base officials are exploring ways to clean up the sites and monitoring other existing wells as they wrap up Phase II of the Installation Restoration Program, DoD's program for identifying and cleaning up past hazardous waste storage or dumping sites.

Phase II of the IRP consists of conducting feasability studies at sites located during the 1982-84 tests, determining the cleanup method and continuing testing.

See Water, Page 4A

Water—

Continued from Page 1A

"We're negotiating a Federal Facilities Agreement between the Marine Corps/Navy, the state and the EPA right now," said B.W. Elston, deputy assistant chief of staff, facilities, MCB. The agreement will coordinate how all interested parties will approach the cleanup effort. "With that agreement, we will be on-line to start Phase III, which is developing the technology and actually doing the cleanup."

Closing and moving the fuel farm in the Hadnot Point Industrial Area will be one of the base's top priorities, Elston said.

"Fuel leaks over the years at the fuel farm have resulted in a plume of fuel underneath the farm that threatens our ground water in that area," Elston said. "Closing and moving the fuel farm has been a top priority. We are already taking measures to clean the site up."

The only holdup has been in obtaining funding.

"We plan to close that fuel farm as soon as we can get an alternate or temporary fuel farm on line," Elston added. "We are awaiting urgent construction funds from HQMC to build a new facility."

The Hadnot Point Industrial Area remains the base's biggest environmental concern. Elston said if the area is ranked on the EPA's National Priorities Listing, funds will be made available through the Defense Environmental Restoration Account for the cleanup.

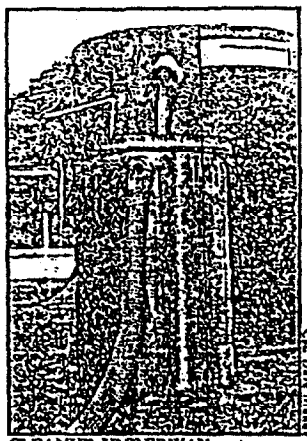
Some corrective action is already being taken at the old gas station in Tarawa Terrace.

"Right now, we have a system operating in Tarawa Terrace, where a pump is taking water from underground and separating contaminants," base Environmental Engineer Elizabeth Betz said. "But it's something that will take a long time to fix."

The housing area and Camp Johnson are now served by a permanent water line from the Hadnot Point treatment facility.

In addition, the base is continuing regular monitoring of the drinking water system.

"New state regulations have come out mandating tests every five years unless a system is classified as 'vulnerable,' in which case testing is done every three years," Betz said. "We generally run tests more often than is required."



CLEANUP UNDERWAY— A pump and filter operate near the commissary in the Tarawa Terrace housing area, separating contaminants from groundwater. The housing area's water is supplied via a permanent line from the main water treatment plant on Holcomb Boulevard.

Results of testing in March indicate the quality of drinking water at Camp Lejeune/New River is well within state and federal standards under the Safe Drinking Water Act of 1983. The check for 36 potential contaminants produced no significant negative findings.

"We met all the limits set forth in the Safe Drinking Water Act," Betz noted. "As a matter of fact, nothing was found above detection levels. The technology we have now can detect up to a half-part per billion, which is pretty minute."

The tests also sought chemicals classified as "unregulated" by the EPA — compounds for which the agency has not yet set acceptable limits.

"They didn't show up within detection parameters either," Betz said.

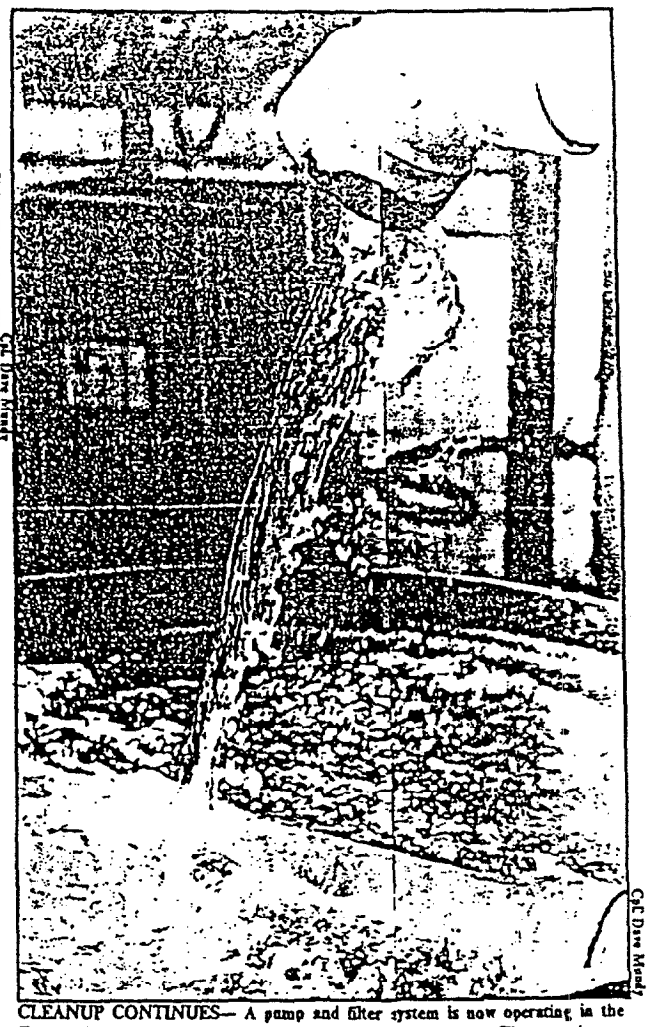
Tests are conducted by both base personnel and outside agencies.

"We do a lot of the bacteria tests on-base, some of them on a weekly basis," Betz said. "For the tests that are required only every few years, we generally contract them out to outside laboratories."

Having identified the trouble spots and taken action to protect the drinking water supply on an immediate basis, base officials are now preparing to start the process of cleaning up contaminated sites that could still threaten the Lejeune/New River water system.

"Part of Phase III is developing the technology to clean up the contaminants," Elston said. "It's not an easy task to get these chemicals out of the soil and water and dispose of them safely. It will be a long, expensive process."

NEXT: Cleanup and prevention of future contamination



CLEANUP CONTINUES— A pump and filter system is now operating in the Tarawa Terrace area to separate contaminants from groundwater. The groundwater was contaminated by chemicals from a dry cleaning business in Jacksonville.

'It's not an easy task to get these chemicals out of the soil and water and dispose of them safely. It will be a long, expensive process.'

B.W. Elston

The corpsman assesses the injuries and goes into action. Only the basics at this point. Stop the bleeding, calm him down and get him to the battalion aid station.

Days later, the wounded Marine is in stable condition and resting on a hospital ship ready to head back home.

It's an important lifesaving process that the wounded go through to get to that point. Alpha Co., 2nd Medical Bn. recently focused on the methods of getting down and get him to the battalion aid station.

for the Collecting and Clearing Co. or field hospital.

When wounded Marines arrive at the field hospital, they are admitted into the shock/surgical triage. The worst casualties are prepared for surgery, while the others have their dressings replaced and their paperwork started.

Everyone at the field hospital has a specific job to do and it must be performed with great skill. Lives depend on it. There can't be hesitation or indecision.

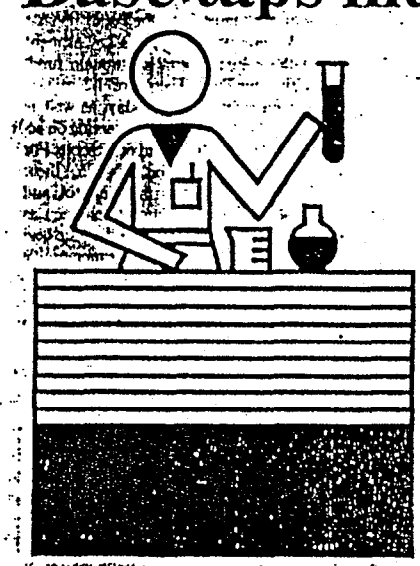
Determination '89 in September. Display Determination '89 is a large-scale combined NATO exercise and is the highlight of the 26th MEU (SOC) deployment.

The Collecting and Clearing Co. is usually located 10 to 15 miles behind the front line. It consists of two operating rooms, two intensive care units, a laboratory and a tent for X-rays. It also has a 60-bed ward, including the ICU.

"This is the first place the wounded can receive blood and surgery. The surgery conducted at this level is often referred to by corpsmen as "life and limb surgery," said HMC G.C. Centenera, acting XO, Alpha Co. "The most important goal being the survival of the patient. Even if it means the loss of a limb."

See Corpsman, Page 15A

Base taps into drinking water concerns



DoD program plans to identify, assess, clean up possible contamination

EDITOR'S NOTE: This is the first in a three-part series about the drinking water in the Camp Lejeune/MCAS New River system. The articles examine past problems that have raised concerns with the water supply.

By Cpl. Dave Mundy

During the past decade, the subject of hazardous waste has become a major environmental issue across the country. Real health dangers have been found at sites where, in years past, the "trash" was routinely dumped, buried or poured out on the ground.

The emergence of these health hazards has added a new burden to government officials at the community, state and national level: to find the sites, clean them up, and keep the contaminants from harming the population and environment.

The hazard most often comes from the contaminants filtering through the soil in which they are dumped and entering the underground water system. In most places in America, wells tapping into that system are what supply the public's drinking water.

The Safe Drinking Water Act of 1983 requires regular testing of water systems for contaminants. Recent tests on Camp Lejeune's six water systems indicated the quality of drinking water at all six sites was well within state and federal standards. In fact, no detection levels were exceeded in the testing for 36 potential contaminants.

But contaminated sites found at Camp Lejeune in 1982-84 remain a source of concern for base officials.

Preliminary testing at 76 sites aboard Camp Lejeune and MCAS New River in 1982-83 pinpointed 22 as warranting further investigation because they represented a potential threat to health and the environment. These included fuel farms, maintenance areas, open-burning pits and storage areas.

Sampling at those 22 sites was conducted in 1984.

See Water, Page 11A

Hazardous waste training held

Story and photos by
Cpl. C.M. Abercrombie

Camp Lejeune is placing the responsibility of protecting its environment on the shoulders of the individual Marine.

Recently, more than 300 Marines were instructed on the proper procedures to follow when dealing with hazardous materials and disposing of hazardous waste. The four-course series of instruction was taught by Phillip G. Coop, vice-president of Tennessee-based Environmental Safety and Designs, Inc.

The course taught Marines, as well as civilian workers on base, the laws and regulations of waste disposal.

"Handling hazardous materials is not a matter to be taken lightly. Under current guidelines set forth by the Environmental Protection Agency, unit commanders and individuals within the unit can be held liable for improper storage, handling and disposal of these materials.

"The laws and guidelines were established to protect our environment. We also want to teach the handlers how to do their job safely," Coop said.

The course consisted of four separate classes.

"To be sure the information is supplied to everyone who needs it, we have to cover a wide spectrum of people, from the private or lance corporal actually handlers who make the policies within the unit," Coop said. "The first two days of the course are mainly for the hazardous material handlers. The third day is refresher training for the Hazardous Material Disposal Officers. The fourth class is for the unit commanders."

Class one is initial training for the Marines who handle and dispose of the waste or materials.

The second class is also for the handlers of hazardous materials and goes into detail on regulations and how to dispose of, label, and store hazardous materials properly.

"These Marines need to know how to work with the materials safely, and to do so in a way the law demands," Coop said.

The third course is a refresher course for those who have already received initial training and covers new laws and regulations, as well as pending legislation.

The final class is the executive session. Commanders and unit leaders are given an overview of the other three classes so they can ensure their units follow the proper guidelines.

THE RIGHT WAY— Cpl. Janis Anderson, H&S Co., 8th Comm. Bn. explains to Lance Cpl. Douglas Manson that the containers must be labeled ...

Cpl. Janis Anderson of 8th Comm. Bn. S-4 attended the first two classes after being appointed the battalion Hazardous Materials NCO. Anderson now has the job of ensuring all hazardous materials from her unit are disposed of correctly and safely.

"The course covered much more material than I expected," Anderson said. "I had to pay very close attention to make sure I didn't miss anything. The classes were informative, but there are a couple of things the Marine Corps and each unit need to address."

One problem we have in the Marine Corps is personnel turnover. Turnover is sometimes so fast, the qualified Marines are gone before new people can be trained. We need more continuous training, and a hazardous materials MOS would be a great idea, according to Coop.

"The Marine Corps seems to be on the right track with the training," Coop said.

"Protecting the environment is everyone's responsibility," he said. "We feel getting the correct information to as many people as possible is a good place to start. Federal regulations serve a purpose. If everyone would follow them, we could make a lot of progress towards improving our environment safely."

Preventive measures

Though there has been no reported cases of contaminated fruits, the Camp Lejeune commissaries have removed certain fruits from their shelves.

All red, white and black grapes, plums, peaches and nectarines were removes Monday, March 13 as a precautionary measure.

Any patron having purchased any of these items from one of the commissaries, prior to Monday, are asked to return them for a refund.

As a preventive measure, the Defense Reutilization Marketing Office at Lot -203 will close until soil samples recently taken can be analyzed to determine whether the lot is safe for employees and contractors working there.

The soil will be tested to ensure there are no harmful contaminants that could be a safety risk to employees and contractors.

LOCATION THE GLOBE PAGE 3A DATE 23 Mar 89

STATE CAMP LEJEUNE, NC

Soil samples examined

The Defense Reutilization Marketing Office at Lot 203 at Camp Lejeune has been closed until further notice, according to the base Joint Public Affairs Office.

The office will remain closed until soil samples taken recently can be analyzed to determine whether the lot is safe for employees and contractors working there.

In January, an employee operating a forklift unearthed two 55-gallon drums of an unknown substance, although one drum was marked "DDT."

The soil will be tested to ensure there are no harmful contaminants present, according to the Public Affairs Office.

PUBLICATION DAILY NEWS PAGE 1B DATE 17 Mar 89

STATE JACKSONVILLE, NORTH CAROLINA

Lot closed; soil tested

JACKSONVILLE — Camp Lejeune officials said Wednesday that Lot 203, operated by the base Defense Reutilization and Marketing Office, has been closed until recent soil samples can be analyzed to determine whether the area is unsafe for employees and contractors working there.

Base officials said Jan. 11 that several 55-gallon drums were discovered buried at the site but that the drums posed no threat to groundwater supplies or to people working at the lot.

A civilian forklift operator inadvertently unearthed two 55-gallon drums Jan. 4 at the lot off Holcomb Boulevard near Wallace Creek. On Jan. 9, cleanup crews found several more barrels including one marked "DDT."

According to base officials the lot is one of a group of old disposal sites targeted for long-term cleanup under a plan developed by the base, state agencies and the federal Environmental Protection Agency.

CATION MORNING STAR PAGE 2-C DATE 16 march 89

STATE WILMINGTON, NORTH CAROLINA

Disposal site found

A civilian employee operating a forklift in a storage lot on Jan. 4 inadvertently unearthed two 55-gallon drums that were apparently buried over a long period of time.

The forklift operator struck one of the buried drums while working in Lot -203 near the intersection of Wallace Creek and Holcomb Boulevard, which is maintained by the Defense Reutilization Marketing Office. When kerosene-like odors were noticed at the scene, the Base Spill Response Team was notified and arrived at the lot to investigate.

Initial investigation pointed to a routine fuel spill and a decision was made to dig up the barrels early this week and the site was cordoned off and covered with plastic.

On Jan. 9, efforts to clean up the site revealed several other barrels, one of which was marked "DDT." DRMO and Natural Resources officials decided to cease digging until sampling of the material could be conducted and a plan of action could be formulated for clean-up.

The area in question has already been identified as one of numerous past disposal sites under the Installation Restoration Program. The Installation Restoration Program initiated a comprehensive investigation of all past disposal sites in 1983 and, beginning this year, is developing a comprehensive plan for its clean-up in cooperation with the state and the EPA.

The base has taken all steps to ensure that the site poses no immediate safety risk to its operators by locating, documenting and removing anything deemed hazardous to continued operation in the area in question. Long-term removal and clean-up will be initiated in accordance with the remedial action plan as established by EPA guidelines.

There is no contamination or threat of contamination to the ground water supply or personnel working in the area.

:ATION THE GLOBE PAGE 3A DATE 19 JAN 89

:E CAMP LEJEUNE, NC

Drums discovered

Several barrels of an unknown substance have been discovered recently at Camp Lejeune, according to the base Joint Public Affairs Office.

A civilian employee operating a forklift on a storage lot Jan. 4 unearthed two 55-gallon drums, a base spokesman said. The drums were found in Lot 203 near the intersection of Wallace Creek and Holcomb Blvd.

Efforts to clean up the site on Monday revealed several other barrels. One of the barrels was marked "DDT," the spokesman said.

A plan to cease digging was made by base officials until a sampling of the materials can be conducted and a plan of action for cleanup can be formulated.

PUBLICATION DAILY NEWS DATE 12 JANUARY 1989 PAGE 1A

CITY, STATE JACKSONVILLE, NORTH CAROLINA

Site of suspected toxic material cleaned up at Lejeune

By Jack Murphy
Star-News Correspondent

CAMP LEJEUNE — Military and civilian specialists are working to clean up an area where several 55-gallon drums of possibly toxic materials were discovered buried. Base officials said Wednesday that the drums posed no threat to groundwater supplies or to people working in the area.

A civilian worker operating a forklift inadvertently unearthed two 55-gallon drums on Jan. 4 at Lot 203, off Holcomb Boulevard near Wallace Creek.

The worker noticed a kerosene-like odor, and the base Spill Response Team was called to the lot. The team cordoned off the area, covered it with plastic and then began digging up the barrels earlier this week.

On Monday, the cleanup workers found several more barrels, including one marked "DDT." Digging was stopped until the base officials and representatives of the N.C. Department of Natural Resources and Community Development could analyze the contents of the barrels and form a cleanup plan.

The lot is operated by the Defense Re-utilization Marketing Office, which disposes of surplus military material.

It is one of a group of old disposal sites on the base that is targeted for long-term cleanup under a plan being developed by the base, state agencies and the federal Environmental Protection Agency.

PUBLICATION: MORNING STAR Page: 3C DATE: 12 Jan. '89

CITY, STATE: WILMINGTON, NORTH CAROLINA

Marines take issue with articles on toxic waste at OC bases

Return with us now to an early summer day, say June 26, when a Register Close-up section focused on chemical contamination at the county's two Marine bases, in El Toro and Tustin.

The stories weren't subtle; and the headlines reflected the heavy hit. Examples: "MILITARY WASTE" (not only in all-capitals but in the color red), "PAST CHEMICAL DUMPING HAUNTS CONTAMINATED MARINE BASES," "Pollution producers: 'No industry can compare.' "

The discouraging words rolled on and on, as is usual in Close-up, but the beginning of a story on the section's first page pretty well summed up the indictment:

"Although the Marine Corps has improved its handling of hazardous materials in the past few years, it still is slow to comply with environmental laws, has refused to pay local fees, contributes substantially to the area's smog and produces more toxic waste than any other source in the county."

That characterization understandably wasn't especially popular with local Marine Corps folks. Shortly after the articles appeared, Maj. Stan Gould, public affairs officer for the 3rd Marine Aircraft Wing and MCAS El Toro, called to challenge some of the story statements. I asked that the objections be put in writing. After some delay, he and Navy Ensign Michael Rehor, environmental director of the Facilities Management Department at El Toro MCAS, delivered responses to statements they considered inaccurate and/or unfair. (I further delayed the matter through one of my vacations, then the involved Metro section people took even more time to file responses to the Marine objections; hence, this extremely tardy report. Finally, the Marines suggested dropping the whole thing because of the time lapse, but I didn't agree since they acknowledged that the challenges remained the same.)

A letter accompanying the Marine list referred to "numerous inaccuracies and misleading inferences [in the stories] concerning the hazardous waste and environmental clean-up situation" at the two Marine bases. It also stated that "The Department of Defense and the Marine Corps have been very open about the environmental and hazardous waste problems at the two air stations and are working very dilligently to correct them."

The stories were written by Register staffer Maria Cone and edited by Jane Bornemeier, assistant Metro editor.

Because of space considerations, not all of the Marines' objections can be included here. I have selected for discussion the ones I feel are the most important.

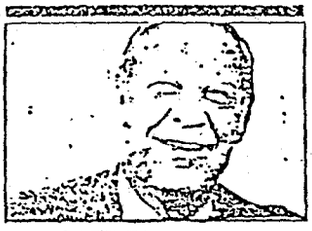
Oh, yes, I must note, in this discussion involving the Marine Corps, that eons ago I was an ID tag-carrying member of that armed service, so it's possible that I might have a contaminated view of the matter at hand. Of course, the Corps obviously didn't consider me one of the few good men, since during one of the wars it left me behind to help guard the endangered bars of Oceanside, and indeed I don't feel like a bridge over its troubled waters, if any, but you might want to keep the long-past connection in mind if you bother to struggle through this.

Let's take a look at part of the Marines' itemized list of objections. To allow all sides a voice in the discussion, several elements must be included for each challenged point. I don't know what confusion can be avoided, but let's proceed in this order of listing: The challenged story statement, the Marines' objection, responses from Ms. Cone and Ms. Bornemeier and comments from the ombudsman, when appropriate or when the desire strikes.

One of the main Close-up stories began: "On wind-swept days 20 years ago, the Marines had an innovative way of controlling dust on a sprawling dirt parking lot at El Toro air station.

"They routinely took an assortment of toxic waste — powerful solvents, used motor oil, transmission fluid, even excess jet fuel — and sprayed it on the ground, soaking the soil and misting the air with pollution.

"Even more recently, for 12 years ending in 1981, the Marines in Tustin disposed of toxic trash by loading large drums on the edge of a truck. As the Marines drove along, they opened the drums and let the raw chemicals flow onto the soil, polluting an area the size of a football field.



PAT RILEY

The Ombudsman

"These are only two of the dozens of environmental horror stories returning to haunt the US Marine Corps air stations in El Toro and Tustin."

The Marines had two objections to this beginning. They said the spraying of solvents, motor oil, etc., was not "innovative," that "Spraying used oil and similar materials was a standard procedure accepted nationwide for many years."

Also according to the Marines, "While the article correctly pointed out past waste-disposal procedures that today are unacceptable, the words 'horror,' 'haunt,' and 'dozens' add to an emotional slant that is not justified. The past practices exist no longer, the cleanup is being planned, and there are no immediate health hazards."

Ms. Cone responded that "Using today's standards, spraying hazardous waste as a method of dust control is considered highly unorthodox, inappropriate, unhealthful and unsafe." We said in the fifth paragraph of the story that the practice once was considered acceptable and legal, and has since stopped at the Marine base. We reiterated that in the 13th and 27th paragraphs. About the "horror," she said, "Environmental officials agree that past practices are horror stories, and they are extremely concerned about health hazards, since three Irvine-area agricultural water wells have been contaminated."

Editor Bornemeier said: "While spraying of toxic waste was not illegal, it was not widely practiced in this country — ever, except by the Marine Corps." And, regarding the "horror stories" usage, she maintained that "The Corps has chosen to quibble with three words out of thousands in this project. Taken in context, I believe the words are justified."

Ombud comment: I don't suppose folks in most areas had access to jet fuel, but the spraying of such materials as used motor oil to keep the dust down was hardly innovative 20 years ago. I guess only those of us who are older remember, and if it was so dangerous I don't see how we lived through it. And horror stories? Well, among the definitions of horror in my dictionary are "shuddering fear and disgust; terror and repugnance." I think the term was a bit exaggerated in the story usage. I don't doubt that environmental officials agree that past practices are horror stories. There are good career reasons for detecting a toxin under every rock or in every fish. But if the officials referred to past situations as horror stories, maybe they should have been quoted. As it was, the Register said it.

■ Story statement: "... the US Environmental Protection Agency believes the contamination at the El Toro base ranks with some of the nation's most infamous toxic hot spots: Love Canal in New York, Times Beach in Missouri, the Stringfellow Acid Pits near Riverside."

Marines: "True only in that MCAS El Toro might share a list of approximately 1,200 sites with these infamous spots. MCAS El Toro is neither abandoned nor poisoning any workers or residents."

Ms. Cone: "The paragraph is correct. The base has been nominated to the Superfund list [EPA's priorities for clean-up] and it is considered just as hazardous as

Please see OMBUDSMAN/11

OMBUDSMAN: Marine Corps responds to Close-up look at toxic waste at 2 OC air stations

FROM 10
those other sites, and more hazardous than some."

Ms. Bornemeier: "I find it interesting the Marines now dispute the comparison with Times Beach and other hazardous sites, when even their own commander, Brig. Gen. David Shuter, said in the story: 'I don't like being compared to the McColl dump or Times Beach, but if that's how we stack up, so be it.' "

Ombud: Terry Wilson, spokesman for the EPA regional office in San Francisco, agreed with Ms. Cone that the statement is correct in that, as he put it, "All [sites on the list] have been indentified as the most hazardous waste sites that need to be cleaned up."

However, Mr. Wilson explained, there is a "hazard ranking system" which, on a point basis, places various sites in one of 16 groups according to the degree of hazard. The ranking system is, at least to me, extremely complicated. EPA scientists look at various criteria, including the danger of specific chemicals, their potential to spread, to contaminate drinking water, etc., then add up the score for group placement. Fifty sites are in Group 1, at the top of the hazard ranking system. Stringfellow is number 32 in that group. Love Canal is number 141 in Group 3. Interestingly, both Times Beach and El Toro MCAS are in Group 8; Times Beach is number 387 in that group, but we don't know where El Toro falls because federal facilities are not numbered, according to Mr. Wilson.

I frankly cannot make much sense of the system. Let me know if you can. Residents were relocated from both the Times Beach and Love Canal areas, though they're in groups 8 and 3. No one has been relocated from Stringfellow (though it is using a new water supply), but it's in the top group.

El Toro isn't actually on the Superfund list yet; it's on the *proposed* list, but Mr. Wilson said it's extremely rare for a site proposed for the regular list not to make it.

An EPA environmental scientist in Washington told me she wouldn't consider the El Toro site as hazardous as the others named in the story. Opinions apparently differ.

■ Story: "A survey of the 6,200 acres of Marine Corps property, performed by military consultants, shows few areas at the air station are untainted by chemicals."

Marines: "Even if all suspected areas, that the article mentioned, were 100 percent contaminated, this would amount to 1.7 percent of the total acreage at MCAS El Toro, and 0.6 percent of the total at MCAS Tustin."

Ms. Cone: "The story is correct. A map of the bases provided by a March 1988 consultant report shows few areas are uncontaminated. I never said in the story that every acre was contaminated, only that most portions of the base are contaminated, which is supported by the maps we printed."

Ms. Bornemeier: "The listing does not say all sites contain all chemicals."

Ombud: We're talking "areas" and "acreage." Take your pick.

■ Story: "As many as 14 dump sites at El Toro — two as large as 20 acres apiece — and 11 areas at Tustin are contaminated with hazardous materials, including PCB-laden electrical transformers, low-level radioactive materials, buried drums of explosives and thousands of gallons of volatile jet fuel, acids and waste oils, according to a March report by military consultants."

Marines: "Only one site at El Toro or Tustin is suspected of containing very small amounts of radioactive material or explosives. There is only one potential site which may be contaminated with less than 60 gallons of PCB fluid."

Ms. Cone: "The sentence is correct, all according to the Marine Corps' own March 1988 report. Fourteen sites at El Toro and 11 at Tustin are contaminated with some type of hazardous waste. The story said all the sites contained hazardous waste. I did not say all sites contained radioactive materials or PCBs."

Ombud: The story simply didn't make the picture clear.

■ The story said a degreasing solvent called trichloroethylene (TCE) has infiltrated three agricultural wells used to irrigate Irvine Co. crops and that "Officials fear the chemicals are migrating west toward other wells that supply 70 percent of the drinking water for Santa Ana, Costa Mesa and Tustin residents. The source of the TCE spill is unproved, but water-quality officials say they are convinced it comes from one of many abandoned dumps at the El Toro air station."

Marines: "Being 'convinced' is simply a convenience for water-quality officials, since other equally valid explanations would be difficult to track down or would have no clean-up funds. The fact that an auto raceway existed for many years in close proximity, using similar degreasers with similar disposal methods, is easy to ignore now that it no longer exists. The fact that concentrations are higher further away from the air station could easily indicate that a source or dump site off base was the culprit. It is important to note that we are spending $1.2 million in a scien-

Base officials study cleanup of fuel leaks

By RICHARD F. SMITH
Daily News Staff

Camp Lejeune officials are proceeding with plans to clean up gasoline leaks at the bulk fuel storage facility in Hadnot Point, which was closed in June after the problem was confirmed.

An engineering study for removal of leaked gasoline products is nearly complete, said 1st Lt. Cathy Engels of the Lejeune Joint Public Affairs Office.

Monitoring tests confirmed existence of the problem in April. Leaks from an underground tank system were confined to an area two square blocks around the fuel farm.

The spill is contained by the section's natural flat terrain and water-table conditions, the lieutenant said. The number of gallons leaked is unknown.

Studies of monitoring wells determined the leaking fuel was gasoline and a preliminary report was made in May to North Carolina environmental officials.

Studies completed in 1986-87 showed fuel compounds were detectable in the groundwater of the industrial area.

As a result, Maj. Gen. J. Edward Cassity, base commander at the time, ordered the fuel farm closed on June 12 of this year.

The facility currently is using fuel bladders instead of tanks, the lieutenant said. Bladders should be replaced by an interim fuel operation by early 1989.

The interim system will include a smaller, above-ground tank system. Maximum use will be made of existing outlying refueling areas at Courthouse Bay and Camp Geiger.

Cleanup is expected to start after final design of a fuel-recovery system. Recovered gasoline products are expected to be recycled for use on base.

A contract bid will be announced in coming months to begin construction and operation of the fuel-recovery effort. No timetable for the cleanup will be available until the engineering report is finished and approved.

The study report on the fuel leak was prepared by engineers from the Naval Facilities Engineering Command in Norfolk, Va.

The final draft was published with monitoring data and cleanup recommendations. It was approved by Lejeune officials and sent to Norfolk in September.

Lejeune personnel will continue to monitor all groundwater wells for possible pollution. Drinking water at Lejeune is continually analyzed with the water meeting all treatment standards required by the U.S. Environmental Protection Agency, the spokeswoman said.

Wells and disposal sites do not pose any danger to persons living or working at or near the base as long as they drink water from approved sources. People should not drink water out of streams or from wells that are not monitored.

There is no hazard of pollution in drinking water on or off base. All contaminated groundwater wells have been sealed, according to the lieutenant.

The base has started a 24-hour telephone line for persons with questions or comments about the problem. The number is 451-5100.

The engineering report and planned cleanup are part of Lejeune's continuing effort to identify, evaluate, control and correct past deficient waste-disposal sites and practices involving groundwater pollution.

The base and ABC One Hour Cleaners of Jacksonville were among 229 sites nationwide that the EPA has proposed for the Superfund national priorities list for cleanup of past inadequate waste-disposal areas.

The Superfund normally finances 90 percent of cleanup costs on civilian land, but federal agencies must use their own money for such efforts on U.S. property.

The cleanup at Lejeune is being funded by the Navy's Defense Environmental Restoration Account.

A chemical used in dry cleaning leaked from a tank behind ABC cleaners at 2127 Lejeune Blvd. during 1985 and contaminated three wells, including two wells at base housing in Tarawa Terrace, according to EPA and Lejeune officials. Those wells are now closed.

NEWSPAPER Daily News DATE 881024 PAGE B-1

CITY, STATE Jacksonville, N.C.

EPA proposes cleanups at 2 Jacksonville sites

JACKSONVILLE — Camp Lejeune's industrial area and a Jacksonville dry cleaner are among 229 sites the U.S. Environmental Protection Agency proposes to put high on its list of places for cleanup of toxic wastes, according to a base spokesman.

The EPA had no estimate Tuesday of how soon cleaning up groundwater contaminated by chlorinated solvents in the industrial area could start or how much it would cost, said 1st Lt. Frank Shaw of the base Joint Public Affairs Office.

An EPA fund normally finances 90 percent of cleanup costs on civilian land, but federal agencies must pay to clean up their own property.

ATION News and Observer DATE 23 Jun 88 PAGE 2C

IE Raleigh, North Carolina

Base, cleaners placed on list for Superfund

By RICHARD F. SMITH
Daily News Staff

Camp Lejeune's industrial area and a Jacksonville dry cleaner are among 229 sites the U.S. Environmental Protection Agency has proposed to add to the Superfund priority list for cleanup of toxic wastes, according to a base spokesman.

"The EPA proposed Tuesday to add us to the list" but there is no estimate of how soon a cleanup of groundwater contaminated by chlorinated solvents in the industrial area can start or how much it will cost, said 1st Lt. Frank Shaw of the base Joint Public Affairs Office.

The Superfund normally finances 90 percent of cleanup costs on civilian land, but federal agencies must use their own money for such efforts on U.S. property.

"We get the money from the Department of the Navy, from the Defense Environmental Restoration Account," Shaw said.

"There is no danger of any contamination in the drinking water on or off-base and all contaminated groundwater wells have been sealed off," said Col. Thomas J. Dalzell, assistant chief of staff for facilities at Marine Corps Base.

"Basically, the (EPA) National Priorities List prioritizes the areas of concern the federal government feels need to be looked at first and makes these areas eligible for federal funds," Dalzell said.

"The base meets and exceeds all treatment standards required by the EPA and pursues a continuous water-testing program," the colonel stated.

The Jacksonville dry cleaner affected by the proposal is ABC One Hour Cleaners at 2127 Lejeune Blvd.

A chemical used in dry cleaning leaked from a tank behind the cleaners during 1985 and contaminated three wells, including two wells at base housing in Tarawa Terrace, according to EPA and Lejeune officials. Those wells are now closed.

EPA administrators propose to prioritize the Lejeune cleanup as a result of a 1983 study to identify, evaluate, control and correct groundwater pollution on base, particularly in the industrial area in Hadnot Point.

Toxic chemicals were discovered in 1985 in eight of 35 wells at Hadnot Point. Those wells are also shut down.

In 1985, industrial area wells showed traces of trichloroethylene, dichloroethylene and tetrachloroethylene.

Dalzell said in February of this year that most of the pollution was caused by motor pools at Hadnot Point.

"At that time, oils, greases, solvents, gasoline and cleaning fluids and other types of chemical compounds that were used in our everyday processes were just being dumped in the ground or dumped in sewers or things like that; we really were not aware back in the '60s and '70s of the effects on groundwater contamination," Dalzell said.

Following placement of Lejeune on the priorities list, base officials will have six months to start a remedial investigation/feasibility study in consultation with the EPA and state agencies. Time to complete that review is negotiable and must include public participation.

Within 180 days after completion of that stage, Lejeune must reach agreement with EPA and state officials for completion of all necessary corrective actions.

Trichloroethylene, or TCE, was commonly used during the 1970s as a chlorinated solvent for degreasing aircraft and has also been found in dump sites at Cherry Point air station in Havelock — but not in drinking water there — and in three wells on or near El Toro Marine air station in Orange County, Calif.

Dichloroethylene and tetrachloroethylene also are toxic chlorinated solvents. They are found in many types of cleaning products.

Lejeune was cited by state environmental agencies during 1985 for violating groundwater standards.

Tests of 22 suspected hazardous-waste pollution sites at Lejeune have detected heavy metals, organic chemicals and pesticides, but concentrations are not high enough to endanger humans, base officials said in December 1985.

ICATION The Daily News DATE 22 Jun 88 PAGE 1B

STATE Jacksonville, North Carolina

EPA may clean up airport, base sites

By Janet Olson
Staff Writer

A pit at the New Hanover County Airport and an area at Camp Lejeune Marine Corps Base are among 229 sites that the Environmental Protection Agency proposed Tuesday to add to the Superfund priority list for toxic waste cleanups.

Nine of the sites are in North Carolina, including four in the southeastern part of the state.

Designation for the "National Priority List" means the site is eligible for 90 percent federal funding of an EPA-supervised cleanup, unless a federal agency owns the site. Federal agencies are responsible for cleaning up their sites using their own money.

Despite the chance for federal funding, officials in New Hanover County are wary about getting involved in a Superfund cleanup of years' worth of potentially hazardous black gunk left over from fire training exercises in a pit at the airport. If the EPA gets involved, county officials say, the cleanup could cost much more than if the county handled the job itself.

Even with 90 percent of the cleanup covered by the Superfund, an EPA-supervised project could cost the county more than $1 million — much more than the $300,000 that private contractors have estimated, said Ervin Dehn, New Hanover County Airport engineer.

The EPA hires from a limited list of contractors to clean up toxic waste sites, which adds to the cost, Dehn said.

"They might bring a contractor all the way down from Massachusetts to do the cleanup, and you've got to pay all the transportation costs," he said.

The EPA's Superfund cleanup process also is lengthy, taking anywhere from three to five years, said Michael Henderson, a spokesman for the EPA Superfund program in Atlanta.

The Air Force created the burn pit in the 1960s as a place to train firefighters, Dehn said. Later the pit became a training site for the county's volunteer fire departments.

The Army Corps of Engineers is investigating the site and the airport's history to establish whether the federal government is responsible for some of the waste, Dehn said. If the military contributed to the problem, he said, the site might qualify for a different federal cleanup program.

"Right now, the EPA is operating under the assumption that the county owns the airport and the county is at fault," he said.

Tuesday's EPA announcement brings the Superfund priority list to 1,177 sites, of which 378 have been proposed and 799 have been formally placed on the list.

Camp Lejeune was proposed for the list because contaminated groundwater was detected in the industrial area of the base. Although no hazardous waste is stored permanently at the base now, base officials say, some waste had been buried there and could contaminate soil and groundwater.

The other Southeastern North Carolina sites added to the EPA's list Tuesday are four septic service pits in northwestern Brunswick County and an area around a Jacksonville dry cleaning business.

The EPA already used some Superfund money several years ago for an emergency cleanup of the Brunswick County site in Maco, Henderson said. The agency removed about 3 million tons of topsoil contaminated with oils that had been illegally dumped into four unlined septic pits, he said. If the site is placed on the Superfund list, he said, the EPA will study whether the chemicals contaminated any private wells.

The Jacksonville site is around ABC One Hour Cleaners at 2127 Lejeune Blvd. A chemical used in dry cleaning fluid leaked from a storage tank behind the business and contaminated three nearby wells, Henderson said.

ATION MORNING STAR DATE 21 JUN 88 PAGE 1C
TATE WILMINGTON, NORTH CAROLINA

Hazardous wastes and their effects explained

The overall coordinator for Camp Lejeune's placement on the National Priorities List will be Col. Thomas J. Dalzell, Assistant Chief of Staff, Facilities, Marine Corps Base. He recently answered some questions concerning NPL and the effects it might have on Camp Lejeune residents and workers.

Colonel Thomas J. Dalzell

Q. What is the National Priorities List?

A. Congress passed the Resource Conservation and Recovery Act back in the late 1970s, and that Resource Conservation and Recovery Act is our nation's hazardous waste management program. As part of that program, Congress requested that all the various activities within DoD and the federal government take a look at past hazardous waste dump sites and practices and initiate a plan to clean up these hazardous waste sites--especially where they impact on ground water contamination.

Q. Are there any hazardous waste sites aboard Camp Lejeune?

A. Yes there are. As a result of the Resource Conservation and Recovery Act the Navy developed what was called the NACIP program, and it was a program to go out and look at all Navy and Marine Corps installations and find out where past hazardous waste dump sites or any types of dumps were located. A study was done back in 1983 at Camp Lejeune, and from research of records, talking to people, and going out to look through the area, 77 old dump sites were identified here at Camp Lejeune. Of those 77 sites, 22 of them that were marked for further study, we have a number of sites right now, mainly in the Hadnot Point area where we have some test wells to monitor the amount of contamination and whether or not it's migrating through the ground.

Q. Is my health or the health of my family is any danger?

A. No it's not. All the wells which we get our raw water out of are continually tested and the wells that were identified as being contaminated have been closed off. All the other wells with water coming out contain no health problems at all to any individual who is living or working aboard Camp Lejeune or anyone in the local community.

Q. What about prior to 1983?

A. At that time we were not aware of any of these particular compounds that might have been in the ground water and we have no information that anyone's health was in any danger at that time.

Q. Could the contamination escape Camp Lejeune into Jacksonville?

A. Right now all the information we have is the contamination within the strata underground is contained, and we have no evidence of it migrating out into the local community. It's contained within Camp Lejeune.

Q. How do you test the drinking water?

A. Our drinking water is tested in accordance with the Safe Water Drinking Act. We do a bacteriological test on all of our water once a week, we do a heavy metal test once every three years, we do a volatile organic compound test once every three months, trihalomethane test once every three months and a radiological test every four years. All these tests are in accordance with federal and state regulations and meet those requirements.

Q. What are the chemicals found used for?

A. Most of the chemicals found mainly come from solvents, degreasers and other types of materials that we use in the maintenance and repair of vehicles aboard the base.

Q. What are the long term effects of exposure to these contaminants?

A. Heavy long term exposure to these chemicals could cause some health hazards, depending on the amount of chemicals ingested.

Q. What precautions should we take?

A. The only precaution anybody here at Camp Lejeune needs to take is to ensure they only drink water that is coming through our approved water sources. Don't drink water out of streams; don't drink raw water from a well site that somebody may have drilled around the area. These are the only precautions that individuals need to be aware of. At any time

individual feels there's a different taste or a dif-
or or whatever in their drinking water, they
contact us right away through the Joint
lic Affairs Office at 451-5100 to let us know so
we can get an investigation going right away.

Q. How will we prevent this from happening again?

A. We have a number of procedures that are cur-
ntly in effect that were mandated by the En-
nmental Protection Agency. All hazardous
rials are accounted for aboard base. Hazardous
ste is stringently controlled by federal and state
A regulations, and all of it is taken off the base
ugh the Defense Reutilization and Marketing Of-
and sold to private firms who handle and pro-
s the material. We are no longer dumping
rdous materials in sites like was done in the past.
all handled in a very strict program that's
nitored and inspected by federal and state EPA
ials.

Q. How long will it take to clean up the wells?

A. We really don't know how long it will take to
hese cleaned up. As part of our remedial action
to negotiate with the federal and the state
icials relative to the types of contamination
we have and the processes that we'll utilize to
an it up, and then the question comes up "How
n is clean?" and those are the things we have to
out. Some of these processes only take a few
rs, others may take a lifetime to clean.

Q. What was the source of contamination?

A. Most of the sources of contamination were the
or pools that existed down in the Hadnot Point
At that time oils, greases, solvents, gasoline and
aning fluids and other types of chemical com-
nds that were used in our everyday processes were
being dumped in the ground or dumped in sewers
ings like that; and we really were not aware back
he 60s and 70s of the effects on ground water con-
nation. Now we are more aware of these things
have taken appropriate precautions to ensure the
und water contamination is not progressing any
her.

Q. Is it likely that other sites on Camp Lejeune be identified as NPL candidates?

A. NPL listing applies to Camp Lejeune, and
ible that other sites may show that we'll
have to do some additional cleaning up. Once we go on the NPL listing, it involves all of Camp Lejeune and not a specific site.

Q. If there is no danger now, and the problem isn't serious, why is Camp Lejeune put on the list?

A. As I mentioned the NPL listing is a priority listing the federal government comes up with to clean up those sites they consider to be the worst sites throughout the nation. Congress has authorized what we call a "Super Fund" act and those funds are for the clean up of hazardous waste sites. Without some method of prioritizing the hazardous waste sites the federal government would have no idea of the s ites they should clean up first. So on some points of view, getting put on the NPL list brings the base to the forefront relative to public attention, but on the other hand, it becomes a help to us because we are eligible for the Super Fund money to enable us to get the clean up process started in a more timely manner.

Q. If I'm concerned about this problem, who should I contact for more information?

A. If you have any concern whatsoever, or any additional information that you want concerning the extent of contamination or what we're planning on doing you should call the Joint Public Affairs Office, at 451-5100. Call them any time during the day or night and we'll get an answer back to you personally.

Q. When will the clean up begin?

A. The cleanup will probably not start for a while. We're currently in the second phase in the process of going through and looking at some remedial action that we can take. Then there's a certain time frame that we have to negotiate with the state of North Carolina relative to what procedures we are going to use and of course the time to get these cleanups will be dependent upon what the procedures we use and the availability of funding. I would anticipate sometime within the next two to three years some type of a process will be developed in which we'll start the clean up action. Right now we've just stopped using those wells. We have put down monitor wells to monitor migration of any of the contaminates to ensure we are keeping it contained until such time as when we can get a clean-up process initiated.

Q. Will Camp Lejeune be in charge of clean-up or will state and federal EPA officials contract it out?

A. Camp Lejeune will be responsible for that. We will work through our engineers at the Naval Facilities Engineering Command in Norfolk, Va., and it will be in conjunction with the federal and state EPA. We have to work hand-in-hand. Some of the funding will come through the Navy, some will come through the Super Fund that's authorized by Congress.

Public notice to all Base water system customers

The United States Congress amended the Safe Drinking Water Act in 1986 (Public Law 99-339). One requirement of this act is that all people using a public water system should be notified of the potential for exposure to Lead through the water distribution system and the plumbing in individual homes. All public water systems are required to make this notification even if there is no evidence of lead contamination and the drinking water complies with standards established by the United States Environmental Protection Agency (EPA).

What are the health effects of lead?

The EPA sets drinking water standards and has determined that lead is a health concern at certain levels of exposure. There is currently a standard of 0.050 parts per million (ppm). Based on new health information, EPA is likely to lower this standard significantly.

Part of the purpose of this notice is to inform you of the potential adverse health effects of lead. This is being done even though your water may not be in violation of the current standard.

The EPA and others are concerned about lead in drinking water. Too much lead in the human body can cause serious damage to the brain, kidneys, nervous system, and red blood cells. The greatest risk, even with short-term exposure, is to young children and pregnant women.

What can I do about lead?

You can take two immediate steps.

The first step is to refrain from consuming water that has been in contact with your home's plumbing for more than six hours, such as overnight or during your work day. Before using water for drinking or cooking, 'flush' the cold water faucet by allowing the water to run until you can feel that the water has become as cold as it will get. You must do this for each drinking water faucet (taking a shower will not flush your kitchen tap). Buildings built prior to about 1930 may have service connectors made of lead. Letting the water run for an extra 15 seconds after it cools should also flush this service connector. Flushing is important because the longer water is exposed to lead pipes or lead solder, the greater the possible lead contamination. The water that comes out after flushing will not have been in extended contact with lead pipes or solder.

The second step is to never cook with or consume water from the hot-water tap. Hot water dissolves lead more quickly than cold water, so do not use water taken from the hot tap for cooking or drinking and especially not for making baby formula. If you need hot water, draw water from the cold tap and heat it on the stove. Use only thoroughly flushed water from the cold tap for any consumption.

What is Camp Lejeune doing about lead?

Camp Lejeune is taking several measures to reduce lead concentrations in the Camp Lejeune drinking water. Camp Lejeune monitors lead concentrations and other possible contaminants at all six of Camp Lejeune's plant distribution points. The last required testing disclosed lead concentrations at 0.005 ppm, well below the current EPA standard. In fact, EPA has proposed a lower standard for lead, 0.020 ppm, and Camp Lejeune's limits would be well below this proposed stricter standard. Camp Lejeune is currently negotiating a contract for a private, North Carolina and EPA qualified laboratory to conduct lead testing in 1988. camp Lejeune is also implementing the recent changes in the Safe Drinking Water Act. These changes require the use of 'lead-free' pipe, solder and flux in the installation or repair of plumbing connected to a public water system. Camp Lejeune will only utilize 'lead-free' pipe, solder, and flux in the future and will contractually require private contractors to utilize the same 'lead-free' materials.

Should I seek alternative sources of drinking water if I work or live aboard Camp Lejeune?

No. Camp Lejeune's water is quite safe to drink by all. As explained earlier, the lead concentrations at Camp Lejeune are well below the existing EPA standards, and well below the EPA's much stricter proposed standard. Testing of the drinking water for other contaminants is conducted on a regularly scheduled basis by the Base Natural Resources and Environmental Affairs Division (NREAD). The base NREAD laboratory is state certified for such water monitoring should be taken wherever you drink water, whether on- or off-base.

If you desire further information regarding your water supply, please contact the Assistant Chief of Staff, Facilities at 451-3034 or 3035 (on-base) or the EPA (on- or off-base) at 1-800-426-4791 or order the pamphlet Lead and Your Drinking Water from the U.S. Environmental Protection Agency, Washington, D. C. 20460.

Slippery problem: discarded oil

Story and photos by
Pfc. Timothy L. Paullin

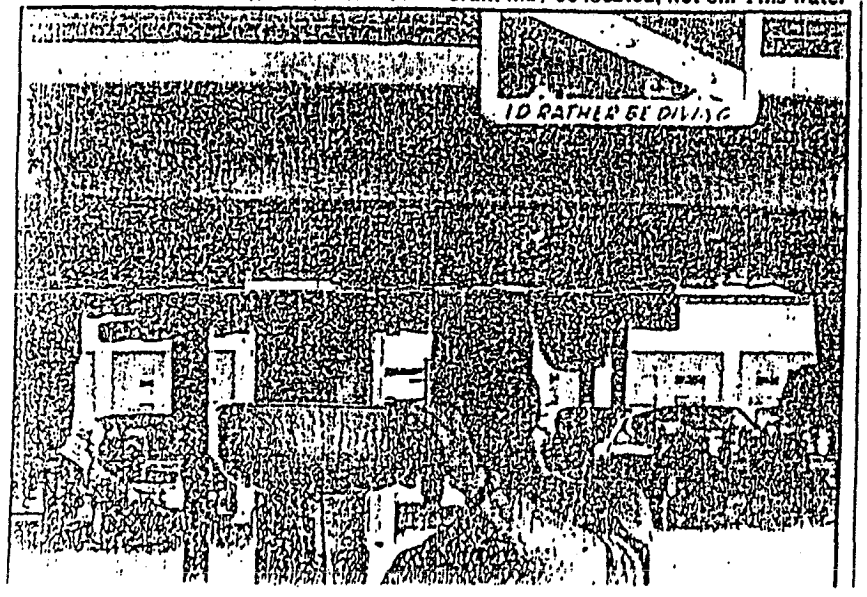
"Let me tell ya' a story about a man named Jed, A poor mountaineer, barely kep' his family fed. Then one day he was shootin' at some food, when up from the ground came a bubblin' crude-oil that is. Black gold. Texas tea," is the theme from the TV series Beverly Hillbillies.

This refined black gold is used for many things, one of which is in our vehicles . . . motor oil.

And this refined crude needs changing every so often. So what do you do with it once you've removed it from the car.

Look! A storm drain, what a convenient spot. Just park over the top of it and let the oil flow down into the storm drain.

Wrong answer! Storm drains filter rain water from a parking lot or wherever the drain may be located, not oil. This water then runs back into the ground water supply or river, according to Sammy D. Gwynn, biology technician with the Natural Resources Division



Some Marines are using these storm drains to dispose of their oil or are just pouring it onto the ground, according to Gwynn.

Dumping motor oil down a storm drain or on the ground is hazardous to the water supply and area wild life, according to Sammy Sharp of the Natural Resources Division.

"In compliance with Enviromental Protection Agency it is against Federal law to dump any kind of waste material on the ground. Once oil has been dumped then it must be cleaned up and properly disposed of. Cleaning up these waste materials is an expensive process. Not many people realize the cost involved," said Gwynn.

Storm drains are monitored on a routine basis for pollutants. Samples are taken to the lab of the Preventive Medicine Clinic located in Bldg. 65 where they are tested for contaminants.

The Natural Resources Division is here to ensure such hazardous materials are properly disposed of. Oil and waste materials being dumped is a on going pro-

"If the Marines and Sailors aboard base would use the auto hobby shop instead of dumping oil wherever, then this problem would not exist," said Gwynn.

"The auto hobby shop on base has the equipment to easily and inexpensively change your oil in about 30 minutes," said Sgt. Jackie Boone, the Special Services auto hobby shop assistant NCOIC. The procedure involved in changing your oil is simple.

"First you check in at the window and let them know you would like to change your oil. Then present your drivers license and ID card. The person on duty will then give you an oil can for your oil and the necessary tools to assist you. The cost is $1.50 per half hour and a $1.50 for tools," said Boone.

All there is to do now is put your car on the rack and lift it up. With your car suspended, the rest is simple, and the oil drains into the can provided.

With oil can in hand you simply pour it down an oil storage tank provided especially for waste oil. After the attendant checks your area to make sure all the oil is cleaned up he will return your license.

Changing your oil could otherwise cost about $20 or a lot more, depending on

Lejeune potential waste cleanup site

By TOM MATHER
Staff Writer

The U.S. Environmental Protection Agency is considering adding about six North Carolina sites, including Camp Lejeune Marine Corps base in Onslow County, to its priorities list for cleaning up hazardous wastes, EPA officials said Friday.

"Camp Lejeune is currently being considered for the NPL [national priorities list]," said Trudi J. Fancher, an NPL coordinator with the EPA in Washington.

"There are approximately a half-dozen [North Carolina] sites being considered right now," she said. "I can't be more specific than that," she said.

The EPA expects to propose about 200 new sites to the "Superfund" priorities list in April, Ms. Fancher said. Currently, the EPA has approved or proposed 951 Superfund sites, including 11 in North Carolina.

Such listing makes privately owned sites eligible for cleanup money from an $8.5 billion fund established by the federal Superfund Amendments and Reauthorization Act of 1986, Ms. Fancher said by telephone. But sites on federal land, such as Camp Le-

See EPA, page 2C

EPA may clean up site at Lejeune

jeune, are not eligible for Superfund money.

"The agency which is responsible for the site provides the funds," she said of cleanup efforts for federal lands. "The NPL serves primarily to inform the public about potential problem for the site."

Before sites can be added to the priorities list, Ms. Fancher said, the EPA officially must propose them for listing and then hold public hearings. Those hearings probably will not be held until late spring or summer.

Camp Lejeune uses and produces large quantities of hazardous materials and wastes, according to Major Stuart W. Wagner, joint public affairs director for the base.

"Although no hazardous waste is permanently stored aboard base, past hazardous waste disposal relied on burial," Wagner said in a written statement. "This disposal method was acceptable at the time, but was subsequently found to potentially cause long-term problems through release of hazardous material into the soil and ground water.

"Camp Lejeune realizes that the high amounts of hazardous material used aboard base presents the potential for damage to the environment, and vigorously pursues hazardous waste planning and training."

In a 1983 study of past waste disposal practices, the base identified 76 potentially contaminated areas, 22 of which warranted further investigation, he said. Most of the current study has focused on the Hadnot Point industrial area of the base, where officials found chemical contamination in eight of 35 wells in 1983, he said.

Wells and disposal sites should not pose health hazards to people living or working on or near the base as long as they drink water from approved sources, officials said. People should not to drink water out of streams or from unchecked wells on the base.

The base is working with the EPA to develop a cleanup plan for the sites, but officials said they do not know how much it will cost yet. The cleanup will be paid for by the Marines and an environmental restoration fund established by Congress for federal lands.

Camp Lejeune has set up a 24-hour phone line for people with questions or comments about the waste sites. The number is 451-5100.

NEWS AND OBSERVER 2A March 5, 1988
leigh, N.C.

* but eligible for Defense Environmental Restoration Money.

3 March, 1988
The Globe

Continuous sampling ensures safe drinking water

Story and photo by Pfc. Timothy Paullin

With the weather getting warmer and as training progresses, more and more water is being used for drinking here as well as in the outlying areas.

The water supply is plentiful and there shouldn't be any concern with how much water is being consumed.

But concerns about whether or not the drinking water is contaminated have been mentioned.

Elizabeth A. Betz, supervisory chemist, at the National Resources Environment Affairs Division is in charge of making sure the water is properly tested.
is properly tested.

"The drinking water here is perfectly safe. I drink it myself," said Betz.

The ground lab where Betz works monitors the water and waste treatment facilities at Camp Lejeune, Camp Johnson and the Rifle Range, as well as MCAS, New River.

There are eight water treatment plants. Two of them are in the process of being shut down, but the Holcomb Blvd. facility has been expanded to cover the area of those two and better serve the Marines here.

These treatment facilities are monitored in compliance with the Water Safety Act, as well as the Clean Water Act regulations of the NREAD.

The water is tested through samples taken from water treatment plants and distribution systems here to ensure that the water we are drinking is safe.

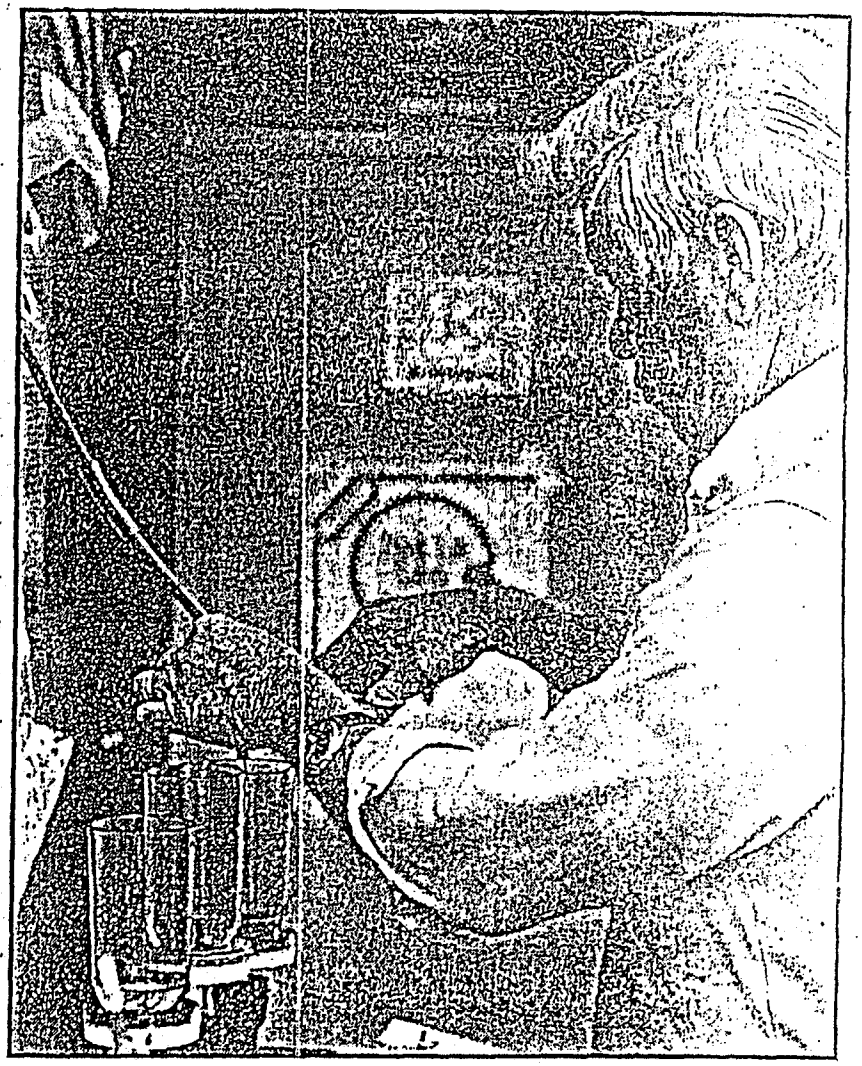
Physical science technicians take these samples to their lab in Bldg. 65 and perform bacteriological tests on the water weekly.

If any samples are found to have traces of contaminants in the water, the same water supply is tested two more times to double check.

The technicians would also double check the water treatment process to make sure it is still putting out clean, drinkable water.

In the event they still find a contaminant, the lab with the help of the Preventitive Medicine Clinic will make sure there is no chance of an epidemic resulting from the bacteria.

The micro-biology team monitoring the water treatment facilities will be the first to know problems with the drinking water here and will immediately correct problems that arise, according to Betz.



Physical science technician H. J. Burns makes a weekly bacteriological exam of waste water from the treatment plant.

Waste sites at base likely to be included on EPA list

By Jack Murphy
Star-News Correspondent

CAMP LEJEUNE — Parts of the base where contaminated groundwater was detected are expected to be placed on the Environmental Protection Agency's list of hazardous waste sites later this month, base officials said Thursday.

The EPA plans to include the sites on its National Priorities List of hazardous waste locations which qualify for cleanup funded by what is commonly known as the EPA's Superfund.

In the case of military installations, however, the cleanup funds come from the Defense Environmental Restoration Account, established by Congress to pay for cleaning up Department of Defense hazardous waste sites.

A preliminary study completed in April 1983 identified 76 potentially contaminated sites on the base and said 22 warranted further investigation, although the study concluded that none posed an immediate hazard to the environment or human health.

In a 40-page document released Thursday outlining the cleanup efforts, base officials said no hazardous waste was being stored permanently at the base now, but that in the past some waste had been buried, a disposal method later found to have long-term potential for contaminating soil and groundwater.

The report pledged base cooperation with the cleanup.

The investigation has focused on the industrial area of the base, where 8 of 35 wells showed traces of chemical contaminants in 1985.

The wells were closed. No source has been found for the chemicals, identified as trichloroethylene, dichloroethylene and tetrachloroethylene — all used primarily as solvents.

Periodic tests since then have shown no contamination of base drinking water.

Once the sites are on the National Priorities List, the base will have six months to put together an additional study, with the assistance of the EPA and state environmental officials. After that, an agreement must be reached to correct problems within another six months.

For anyone with questions about the issue, the base has set up a 24-hour telephone hotline, 451-5100.

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CITY, STATE: WILMINGTON, N.C.

EPA considers waste cleanup at Marine base

By RICHARD F. SMITH
Daily News Staff

The Environmental Protection Agency is likely to put Camp Lejeune on the national priority list for cleanup of groundwater contamination, according to a base spokesman.

EPA action is expected in the next few days, said Maj. Stuart Wagner of the Lejeune Joint Public Affairs Office.

EPA officials are expected to prioritize the cleanup as a result of a 1983 study to identify, evaluate control and correct groundwater pollution on base, particularly in the Hadnot Point industrial area.

Toxic chemicals were discovered in 1985 in eight wells at Hadnot Point. Those wells are now closed.

The list establishes priorities for the EPA's use of Superfund monies to clean up hazardous waste sites in the United States.

Lejeune "uses and produces large quantities of hazardous materials and waste products. Although no hazardous waste is permanently stored aboard base, past hazardous waste disposal relied on burial." Wagner said in a prepared statement.

"This disposal method was acceptable at the time, but was subsequently found to potentially cause long-term problems through release of hazardous material into the soil and water," Wagner said.

"Camp Lejeune realizes that the high amounts of hazardous material used aboard base presents the potential for damage to the environment and vigorously pursues hazardous-waste planning and training.

"The base has been recognized as a model installation and will use the same commitment to excellence to deal with the groundwater contamination and will work with the EPA to clean up the sites as rapidly as possible," Wagner said.

Initial steps involve the installation restoration program, a three-phase process to identify past hazardous waste sites and take necessary cleanup action.

The first stage is a preliminary assessment/site inspection, which was completed at Lejeune in April 1983.

That study identified 76 potentially contaminated sites and concluded that while none of the areas posed an immediate threat to human health or the environment, 22 sites warranted more investigation, Wagner said.

In 1985, the Hadnot Point industrial area showed traces of trichloroethylene, dichloroethylene and tetrachloroethylene in eight of 35 wells in the area. Affected wells were immediately closed.

No single contamination point has been identified as the source of pollution of the wells and no contamination has been detected by periodic tests of drinking water on base, Wagner said.

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Lejeune's project coordinator, Col. Thomas J. Daizell, assistant chief of staff for facilities, said most of the pollution was caused by motor pools in Hadnot Point.

"At that time, oils, greases, solvents, gasoline and cleaning fluids and other types of chemical compounds that were used in our everyday processes were just being dumped in the ground or dumped in sewers or things like that; we really were not aware back in the '60s and '70s of the effects on groundwater contamination," Daizell stated.

Following placement of Lejeune on the priorities list, base officials will have six months to start a remedial investigation/feasibility study in consultation with the EPA and state agencies. Time to complete that review is negotiable and must include public participation.

Within 180 days after completion of that stage, Lejeune must reach agreement with EPA and state officials for completion of all necessary corrective actions.

"Substantial continuous physical on-site remedial action must take place no later than 15 months after completion of the remedial investigation/feasibility study," Wagner said.

Lejeune "continuously pursues a vigorous program of hazardous-waste training, handling and management that includes annual courses of instruction for those dealing with hazardous waste. In addition, the base has minimized the use of hazardous materials by substituting non-hazardous substances for vehicle maintenance and parts cleaning," the major said.

The base has set up a 24-hour hotline for questions and comments concerning the national priorities listing. The telephone number is 451-5100.

Trichloroethylene, or TCE, was commonly used during the 1970s as a chlorinated solvent for degreasing aircraft and has also been found in dump sites at Cherry Point air station in Havelock — but not in drinking water there — and in three wells on or near El Toro Marine air station in Orange County, Calif.

Dichloroethylene and Tetrachloroethylene also are toxic chlorinated solvents. They are found in many types of cleaning products.

Lejeune was cited by state environmental agencies during 1985 for violating groundwater standards.

Tests of 22 suspected hazardous-waste pollution sites at Lejeune have detected heavy metals, organic chemicals and pesticides, but concentrations are not high enough to endanger humans, base officials said in December 1985.

Those sites were targeted for more investigation because of known or suspected contamination from fuel, discarded explosives and chemicals including toxic solvents, cancer-causing polychlorinated biphenyls or PCBs in transformer oil and pesticides.

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CITY, STATE JACKSONVILLE, NORTH CAROLINA

Base site may get cleanup priority

By Jack Murphy
Star-News Correspondent

CAMP LEJEUNE — An industrial complex on the base here is likely to be placed on a priority list for cleanup work by the Environmental Protection Agency, a base spokesman said Thursday.

First Lt. Frank Shaw, spokesman for the base public affairs office, said Camp Lejeune is being considered along with other federal installations to be included on the EPA's National Priorities List for the EPA's Superfund, a pool of money set aside to clean up what EPA identifies as the most serious toxic waste problems in the United States.

Shaw said federal facilities are not eligible for Superfund money unless the contamination is caused by a private concern. The Hadnot Point industrial area is Lejeune's major problem site, he said. It is on the left on Holcomb Boulevard as one enters the "mainside" area of the base across from the main post exchange.

Shaw said a study of the area showed traces of trichloroethylene, dichloroethylene and tetrachloroethylene in eight of 35 wells in 1985. The wells were closed immediately and have remained closed.

No contamination has been detected during periodic testing of drinking water on the base, he said.

Shaw did not identify a possible source of the chemicals but said the base has minimized use of hazardous materials by substituting non-hazardous substances for vehicle maintenance and parts cleaning.

Dec. 25, 1987 p.1C

Lejeune likely to be on cleanup list

By RICHARD F. SMITH
Daily News Staff

The U.S. Environmental Protection Agency is likely to place Camp Lejeune on the national priorities list for hazardous waste cleanup, according to a base spokesman.

The EPA is considering that action as a result of the 1985 discovery of water contamination by toxic chemicals in 10 Lejeune wells that are now closed, said 1st Lt. Frank Shaw of the base Joint Public Affairs Office.

Other federal installations are likely to be placed on the list in addition to Lejeune.

"The national priorities list establishes priorities for the EPA's use of Superfund monies to clean up what they consider to be the most serious toxic sites in the United States," Shaw said.

"However, federal facilities are not eligible to receive Superfund monetary assistance unless the contamination is caused by a private concern," the spokesman said.

"The area under study is the Hadnot Point Industrial Area. In 1985, traces of trichloroethylene, dichloroethylene and tetrachloroethylene were found in eight of 35 wells in the area," Shaw said.

"The affected wells were immediately closed and have remained closed since. No single contamination point has been identified as the source of contamination for the wells and no contamination has been detected by periodic tests of drinking water aboard base," the lieutenant said.

"We're going to have to clean this up. The EPA is saying you've got to clean this up," Shaw said. He had no estimate of how much the project would cost or when it could begin.

If the base cannot prove the pollution comes from a private source, military funds must pay for the cleanup.

Trichloroethylene, or TCE, was commonly used during the 1970s as a chlorinated solvent for degreasing aircraft and has been found in dump sites at Cherry Point air station in Havelock — but not in drinking water there — and in three wells on or near El Toro Marine air station in Orange County, Calif.

Dichloroethylene and tetrachloroethylene also are toxic chlorinated solvents. They are found in many types of cleaning products.

Lejeune was cited by North Carolina environmental agencies during 1985 for violating ground water standards.

Two of the 10 closed wells were in

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Cleanup

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Tarawa Terrace and were polluted by a dry cleaner on Lejeune Boulevard, according to base officials.

"Camp Lejeune continuously pursues a vigorous program in hazardous waste training, handling and management that includes annual courses of instruction for those persons dealing with hazardous waste," Shaw said.

"The base has minimized the use of hazardous waste materials by substituting non-hazardous substances for vehicle maintenance and parts cleaning. No hazardous waste is currently disposed of aboard Camp Lejeune," Shaw said.

Tests of 22 suspected hazardous-waste pollution sites at Lejeune have detected heavy metals, organic chemicals and pesticides, but concentrations are not high enough to endanger humans, base officials said in December 1985.

Those sites were targeted for more investigation because of known or suspected contamination from fuel, discarded explosives and chemicals including toxic solvents, cancer-causing polychlorinated biphenyls or PCBs in transformer oil and pesticides.

Base officials have said those 22 sites are not considered dangerous because only trace amounts of contamination have been found to have escaped from the dumps, and people have not been directly exposed to those pollutants.

Until recent years, hazardous chemicals — including mercury and the pesticides chlordane, Diazinon and DDT — have been burned, spilled and dumped at locations across the 170-square-mile base.

No one has been identified as being harmed by the pollutants, base officials have said.

According to a Navy survey, spills of hazardous materials over the last 40 years at Lejeune have included gallons of mercury — enough to poison 184,000 acres of foot-deep water if it ever reaches the shallow water table.

The mercury was drained from radar equipment and buried, according to officials.

Since the 1960s, Building 712 had housed a nursery and day-care center for children of Marines and sailors.

However, the children were moved away in 1982 when the soil of their playground was found to be poisoned by a number of pesticides, according to the Navy review.

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CITY, STATE Jacksonville, N.C.

Contaminated waste sites may lead to EPA National Priorities Listing

As a result of a 1983 study program to identify, evaluate, control and correct past deficient waste disposal sites and practices involving ground water contamination here, the Environmental Protection Agency is likely to place Camp Lejeune on the National Priorities List in late February.

The NPL establishes priorities for the EPA's use of Superfund monies to clean up hazardous waste sites in the United States.

Camp Lejeune uses and produces large quantities of hazardous materials and waste products. Although no hazardous waste is permanently stored aboard base, past hazardous waste disposal relied on burial.

This disposal method was acceptable at the time, but was subsequently found to potentially cause long-term problems through release of hazardous material into the soil and ground water. Camp Lejeune realizes that the high amounts of hazardous material used aboard base presents the potential for damage to the environment, and vigorously pursues hazardous waste planning and training. The base has been recognized as a Model Installation, and will use the same commitment to excellence to deal with the ground water contamination, and will work with the EPA to clean the sites as rapidly as possible.

The initial steps to clean up the sites involve the Installation Restoration (IR) Program, a three-phase nationwide process to identify past hazardous waste sites and take necessary cleanup action.

The first phase is a Preliminary Assessment/Site Inspection (PA/SI), and was completed in April 1983 for Camp Lejeune. The study identified 76 potentially contaminated sites, and concluded that while none of the sites pose an immediate threat to human health or the environment, 22 sites warranted further investigation.

The area primarily under study at Camp Lejeune is the Hadnot Point industrial area. In 1985, traces of trichloroethylene, dichloroethylene and tetrachloroethylene were found in 8 of 35 wells in this area. The affected wells were immediately closed, and have remained closed since. No single contamination point has been identified as the source of contamination for the wells, and no contamination has been detected by periodic tests of drinking water aboard base.

The chemicals found are used primarily as solvents and degreasers.

Following the placement of Camp Lejeune on the NPL, the Base has six months to initiate Remedial Investigation/Feasibility Study (RI/FS) action in consultation with EPA and appropriate state authorities. Time to complete the RI/FS is negotiable and must include public participation.

Within 180 days after completion of the RI/FS, Camp Lejeune must reach an agreement with EPA and state authorities for the completion of all necessary remedial actions at Camp Lejeune. Substantial continuous physical on-site remedial action must take place no later than 15 months after completion of the RI/FS.

Camp Lejeune continuously pursues a vigorous program of hazardous waste training, handling and management that includes annual courses of instruction for those dealing with hazardous waste. In addition, the base has minimized the use of hazardous materials by substituting non-hazardous substances for vehicle maintenance and parts cleaning.

The base has established a 24-hour Hotline for questions and comments concerning the National Priorities Listing. The number is 451-5100.

Toxic chemical once at Lejeune, now at El Toro

By RICHARD F. SMITH
Daily News Staff

The same toxic chemical found during 1985 in 10 wells at Camp Lejeune is in three wells on or near El Toro Marine air station in California. Officials there recently began a probe into the cause of the contamination.

The 10 Lejeune wells were closed in 1985 after pollution by cancer-causing trichloroethylene and two other chemicals was discovered.

Lejeune water remains safe to drink, according to 1st Lt. Frank Shaw of the base Joint Public Affairs Office.

Trichloroethylene, or TCE, was commonly used during the 1970s as a solvent for degreasing aircraft and is in identified dump sites at Cherry Point air station in Havelock, said Cherry Point spokesman Gunnery Sgt. Bill Brown.

TCE has not been found in drinking water at Cherry Point, he said.

"We're dealing with skeletons of the past, 40 years of dumping with minimal or no control, to where now nothing goes into the ground," Brown explained.

Orange County, Calif., Water District officials agreed in late November to investigate high levels of TCE in three agricultural wells on or near El Toro, according to The Register newspaper there.

One well is on El Toro. Two are outside the base and supply water to farms.

The four-month study in California will cost between $260,000 and $590,000.

California water-quality officials ordered the Marine Corps in July to investigate the well contamination. However, Marines agreed to study only the pollution found on El Toro. They said a special Pentagon cleanup fund cannot be used on private property.

Fearing TCE could spread if negotiations dragged on, Orange County Water District officials agreed in late November to fund the study.

They will seek reimbursement from Marines if El Toro is responsible.

Up to seven monitoring wells will be drilled to identify the TCE source.

Water supervisors in Orange County are convinced TCE found in two Irvine Co. wells seeped from El Toro because it was formerly used for degreasing aircraft, The Register reported.

The Irvine Co. land has been used only for agriculture for decades. Farmers did not use the industrial-strength solvent.

Water from the three Orange County wells is safe for agriculture, but contains as much as 10 times more TCE than California allows for drinking water.

Irvine Co. planned to use its wells for homes in the Irvine area during a prolonged drought or if development strains existing supplies.

Ten of Lejeune's 100 wells were closed in May 1985 when TCE and two other toxic chlorinated solvents — dichloroethylene and tetrachloroethylene — were found in well water.

Lejeune was cited by N.C. agencies for violating ground water standards.

Eight of the closed wells were in the Hadnot Point water system. The other two were in Tarawa Terrace.

Well closings forced water-use restrictions in May 1985 in Tarawa Terrace.

An auxiliary waterline from the Holcomb Boulevard water plant to Tarawa Terrace was completed in June 1985 and water restrictions were lifted.

"The stuff (TCE) is still there" in the closed wells, Shaw said today.

Two wells were polluted by a dry cleaner on Lejeune Boulevard, Shaw said.

Eight were contaminated "by long-term spillage of materials on the ground. They (Lejeune officials) don't have a single source of contamination. It gets washed by rainwater into the ground (water) system. We're continuing to monitor the wells and track contamination," Shaw said.

TCE "is used as a solvent for a variety of things. We've developed a training program for hazardous waste handling and management. That's the long-term solution, the only way you'll clean it up," Shaw said.

Cherry Point waste sites bearing TCE in the soil are off-limits and are checked by that air station's Natural and Environmental Resources Office, Brown said.

UBLICATION Daily News DATE 871222 PAGE 1-B
CITY, STATE Jacksonville, N.C.

Environmental study kicks-off

A team of experts contracted by the Navy is conducting an extensive environmental study at Camp Lejeune and MCAS, New River. The study, which began in May, will assess pollution control operations and soil and ground water quality at 21 sites throughout Camp Lejeune and New River.

Environmental engineers and scientists from the consulting firm of Environmental Science and Engineering, Inc. of Gainesville, Fla., will spend approximately six weeks drilling wells and collecting water, soil and sediment samples to determine if hazardous materials exist and/or have the potential to contaminate the environment upon the base.

Colonel M. G. Lilley, assistant chief of staff, facilities, stated, "While contractor personnel will rountinely wear personal protective equipment such as chemical resistant coveralls, we do not expect to expose anyone to any contaminants."

The results of the survey are due in August 1984. If any contaminants are discovered, a review of alternatives will determine action necessary to meet health and environmental standards.

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7 JUNE 84

The following clipping appeared in the News and Observer
From Raliegh, N.C. Dated 16 FEB 82 Page 1C

Toxic waste sites are listed by EPA

By NASH HERNDON
Staff Writer

A list of 167 possible hazardous waste sites, including more than 100 that were unknown to state authorities before a 1980 federal law required waste dumps to be reported, was released Monday by state health officials.

"The locations of these sites range from the mountains to the coast and include industrial plants, military facilities, municipal and county landfills and abandoned garbage dumps," Dr. Ron H. Levine, state health director, said at a news conference.

State and federal Environmental Protection Agency officials said they did not know whether there were health or environmental problems at any of the locations or how serious such problems could be.

The sites are in 49 of the state's 100 counties: six are in Wake.

O.W. Strickland, head of the solid and hazardous waste branch of the Department of Human Resources, estimated that authorities had been aware of "about 25 percent" of the sites before the list was compiled.

Levin said many sites may have been reported by mistake or may not contain hazardous materials, while others may pose no health or environmental threat. A preliminary review of the list, he said, showed "more than 50 such sites" fall into those categories.

He said state and federal inspectors would examine the locations by next summer to determine whether they should be cleaned up or monitored.

"If we had any indication this morning (of a serious problem), we'd be out there instead of here," said R. Paul Wilms, enviornmental management assistant director of the N.C. Department of Natural Resources and Community Development.

"But with what we know right now, we don't have any information that gives us any undue concern," he said.

The list was turned over to the state this year, Levine said. It was compiled by the EPA in response to the federal Comprehensive Environmental Response, Compensation and Liability Act of 1980, which gave waste producers until last June to identify their potentially harmful waste dumps.

The law is commonly called the "superfund" because it created a $1.6 billion fund to clean up toxic waste sites when liability is unknown or dubious. The fund is based on fees paid by chemical and oil companies.

Sites to be investigated first will be determined by the type and volume of waste, distance from populated areas and possibility of fire or other hazards, Levine said.

EPA inspectors will investigate the 27 military waste sites on the list and any sites the state requests. N.C. Department of Human Resources and Natural Resources inspectors will examine the others.

The state had been aware of only three of six Wake County sites before receiving the list, state officials said in interviews. The new locations are:

- An unknown quantity of unknown substances buried by Burlington Industries at its Wake Finishing Plant on U.S. 1 North between 1967 and 1970. A Burlington spokesman in Greensboro said in a telephone interview that the substances apparently were used in textile dying and finishing.
- About 40,000 gallons of various solvents and other chemicals at the Mallinckrodt plant on U.S. 1 North produced between 1967 and 1973 and buried on three acres at the plant.
- A small quantity, about 10 cubic feet, of sodium cyanide salts, sodium carbonate and calcium carbonate at East Carolina Heat Treat Service on South Saunders Street. The chemicals were used to treat metal and were dumped on the property, according to EPA records.

The plant has stopped dumping the materials, and groundwater monitoring in the area has shown no contamination, EPA records show.

The other sites in Wake are pentachlorophenol in sediment at Koppers Co. Inc. on N.C. 54 near Morrisville, about 15,000 cubic feet of various chemicals stored between 1972 and 1975 at the Cooper Industries' Lufkin Plant near

See EPA LISTS, page 12C

The following clipping appeared in the News and Observer

From Raleigh, N.C. Dated 16 FEB 82 Page 1C

EPA lists toxic waste sites; officials unsure of hazards

Continued from page 1C

Apex, and about 300,000 cubic feet of research chemicals from N.C. State University buried near Carter-Finley Stadium.

The list does not include PCBs illegally dumped along 210 miles of highways in more than a dozen counties in 1978. The spill is the only North Carolina waste problem previously identified in a national list of more than 100 hazardous waste problems targeted for cleanup under the superfund.

Here are the North Carolina sites released by state officials Monday where hazardous wastes might be located. The list includes the county in which the site is located, the site and chemical.

Alamance — Cone Mills Corp.-Granite Finishing Plant, Haw River, chemical unknown.

Beaufort — County landfill, Washington, listed for two sites, sludge and pesticide containers; Texasgulf landfill, Aurora, pesticide containers.

Bertie — Weyerhauser Co., Lewiston, pentachlorophenol.

Brunswick — Kerr-McGee Chemical Corp., Navassa, wood treatment sludge; E.I. Dupont-Cape Fear Plant, Phoenix, carbon tetrachloride, chloroform.

Buncombe — County landfill, Asheville, unknown; Grove Stone Landfill, Black Mountain, unknown; Fairview Landfill, Fairview, chemical unknown; Elk Mountain Landfill, Asheville, chemical unknown; Fishburne Landfill, Fletcher, chemical unknown; Swannanoa Landfill, Swannanoa, chemical unkown; American Enka Corp., Enka, fly ash, acid yarn residue; Sayles-Biltmore Bleacheries, Asheville, power plant cinders; Pond Road Landfill, Asheville, chemical unknown; Pathologists Medical Laboratory, Asheville, blood and urine; Hominy Creek Landfill, Asheville, chemical unknown; Amcel Propulsion Inc., Swannanoa, various chemical residues.

Cabarrus — Harrisburg Battery, Concord, sulfuric acid.

Caldwell — County Landfill, Lenoir, two sources for spray sludge; City Solid Waste Burial Site, Lenoir, spray sludge.

Catawba — Style Upholstering Inc., Hickory, sawdust and empty paint cans; Lackawanna Leather Co., Conover, toluene, methyl ethyl ketone.

Chatham — Southern Wood Piedmont, Gulf, pentachlorophenol, copper chromic arsenic sludges; Allied Corp., Moncure, inorganic labo-atory chemicals; Weyerhauser, Moncure, creosote waste oil; Chatham Novelties Co., Siler City, numerous solvents.

Columbus — Kaiser Acme Farmarket, Riegelwood, numerous pesticides; USS Agri-Chemicals Farm Service Center, Whiteville, fertilizer residue, CCI Chemicals, Riegelwood, two sites for sodium chloride, activated carbon, silicon dioxide, mercury and caustic materials.

Cumberland — Monsanto Co., Fayetteville, two sites for arsenic, heavy metals and chrome.

Davidson — Allen Tool Co., Gaspar Division, [illegible] electroplating sludges; Merrimac [illegible] Lexington, nitrobenzene sludges; [illegible] Thomasville, [illegible] acetate and oil [illegible] chemicals.

Durham — IBM, Research Triangle Park, [illegible] Monsanto, Research Triangle Park, [illegible] wastes.

Edgecombe — County landfill, Tarboro, chemical unknown; Mitchell Engineering Co., Rocky Mount, paint and paint sludge.

Forsyth — Beaunit Corp., Winston-Salem, organics; Johnson Controls-Globe-Union, Winston-Salem, two sites, lead oxide and sulfuric acid; Douglas Battery Manufacturing Co., Winston-Salem, two sites, acids, heavy metals, sludge; Chem-Dyne Corp., Kernersville, three sites, solvents.

Gaston — Lithium Corp. of America, Bessemer City, spodumen.

Graham — County landfill, Robbinsville, various sludges and polyvinyl acetate; Burlington Furniture, Robbinsville, sludges.

Guilford — Seaboard Chemical Co., Jamestown, four sites, various solvents; Cone Mills Corp., Greensboro, chemical unknown; Custom Finishers Inc., High Point, lacquers; Dow Corning Corp., Greensboro, PCB; City landfill, Greensboro, two sites, sulfuric acid, ethyl ether, ethanol, Vicks Nyquil; Hoover Universal Inc., High Point, solvents; Unitex Chemical, Greensboro, solvents; E.H. Glass County Landfill, Greensboro, Nyquil; City Landfill, High Point, listed for three sources, Nyquil, polyethylene plastic pellets, urea, solid latex paint, American Petrofina MKTG, Greensboro, gasoline, diesel fuel; Private farm, Route 1, Stokesdale, ethyl ether, ethanol; Gulf Oil Chemicals, McCleansville, nitrates, acric acid and other chemicals; Duke Refining Co., High Point, chemical unknown; Monarch Furniture-Thaden Molding, Jamestown, sludge, cyanide, various metals.

Halifax — Helena Chemical Co., Enfield, pesticides.

Henderson — County landfill, Hendersonville, two sites, water-based paint; General Electric Co., Hendersonville, two sites, various metals; Carolina Log Buildings Inc., Fletcher, pentachlorophenol; Berkley Mills-Kimberly Clark Corp., Balfour, solvents, halogenated chlorides.

Hertford — Carolina Aluminum, Winton, various metals.

Iredell — Beaunit Corp., Statesville, organics; Overcash Machine Shop Inc., Statesville, no hazardous wastes; Southern Screw Co., Statesville, various metals, lime.

Johnston — Union Camp Corp., saw mill, Smithfield, mercury; American Petrofina MKTG terminal, Selma, gasoline, diesel fuel, lead.

Lee — County landfill, Sanford, sludge.

Lenoir — Du Pont Textiles Fiber Plant, Kinston, oil, solvents, acids and caustics.

Martin — Beaunit Corp., Hamilton, organics.

McDowell — Travenol Laboratories Inc., Marion, pyradine and nitrobenzene; American Thread Co., Marion, oils and dyes.

Mecklenburg — Swift Adhesives & Coatings, Charlotte, chemical unknown; Sinclair & Valentine Co., Charlotte, ink solvents; Crown Central Petroleum Corp., Thrift, petroleum; Koppers Co., Paw Creek, asphalt; Martin Marietta Corp., Charlotte, organics, acids; Lee Buod Paving Co., Charlotte, asphalt; Celanese Corp., Fibers Technical Center, Charlotte, acetone, methylene chloride; city landfill, Charlotte, two sites, numerous chemicals; SCM Corp., Charlotte, vinyl acetate; Beaunit Corp., Charlotte, organics; American Petrofina MKTG terminal, Charlotte, gasoline, diesel fuel, lead; Dalmar Co., Charlotte, 1,1,1-trichlorethan, methylene chloride.

Moore — Stanley Case Goods, West End, solvents; Carolina Galvanizing Corp., Aberdeen, calcium hydroxide sludge, metals.

Nash — County landfill, Spring Hope, methyl iso-butyl-ketone; Unican Security Systems, Rocky Mount, nickle sludge.

New Hanover — County landfill, two sites, DMT; abandoned Dow Chemical Plant, ethyl bromide, freon 22, tetrachloroethane; Hercules, Wilmington, two sites, organics, metals; Acme Steel Basic Industries Plant, [illegible] arsenic sludges; Eaton General [illegible] Corp., Wilmington, paper [illegible] Products Co., Wilmington, [illegible] and city landfills, [illegible] Corporation, [illegible] toluene, xylene; Diamond Shamrock, Castle Hayne, chrome sludge; Northeast Chemical Co., Cape Fear Township, vanadium pentoxide; Castle Hayne Quarry, Castle Hayne, chrome.

Orange — University of North Carolina, Chapel Hill, two sites, numerous lab wastes, pesticides, heavy metals, PCBs; General Electric Co., Mebane, zinc, chromate and phosphates.

Person — Eaton Corp., Roxboro, acids, caustic soda, metals.

Pitt — David Sterling property, Farmville, lead, mercury, chrome; Unnamed site on N.C. 11 near Ayden, pesticides; County landfill, Greenville, two sites, chemical plant fire residues, heavy metals; City landfill, Greenville, heavy metals; City Utility Dept., Greenville, heavy metals.

Randolph — High Point Furniture Industries Inc., High Point, solvents; Municipal landfill, Asheboro, heavy metals.

Richmond — County landfill, Rockingham, wood, dirt, cardboard.

Rowan — Owens-Illinois, Spencer, metals; County landfill, Salisbury, asbestos, lead; Proctor Chemical Co., Salisbury, textile wastes.

Sampson — Beaunit Corp., Clinton, organics.

Scotland — REA Magnet Wire Co., Laurinburg, enamels, copper; Helena Chemical Co., Laurinburg, pesticides.

Stanly — Cama Solite Corp.-Aquadale, Norwood, recycled solvents.

Stokes — R.J. Reynolds Tobacco Co., oil, dissolved lead, metals.

Swain — County landfill, Bryson City, sludge.

Transylvania — Olin Corp., Pisgah Forest, fly ash, paper; Du Pont, Brevard, cadmium chloride, hydrofluoric acid.

Union — Eaton Corp., Monroe, cardboard; County landfill, Monroe, sludge.

Wake — Koppers Co., Morrisville, pentachlorophenol; Mallinckrodt, Raleigh, solvents, acids and bases; East Carolina Heat Treat Service, Raleigh, sodium cyanide salts, sodium and calcium carbonate; Burlington Industries, Wake Finishing Plant, chemical unkown; Cooper Industries, Lufkin Plant, Apex, various chemicals, metals; N.C. State University, lab chemicals.

Wayne — Livewire Electric Co., Goldsboro, chloranated hydrocarbons, arsenic; County landfill, Goldsboro, asphalt, lime, fiberglass.

Wilkes — Radiation Physics Consultants, Purlear, toluene; County landfill, Ronda, urea formaldehyde, polyvinyl acetate, Burlington Furniture Home Chair Plant, Ronda, paint sludge.

Military sites — Wastes were unspecified, but generally include explosive materials, officials said. There are 12 sites in Craven County at Marine Corps Air Station, Cherry Point, two sites in Cumberland County at Fort Bragg and Pope Air Force Base, 12 sites in Onslow County at Marine Corps Base, Camp Lejeune and Marine Corps Air Station, New River, Jacksonville, and a site at abandoned Dow Chemical Plant in New Hanover.

The following clipping appeared in the Morning Star

From Wilmington, NC Dated FEB 82 Page 1A

Area has its share of hazardous dumps

From staff and wire reports

Columbus, Brunswick and New Hanover counties are among those in North Carolina where potentially hazardous waste dumps exist, federal and state environmental agencies reported Monday.

Four sites in Columbus, two in Brunswick, 12 in New Hanover, 12 in Onslow and one in Sampson are among 167 scattered through half the counties of North Carolina and listed as potentially hazardous.

New Hanover County had the third largest number of sites listed, including the former landfill at Flemington.

Only Guilford County — which includes Greensboro and High Point — with 14 sites and Mecklenburg County — including Charlotte — with 13 had more sites listed. Wake County and Raleigh had only six sites listed.

Some of the listings may be duplications because they came from multiple sources.

In Columbus County, three of the listed sites were at Riegelwood: Kaiser Acme Farmarket, LCP Chemicals Acme Plant and LCP Chemicals. The fourth site listed was the USS Agri-Chemicals Farm Service Center in Whiteville.

In Brunswick County, the sites listed were Du Pont's Cape Fear Plant at Phoenix and Kerr-McGee Chemical Corp. at Navassa.

New Hanover's sites include: county landfill, Flemington, listed twice; abandoned Dow Chemical Plant, Cape Fear Peninsula; Hercofina, Hanover Plant, Wilmington, listed for two sources; Ideal Basic Industries Plant, Castle Hayne; Southern Wood Piedmont Co., Wilmington; Estech General Chemical Corp., Wilmington; Container Products Corp., Wilmington; county and city landfills, Carolina Beach; Corning Glass Works, Wilmington; Diamond Shamrock, Castle Hayne; Northeast Chemical Co., Cape Fear [illegible] ry, Castle Hayne.

Others in the region included Beaunit Corp.'s Clinton spinning and dyeing plant, in Sampson County, and 12 sites at Marine Corps installations in Onslow County.

The sites include dumping grounds for industrial plants and military bases, abandoned garbage dumps and city and county landfills still in use.

New Hanover County Commissioner Claud O'Shields Jr. heads a state commission studying hazardous waste handling. He said Mon-

MCBCL 5778/2

The following clipping appeared in the [illegible]
From Wilmington, NC Dated 16 FEB 82 Page 1A

day the former landfill at Flemington is the only site that could be considered a serious problem. "Fifty percent of them contain absolutely nothing," O'Shields contended.

The Flemington landfill operated under a county franchise from 1973 to 1979.

The U.S. Environmental Protection Agency has blamed the landfill — and possible illicit deposits of industrial waste there — for polluting the wells of nearby residents. An EPA suit against the county and the landfill's owners and former operators is still pending in U.S. District Court.

Other locations listed included ammunition dumps and other sites at the state's largest military bases. In addition to the 11 sites at Camp Lejeune and one at New River Marine Corps Air Station, Jacksonville, the list includes Fort Bragg and Pope Air Force Base in Cumberland County and 12 sites at Cherry Point Marine Corps Air Station in Craven County.

EPA listed the sites as a result of a 1980 federal law which requires anyone with knowledge of past hazardous waste dumping to notify the government. Some of the sites date back as far as 1930.

Dr. Ron Levine, state health director, said many of the sites — more than 50 — "either don't contain hazardous wastes, were reported by mistake or are little or no threat to public health or the environment." In addition, several of the sites appear on the list several times for different problems.

But at some other sites, state officials say they don't know what kind of chemicals or other wastes have been dumped, how much has been dumped or whether the wastes threaten local water supplies.

"There are some sites on the list . . . that we either were not aware of or know little about," said Levine. "Some of these, we believe, will have to be monitored to determine if they are a potential environmental threat, and others may have to be

Please see DUMPS, 5A

WPLCL 5723/2

The following clipping appeared in the Morning Star

From Wilmington, NC Dated 16 FEB 82 Page 1A

Dump

Continued from 1A

cleaned up. These sites are our main concern."

Levine, other state officials and EPA officials who released the list said about only about one-quarter of the sites had been known to them before they were reported.

State and federal officials declined to single out any of the sites as posing particular dangers and said they would begin immediately with on-site inspections to determine which needed the most attention.

Among those listed were sites:

• In Swannanoa in Buncombe County. Amcel Propulsion Inc. reported using an open pit to dispose of residue from military explosives and tear gas, and the state listed the dump as having "significant" impact on groundwater.

• In Thomasville. A company, Southern Resins, reported that the previous owner of its property buried 10,000 to 20,000 pounds of resins containing formaldehyde between 1960 and 1964.

• At three landfills in Greensboro and High Point. Richards-Vicks Inc. was listed as disposing of 15,100 gallons of Vicks Nyquil and Vicks nosedrops in small containers. They are 24 percent to 36 percent alcohol and "could be considered flammable," the state said.

• In Charlotte. A Marvin Marietta Corp. plant reported earlier disposal of acids. The state said it had "signficantly contaminated" groundwater and the company has begun a water monitoring program.

• In Smithfield. Union Camp Corp. reported its property may have been contaminated by mercury under the previous owner, between 1963 and 1968.

Officials in Raleigh said none of the sites is thought to be dangerously close to homes.

"If we had any information this morning that led us to believe any was an imminent hazard, we would be out there this morning rather than here," said R. Paul Wilms, assistant director of the state Division of Environmental Management. "We don't have any information right now that gives us undue concern about a threat to public health."

Wayne Mathis, chief of site screening and engineering for the EPA's Atlanta regional office, said the agency invited reports from anyone with knowledge of dumping and that as a result, some of those listed were only "allegations" of hazardous sites.

APPENDIX C

TECHNICAL REVIEW COMMITTEE MEMBERS

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APPENDIX C (Continued)

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Raleigh, North Carolina 27611

Appendix D
Locations of Information Repositories

APPENDIX D

LOCATION OF INFORMATION REPOSITORY

Onslow County Library
58 Doris Avenue East
Jacksonville, North Carolina 28540
(919) 455-7350

Hours:	Monday - Thursday	9:00 a.m. to 9:00 p.m.
	Friday and Saturday	9:00 a.m. to 6:00 p.m.
	Sunday	Closed

Camp Lejeune Central Library
Building 1220
Marine Corps Base
Camp Lejeune, North Carolina 28542
(919) 451-5724

Hours:	Monday - Thursday	9:00 a.m. to 10:00 p.m.
	Friday	9:00 a.m. to 4:30 p.m.
	Saturday and Sunday	10:00 a.m. to 10:00 p.m.

Appendix E
Fact Sheets

Installation Restoration Program

MCB Camp Lejeune

Site 48 Proposed Plan

SYNOPSIS

This fact sheet outlines the Department of the Navy's (DON) proposed plan for the New River Marine Corps Air Station (MCAS) Mercury Dump (Site 48). Site 48 does not pose any adverse impacts to human health or the environment, according to a recently completed Remedial Investigation study. Based on this study, DON is proposing the "No Action Alternative" for Site 48. A Public Meeting will be held to solicit comments to the proposed No Action Alternative.

ENVIRONMENTAL STUDIES

The MCAS New River Mercury Dump (Site 48) is one of several sites at MCB Camp Lejeune that is being investigated to determine whether past disposal practices have resulted in environmental contamination. The investigations are being conducted through the Navy's Installation Restoration Program. The goal of this program is to study past, formerly accepted waste disposal areas at Navy and Marine Installations and remediate, or clean them up, if necessary. The Installation Restoration Program study process is outlined on Page 4 and the acronyms used in this fact sheet are listed below, to the right.

NEW RIVER MCAS PROFILE

Site 48 is located in MCAS New River, which comprises approximately 2,600 acres of land. About 560 acres are swamp lands. The mission of MCAS New River is to provide the necessary support for its tenant units, Marine Aircraft Groups 26 and 29. Other commands at MCAS New River include H&HS, responsible for Garrison activities aboard the station; MWSS-272, responsible for the logistical support to both MAGs; MATSC-28; and MWCS-28 (Det. B).

SITE 48 PROFILE

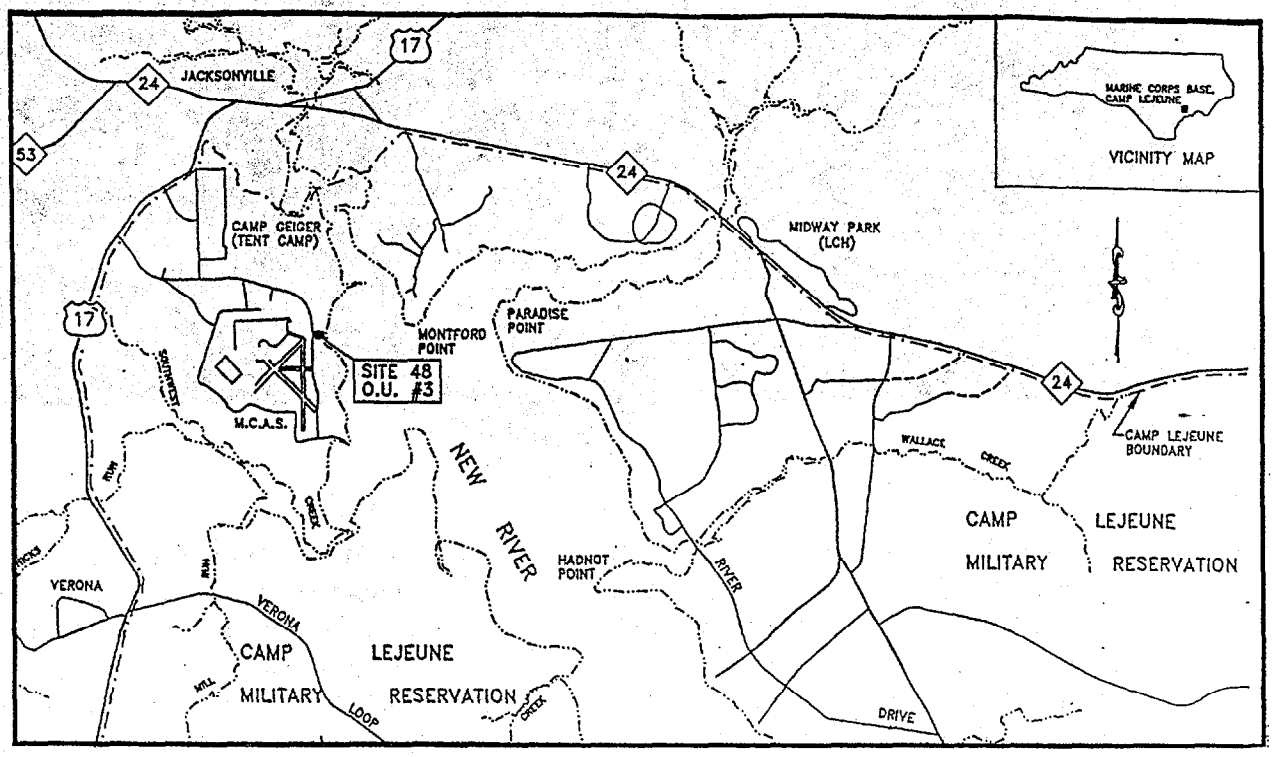
The MCAS Mercury Dump (Site 48) is situated between Longstaff Road and the New River and covers an area of approximately 4 acres (see figure and photograph on pages 2, 3). The site is bordered to the north by an unnamed tributary and to the east by the New River. The tributary discharges into a marsh which is part of the New River. The only structures at the site are Buildings AS-804, AS-805 and AS-807. AS-804 was used as the Administration Office and Photographic Laboratory from 1955 to 1990.

During a ten year period (1956-1966), mercury was reportedly drained from delay radar units and disposed behind Building AS-804. It has been reported that approximately one gallon of mercury per year was randomly disposed behind the building. However, there is no physical evidence to support this report.

The site area surrounding the building is flat and is covered with grass (see photograph). There are no visual signs of stressed vegetation or disposal areas. However, analysis of historical aerial photographs depicted three areas that may be related to disposal areas or surface spills. One of the three areas (a probable disposal area) is located between Building AS-804 and the New River. Another area of concern

ACRONYMS

DEHNR	Department of Environment, Health and Natural Resources
DON	Department of the Navy
EPA	Environmental Protection Agency
MCAS	Marine Corps Air Station
MCB	Marine Corps Base



MCB Camp Lejeune: New River MCAS Site 48 Location

(probable liquid discharge area) was identified just north of the building. The third area of concern (ground scarring) was identified across Longstaff Road. These historic photographs are available for public review at the libraries listed on Page 4.

REMEDIAL INVESTIGATION

The Remedial Investigation at Site 48 was performed in accordance with a Federal Facilities Agreement between the Department of the Navy (DON), the United States Environmental Protection Agency (EPA) Region IV, and the North Carolina Department of Environment, Health, and Natural Resources (DEHNR). The Federal Facilities Agreement was signed by these three parties following the inclusion of MCB Camp Lejeune to the National Priorities List. This is EPA's list of the most contaminated sites in the country; confirmed contamination of several of the base's former waste disposal sites prompted the entire base to be nominated and placed on the National Priorities List.

The Remedial Investigation was conducted at Site 48 to determine whether past mercury disposal has adversely affected soil, groundwater, or surface water and sediment quality. The Remedial Investigation involved: soil sampling at each of the three areas of concern (previously described); installing five monitoring wells and sampling groundwater (shown in photograph); collecting surface water and sediment samples from the New River, the marsh area, and the unnamed tributary; and conducting an aquatic survey of the New River and marsh.

Study Results: Mercury was not detected in soil at any of the three areas of concern or in the groundwater. Low levels of mercury were detected in some of the sediment and surface water samples collected from the marsh, the unnamed tributary, and the New River. However, mercury was detected in upstream surface water and sediment samples at similar levels. This indicated that low levels of mercury are likely present in the New River from other sources not necessarily related to MCAS Site 48.

The levels of mercury in surface water and sediment are not likely to result in impacts to wildlife or human health. Fish and crabs collected from the New River were analyzed for mercury. No mercury was detected in any of the fish or crab samples.

Risk Assessment: A baseline risk assessment was conducted to assess potential impacts to human health and the environment. The assessment concluded that Site 48 does not pose any adverse impact to human health or the envi-

ronment. Because there is no human health or environmental risk associated with Site 48, a feasibility study to evaluate remediation (cleanup) alternatives for Site 48 was not conducted.

PROPOSED ALTERNATIVE

The alternative proposed for Site 48 is No Action. This alternative will consist of leaving the site as is. No additional sampling or monitoring will be required as a result of this alternative since the site does not pose a threat to human health or the environment.

PUBLIC INVOLVEMENT IN SELECTING ALTERNATIVES

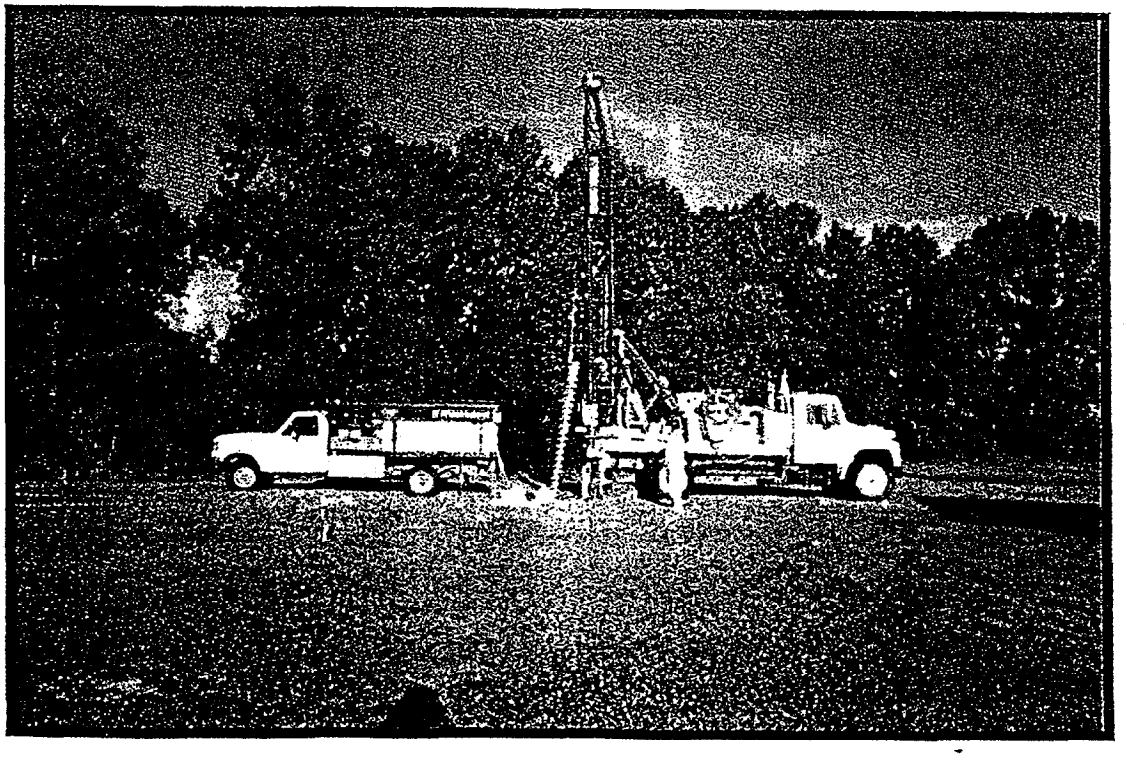
The public is encouraged to participate in the decision making process.

Information Repositories: The Proposed Plan is available for review along with the Administrative Record at the Information Repositories at the Onslow County and Camp Lejeune Libraries. The Administrative Record is a compilation of all the information evaluated to develop the Proposed Plan. The library hours of operation and addresses are on Page 4.

Public Meeting: Additionally, a Public Meeting will be organized to present the information and solicit comments. The Public Meeting will be held on Monday, June 21 at 7:00 PM at the Tarawa Terrace No. 1 Elementary School Gymnatorium (see Page 4 for details). At this meeting, DON, in coordination with EPA Region IV and the North Carolina DEHNR, will discuss the investigation, results of the baseline risk assessment, and the No Action alternative described in the Proposed Plan. Upon completion of the presentation, public questions will be addressed. Comments offered at the public meeting will be considered as formal comments and included in the Administrative Record. Transcripts of the meeting will be included in the Information Repository at the libraries.

Public Comment Period: The public comment period will be held from June 21, 1993 to July 21, 1993. Opinions and concerns may be forwarded in writing to the Navy's Project Manager, Ms. Linda Berry, PE (address on Page 4).

Verbal comments received at the public meeting and written comments received during the public comment period will be considered in selecting the remedial alternative. These public comments will be addressed in the Responsiveness Summary portion of the Record of Decision, which describes the final decision for remedial action.



Installing groundwater monitoring wells at New River MCAS Site 48

INSTALLATION RESTORATION PROGRAM PROCESS

Preliminary Assessment/Site Inspection (PA/SI):
identifies potential threats to human health & the environment

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analyzes contaminants and determines possible contamination migration from site and risks to human health and the environment

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evaluates feasible cleanup methods to achieve environmental standards for human health and the environment

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outlines feasible alternatives and recommends remediation or cleanup method

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919/451-5724

Hours:
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F: 9:00 AM - 4:30 PM
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PUBLIC MEETING

The Public Meeting will be held on June 21, 1993 at 7:00 PM at: Tarawa Terrace No. 1 Elementary School Gymnatorium on Tarawa Boulevard near the intersection of Corbin Road and Lejeune Boulevard (Highway 24).

CONTACT FOR MORE INFORMATION

Ms. Linda Berry, PE Code 1823
Atlantic Division
Naval Facilities Engineering Command
Norfolk, Virginia 23511-6287
804/445-8637

Mr. Neal Paul
Installation Restoration Division
Environmental Management Department
Building 1, MCB
Camp Lejeune, North Carolina 28542-5001
919/451-5874

Installation Restoration Program

MCB Camp Lejeune

Operable Unit No. 2 Proposed Plan

SYNOPSIS

This fact sheet outlines the Department of the Navy's (DON) proposed plan for Site 6 (Storage Lots 201 and 203), Site 9 (Fire Fighting Training Pit at Piney Green Road), and Site 82 (Piney Green Road VOC Area) at Marine Corps Base (MCB), Camp Lejeune, North Carolina. These three sites are grouped together as "Operable Unit (OU) No. 2. Based on the results of environmental studies, a Remedial Investigation, and Feasibility Study, remedial action will be required to treat contaminated groundwater and soil at various locations which have been contaminated by former waste disposal activities.

It should be noted that the operating potable water supply wells are not contaminated and that the proposed treatment of contaminated water under Site 82 is being performed to restore the water aquifer for possible future use. It should also be noted that the overall health and environmental risk posed by the three sites are not significant; however, to protect the groundwater from any further impact, and to re-use portions of the area for open storage of military equipment, the soil will be cleaned up.

PUBLIC PARTICIPATION

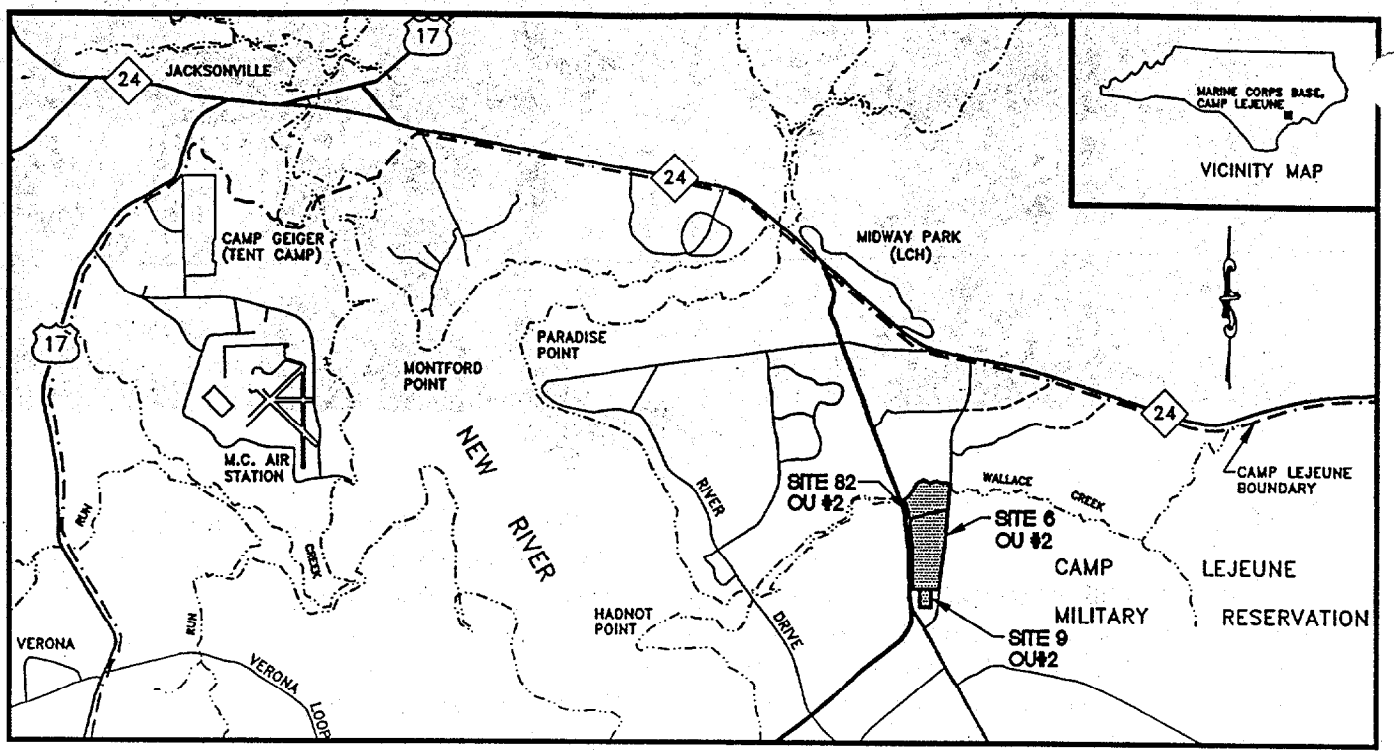
The DON encourages public participation in their environmental program. In the past, public meetings have been held to provide the community with information about the continuing environmental studies and to receive their ideas and comments. This Proposed Plan for Sites 6, 9, and 82 is available for public review and comment. Page 8 lists local libraries where the reports are located and the contact persons for additional information. Additionally, Page 7 provides information regarding the upcoming public meeting.

ENVIRONMENTAL STUDIES

There are a total of 12 operable units (consisting of a total of 24 sites) at MCB Camp Lejeune. These operable units are being investigated to determine whether past waste disposal practices have resulted in environmental contamination. The investigations (referred to as "remedial investigations") are being conducted through the DON's Installation Restoration Program. The goal of this program is to study former waste disposal areas at all Navy and Marine Corps Installations and to remediate them as necessary. The Installation Restoration Program study process is outlined on Page 8, definitions are on Page 7, and the acronyms used in this fact sheet are listed below.

ACRONYMS

AOC	Area of Concern
DEHNR	Department of Environment, Health and Natural Resources
DON	Department of the Navy
EPA	Environmental Protection Agency
FFA	Federal Facilities Agreement
MCB	Marine Corps Base
NPL	National Priorities List
OU	Operable Unit
PCB	Polychlorinated Biphenyl
VOC	Volatile Organic Compound



MCB Camp Lejeune: Sites 6, 9 and 82 (OU No. 2) Locations

The investigations performed at MCB Camp Lejeune were conducted in accordance with the Federal Facilities Agreement (FFA) between the DON, the United States Environmental Protection Agency (EPA) Region IV, and the North Carolina Department of the Environment, Health, and Natural Resources (DEHNR). The FFA was signed by these parties following the inclusion of MCB Camp Lejeune to the National Priorities List (NPL). The FFA outlines a schedule to study and remediate the sites. The NPL is a list of contaminated sites in the country targeted for accelerated study and cleanup. Several of the base's former disposal areas (such as sites 6, 9, and 82) prompted the entire base to be nominated and placed on the NPL, even though most of the base is not impacted by hazardous substances.

OPERABLE UNIT NO. 2 PROFILE

Operable Unit No. 2 (Sites 6, 9, and 82) is located between Holcomb Boulevard and Piney Green Road (see figure above). Wallace Creek and Bear Head Creek border the operable unit to the north and south, respectively. The operable unit covers a total area of approximately 210 acres.

O Site 6 (Storage Lots 201 and 203): covers the largest area and consists primarily of two fenced-in storage lots (Storag Lots 201 and 203), separated by a strip of woods. Storage Lot 201 (see opposite page for photograph) is currently used for the open storage of military vehicles and supplies. Reportedly, transformers, filled with polychlorinated biphenyl (PCB) fluid, and pesticides were stored at this lot; however, there is no documentation indicating that hazardous substances were disposed. PCBs were a main component in dielectric fluids and since learning of their carcinogenic potential, their manufacture has been discontinued. Storage Lot 203 (see page 4 for photograph) is no longer used for open storage; however, miscellaneous equipment and debris are scattered throughout this former storage area. It has been reported that pesticides, PCB contaminated fluids, paints, and solvents were disposed at Lot 203.

O Site 9 (Fire Fighting Training Pit at Piney Green Road): is located just south of Bear Head Creek and Lot 201 (see page 5 for photograph). The area has been and is currently used for fire fighting training activities. Fire training activities are conducted in an asphalt-lined pit. Over the years, thousands of gallons of fuel were used to ignite the fires. The fires are extinguished using either water or fire-retardant chemicals.

O Site 82 (Piney Green Road VOC Area): is a heavily wooded area just south of Wallace Creek (see page 6 for photograph). A ravine which runs north to south and bisects the site is filled in some areas with construction debris, drums, and canisters. In addition, several 55-gallon drums are present on the surface in the southeastern corner of the site. This area also contains an unknown number of drums beneath the ground surface. These drums are being removed as part of a Time Critical Removal Action.

REMEDIAL INVESTIGATION

A remedial investigation was conducted at Operable Unit No. 2 to determine whether past storage and disposal activities have impacted the quality of soil, groundwater, surface water, or sediment. The results of the remedial investigation were evaluated in order to assess the potential impacts, if any, to human health and the environment. The remedial investigation involved an extensive sampling and analysis program at the three sites. The remedial investigation included the collection of soil, groundwater, and surface water/sediment samples in the two major creeks and drainage areas. In addition, an aquatic survey was conducted to determine whether the site poses any adverse impacts to the environment.

STUDY RESULTS

O Groundwater under Site 82 is contaminated with concentrations of volatile organic compounds (VOCs) above Federal and North Carolina State drinking water standards. The source of this contamination is from contaminated soil and buried waste at Site 82. A defined area of contaminated groundwater, a "groundwater plume," is migrating from the disposal area, but not the property of MCB Camp Lejeune. Other areas of the operable unit, primarily the groundwater under Site 6, revealed low levels of inorganic and VOC contamination. Yet the low level and infrequent occurrence of groundwater contamination makes remediation of this area not feasible from an engineering perspective, mainly because there is no apparent source, and the extent of contamination is limited to small areas.

O Soil is contaminated with elevated levels of organic contamination at six areas throughout the operable unit. These six areas are referred to as "areas of concern" (AOCs). The AOCs are believed to be areas where previous disposal activities have occurred.

✔ AOC No. 1 is located in the eastern portion of Site 82. This area is contaminated with elevated levels of VOCs. This AOC is believed to be contributing to the groundwater contamination beneath the site.

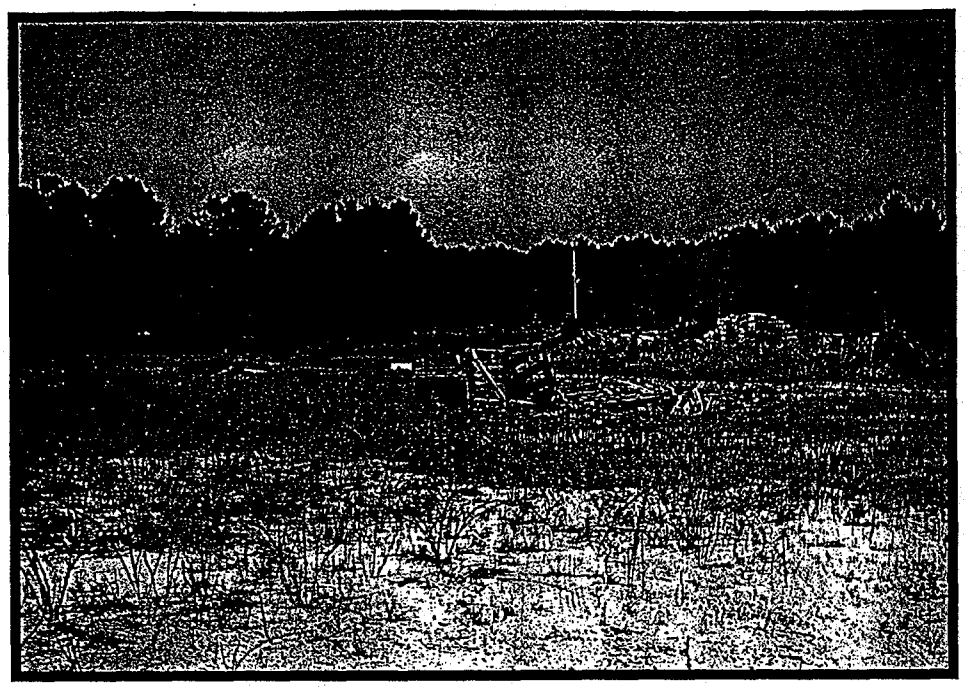
✔ AOC No. 2 is located in the southern portion of the ravine. Soil at this AOC is contaminated with PCBs and low levels of pesticides.

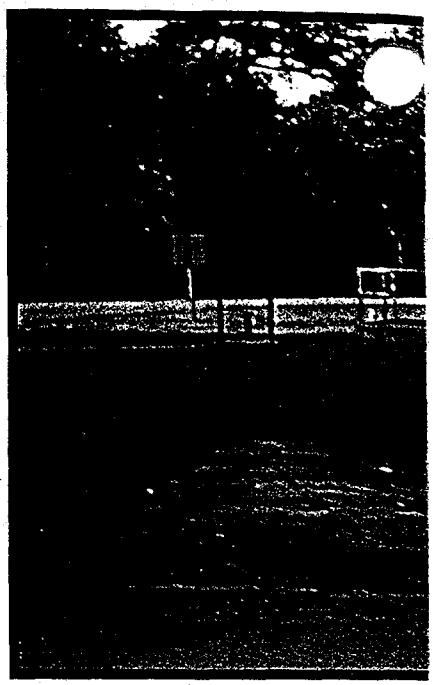
✔ AOC No. 3 and No. 4 are located within Storage Lot 203. These areas consist of PCB and polynuclear aromatic hydrocarbon (PAH)-contaminated soil. This portion of the lot may have been used as a disposal area.

✔ AOC No. 5 is located at Storage Lot 201 and consists of soil contaminated primarily with pesticides.

✔ AOC No. 6 is located in the wooded area between Piney Green Road and Storage Lot 201. This area of concern is contaminated with PCBs.

Site 6 : Storage Lot 201





Site 6 : Storage Lot 203

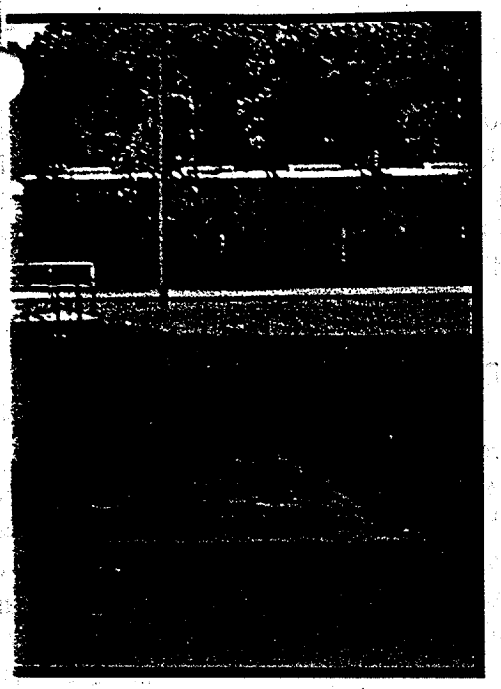
O With respect to Wallace Creek, sediments are contaminated with PCBs and pesticides near Site 82 and where the ravine enters Wallace Creek. Inorganic contaminants are also present in the sediment; however, the inorganic contaminants were detected both upstream and downstream of the site. Surface water is contaminated with low levels of VOCs and inorganics. The source of the VOC contamination is groundwater discharge from under Site 82. Inorganics were detected both upstream and downstream of the site, which indicates that the contamination may not be from the operable unit.

O With respect to Bear Head Creek, sediments are contaminated with very low levels of VOCs, pesticides, and PCBs. Surface water was contaminated with low levels of inorganics; however, both upstream and downstream surface water quality showed inorganic contamination, indicating that the contamination may not be from the operable unit.

O A limited number of fish were collected for chemical analysis to determine whether contaminants were "bioaccumulating," or building in increasing amounts in the food chain. Low levels of pesticides, trichloroethene, and PCBs were detected in some of the fish from both Wallace Creek and Bear Head Creek. None of the contaminant levels exceeded U.S. Food and Drug Administration levels for "unsafe" consumption. Additional studies are being planned to better assess whether contaminants are bioaccumulating in fish. The original study consisted of a limited data base. In addition, some of the fish which showed contamination are migratory. Therefore, it is not known whether the contamination from Operable Unit No. 2 is responsible for the presence of these contaminants in fish.

O Risk Assessment:
The primary potential impact from the operable unit to human health that would result in adverse health risks would be future use of the contaminated groundwater as a source of potable water. With respect to groundwater consumption, there is no current risk since none of the operating supply wells are contaminated. Supply wells are monitored periodically to ensure that the wells are not contaminated. The only other potential impact to human health is associated with fish consumption from Wallace Creek; however, the levels of contaminants detected in fish do not exceed FDA criteria. Soil contamination does not present an unacceptable risk to military personnel if the area is used for open storage.

Site contaminants in soil, surface water, and sediment could potentially impact wildlife; however, the fish and benthic (bottom dwelling) aquatic communities showed no adverse



Site 82

impacts (e.g., lesions, abnormalities, etc.) based on visual inspection and population studies.

SUMMARY OF ALTERNATIVES

O Groundwater : Five remedial action alternatives (RAA) have been developed to remediate the groundwater problem. These alternatives are described below:

✔ RAA No. 1 (No Action) - No action is always considered as a baseline to evaluate other alternatives. Under this alternative, no action means that the groundwater would remain contaminated and migration of contaminants from OU No. 2 would likely continue.

✔ RAA No. 2 (Limited Action) - Under this RAA, the groundwater would be monitored to determine whether the contaminant plume is migrating toward operating supply wells. Institutional controls would be enacted to monitor existing supply wells as well as prevent the installation of new supply wells in the area.

✔ RAA No. 3 (Containment) - The migration of contaminated groundwater would be stopped by placing "extraction" wells at the edges of the contaminant plume. Groundwater would be removed or extracted from these wells, treated to acceptable water quality standards.

✔ RAA No. 4 (Intensive Groundwater Extraction and Treatment) - As part of this RAA, the groundwater under Site 82, which exhibited the highest level of contamination, would be extracted by a series of three shallow and two deep aquifer extraction wells; treated onsite via air stripping and carbon adsorption; and discharged to Wallace Creek. The cone of influence created by the extraction wells would be sufficient to capture the edge of the plume near Holcomb Boulevard. This RAA is expected to meet the groundwater remediation goals over time.

✔ RAA No. 5 (Groundwater Extraction and Treatment) - Under this RAA, contaminated groundwater would be extracted by a series of 12 shallow and 8 deep aquifer extraction wells; treated via air stripping and carbon adsorption; and discharged to Wallace Creek. This alternative differs from RAA No. 4 in that the time frame expected to reach the remediation goals is less because of the number of extraction wells.

from being drilled in the area of concern.

O Soil: Seven RAAs have been developed to address the six soil AOCs. These RAAs are described below.

✔ RAA No. 1 (No Action) - No action is always considered as a baseline to evaluate other alternatives. Under this alternative, no action means that the six AOCs would remain contaminated, and migration of contaminants offsite or to the water table would likely continue.

✔ RAA No. 2 (Capping) - Under this alternative, soil from all six AOCs would be excavated and placed under a "multi-media cap" at Lot 203. This alternative would prevent further exposure and migration of soil contaminants.

✔ RAA No. 3 (On-site Treatment) - Soil from all six AOCs would be excavated and treated: via incineration at AOC Nos. 2, 5, and 6; in situ (in place) volatilization (i.e., vapor extraction) at AOC No. 1; or chemical dechlorination at AOC Nos. 3 and 4. The treated soil would be placed back onsite, covered with topsoil, and vegetated.

✔ RAA No. 4 (Partial Capping, Partial On-site Treatment) Under this RAA, soil from the PCB-contaminated areas such as AOC Nos. 2, 3, 4, and 6 would be excavated and contained in a multi-media cap to prevent exposure and migration of PCBs. Contaminated soil from AOC No. 1 would be treated in situ via volatilization and soil from AOC No. 5 would be treated via chemical dechlorination. The treated soil would remain onsite under a layer of topsoil.

✔ RAA No. 5 (Offsite Treatment/Disposal) - Under this alternative, soil from all six AOCs would be excavated and taken to a permitted treatment, storage, disposal facility (TSDF). It is likely that the soil from AOC No. 1 is hazardous and would require treatment prior to landfilling. The soil from the remaining five AOCs would likely be taken to a permitted landfill since none of these wastes are characteristically hazardous.

✔ RAA No. 6 (Partial Capping, Partial On-site Treatment of Three AOCs) - Under this RAA, only the three most contaminated AOCs (AOCs Nos. 1, 4, and 5) would be remediated. The remaining three AOCs (Number's 2, 3, and 6) would not be remediated since the level of contamination in these areas does not result in potential human health risks if the area is used solely for open storage of military equipment and supplies.

✔ RAA No. 7 (Partial Onsite Treatment, Partial Offsite Disposal) - Under this RAA, contaminated soil at AOC No. 1 would be treated in situ via vapor extraction and the remaining AOCs would be excavated and disposed offsite in a permitted landfill, without the need for treatment.

PROPOSED ALTERNATIVE

The proposed alternative for remediating groundwater is to pump and treat shallow and deep groundwater beneath Site 82, and discharge the treated water (Groundwater RAA No. 4). This alternative is feasible from a standpoint that over time, the aquifer may be restored, and the migration of the worst area of contamination may be stopped. Groundwater RAA No. 4 will include long-term groundwater monitoring in order to assess the implementation of the alternative. In addition, institutional controls will be enacted to ensure that no new supply wells are installed in the area.

The proposed alternative for addressing the six soil AOCs is to treat AOC No. 1 in place with a method known as va extraction, and excavate and dispose of the remaining five AOCs at an offsite landfill permitted to handle non-hazardous waste. This alternative is referred to above as Soil RAA No. 7. This alternative is feasible from the perspective that all of the areas of concern will be either treated to reduce the soil contamination to safe levels for protection of human health and the environment, or removed from the site to eliminate potential exposure and migration of contaminants.

PUBLIC INVOLVEMENT IN SELECTING ALTERNATIVES

The public is encouraged to participate in the decision making process.

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D E F I N I T I O N S

Aquifer: A permeable formation that stores and transmits groundwater in sufficient quantity.

Area of Concern: An area where potential hazardous substances have been disposed.

Bioaccumulate: Uptake in the body of chemicals from water, ingested food, and sediment.

Benthic: Aquatic organisms that live on the bottom of a surface water body (e.g. clams).

Groundwater: The water contained in subsurface, interconnected pores below the water table.

Inorganic compound: An element which is absent of carbon (e.g. lead) and is naturally occurring in the environment.

In situ: "In place" remediation or treatment as opposed to excavation or removal prior to treatment.

Operable Unit: A grouping of sites based on similar potential remedial solutions, geographic location, or other factors.

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PAHs: Polyaromatic hydrocarbons. Chemicals which are the result of incomplete combustion of fuels.

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Plume: A delineated area of groundwater contamination.

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Water table: Level at which groundwater is elevated to in subsurface soil

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Atlantic Division
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1510 Gilbert Street (Bldg. N-26)
Norfolk, Virginia 23511-6287
804/322-4793

Mr. Neal Paul
Commanding General
AC/S EMD (IRD)
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Sun: closed

Camp Lejeune Central Library
Building 1220
Marine Corps Base
Camp Lejeune, North Carolina 28542
919/451-5724

Hours:
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Fri: 9:00 AM - 4:30 PM
Sat-Sun: 10:00 AM - 10:00 PM

CONTACTS FOR MORE INFORMATION

Ms. Linda Berry, P.E. Code 1823
Atlantic Division
Naval Facilities Engineering Command
1510 Gilbert Street (Bldg. N-26)
Norfolk, Virginia 23511-6287
804/322-4793

Mr. Neal Paul
Commanding General
AC/S EMD (IRD)
Marine Corps Base
Camp Lejeune, North Carolina 28542-0004
919/451-5874

Appendix F
Program Points of Contact

APPENDIX F

PROGRAM POINTS OF CONTACT

Commander
Atlantic Division
Naval Facilities Engineering Command
1510 Gilbert Street (Building N-26)
Norfolk, Virginia 23511-2699

Attention: Ms. Linda Berry
Code 1823
(804) 322-4793

Commanding General
AC/S, EMD/IRD (Mr. Neal Paul)
MCB, PSC Box 20004
Camp Lejeune, North Carolina 28542-0004

Attention: Mr. Neal Paul
IR Division Director
(910) 451-5068

U. S. EPA Region IV
Waste Management Division
345 Courtland Street
Atlanta, Georgia 30365
(404) 347-3016

Attention: Ms. Gena Townsend

North Carolina DEHNR
Division of Solid Waste Management
Superfund Section
P.O. Box 27687
401 Oberlin Road
Raleigh, North Carolina 27611
(919) 733-2801

Attention: Mr. Patrick Watters

Appendix G
Media

APPENDIX G

LOCAL/REGIONAL MEDIA LIST

ORGANIZATION	LOCAL PHONE	FAX
Daily News Rick Smith (Home)	353-1171 354-4789	353-7316
Wilmington Morning Star Jim Schwartzenberg (Home) Jack Murphy (Home)	343-2312 347-7240 353-5221	343-2227
WITN-TV 7	346-1020	346-4842
WNCT-TV 9	346-9999	346-9363
WCTI-TV 12	455-8812	455-3870
WJNC Radio	455-2202	455-7139
WXQR Radio	455-2177	455-0330
WLAS Radio	455-9528	455-5207
WKOO Radio	455-5300	455-3112
WNCT Radio	757-0011	

ORGANIZATION	REGIONAL PHONE	FAX
Raleigh News & Observer	829-4540	829-4529
New Bern Sun Journal	638-8101	638-4664
Charlotte Observer	(704) 358-5040	(704) 358-5036
WWAY-TV 3 (Wilmington)	763-0979	762-9745
WECT-TV 6 (Wilmington)	791-8070	(Phone First)
WRAL-TV 5 (Raleigh)	821-0450	821-8541
WLFL-TV 22 FOX (Raleigh)	821-9328	821-2200
WTVD-TV 11 (Durham)	687-2349	687-4373
WBTV-TV 3 (Charlotte)	(704) 374-3652	(704) 374-3885
WSOC-TV 9 (Charlotte)	(704) 335-4772	(704) 335-4736
WPTF-TV 20 (Charlotte)	(919) 291-8833	(919) 291-5482

ORGANIZATION	REGIONAL PHONE	FAX
WRNS Radio (Kinston)	522-4141	523-4877
WDLX Radio (Washington)	(800) 242-0933	946-0330
WRAL Radio (Raleigh)	890-6111	890-6192
N.C. News Network	(800) 849-6266	890-6192

Appendix H
Local Officials

APPENDIX H

ELECTED/APPOINTED OFFICIALS

CITY OF JACKSONVILLE ELECTED OFFICIALS

Mayor

M. C. (Joe) Choate 204 Deborah Place Jacksonville, NC 28540	Home:	346-6176
or		
C and S Paint Store 6 Doris Avenue	Work:	455-0210 395-0442 455-8956

Council

Mayor Pro-Tem

Dorothy S. Pullicino 706 Christine Avenue Jacksonville, NC 28540	Home:	346-9672
or		
Non-Appropriated Fund - Personnel Division Camp Lejeune	Work:	451-2266
Greg Johnston 124 Tweed Drive Jacksonville, NC 28540	Home:	455-9612
or		
Southern Cleaners 401 Chaney Avenue	Work:	347-1722
Turner G. Blount 102 Cole Drive Jacksonville, NC 28540	Home:	347-4930
Morris V. Daugherty 906 Vernon Drive Jacksonville, NC 28540	Home:	347-1645 346-8704
James N. Smith 207 Hunter Court Jacksonville, NC 28546	Home:	455-4188
or		
P.O. Box 5443 (Mail) Jacksonville, NC 28540		
or		
MCB Camp Lejeune Base Fire Station	Work:	451-0820

Jim Sloan 111 Cardiff Court Jacksonville, NC 28546	Home:	577-8548
or Ramada Inn 701 N. Marine Blvd.	Work:	347-6111

CITY OF JACKSONVILLE APPOINTED OFFICIALS

City Manager Jerry A. Bittner 1010 Foscue Drive	Home:	455-7624
or City Hall	Work:	455-4397
City Attorney Marshall F. Dotson, Jr. 107 Brookview Drive	Home:	455-1244
or Warlick, Milsted, Dotson & Carter 320 New Bridge Street	Work:	455-1215

ONSLOW COUNTY ELECTED OFFICIALS

Commissioners

Larry Fitzpatrick, Chairman 141 Brookville Court Jacksonville, North Carolina 28540	Home: Work:	455-1902 326-6365
Tony Padgett P.O. Box 272 Jacksonville, North Carolina 28540	Home: Work:	346-6632 346-9754
Sam Hewitt 250 Hubert Blvd. Hubert, North Carolina 28539	Home:	353-1154
Robert Swindell 1514 Clifton Road Jacksonville, North Carolina 28540	Home: Work:	346-8999 455-3122
Ernest Wright 2 West Bayshore Blvd. Jacksonville, North Carolina 28540	Home: Work:	455-4647 347-2060

Appendix I
Civic Club List

ONSLOW COUNTY PUBLIC LIBRARY 1992-1993

PLEASE CALL 455-7350 OR 455-7353 TO LET US KNOW OF ANY CHANGES IN YOUR ORGANIZATION'S INFORMATION.

Organization	Address	City	Contact Person	Phone H--W	Updated
4-H Council & Leaders, OC	604 College Street	Jacksonville	Greg Clemmons	455-5873	09/04/92
AA	612 New Bridge St.	Jacksonville	Answering service, 24 hrs.	455-3666	
AA, Brynn Marr Group of	192 Village Drive	Jacksonville	Marge Henderson	577-1400 ext.250	03/31/93
AARP, Assoc. of Ret. Persons	100 Hearthstone Ct.	Jacksonville	Mavis Wallace	455-8116	09/15/92
ABC Board,OC	409 Center St	Jacksonville	Bill Hines	577-7186	10/14/92
ABWA, El Rio Nuevo Chapter	17 Princeton Dr.	Jacksonville	Claire Roller	577-7234/451-3182	09/17/92
ABWA, Janerion Chap	P.O. Box 958	Jacksonville	Karen Simpson	346-5013/451-3022	09/05/92
ABWA, Jax. Charter Chapter	806 Oakwood Ave	Jacksonville	Maureen Fiorello	353-0085/455-7350	09/09/92
ABWA, Sea Oats Chap	POB 933	Swansboro	Conchita Padrick	326-5862/455-4164	09/15/92
ABWA, Swansboro Chap	P.O. Box 733	Swansboro	Pam Pearson	326-3998/346-9181	09/25/92
Aging: COA, Advisory Board	P.O. Box 982	Jacksonville	Marge Zima	455-2747	09/10/92
Aging: COA, Executive Board	P.O. Box 982	Jacksonville	Marga Zima	455-2747	09/10/92
Aging: COA: Board of Directors	P.O. Box 982	Jacksonville	Marge Zima	455-2747	09/10/92
AIDS Task Force	612 College St.	Jacksonville	Tania Whiting	455-3377	09/10/92
Al-Anon Family Group, Downtown	P.O. Box 1151	Jacksonville	Lynn Shore	938-2232	10/15/92
Al-Anon Group, Richlands	1259 Gregory Fork Rd.	Richlands	Patty Duffy	324-4274/633-2213	09/05/92
Al-Anon Serenity Group	POB 1151	Jacksonville	Freddie Hardcastle	346-6430	10/14/92
Alzheimer's Support Group, COA	105 3rd St.	Jacksonville	Sandie Holtry	455-1463/455-2747	10/03/92
American Legion,Post 265	P.O. Box 13	Jacksonville	Bert Mike Ponsock	324-4501	09/05/92
Anachronism, Society	Rt. 3 Box 355K	Jacksonville	Charles Fairbanks	455-9465	02/15/92
Animal Protection, CAPS	94 Parkway Dr.	Jacksonville	Tom Morris	346-4316/455-9682	04/12/93
ARC,O.C.Advocacy for Spec. Needs	Box 11	Jacksonville	Pat Koch	347-2154	04/15/93
Onslow Art Society	P.O. Box 844	Jacksonville	Johnnie Scott	324-4005	03/29/93
Arthritis Foundation	505 Haddock Ct.	Jacksonville	Karla Robinson	346-4262	03/29/93
Arts, Council for the	P.O. Box 34	Jacksonville	Jean Wenner	347-4696/455-9840	09/04/92
Attention Deficit/Learning Disabilites	441 Memorial Ct.	Jacksonville	Pat Burr	353-4440	09/18/92
Auto: Caro-Vettes, Inc	P.O.Box 1654	Jacksonville	Jim Roddy	455-8511/451-6631	10/03/92
Ballroom Dance, Starlight	P.O. Box 574	Richalnds	Frances Shingleton	324-5081	09/02/92
Band, Onslow Community	311 Country Club Dr.	Jacksonville	Lorraine Pelletier/Earl Taylor	346-8551/455-2211	09/02/92
Battered Women's Support Group	PO Box 1622	Jacksonville	Constance Choate	347-4000 W	09/10/92
Beautification & Appearance Comm.	POB 128	Jacksonville	Doris Downs	347-2896	09/04/92
Bird Club, Onslow	3 Bluff Rd	Swansboro	Augusta Haberyan	1-919-393-8718	09/16/92
Birth Choice	POB 5424/323 Mildred Ave.	Jacksonville	Diane Jones	455-7457/455-1641	09/05/92
Board of Adjustments (J)	P.O. Box 128	Jacksonville	Brian Jarmen	455-2600	09/04/92
Board of Commissioners (OC)	521 Mill Ave	Jacksonville	R. G. Leary/Pamela Bunch	347-4717	09/02/92
Board of Education (OC)	200 Broadhurst Rd.	Jacksonville	Jodi Hood	455-2211	09/22/92
B.O.L.D. of Jax	P.O. Box 128	Jacksonville	Patrick N. Watkins	455-2600/ext.236	09/04/92
Book Club, Cosmopolitan	415 Country Club Dr	Jacksonville	Lila Popkin	455-3202	09/16/92
Boy Scouts, Southwest #197	1320 Sophia Ct.	Jacksonville	Roy Melton	346-1237	09/17/92
Boy Scouts, Tanugahi Chap	311 Richlands Ave.	Jacksonville	Tom Hendricks	346-3068	03/30/93

Organization	Address	City	Contact Person	Phone H--W	Updated
Boy Scouts, White Oak River	127 Bosco Dr.	Jacksonville	Tom Copeland	455-9912	09/10/92
Boys & Girls Club of Onslow	POB 146	Jacksonville	Chris Leatherman	455-9003	04/08/93
Bridge, Jax. Duplicate Club	419 University Dr	Jacksonville	Laurel Ciotti	346-6000	09/15/92
Business-Industry Assn., Onslow	P.O. Box 537	Jacksonville	Sue Raynor	577-7773	09/02/92
Bypass Surgery/Transplant Group	145 Owens Dr.	Sneads Ferry	Chris Owens	327-7431	04/12/93
Camera: Coastal Photo Club		Jacksonville	Tom	353-1700	04/12/93
Camping: Weekend Wanderers	562 Burgaw Highway	Jacksonville	Henry L. Angell	455-1557	09/10/92
Cancer Society, American	340 Center St. POB 12004	Jacksonville	Dora Pasour	353-3322	10/15/92
Cancer Support Group	317 Western Blvd.	Jacksonville	Janna Martin	577-2581	03/30/93
Caregivers Support Group	POB 982	Jacksonville	Audrey Bardill	577-7081/455-2747	09/04/92
Catholic Daughters of Amer	1026 Massey Rd.	Jacksonville	Pat Donohue	455-9462	03/31/93
CCCC Board of Trustees	444 Western Blvd	Jacksonville	Dr. Ronald K. Lingle, Pres.	455-1221,ext.211	01/29/93
Cemetery Society,(OC) Old	P.O. Box 5203	Jacksonville	Joann Becker	347-5287	09/04/92
Chamber of Commerce	PO Box 765	Jacksonville	Marty Goldman	347-3141	03/29/93
Charities, Onslow Inc.	PO Box 507	Jacksonville	Hamp Ferguson	346-4610	09/24/92
Chess Club	9 Tallman St.	Jacksonville	Jeff Walsh	346-8349/455-3411	03/29/93
Church Women United	1100 River Rd.	Jacksonville	Ila Rotchford	347-4436/346-2170	04/01/93
City Council (J)	P.O. Box 128	Jacksonville	Sabrina McMurtrey	455-2600 ext. 230	03/29/93
Civil War Round Table of East NC	2122 River Dr.	Stella	Ralph Freeman	326-5250/455-8008	09/09/92
Civitan Club (J)	P.O. Box 5264	Jacksonville	Gar Travis	346-6972/455-4554	10/19/92
Civitan Club, Coastal	POB 7566	Jacksonville	Bill Boivin	346-2472	09/09/92
Clean County Comm.	604 College St	Jacksonville	Sarah Humphries	455-4470	03/29/93
Codep./Dysfunctional Sup. Group	1211 Glancy Rd.Extention	Swansboro	Faith McMillan	577-5272	03/29/93
Coast Guard Aux	P.O. Box 353	Sneads Ferry	Sharon Meehan	327-2760/347-2154	03/29/93
Coin and Stamp Club, CL-Jax	P.O. Box 1313	Jacksonville	Jeff Port	353-6334/346-6414	03/30/93
Community Development Dept.	PO Box 128	Jacksonville	Charlene Meachem	455-2600/ ext.269	04/02/93
Concert Assn, OC Comm.	515 University Dr.	Jacksonville	Diane Rogers	346-6838	03/29/93
Confederacy, United Daughters of	1020 River St.	Jacksonville	Marie Koonce Moore	346-3649	09/30/92
Confederate Veterans, Sons of	300 Dolphin St.	Swansboro	James R. Brandon	393-8316	09/02/92
Craft Club, Fun	P.O. Box 128	Jacksonville	Rhonda Peedin	455-3107	09/18/92
Crafts, Onslow Arts & Cr.Assoc.Inc	POB 5623	Jacksonville	Wendell Davis	347-2290	09/15/92
Cystic Fibrosis Foundation, Carolinas	P.O. Box 639	Wilson	W. Bruce Joyner	800-682-6858	09/19/92
DAV #16 Auxiliary	301 Roosevelt Rd	Jacksonville	Margaret Parrish	347-4506	03/31/93
DAV #16 OC Chapter	203 Sheffield Rd.	Jacksonville	Erroll C. Taylor	353-3795	01/29/92
Day Care: OC Assn.	P.O. Box 70	Maysville	Sandra Swinson	743-0912/743-2426	09/16/92
Deficit Disorder Support Group		Jacksonville			
Democratic Party Comm, OC	P.O. Box 596	Jacksonville	Virginia Catalon	346-8522	09/17/92
Democratic Women, OC	402 Chestnut Rd	Jacksonville	Pauline Joos	347-4830	04/12/93
Dental, Jax. Auxiliary	1104 Gum Branch	Jacksonville	Michell Patane	347-2051	03/30/93
Diabetes Assn., OC Chap	606 Doris Ct.	Jacksonville	Betty Burns	455-0620	09/18/92
Diabetic Support Group	Onslow Memorial Hospital	Jacksonville	Janna Martin	577-2581	03/30/93
Diabetic Diet Support Group	Naval Hospital	Camp Lejeune	Judy Roemermon	451-4197	09/10/92
Dialysis,CAPD Support Group	14 Office Park Dr.	Jacksonville	Carla Alexander	353-6888	09/10/92

Organization	Address	City	Contact Person	Phone H--W	Updated
Dive: Sand Dollar Club	713 New Bridge St.	Jacksonville	Ann/Bill Rust	347-3483	03/29/93
Economic Development Comm., OC	P.O. Box 537	Jacksonville	Jeff Newsome	577-7773	09/02/92
Education: Young Children	P.O. Box 99	Jacksonville	Vanessa Coleman	451-2575	03/17/92
Educational Office Pers, OC Assn	Rt.1 Box 321	Holly Ridge	Katie Cottle	347-2738	01/29/92
Educators: Onslow County Assoc. of	PO Box 875	Jacksonville	Diana Bucklew	455-9948/346-9706	09/16/92
Empty Arms Support Group	612 College St	Jacksonville	Jennifer Watson	455-2633/347-6021	09/21/92
Environment: SSEA	312 Kings Bay Lane	Sneads Ferry	Carole Robinson	327-3778	09/05/92
Fire Dept, Nine Mile Volunteer	1131 9 Mile Rd.	Richlands	Donald Pierce	346-3694/451-3364	03/30/93
Fleet Reserve Assn 208 Ladies Aux	619 Independence Dr.	Jacksonville	Lois L. Harper	346-2266	09/10/92
Fleet Reserve Assn. #208	P.O. Box 1079	Jacksonville	Emile Sporbert	455-4598	03/17/92
Fleet Reserve Assn. #208 BOD	P.O. Box 1079	Jacksonville	Paul Lavin	455-3971/455-1472	01/29/92
Friends of Black Children, OC	P.O. Box 127	Jacksonville	Ernest J. Wright	455-4647/347-2060	04/02/93
Friends of Library, Swansboro	P.O. Box 548	Swansboro	Al Reed	326-6853/326-4888	09/09/92
Friends, OCPL	58 Doris Ave East	Jacksonville	Mary Cornwall & Maureen	455-7350	09/09/92
Gaming, Assoc. of Creative	JPAO H&HS MCAS New River	Jacksonville	Phil Sanderson	451-6043/451-6196	07/14/92
Garden Club, Ivy Rose	20 Warlick St.	Jacksonville	Olivia Lyon	346-4269	09/02/92
Garden Club, Marie Taylor	117 Iverleigh Lane	Jacksonville	Nell Covil	346-5667	09/04/92
Garden Club: Men's(Greenthumbers)	300 Woodhaven Dr.	Jacksonville	John R. Davis	346-4028	09/15/92
Garden Club, Northwoods	303 Doris Ave.	Jacksonville	Eleanore Wood	455-7906	09/21/92
Garden, (O) Council	292 Forest Grove Ave	Jacksonville	Connie Jo Goodson	346-8923/259-9114	09/05/92
Garden: Rose of Sharon	292 Forest Grove Ave	Jacksonville	Connie Jo Goodson	346-8923/259-9114	09/05/92
Genealogical Society, Coastal	P.O. Box 1421	Swansboro	Elizabeth C. Baggs	326-4442 H	03/31/93
Genealogical: OC Society	PO Box 1739	Jacksonville	Joan Dillemuth	455-9796/455-7350	03/31/93
Girl Scout, Air Station Svc. Unit	58 McAvoy St.,MCAS N.River	Jacksonville	Carol Schroeder	455-5273	09/16/92
Girl Scout, CL Svc. Unit	2582 Bougainville Dr.	TT II	Denise McGlaughn	353-9241	09/17/92
Girl Scout, JAMS Service Unit	821 Sand Ridge Rd.	Hubert	Nyda Wrightsman	326-1701	09/05/92
Gov't, Am. Fedn. of Employees	POB 251	Jacksonville	Harold A. Melton, Jr.	347-2780/346-9357	09/05/92
Gun: Lejeune Rod & Gun Club	P.O. Box 8173	Camp Lejeune	S.A. Weimer	455-1660 H	01/03/92
Handicapped, Mayor's Cmte. for	POB 128	Jacksonville	Betty Wethington	455-2600, ext. 232	09/05/92
Health Dept. OC	612 College St.	Jacksonville	Peggie Garner	347-6021	01/03/92
Health: Homemaker Home	P.O. Box 982	Jacksonville	Carol Davidson	353-2346/455-2747	09/02/92
Heart Assn.	POB 2636/300 Silvercedar Ct.	Chapel Hill		1-919-968-4453	07/14/92
Hem of His Garment Ministry	2734 Commerce Rd.	Jacksonville	Rev. Michael D. Flannery	455-7980/347-3146	09/16/92
Historical Society, OC	P.O. Box 5203	Jacksonville	JoAnn Becker	347-5287	04/12/93
Holly Ridge Town Board	P.O. Box 145	Holly Ridge	Brenda Padgett	329-7081	09/04/92
Home Builders Assn, Jax-Onslow	918 Henderson Dr.	Jacksonville	Elizabeth Burrous	347-1190/347-7101	04/02/93
Home Extension: 22 Clubs	604 College St.	Jacksonville	Chase C. Padgett	455-5873	03/30/93
Home-School Support Group	532 Blue Creek Road	Jacksonville	Julia Friant	346-3082	03/31/93
Hospice, Lower Cape Fear	1131-B Gum Branch Rd	Jacksonville	Shirley Smith	353-1004/347-6266	09/05/92
Human Services Council, OC	PO Box 885	Jacksonville	Elizabeth LaCourse	455-1202 W	04/12/93
Jaycees, Jax	PO Box 1087	Jacksonville	Philip Padgett/Dale Schuffert	347-7441/577-3355	04/02/93
Kennel Club, Jax.	P.O. Box 7002	Jacksonville	Nancy Kuhl/Larry Scott	455-5375/455-7902	04/02/93
Kiwanis Club of OC	434 Onslow Pines Rd.	Jacksonville	Mac Sligh	347-5332	04/12/93

Organization	Address	City	Contact Person	Phone H-W	Update
Kiwanis of Jax	711 Doris Ave.	Jacksonville	Lenwood Padgett	455-1504	04/12/9
Knights of Columbus, #3574	P.O. Box 7241	Jacksonville	Chris Marks	347-6083/353-3500	04/02/9
Landlord Assn.(OC)	POB 711	Jacksonville	Jay King	455-3060	04/02/9
League of Women's Voters, O.C. Unit	PO Box 1041	Sneads Ferry	Ginny Hillyer	328-3374	09/15/9
Legal Secretaries,Jax/OC Assoc.	PO Box 718	Jacksonville	Carol A. Camburn	455-8404	04/02/9
Library, OCPL Board of Trustees	58 Doris Avenue East	Jacksonville	Don Wood	455-7906	04/02/93
Lightning Strike	214 Canterbury Rd.	Jacksonville	Steve Marshburn, Sr.	346-4708/346-4708	09/05/9
Lioness Club, (J)	P.O. Box 747	Jacksonville	Jackie Prior	353-8803	09/10/9
Lions Club, Jax. Host	P.O. Box 7035	Jacksonville	Grier Garrick	346-3335/346-4141	09/17/9
Lions Jax. Breakfast	POB 7130	Jacksonville	Roy Ormond	353-5304/347-2951	09/05/9
Lions, NR	P.O. Box 7116 No.Woods Sta.	Jacksonville	Don B. Strong	324-4266	04/12/9
Lioness: Richlands	PO Box 262	Richlands	Joyce Slater	324-3450	04/02/9
Literacy Coalition, OC	P.O. Box 196	Jacksonville	Jim Coyne	455-1221 ext. 296	04/02/9
Literacy, New River Council	2734 Commerce Road	Jacksonville	Michael Flannery	347-3146	04/02/9
Lung Assn. of NC, American	P.O. Box 3577	Wilmington	Barbara Yarbrough	392-6868/395-5864	09/02/9
March of Dimes	3945A Market Street	Wilmington	Donna McClure	1-919-343-1547 W	01/27/9
Marine Assn. Ladies Aux, Montford	P.O. Box 928	Jacksonville	Christine Bacon	455-1993	02/21/9
Marine Corps League	PO Box 7099	Jacksonville	Joseph McNally	353-2978	04/12/93
Marine, Women Assoc. Tarheel Chap	100 Banks St.	Jacksonville	Mary Laskowski	346-8374/353-2333	09/09/92
Marriage: Worldwide Encounter	605 Kimberly Lane	Jacksonville	Jep & Betty Turner	455-5856/451-5173	09/04/92
Mason: Lewis-Mingo Consistory #316	109 Ronny Ct.	Jacksonville	Eli Sheppard	353-7606	04/13/93
Mastectomee Support: Bosom Buddies	5121 PedenPoint Road	Wilmington	Ann Mincy	1-919-791-4585	09/15/92
Mental Health/Mental Ret./Sub. Abuse	215 Memorial Dr.	Jacksonville	Dan Jones,Dir.	353-5118 W	03/17/93
Merchants Assn, NR	P.O. Box 5083	Jacksonville	P.J. Hancock	346-3808 W	04/02/93
Mexican-American, Assn.	701 Shadowridge Rd.	Jacksonville	Sam Reyes	353-0289	04/05/93
Military Order of World Wars	1006 Decatur Road	Jacksonville	Joe P. Normandeau	347-5545	02/21/92
Minority Business Assn., OC	420 N. Marine Blvd.	Jacksonville	Roy Laird	347-6244/347-4421	04/02/93
Moose Lodge 1438, J	135 Moosehaven Road	Jacksonville	Ronald E. Jones	347-2722/346-4550	04/02/93
Moose, Women of #1234	POB 376	Jacksonville	Janice Olson/Julie Hopkins	326-5236/353-2244	10/14/92
Mother of Twins Support Group	52 Long Staff St.	Jacksonville	Tami Blotter/Debbie Richter	346-9447/353-1445	09/10/92
MS Support Group	1021 Daniel Court	Jacksonville	Peggy Buccieri	347-5649	09/30/92
Museum, Onslow County	P.O. Box 384	Richlands	Albert Potts	324-5008	09/04/92
NAACP	P.O. Box 1152	Jacksonville	Enoch Parker	353-6673	04/05/93
Navy and Marine Relief Society	Bldg.#14 MCB	Camp Lejeune	Don Larson	393-7140/451-5684	09/15/92
NCOA	Gum Branch #2 Suite 120	Jacksonville	Sgt.Maj. J.J. Brown	938-1325	02/21/92
N. River Power Squadron (Boating)	1203 Hendricks Ave.	Jacksonville	Cdr. Lowell Fowler	451-0752 W	05/11/92
Nurses Assn, Jax License Practical	808 Gardenview Drive	Jacksonville	Patricia Beverage	346-8225/451-4505	04/06/93
Nursing Mothers of Jax.	189 Winter Place	Jacksonville	Sharri Grise	455-3813	02/18/93
O. Memorial Hospital Auxiliary	P.O. Box 1358	Jacksonville	Donald Carlisle	346-3559/577-2341	09/04/92
Organ Trans./By Pass Surg.Sup.Gp.	145 Owens Dr.	Sneads Ferry	Chris Owens	327-7431	09/10/92
Ostomy Assn., Onslow Chapter	917 Lynchburg Drive	Jacksonville	Henry L. Taylor	455-7292	09/15/92
Overeaters	20 Bailey Dr. Rt. 4	Jacksonville	Lynn S.	938-2232	09/09/92
P.A.R.E.N.T.S.S.	168 Balsam Rd.	Jacksonville	Laura Quinn	455-9539	09/02/92

Organization	Address	City	Contact Person	Phone H-W	Updated
Parks & Rec.(OC) Advisory Comm	434 Onslow Pines Road	Jacksonville	Mac Sligh	347-5332	09/05/92
Planning Board, Jax	P.O. Box 128	Jacksonville	Patrick N. Watkins	455-2600 ext.236	09/04/92
Planning Board, OC	604 College Street	Jacksonville	Charles Hedgepeth	455-3661(W)	03/17/92
Rabbit & Cavy Breeder's Assn., NR	347 Bear Creek Rd.	Hubert	Jerry A. Raley	326-5894	09/16/92
Radio Club, Inc, Onslow Amateur	P.O. Box 841	Jacksonville	Tim Euman	455-2114	03/17/92
Reading Assn, International	Russell Ele. Sch. Bldg. 79	Camp Lejeune	Melba Davis	455-1766/451-3247	
Reading Council	2900 Northwoods Dr.	Jacksonville	Barbara Edwards	347-6711	03/17/92
Realtors, Jax. Board of	824 Gum Branch Rd, Suite P	Jacksonville	Carolyn Piccolo	347-6556	09/05/92
Recycling, Jax Advisory Board	P.O. Box 128	Jacksonville	Vermelle Wilson	577-8676/346-1425	09/04/92
Red Cross, Amer., OC Chapter	P.O. Box 896	Jacksonville	Kathryn Smith	347-3581	09/05/92
Republican Party, OC	PO Box 716	Jacksonville	Joe Normandeau	347-5545	04/05/93
Republican Women's Club, OC	PO Box 716	Jacksonville	Ada Bowers	353-5825	03/18/92
Retired Fed Emp, Nat Assn 1312	P.O. Box 1231	Jacksonville	Edith Clark	455-7168	04/02/93
Retired: (O) Assn. of Retired Officers	POB 8243	Camp Lejeune	Don Nilsen	326-4550	09/22/92
REVS, Ret.Ex.Vol. Services	PO Box 765	Jacksonville	Thomas B. Reid, Jr	347-3141	04/02/93
Richlands Planning Board	P.O. Box 245	Richlands	Mark Latour	324-3301 W	04/13/93
Richlands Town Board	P.O. Box 245	Richlands	Mark Latour	324-3301 W	04/13/93
Rotary Club, Jax.	P.O. Box 125	Jacksonville	Edwin T. Rose	346-1001/353-1797	09/05/92
Rotary Club, Jax. Breakfast	P.O. Box 1758	Jacksonville	Robert Breton	346-1986	10/16/92
Rotary Club, New River/Onslow	P.O. Box 1715	Jacksonville	Rick Mills	455-7306/346-8134	09/04/92
Rotary,Swansboro	POB 426	Swansboro	Ken Chase	354-6444	09/04/92
Running: Jax. Roadrunners	PO Box 7135	Jacksonville	Timothy Roden	455-7538/451-1569	04/13/93
RV Club: NC Coasters	256 Old 58 Hwy.	Swansboro	Rob Roberts	393-2046	09/05/92
SADD, OC Chap. of	PO Box 99	Jacksonville	Rebecca Armstrong	455-8705 ext. 288	10/13/92
Sal. Army Adventure Corps	P.O. Box 1692	Jacksonville	Sgt. Eric Deveaux	577-7771/938-1848	09/05/92
Sal. Army Girl Guards	P.O. Box 1692	Jacksonville	Sgt. Eric Deveaux	577-7771/938-1848	09/05/92
Sal. Army Home League-Maysville	P.O. Box 1692	Jacksonville	Sgt. Eric Deveaux	577-7771/938-1848	09/05/92
Sal. Army League of Mercy	P.O. Box 1692	Jacksonville	Sgt. Eric Deveaux	577-7771/938-1848	09/05/92
Sal. Army Sunbeams	P.O. Box 1692	Jacksonville	Sgt. Eric Deveaux	577-7771/938-1848	09/05/92
Salvation Army Advisory Board	P.O. Box 1692	Jacksonville	Sgt. Eric Deveaux	577-7771/938-1848	09/05/92
Salvation Army Home League	P.O. Box 1692	Jacksonville	Sgt. Eric Deveaux	577-7771/938-1848	09/05/92
Salvation Army Thrift Store	403 Center St.	Jacksonville	Sgt. Eric Deveaux	577-5060	09/05/92
Salvation Army Thrift Store	HWY 17	Maysville	Sgt. Eric Deveaux	743-0770	09/05/92
School Personnel, Retired of NC, OC	871 Kinston HWY	Richlands	Dixie Frazelle	324-3237	02/21/92
Second Chance Miss. of Hope	PO Box 1747	Jacksonville	William McCoy	347-1517/455-7111	04/02/93
Semper Fi Social Club	103 Shadow Brook Road	Jacksonville	Russell Spurlock	353-7463	03/18/92
Semper Fidelis Lodge 680 AF & AM	727 Henderson Dr.	Jacksonville	Harold C. Ritchie	347-3469/347-4548	09/24/92
Senior Cit: Jax. Golden Age Club	PO Box 128	Jacksonville	Rhonda Peedin	455-3107	09/18/92
Senior Cit: X.Y.Z. Club	908 Vernon Drive	Jacksonville	Dot Mullins	346-4619 H	04/13/93
Servicemen Center:Welcome Inn	2734 Commerce Rd.	Jacksonville	Rev. Michael D. Flannery	455-7980/347-3146	09/16/92
Sexual Assault Survivors	P.O. Box 1622	Jacksonville	Connie Choate	347-4000	09/10/92
Shrine Club, Onslow	913 N. Marine Blvd.	Jacksonville	Roy Ormand	347-4141 H	02/21/92
Sickle Cell Assn.	P.O. Box 5253	Jacksonville	Marcia M. Wright	455-4647/346-2510	03/19/92

Organization	Address	City	Contact Person	Phone H--W	Updated
Singles: Again Together	717 Gardenview Drive	Jacksonville	Melba Mewborn	455-3231	09/05/92
Soccer Club, Piney Green	2 Cornell Dr	Jacksonville	Jane/Colon Ballance	353-6364/327-3471	07/24/92
Social Services BOD, OC Dept of	PO Box 1379	Jacksonville	Edna Grace Marshburn	346-4290/936-5401	09/05/92
Soroptimist Intl.	PO Box 1552	Jacksonville	Judy Frink	346-2259	04/05/93
Sororities:					
Beta Delta of Alpha Delta Kapp	515 Odum DR	Hubert	Naomi Wells	326-4574	03/18/92
Beta Sigma Phi, City Council	404 Linwood Drive	Jacksonville	Barbara Vaughn	347-6710/451-1458	04/13/93
Beta Sigma Phi, Gamma Theta	1005 Massey Rd.	Jacksonville	Sue Kegley	455-9824	04/14/93
Beta Sigma Phi, Preceptor Tau	4 Lanier Drive	Jacksonville	Marilee Avery	346-6932	03/18/92
Beta Sigma Phi, Xi Alpha Omega	917 Sioux Court	Jacksonville	Joyce Hoopes	346-2663 H	03/18/92
Delta Sigma Theta	PO Box 5545	Jacksonville	Mittie Gray	455-0356	08/10/92
Zeta Phi Beta Sorority, Inc.	PO Box 5142	Jacksonville	Sonja Williams	346-1804/346-9504	04/19/93
Soup Kitchen,Onslow Comm.Min.	POB 5157	Jacksonville	Ann Hendricks	455-3148/347-3227	09/17/92
Southwest Athletic Boosters Assn.	500 Burgaw Hwy	Jacksonville	Karen Perkins	346-4810/455-4888	04/06/93
Special Olympics, Onslow/Lejeune	Box 1154	Jacksonville	Dave Mitchell	455-1484	10/14/92
Square Dance Club: Stompers #1438	113 Robin Rd.	Jacksonville	Kay Venanzi	346-8583	04/13/93
Square Dance Club: Hi-Tiders	681 HWY 172	Hubert	Ruby Wilson	326-5789	03/18/92
Square Dance: Sidewheelers SF	PO Box 566	Sneads Ferry	Walter & June Jones	327-2879	04/02/93
Square Dance: Topsail Ocean Waves	193 Winery Rd.	Sneads Ferry	Jackie Wilkins	327-3337 H	04/14/93
Square Dance: White Oak Whirlers	Rt. 2 Box 57-A	Newport	Bill Jones	1-919-726-0381	04/13/93
Starfleet International	1407 Tinian St.	Jacksonville	DD Gray/T.A. Machstorm	223-4131/347-4751	10/02/92
Toastmasters	913 Vernon Dr.	Jacksonville	John Vrabel	455-2378	04/14/93
TOPS #380	500 Myrtlewood Circle	Jacksonville	Shirley John	346-8644	04/14/93
Tops #425	2 Edith Drive	Jacksonville	Joyce Bowen	455-1498	08/30/93
Tourism Advisory Cmte., OC	PO Box 1226	Jacksonville	Janice Roamer	455-1113	04/07/93
Tree Board, Jax	PO. Box 128	Jacksonville	Martha Garrick	346-3335/346-4141	09/04/92
United Way, Inc., OC	P.O. Box 5124	Jacksonville	John Caskey	353-3657/347-2646	09/05/92
USO	9 Tallman St	Jacksonville	Matt Hardiman	455-3411	09/04/92
Veterans Council, OC	P.O. Box 7353 NWS	Jacksonville	Shirley M. John	346-8644/637-2171	09/17/92
VFW #9133 Auxiliary	1529 Piney Green RD	Jacksonville	Jan Hatfield	353-6810	04/07/93
VFW Post 9133	1529 Piney Green RD	Jacksonville	Jerry Wilson	353-6810	04/07/93
Vietnam Veterans of Amer. Inc.	200 York St.	Jacksonville	Ray Espinoza	346-9285	03/29/93
Water & Sewer Advisory Board, J	P.O. Box 128	Jacksonville	Anna Wood	455-2600 ext. 233	09/02/92
Wives Club of the Orient	312 Ramsey Drive	Jacksonville	Susie Sherwood	455-7421	04/05/93
Wives Club, CL Officers	P.O. Box 8531	Camp Lejeune	Debbie Ridgeway	577-7336	07/14/92
Wives Club, CL SNCO	PO Box 8067	Camp Lejeune	Herta Henderson	451-5591	09/17/92
Wives Club, New River SNCO	P.O. Box 4003	Jacksonville	Margaret Boggs	347-3123/451-6722	03/17/92
Wives Club, NR Officers	2506 Seth Williams Blvd.	Camp Lejeune	Ellen Lowe	353-1950	07/14/92
Wives' Club of CL, International	MOQ 3024	Camp Lejeune	Kathleen Devlin	577-8025	09/15/92
Wives: USO Support Group	9 Tallman Street	Jacksonville	Bettina Amabile	455-3411	03/18/92
Women's Aglow Fellowship	115 King Richard Ct.	Jacksonville	Becky Muse	455-6340	03/12/91
Women's Center, OC Inc.	PO Box 1622	Jacksonville	Constance R. Choate	347-4000	09/05/92
Women's Club, Christian	557 Beacham Apt.	Jacksonville	Judi Worthington	455-7540	08/24/92

Organization	Address	City	Contact Person	Phone H--W	Updated
Women's Club, Jax. Jr.	PO Box 193	Jacksonville	Shannon Peele	455-1271	04/02/93
Women's Club, Richlands	PO Box 1044	Richlands	Rosemary Pike	324-1166	04/02/93
Women's Guild of IOP	266-A Kellum Rd.	Jacksonville	Stella Butler	455-4620/347-4196	04/05/93
Women, Council for	PO Box 5381	Jacksonville	Judy Cummings	938-3546	09/22/92
Women, Evangelical Lutheran	PO Box 687	Jacksonville	Ruth Davis	455-1947 H	04/02/93
Y.O.U. Inc.	P.O. Box 537	Jacksonville	Jeff Newsome	577-7773	09/02/92
Yacht Club, Ragged Pt.	P.O. Box 8014	Camp Lejeune	Brain L. Wheat	455-7755	12/27/91

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