

CAMP LEJEUNE MARINE CORPS BASE JACKSONVILLE, NORTH CAROLINA

Engineering Field Division/Activity: LANTDIV
 Major Claimant: CMC
 Size: 151,000 Acres
 Funding to Date: \$63,773,000
 Estimated Funding to Complete: \$162,816,000



Base Mission: Provides housing, training facilities, logistical support and certain administrative supplies for Fleet Marine Force units and other assigned units; conducts specialized training

Contaminants: Battery acid, fuels, lithium batteries, paints and thinners, PCBs, pesticides/herbicides, used oils

Number of Sites:		Relative Risk Ranking of Sites:			
CERCLA:	90	High:	35	Not Evaluated:	1
RCRA Corrective Action:	0	Medium:	10	Not Required:	113
RCRA UST:	86	Low:	17		
Total Sites:	176				

NPL	
Sites Response Complete: 110	

EXECUTIVE SUMMARY

Camp Lejeune Marine Corps Base (MCB) is located just south of the city of Jacksonville, North Carolina and consist of 151,000 acres. The base is a major training center for the Marine Corps. Typical operations that took place on the base that led to the creation of contaminated sites in the past include vehicle, aircraft and amphibious vessel maintenance; fire fighting training, pest control, creosote lumber treatment, power and boiler plants, dry cleaning shops, painting and paint stripping shops, photographic shops and industrial trade shops. Other operations involved the storage of materials and supplies, including hazardous materials, chemicals and fuels. At one time, research involving radioactive materials took place on the base. Wastes were disposed of through landfilling operations and wastewater treatment facilities. The base was listed on the National Priorities List (NPL) in 1989 with a Hazard Ranking System score of 36.84. The score was based on one site, Site 21, which was contaminated from mixing pesticides and rinsing the equipment and from a pit into which waste oils containing PCBs. Migration pathways exist through surface water flow to the New River and to the groundwater to pose a threat to human health and the environment. The sites around Hadnot Point Industrial area are also of concern to the public. The primary contaminants of concern are volatile organic solvents, pesticides, and heavy metals. The base is under a Federal Facilities Agreement (FFA) signed in 1991 with EPA Region IV and the State of North Carolina.

The base is located on the eastern edge of the state at the center of the coast. The Atlantic coastline forms the eastern boundary of the base. The base is bisected by the New River which flows southeastward to the ocean. Rainfall moves through surface flow to the New River or enters the surficial groundwater aquifer through the highly permeable soils. The deeper Castle Hayne aquifer is the source of drinking water for the base and the surrounding communities. The Castle Hayne aquifer is separated from the surficial aquifer by a discontinuous and less permeable layer ranging in thickness from 0-26 feet and averaging 9 feet thick when present. The base is heavily forested and over half the property is under forestry management. The New River and other streams create wetland areas near the coast before entering the ocean.

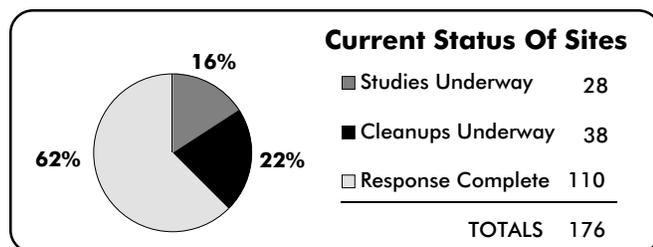
Both the forests and the rivers and wetlands are habitats for wildlife. Twenty-six endangered or threatened species inhabit the area. The rivers and coastal areas are also used for fishing and recreation.

Currently, the Installation Restoration (IR) program includes a total of 176 sites consisting of 90 CERCLA and 86 RCRA UST sites. There are 110 sites considered Response Complete (RC). Sites 1, 28, and 30 became Response Complete after completion of the RI/FS. Sites 21, 41, and 82 became Response Complete after completion of the remedial action phase. UST 15 became Response Complete after completion of the IMP phase. USTs 81 and 83 are proposed for Response Complete as a result of completing the Site Assessment.

The remaining sites are in some stage of study, cleanup, or long-term operations. A number of early actions are being taken to mitigate the spread of contamination. Contaminated soils and drums containing contaminated wastes have been removed. Early actions to cleanup and prevent further migration of groundwater plumes have been implemented.

Records of Decision (RODs) are prepared by Operable Unit (OU) and signed by the base Commanding General. Ten Records of Decision (RODs) have been signed at Camp Lejeune covering a total of 15 sites. Concurrence from EPA and the State of North Carolina has been received on all ten RODs. Three of these are Interim RODs addressing various interim remedies at 2 sites. The remaining 7 RODs are for Final Remedial Actions (FRA) at 14 sites, including the 8 sites with NFA RODs mentioned above.

Camp Lejeune is participating in the Department of Defense's Pilot Expedited Environmental Cleanup Program (PEECP) which was instituted in 1992. To accelerate environmental remediation, several expedited procedures were developed: a single phase of field work rather than multiple phases; use of field screening techniques and on-site mobile laboratories; concurrent reviews of documents; sampling strategy meetings with those who would be using the data; and shortened review periods for documents.



CAMP LEJEUNE MCB RELEVANT ISSUES

ENVIRONMENTAL RISK



HYDROGEOLOGY - The eastern boundary of the base is 14 miles of Atlantic shoreline with a barrier island parallel to the coast. The base is bisected by the New River which flows southeast through the base and forms a large estuary before entering the Atlantic Ocean. Rainfall averages 50 inches per year and either discharges to surficial waters as baseflow or percolates through the soil into the freshwater aquifers. Surface drainage and groundwater flow toward the New River, its tributaries, and the Atlantic Ocean. The surface soils are highly permeable fine and medium sand. The water table ranges from 3 to 17 feet below ground surface. Three freshwater aquifers comprise the first 300-500 feet below the surface. Between each of these aquifers lies a confining unit composed of finer grained sediments ranging between 0-26 feet in thickness.

Because surface water suitable for potable uses is unavailable in large amounts, the base and surrounding communities rely upon the Castle Hayne aquifer as its source of drinking water. Groundwater withdrawal from the Castle Hayne aquifer averages about 7 million gallons per day. Migration pathways for contaminants are overland flow and movement through the surficial and Castle Hayne aquifers.



NATURAL RESOURCES - About half the acreage on the base is heavily covered with forests. There are three public forests surrounding the base: the Croatan Forest, Hoffman Forest and Camp Davis Forest. These forests are major habitats for a wide variety of wildlife. Near the coast and other water bodies are five kinds of wetlands including several different types of upland swamps, tidal marshes and coastal beaches. The coastal and near shore Atlantic are also major wildlife habitats. As many as 26 Federal and State listed endangered or threatened species live on the base or in nearby areas. This list includes sea turtles, alligators, birds such as falcons, bald eagles and woodpeckers, marine and terrestrial mammals such as whales, manatees, and cougars, and a number of plant species.



RISK - A baseline human health risk assessment following EPA guidance has been completed for 14 sites as part of the final Remedial Investigation (RI) report for those sites. Nine of those sites were found to pose a risk to human health. A human health risk assessment is underway for 13 other sites and it is expected that at least another 14 sites will have one done in the future. An ecological risk assessment following EPA guidelines is performed as part of the Remedial Investigation (RI) phase for all sites with significant aquatic or terrestrial habitats within or adjacent to the site boundaries. So far, an ecological risk assessment has been done for 14 sites showing a significant ecological impact at six of the sites.

In the Department of Defense (DOD) Relative Risk Ranking system, 35 sites were determined to present a high relative risk primarily because of the proximity of groundwater wells that provide drinking water to the local area. There are 10 medium and 17 low relative-risk ranked sites.

The Agency for Toxic Substances and Disease Registry (ATSDR) is required to perform a Public Health Assessment (PHA) at all NPL sites. ATSDR issued a draft PHA for Camp Lejeune on 6 January 1995. The Navy and the state of North Carolina provided comments back to ATSDR on the draft PHA on 20 February 1995. ATSDR is currently conducting a study on the adverse pregnancy outcomes among women exposed to volatile organic compounds in drinking water. The results of this study will be included in the final PHA report.

REGULATORY ISSUES



NATIONAL PRIORITIES LIST - The base was listed on the National Priorities List (NPL) on 4 October 1989 with a Hazard Ranking System (HRS) score of 36.84. The HRS score was based on the ranking of one site, Site 21. Site 21 was used to mix pesticides and rinse equipment. The pesticides DDT, DDE and Aldrin were detected in the soil at the site. The site also contained a pit that was used to dispose of transformer oils containing the chemical additive PCB. Remedial action at this site was completed in 1996 in accordance with the Final ROD signed in 1994 for the removal of contaminated soils and subsequent off-site treatment/disposal.



LEGAL AGREEMENTS - A Federal Facilities Agreement (FFA) was signed in February 1991 between the Marine Corps, EPA Region IV, and the North Carolina Department of Environment, Health, and Natural Resources (DEHNR). The FFA covered 23 sites which are to be investigated in accordance with the National Contingency Plan (NCP). A Site Management Plan (SMP) was first prepared in 1991 and is updated annually. The SMP is a primary document required by the FFA and is used as an annual update to track the progress of all sites actively investigated or planned for investigation since the completion of the 1983 IAS.

A RCRA Part B Permit held by the base expired September 1994. The permit, issued in 1984, contained no Hazardous and Solid Waste Amendments Corrective Action requirements. A renewal application was prepared and filed in March 1994 which incorporated Corrective Action requirements. A Corrective Action Plan (CAP), including identification of SWMUs will be included in the final permit which is still under preparation.



PARTNERING - An informal partnering effort was initiated in 1992 bringing together key people from each organization to work as a team. Each member is committed to working toward the common goal of achieving cleanup of the contaminated sites and protecting human health and the environment. A more formal partnering initiative was started in 1994 to incorporate team-building training to improve efficiency. The first formal partnering session was held on 7 September 1994.

COMMUNITY INVOLVEMENT



RESTORATION ADVISORY BOARD - A Technical Review Committee (TRC) was first established in June 1988 and met every quarter. Members of the TRC included the Marine Corps, EPA Region IV, North Carolina DEHNR, ATSDR, U.S. Fish and Wildlife, National Oceanic and Atmospheric Administration (NOAA), Department of the Interior, Onslow County Health Department, Jacksonville City Manager, and several members from the community. In 1995, Camp Lejeune began converting the TRC to a Restoration Advisory Board (RAB). The base solicited public participation and has received over 40 applications for membership from the community. After reviewing the applications, six community members were added to the RAB along with the former TRC members. The first RAB meeting was held in April 1996 and is meeting quarterly.



COMMUNITY RELATIONS PLAN - A Community Relations Plan has been published. A publicly released Fact Sheet is prepared for each site or Operable Unit (OU) as the RI phase is completed and a public meeting is held prior to signing the Record of Decision (ROD) for the cleanup process. Additional Fact Sheets and public meetings are held as needed.



INFORMATION REPOSITORY - An Information Repository was set up at the Onslow County Public Library, Jacksonville, North Carolina. The Administrative Record (the official file) was established in 1991 and a copy is available to the public at the Information Repository. Both are updated regularly by the Marine Corps.

CAMP LEJEUNE MCB HISTORICAL PROGRESS

FY83

Sites 1-72 - Completed an Initial Assessment Study (IAS). 22 sites were recommended for further study and 54 sites were recommended for no further study or action.

Site 64 - Completed the RA.

FY85

Site 16 - Completed the RA.

FY88

UST 9 - Completed the Initial Site Characterization (ISC).

FY91

UST 18 - Completed the ISC.

FY92

Site 7 and 82 - Completed a Site Inspection (SI).

Site 78 - An Interim Record of Decision (ROD) was signed.

USTs 14-17, 19, 20 and 22 - The ISC was completed.

UST 2 - Completed the UST Investigation (INV).

FY93

Sites 6, 9 and 82 - The RI/FS was completed for these sites. The ROD was signed on 24 September 1993. Further action required at Site 6 will be tracked in the future as part of Site 82. Site 9 is considered RC.

Site 43 - Completed the SI.

Site 48 - Completed the RI/FS. A ROD was signed 10 September 1993 specifying No Further Action (NFA).

USTs 4-8, 12, 21, 23-50, 55 and 57 - The ISC was completed.

USTs 03, 04, 15, 17 and 19 - The INV phase was completed.

UST 4 - The Corrective Action Plan (CAP) was completed.

FY94

Sites 44, 54 and 91 - An SI was completed

Site 2 - The RI/FS phase was completed. A ROD was signed 15 September 1994.

Sites 6 and 82 - Completed the RD.

Sites 21, 24 and 78 - The RI/FS was completed. A Final ROD was signed 15 September 1994.

Site 35 - An Interim ROD was signed 15 September 1994.

USTs 51-54, 58, 60, 61, 63-65, 67, 68, 70, 73, 74, 77 and 80 - The ISC was completed.

USTs 14, 16, 18, 21, 22, 39, 42, 43, 47 and 50 - The INV phase was completed.

USTs 1-3, 15, 17 and 19 - The CAP was completed. UST 1 was considered to be RC under UST program and transferred to IR program for further action.

FY95

Site 2 - Completed a removal action to remove contaminated soil.

Site 6 - A Final Remedial Action (FRA) was started.

Site 10 - This site was removed from RC status and scheduled for further investigation.

Site 21 - The RD and RA were completed.

Site 35 - An interim action was started to remove petroleum contaminated soil as specified in the Interim ROD. A second Interim ROD addressing shallow groundwater was signed 21 Sep 1995.

Sites 63, 65, 89, 90, 92 and 93 - An SI was completed.

Site 78 - A removal action was started to construct a pump and treat system that constitutes the final remedy. Site is now considered Remedy-in-Place (RIP).

Site 82 - An FRA was started.

USTs 56, 59, 66, 69, 71, 72, 75, 76 and 85 - The ISC was completed.

USTs 81-84 - The ISC was started.

USTs 24 and 53 - The INV phase was completed.

USTs 9, 25, 49, 57, 72 and 78 - The INV phase was started.

USTs 14, 18, 21, and 27 - The CAP was completed.

USTs 2-4, 15, 17 and 19 - The Corrective Action Design (DES) phase was completed.

USTs 9-11 - Removal actions were started to remove free product (petroleum products) floating on the groundwater.

UST 17 - A Final Corrective Action Implementation (IMP) was started.

FY96

Sites 1, 28 and 30 - The RI/FS was completed and the Final ROD signed 13 Jan 1996. The ROD specified NFA, therefore the RD planned for Sites 1 and 28 was not completed. The sites are considered Response Complete.

Site 80 - A Removal Action was completed at Site 80 for remediation of surface soils.

Site 10 - A SI was initiated.

Site 35 - The interim action to remove petroleum contaminated soils from the site was completed.

Sites 36, 43, 44, 54, 65, 69, 73 and 86 - Field Work to prepare the RI was completed. A removal action was completed at Site 43 to remove surficial metallic debris from the site.

Sites 41 and 74 - The RI/FS phase was completed and Final ROD signed 05 Dec 1996.

Site 68 - The RD was completed.

Sites 21, 41 and 82 - The RA was completed. Sites are considered Response Complete.

Site 88 - The PA/SI was completed

Site 88 - A removal action was completed to remove five leaking underground storage tanks, and contaminated soil, that were used to store PCE.

Sites 89 and 93 - (Designated as OU16) A Phase I investigation was started.

USTs 81 and 83 - The SA phase was completed.

USTs 9, 25 and 78 - The SA phase was completed.

USTs 13, 16, 21, 22, 24, 31-33, 36, 38, 39, 42, 43 and 47 - The CAP was completed.

USTs 2, 14, 15, 17, 18, 21, 22, 27, 31, 33, 42 and 43 - The DES phase was completed.

USTs 4, 15 and 17 - The IMP was completed. UST 15 is considered Response Complete.

PROGRESS DURING FISCAL YEAR 1997

FY97

Sites 3, 7, 16, 35, 36, 65, 69, 73 and 86 - RI/FS completed.

Sites 3, 41 and 74 - RD completed.

Site 82 - RA completed.

Site 36 - UST Removal Action completed.

Sites 7, 63 and 80 - The final ROD was signed.

Site 88 - A removal action to address shallow groundwater contamination will be started.

Sites 7, 16 and 65, and USTs 12, 17, 48 and 84 - Response complete.

UST 17 - IMO completed.

USTs 49, 67, 82, 84 and 86 - SA phase completed.

USTs 8, 9, 49, 50, 57, 62, 67 and 78 - CAP completed.

USTs 9, 13, 16, 36, 38 and 50 - DES phase completed.

USTs 2, 3, 12, 16, 19, 21, 46 and 48 - IMP phase completed.

**CAMP LEJEUNE MCB
PLANS FOR FISCAL YEARS 1998 AND 1999**

FY98	FY99
<p>Site 3 - RA will be started. Site 10 - SI field work will be started. Sites 12, 43, 44, 54, 63, 68 and 80 - Complete RI/FS. Site 35 - The Final ROD will be signed. Sites 35, 36, 69, 73, 84 and 85 - The RD will be completed. Sites 65 and 73 - The Final ROD will be signed. Site 4 - Complete RA. Sites 35 and 36, and USTs 10 and 36 - Removal Actions planned. Site 88 - Implementation of the removal action for shallow groundwater will continue. Sites 12, 43, 44, 54, 63, 68 and 80, and USTs 36, 46 and 57 - Response Complete planned. USTs 65 and 79 - The SA will be completed. USTs 9, 31, 82 and 86 - The CAP will be completed. USTs 9, 32, 49, 57, 62, 67 and 78 - The DES will be completed. USTs 10, 11, 14, 18, 22, 25, 27, 32, 33, 36, 43, 50 and 62 - The IMP will be completed.</p>	<p>Sites 75, 76, 87, 88, 90-92 - Complete RI/FS. Site 54 and USTs 8, 65, 82 and 86 - Complete RD/DES. Sites 3 and 36 - Complete RA. Sites 84, 85 and 88, and UST 67 - Complete Removal Action. Sites 36, 75, 76, 87, 90, 91 and 92 - Response Complete planned. UST 65 - Complete CAP. USTs 9 and 31 - Complete Corrective Action IMP.</p>

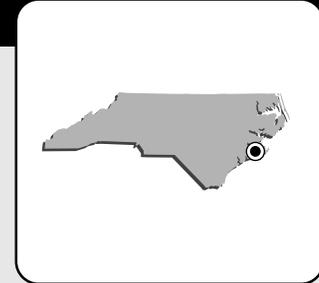
PROGRESS AND PLANS

CERCLA	FY96 and before	FY97	FY98	FY99	FY00	FY01	FY02	FY03 and after
PA / SI	88						1	1
RI / FS	13	9	7	7	2	2	1	1
RD	7	3	6	1		2	2	2
RAC	3	1	1	2	2			9
RAO								12
IRA	8(8)		2(2)	3(3)				2(2)
RC	57	3	7	7	2			14
Cumulative % RC	63%	67%	74%	82%	84%	84%	84%	100%
UST	FY96 and before	FY97	FY98	FY99	FY00	FY01	FY02	FY03 and after
SA	74	5	2					
CAP	25	8	4	1	1			1
DES	15	6	6	4	1	2	1	
IMP	3	8	13	2	3	2	3	3
IMO		1	1				1	32
IRA		1(1)	2(2)	1(1)	1(1)			13(19)
RC	46	4	3					33
Cumulative % RC	53%	58%	62%	62%	62%	62%	62%	100%

CHERRY POINT MARINE CORPS AIR STATION

CHERRY POINT, NORTH CAROLINA

Engineering Field Division/Activity: LANTDIV
 Major Claimant: CMC
 Size: 27,715 Acres
 Funding to Date: \$41,028,000
 Estimated Funding to Complete: \$84,654,000



Base Mission: Maintains and operates support facility and provides services and materials for Marine aircraft wing

Contaminants: PCBs, POLs, solvents

Number of Sites:		Relative Risk Ranking of Sites:		
CERCLA:	9	High:	35	Not Evaluated:
RCRA Corrective Action:	43	Medium:	10	Not Required:
RCRA UST:	36	Low:	8	
Total Sites:	88			

NPL	
Sites Response Complete: 33	

EXECUTIVE SUMMARY

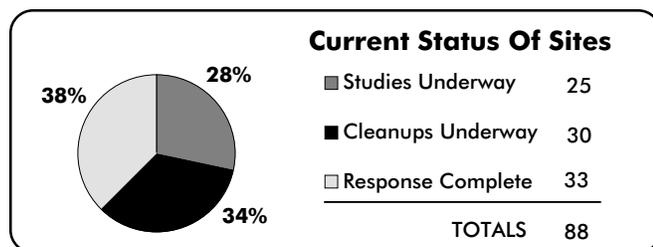
The Cherry Point Marine Corps Air Station (MCAS), commissioned in 1942, is located on the Neuse River in eastern North Carolina and consist of 27,715 acres. It sits on a peninsula of land formed by Craven and Carteret Counties between the Neuse River to the north and Core and Bogue Sounds to the south. MCAS maintains and operates support facilities, services and material for a Marine Aircraft Wing; receives, stores, and issues ammunition and explosives for fleet contingency use; provides facilities for training and support of Fleet Marine Force Atlantic aviation units; is a primary aviation supply point; repairs and reworks various systems relating to Marine Corps Aviation; and operates an air-to-ground bombing target complex. Typical air station operations that contributed to contaminated sites on the facility include machine shops, foundry, coating and paint shops, paint stripping, plating shops, mechanical maintenance shops, public works shops, automotive shops, printing and photographic shops, power plants, wastewater treatment plants, fire fighting, landfill disposal, and storage of supplies, materials, fuels and limited ordnance. Current operations include pollution prevention technologies to prevent further contamination. The primary contaminants of concern at MCAS are organic solvents (such as PCE, TCE and vinyl chloride); petroleum hydrocarbons and PCBs. EPA Region IV completed a RCRA Facility Assessment (RFA). As a result of the RFA, the Commandant of the Marine Corps (CMC) and the EPA negotiated a Consent Order in December 1989. MCAS was placed on the National Priorities List (NPL) in December 1994 due to the potential for contamination of the Castle Hayne Aquifer, which is the primary drinking water source for the region. The MCAS will develop a Federal Facilities Agreement (FFA) with EPA Region IV and the State of North Carolina.

MCAS is within the drainage basin of the Neuse River and its tributaries, Slocum Creek and Hancock Creek. Potable water is supplied from deep artesian aquifer wells. Water flow in the shallow unconfined aquifer generally follows land contours and discharges to surface streams. Areas of MCAS are located within designated wetlands, which support many species of migratory birds.

A Technical Review Committee (TRC) was formed in FY91 and meets once a year or as needed. In FY95, the installation expanded the TRC into a Restoration Advisory Board (RAB) and solicited community members to participate. The RAB includes a broad cross-section of community representatives, and meets on a quarterly basis at a minimum. The installation expanded its public involvement program, completed a Community Relations Plan (CRP) and implemented a plan to proactively inform and involve the community in the cleanup process. The installation has established community Information Repositories at two locations.

Currently, 25 sites are in a study phase. Of the RCRA Underground Storage Tank (UST) sites in the study phase, one Initial Site Characterization (ISC) is underway and one Investigation (INV) is ongoing. Seven RCRA UST sites have Corrective Action Plans (CAPs) underway and eight RCRA UST sites are in the design phase. The remaining sites under study are awaiting funding to complete the study phase. Sites 5 and 17 were remediated under RCRA CA by removal and disposal of PCB contaminated soils. Thirty-three sites are Response Complete (RC).

A major success in the cleanup program at MCAS Cherry Point has been their ability to implement a formal partnering process between the installation, EPA Region IV, and the state of North Carolina. This partnering has resulted in reduced review times, and a streamlined Site Management Plan, eliminating the need for Remedial Investigation/ Feasibility Study (RI/ FS) work plans at some sites. The installation has been able to accelerate cleanup by the elimination of Pre-Draft documents, creation of base wide FSP, QAP, and Decision documents which streamline documents, elimination of formal work plans and the use of time-critical removal actions and interim Records of Decision (RODs). The installation has also developed an environmental GIS system to manage all data and present data visually to expedite reviews.



CHERRY POINT MCAS RELEVANT ISSUES

ENVIRONMENTAL RISK



HYDROGEOLOGY - MCAS lies on level to slightly sloping land. The installation is within the drainage basin of the Neuse River and its tributaries, Slocum Creek and Hancock Creek.

Drainage on MCAS is directed toward these three bodies of water via a system of ditches, storm sewers, and pre-existing local tributaries. The Neuse River flows east past MCAS into Pamlico Sound, which empties into the Atlantic Ocean through a number of inlets in the barrier island chain. As many as eight aquifer zones have been identified in Craven County. Flow in the water table aquifer is directed toward the Neuse River and Hancock and Slocum Creeks. Contaminant migration at MCAS would tend to be toward surface waters to the east, north and west of the installation. The main pathways are overland flow and movement within the surficial aquifer. Twenty-three operating wells provide drinking water to the Air Station. The active wells take water from the lower artesian aquifer, the Castle Hayne.



NATURAL RESOURCES - MCAS is in the coastal plain area of North Carolina. The uplands consist generally of pine flat woods along with various habitats, which support species of hardwoods.

Extensive wildlife habitat is provided by the forest resource. A forestry management plan has been adopted at the station. Wetland areas at MCAS consist of the regions associated with three ponds on the station and stream habitats. Both Slocum and Hancock Creeks support wetland communities. Slocum Creek, Hancock Creek, and the Neuse River serve as recreational resources for military personnel and local residents. Many species of migrating birds pass through the region. Local species of shore birds also employ marsh areas as nurseries. The only federally listed endangered or threatened species in the area is the American alligator and occasional transitory migrant species. In addition, there are three State listed threatened or endangered species on MCAS property.



RISK - Currently, there are 88 IR sites, 9 CERCLA, 43 RCRA Corrective Action and 36 RCRA UST sites. A Baseline Risk Assessment, both ecological and human health is currently ongoing following the EPA guidance. For the Department of Defense (DOD) Relative Risk Ranking System, 35 sites were ranked as "high" primarily due to known groundwater contamination. The Agency for Toxic Substance and Disease Register (ATSDR) performed a public health assessment for the installation in 1995. The ATSDR Public Health Assessment was issued in June 1996. No public health concerns were identified. There are 10 medium and 8 low relative-risk ranked sites.

REGULATORY ISSUES



NATIONAL PRIORITIES LIST - MCAS was placed on the National Priorities List (NPL) on 16 December 1994 with a Hazard Ranking System (HRS) score of 70.71. The main problem is gross groundwater contamination with the organic solvent TCE in the surficial aquifer passing through to Castle Hayne drinking water aquifer. One contributor to groundwater contamination is leakage from the Industrial Wastewater collection system. The MCAS has repaired the leakage.



LEGAL AGREEMENTS - The MCAS will develop a Federal Facilities Agreement (FFA) with EPA Region IV and the State of North Carolina. The station currently has a 3008h RCRA consent order and a Part B Permit.



PARTNERING - In July 1994, MCAS, Naval Facilities Engineering Command (NAVFAC), Atlantic Division (LANTDIV), EPA Region IV and the State of North Carolina began facilitated partnering. The partnering stakeholders are organized into tiers with managers and executives on Tier 2 and Remedial Project Managers on Tier 1. By December 1994, the Site Management Plan was streamlined and a year's preparation time and the cost of Remedial Investigation/ Feasibility Study (RI/FS) Work Plans for four different Operable Units (OUs) were eliminated in a process change developed by the team.

COMMUNITY INVOLVEMENT



RESTORATION ADVISORY BOARD - A Technical Review Committee (TRC) was formed in FY91 and expanded into a RAB in FY95. The RAB meets on a quarterly basis.



COMMUNITY RELATIONS PLAN - A Community Relations Plan (CRP) was published in November 1994, and is periodically updated.



INFORMATION REPOSITORY - Two Information Repositories were established in FY93. One is located at the Havelock Public Library and the other at the Station Library. These repositories contain a copy of the Administration Record (the official file) and are updated regularly by the Marine Corps.

HISTORICAL PROGRESS

FY83

Sites 1-32 - An Initial Assessment Study (IAS), equivalent to a Preliminary Assessment (PA), completed in March 1983 identified 32 potentially contaminated sites at MCAS. No Further Action (NFA) was planned for 14 sites (Sites 11, 13, 14, 18, 22-28 and 30-32) since the sites were found not to pose a threat to human health or environment.

FY88

Sites 8 and 9 - As a result of a RCRA Facility Assessment (RFA), these sites were transferred to the UST program.
Sites 1-7, 10-21, 29 and 32 - As a result of an RFA, these sites will be addressed under RCRA CA. NFA is required at Sites 22-28, 30 and 31.
Sites 33-52 - Twenty new SWMUs were identified in the RFA.

FY89

Site 29 - An Interim Remedial Action (IRA) was initiated to remove free floating petroleum product from the groundwater. The IRA is expected to be completed in FY97.

FY90

Site 29 - Corrective Measures Study (CMS) began.
Site 55 - An additional SWMU was added when leakage was found during the replacement of an underground tank. During the tank replacement, the contaminated soil was removed.

FY91

USTs 2-5, 19 and 23 - Initial Site Characterizations (ISCs) completed. Groundwater contamination was confirmed at all USTs.

FY92

Site 55 - Completed a RCRA Facility Investigation (RFI), which indicated contamination with the organic compounds chloromethane and chloroform. Assessment showed a low risk.
USTs 3-5 - Twenty tanks were removed.
USTs 6-10 and 22 - ISCs were completed. Groundwater contamination was confirmed at all USTs.

CHERRY POINT MCAS HISTORICAL PROGRESS

FY93

Sites 5 and 17 - An RFI was completed in December 1992. The RFI confirmed PCB contamination in the soil and both sites were recommended for a CMS. The CMS was also completed in FY93 for Site 5. As a result, a Remedial Action Contract (RAC) is being used for the DES and CMI.
 Sites 1-4, 6, 7, 12, 15, 19, 21, 33-42, 45, 47 and 49-52 - RFIs were completed in June 1993. Four SWMUs (33-35 and 50) were found not to require further action and 22 Sites required a CMS.
 USTs 1, 16, 19, 20, 23 and 28 - Thirty-nine tanks were removed.
 USTs 11, 12, 14, 15 and 21 - ISCs were completed. Groundwater contamination was confirmed at all USTs except UST 21.
 USTs 2 and 22 - CAPs were completed.

FY94

Site 41 - Site was transferred to the UST program for remediation.
 Sites 36, 37 and 49 - CMI to remove contaminated soil were completed.
 USTs 1, 5, 7, 8, 10-12, 20, 21, 24 and 26-29 - Fifty-eight tanks were removed.
 UST 3 - Contaminated soil was removed.
 USTs 1, 16, 18, 20 and 28 - ISCs were completed. Groundwater contamination was confirmed at all USTs except UST 20.
 USTs 3, 15 and 19 - Long Term Monitoring (LTM) was initiated and is expected to continue for two years.
 UST 3 - CAP was completed.
 UST 24 - INV was completed.

FY95

All Sites - A Baseline Risk Assessment is ongoing at all sites. A hydrogeological framework study was completed to establish areas of vulnerability of the Castle Hayne drinking water aquifer from contaminants at the Air Station. Continued partnering activities and concurrent document reviews.
 Sites 6, 7, 10, 44 and 46 - Began CMS for these sites.
 Site 16 - Time critical removal action was conducted to protect the public from physical and chemical hazards.
 Sites 5 and 17 - The Design (DES) was finalized. The CMI, which is also completed, consisted of the removal and landfilling of the contaminated soil at a Toxic Substances Control Act (TSCA) approved landfill.
 Site 17 - CMS are completed.
 USTs 25-27 - ISCs were completed.
 UST 27 - CAP was completed.

FY96

Sites 6, 7, 10, and 46 - An RFI/CMS and PRAP were completed. Site 46 required no further action is Response Complete.
 Sites 6, 7, and 17 - The DES was completed
 USTs 4, 5, 12, 17, 21, 23 and 35 - CAPs were completed.
 USTs 1, 2, 4 and 14 - DESs were completed.
 USTs 1, 2 and 14 - RA was awarded.

PROGRESS DURING FISCAL YEAR 1997

FY97

Site 30 - Completed RI/FS, completed RA, completed 2 Removal Actions and is Response Complete.
 Sites 6, 10, 16, 29, 44 and 46 - Completed RFI/CMS.
 Sites 10, 16, 29, 44 and 47 - Completed DES.
 Sites 15, 16, 17, 40 and 47 - Completed Removal Actions.
 Site 46 - Response Complete.
 Sites 4, 19, and 21 - Start RI/FS phase.
 Sites 6, 7, 10 and 44 - Complete ROD

Sites 15-17, 40, 42, 47, 51 and 52 - NADEP Central Hot Spot IRA construction started.
 Site 16 - Groundwater Hot Spot EECA/Action Memo is expected to be completed.
 Site 47 - ECA for Stripper Barn Groundwater Hot Spot to be completed.
 USTs 2, 12, 15, 21, 27, 30, 32, 35 and 38 - CAPs completed.
 USTs 4-11, 13, 16, 17, 29-31, 34, 35 and 38 - DES completed.
 USTs 1, 14, and 19 - IMPs completed.
 USTs 5, 7 and 10 - Removal Actions completed.
 USTs 12, 15, 19, 21 and 27 - Response Complete.

PLANS FOR FISCAL YEARS 1998 AND 1999

FY98

Sites 7, 21, 47 - Complete RFI/CMS.
 Sites 6, 16, 47 - Complete CMI.
 Site 10 - Complete Removal Action.
 Sites 6 and 21 - Response Complete planned.
 UST 32 - Complete DES.
 UST 2, 6-10, 13, 22, 26, 29, 32 and 33 - Complete IMP.
 UST 4 - Complete Removal Action.
 USTs 9 and 29 - Complete IMO.
 USTs 9, 13, 26, 29, 32 and 33 - Response Complete planned.

FY99

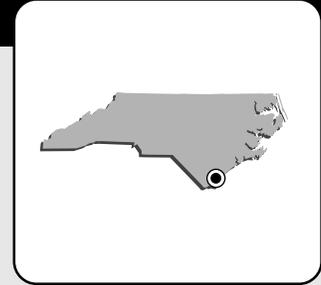
Sites 4, 12, and 19 - Complete RFI/CMS.
 Sites 7, 10 and 29 - Complete CMI.
 Sites 29 and 47 - Two Removal Action completions per site planned.
 Sites 7, 19 and 29 - Response Complete planned.
 UST 28 - Complete CAP.
 USTs 4, 11, 30, 31 and 35 - Complete IMP.
 USTs 28 and 30 - Response Complete planned.
 Site 4 - Start RA
 Site 46 - Start design
 Site 38 - Start RI/FS
 Sites 6, 7, 10, 16, and 42 - continue RAO/LTM

CHERRY POINT MCAS PROGRESS AND PLANS

CERCLA	FY96 and before	FY97	FY98	FY99	FY00	FY01	FY02	FY03 and after
PA / SI	9							
RI / FS		1						
RD								
RAC		1						
RAO								
IRA		1(2)						
RC	8	1						
Cumulative % RC	89%	100%	100%	100%	100%	100%	100%	100%
RCRA CA	FY96 and before	FY97	FY98	FY99	FY00	FY01	FY02	FY03 and after
RFA	41							1
RFI / CMS	4	6	3	3	2			15
DES	4	5			1	1	2	8
CMI	2		3	3	1		2	9
CMO					1		2	10
IRA	8(9)	5(5)	1(1)	2(4)			1(1)	3(3)
RC	13	1	2	3	2		2	20
Cumulative % RC	30%	33%	37%	44%	49%	49%	53%	100%
UST	FY96 and before	FY97	FY98	FY99	FY00	FY01	FY02	FY03 and after
SA	30							
CAP	22	9		1				
DES	6	17	1					
IMP		3	12	5	4	2		
IMO			2		1	1		15
IRA	3(3)	3(3)	1(1)					
RC	5	5	6	2	1	2		15
Cumulative % RC	14%	28%	44%	50%	53%	58%	58%	100%

WILMINGTON NAVAL RESERVE CENTER WILMINGTON, NORTH CAROLINA

Engineering Field Division/Activity: SOUTHDIV
 Major Claimant: COMNAVRESFOR
 Size: 3 Acres
 Funding to Date: \$61,000
 Estimated Funding to Complete: \$0



Base Mission: Provides training support for administrative, logistics and mobilization of Marine Corps Reserve Units

Contaminants: POLs

Number of Sites:

CERCLA: 0
 RCRA Corrective Action: 0
 RCRA UST: 1
 Total Sites: 1

Relative Risk Ranking of Sites:

High: 0 Not Evaluated: 0
 Medium: 0 Not Required: 1
 Low: 0

Sites Response Complete: 1	

PROGRESS AND PLANS

UST	FY96 and before	FY97	FY98	FY99	FY00	FY01	FY02	FY03 and after
SA	1							
CAP	1							
DES								
IMP	1							
IMO								
IRA	1(1)							
RC	1							
Cumulative % RC	100%	100%	100%	100%	100%	100%	100%	100%