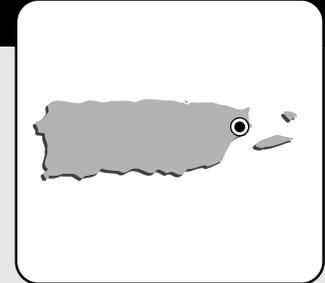


ROOSEVELT ROADS NAVAL STATION

ROOSEVELT ROADS, PUERTO RICO

Engineering Field Division/Activity: LANTDIV
 Major Claimant: CINCLANTFLT
 Size: 32,161 Acres
 Funding to Date: \$14,582,000
 Estimated Funding to Complete: \$49,948,000



Base Mission: Provides full support for Atlantic Fleet Weapons training and development activities

Contaminants: Solvents, paint, paint strippers and thinners, oils, fuel sludges, pesticides, PCBs, acids, asbestos

Number of Sites:

CERCLA: 7
 RCRA Corrective Action: 26
 RCRA UST: 16
 Total Sites: 49

Relative Risk Ranking of Sites:

High: 14 Not Evaluated: 2
 Medium: 4 Not Required: 18
 Low: 11

Sites Response Complete: 17	

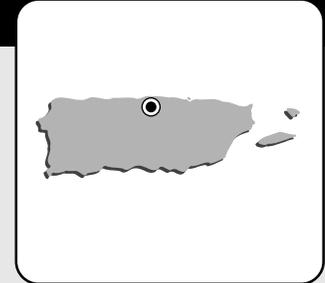
PROGRESS AND PLANS

CERCLA	FY96 and before	FY97	FY98	FY99	FY00	FY01	FY02	FY03 and after
PA / SI	4			1				
RI / FS	1		2	1		1		1
RD								1
RAC				1				1
RAO								
IRA	1(1)							
RC	2		1	2		1		1
Cumulative % RC	29%	29%	43%	71%	71%	86%	86%	100%
RCRA CA	FY96 and before	FY97	FY98	FY99	FY00	FY01	FY02	FY03 and after
RFA	2		21	1	1			
RFI / CMS				3	12	1	1	7
DES			1		3	9	1	10
CMI						1		23
CMO								4
IRA	1(1)	1(1)						
RC	2					1		23
Cumulative % RC	8%	8%	8%	8%	8%	12%	12%	100%
UST	FY96 and before	FY97	FY98	FY99	FY00	FY01	FY02	FY03 and after
SA	16							
CAP	5	3						
DES	2							
IMP		3						
IMO	2						2	1
IRA								2(2)
RC	13						2	1
Cumulative % RC	81%	81%	81%	81%	81%	81%	94%	100%

SABANA SECA NAVAL SECURITY GROUP ACTIVITY

SABANA SECA, PUERTO RICO

Engineering Field Division/Activity: LANTDIV
 Major Claimant: COMNAVSECGRU
 Size: 2,252 Acres
 Funding to Date: \$3,470,000
 Estimated Funding to Complete: \$0



Base Mission: Operates a high frequency direction finding facility and provides communication and related services, and manpower assistance to components of Department of the Navy and other Department of Defense elements within the area

Contaminants: Heavy metals (arsenic, copper, lead, mercury, zinc), PCBs, pesticides/herbicides, phenols

Number of Sites:		Relative Risk Ranking of Sites:			
CERCLA:	7	High:	0	Not Evaluated:	0
RCRA Corrective Action:	0	Medium:	0	Not Required:	8
RCRA UST:	1	Low:	0		
Total Sites:	8				

NPL	
Sites Response Complete: 8	

EXECUTIVE SUMMARY

Sabana Seca Naval Security Group Activity (NSGA) is located on the north central coast of Puerto Rico, approximately 11 miles west of the capital city of San Juan, adjacent to the village of Sabana Seca. The station encompasses over 2,200 acres of land and is divided into the North and South Tracts.

The South Tract consists of 921 acres and is known as the Support Site. The site contains the office of the Commanding Officer, facility maintenance, administration, housing, supply, health care facilities, recreation and retail outlets.

The 1,333 acre North Tract, commonly referred to as the Operations Site, contains the Circularly Disposed Antenna Array (CDA); the CDA operations building (Building 85), located in the center of the array; and the Naval Radio Receiver Facility, located adjacent to Building 85.

Both the North and South Tracts are surrounded by buffered zones which provide electromagnetic interference free zones for the communications receiving equipment. A total of four outleases covering in excess of 1,500 acres are presently in effect for agricultural uses at both tracts.

The mission of NSGA Sabana Seca is to operate a High Frequency Direction Finding Facility and provide communications and related support, including communications relay, communications security and communications manpower assistance to components of the US Navy and other Department of Defense (DOD) elements within the area as assigned by Chief of Naval Operations (CNO).

Typical operations that contributed to contaminated sites on the facility include paint shops, boiler plants, power plants, carpenter shop, pest control shop, electrical shop, air conditioning and refrigeration shop, plumbing shop, vehicle maintenance shop, fire fighting training and water treatment plants. Current operations include pollution prevention technologies to prevent further contamination. The primary sites of concern are a former pest control

shop where pesticides and herbicides were disposed of and a leachate ponding area which receives leachate from an adjacent municipal landfill. This landfill accepts anything from residential, pharmaceutical, chemical, industrial and infectious waste. The NSGA is under an Federal Facility Agreement (FFA) with the USEPA which was signed in March 1992.

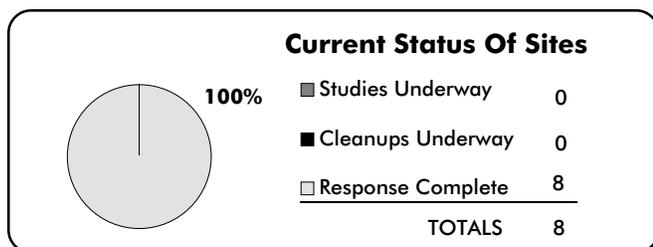
A Technical Review Committee (TRC) was formed in FY90 to solicit community input in the cleanup decision-making process. The installation focuses its public involvement efforts on the specific needs of the local community. For example, the Community Relations Plan (CRP), prepared in FY91, was provided in both English and Spanish versions to accommodate a bilingual community. The Navy converted the TRC into a Restoration Advisory Board (RAB) in FY96, and included identifying additional members and soliciting their participation on the RAB. In FY94, two Information Repository/Administrative Records were established in the community to ensure public access to documents related to the cleanup program.

A Preliminary Assessment (PA) was completed in September 1984 and identified seven CERCLA sites at this installation. The PA recommended only Sites 6 and 7 for further study.

Site 6 reached the Remedial Design/Remedial Action (RD/RA) phase. An asphalt cap was placed over Site 6 in 1997 to assure the public by preventing contact with chlordane-contaminated soils above the to-be-considered (TBC) standard of 500 ppb. Site 6 was classified as construction complete in September 1997.

In 1996, a focused Feasibility Study (FS) for Site 7 was completed. The focus of the FS was to identify interim remedial actions that would divert and/or treat the municipal leachate that enters Navy property. However, the Navy determined that all the interim alternatives were impractical to implement and recommended Site 7 for no further action on the part of the Navy. Site 7 was classified as Response Complete in February 1997.

Prior to completing the PA, Site 5 was cleaned-up. The cleanup at Site 5 was completed as a result of a removal action to dispose of debris at a nearby municipal landfill; the remaining inert material was buried on-site. The PA recommended no further action for Site 5. Site 5 was classified as Response Complete in July 1994.



SABANA SECA NSGA EXECUTIVE SUMMARY

Sites 1-4 stayed in the Site Inspection (SI) stage. For Sites 1 and 3, an Expanded SI was completed in March 1997. For Sites 2 and 4, a SI was completed in December 1996. No-Action Records of Decision (RODs) were signed in September 1997 for these four sites.

In lieu of a Final Closeout (FCO) Report, the No-Action RODs for Sites 1-4 documents that the Navy has completed all construction activities for all sites at the installation. These RODs document that the Navy, USEPA and PREQB agree that no further actions are necessary at this installation and the NPL deletion process can begin.

RELEVANT ISSUES

ENVIRONMENTAL RISK



HYDROGEOLOGY - The North tract of NSGA is primarily a swampy area covered by stagnant water. Sandy muck and clay sands, generally less than ten meters thick, predominate in the area. Alluvial deposits consisting of sand, clay and sandy clay with variable thickness up to 25 meters thick are located near the CDAA and the village of Ingenio. The alluvium and muck are underlain by limestone. Some of the soils on Sabana Seca are clays. They are mostly level, but some are well drained. The aquifer supplying the south tract is only about 40 feet below ground level. Contamination via leachates from the nearby municipal landfill is a potential threat. Two wells 130 and 140 feet below ground level supply the South Tract. The water from these wells is disinfected by direct chlorine injection.



NATURAL RESOURCES - The North Tract is bordered to the north by the Cocal River, agricultural land and further north the Atlantic Ocean. The rural community of Ingenio is located directly southwest of this tract. Agricultural lands about the eastern perimeter and Route 867 forms the southern boundary of the tract, adjoining it to the South Tract.

Route 867 and agricultural land border the South Tract to the north. The village of Sabana Seca is located adjacent to the eastern perimeter and the De Diego Expressway traverses the southern portion of the tract. Land to the west of the tract is used primarily for agricultural purposes, cattle grazing and a municipal landfill. The US Department of Health and Human Services owns the land directly adjacent to the western perimeter of the base and leases it for a Primate Research Center (PRC). Department of Health and Human Services leases a small portion of land from the Navy to support the PRC.

Of the 21 federally-listed endangered and threatened species of Puerto Rico only one, the Puerto Rican boa has been captured in areas similar to those found in the haystack hills in the South Tract. However, there have been no reported sightings of any wildlife species on the endangered or threatened species list at either the North or South Tracts or in the general vicinity of the activity.



RISK - A Baseline Risk Assessment, both ecological and human health, has been completed for Sites 1, 3, 4, 6 and 7 following the USEPA guidance. Six of the seven CERCLA sites have been ranked with the DOD Relative Risk Ranking System. This resulted in Sites 6 and 7 being ranked as high; Sites 1, 3 and 4 being ranked as medium; Site 2

being ranked as low and Site 5 not being ranked. The high-ranked sites were so ranked primarily due to known soil and groundwater contamination and identified migration pathways.

The Agency for Toxic Substance and Disease Register (ATSDR) performed a public health assessment for the installation.

REGULATORY ISSUES



NATIONAL PRIORITIES LIST - The installation was placed on the NPL in October 1989 with a Hazard Ranking System score of 34.28. This score was a result of one site (Site 6) with pesticide contamination being adjacent to the base picnic/playground and housing areas.



LEGAL AGREEMENTS - A Federal Facilities Agreement (FFA), was signed in March 1992 between the Navy, USEPA and Puerto Rican Environmental Quality Board (PREQB). The Site Scope of Work (SSOW), which is updated annually, contains the investigation and cleanup schedules for the sites and is included by reference as part of the FFA.

COMMUNITY INVOLVEMENT



RESTORATION ADVISORY BOARD - A Technical Review Committee (TRC) was formed in FY90 to solicit community input in the cleanup decision-making process. The installation focuses its public involvement efforts on the specific needs of the local community. The TRC was converted into a Restoration Advisory Board (RAB) during FY96. In lieu of public meetings, public awareness sessions were held during the Proposed Remedial Action Plan (PRAP) public comment periods. Posterboards and photographic albums and site information brochures were presented to explain the cleanup program to date.



COMMUNITY RELATIONS PLAN - A Community Relations Plan (CRP) was prepared in FY91. It was provided in English as well as Spanish.



INFORMATION REPOSITORY - An Information Repository and Administrative Record were established in two locations in the community to ensure public access to documents related to the cleanup program. Due to the bilingual community, the CRP, the PRAP, the Records of Decision (RODs), the Site Information/Photographic Albums, the public notices, the posterboards as well as the introduction to the admin record were provided in both English and Spanish.

HISTORICAL PROGRESS

FY84

Sites 1-7 - The Preliminary Assessment (PA) was completed in September 1984.

Site 5 - Before conducting the PA, a removal action was completed. The majority of debris was removed and disposed of at the nearby municipal landfill. The remaining inert material was buried on-site.

FY88

Site 6 - An Interim Remedial Action (IRA) was completed in October 1987 which included demolition and disposal of the Pesticide Shop at the nearby

municipal landfill, placing a six-inch cover of clean soil over the site and surrounding the site with a fence to prevent exposure to spilled pesticides. Hazardous waste was removed and disposed of accordingly.

FY89

Sites 6 and 7 - The SI was completed and the RI was initiated.

FY90

Sites 2 and 4 - The SI was initiated
Sites 6 and 7 - The RI efforts were underway.

SABANA SECA NSGA HISTORICAL PROGRESS

FY91

Sites 1-7 - A CRP was completed in August 1991.
 Sites 1 and 3 - The SI was initiated.
 Sites 2 and 4 - The Final Workplan for SI efforts was completed in August 1991.
 Sites 6 and 7 - The Final Workplan for RI/FS efforts was completed in August 1991.

FY92

Sites 1 and 3 - The workplan addendum for SI efforts was being developed.
 Sites 2 and 4 - The SI field efforts and a workplan addendum for additional SI efforts was initiated.
 Sites 6 and 7 - The RI field efforts and a workplan addendum for additional RI efforts was initiated.

FY93

Sites 1 and 3 - The Final Workplan Addendum for SI efforts was completed in February 1993. The SI field efforts were conducted.
 Sites 2 and 4 - The Final Workplan Addendum for SI efforts was completed in December 1992. The SI field efforts were conducted.
 Site 6 - The Final Workplan Addendum for RI efforts was completed in December 1992. The RI was completed and the FS was initiated.
 Site 7 - An FS was initiated to determine the IRA needed to protect installation personnel from exposure to leachate from the municipal landfill. A Draft Final FS Report was completed in August 1993.

FY94

Sites 1 and 3 - Development of the SI Report and Risk Assessment was initiated.
 Sites 2 and 4 - Development of the SI Report and Risk Assessment was initiated

Site 5 - In USEPA letter of July 1994, USEPA concurred that no further action (NFA) was needed.

Site 6 - A draft PRAP was completed in September 1994 which called for excavation and disposal of contaminated soil to an off-site location. However, this proposed action was too aggressive, considering the very small quantity of contaminated soil present. Therefore, the draft PRAP was revised and presented asphalt capping as the Navy's preferred remedy.

Site 7 - A Treatability Study (TS) was initiated for the Engineered Wetland alternative which called for the field construction of a pilot-scale engineered wetland system to be studied for a minimum of six months. The Engineered Wetland intended to biologically treat leachate-contaminated runoff that flows from the municipal landfill onto Navy property. The TS was never completed due to significant changes in the site conditions. The Navy planned to prepare a No Further Response Action Planned (NFRAP) decision document.

FY95

Sites 1 and 3 - Draft Final SI Report completed and initiated expanded SI efforts.
 Sites 2 and 4 - SIs underway and initiated preparation of NFRAP decision documents.
 Site 6 - An RI/FS underway was expected to be completed in FY96. Initiated preparation of PRAP and ROD.

FY96

Sites 1 to 7 - Conversion of TRC into a RAB was completed.
 Sites 1 and 3 - Issued Draft Expanded SI Report in September 1996.
 Sites 2 and 4 - Switched from NFRAP decision document to No Action PRAP and RODs.
 Site 6 - The RI/FS and PRAP were completed and the ROD was signed. The RD phase was completed and the RA was awarded.
 Sites 5 and 7 - Consulted with USEPA and PREQB regarding the need to issue a formal NFRAP and determined additional study may still be needed first.

PROGRESS DURING FISCAL YEAR 1997

FY97

Sites 1 and 3 - The Expanded SI was completed in March 1997.
 Sites 2 and 4 - The SIs were completed in December 1996.
 Sites 1, 2, 3 and 4 - The No-Action PRAPs were completed in June 1997. The No-Action RODs were signed in September 1997.
 Site 6 - The RA was completed in August 1997. Prior to the RA, the cabinets that once housed PCB-containing transformers were removed.
 Site 5 - A NFRAP was expected to be completed, however, the USEPA letter of July 1994 was sufficient documentation for NFA designation.

Site 7 - The FS was completed in December 1996. USEPA and PREQB concurred with Navy request for NFA on the part of the Navy and no NFRAP decision document was needed. Navy would continue to work with the municipality responsible for the leachate contamination.
 Sites 1-7 - In lieu of an FCO Report, the No-Action RODs for Sites 1 and 3 and Sites 2 and 4 document that all construction activities have been completed for all sites. Therefore, no further response actions are needed at the activity and the activity is ready for NPL deletion.
 UST 1 - IMO complete; Response Complete

PLANS FOR FISCAL YEARS 1998 AND 1999

FY98

Finalize the Site Information and Photographic Album.
 Sites 1-4 - Publish notice regarding the signing of RODs for Sites 1 and 3 and Sites 2 and 4 and that these two RODs are in lieu of a FCO Report. USEPA to remove (delist) activity from NPL. No five year reviews needed. Place final Admin Record and Information Repository on a CD-ROM.

FY99

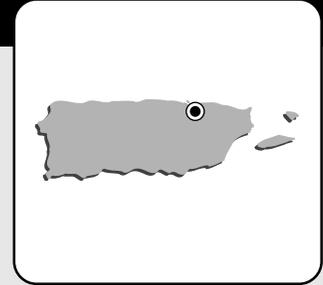
Site close-out.

**SABANA SECA NSGA
PROGRESS AND PLANS**

CERCLA	FY96 and before	FY97	FY98	FY99	FY00	FY01	FY02	FY03 and after
PA / SI	3	4						
RI / FS		7						
RD	1							
RAC		1						
RAO								
IRA	3(6)							
RC		7						
Cumulative % RC	0%	100%	100%	100%	100%	100%	100%	100%
UST	FY96 and before	FY97	FY98	FY99	FY00	FY01	FY02	FY03 and after
SA	1							
CAP	1							
DES								
IMP								
IMO		1						
IRA								
RC		1						
Cumulative % RC	0%	100%	100%	100%	100%	100%	100%	100%

SAN JUAN PUERTO RICO SUPERVISOR OF SHIPBUILDING PUERTO RICO

Engineering Field Division/Activity: LANTDIV
 Major Claimant: COMNAVSEASYSKOM
 Size: 38 Acres
 Funding to Date: \$0
 Estimated Funding to Complete: \$0



Base Mission: Former base for support of Naval Aircraft and Operations in Caribbean, now leased to Puerto Rico government, and Puerto Rico Dry-dock and Marine terminal; vessel servicing and repair

Contaminants: Sandblasting grit, paint, fuel oil, diesel fuel

Number of Sites:

CERCLA: 3
 RCRA Corrective Action: 0
 RCRA UST: 0
 Total Sites: 3

Relative Risk Ranking of Sites:

High: 0 Not Evaluated: 0
 Medium: 0 Not Required: 3
 Low: 0

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Sites Response Complete: 3

PROGRESS AND PLANS

CERCLA	FY96 and before	FY97	FY98	FY99	FY00	FY01	FY02	FY03 and after
PA / SI	3							
RI / FS								
RD								
RAC								
RAO								
IRA	1(1)							
RC	3							
Cumulative % RC	100%	100%	100%	100%	100%	100%	100%	100%