

**New Hanover County Airport Burn Pit  
Wilmington, North Carolina  
Region 4  
NCD981021157**

**Site Exposure Potential**

The New Hanover County Airport Burn Pit is just west of the county airport in Wilmington, North Carolina (Figure 1). The above-ground burn pit is of earthen construction, with a valve on the side to drain off excess fluid into the surrounding soil. The pit was used from 1968 to 1979 for fire fighting training exercises. Flammable materials, including aviation fuel, fuel oil, kerosene, oil spill residues, and tank bottoms from fuel storage tanks, were poured into the pit, ignited, and extinguished using water, CO<sub>2</sub>, or dry chemicals. In 1982, sorbent materials from (unidentified) river spill cleanups were reportedly dumped in the pit. As a result of all of these activities, wastes remaining in the pit have reportedly formed three layers: a light, oily top layer; a water layer; and a heavy sludge layer. The total waste volume remaining is estimated at 85,000 liters. In May 1986, New Hanover County sought to close the pit. The current status of the closure proposal is unknown (EPA 1986a,b).

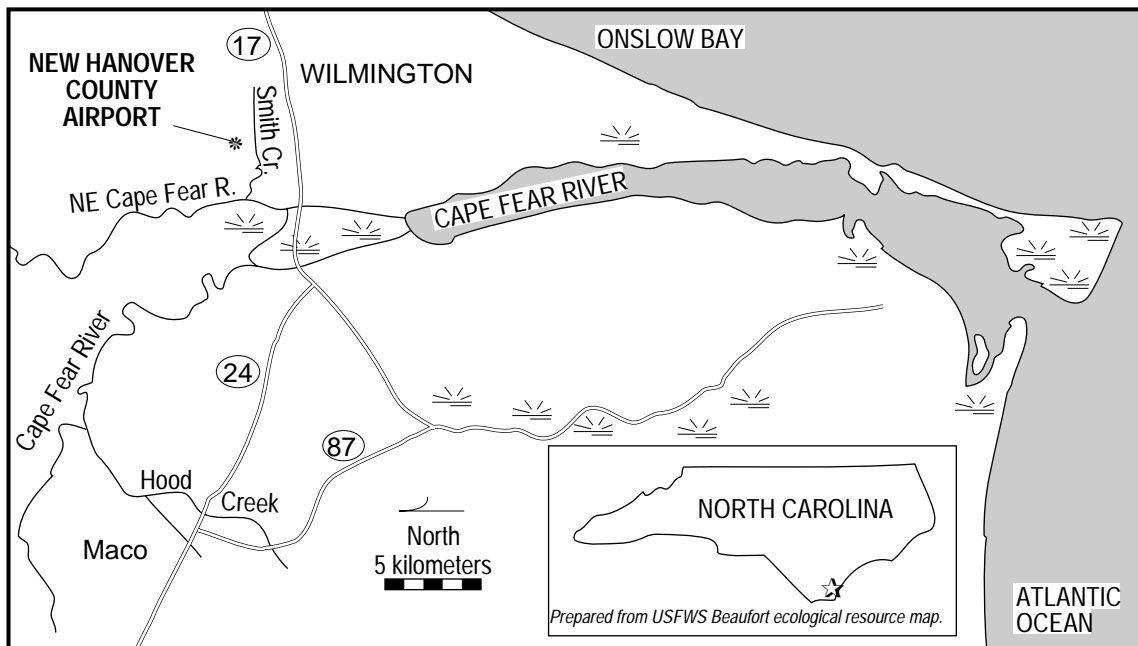


Figure 1. The New Hanover County Airport Burn Pit site in Wilmington, North Carolina.

The site is 1.5 km north of Smith Creek. The average slope of terrain between the site and Smith Creek is 0.6 percent. The creek flows southwest for 4 km before discharging into the Northeast Cape Fear River which, in turn, flows into the Cape Fear River. The Cape Fear River flows into the Atlantic Ocean 35 km from the mouth of Smith Creek. Groundwater beneath the site occurs at an average depth of 1.5 meters. The direction of shallow groundwater migration at the site is south towards Cape Fear River (EPA 1986a,b).

Possible contaminant pathways to NOAA trust resources include groundwater flow and surface water runoff to Smith Creek and the Cape Fear River system.

## Site-Related Contamination

The contaminants of concern to NOAA at the site are trace metals, VOCs, and PAHs. A January 1985 sampling of sludge from the burn pit revealed levels of lead contamination up to 182 mg/kg (DeRosa 1986). A study performed by the North Carolina Division of Health Services in May 1986 reported elevated concentrations of arsenic, barium, cadmium, chromium, lead, and mercury in soil around the pit, and VOCs and PAHs in other on-site soil samples (NCDHS 1985). Locations of these samples and the concentrations at which these contaminants were found were not provided in the documents reviewed.

## NOAA Trust Habitats and Species in Site Vicinity

Habitats with resources of interest to NOAA include lower Smith Creek, Northeast Cape Fear River, and Cape Fear River. Smith Creek is a low-gradient, tidal, estuarine creek with an average width of 30 meters. There was no information available on resources in the upper reaches of Smith Creek, but the lower reach of Smith Creek is used extensively as a nursery and adult area for NOAA trust resources (Table 1). From the mouth of Smith Creek downstream to the upper reaches of Cape Fear River, the Northeast Cape Fear River is a mid-salinity estuarine system used by a number of fish species as a migratory corridor to upstream reaches. The Cape Fear River is classified as a high-salinity estuarine system and is important to shellfish both as a nursery and as a recreational/commercial fishing area.

Table 1. Selected NOAA trust resource use of Smith Creek and the Cape Fear River system (USFWS 1980; Nelson 1989).

Species	Lower Smith Creek	Northeast Cape Fear River	Lower Cape Fear River
<b>INVERTEBRATES</b>			
blue crab		A	S,N,A,O,R,C
brown shrimp			N,A,R,C
pink shrimp			N,A,R,C
white shrimp			N,A,R,C
<b>FISH</b>			
alewife	N,A,R	S,N,M,A,R,C	M,C
American eel	A	A,R,C	A,R,C
American shad	N,A,	S,N,M,A,R	M
Atlantic croaker		N	N,A,R,C
Atlantic menhaden		N	N,A,C
Atlantic sturgeon	A	S,N,M	M
blueback herring	N,A,R	S,N,M,A,R,C	M
croaker			N,A,R,C
flounder			N,A,R,C
hickory shad	N,A,R	S,N,M	M
kingfish		N,A,R,C	N,A,R,C
red drum			A,R
spot			N,A,R,C
striped bass	N,A,R	M,A	M
white perch	N,A,R	S,N,M,A,R,C	S,N,M,R,C,A
S : Spawning area; N: Nursery area; M: Migratory route; A: Adult Habitat; C: Commercial fishery; R: Recreational Fishery ; O : Overwintering area			

Atlantic sturgeon and American shad, two species protected by North Carolina law, occur in the Cape Fear River system.

**Response Category:** Federal Enforcement

**Current Stage of Site Action:** RI/FS Workplan

**EPA Site Manager**

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**References**

DeRosa, R. May 2, 1986. Letter to Denise Bland, EPA Region 4 CERCLA Project Officer, Atlanta. Raleigh, North Carolina: North Carolina Division of Health Services.

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EPA. 1986b. Potential Hazardous Waste Site Preliminary Assessment Form; New Hanover County Airport Burn Pit. Wilmington, North Carolina. Atlanta: U.S. Environmental Protection Agency, Region 4.

NCDHS. 1985. Groundwater Laboratory Analysis Sheets. Raleigh: North Carolina Department of Human Resources Division of Health Services.

Nelson, K., fisheries biologist, North Carolina Department of Natural Resources and Community Development, Division of Inland Fisheries, Greenville, North Carolina, personal communication, January 24, 1989.

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