

NOAA Hazardous Waste Site Report

New Castle Steel (III-7)
Newcastle, Delaware
April 13, 1984

Location and Nature of Site:

The New Castle Steel site is a 2.5-acre lot in the city of New Castle, New Castle County, Delaware (Figure 1). The lot is divided into two portions of approximately equal area by a city drainage ditch. One portion of the site is an active depository of solid wastes from the Deemer Steel Casting Company located across the street from the site. Between May 1973 and December 1980 an estimated 147,300 pounds of electric furnace dust was disposed of on the active portion of the site. The other portion of the site, currently an inactive area, was previously used as a depository of Deemer Steel's solid wastes.

The primary environmental concerns associated with the New Castle Steel site arise from the potential contamination of groundwater, contaminated surface water, exposure of nearby residents to wind-blown dust, and the exposure of individuals who enter the unsecured site without authorization. Surface water, which is the only site medium currently known to be contaminated, is not used as a source of drinking water, but does enter surrounding wetlands. Since environmental samples from the site have not been analyzed for the presence of organic compounds, the potential for organic contamination at the site also remains an important concern.

The Deemer Steel Company, operator of the foundry, is the responsible party.

Proximity of Chemical Hazard to Marine Resources:

A city drainage ditch runs southeast between the active and inactive portions of the site. This ditch flows into the Delaware River 1,500 - 2,000 feet southeast of the site. Low areas adjacent to the site on the east, south, and west are marshy, and some standing water is visible. These low areas appear to drain into the city drainage ditch at the southeast boundary of the site. Normal rainfall would appear to transport contaminants into the river.

Water samples taken from the drainage ditch and marsh areas around the site were analyzed for inorganics only. Lead concentrations were detectable but only in one sample did the level exceed the EPA water criterion of 84 ug/l. Iron levels ranged from 830 - 12,000 ug/l, and manganese from 15 - 720 ug/l.

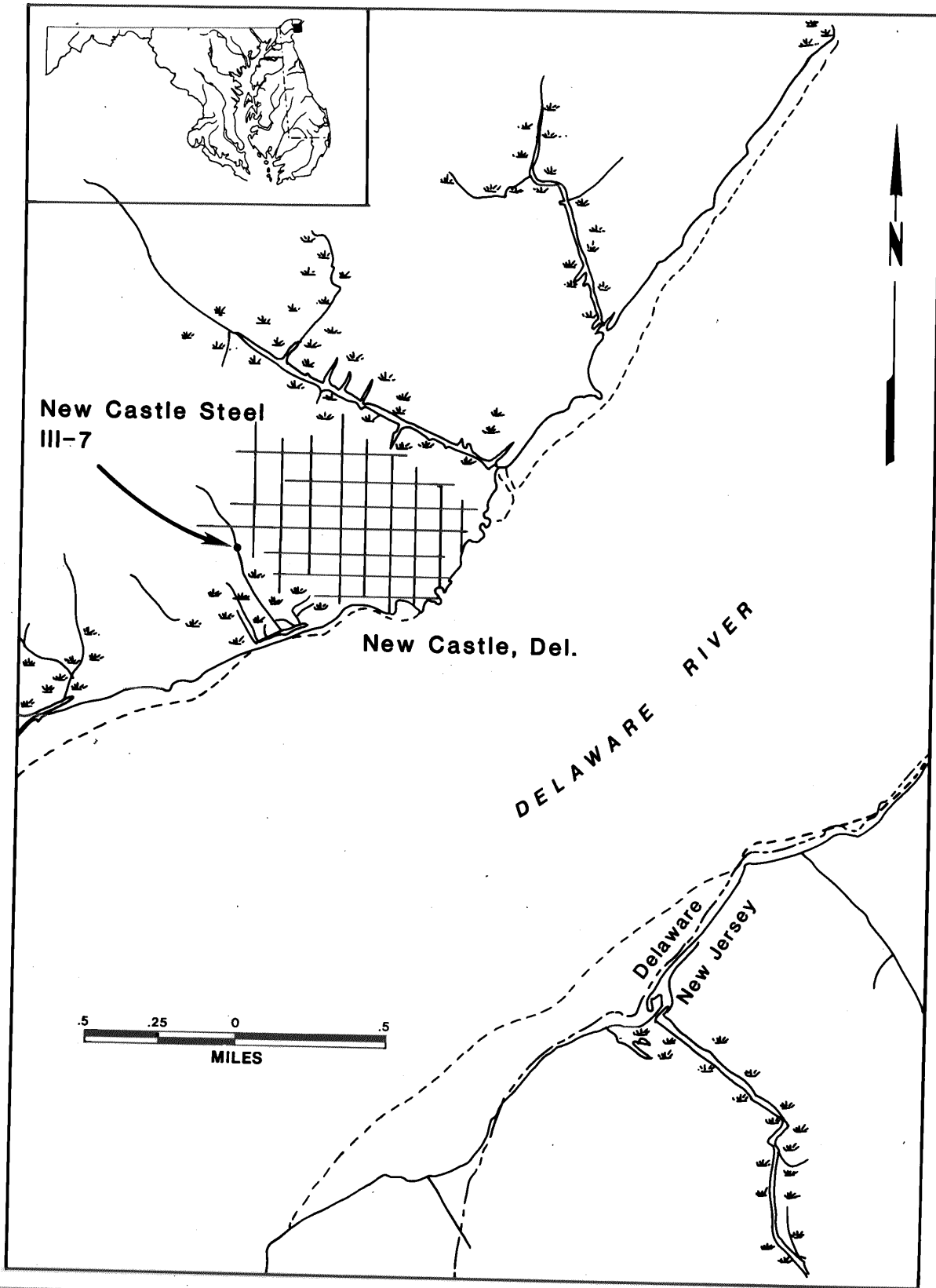


FIGURE 1. Site location.

Marine Resources at Risk:

This site is located on Army Creek, a tributary of the Delaware River. The Delaware River and its tributaries provide significant habitat for a variety of finfish resources (see Table 1).

Table 1. Fishery Resources of Tidally Influenced Regions of the Delaware River (1, 2, 5)

Finfish Species	Adult Habitat	Spawning Area	Nursery Area	Comm. Fish.	Rec. Fish.	Migr. Route
<u>Anadromous</u>						
Alewife	x	x	x	x	x	x
Blueback herring	x	x	x	x	x	x
American shad	x	x	x	x	x	x
Shortnose sturgeon						x
Atlantic sturgeon		x				
Striped bass		x	x	x	x	x
Gizzard shad	x	x	x			
<u>Non-anadromous</u>						
Atlantic menhaden			x			
White perch		x	x	x	x	x
Flounder	x					
Northern kingfish	x					
Bluefish			x			
Atlantic croaker			x			
Spotted seatrout					x	
Channel catfish	x					
White catfish				x	x	
Brown bullhead				x	x	
Bluegill	x				x	
Black crappie	x				x	

Anadromous fish migrate through the Delaware Bay estuarine system during the early spring on their way to freshwater spawning grounds. For most of the anadromous fish of the Delaware Bay, this occurs upstream of Burlington, New Jersey, although some spawning does occur in freshwater tributaries (4). The adults return to the lower parts of Delaware Bay. Juvenile fish, hatched in the spring, remain in the upper parts of Delaware Bay until the late summer and early fall, when they also migrate back into the lower parts of the Bay (3).

The Army Creek watershed is located within two miles of known spawning grounds of the Atlantic sturgeon at Supawna Meadows National Wildlife Refuge. The Atlantic sturgeon is a species of special concern to the State of Delaware. This site is located along a major migratory route for anadromous fish including the shortnose sturgeon, a species of special federal concern.

It is unknown to what extent other species of finfish utilize the Army Creek watershed area, but this region of the Delaware River is

unlikely to be an important nursery or spawning area for other anadromous fish due to the fairly high level of development in this area and to their preference for less saline waters for spawning. Blueback herring, American shad, and striped bass may utilize this area as nursery grounds.

Some tidal wetlands are present at the mouth of Army Creek, and some species of fish may be harvested by recreational and commercial fishermen in the Delaware River adjacent to Army Creek.

The Delaware Bay estuarine system is an important wintering area for many waterfowl and seabirds, particularly loons, grebes, and gannet. They tend to concentrate in coastal bays and wetland areas. Bald eagles nest at the Augustine Wildlife Area and Appoquinimink Wildlife Area.

Several State and Federal Management Areas are located on the Delaware River in the vicinity of Army Creek:

Chesapeake and Delaware Canal Wildlife Area	7 miles downstream
Augustine Wildlife Area	12 miles downstream
Ft. Mott State Park	2 miles downstream
Ft. Delaware State Park	5 miles downstream
Supawna Meadows National Wildlife Refuge	5 miles downstream
Appoquinimink Wildlife Area	13 miles downstream

Summary of Site-Related Actions:

Drums on the site were removed in an emergency action in 1983. Remedial cleanup activity has not yet begun. A Remedial Action Master Plan was completed for the site in January, 1984 (6). Analysis has been performed on samples of the furnace dust, and some surface water samples. However the RAMP indicates this information insufficiently describes the extent of contamination. No site-specific hydrogeological data is available. The State of Delaware is negotiating with the company for cleanup under RCRA.

NOAA Reviewer: Ann Hayward Rooney, SSC Mid - Atlantic
(804) 428-3636

EPA Contact: Dom Di Guilio, Project Manager
(215) 597-2193

Other Contacts: State of Delaware - Marilyn Pletnik
(302) 736-4793

References:

1. National Marine Fisheries Service, 1974. Anglers Guide to the United States Atlantic Coast.
2. U.S. Fish and Wildlife Service, 1980. Atlantic Coast Ecological Inventory.
3. Breder, C.M. and D.E. Rosen, 1966. Modes of Reproduction in Fishes. TFH Publications.

References, cont.

4. Byrne, D. Personal communication. Delaware River Anadromous Fishery Project, U.S. Fish and Wildlife Service.
5. Research Planning Institute. Environmental Sensitivity Index - Delaware. Unpublished.
6. U.S. Environmental Protection Agency, 1984. Remedial Action Master Plan. January 1984.