

NOAA Hazardous Waste Site Report

New Castle Spill Site (III-6)
New Castle County, Delaware
April 13, 1984

Location and Nature of Site:

The New Castle Spill site is situated in an industrial and commercial location in New Castle County, Delaware (Figure 1). The shallow aquifer has been sampled and several compounds have been found, including: TRIS [tris (beta-chloropropyl) phosphate] and other organic substances. It is known that some of the identified chemicals were stored at a nearby industrial facility, but other chemicals, source unknown, were also found in groundwater. The shallow aquifer that had been used by the New Castle Board of Water and Light was taken out of service, and now 7,000 people are supplied with water from another source.

This site was first listed under the name "Tris Spill." The spill occurred in October 1977 at the facility which manufactured the chemical, the WITCO Company. The quantity spilled is unknown.

Proximity of Chemical Hazard to Marine Resources:

The site is located approximately 1,500 feet from the Delaware River. Although there are no streams nearby, the shallow groundwater aquifer is contaminated. Sample analyses was detected 167 ppm of tris (2 - chloropropyl) phosphate. Because this aquifer is so shallow the potential exists for groundwater discharge into the Delaware River. However, the contribution of TRIS to the Delaware River would probably be minor.

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).

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 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.

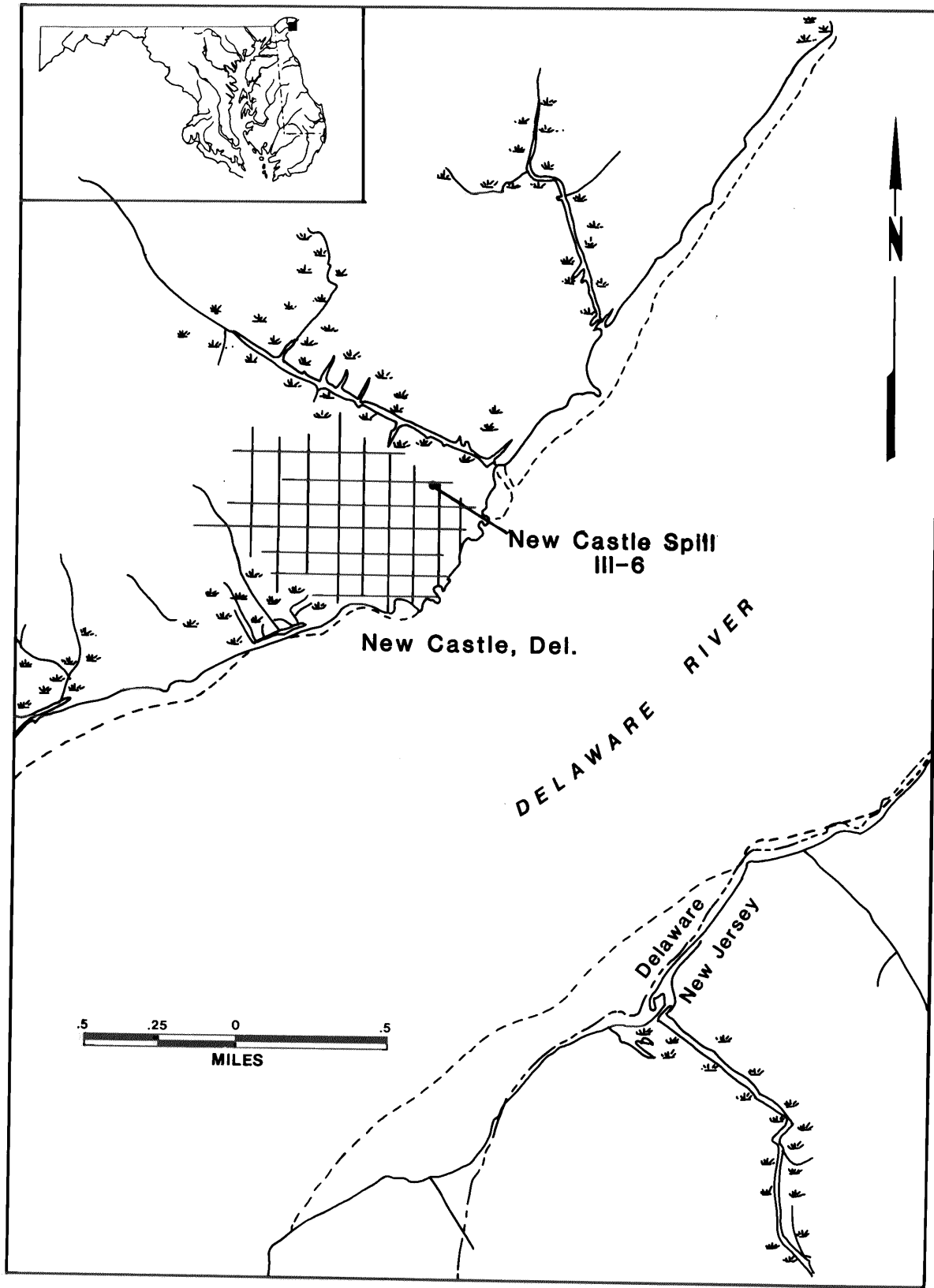


FIGURE 1. Site location.

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	

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 gannets. They tend to concentrate in coastal bays and wetland areas. Bald eagles nest at 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
Supawna Meadows National Wildlife Refuge
Appoquinimink Wildlife Area

5 miles downstream
5 miles downstream
13 miles downstream

Summary of Site-Related Actions:

This case has been referred to the Enforcement Section, and is not expected to be a remedial site.

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References:

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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.
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.