

## NOAA Hazardous Waste Site Report

Hercules, Inc. (II-38)  
Gibbstown, New Jersey  
April 13, 1984

### Location and Nature of Site:

The Hercules, Inc. site is an active, 302-acre property located in Gibbstown, New Jersey (Figure 1). Several unlined chemical disposal lagoons are located on the site adjacent to the Delaware River.

E.I. DuPont de Nemours, site owner prior to 1952, used the site lagoons to dispose of a black, tar-like substance believed to be aniline process wastes. Hercules, Inc., an organic peroxides manufacturer and owner of the site since 1952, disposed of various chemical wastes including industrial chemicals, solvents, acids, and waste oils into the lagoons. High levels of benzene have been found in groundwater samples taken at the site.

### Proximity of Chemical Hazard to Marine Resources:

The Hercules facility has floodgates (levies) along the Delaware River. Clonnell Creek and associated marsh areas run through the property. The two chemical disposal pits, situated on undeveloped land, are one-eighth of a mile from the Delaware River to the north and one-eighth of a mile from marshes to the south and west. Analysis of monitoring well samples revealed benzene in the groundwater. There are no reports of samples taken from the creek or the marshes.

### Marine Resources at Risk:

The Delaware River and its tributaries provide significant habitat for a variety of finfish resources (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 (5). 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 Hercules, Inc. site is located approximately 24 miles upstream 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 New Jersey.

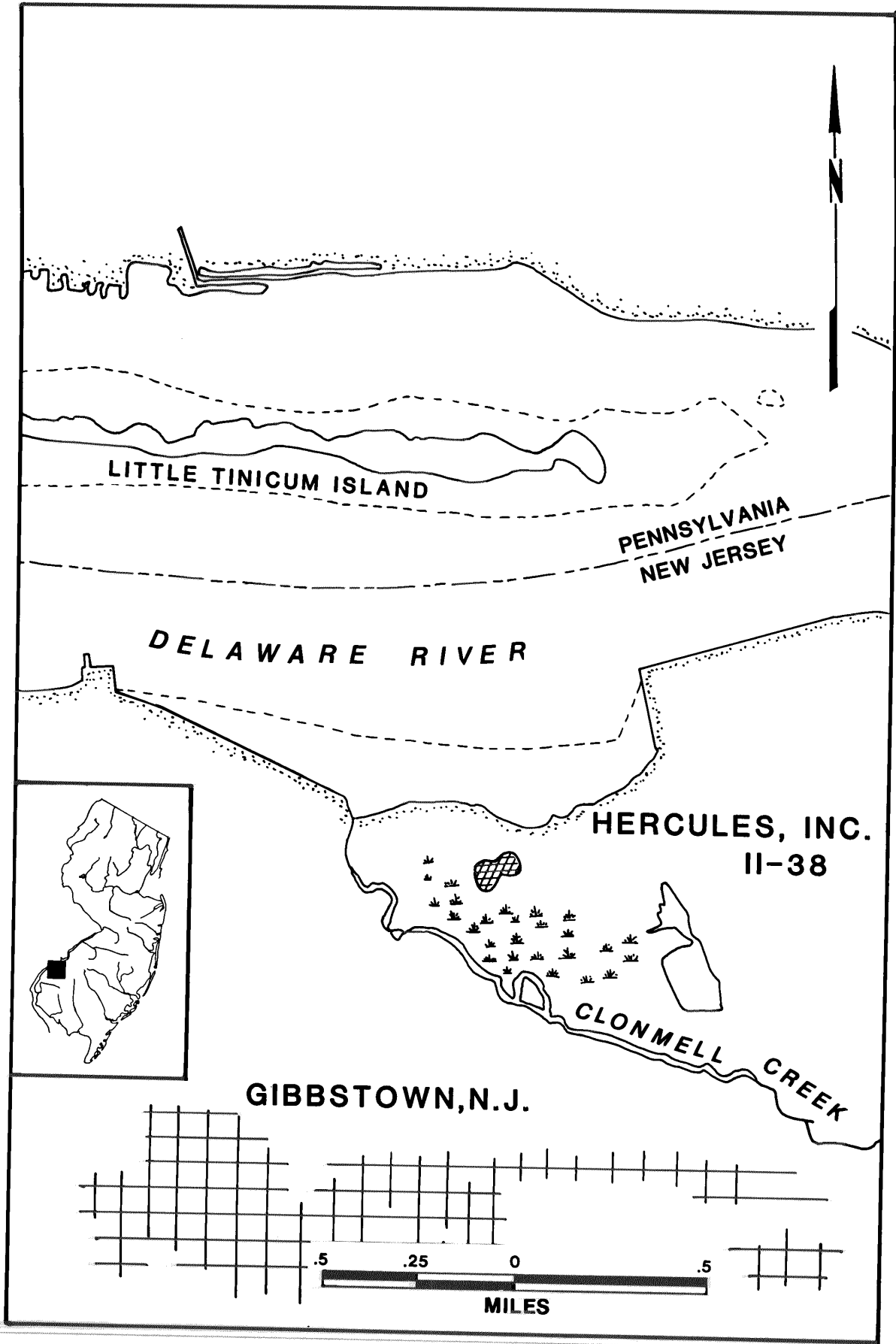


FIGURE 1. Site location.

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

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

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, but many fish migrate through this area en route to upstream spawning grounds. Some tidal flats are present in the vicinity of Gibbstown and some species of fish may be harvested by recreational and commercial fishermen in the Delaware River adjacent to this site.

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 Augustine Wildlife Area and Appoquinimink Area.

Several State and Federal Management Areas are located on the Delaware River in the vicinity of Hercules, Inc.:

Ft. Mott State Park	20 miles downstream
Ft. Delaware State Park	23 miles downstream
Supawna Meadows National Wildlife Refuge	24 miles downstream
Appoquinimink Wildlife Area	35 miles downstream
Augustine Wildlife Area	30 miles downstream
Tinicum National Environment Center	3 miles upstream

Summary of Site-Related Actions:

New Jersey Department of Environmental Protection has cited the owner for disposal violations. Hercules has agreed to install monitoring wells on-site to determine the cause of benzene contamination and the direction of the contaminated plume.

NOAA Reviewer: Gary Ott, SSC - Northeast  
(212)668-7152  
FTS 664-7152

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.
4. Byrne, D. Personal communication. Delaware River Anadromous Fishery Project, U.S. Fish and Wildlife Service.
5. Research Planning Institute. Environmental Sensitivity Atlas - Pennsylvania. Unpublished.
6. U.S. Environmental Protection Agency, 1983. Hercules Inc. Site Files. May 5, 1983.
7. New Jersey Department of Environmental Protection, 1983. Hazardous Waste Site Report. August 1983.