

The New Bedford Harbor Superfund Site Cleanup

An aerial photograph of the New Bedford Harbor Superfund Site cleanup project. The image shows a large body of water (the harbor) with a city (New Bedford) and industrial areas visible on the surrounding land. The water is a deep blue, and the land is a mix of green (vegetation) and brown (developed areas). The sky is a pale yellowish-green. The image is framed by a green border on the left and right sides.

Cornell-Dubilier

I. Overview of the harbor cleanup

II. The underwater capping pilot project

III. Questions and answers

Aerovox

The Cornell-
Dubilier plant

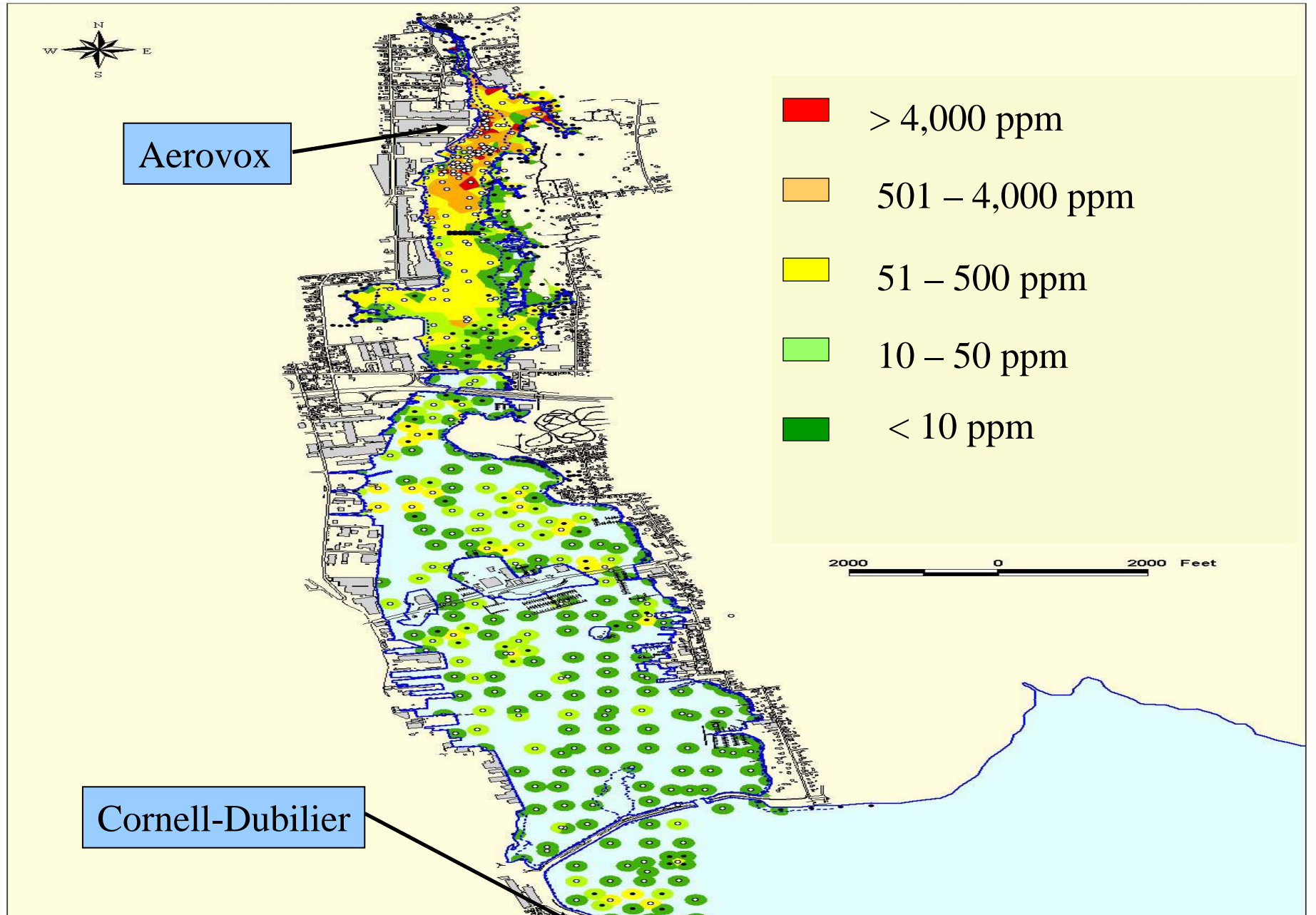


the abandoned
Aerovox plant

Another

going south

PCBs in sediment – top foot



The 1979 State Fishing Ban – 18,000 acres

Aerovox

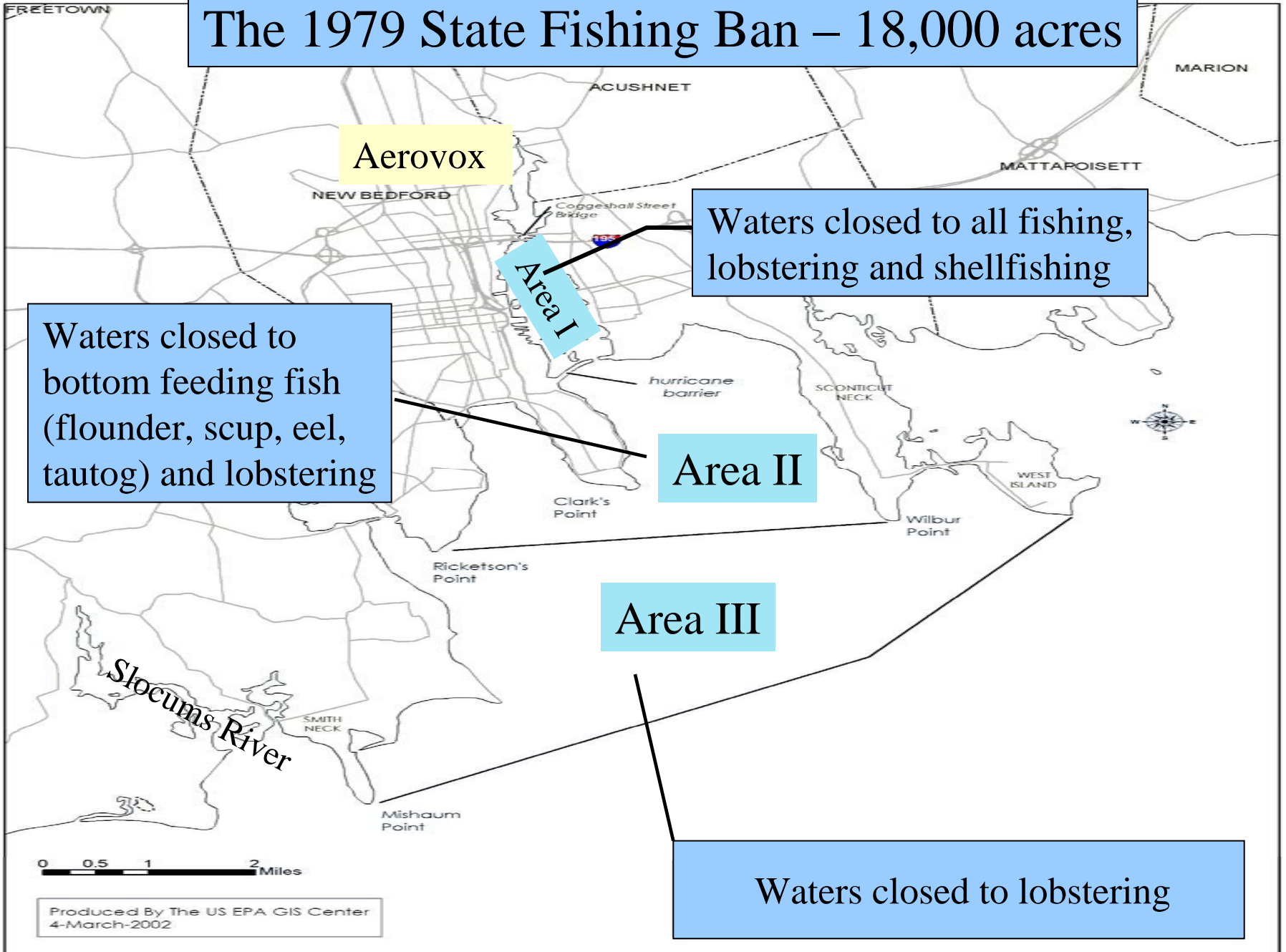
Waters closed to all fishing, lobstering and shellfishing

Waters closed to bottom feeding fish (flounder, scup, eel, tautog) and lobstering

Area II

Area III

Waters closed to lobstering





2002-03: cleanup and restoration of the Acushnet River north of Wood Street

Flow restored and saltmarsh planted (low tide)



Future location of Founders Park.

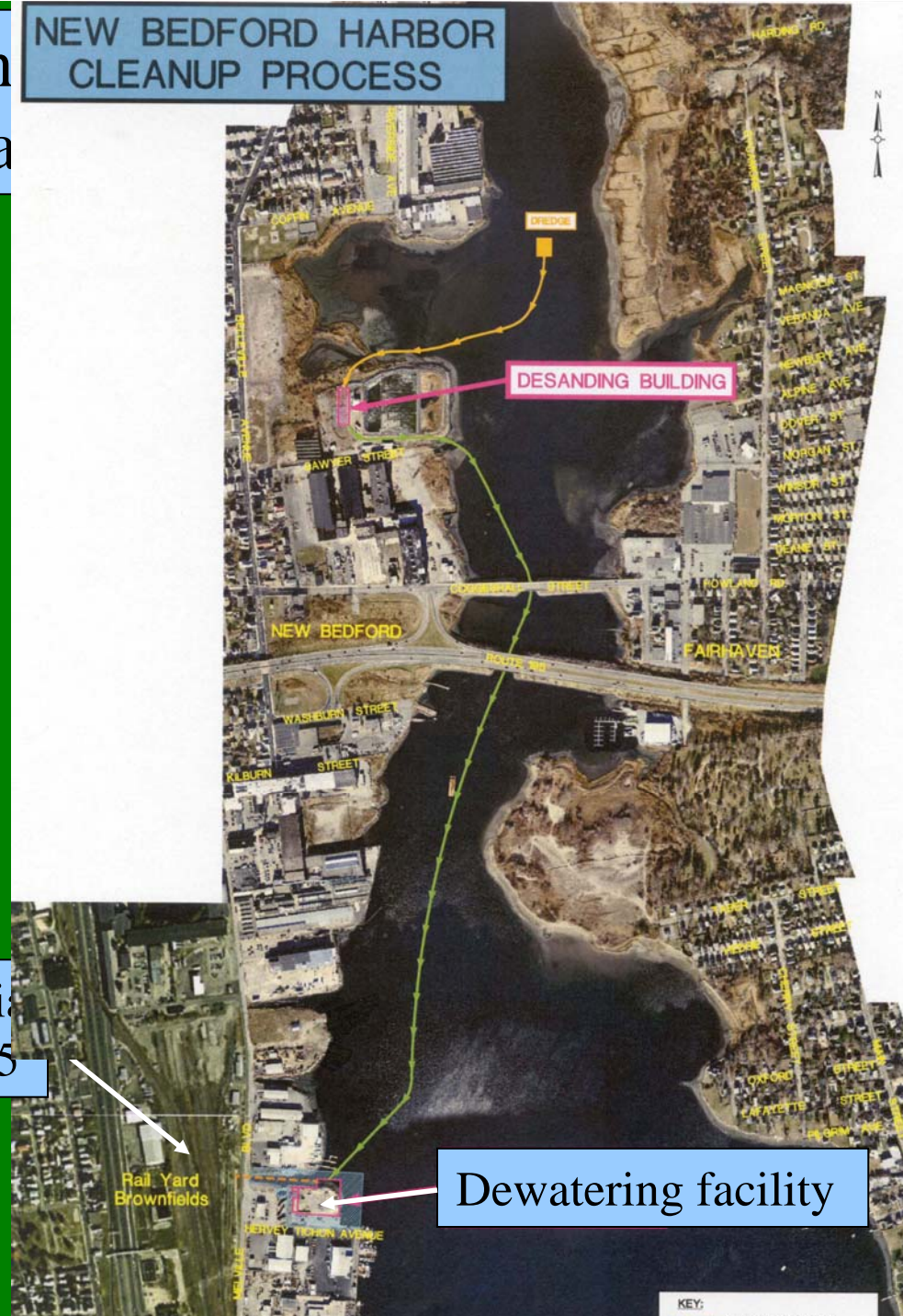
Full scale dredging started in 2004

Aerovox



The main
scale clea

NEW BEDFORD HARBOR CLEANUP PROCESS



s) - location varies

y

eline

Off site disposal via
rail starting in 2005

Dewatering facility

Rail Yard
Brownfields

The background image shows an industrial or construction site. In the foreground, there are gravel-covered tracks or a road. In the middle ground, there are wooden tracks or structures. In the background, there is a large, light-colored industrial building with a flat roof. A car is parked on the right side. The sky is clear and blue.

Some key points of the harbor cleanup:

Almost 1 million cubic yards of sediment to be removed
(175 football fields, each filled three feet deep)

Cleanup is funded by annual allotments from EPA HQ

At current funding rate (\$15m/yr) cleanup will take
roughly 25 years to complete

The cleanup will proceed from north to south
(beginning with the Aerovox area) so that the most
highly contaminated areas are addressed first

10/13/2004

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Cornell-Dubilier

II. The underwater capping project

Aerovox

The city is constructing a Confined Aquatic Disposal (CAD) cell to hold sediment dredged from harbor channels.



New CAD cell

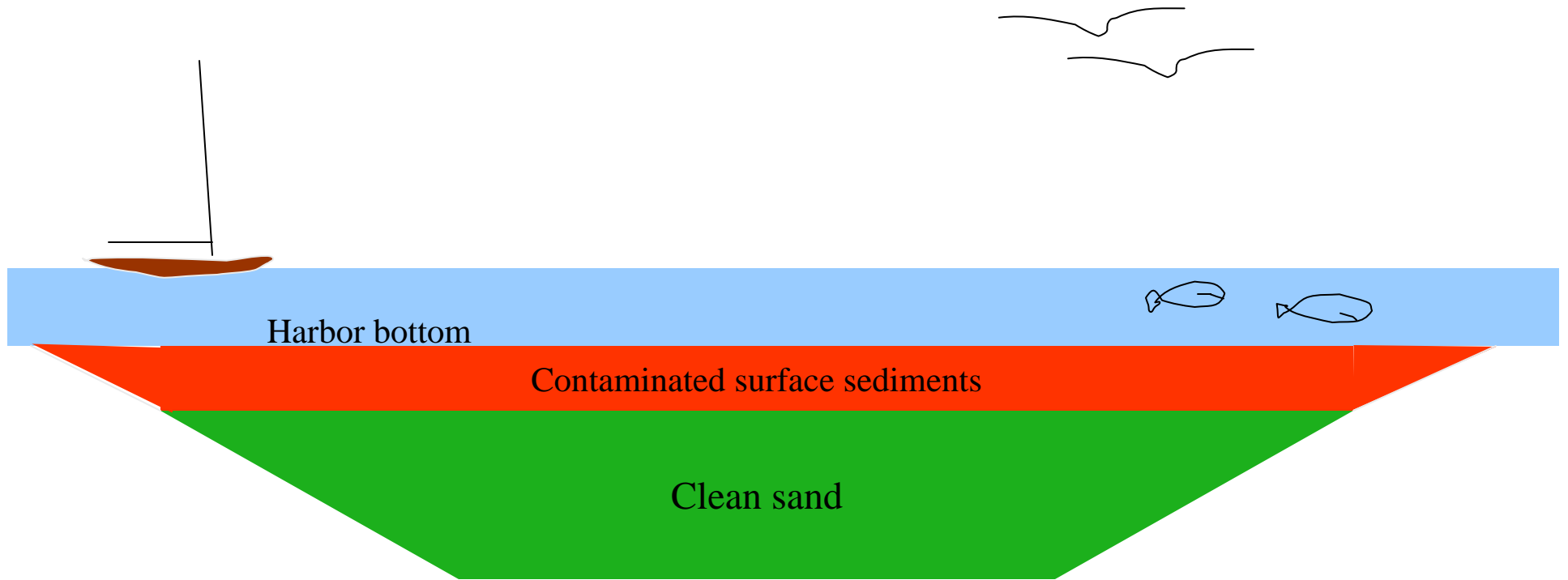
Rt 6

A CAD cell is a deep underwater pit that is dug and filled with dredged sediment, and then covered with a final layer of clean sand.

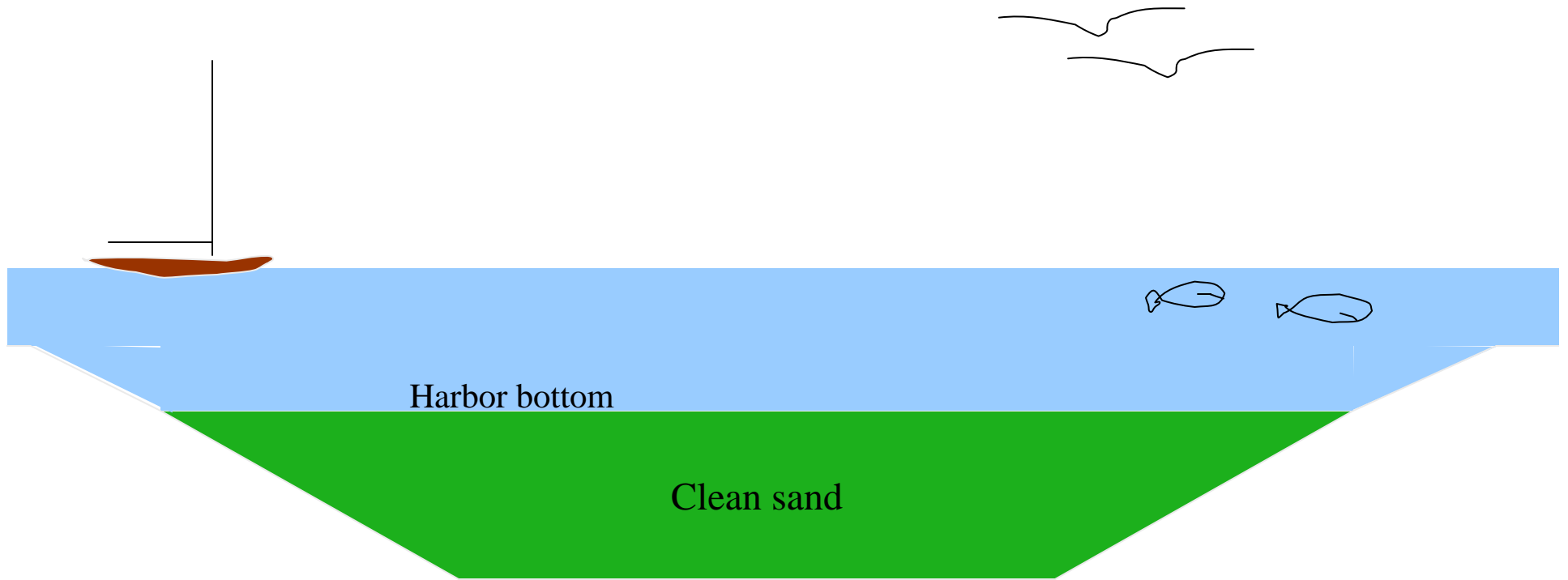
Hurricane barrier

The digging will go deep enough to reach deep, clean sand that has never been contaminated by human activities.

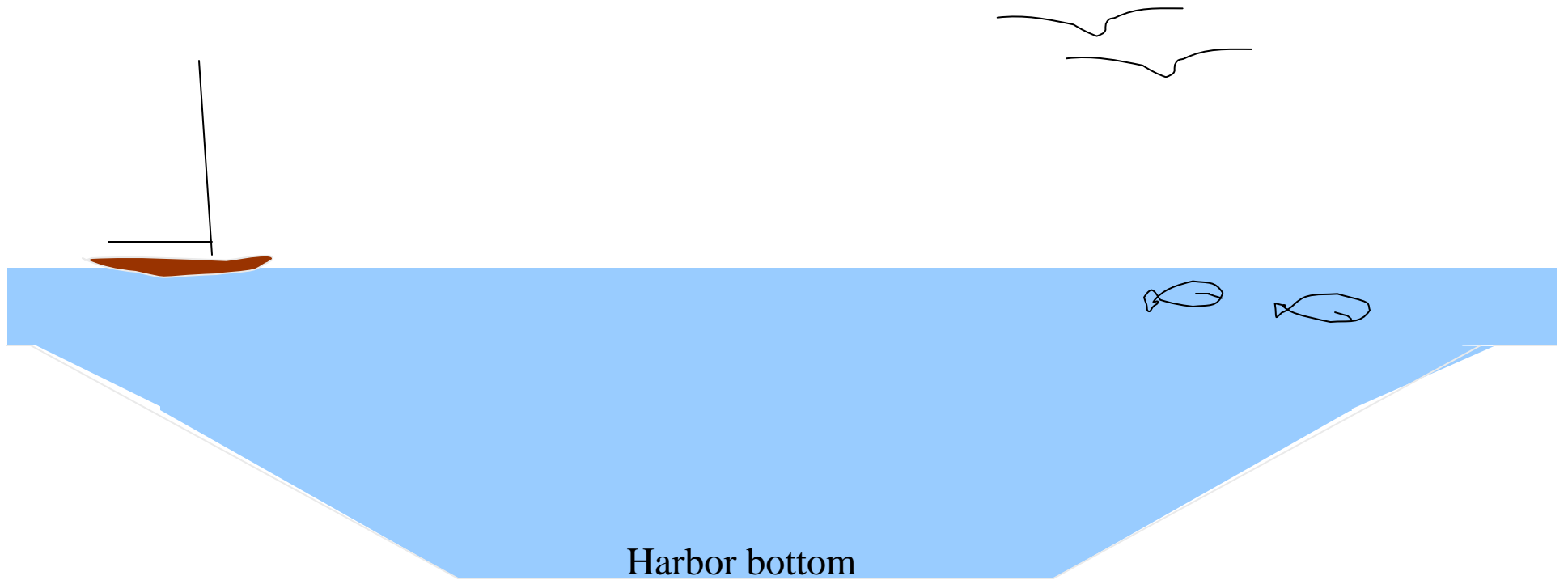
Next: a series of slides
explaining what a
CAD is and how it is
constructed...



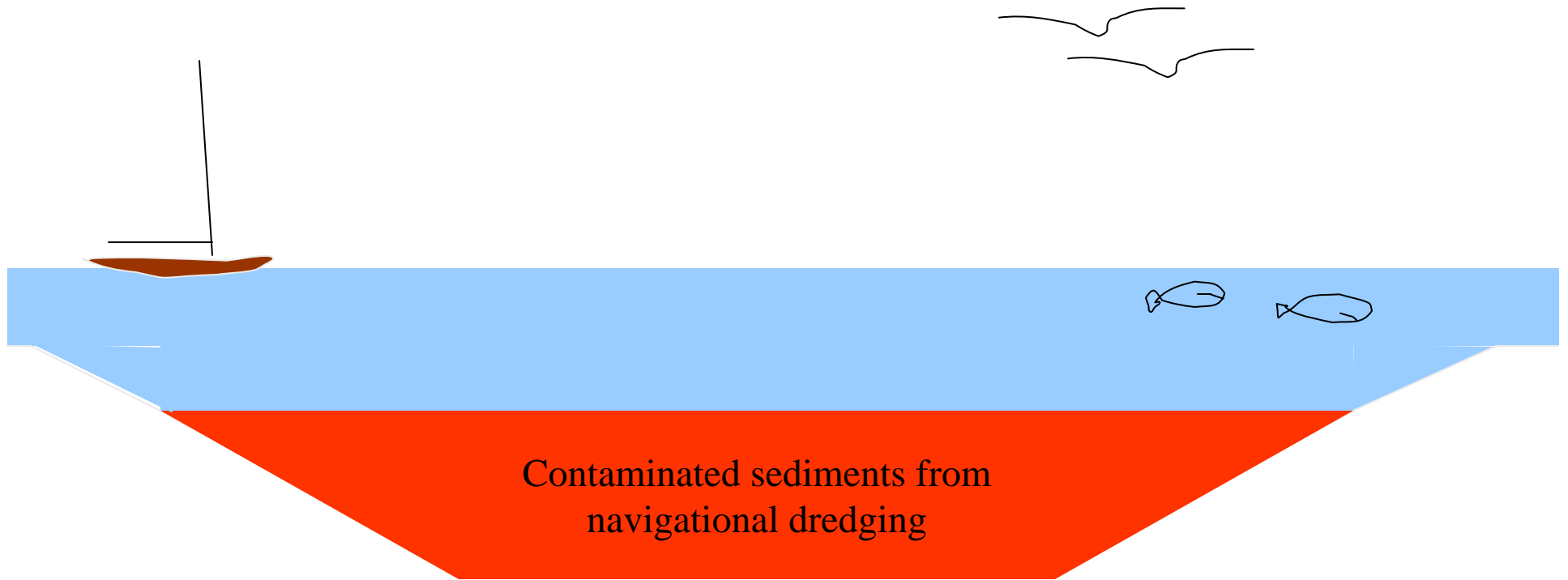
As is: New Bedford Harbor



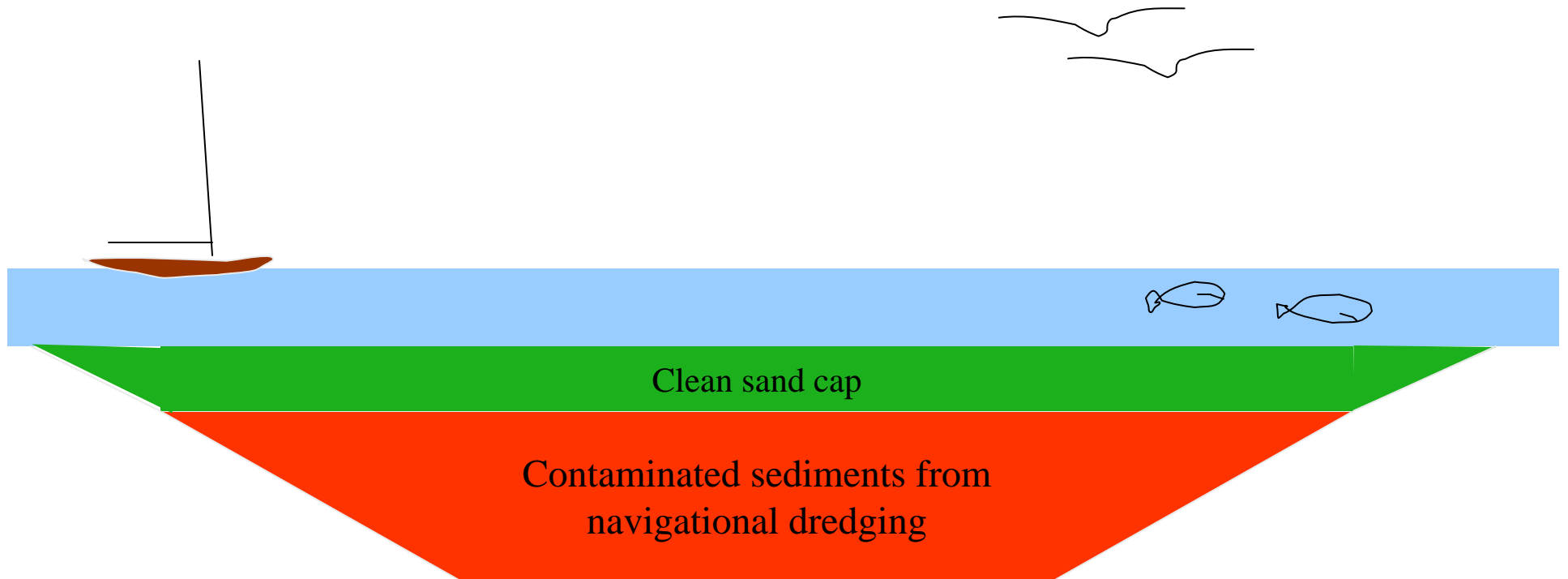
Step 1: the contaminated surface sediments are removed



Step 2: the underlying clean sand is removed.



Step 3: the CAD is filled with contaminated sediments from navigational dredging.



Step 4: clean sand is placed as a final cap.

So...a flip flop::



Remember step 2?

We will use the clean sand removed from the CAD cell to accelerate the remediation of PCB-contaminated sediments near the Cornell-Dubilier plant:

Capping allows this area to be addressed NOW, rather than waiting years for the Super-fund dredging.

CAD cell

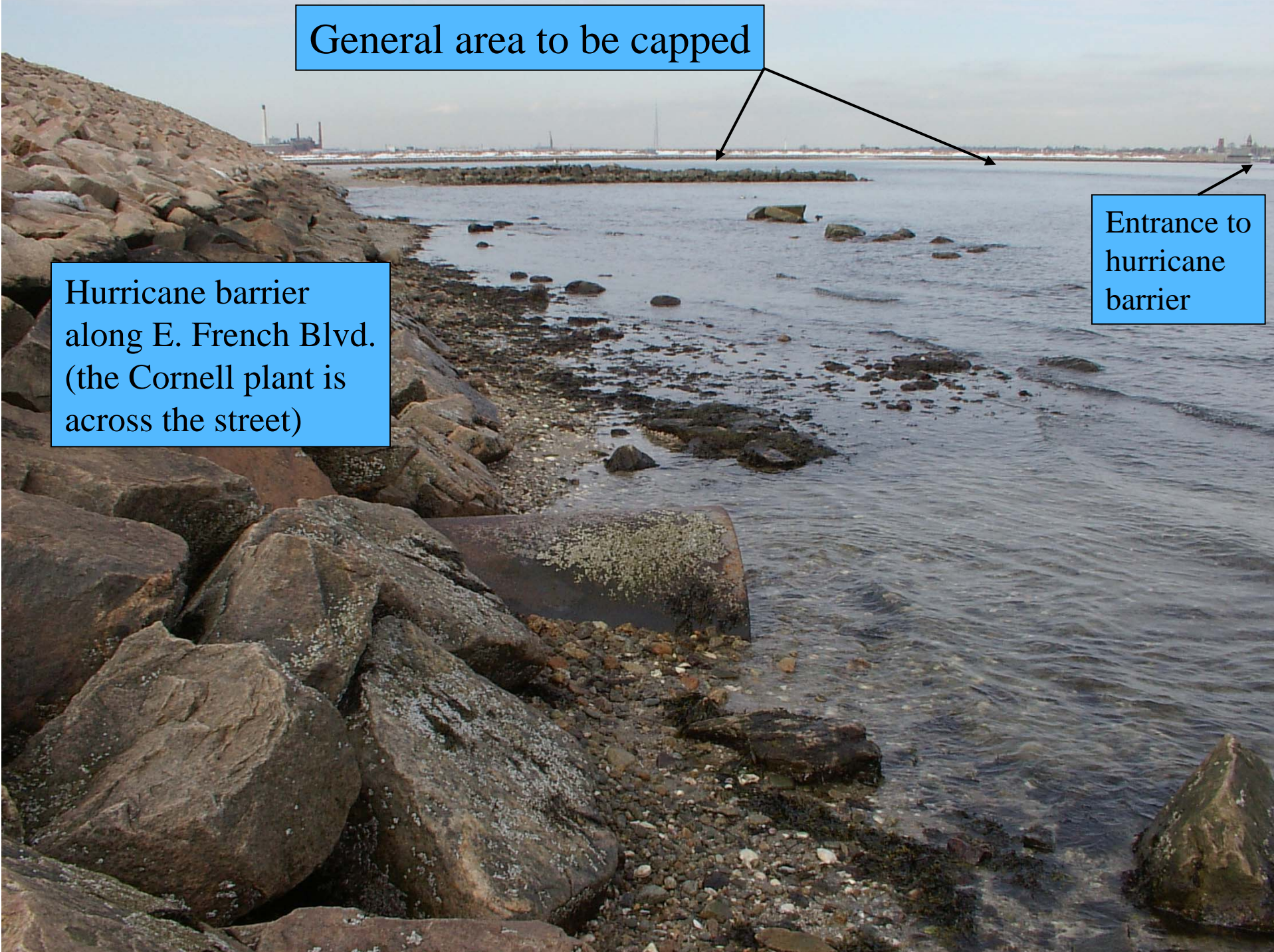
Cornell-Dubilier

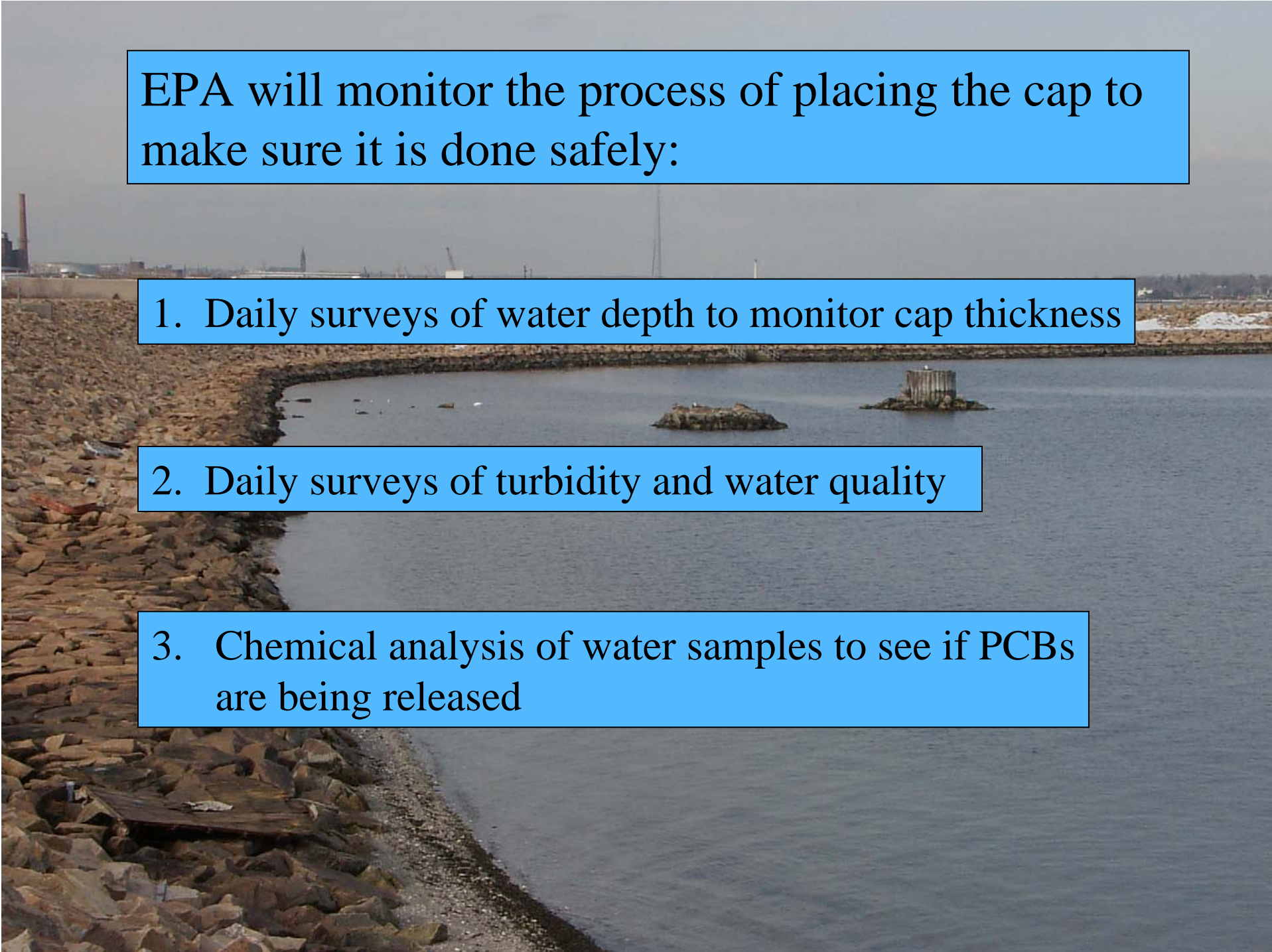
Clean sand used to cap contaminated sediments

General area to be capped

Hurricane barrier
along E. French Blvd.
(the Cornell plant is
across the street)

Entrance to
hurricane
barrier





EPA will monitor the process of placing the cap to make sure it is done safely:

1. Daily surveys of water depth to monitor cap thickness

2. Daily surveys of turbidity and water quality

3. Chemical analysis of water samples to see if PCBs are being released



EPA will also monitor the cap annually after its in place:

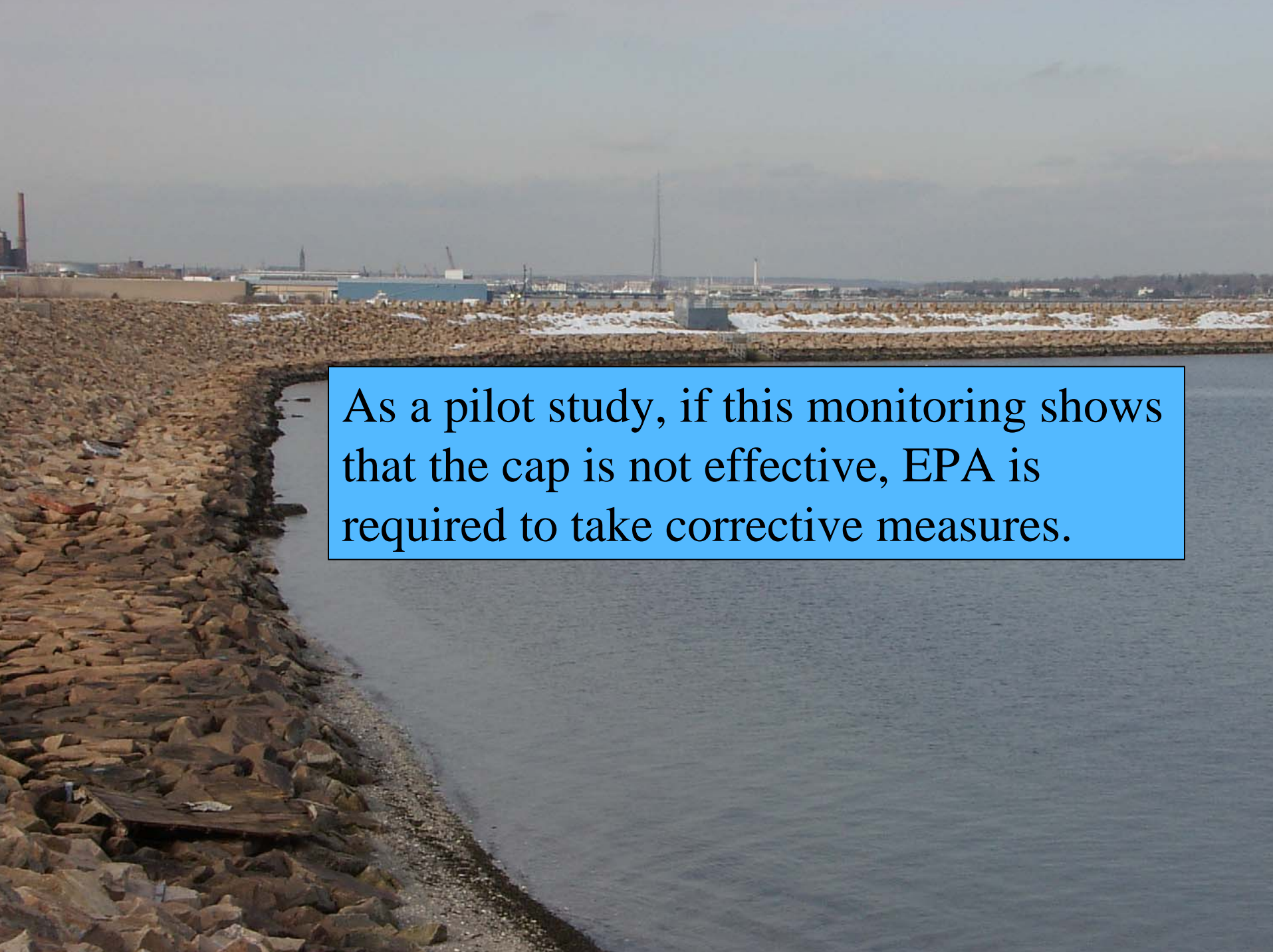
1. Physical: has the thickness of the cap changed over time?

2. Chemical: is the surface of the cap free of PCBs?

3. Biological: has a healthy mix of marine plants and animals recolonized the capped area? (see next slide)

Sedin





As a pilot study, if this monitoring shows that the cap is not effective, EPA is required to take corrective measures.

An aerial photograph of a city, likely New Bedford, Massachusetts, showing a large river or harbor. The city is densely packed with buildings, including several large industrial structures with red brick facades and white chimneys. The foreground shows a residential area with green trees and houses. The sky is clear and blue.

Questions?

Also see the project web site:

www.epa.gov/ne/nbh