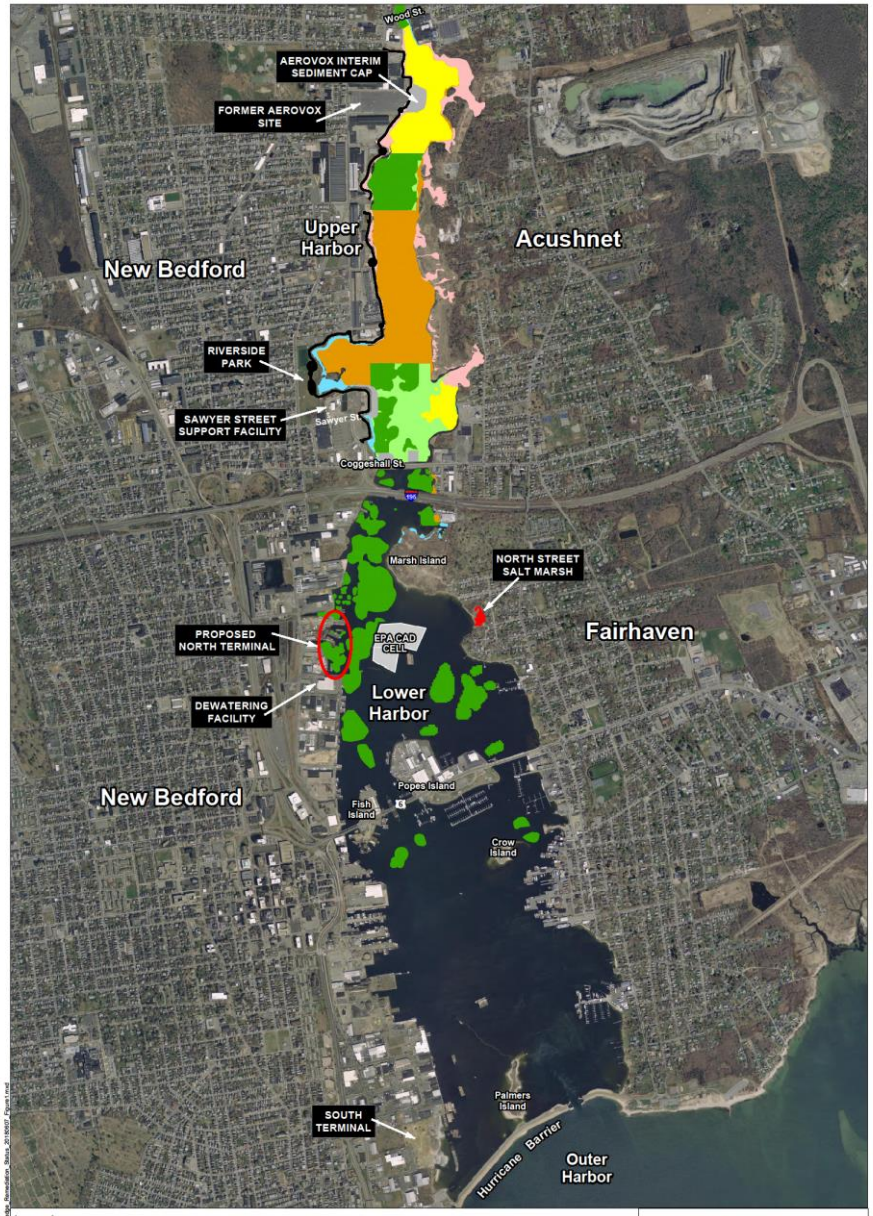
New Bedford Harbor Superfund Site Update

June 2018

David Lederer

New Bedford Harbor Superfund Site

SEMS Doc ID 100009776



JACOBS

New Bedford Harbor Overview

New Bedford Harbor Superfund Site

NAME: jpicciuto Date: 8/12/2016

Figure 1

Progress since January 2018

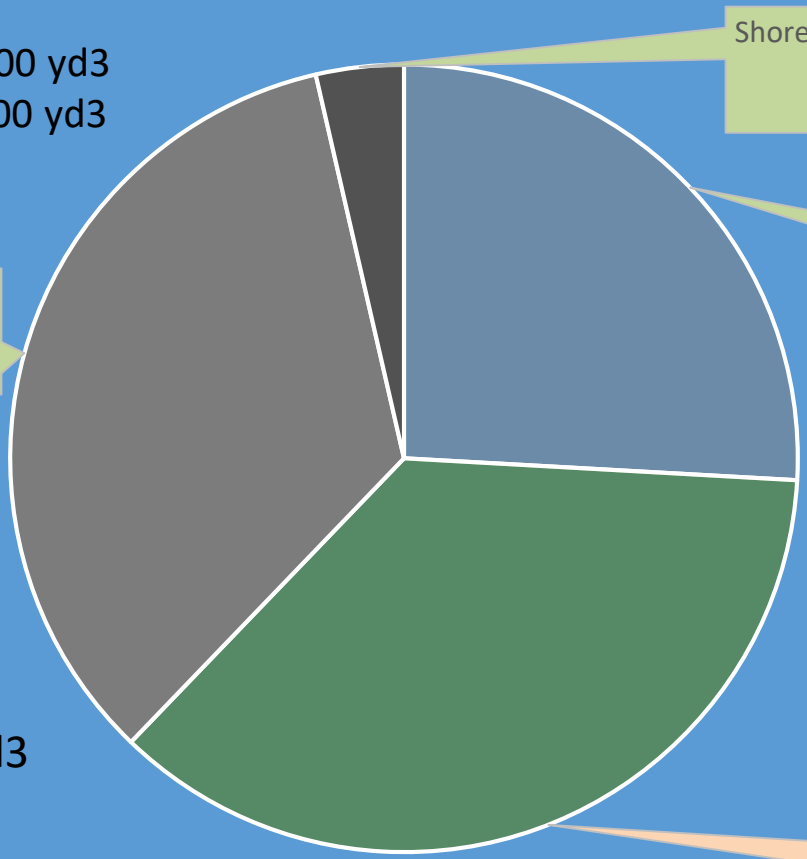
- Subtidal dredging in Lower Harbor substantially complete (>99%); small area remains.
- Subtidal cleanup of Cable Crossing in Upper Harbor now nearly complete (97%). Very roughly, 1/3 of the Upper Harbor subtidal area is now complete.
- Intertidal cleanup underway at North Street Saltmarsh in Fairhaven. Cleanup, backfilling, and replanting complete at Pierce Mill Cove and Marsh Island.

Dredging Progress Through June 2018 by SER and US EPA (Superfund) 1.27 Million Cubic Yards Complete*

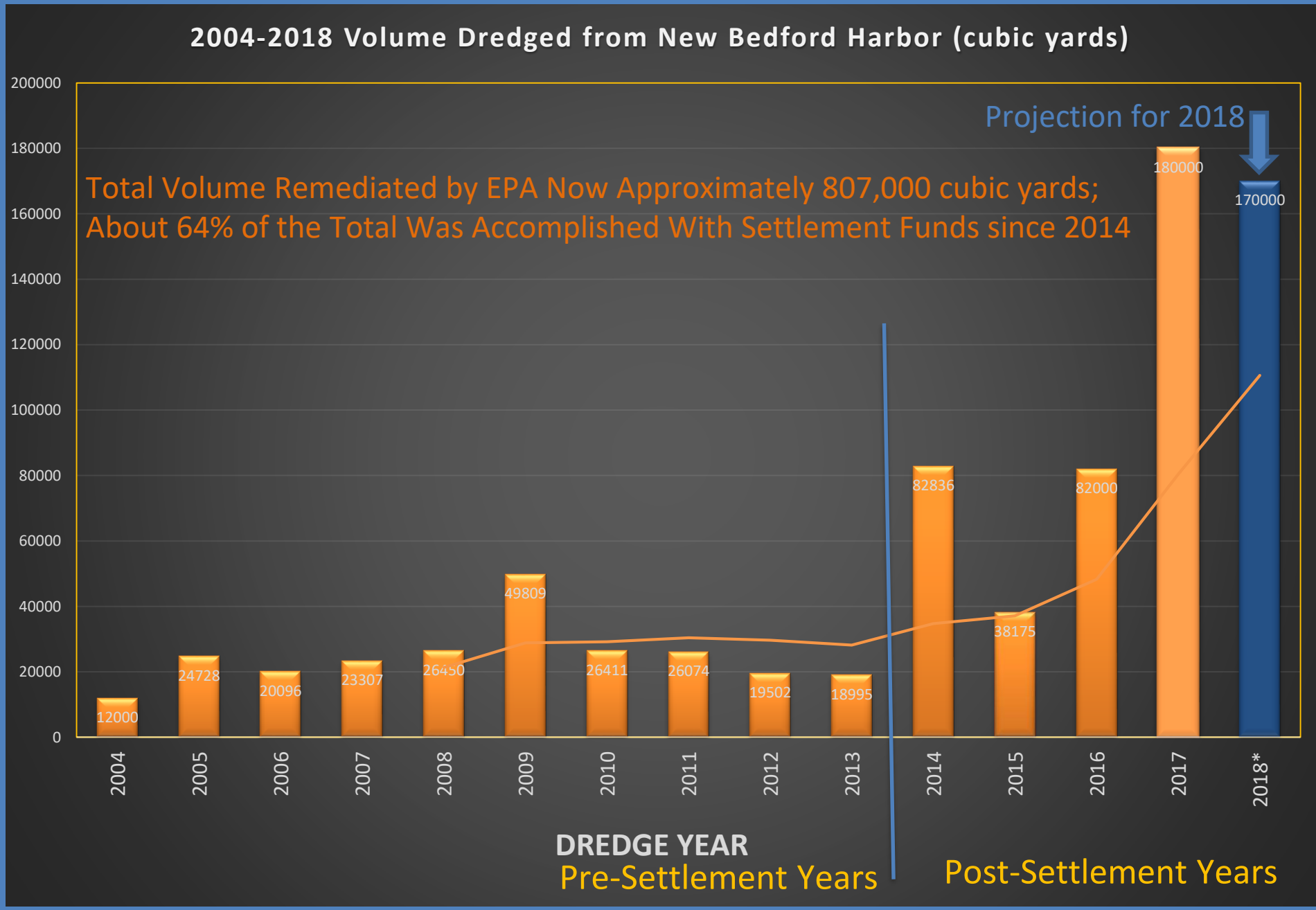
APPROXIMATE TOTALS:

Superfund Dredging 807,000 yd3

State Enhanced Remedy 460,000 yd3

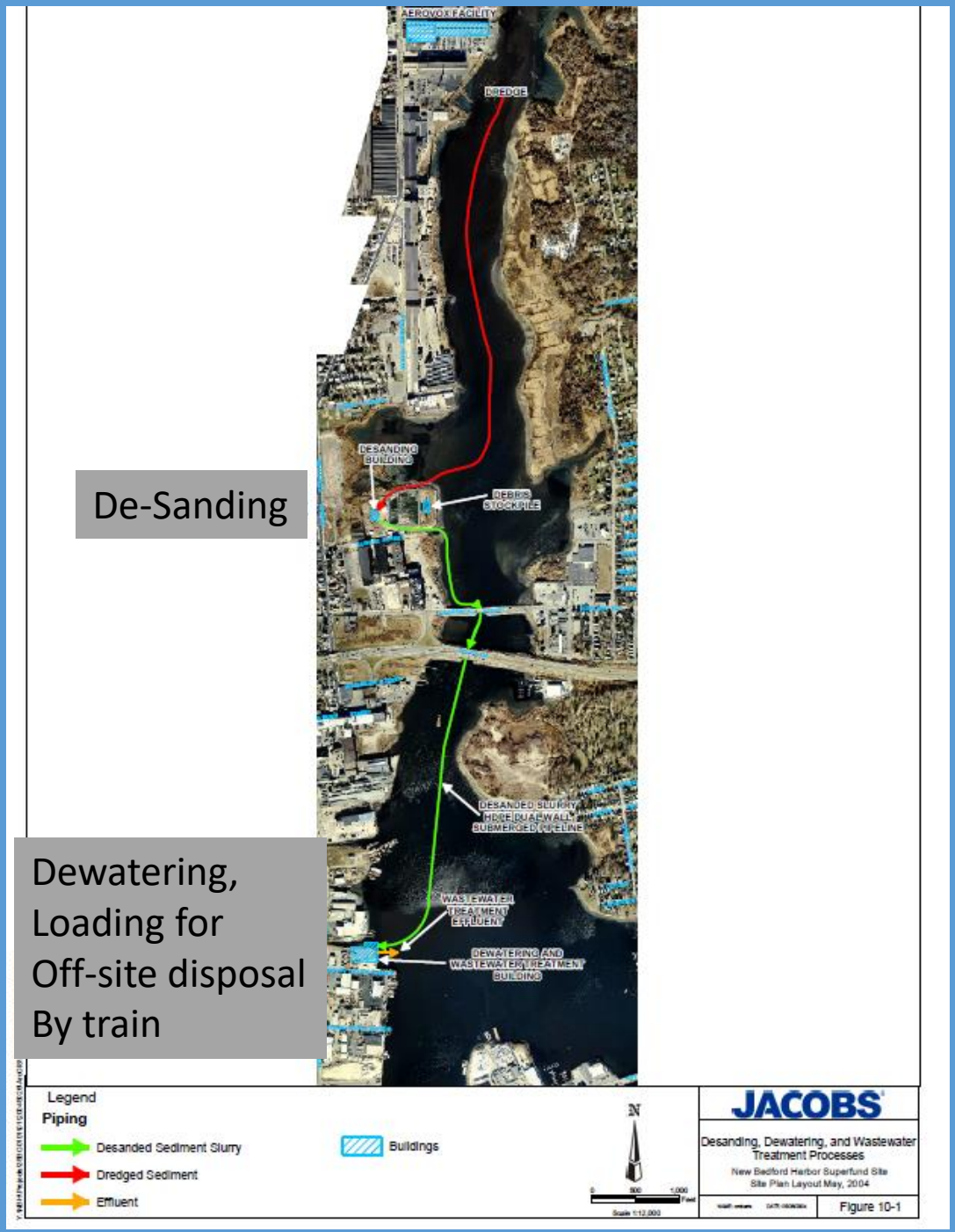


*approximate insitu yd3


2004-2018 Volume Dredged from New Bedford Harbor (cubic yards)
Projection for 2018
Total Volume Remediated by EPA Now Approximately 807,000 cubic yards;
About 64% of the Total Was Accomplished With Settlement Funds since 2014
200000
180000
160000
140000
120000
100000
80000
60000
40000
20000
0
12000
24728
20096
23307
26450
49809
26411
26074
19502
18995
82836
38175
82000
180000
170000
2004
2005
2006
2007
2008
2009
2010
2011
2012
2013
2014
2015
2016
2017
2018*
DREDGE YEAR
Pre-Settlement Years
Post-Settlement Years

UPPER HARBOR SUBTIDAL DREDGING

Hybrid Dredging; High Precision



De-Sanding

Dewatering,
Loading for
Off-site disposal
By train

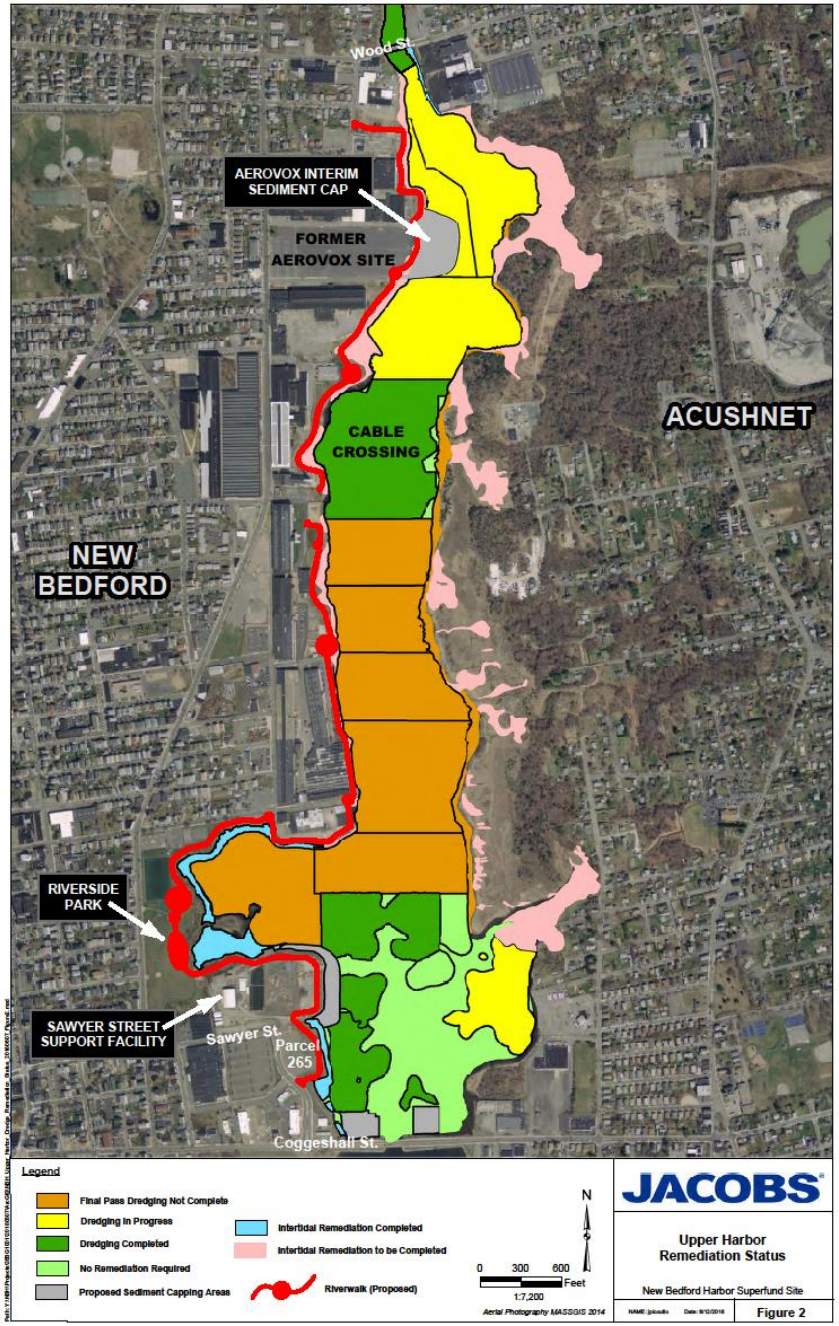
Cable Crossing Nearing Completion

Avg. PCB Concentration 2017: 545 ppm

Avg. PCB Conc. at Completion: <10 ppm

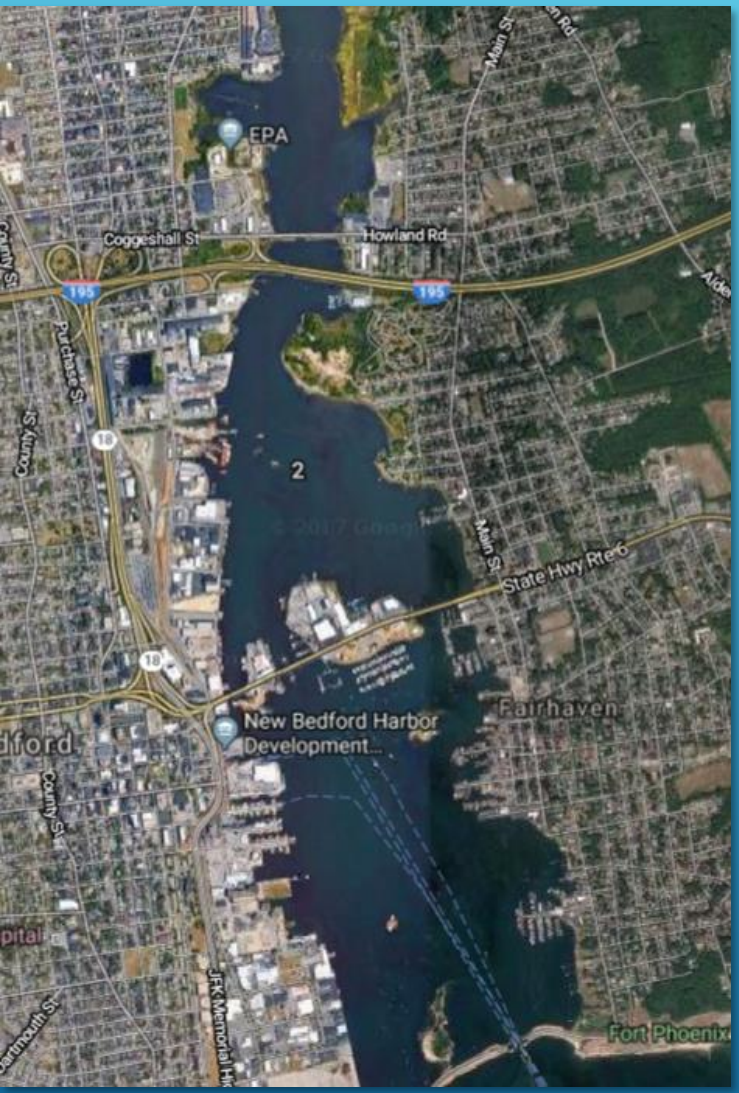
Net Effect on Upper Harbor:

The Average Concentration in the Upper Harbor as a whole is now about half what it was in September 2017.



Progress in Upper Harbor: 2018 Thus Far…

- Substantially complete with Dredging of Cable Crossing Area
- Approximately 45,000 cubic yards completed
- This was the last major sediment area in the Upper Harbor that has not had a ‘first pass’.
- Removal of this material has major impact on average PCB levels in the Upper Harbor
- Chris Smith will speak later about material dredged from southern Upper Harbor and placed in Lower Harbor CAD Cell.



LOWER HARBOR
(AND LOWER UPPER HARBOR)
DREDGING UPDATE

June 2018

U.S. Environmental Protection Agency

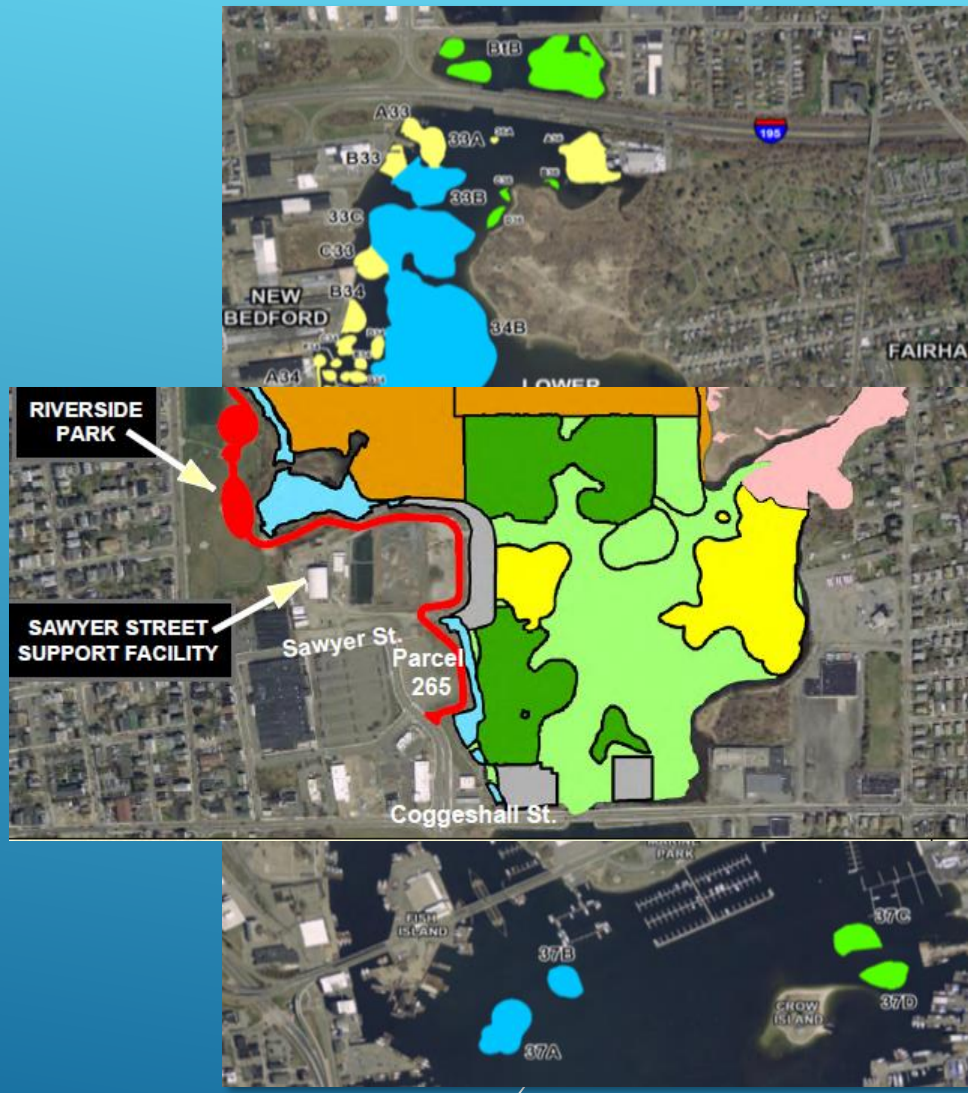
REMEDIAL GOALS – SUBTIDAL SEDIMENTS

- Lower Harbor:

  Reduce PCB concentrations to less than 50 ppm at every location in the lower harbor

- Upper Harbor:

  Achieve an surface weighted average concentration of 10 ppm across the entire upper harbor



2017/2018 ACTIVITIES

- Dredging performed by Cashman under contract with US Army Corps of Engineers
- Began in September 2017
- Concluded June 2018

SEDIMENT DREDGING AND DISPOSAL PROCESS

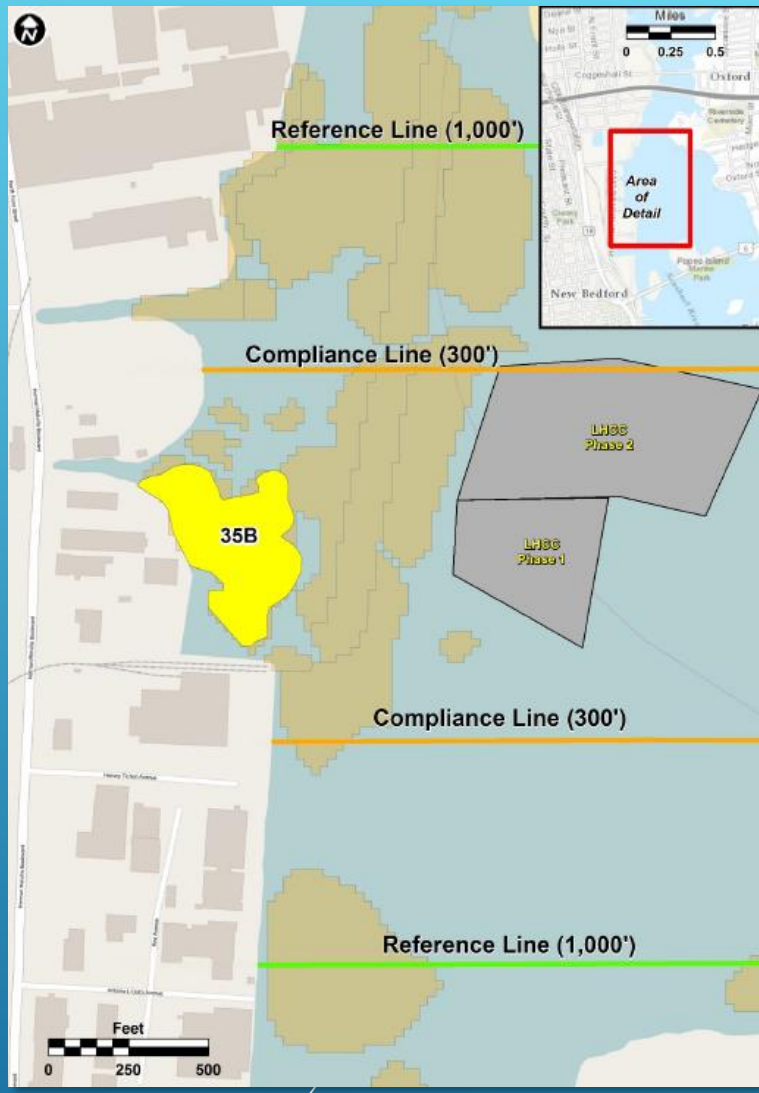
- Excavation
- Placement in scow
- Dewatering
- Placement in CAD cell

U.S. Environmental Protection Agency

WATER QUALITY MONITORING

- Baseline monitoring
- Compliance monitoring at transects and near remedial activities
- Visual observations
- Monitoring showed no significant concerns

U.S. Environmental Protection Agency

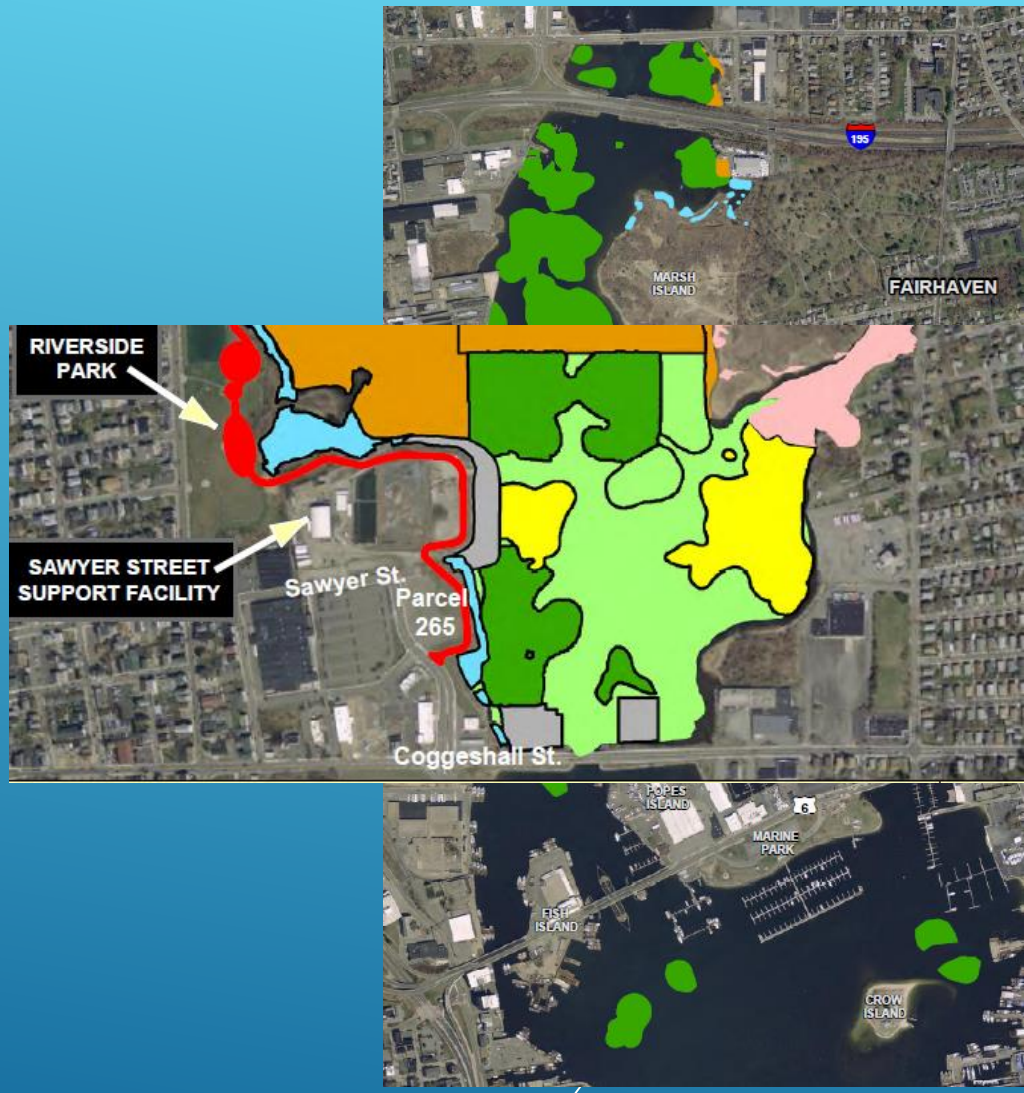


POST DREDGING SAMPLING

- Sediment cores are performed following dredging and sampled
  - Screening (immunoassay)
  - Confirmatory congener analysis

PROGRESS TO DATE

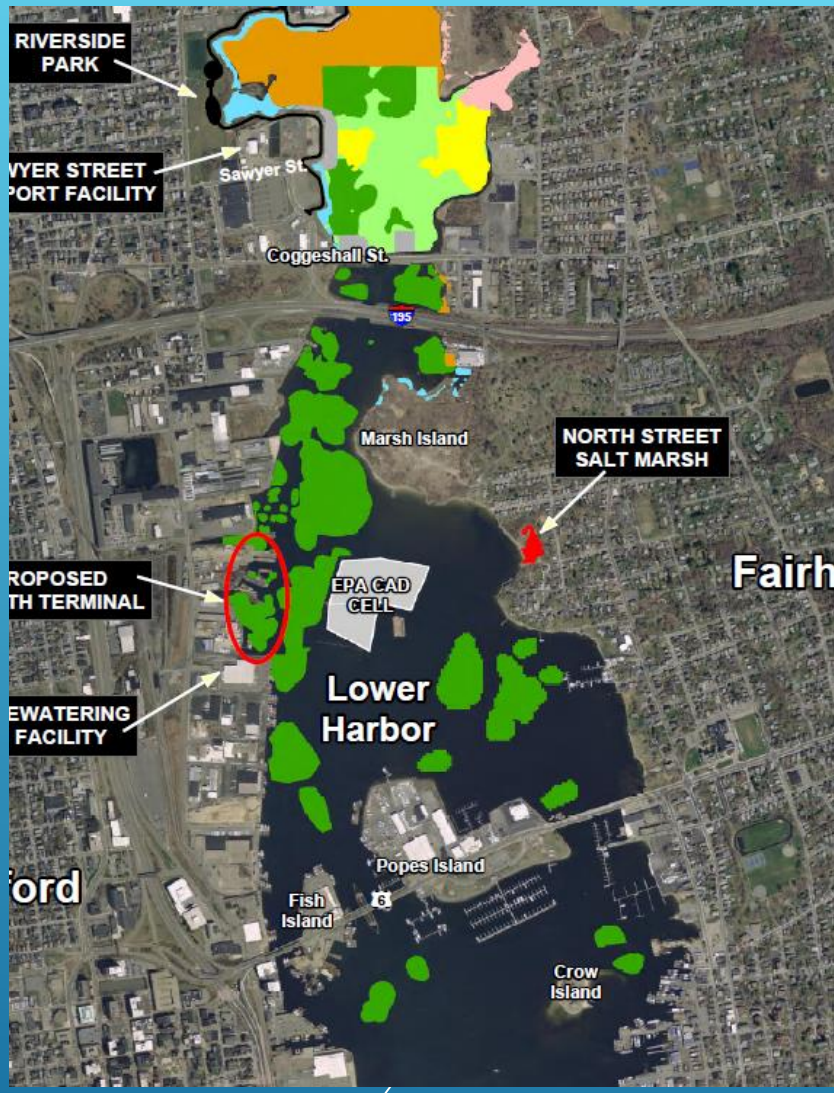
- All areas shown in green are complete
- Average PCB concentration of all sub-tidal dredged areas in the Lower Harbor: ~10.5 ppm.
- Average PCB concentrations in upper harbor areas: ~ 3 ppm



U.S. Environmental Protection Agency

NEXT STEPS

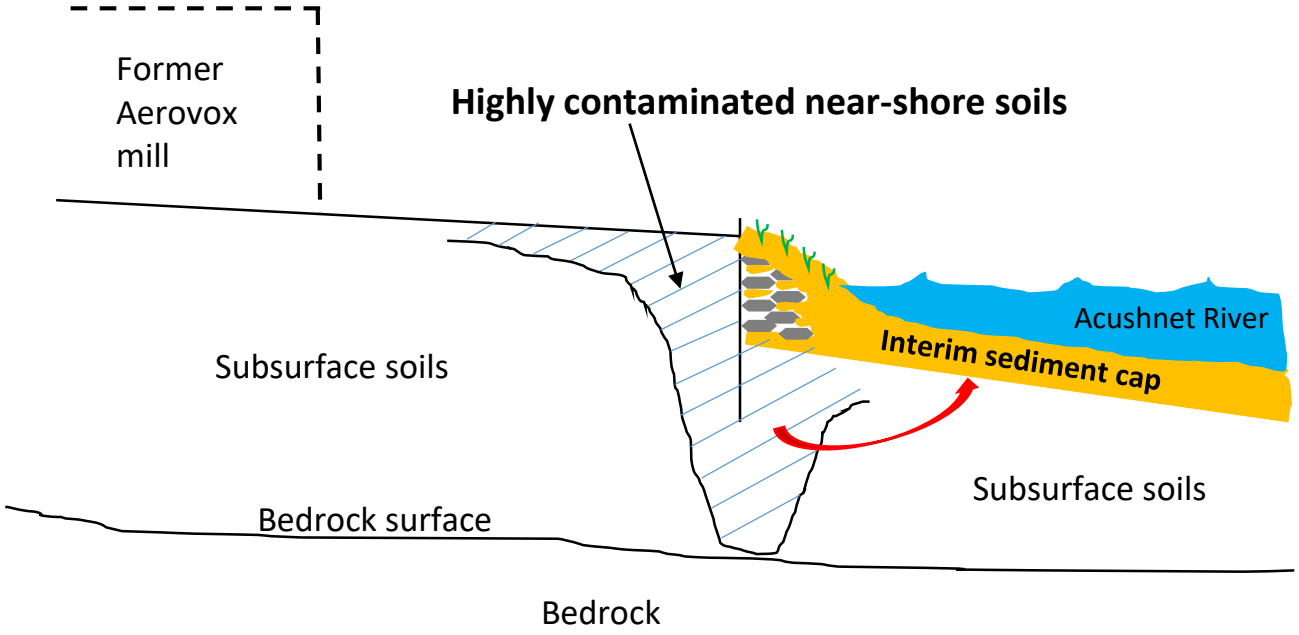
- Verification of final contract sampling point concentrations in Upper Harbor (marked in yellow)
- Cashman demobilization



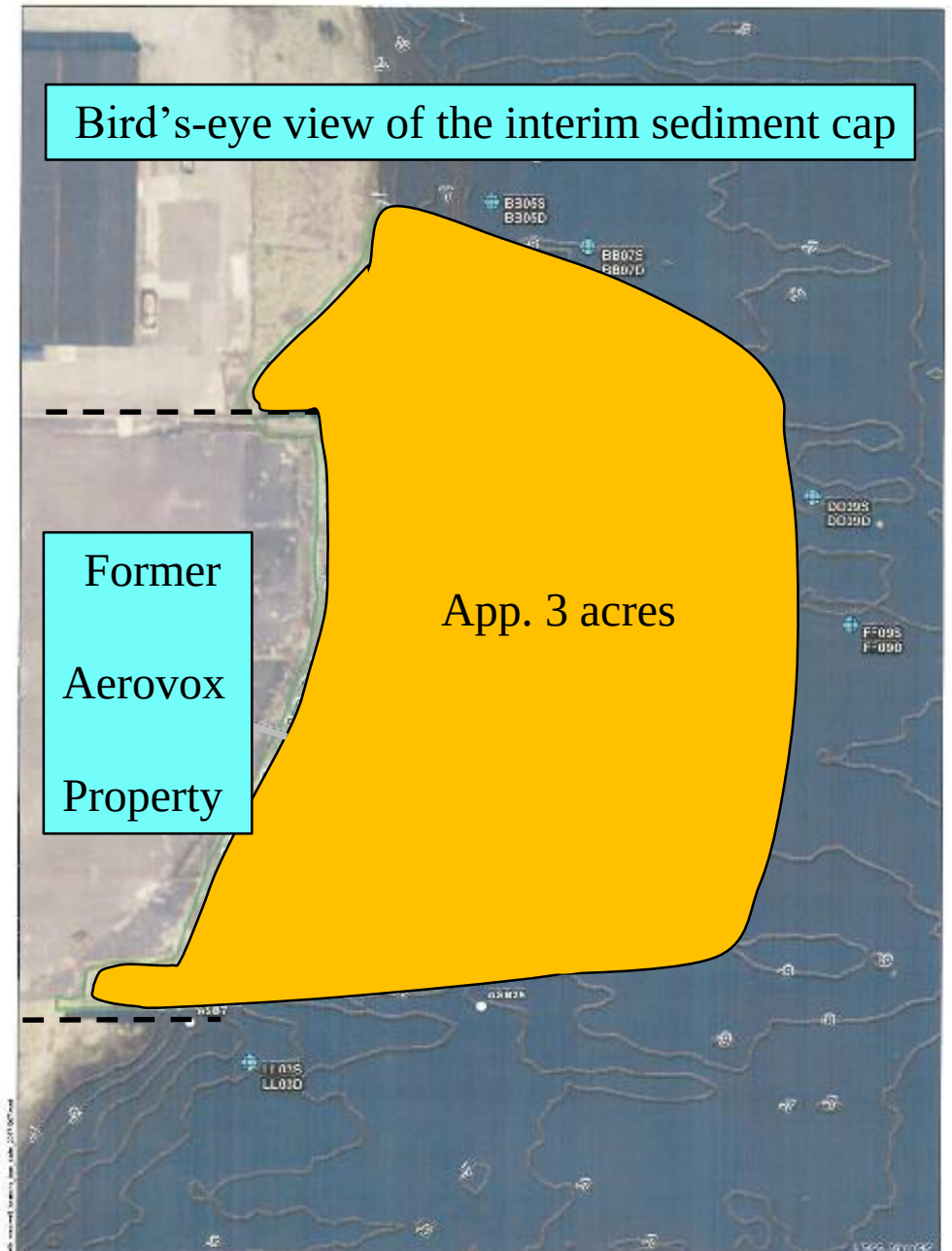
AIR MONITORING

- Ongoing monitoring during remedial activities
- Data posted to NBH website at epa.gov/nbh/

While the upland portion of the site proceeds through the state 21E cleanup program, the interim sediment cap will prevent PCBs from flowing to the river and recontaminating dredged sediment.

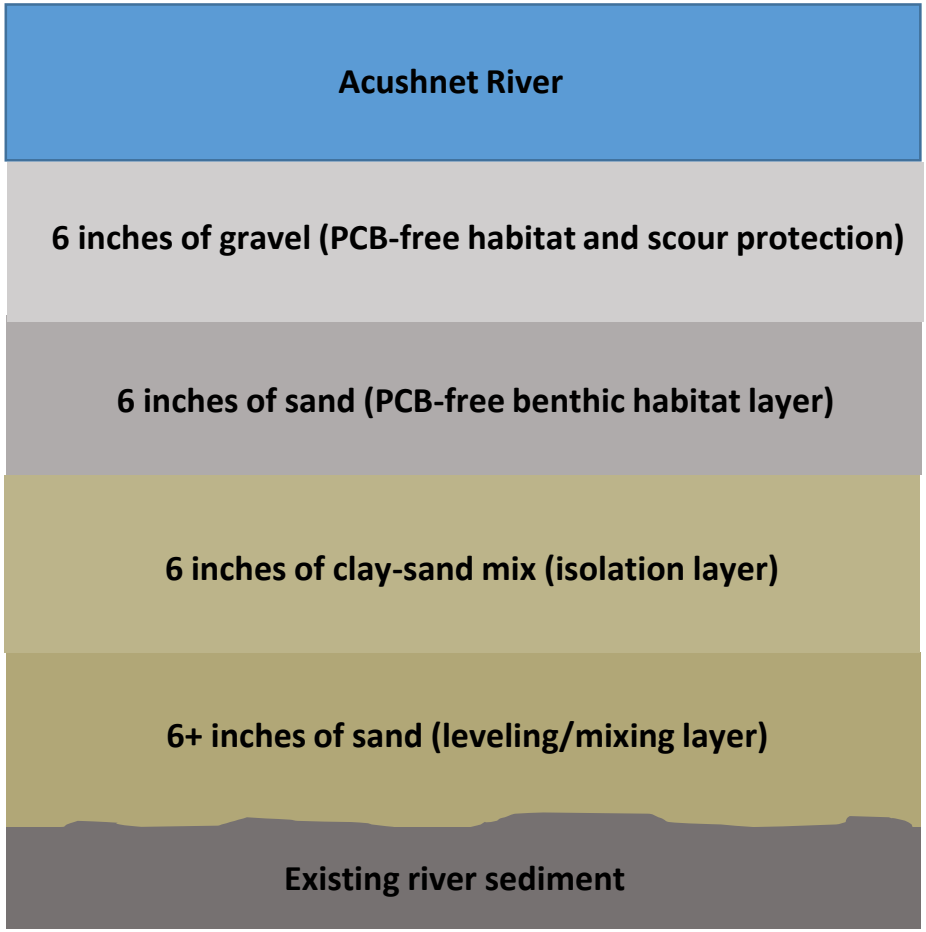


Concept Drawing Only



6/21/2018 Public Meeting

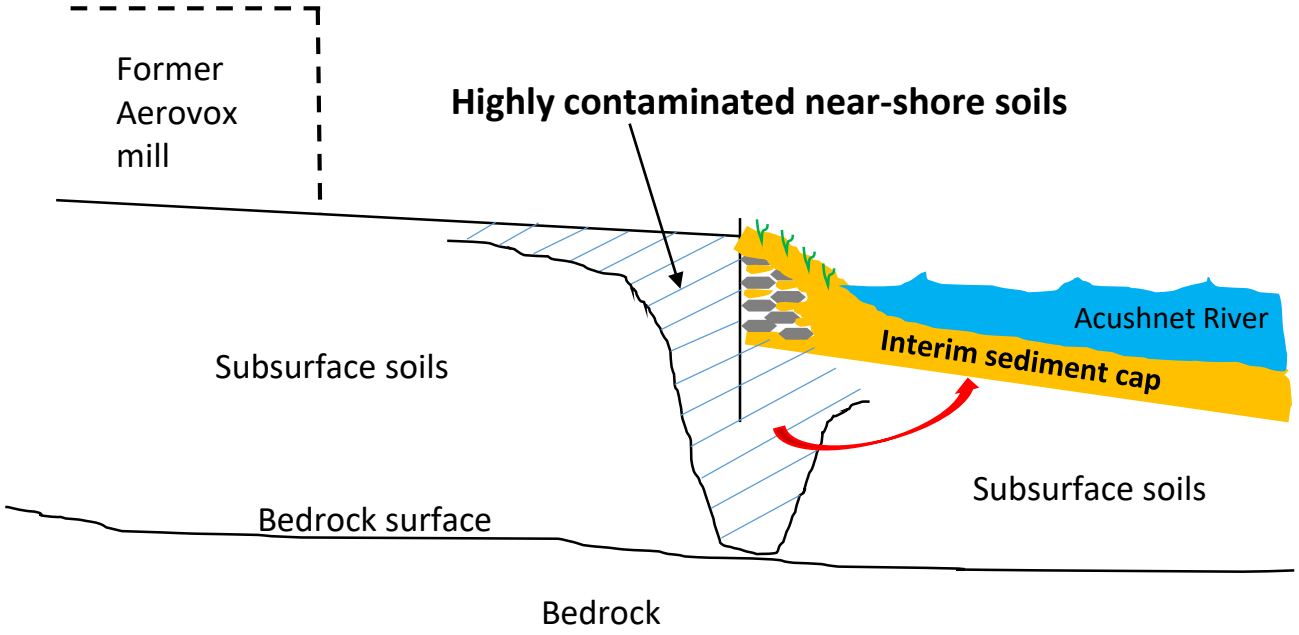
Four layers of the interim sediment cap design



Interim Sediment Cap Aerovox Shoreline

New Bedford Harbor Superfund Site

While the upland portion of the site proceeds through the state 21E cleanup program, the interim sediment cap will prevent PCBs from flowing to the river and recontaminating dredged sediment.



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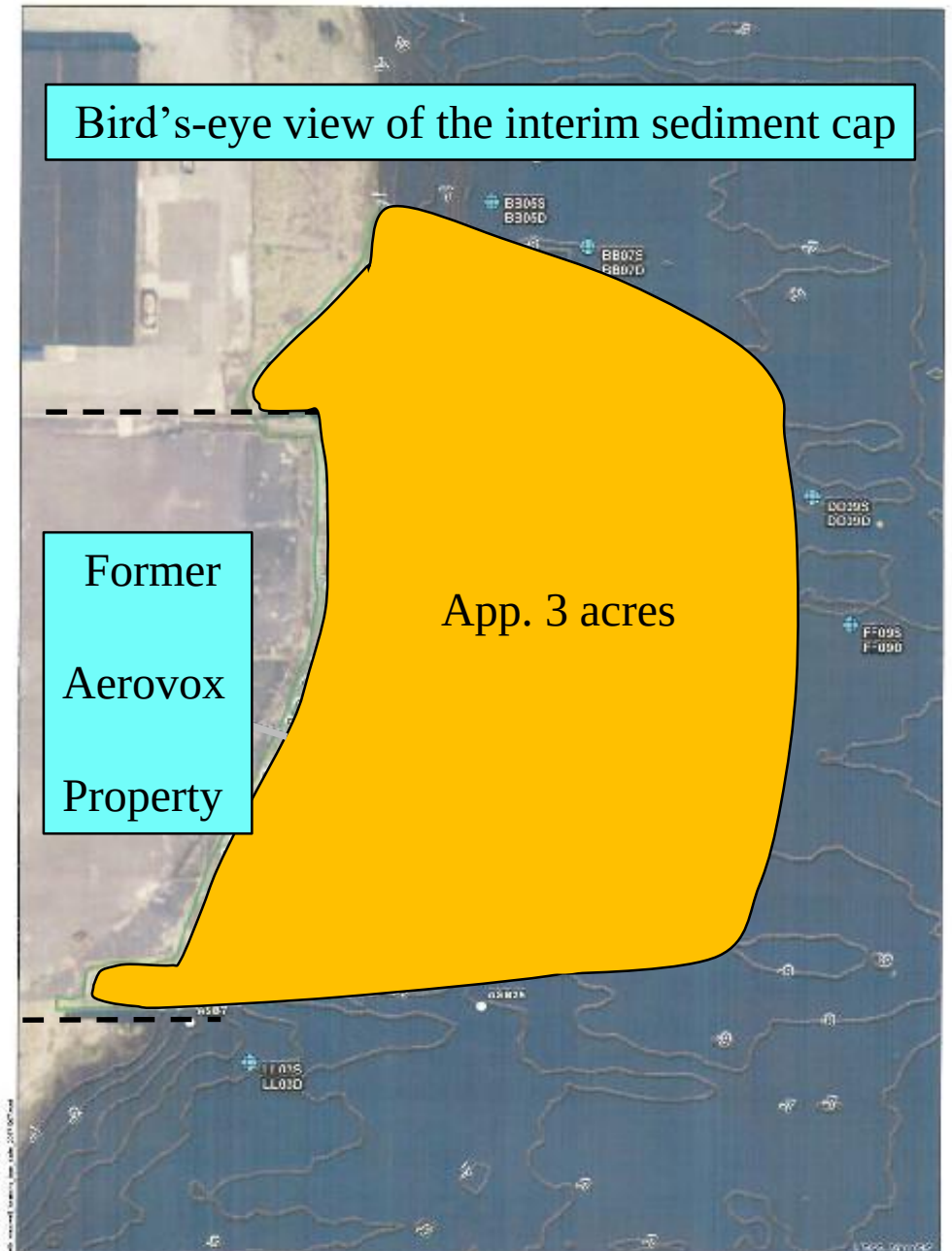

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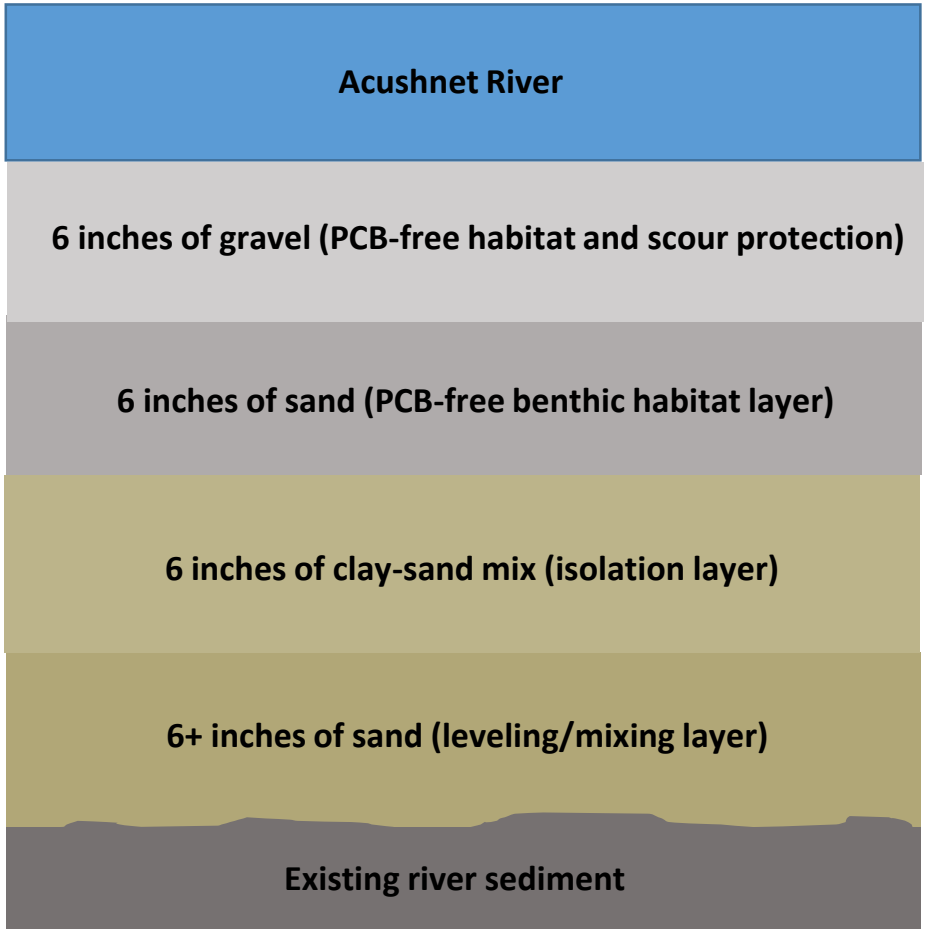
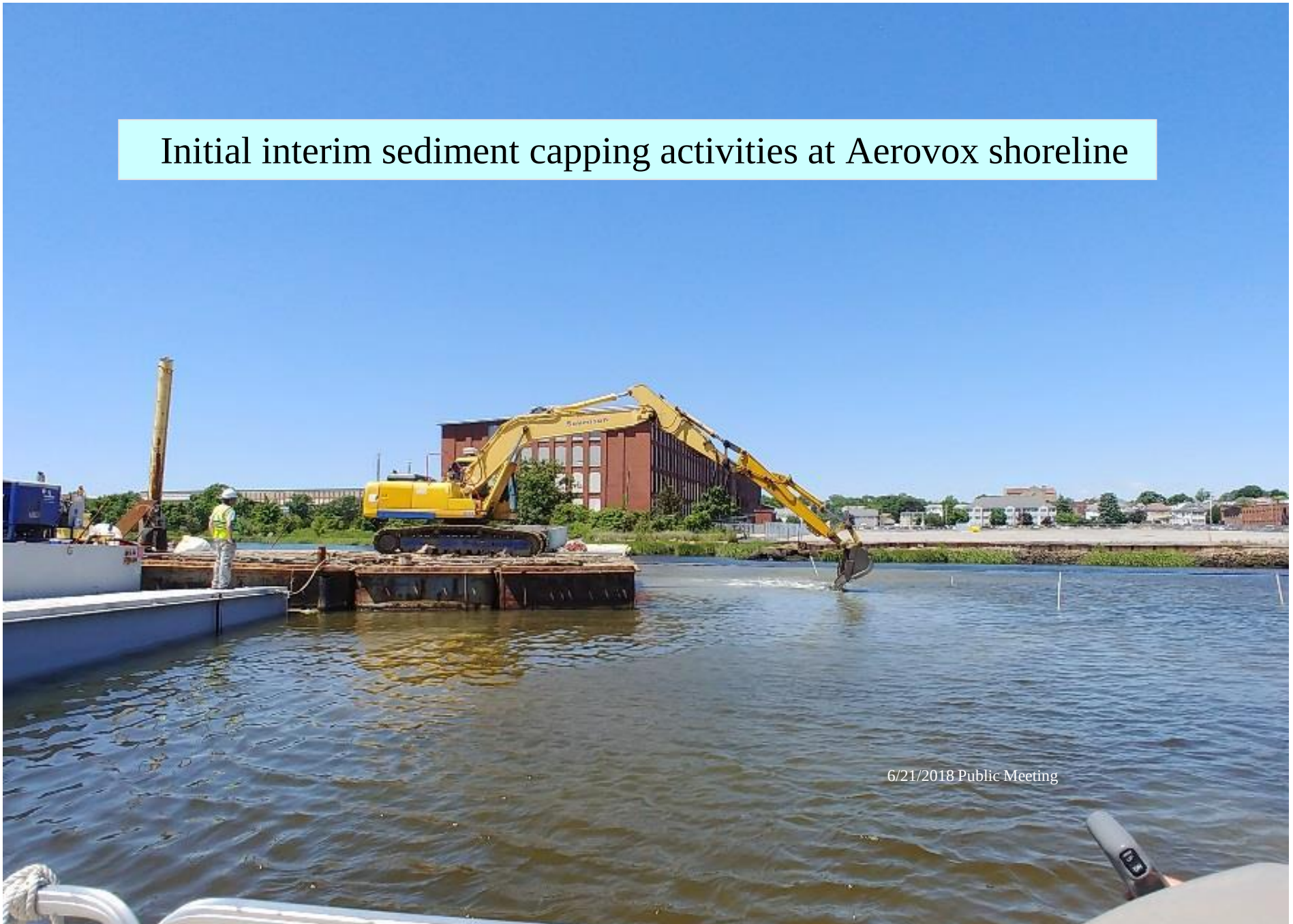


Initial interim sediment capping activities at Aerovox shoreline



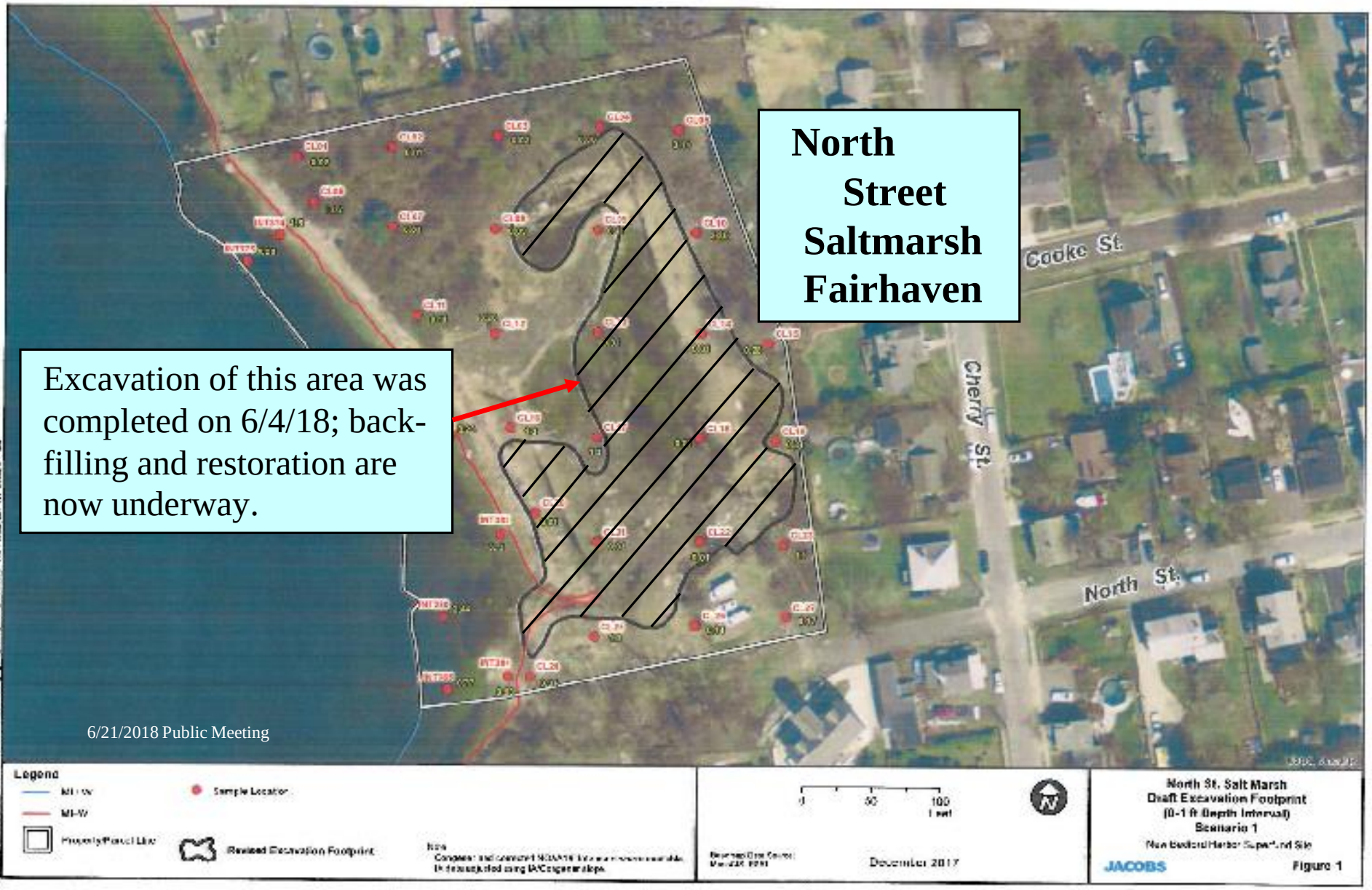
6/21/2018 Public Meeting

Shoreline Cleanups 2017 and 2018

New Bedford Harbor Superfund Site

Two shoreline cleanups finished in **2017**

Three shoreline cleanups planned for **2018**


North Street Saltmarsh Fairhaven
Excavation of this area was completed on 6/4/18; back-filling and restoration are now underway.
Cooke St.
Cherry St.
North St.
6/21/2018 Public Meeting
Legend
Sample Location
Revised Excavation Footprint
December 2017
North St. Salt Marsh
Draft Excavation Footprint
(0-1 ft Depth Interval)
Scenario 1
JACOBS
Figure 1

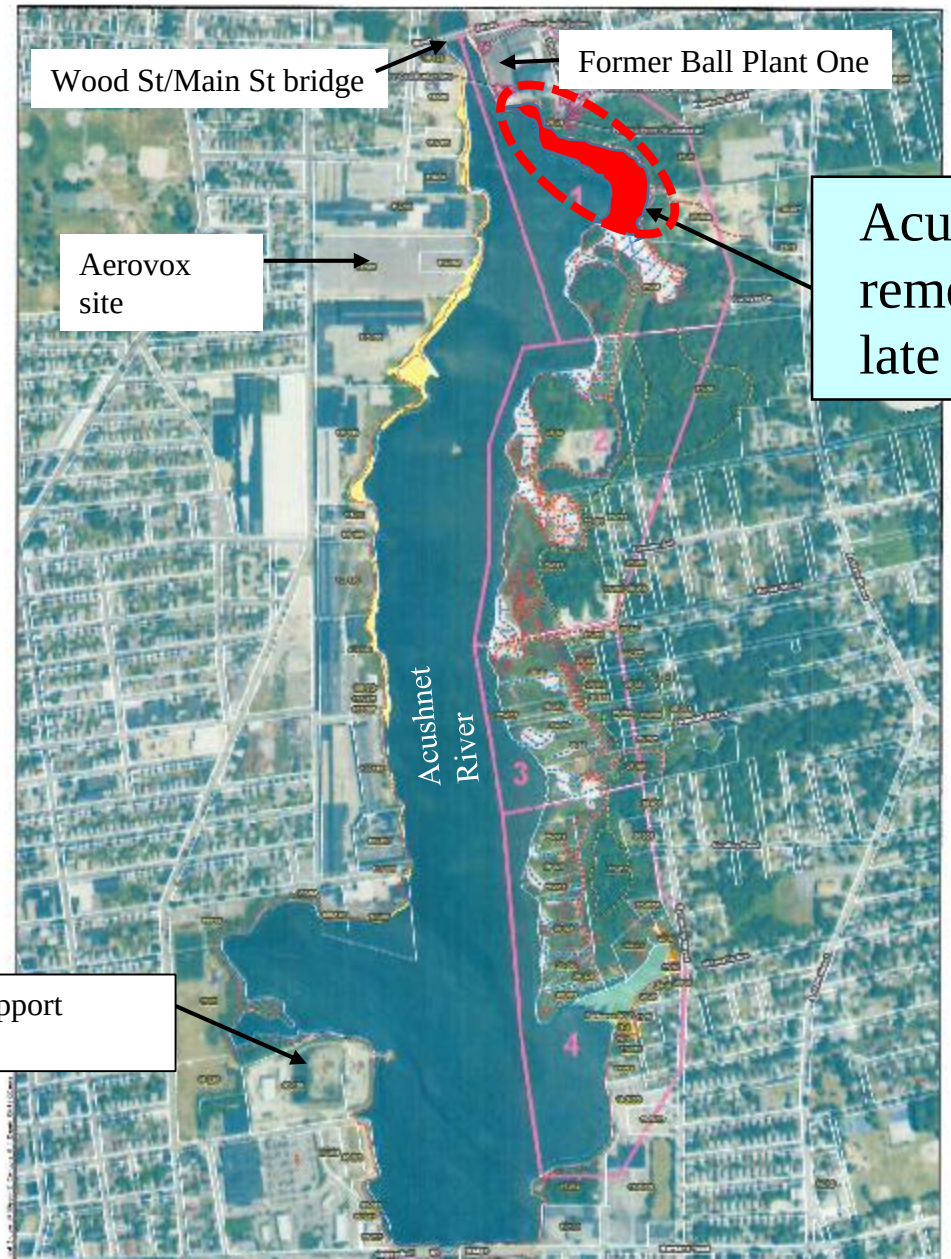
North Street saltmarsh being excavated (May 2018)

North Street saltmarsh being backfilled prior to saltmarsh plantings (June 2018)

Backfilled area prior to saltmarsh plantings

Fairhaven shoreline remediation "between the bridges" – summer 2018

6/21/2018 Public Meeting


Wood St/Main St bridge
Former Ball Plant One
Aerovox site
Acushnet Zone 1 - remediation to start late 2018
Acushnet River
1
2
3
4
Sawyer St support facility

OUTREACH COORDINATOR UPDATE

- 3rd summer of work
- Cooperative agreement with the City of New Bedford
- CEDC – Community Economic Development Center
- Bilingual/trilingual outreach
- Goal: gain knowledge of fishing community in New Bedford Harbor

OUTREACH MATERIALS

Important Information about Eating Seafood from New Bedford Harbor

Why should I worry about eating fish out of New Bedford Harbor?

As a result of historic dumping in the harbor, there are levels of a contaminants called PCBs (polychlorinated Biphenyls) in fish and shellfish that pose a risk to human health.

What are PCBs and why do I care?

PCBs are a known cancer causing agent. Accumulation of PCBs in an individual's body over a number of years can lead to cancer and a number of other health effects. Fish and Shellfish in New Bedford Harbor have been sampled by the Massachusetts Department of Environmental Protection since 1979 when state regulations put a prohibition on fishing/shellfishing in certain areas of the harbor.

PCBs belong to a broad family of man-made organic chemicals and were manufactured from 1929 until they were banned in 1979.

What has been done to inform people?

EPA has been working with the state and City of New Bedford to clean up the PCB contamination in New Bedford Harbor since the early 1980's. EPA coordinates regularly with the city and state and makes efforts to reach community members in a variety of ways. A Community Involvement plan, finalized in 2015, outlines EPA's most recent efforts at outreach and can be found here http://www2.epa.gov/new-bedford-harbor

How Can I Learn More?

Please visit our website

http://www2.epa.gov/new-bedford-harbor or contact

Kelsey O'Neil, EPA Community Involvement Coordinator at

617-918-1003 or oneil.kelsey@epa.gov

Can I eat any fish out of New Bedford Harbor?

EPA has recommendations on how much seafood should be consumed for different ages and populations. To see those recommendations please contact the individuals below or visit our website at http://www2.epa.gov/new-bedford-harbor/fish-consumption-regulations-and-recommendations

***Please also see maps on back page.

Will I be safe from PCBs if I follow the EPA recommendations?

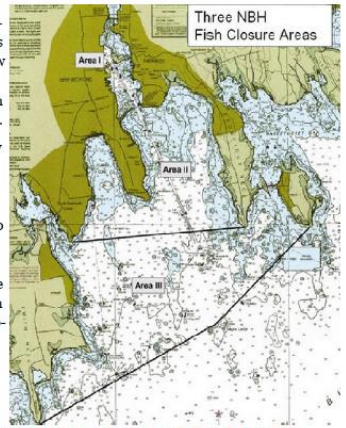
Yes. The only way to avoid PCB contamination from New Bedford harbor is to avoid catching and eating fish out of the harbor. PCBs will not be removed from fish or shellfish through any cooking process. PCB's build up in your body over time and can lead to long term health effects.

Can I fish if I throw the fish back?

Yes. Catch and release is a welcome activity in New Bedford Harbor.

Since 1979, Massachusetts regulations have prohibited eating fish and/or shellfish caught in certain areas of New Bedford Harbor. The tables on this page show Massachusetts regulations and U.S. EPA recommendations for eating fish, shellfish and lobster caught in three fish closure areas around New Bedford Harbor.

EPA's seafood consumption restrictions do not apply to seafood caught beyond the boundaries of the Site by the New Bedford area commercial fishing fleet. Exposure to PCBs is linked to infant development problems in children whose mothers were exposed to PCBs before becoming pregnant. Meal advice for PCB-contaminated fish is intended to protect children from developmental problems. PCBs also cause changes in human blood, liver, and immune function of adults. In addition, PCBs cause cancer in laboratory animals and may cause cancer in humans.



*More stringent recommendations for pregnant woman, nursing mothers, children under 12 or woman who may become pregnant can be found on EPA's website at http://www2.epa.gov/new-bedford-harbor/fish-consumption-regulations-and-recommendations#Recommendations

CLOSURE AREA 1*

If you catch…	then…
Any shellfish, lobster, or fish, including bottom feeders	Do not eat it

CLOSURE AREA 2*

If you catch…	then…
Fish:	
Black sea bass	Eat no more than one meal per month
All bottom-feeding fish including:	
Eel	Do not eat it
Flounder	Do not eat it
Scup	Do not eat it
Tautog	Do not eat it
All other fish	U.S. EPA has no data yet so we cannot make a recommendation
Lobster	Do not eat it
Shellfish (clams, quahogs, mussels etc.)	Eat no more than one meal per month. **Exception** -- Shellfish caught in Clarks Cove: eat no more than one meal per week

CLOSURE AREA 3*

If you catch…	then…
Fish:	
Black sea bass	Eat no more than one meal per month
Bottom-feeding fish:	
Eel	U.S. EPA does not have adequate data so cannot make a recommendation
Flounder	U.S. EPA does not have adequate data so cannot make a recommendation
Scup	Do not eat it
Tautog	Eat no more than one meal per month
All other fish, including all other bottom-feeders	U.S. EPA has no data yet so cannot make a recommendation
Lobster	Do not eat it
Shellfish (clams, quahogs, mussels etc.)	There are no eating restrictions

OUTREACH CHECKLIST

*Fill out one of these sheets every time you do outreach, if you go to more than one location, please fill out one sheet for each location. If no one is fishing at the location at the time of the visit, please note that.

Today's date:

Your Name:

Time/Hours of outreach:

Location (Circle one, or write location/event):

1. Slocum Street	2. Howland Street	3. Hedge St/ Oxford St	4. Bridge St/Fairhaven Bridge	5. Union Wharf, South St, Center St.	6. Hurricane Barrier (Fairhaven)
7. Ft. Phoenix	8. Rodney French Blvd	9. Ricketson St.	10. Ft. Rodman/ Ft. Taber	11. Sconticut Neck	12. Oaklawn St
13. Padanaram St	14. Ricketson Point	15. Homer's/ Leonard's Wharf	16. Pope's Island	17. Washburn St/ Kilburn St	18. Coffin Ave

FISHING FEEDBACK

Was there anyone fishing at this location?

☐ No ☐ Yes

If yes, about how many people were fishing? _____

Did you speak to anyone?

☐ No ☐ Yes

If yes, about how many people did you speak with? _____

What languages did people speak at this location? (Check all that apply)

☐ Portuguese ☐ Spanish ☐ Mayan ☐ Vietnamese ☐ English

☐ Creole (Haitian/Cape Verdean) ☐ Other: If known, what language? _____

Did you hand out any of the flyers?

☐ No ☐ Yes

If yes, about how many did you hand out? _____

SEAFOOD CONSUMPTION QUESTIONAIRE

DATE:
NAME:
LOCATION:

*This information is anonymous, none of the answers will be associated with your name or any family member/friends you may be fishing or eating fish with. Please answer ONLY based on fish caught and eaten from New Bedford Harbor.

QUESTION	NOTES
Do you fish in the Harbor?	☐ YES ☐ NO
Where do you usually fish? (Use map as a guide)	
What type of fish do you typically catch? (Check all that apply)	☐ Black Sea Bass ☐ Flounder ☐ Scup ☐ Tautog ☐ Eel ☐ Lobster ☐ Shellfish ☐ Other:
Are you eating the fish you catch from the harbor?	
Does anyone else eat the fish that you catch from the harbor? If yes, who? (friends/family?)	
If you do eat seafood and/or shellfish from the harbor, how often would you estimate you eat it as a meal?	☐ 1x a Week ☐ 2 x a week ☐ 1 x a month ☐ 2 times a month ☐ Every couple of months ☐ A few times a year
How many months a year do you normally fish? Only during the summer months, or year round?	
If you catch a lot of fish, do you freeze it and eat it year round?	
Do you have any concerns about the potential health effects of consuming seafood from the harbor? Why or why not?	
Any additional notes from interview?	

2016 DATA

RECORDED 70 VISITS TO 15 DIFFERENT LOCATIONS.

40 (57%) VISITS WERE INSIDE OF THE HURRICANE BARRIER IN FISH CLOSURE AREA 1.

30 (43%) VISITS WERE OUTSIDE OF THE HURRICANE BARRIER IN FISH CLOSURE AREA 2.

OBSERVED 230 PEOPLE FISHING
SPOKE WITH 178 INDIVIDUALS
DISTRIBUTED 243 EPA FACT SHEETS.

2017 Data

Recorded 111 visits to 18 different locations.

62 (56%) visits were inside of the hurricane barrier in Fish Closure Area 1.

54 (44%) visits were outside of the hurricane barrier in Fish Closure Area 2.

Observed 252 people fishing
Spoke with 218 individuals (not all who were fishing)
Distributed 225 EPA fact sheets.

CONSUMPTION DATA

- 69 people answered the question “do you consume the fish you catch?”
  - 56 (81%) reported yes, 13 (19%) reported no.
- Data showed a wide variety of fish were being caught in the harbor including: scup, tautog, blue fish, striper, and sea bass.
- Of the 54 individuals who responded to the question “How often do you consume the fish you catch?”
  - 4 reported once a week
    - 1 Response came from individuals fishing inside the hurricane barrier
  - 6 reported 2 times a week
    - 1 response came from individuals fishing inside the hurricane barrier
  - 12 reported once a month
    - 5 responses came from an individual fishing inside the hurricane barrier
  - 3 reported twice a month
    - 1 response came from individuals fishing inside the hurricane barrier
  - 23 reported a few times a year
    - 15 (65%) responses came from individuals fishing inside the hurricane barrier
  - 6 reported every couple of months
    - 2 (33%) responses came from individuals fishing inside the hurricane barrier

Remainder of 2018

- Completion of Interim Cap at Aerovox Shoreline; Selective capping of areas near shoreline and structures, for instance Coggeshall Street Bridge.
- Completion of Subtidal Dredging North of Cable Crossing.
- Completion of Cleanup, Restoration, and Replanting at North Street Salt Marsh and potentially “Between the Bridges”.
- Start Work at “East Zone 1” shoreline cleanup.
- Sampling of water quality, air, and sediment.