

New Bedford Harbor Superfund Site Update

April 2019

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US EPA

New Bedford Harbor Superfund Site

Project Status: April 2019

Subtidal:

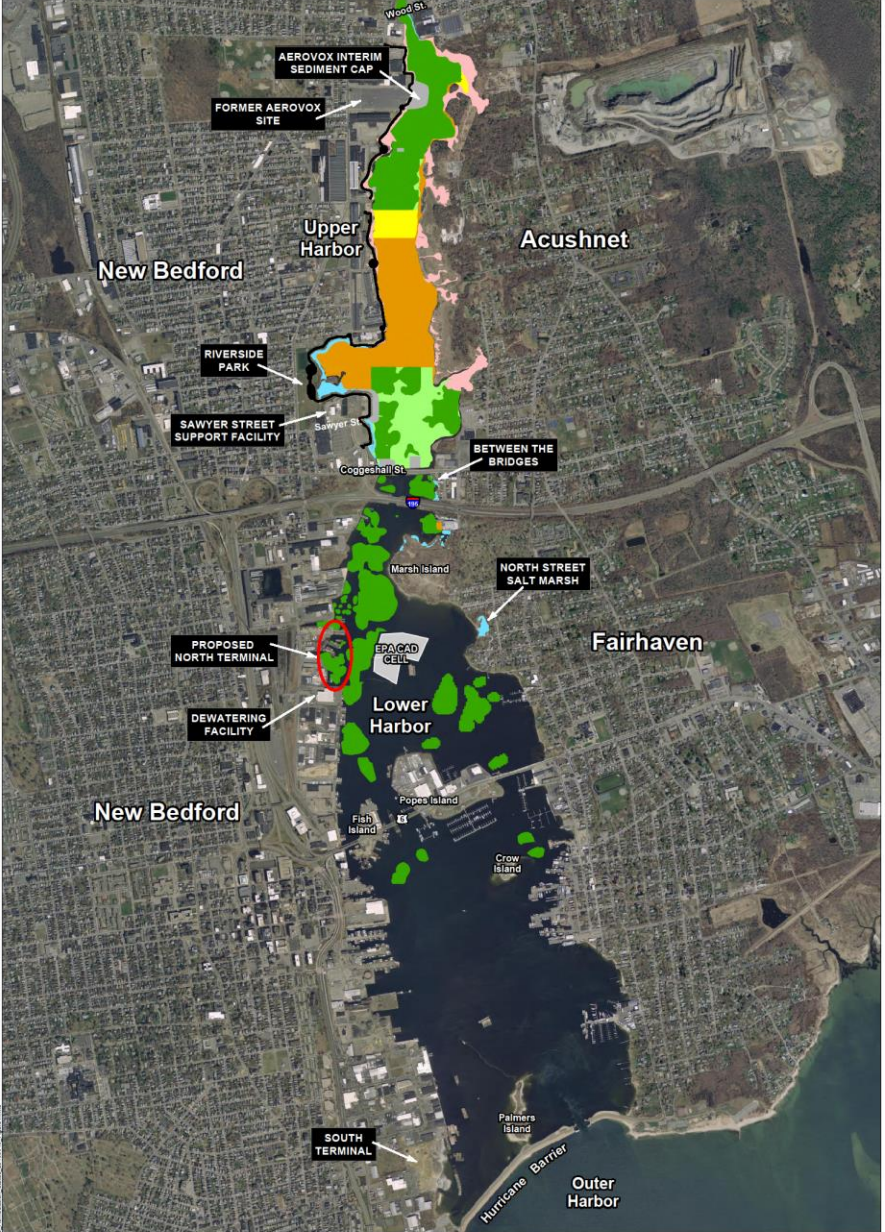
Lower Harbor: Substantially Complete

Upper Harbor: About 62% complete by areal extent

Aerovox Interim Cap: Complete.

Intertidal:

Approximately 45% complete by volume.



Legend

| | |
|---------------------------------|--|
| Not Complete | Intertidal Remediation Completed |
| In Progress | Intertidal Remediation to be Completed |
| Dredging Completed | |
| No Remediation Required | |
| Proposed Sediment Capping Areas | EPA CAD Cell |
| | Riverwalk (Proposed) |

projected status January 2019

JACOBS

New Bedford Harbor Overview

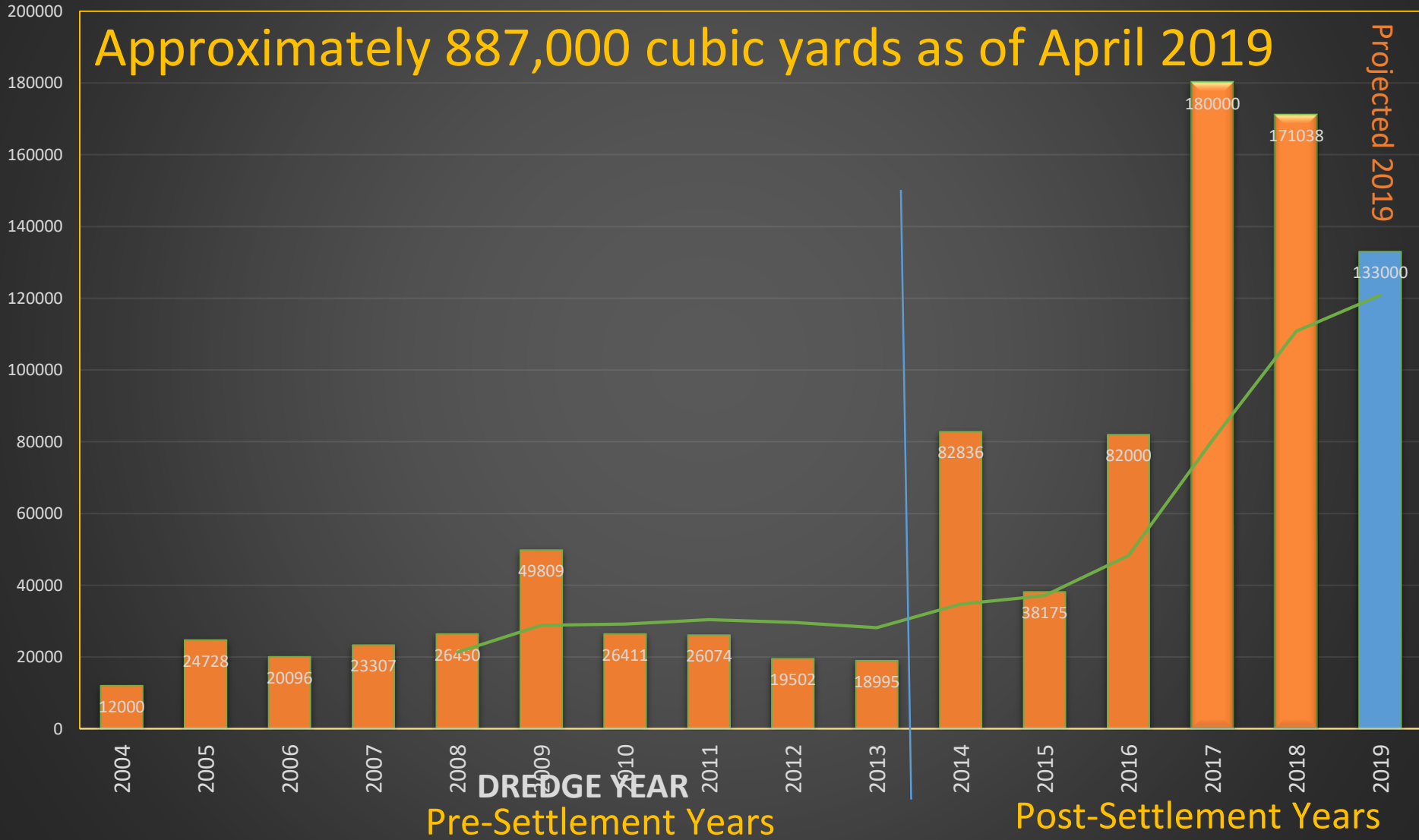
New Bedford Harbor Superfund Site

NAME: jacobcs Date: 1/17/2019 **Figure 1**

0 0.25 0.5 Miles

Aerial Photography MASSGIS 2014

Volume Dredged from New Bedford Harbor (cubic yards)



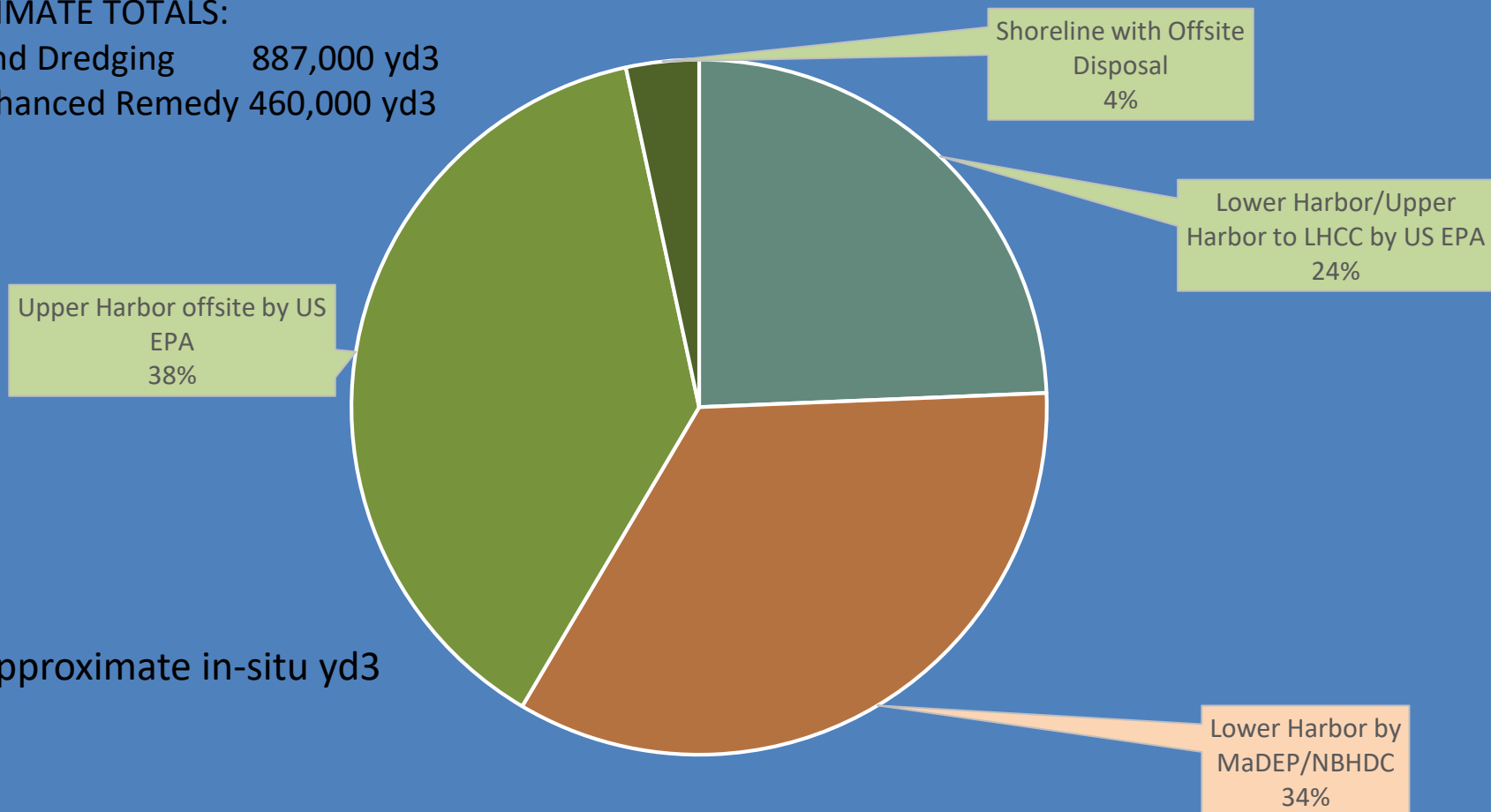
Dredging Progress Through April 2019 by SER and US EPA (Superfund)

1.35 Million Cubic Yards Complete*

APPROXIMATE TOTALS:

Superfund Dredging 887,000 yd³

State Enhanced Remedy 460,000 yd³



*approximate in-situ yd³

- Lower Harbor/Upper Harbor to LHCC by US EPA
- Lower Harbor by MaDEP/NBHDC
- Upper Harbor offsite by US EPA
- Shoreline with Offsite Disposal

Highlights of Progress 2018-19

- Substantially Completed Lower Harbor Subtidal Dredging
 - Average concentration remaining in areas dredged about 11 ppm
 - Average concentration Lower Harbor CAD Cell about 70 ppm
- Subtidal Dredging in Upper Harbor presently 62% complete
 - Lowered average concentration in areas dredged by 100 fold or more
- Intertidal cleanup at “North Street Salt Marsh” and “Between the Bridges”, both in Fairhaven
- Aerovox Interim Cap Completed April 2019
 - Protects the Upper Harbor from recontamination from the adjacent Aerovox Site until complete source control is achieved by the responsible party under MassDEP authority.

Projected for Rest of 2019

- Complete Subtidal Dredging in Upper Harbor
 - Majority of material to be disposed of off-site after dewatering
 - Remainder (less contaminated material) to complete filling of Lower Harbor CAD Cell
- Begin install of sediment “mini caps” in Upper Harbor
- Mobilize for Intertidal Cleanup at East Zone 1, West Zone 1
- Begin demobilizing subtidal dredging equipment

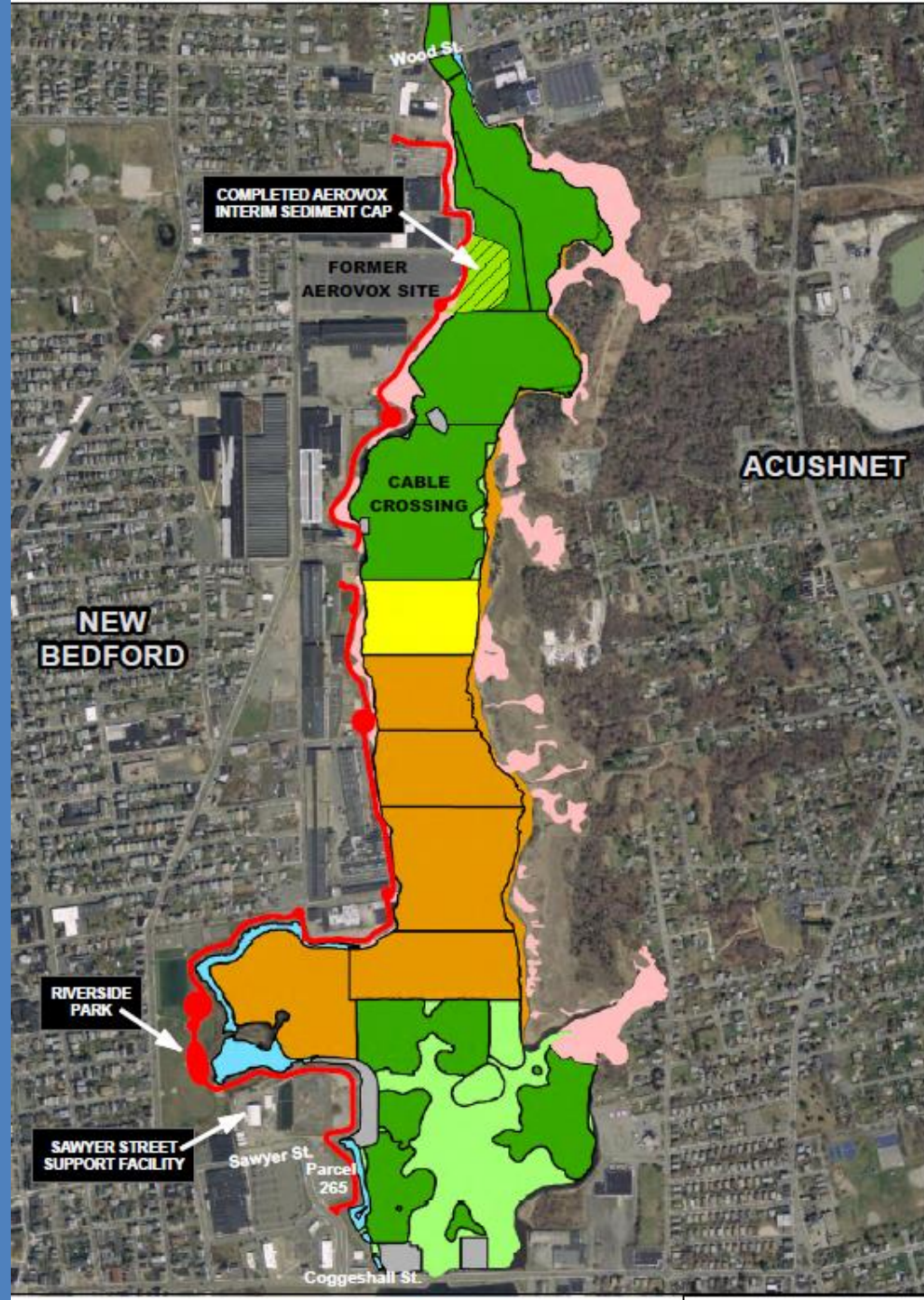
Upper Harbor Subtidal Progress

Subtidal Surface Weighted Average PCB Concentrations in Upper Harbor

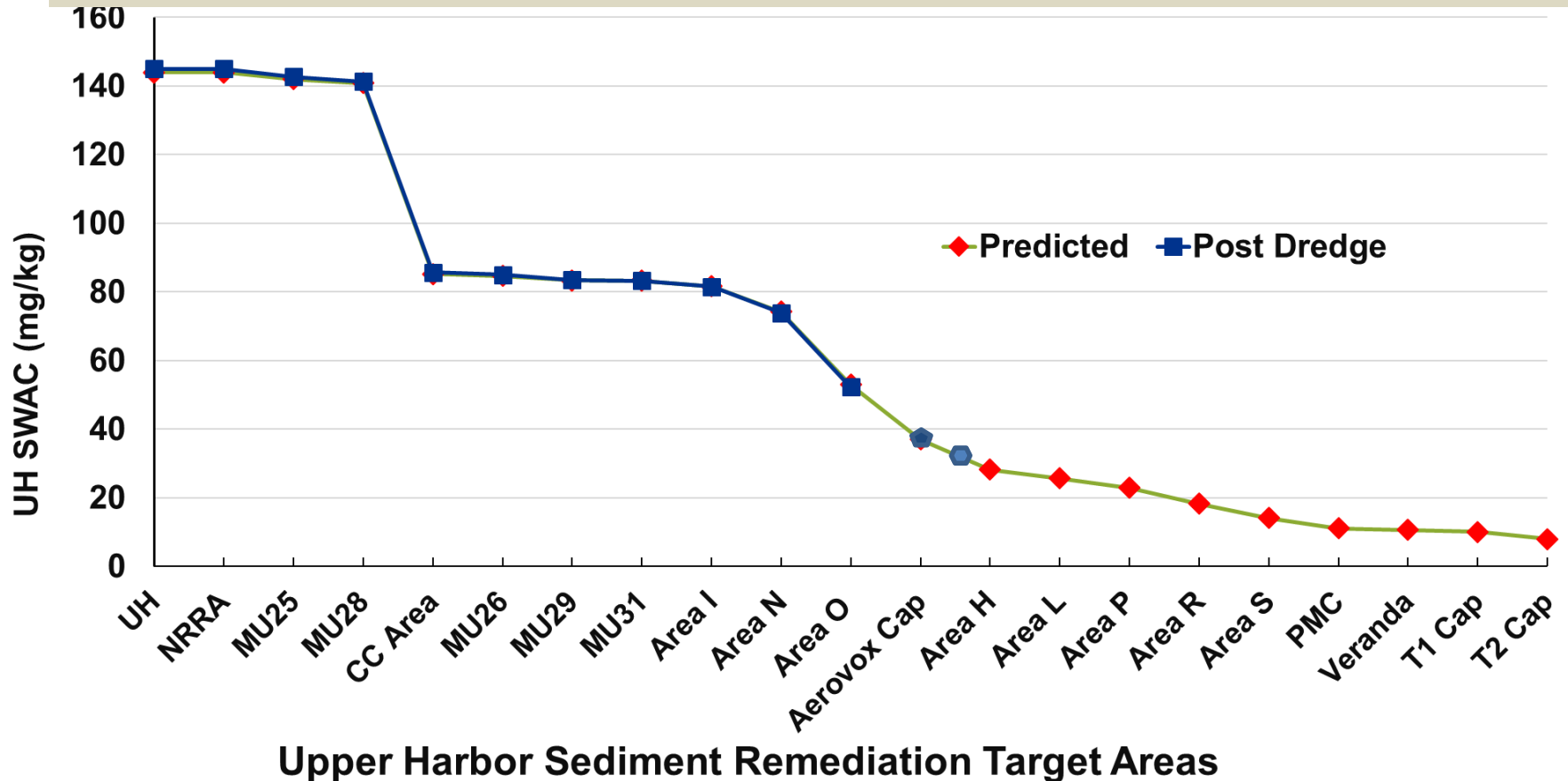
| | |
|---------------|--------------------|
| 2004 | 300 ppm (estimate) |
| October 2017: | 150 ppm (approx.) |
| June 2018 | 75 ppm (approx.) |
| April 2019 | 26 ppm (approx.) |

Projected

End of 2019 < 10 ppm



Subtidal Sediment Surface Weighted Average Concentrations in the Upper Harbor Dropping Rapidly...



Hybrid Dredging; High Precision









Legend



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Shoreline Characterization Area L
West side (looking west)
New Bedford Harbor Superfund Site

Figure A-13

AIR MONITORING

- ▶ Ongoing monitoring during remedial activities
- ▶ Data posted to NBH website at epa.gov/nbh/
- ▶ Revised Ambient Air Monitoring Plan dated April 2018
- ▶ Revisions to Plan Coming in 2020

U.S. Environmental Protection Agency



The screenshot shows the EPA website interface. At the top left is the EPA logo with the text "United States Environmental Protection Agency". A blue navigation bar contains the links "Environmental Topics", "Laws & Regulations", and "About EPA". The main heading reads "EPA Cleanups: Communities around Bedford Harbor". Below this is a section titled "EPA Air Monitoring Data (OU1)" with a sub-link "Air Monitoring Data Status as of December 2018 (PDF)" and the text "(5 pp, 1.9 MB, [About PDF](#))". The background of the lower half of the page features a photograph of a harbor with boats and buildings. At the bottom, there is a pagination control with four buttons labeled "1", "2", "3", and "4", where "2" is highlighted in blue.

Interim Sediment Cap Aerovox Shoreline

New Bedford Harbor Superfund Site

Laurie O'Connor
Remedial Project Manager

4/25/2019 Public Meeting

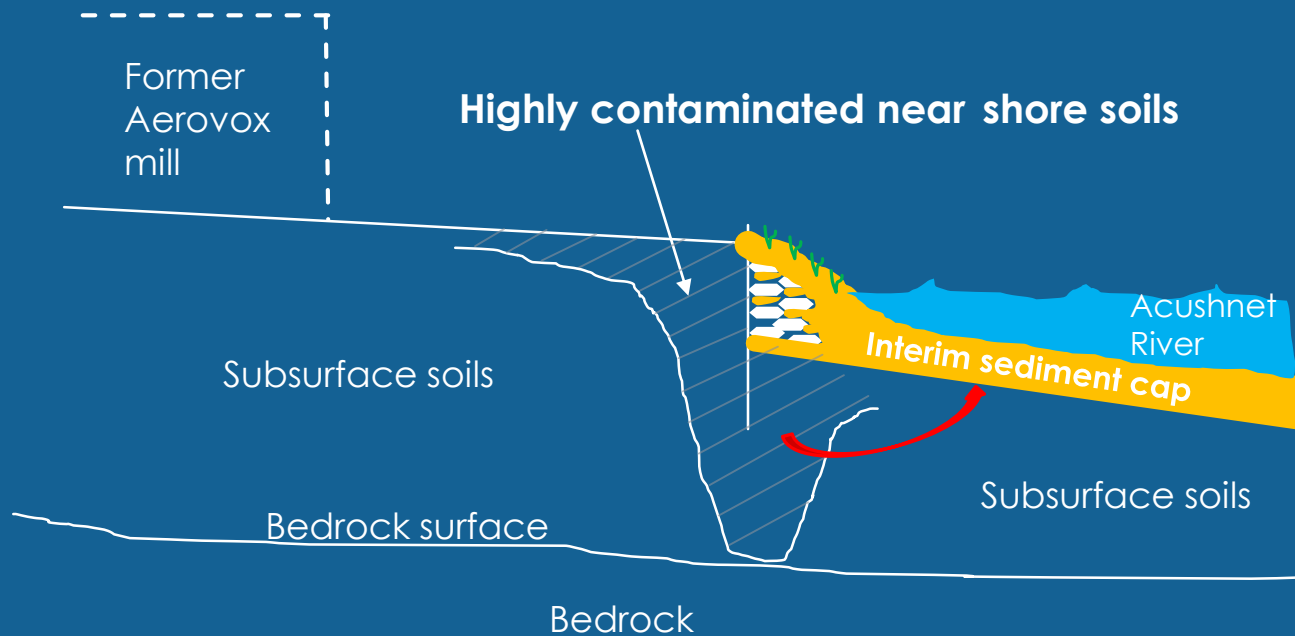


FORMER AEROVOX PROPERTY

- ▶ Near top of Upper Harbor
- ▶ Historically, a major source of PCBs in river

Why an Interim Sediment Cap?

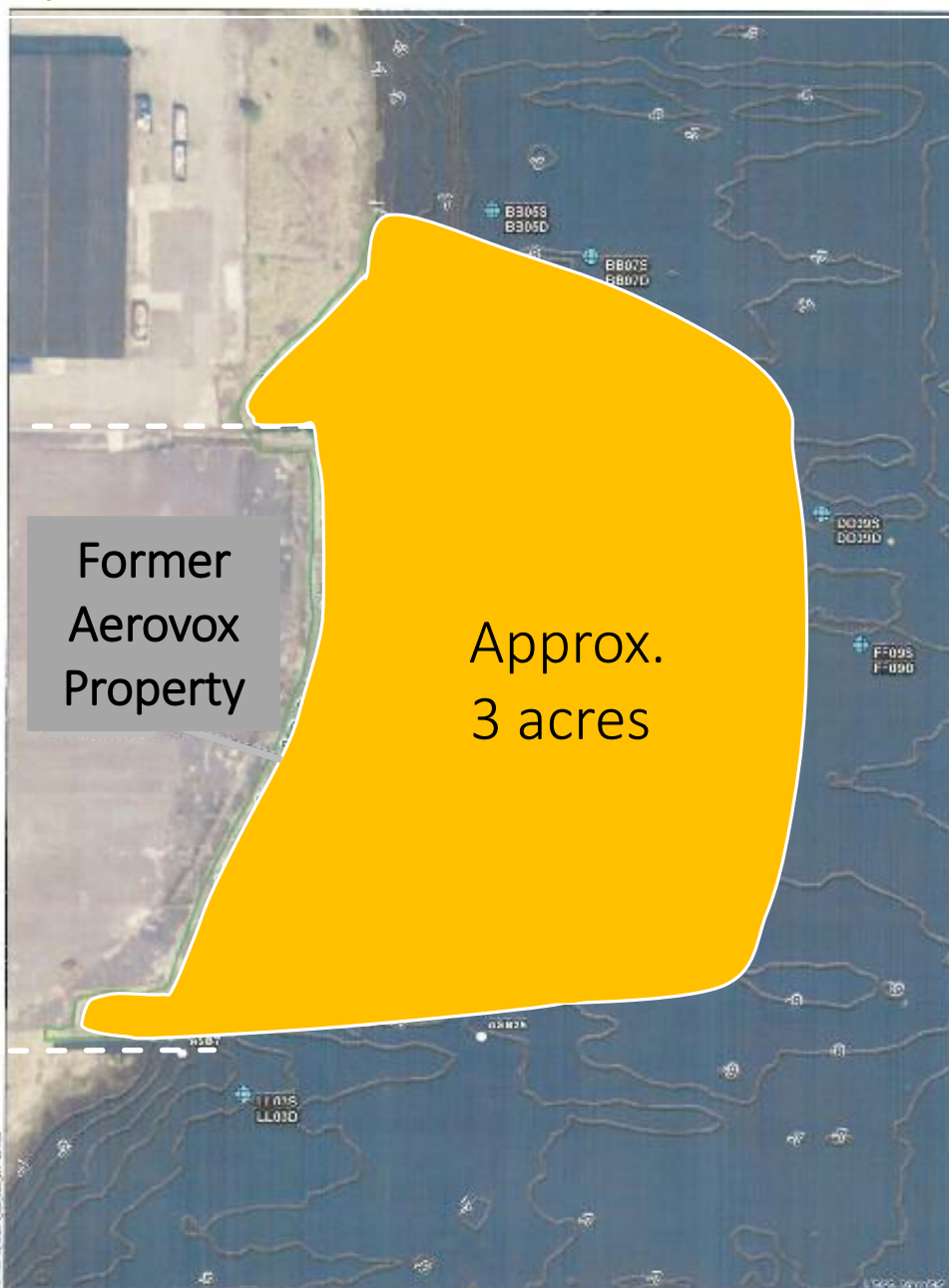
Prevent PCBs from flowing to the river and recontaminating dredged sediment while the upland portion of the site proceeds through the state 21E cleanup program



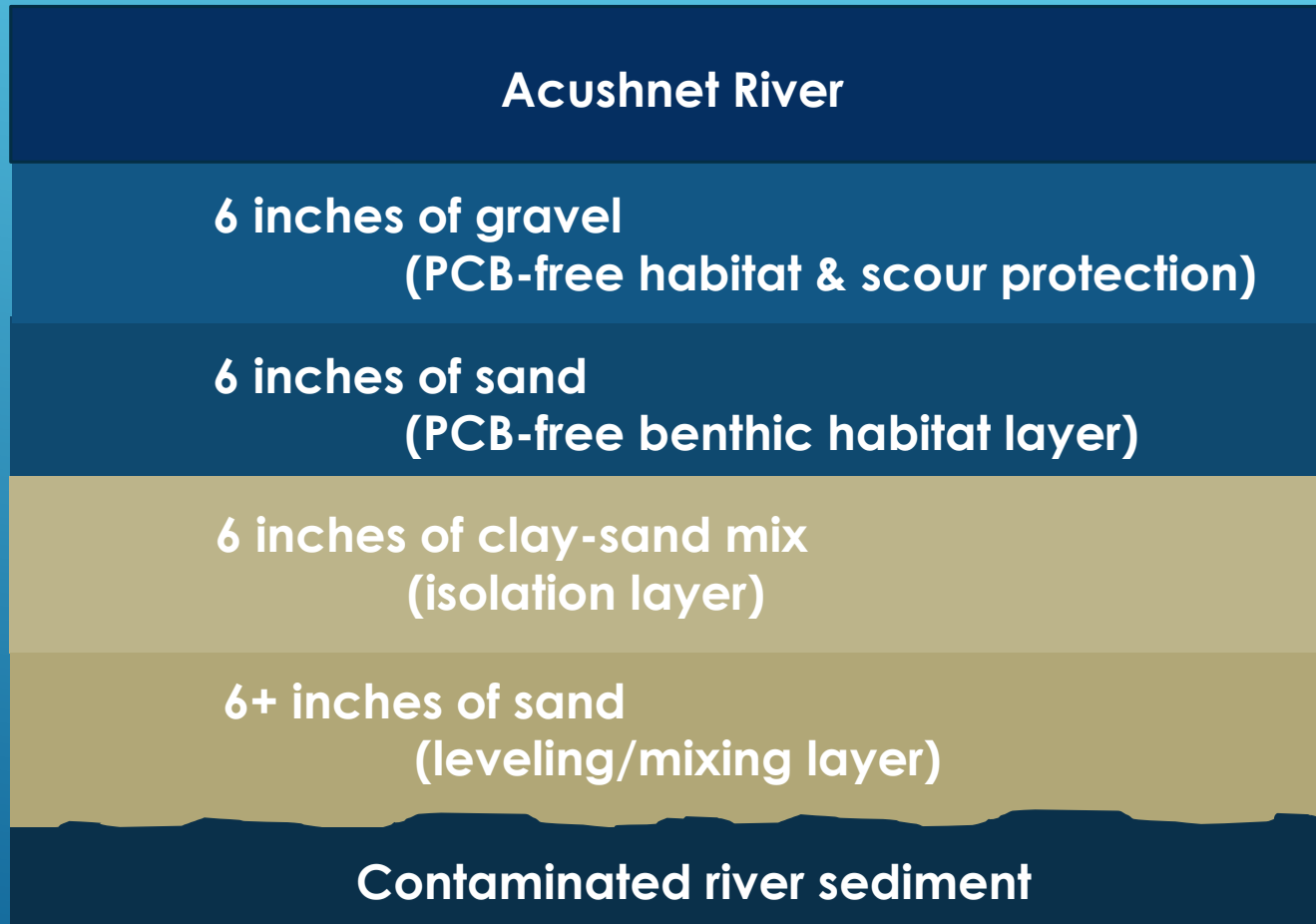
Concept Drawing Only

4/25/2019 Public Meeting

Bird's-eye view of the interim sediment cap

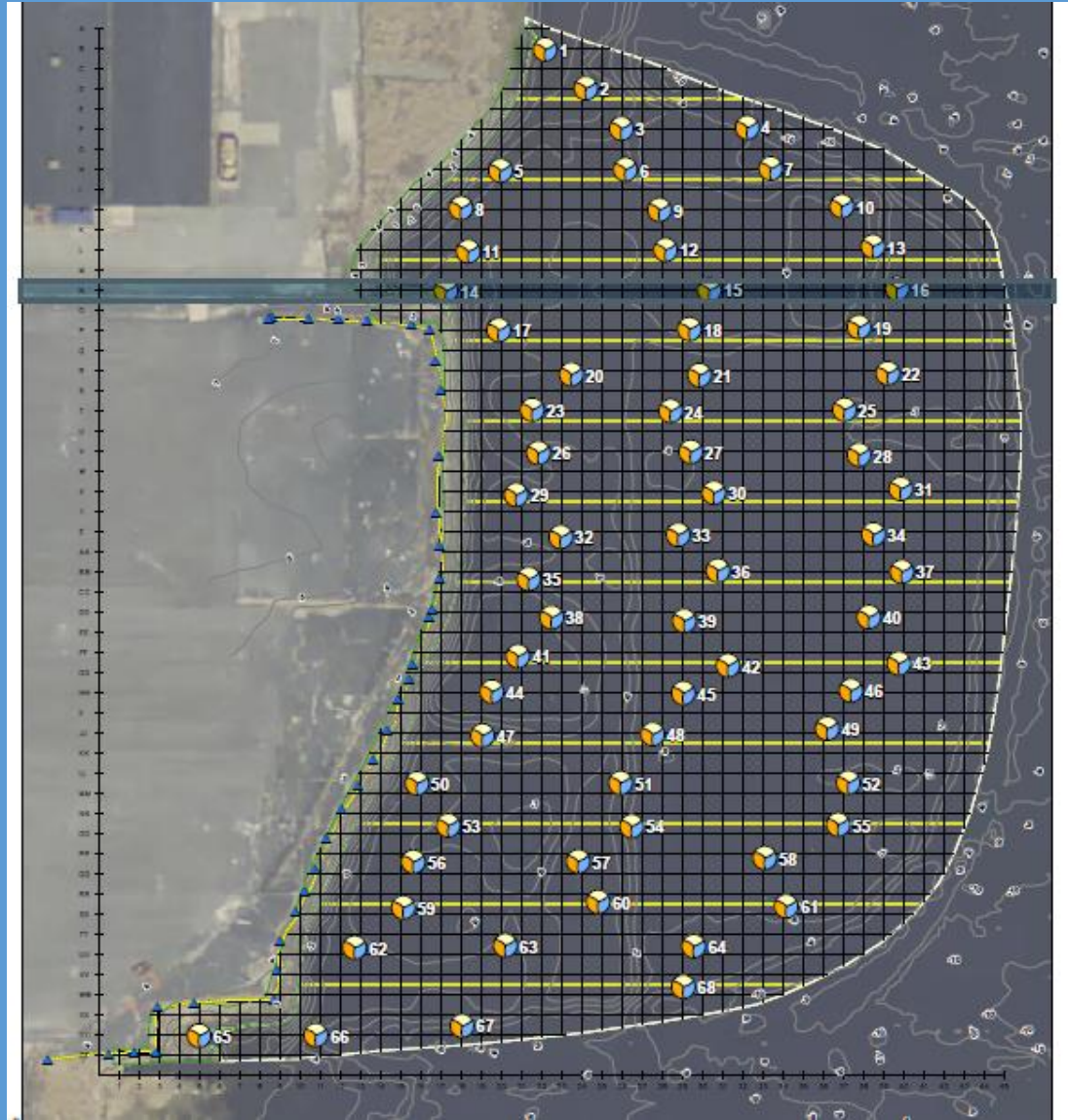


Four layers of the interim sediment cap



Cap materials
placed in lanes
(13 total) from
shoreline out
into river

Quality Control
samples
to verify
thickness of
layers



Transport of cap materials out to capping barge



Precise placement of cap materials



Aerovox
Interim
Sediment Cap
completed in
April 2019



Shoreline Cleanups

2017, 2018 & 2019

New Bedford Harbor Superfund Site

Two shoreline cleanups finished in **2017**



Two shoreline cleanups finished in **2018**

"Between the Bridges"

North Street
saltmarsh



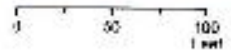
North Street Saltmarsh, Fairhaven - 2018

4/25/2019 Public Meeting

Legend

-  MI-W
-  MI-W
-  Property Parcel Line
-  Sample Location
-  Revised Excavation Footprint

Note: Colors and symbols NOT to be used in any other maps. It is re-sampled using IAC Organisms.



Beauregard-Cole Center
March 2017

December 2017

North St. Salt Marsh
Draft Excavation Footprint
(0-1 ft Depth Interval)
Scenario 1
New Bedford Harbor Superfund Site

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Figure 1

North Street saltmarsh
being excavated
(May 2018)

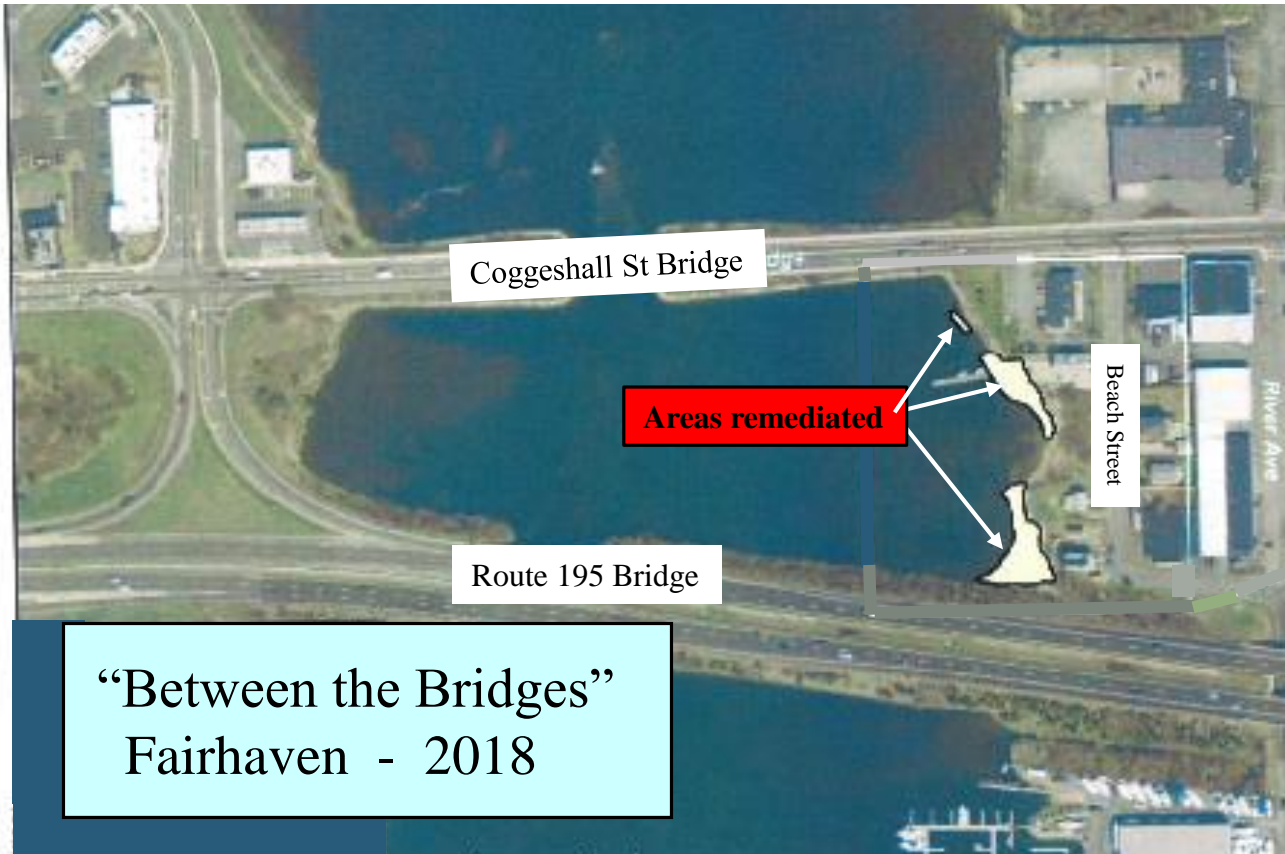


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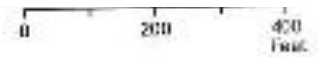
North Street saltmarsh
being backfilled prior to
saltmarsh plantings
(June 2018)



Backfilled area prior to
saltmarsh plantings



4/25/2019 Public Meeting



Summary Sediment/Soil PCB Data (top foot)

1. North Street Salt Marsh:

- before remediation: ranged from non-detect to 83 ppm
- after remediation: conservative average (95UCL) = 1.0 ppm

2. Between the Bridges:

- before remediation: ranged from non-detect to 95 ppm
- after remediation:
 - residential parcels: 95UCLs = 0.16 and 0.35 ppm
 - recreational parcel: 95UCL = 14.1 ppm



Remaining shoreline areas to be remediated shown in red.

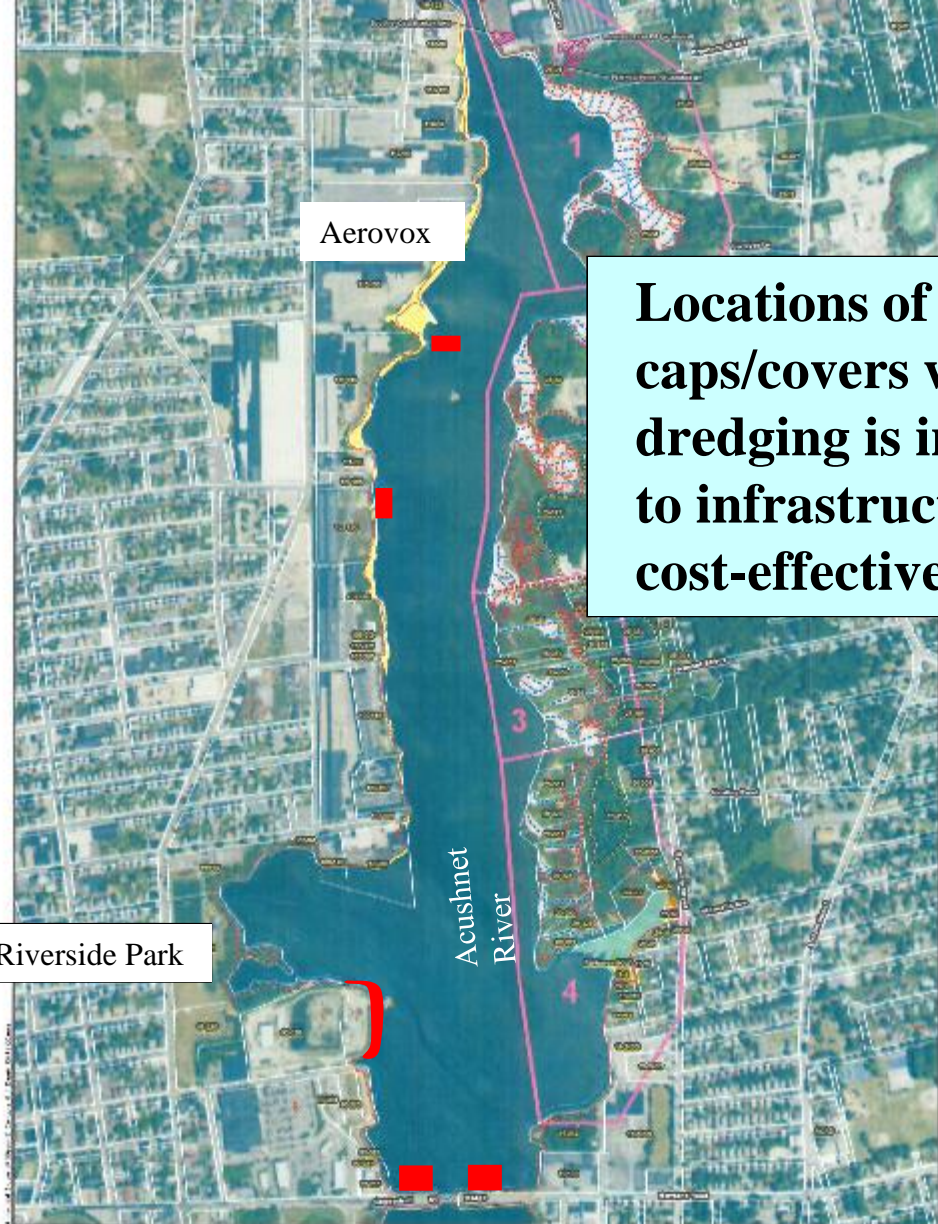
Final shoreline sampling is now done, and all work plans will be completed in 2019.

10 shoreline zones created for implementation.

Sediment Caps/Covers in the Upper Harbor*

New Bedford Harbor Superfund Site

*where various infrastructure prevents dredging

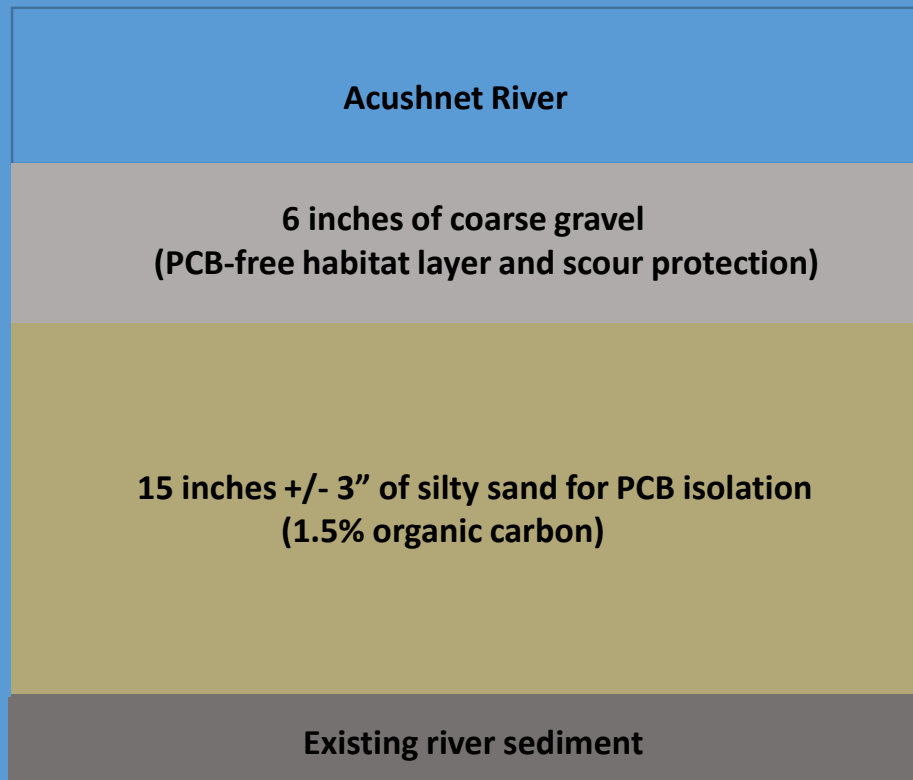


Locations of sediment caps/covers where dredging is infeasible due to infrastructure or is not cost-effective (in red)

Riverside Park



Two layers for upper harbor sediment caps



- ▶ 2019 – 4th 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 COORDINATOR UPDATE

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 contaminant 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.

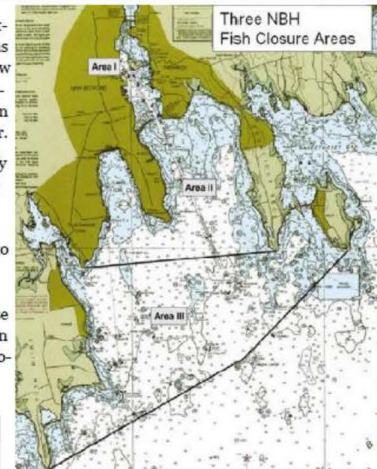
EPA's seafood consumption restrictions do not apply to seafood caught beyond the boundaries of the Site by the New Bedford area commercial fishing fleet. Exposure to PCBs is linked to infant development problems in children whose mothers were exposed to PCBs before becoming pregnant. Meal advice for 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.

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 |



*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>

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 |

DATA SUMMARY

| | 2016 | 2017 | 2018 |
|--|----------|----------|-----------|
| # of Visits | 70 | 111 | 163 |
| Total locations | 15 | 18 | 18 |
| Total visits inside Hurricane Barrier, inside Closure Area 1 | 40 (57%) | 62 (56%) | 63 (39%) |
| Total visits Outside Hurricane Barrier in Closure Area 2 | 30 (43%) | 54 (44%) | 100 (61%) |
| # People Observed Fishing | 230 | 252 | 288 |
| # People Spoken To | 178 | 218 | 216 |
| # Fact Sheets Distributed | 243 | 225 | 289 |

CONSUMPTION DATA

- ▶ **Variety of catch: scup, tautog, blue fish, striper, and sea bass.**
- ▶ **81 people answered the question “do you consume the fish you catch?”**
 - ▶ **68 (84%) reported yes, 12 (15%) reported no.**
 - ▶ **15 of those who reported yes, were fishing inside closure area 1.**
- ▶ **Languages Spoken**
 - ▶ **English 53 people**
 - ▶ **Spanish 35 people**
 - ▶ **Portuguese 21 people**
 - ▶ **Creole 5 people**
 - ▶ **Vietnamese 3 people**

| How often do you consume fish? | Number of responders | Number of responders fishing inside hurricane barrier |
|---------------------------------------|-----------------------------|--|
| Once a month | 14 | 4 |
| Once a week | 1 | 5 |
| Twice a week | 25 | 11 |
| Twice a Month | 13 | 13 |
| Every few months | 3 | 2 |

*5 people responded never consuming fish