

Newtown Creek Aeration Meeting

NYS DEC / NYC DEP

Newtown Creek Alliance

Riverkeeper / SWIM Coalition

March 24th, 2018

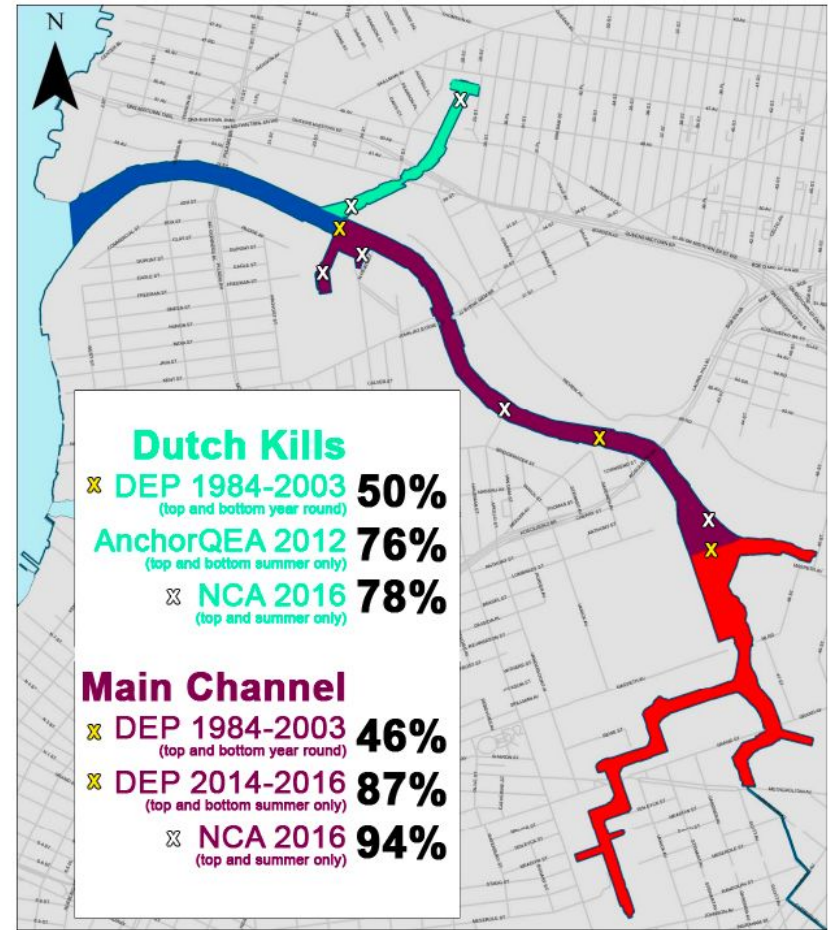


Background

Aeration stems from 2004 consent order, based on data collected from 1984 to 2003. Water Quality in Newtown Creek has improved significantly since then and will likely continue to because of the following investments in sewage reduction:

- Upgrade of Newtown Creek WWTP (2009)
- Green Infrastructure projects (ongoing)
- Increased crackdown of illegal discharges
- Bending weir construction (complete Fall 2017)

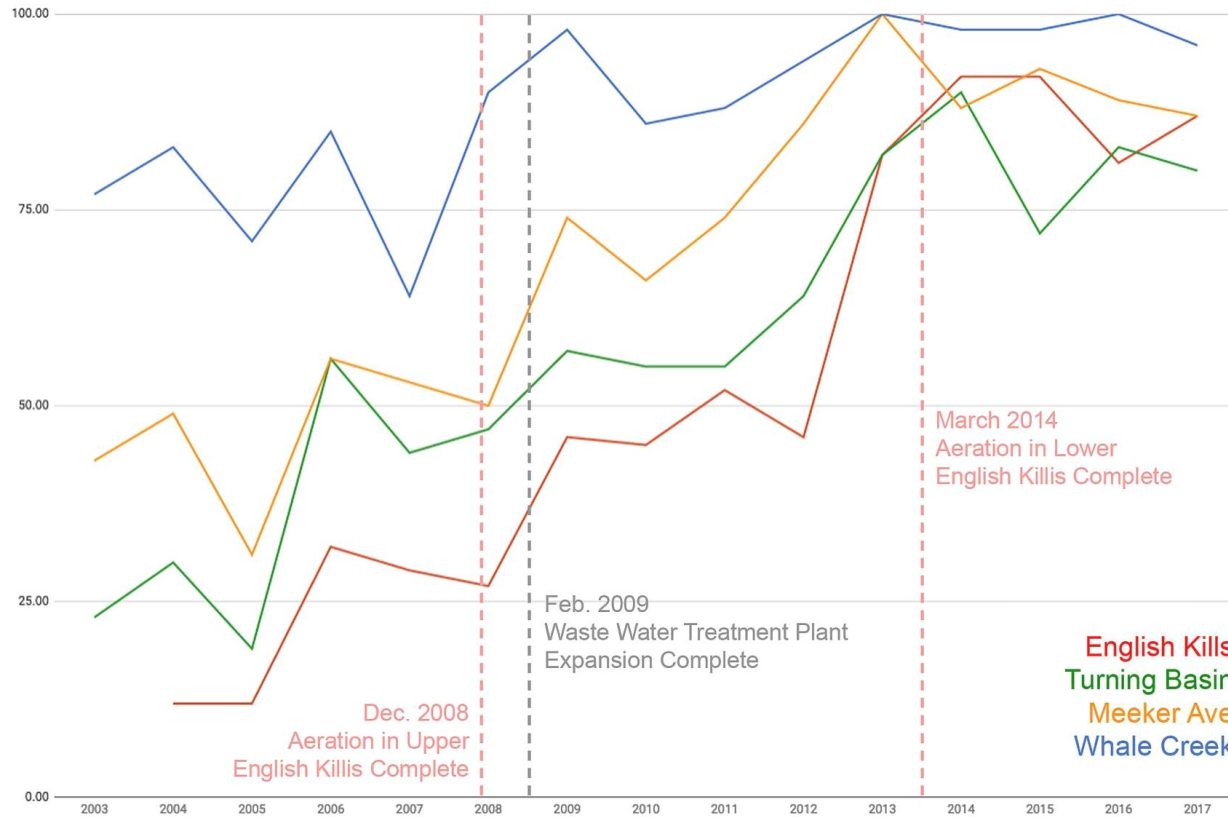
As with Dutch Kills, the consent order should be re-evaluated and updated to reflect current conditions and trends of improvement.



Newtown Creek Dissolved Oxygen
Percent of Samples Over 3.0 mg/L

Dissolved Oxygen Levels in Newtown Creek 2003 - 2017

Percent of Samples Above 3mg/L



Source: NYCDEP Harbor Water Sampling Data; top and bottom samples at sites NC0, NC1, NC2, NC3.

Dangerously Low Dissolved Oxygen Levels Newtown Creek vs. Similar Locations 2016

1. English Kills
(site NC0)
34/36 tests >3 mg/L

94%

Site	Date	Top	Bottom
NC0	05/10/2016	6.62	6.04
NC0	05/17/2016	8.86	8.82
NC0	05/24/2016	7.04	NS
NC0	06/01/2016	5.14	NS
NC0	06/07/2016	12.3	NS
NC0	06/14/2016	5.73	NS
NC0	06/21/2016	5.18	5.09
NC0	06/28/2016	5.99	5.05
NC0	07/05/2016	3.85	3.7
NC0	07/12/2016	4.97	4.88
NC0	07/19/2016	3.26	3.45
NC0	08/02/2016	3.88	3.77
NC0	08/10/2016	6.14	5.97
NC0	08/17/2016	5.5	3.86
NC0	08/24/2016	5.96	5.23
NC0	08/31/2016	4.9	5.11
NC0	09/07/2016	5.25	5.35
NC0	09/13/2016	6.04	6.12
NC0	09/20/2016	2.98	3.62
NC0	09/27/2016	6.32	5.28

2. Turning Basin
(site NC1)
31/36 tests >3 mg/L

86%

Site	Date	Top	Bottom
NC1	05/10/2016	3.91	4.29
NC1	05/17/2016	7.76	8.71
NC1	05/24/2016	5.34	NS
NC1	06/01/2016	6.82	NS
NC1	06/07/2016	10.98	NS
NC1	06/14/2016	6.89	NS
NC1	06/21/2016	4.76	4.49
NC1	06/28/2016	5.98	6.3
NC1	07/05/2016	3.31	3.31
NC1	07/12/2016	7.58	5.14
NC1	07/19/2016	5.02	2.96
NC1	08/02/2016	3.96	1.96
NC1	08/10/2016	4.99	4.83
NC1	08/17/2016	5.24	4.32
NC1	08/24/2016	7.08	6.79
NC1	08/31/2016	4.8	4.36
NC1	09/07/2016	4.12	3.38
NC1	09/13/2016	3.69	3.18
NC1	09/20/2016	6.83	3.91
NC1	09/27/2016	4.56	3.6

3. Meeker Avenue
(site NC2)
32/36 tests >3 mg/L

89%

Site	Date	Top	Bottom
NC2	05/10/2016	5.01	4.83
NC2	05/17/2016	6.7	6.33
NC2	05/24/2016	6.11	NS
NC2	06/01/2016	7.65	NS
NC2	06/07/2016	9.62	NS
NC2	06/14/2016	5.93	NS
NC2	06/21/2016	5.27	4.83
NC2	06/28/2016	6.97	6.83
NC2	07/05/2016	4.57	4.72
NC2	07/12/2016	4.27	4.32
NC2	07/19/2016	3.33	3.11
NC2	08/02/2016	2.24	2.52
NC2	08/10/2016	5.2	5.4
NC2	08/17/2016	4.49	4.69
NC2	08/24/2016	5.96	5.81
NC2	08/31/2016	5.05	4.83
NC2	09/07/2016	4.09	3.28
NC2	09/13/2016	3.92	3.72
NC2	09/20/2016	2.99	2.96
NC2	09/27/2016	4.95	4.68

4. Whale Creek
(site NC3)
36/36 tests >3 mg/L

100%

Site	Date	Top	Bottom
NC3	05/10/2016	6.08	6.15
NC3	05/17/2016	7.02	6.59
NC3	05/24/2016	6.1	NS
NC3	06/01/2016	6.67	NS
NC3	06/07/2016	11.24	NS
NC3	06/14/2016	5.41	NS
NC3	06/21/2016	5.8	5.79
NC3	06/28/2016	7.94	7.86
NC3	07/05/2016	5.35	5.77
NC3	07/12/2016	6.73	5.82
NC3	07/19/2016	5.98	5.29
NC3	08/02/2016	3.11	3.2
NC3	08/10/2016	5.49	5.49
NC3	08/17/2016	4.34	4.43
NC3	08/24/2016	6.05	6.26
NC3	08/31/2016	5.16	4.86
NC3	09/07/2016	5.94	3.89
NC3	09/13/2016	4.03	3.56
NC3	09/20/2016	3.74	3.92
NC3	09/27/2016	4.98	5.01



5. Bronx River
(site BR3)
11/21 tests >3 mg/L

52%

Site	Date	Top	Bottom
BR3	05/10/2016	5.21	NS
BR3	05/18/2016	7.11	NS
BR3	05/26/2016	3.89	NS
BR3	06/03/2016	4.91	NS
BR3	06/09/2016	5.29	NS
BR3	06/16/2016	4.62	NS
BR3	06/22/2016	6.33	NS
BR3	06/30/2016	4.04	NS
BR3	07/06/2016	3.86	NS
BR3	07/14/2016	0.96	NS
BR3	07/21/2016	1.29	NS
BR3	07/28/2016	2.51	NS
BR3	08/04/2016	2.21	NS
BR3	08/11/2016	2.3	NS
BR3	08/18/2016	1.69	NS
BR3	08/25/2016	0.24	NS
BR3	09/01/2016	3.32	NS
BR3	09/08/2016	1.42	NS
BR3	09/15/2016	3.85	NS
BR3	09/22/2016	5.86	NS
BR3	09/29/2016	3.59	NS

6. Westchester Creek
(site WC2)
6/19 tests >3 mg/L

32%

Site	Date	Top	Bottom
WC2	05/10/2016	4.56	NS
WC2	05/17/2016	5.12	NS
WC2	05/24/2016	3.14	NS
WC2	06/02/2016	3.76	NS
WC2	06/16/2016	1.96	NS
WC2	06/23/2016	4.87	NS
WC2	06/30/2016	1.77	NS
WC2	07/05/2016	1.16	NS
WC2	07/14/2016	0.25	NS
WC2	07/19/2016	0.45	NS
WC2	07/26/2016	0.68	NS
WC2	08/02/2016	0.26	NS
WC2	08/11/2016	NS	NS
WC2	08/16/2016	0.31	NS
WC2	08/23/2016	1.1	NS
WC2	08/30/2016	1.42	NS
WC2	09/06/2016	3.15	NS
WC2	09/13/2016	1.67	NS
WC2	09/20/2016	0.15	NS
WC2	09/27/2016	2.74	NS

7. Hutchinson River
(site HR2)
8/19 tests >3 mg/L

42%

Site	Date	Top	Bottom
HR2	05/10/2016	5.21	NS
HR2	06/17/2016	6.48	NS
HR2	06/26/2016	3.77	NS
HR2	06/30/2016	4.18	NS
HR2	06/16/2016	3.95	NS
HR2	06/23/2016	3.81	NS
HR2	06/30/2016	3.17	NS
HR2	07/05/2016	3.03	NS
HR2	07/14/2016	3.3	NS
HR2	07/19/2016	2.52	NS
HR2	07/26/2016	1.21	NS
HR2	08/02/2016	5.5	NS
HR2	08/11/2016	NS	NS
HR2	08/16/2016	0.75	NS
HR2	08/23/2016	1.26	NS
HR2	08/30/2016	1.64	NS
HR2	09/06/2016	1.1	NS
HR2	09/13/2016	6.49	NS
HR2	09/20/2016	0.41	NS
HR2	09/27/2016	0.42	NS

8. Hendrix Creek
(site HC1)
11/25 tests >3 mg/L

44%

Site	Date	Top	Bottom
HC1	05/10/2016	1.5	NS
HC1	05/18/2016	1.91	NS
HC1	05/24/2016	4.9	NS
HC1	05/31/2016	5.58	NS
HC1	06/14/2016	2.87	NS
HC1	06/21/2016	4.08	NS
HC1	06/28/2016	4.31	NS
HC1	07/07/2016	3.36	NS
HC1	07/12/2016	2.71	NS
HC1	07/21/2016	1.95	NS
HC1	07/29/2016	1.92	NS
HC1	08/04/2016	5.36	NS
HC1	08/09/2016	3.45	NS
HC1	08/16/2016	2.54	NS
HC1	08/23/2016	4.07	NS
HC1	09/01/2016	2.66	NS
HC1	09/08/2016	7	NS
HC1	09/15/2016	2.3	NS
HC1	09/22/2016	1.64	NS
HC1	09/29/2016	3.9	NS

Shown are dissolved oxygen measurements during warm months (May through September). The bold numbers indicate the percentage of tests that yielded a reading greater than 3 mg/L.

Source: Department of Environmental Protection 2016 Harbor Sampling Data. http://www.nyc.gov/html/dep/html/harborwater/harbor_water_sampling_results.shtml

East Branch Section

Scheduled to go online
2018

Do current conditions
require aeration?



Base Map Copyrighted by Google, 2012
— Approximate outline of proposed land based action site

— Approximate outline of proposed water based action site



Newtown Creek Water Quality Facility Plan
Contract CSO-NC-3
New York City
Department of Environmental Protection

Figure 2
Project Overview



NCA Surface Sampling Dissolved Oxygen Levels (mg/L)

Date	03A Plank Road	04 East Branch
6.1.17	5.26	4.75
6.8.17	16.84	12.03
6.15.17	9.57	6.88
6.22.17	7.04	3.25
6.29.17	0.75	1.05
7.6.17	6.9	3.35
7.13.17	8.73	8.44
7.18.17	6.03	5.28
7.24.17	5.68	5.17
7.27.17	3.05	0.54
8.3.17	10.49	7.27
8.10.17	4.82	0.58
8.17.17	6.19	5.04
8.24.17	11.87	13.41
8.31.17	4.66	2.56
9.7.17	2.82	1.82
9.14.17	6.97	2.63
9.21.17	4.26	4.13
9.28.17	9.24	11.11
Compliance	89%	68%



Reasons for not operating Northern portion of East Branch Aeration

- 89% compliance with 3 mg/L levels during summer months (better than many other NYC waterways)
- Provides opportunity to study impacts of only running southern section, which is closer to NCB-083 outfall and has lower DO levels
- Less prone to failure (current barge traffic only passes over Northern section)
- Less risk of migration of coal tar contamination from areas near National Grid
- Less energy used; lower carbon footprint



English Kills

DEP stated full repair to be complete before the 2017 season. Despite multiple workdays over the summer the system failed to properly function in its entirety throughout the season, as documented on 19/19 patrols by NCA (June through September). Reevaluating the design and/or materials is the only reasonable solution to these ongoing issues.



We support the decision to avoid aeration within the Turning Basin due to high levels of sediment contamination. We believe a similar approach should apply to other reaches of Newtown Creek, namely English Kills where similar levels of surface sediment contaminants and ebullition exist.

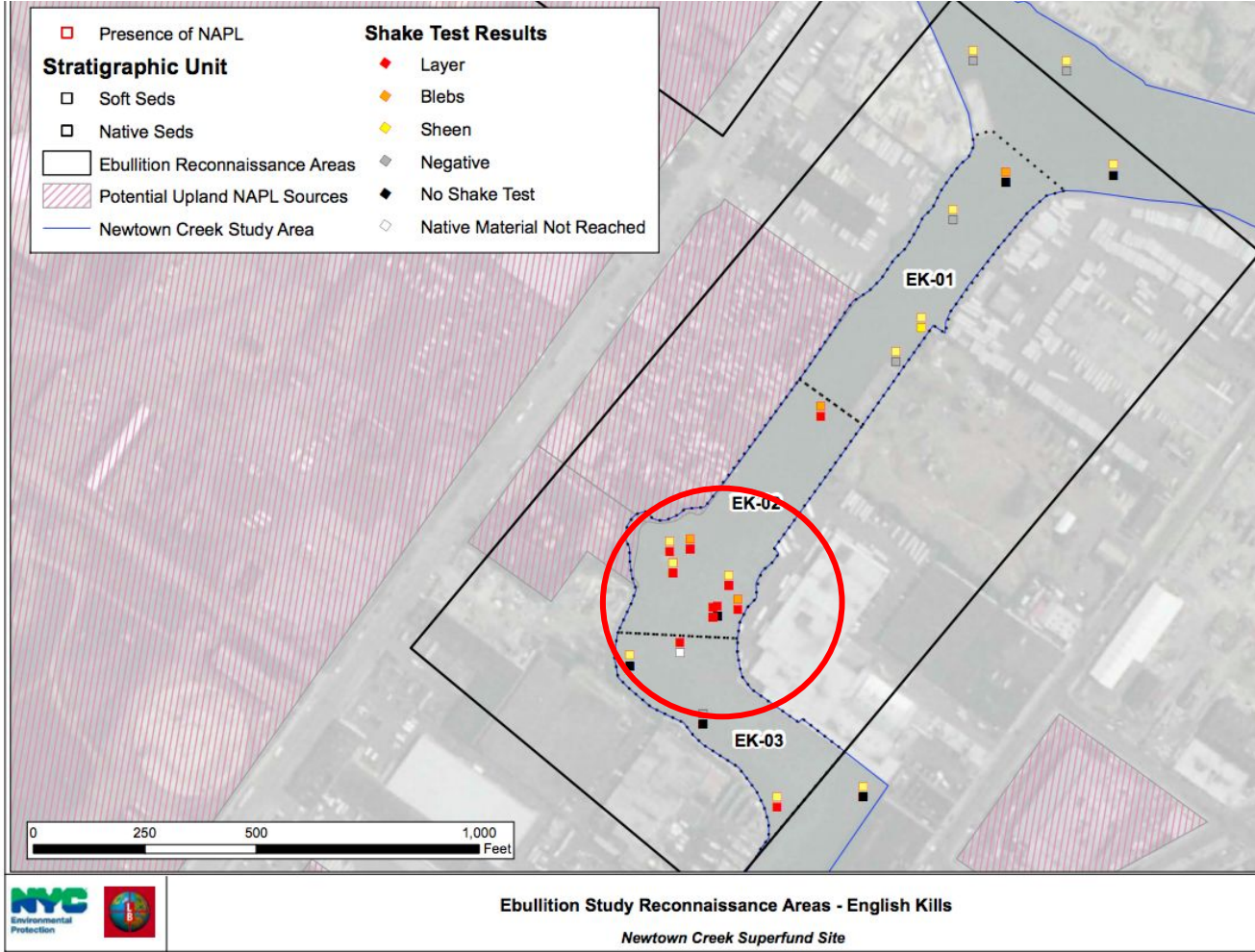


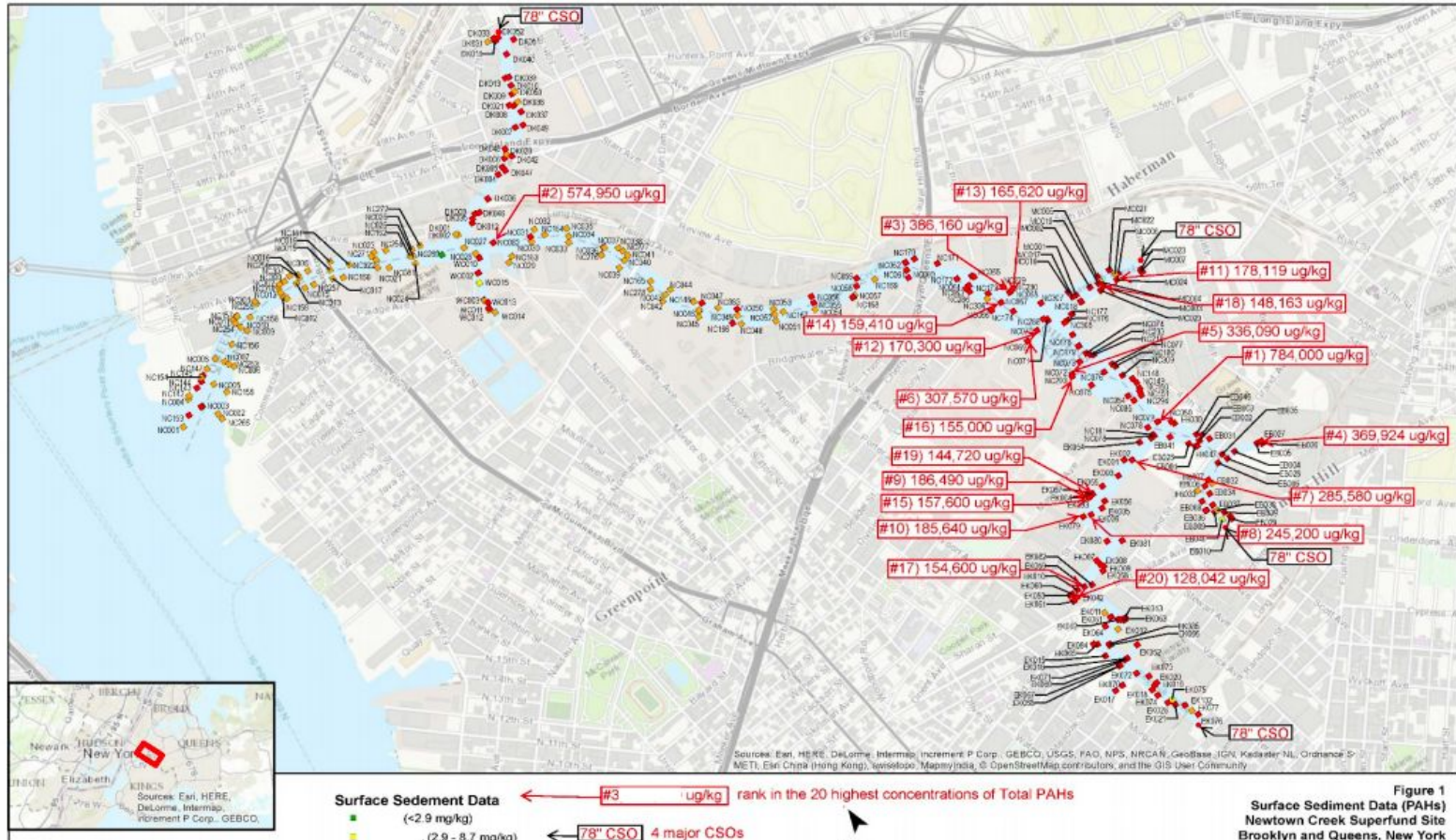
Figure 3
Surface Sediment Data (PCBs)
Newtown Creek Superfund Site
Brooklyn and Queens, New York

Legend:
• CSO
★ 78° CSO
■ #1) ug/kg rank in the 20 highest concentrations of Total PCBs (<0.04 mg/kg)

Source: Env. H&E; DeLorme, Intermap, increment P Corp., GEBCO, USGS, FAO, NPS, NRCAN, GeoBase, IGN, Kadaster NL - Ordnance Survey, Esri (Hong Kong), Swisstopo, MapboxIndia, © OpenStreetMap contributors, and the GIS User Community.

Figure 3
Surface Sediment Data (PCBs)
Newtown Creek Superfund Site
Brooklyn and Queens, New York

Total PAHs – Surface Sediment



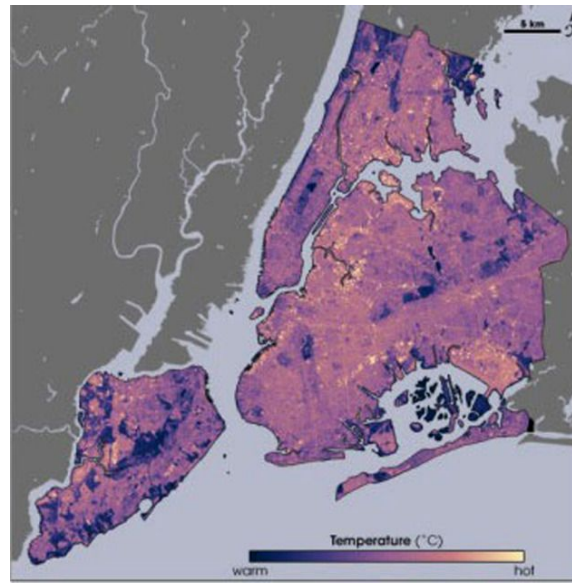


The aeration facility on 47th street in Maspeth was originally designed with public waterfront access, before DEP pushed for a mayoral override in 2015, resulting in [severe community opposition](#). DEP personnel has indicated that public access would be pursued when “adjacent” access existed, namely the completion of the Kosciuszko Bridge and accompanying park space. The bridge will be finished in 2020, but no commitments or plans have been revealed by DEP. Community interest in creating a soccer field have also not advanced.

What are the plans for re-engaging the community in creating beneficial use of this site?

The elevated temperatures associated to Urban Heat Island Effect and lack of vegetation are significant in this area of NYC.

Shoreline vegetation at the property was removed in 2016 during construction of the adjacent blower building. DEP personal indicated that a landscaping plan, in coordination with DEC, was in the works. How have these plans progressed?



August 2014:
Heavy Vegetation / Multiple Trees



August 2016:
No Vegetation / One Adult Tree



September 2016:
No Vegetation / No Trees

Summary:

1. The proposed non-aeration of Dutch Kills and Main Channel (section NC-4) as outlined in the 2017 LTCP is a clear sign of the agencies ability to evaluate issues as they evolve and consider community concerns.
2. The current system in English Kills is prone to severe failure and needs to be re-evaluated.
3. There is a great opportunity to only run the southern portion of NC-3 (East Branch) during 2018 and study the necessity of the northern portion.

Outstanding Questions:

1. What is the long-term plan for using aeration? How can improvements in water quality, as we have seen since 2004, be better monitored and accounted for?
2. Can we consider alternative systems or operation procedures; such as responding to real time conditions or CSO events?

