Newtown Creek Community Advisory Group (CAG)
May 15, 2019
Brooklyn, NY
Meeting Summary

Upcoming Meetings and Events

Event	Date	Venue
Newtown Creek TCAG (Technical CAG) meeting	June, 19 6:30-8:30 PM	TBD
Newtown Creek CAG meeting	September 18, 2019, 6:30-8:30 PM	TBD
Newtown Creek TCAG meeting	October 16, 2019, 6:30-8:30 PM	TBD

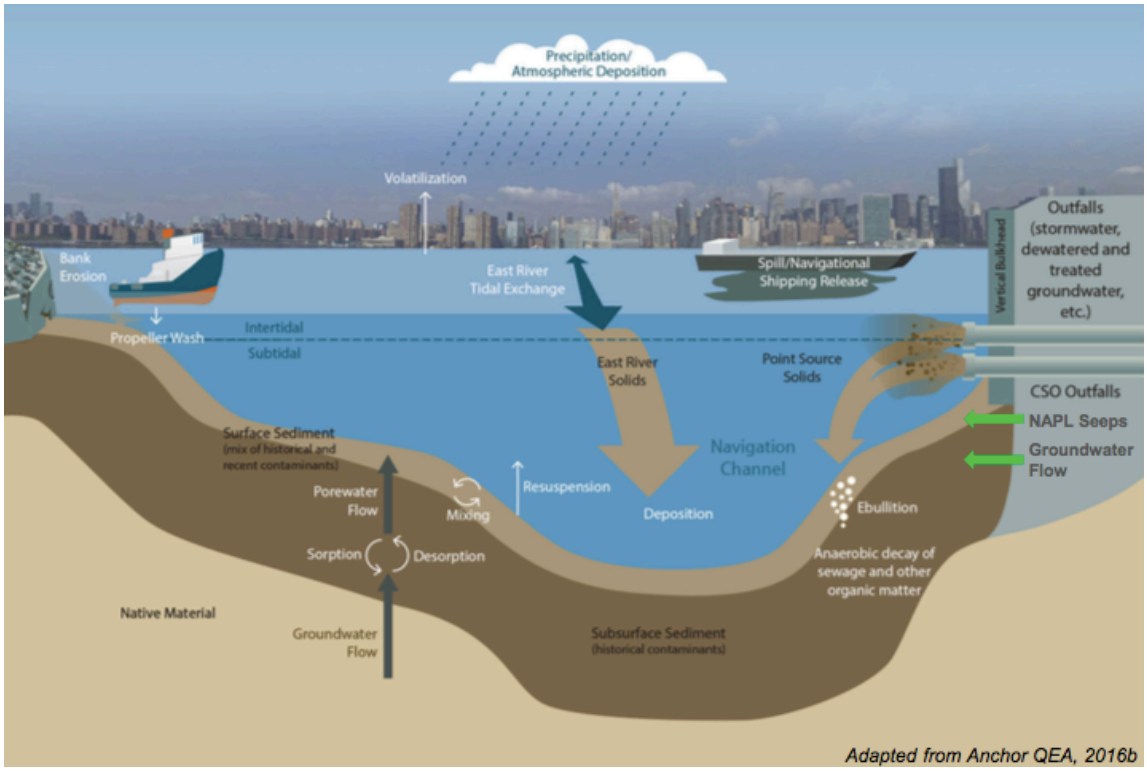
The CAG will not meet in July or August.

Presentation and Discussion: Multiple Lines of Evidence and Modeling – what do these terms mean and how are they used?[1]

Stephanie Vaughn, EPA, presented an overview of model purposes and limitations, the scope of their use in site analysis, and a summary of the modeling framework for the site.

A model uses multiple data points to help draw a conclusion. Newtown Creek is a highly complex, non-static environment. Data is needed to understand what is occurring in the site. Because data changes over time, even as data collection and analysis are being done, the model can be used to help predict what happens over time and predict the movement of contaminants. Modeling of natural systems is imperfect, so the model outputs are looked at in combination with data to draw conclusions.

[1] The following is a summary of the presentations. Refer to the presentation slides found at https://newtowncreekcag.wordpress.com/presentation-slides/ for additional detail.



The diagram above represents the physical processes present in the model. The model shows contamination entering the system from point and non-point sources.

Multiple lines of evidence are used to determine how to address contamination of the site. Data considered include sediment, groundwater, surface water, seeps, shoreline erosion, point and non-point sources, bathymetry, community surveys, ebullition, non-aqueous phase liquid (NAPL), and locations of inputs, others. This information is considered alongside a model of the site to determine the nature and extent of contamination and how to remedy it.

A model is a schematic that gives a representation of space on a defined scale. With a model, it is possible to predict future conditions and the impacts of storms and extreme events; and evaluate and assess the effectiveness of various alternatives, impacts over time and with different remedy designs, and potential impacts and unintended consequences of a remedy.

The Newtown Creek modeling framework includes four major parts:

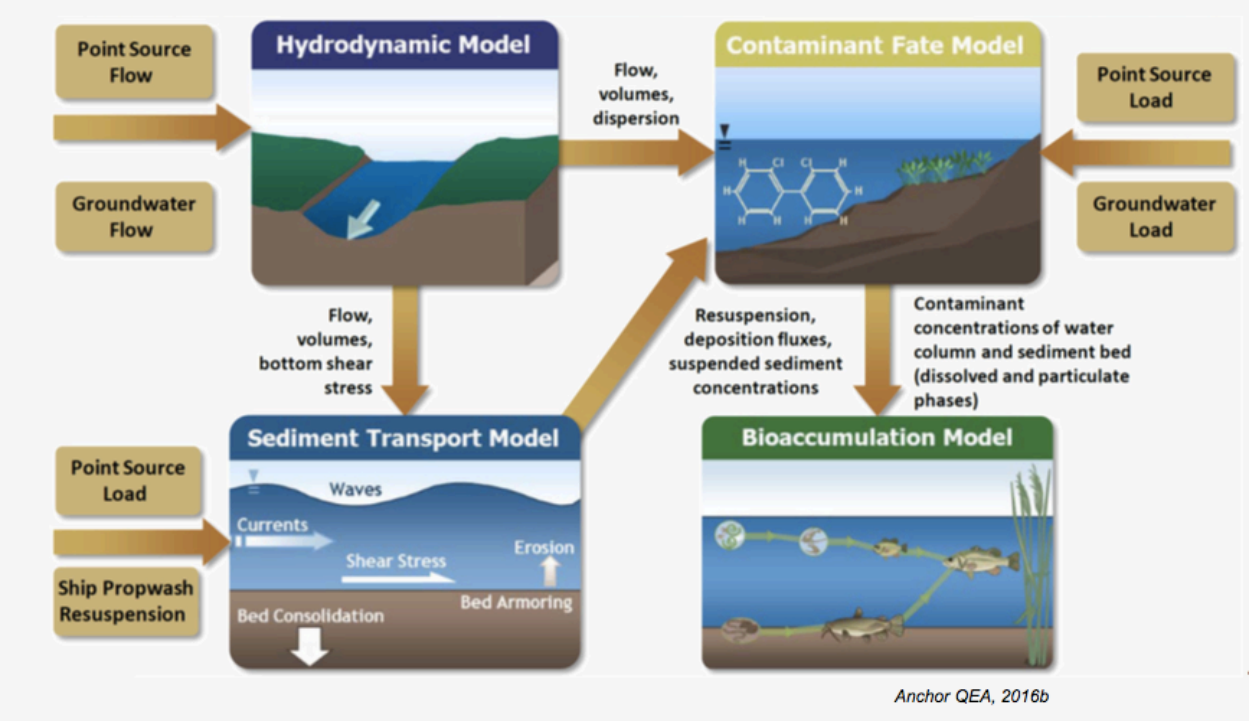
- The **hydrodynamic model** uses model information on currents, dispersion, water depths, salinity and temperature to simulate
    - freshwater inflows from CSOs, stormwater outfalls, and direct runoff
    - tide and other water level fluctuations
    - estuarine circulation resulting from density differences between seawater and freshwater as well as temperature differences.

  It then feeds information to the sediment transport and contaminant fate and transport models.

- The **sediment transport model** uses model information on sediment in the water column and bed, including sediment classes, erosion properties, settling, and navigation traffic to simulate the fate and transport of sediments from various sources, including the East River and point source loadings. It then feeds information to the contaminant fate and transport model.
- The **contaminant fate and transport model** uses model information on water column and bed contaminants to simulate and make a quantitative evaluation of the fate and transport of contaminants from various sources. It then feeds information to the bioaccumulation model.
- The **bioaccumulation model** aims to calculate contaminant uptake and accumulation in biota through projecting tissue concentrations. The exact details of the model are under development.

The hydrodynamic and sediment transport models have been developed through initial drafts, revised, and submitted. EPA is now reviewing them. The contaminant fate and transport and bioaccumulation models are currently being developed.

This diagram represents the interaction and flow of information among the framework components.



A model of a complex system such as this one is not used to arrive at exact numbers, but it can help evaluate various alternatives in comparison with each other to determine which would be best for the site.

Questions and comments *(direct responses from EPA are in italics.)*

- The CAG and NYC Department of Environmental Protection (DEP) shared concerns about insufficient data collection and how that data was analyzed for the remedial investigation (RI). How were those concerns, which were shared two years ago, integrated?
    - *Data was collected on coal tar migration, and some on NAPL ebullition, as part of the feasibility study (FS), which EPA is still evaluating.*
- How are CERCLA contaminants being included in the model? I am concerned that the model is built on insufficient data, which benefits the PRPs.
- Does the modeling include CSO technology remaining the same, or does it account for changes with CSOs?
    - *The model can incorporate improvement or worsening in factors such as this. It is likely incorporated into the model.*
- Are sampling data sets publicly available?
    - *Anything in a presentation is publicly available. Other data will become available in a final report.*
- Does EPA have data that has not been shared on ongoing contamination seep from oil and coal tar?
    - *That data was collected last year, but the quality review process is not yet complete, so the data has not been shared.*
- Will data be seen before the FS is expected in 2021?
    - *More data will be shared leading up to the FS release. The revised draft RI was received in April.*
- How can we be assured that data given to EPA are coherent, relevant, and deeply sourced? What about potential contractor bias if a contractor does not want to investigate a line of evidence?
    - *The PRPs are conducting sampling on the river and EPA provides full oversight of all of that work. This includes direct supervision, as well as our own data collection at the same time they collect, which we also analyze. There is also a very thorough data validation process, in which every point is reviewed. The state and the city review as well.*
- If data sets were divergent, would you alert us or let us see both data sets?
    - *Yes, if they were truly divergent, we would discuss that.*

Presentation and discussion: NYSDEC uplands update

Ian Beilby, New York State Department of Environmental Conservation (NYSDEC), explained that NYSDEC advocates for the state's interest in federal projects, as well as takes the lead on running some National Priorities List (NPL) (Superfund) projects. NYSDEC has been actively involved in the Newtown Creek Superfund process, e.g. by providing extensive comments on the first draft of the remedial investigation (RI). NYSDEC and EPA have been working together on information NYSDEC has on projects that could include an upland area or source of

contamination to the Creek. He shared an update on 10 upland sites under NYSDEC management adjacent to the Creek.[2]:

1. Arch St (LIRR) (241222)
2. 27-10 49th St (C241219)
3. Buckeye Pipeline (9813881)
4. Pratt Oil Works (S141115)
5. Quanta Resources (C241005)
6. Phelps Dodge (241002)
7. National Grid (GPEC, 224052 & Equity Works, 224050)
8. 364 Maspeth Ave-Former Ditmas Oil/BCF Oil, Proposed Redevelopment
9. Manhattan Polybag (1609627)
10. 200 Morgan Ave (9209135)

Ian Beilby explained some context of the NYSDEC program: The NYSDEC process for clean-up of sites is similar to the EPA Superfund process, including a remedial investigation (RI), a feasibility study (FS), determination and design of the remedy, then remedial action (RA).

NYSDEC uses two laws to respond to oil spills on surface water bodies: one navigation law pertaining to boat traffic which requires no petrol, no sheens, and no NAPL disposed to water. The second is an environmental conservation law that requires that DEC promulgate regulations to safeguard waters of the state. Those regulations don't rely on observations of sheen or observations of waste being disposed, rather than numbers. These laws will be taken into account for the final remedy for the Creek.

He also shared that DEC is developing a web-based map application to make accessible the layers of data that DEC is responsible for obtaining and making. This data includes all DER sites, SPEDES, stream monitoring, recreational information, and other data. It will include clickable layers that connect to a database with descriptions of activity and information at various sites. This is anticipated to be published in July and will be shared with the CAG.

Questions and comments (direct responses from DEC are in italics).

- Are questions of offsite impacts being investigated or are they volunteer?
    - *I believe they are volunteer. If contamination appeared to be going offsite, DEC would pick that up and investigate. Sensitive areas (e.g. inhabited areas) and groundwater infiltration to sensitive areas would be prioritized to investigate.*
- Since groundwater borders the Creek for several of these sites, are groundwater impacts being considered as related to contamination of the Creek?
    - *If it is determined that groundwater is impacted, then yes.*
- For the new bulkheads proposed for the Pratt Oil site, will there be new measures once the bulkhead is in place? If the bulkhead prevents leaking into the Creek, could NAPL build up there? How large of a plume is there? What is holding up the bulkhead permit.

[2] For details on each of these sites, see the NYSDEC slides from May 15, 2019 found at https://newtowncreekcag.wordpress.com/presentation-slides/

    - *If there is recoverable NAPL, we will ask them to get it. We will assess the feasibility of removing it. It appears there may be a preferential pathway to the Creek and not a significant size plume expanding, but we can confirm. Nothing is delaying the permit that I am aware of.*
- How do you know that the oil contamination on both sides of the Creek are distinct events and not related events with some connection beneath the bed of the Creek in the area? Also, it looks like the whole coast on the Queens side has NAPL or petroleum in the water body. Is there some way to take a holistic look at the entire Queens coastline, rather than following a hodge podge of oil spills? Should the entire coast on the Queens side be a source of NAPL transport in porewater?
    - *The product at GP is light non-aqueous phase liquid (LNAPL), which floats on water. It enters the ground and migrates vertically to the groundwater table and then stops before starting to spread out and enter the Creek. It does not go through the groundwater table. Therefore, the oil would not have migrated under the Creek bed. Regarding the issue of evaluating the contamination site-by-site: we encounter these individual sites because of a report of a spill, because someone wants to redevelop a site, or because of a significant release of hazardous waste, which them prompts us to look at a site to determine if it is a source. If contamination is entering the Creek, it becomes part of the clean-up of the Creek.*
    - *EPA: We are working with DEC to gather information on groundwater issues so that it can all be in one place. There is a lot of data and we want to take a holistic view.*
- For certain sites, groundwater is treated and sent to the same overburdened sewer system that contributes to contamination in rain events – the agencies should be working to fix that.
    - *The amount being treated is only 20-30 gallons per minute, but I don't know if that issue was looked at.*
- Regarding the MGP site in Greenpoint, will there be public comment on the RI? Can you explain more about the migration of the NAPL on that site? Could heavier oil be be migrating below the Creek bed? Could a chemical fingerprint be odone with the seepage and ebullition of stuff on site?
    - *We assume we will receive a draft and make comments ourselves. The NAPL appears to be coming from behind the faschia attached to the dock at that site. We have not identified the source, but have not found onsite NAPL that we can confirm is seeping into the Creek. Chemical fingerprinting has been done in the past. I do not know if the project manager has done that in this case.*

Newtown Creek site updates

- EPA is conducting a focused feasibility study (FFS) and expects to issue a record of decision (ROD) determining what if any additional action needs to be done in relation to Superfund needs for the City's long-term control plan (LTCP) for combined sewer

overflows (CSOs) into the Creek. The draft FFS is expected by June. EPA expects to issue the ROD by the end of the year. The ROD process formalizes community input.

- EPA received a revised RI in April. There were many comments on the first draft. EPA is currently doing a high-level review of the revised version, and will share the executive summary shortly.

Questions and comments (direct responses from EPA are in italics)

- EPA mentioned exploration of a potential interim remedial measure being considered ahead of the ROD being established. Can you share more information?
    - *This is still under consideration and EPA is in discussion with the Newtown Creek Group. EPA may be able to share an update at the June meeting. If it proceeds, it could take a similar form of an administrative order on consent.*

The meeting was adjourned at 8:30 PM.