

**CITYWIDE/ OPEN WATERS LTCP  
PUBLIC COMMENT RESPONSE SUMMARY  
FINAL: OCTOBER 10, 2019**

**Public Comments Received:**

1. Stormwater Infrastructure Matters (SWIM) Coalition, April 15, 2019. Questions for Citywide/Open Waters LTCP Stakeholder Meeting.
2. NYC Water Trail Association, April 17, 2019. Citywide/Open Waters LTCP Stakeholder Meeting.
3. Bronx Council for Environmental Quality, May 15, 2019. Re: 2019 Stakeholder Meeting CSO LTCP Citywide/Open Waters

**1. Comments from SWIM dated April 15, 2019**

- a. **Why is DEP still using 2008 rainfall data to model water quality conditions? 2018 was one of the wettest years on record, resulting in terrible water quality results throughout the harbor. Yet as far as we know from DEP’s website, the water quality samples for the Citywide LTCP were only collected through 2017. Shouldn’t 2018 water quality data and rainfall patterns be used in the model to reflect the changes we’re experiencing from climate change? According to the NYC Panel on Climate Change, our region can expect to see a 1–8% increase in precipitation by the 2020s, and 4–11% increase by the 2050s. We’re already seeing rainfall patterns exceeding that rate; the 2018 sampling season was 14% rainier than 2008, the year DEP has selected to model water quality conditions in anticipation of climate change.**

Response:

- *The Citywide/Open Waters sampling program was conducted in 2016 and 2017, and 2018 HSM data is considered in the model calibration. The typical rainfall year used for modeling is the 2008 JFK rainfall, which remains a good representation of current average rainfall conditions. DEP selected the 2008 JFK rainfall as the typical year based on a statistical review of 30 years of rainfall records from four different gages around the city. The average annual rainfall depth from 2010 to 2018 was less than the total annual rainfall from the 2008 JFK typical year rainfall. The LTCPs also evaluate performance over a 10-year rainfall period of 2002 to 2011, allowing for assessment over a range of rainfall conditions. Table 1 summarizes representative rainfall statistics for the periods 1969 to 2010, 2008 to 2018, and 2008 JFK. Figure 1 presents a graphical representation of historical JFK rainfall data and the 2008 JFK data.*

**Table 1. Summary of Rainfall Statistics**

<b>Statistic</b>	<b>Mean (1969-2010)</b>	<b>JFK 2008</b>	<b>Mean (2008-2018)</b>
<i>Annual Rainfall Depth (inches)</i>	45.5	46.3	43.8
<i>July Rainfall Depth (inches)</i>	4.3	3.3	3.5
<i>November Rainfall Depth (inches)</i>	3.7	3.3	2.9
<i>Number of Very Wet Days &gt; 2"</i>	2.4	3	2.1
<i>Average Peak Storm Intensity (inches/hour)</i>	0.15	0.15	0.06

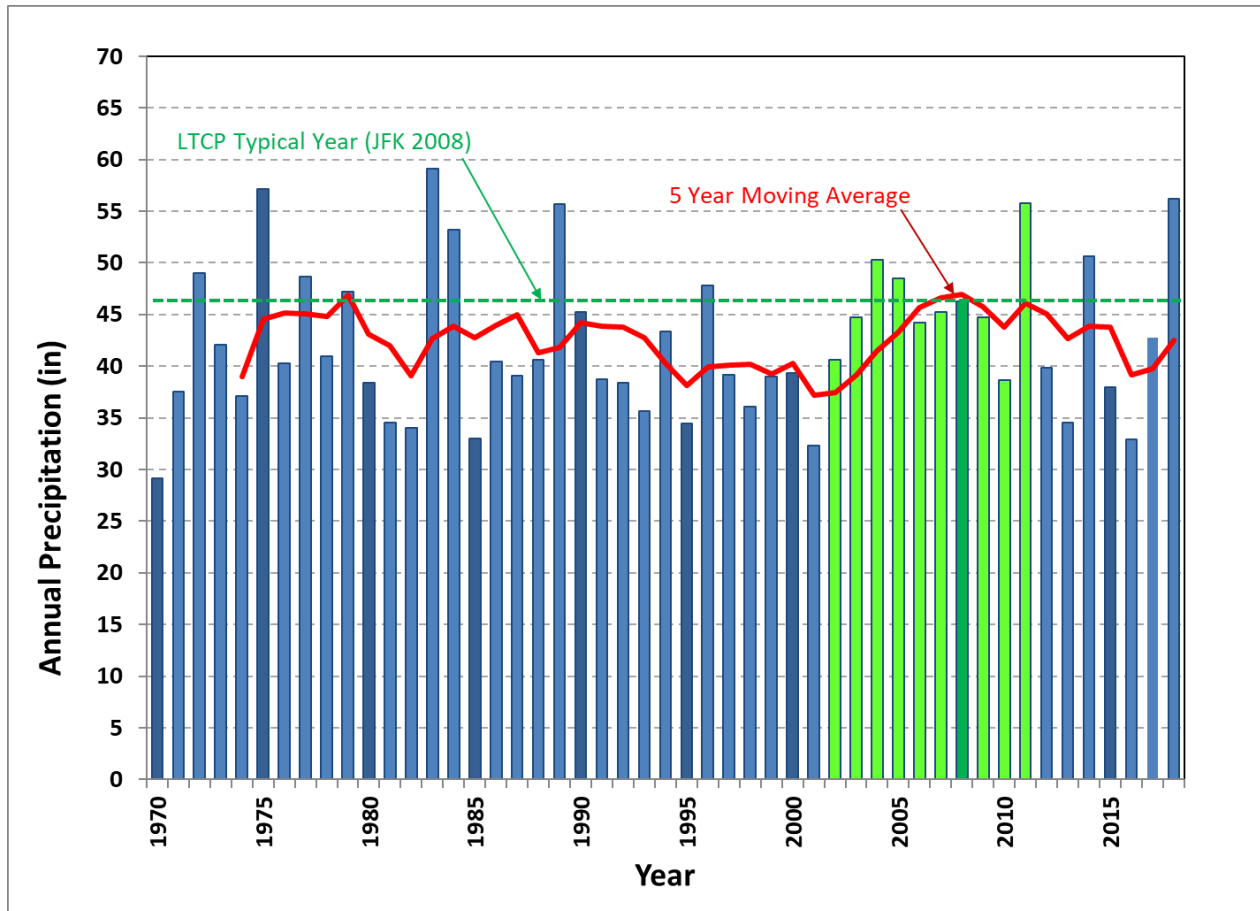


Figure 1. Annual JFK Rainfall Data

- b. DEP continues to sample mid-channel instead of near shore where people are getting into kayaks and getting in the water. Time and again, the mid-channel results show dramatically different results than the citizen science water quality results on shore. Shouldn't DEP consider attainment to be achieving swimmable water quality where people actually swim and recreate? How can we support citizen science (such as assistance with quality assurance protocols) and use citizen science data for compliance?

Response:

- DEP did include some shore sampling sites in their Citywide/Open Waters LTCP Sampling Program. Sampling results and other details of the Sampling Program conducted under the Citywide/Open Waters LTCP can be found on the DEP's website. Sampling data is used to calibrate and validate the water quality models. The water quality model uses vertical layers and grid cells to represent water quality conditions. The density of the grid cells has been increased to improve resolution near CSO outfalls and public access locations. Once the model is calibrated to the sampling data, a gap analysis is performed to determine the attainment gap between baseline conditions and 100% CSO control. Numerous WQ model simulations will be performed to determine whether water quality standards (WQS) can be attained through CSO control alternatives.

*Citizen data were used to compare predicted Enterococcus concentrations versus measured Enterococcus concentrations at locations in the model corresponding to the Citizen sampling locations, as part of the water quality modeling calibration process.*

*A description of DEP's various sampling programs is included in the monitoring chapter of the [NYC Stormwater Management Plan](#).*

- c. What is DEP going to do about the two biggest CSO outfalls (WI-056 and NCB-014) in Citywide LTCP scope, which are also near water access points? Furthermore, why are there no Harbor Survey water sampling sites near either of those CSOs?**

Response:

- *DEP is currently evaluating CSO control alternatives for the Citywide/Open Waters LTCP, which includes analysis of outfalls that discharge combined storm and sanitary flow during certain wet weather events to the Harlem River, Hudson River, East River, New York Bay and Arthur Kill/Kill van Kull waterbodies. Outfalls WI-056 and NCB-014 are included in this alternative analysis. DEP will present the retained alternatives during the next LTCP public outreach meeting to be held in the Fall of 2019. Prior to the public meeting, DEP will release a Citywide/Open Waters LTCP Summary that will include a description of the LTCP retained alternatives.*

*DEP's Harbor Survey Monitoring program currently includes a total of 89 sampling stations distributed among the open waters and tributaries around New York City. Conducting regular sampling at all of these locations requires significant staff effort and cost. However, the sampling locations are periodically re-assessed, and new locations could potentially be considered.*

- d. Water quality is consistently poor in Hallet's Cove and Bronx Kill, both kayak launch sites where people are actively recreating in the water. What are DEP's plans to improve water quality here?**

Response:

- *As described above, DEP is currently in the alternatives analysis phase of the Citywide/Open Waters LTCP development process. Retained alternatives will be presented during the upcoming public meeting and in the draft Citywide/Open Waters LTCP Summary to be released this Fall (2019).*

- e. Why doesn't DEP take water quality samples near Bushwick Inlet, the site of a future park and potential kayak launch?**

Response:

- *As noted above, DEP did include near shore sampling sites in their Citywide LTCP Sampling Program, which were used to calibrate and validate the Water Quality Models. Sampling results and other details of the Sampling Program conducted under the Citywide/Open Waters LTCP can be found on the DEP's website. The LTCP is assessing water access points as part of the LTCP process and has included additional public access points based on feedback received at the public meetings and in subsequent comments. The Water Quality Modeling Grids include cells in most of the near shore areas and these modeling outputs could be used to assess attainment for these public access points.*

**2. Comments from NYC Water Trail Association dated April 17, 2019**

- a. DEP should offer a more straightforward definition of what it means by 'attainment.'** Keith used the term a lot last night, in conjunction with maps that seemed to show the entire study area in blue. As mentioned at previous meetings, that terminology and those maps are confusing at best, and potentially misleading, since to the general

public they would seem to indicate that your plan is going to meet the goals of the Clean Water Act--namely, to make the harbor's open waters fishable and swimmable--or at least change things significantly for the better. If that isn't the case, then you should say so in a way that is clear and understandable for everyone. In other words, while your plan may technically be in compliance with regulatory goals based on waterbody 'classifications' and averaged monitoring results, you should avoid conveying the impression that the entire study area is going to meet the larger goal of swimmability--or even markedly improve. Your maps should show that too, by more clearly indicating the problem spots that better or more frequent monitoring (or the use of citizen data) would reveal.

Response:

- *As per EPA's CSO Control Policy, communities with combined sewer systems are expected to develop and implement LTCPs that provide for attainment of WQS and compliance with other Clean Water Act requirements. The goal of the Citywide/Open Waters LTCP is to identify appropriate CSO controls necessary to achieve waterbody-specific WQS, consistent with EPA's 1994 CSO Policy and subsequent guidance. New York State (NYS) has established WQS for all navigable waters within its jurisdiction. The NYS WQS classifications and best uses for the waterbodies covered under the Citywide/Open Waters LTCP including DEC's rulemaking promulgated June 4, 2019 for the New York State Saline Surface Water Quality Standards, are shown in Table 2 below.*

*DEP acknowledges that the geometric mean criteria upon which the WQS are based do not necessarily portray the short-term impacts of wet weather events. However, the previous LTCPs approved by DEC have included an analysis of time to recovery, where the magnitude and duration of wet weather impacts are assessed in more detail. The Citywide/Open Waters LTCP will include similar analyses of time to recovery at locations near recreational beaches and other public access points.*

**Table 2. NYS Classification and Best Uses of Waterbodies  
Addressed in the Citywide/Open Waters LTCP**

Waterbody	Water Quality Classification	Best Uses
Harlem River	I	Best usages are secondary contact recreation and fishing. Suitable for fish, shellfish and wildlife propagation, and survival. The water shall be suitable for primary and secondary contact recreation, although other factors may limit the use for these purposes.
Hudson River north of Harlem River	SB	Best usages are primary and secondary contact recreation and fishing. Suitable for fish, shellfish and wildlife propagation, and survival.
Hudson River south of Harlem River	I	Best usages are secondary contact recreation and fishing. Suitable for fish, shellfish and wildlife propagation, and survival. The water shall be suitable for primary and secondary contact recreation, although other factors may limit the use for these purposes.

**Table 2. NYS Classification and Best Uses of Waterbodies  
Addressed in the Citywide/Open Waters LTCP**

<b>Waterbody</b>	<b>Water Quality Classification</b>	<b>Best Uses</b>
Long Island Sound/ East River East of Whitestone Bridge	SB Coastal Recreational	Best usages are primary and secondary contact recreation and fishing. Suitable for fish, shellfish and wildlife propagation, and survival.
East River from Whitestone Bridge to Battery	I	Best usages are secondary contact recreation and fishing. Suitable for fish, shellfish and wildlife propagation, and survival. The water shall be suitable for primary and secondary contact recreation, although other factors may limit the use for these purposes.
Upper and Lower New York Bay	SB Coastal Recreational	Best usages are primary and secondary contact recreation and fishing. Suitable for fish, shellfish and wildlife propagation, and survival.
Kill van Kull	SD	Best usage is fishing. Suitable for fish, shellfish and wildlife survival. The water shall be suitable for primary and secondary contact recreation, although other factors may limit the use for these purposes. Waters with natural or man-made conditions that cannot meet the requirements for fish propagation.
Arthur Kill, from Kill van Kull to Outerbridge Crossing	SD	Best usage is fishing. Suitable for fish, shellfish and wildlife survival. The water shall be suitable for primary and secondary contact recreation, although other factors may limit the use for these purposes. Waters with natural or man-made conditions that cannot meet the requirements for fish propagation.
Arthur Kill, from Outerbridge Crossing to southern tip of Staten Island	I	Best usages are secondary contact recreation and fishing. Suitable for fish, shellfish and wildlife propagation and survival. The water shall be suitable for primary and secondary contact recreation, although other factors may limit the use for these purposes.

- b. Keith also mentioned that the plan had 'taken a look' at beaches and boat launches. Can you provide a specific list of those places and describe exactly what your plan will do to improve things at each of them? This should include not just your modeling predictions for water quality, but also the specific changes predicted in CSO discharge levels at nearby outfalls.

Here's a partial list of sites that we would like to see analyzed in detail:

Harlem River: Sherman Creek/Peter J. Sharpe Boathouse, Bronx Kill (East and West)  
Upper East River: Port Morris, Flushing Bay boat launch, Clason Point Park.  
Lower East River: E. 96th St. boat launch, Halletts Cove, Anable Basin, Hunter's Point, Transformer Park, Stuyvesant Cove, Bushwick Inlet, Wallabout Channel, Dumbo Cove, Brooklyn Bridge Beach (Manhattan), Pier 2 embayment and Pier 4 beach (Brooklyn Bridge Park)  
Upper Harbor: Valentino Pier, Bush Terminal Park, Brooklyn Army Terminal  
Staten Island: Cedar Beach, South Beach, Alice Austen House, Front Street Snug Harbor, Faber Park, Mariners Harbor  
Hudson River: Pier 26 boat launch, Pier 40 boat launch, Pier 66 boat launch, Pier 84 boat launch, Pier 99 ramp, West 72nd Street boat launch, West Harlem Piers Park, West 172nd Street beach

Response:

- *The evaluation of alternatives considers the proximity of CSO discharges to existing beaches, kayak launches and marinas. As noted above, the water quality modeling grid has been modified to provide greater resolution in a number of locations throughout the waterbodies assessed for the Citywide/Open Waters. As discussed, DEP is assessing water quality near public access points as part of the Citywide/Open Waters LTCP. In addition to presenting levels of WQS attainment in the form of color-coded, waterbody-wide mosaics, the Citywide/Open Waters LTCP will also provide WQS attainment at selected discrete grid cell locations throughout the open waters. The discrete grid cells added to the water quality model will include locations near public access points based on feedback received at the public meetings and in subsequent comments.*
- c. **Disturbingly, there are locations where CSO discharges are apparently going to \*increase\* under the proposed LTCP, including current and future recreational sites. We talked about two of them last night--Bushwick Inlet and Wallabout Channel--but there are probably others. Will the LTCP specifically identify and highlight those sites, whether or not your modeling shows an impact on water quality, and outline alternative strategies for flow reduction?**

Response:

- *Alternatives to address the CSOs at Bushwick Inlet and Wallabout Channel will be investigated as part of the alternatives analysis process. DEP has added water quality model output locations near the Bushwick Inlet and Wallabout Channel, among many other public access locations. Having these discrete locations will allow the model to assess water quality conditions. DEP is currently in the alternatives analysis phase of the Citywide/Open Waters LTCP development process. If feasible and cost-effective alternatives are identified for these locations, they will be presented during the upcoming public meeting and in the draft Citywide/Open Waters LTCP Summary to be released this Fall (2019).*
- d. In addition to flow reduction strategies, will the LTCP offer a comprehensive plan for real-time CSO flow monitoring and improved public notification at all of the aforementioned public access sites? That seems like a crucial, but so far missing, piece of this multi-billion public investment.**

Response:

- *To date, continuous real-time CSO flow monitoring has been a significant challenge for DEP for a number of reasons including the size and design of the system and tidal influence. However, DEP is moving ahead with improvements to the modelling and public notifications system and are currently running a beta version of the NYC Waterbody Advisory System at the following website: <https://www1.nyc.gov/site/dep/water/waterbody-advisories.page>. The Waterbody Advisory System can be used by the public when planning recreational activities on New York City waterways other than beaches. It is based on water quality models and real-time rainfall data. The beta version of the Waterbody Advisory System includes the following features:*
  - *Expands the number of waterbodies that could receive an advisory from 28 to 45*
  - *Utilizes and displays rainfall data from rain gauges at all 14 Wastewater Treatment Plants*
  - *Provides more detailed advisory durations based on measured rainfall*
  - *Uses NYS WQS.*

**3. Comments from Bronx Council for Environmental Quality dated May 15, 2019**

- a. Exclusive of Daylighting Tibbetts Brook, DEP still needs to demonstrate tangible projects and processes to ensure that Green Infrastructure is the “Preferred Alternative” for this LTCP. We urge that you fund maintenance as part of the GI project in the build contracts. We hold that you should adopt new design criteria based on measurable goals to encourage and provide incentives for zero discharge of runoff to the local pipe, above and beyond the requirements of the law and regulations, and add the idea of a design guideline on green infrastructure of the “storm of record,” not a “1” storm. It would also help if you had a handout that we could follow with the power point, as well as a narrative summary. We hold the position that all landside modeling used for the Open Waters City-Wide LTCP must include potential Green Infrastructure sites in the Harlem River watershed/sewershed in advance so that a scientific calculation of retention and infiltration can inform the agency’s sewer optimization and outfall capacity estimates. These calculations should include soil quality, root radius, and evapo-transpiration rates of natural features by design. As a model of research methodology, we cite the USGS research project on the impact of Green Infrastructure in Buffalo, New York. We ask that DEP itemize the goals or mandates for Green Infrastructure coverage and expenditure in the City-Wide Open Waters LTCP, if they exist; or to share with us the scientific methodology for incorporating it into the LTCP.**

Response:

- *DEP plans to achieve 1.67 BG annual CSO reduction City-wide upon full implementation of the GI Program. That target CSO reduction is included in the baseline conditions landside models for DEP's LTCP analysis and is based on a variety of practices being implemented, including right-of-way (ROW) GI, and on-site GI. Regarding the design criteria for GI, the ROW GI is typically designed for a 1-inch storm event, and the on-site GI is typically designed for events between 1-2 inches, depending on the opportunities available. The 1-inch storm is the 90<sup>th</sup> percentile storm and trying to capture a larger storm makes GI implementation much more difficult due to the presence of underground utilities and other siting conflicts. On-site GI projects have the potential to capture larger storms because more space is typically available than in the ROW. DEP has some Cloudburst projects that are able of capturing a 4-inch storm event. Where space is available, DEP assesses the feasibility of increasing the dimensions of rain gardens to capture more stormwater and have implemented non-standard raingardens on public right of way where space is available. The June 2016 Green Infrastructure Performance Metrics Report (available on the DEP website) provides additional details on the assessment of GI performance.*