

Jamaica Bay and Tributaries Long Term Control Plan Public Comment Response Summary

Public Letters Received:

1. Email from Ira Gershenhorn, April 19, 2018.
2. Email from Dr. Harold Paez, May 16, 2018.
3. Letter from SWIM Coalition Steering Committee, June 4, 2018.
4. Letter from Marcha Johnson, ASLA, PhD, Landscape Architect and Ecological Restorationist, May 17, 2018.
5. Letter from Jamaica Bay Ecowatchers, June 26, 2018.

1. Consider a plan for Bergen and Thurston Basins that will increase dissolved oxygen (DO) levels and reduce bacteria concentration.

Response:

- *The recommended plan presented in the LTCP will reduce bacterial concentrations in Bergen and Thurston Basins, resulting in improved attainment of the water quality criteria for bacteria. The increase in seasonal attainment is expected to be modest (from 70 to 77 in the upstream reach of Bergen Basin, and from 85 to 88 percent in the upstream reach of Thurston Basin), due primarily to the impacts of remaining stormwater volumes. Grey infrastructure alternatives that would reduce combined sewer overflow (CSO) volumes by 50 to 100 percent would provide a similar level of attainment as the recommended plan in Thurston Basin, but would result in lower attainment than the recommended plan in Bergen Basin. The DO levels in Bergen and Thurston Basins are not affected by additional CSO control. The gap analysis presented in the LTCP shows that even with 100% CSO control, the average DO levels in Bergen and Thurston Basins are not projected to change significantly. Overall DO levels in Jamaica Bay have generally improved over the years as a result of projects implemented by the DEP related to WWTP improvements and CSO reduction.*

2. Include a plan for obtaining ribbed mussel seed.

Response:

- *Specific project details such as where and how ribbed mussel seed will be obtained will be developed when the recommended plan project moves into the implementation stage.*

3. Targets must be set for gaging the effects of habitat restoration and ribbed mussel introduction.

Response:

- *DEP will develop a post-construction monitoring program to evaluate the performance of the recommended plan. DEP will engage stakeholders for developing the post-construction monitoring program and its elements.*

4. Costs for the integrated plan and grey infrastructure alternatives need to be compared.

Response:

- Section 8 of the LTCP presents the relative costs of the recommended plan compared to the grey infrastructure alternatives. The cost comparisons were also presented at follow-up stakeholder meetings conducted after the April 18, 2018 public meeting.

5. A plan should be developed for keeping the public from accessing the ribbed mussels, and for harvesting mature ribbed mussels to avoid toxicity of the ribbed mussel bed.

Response:

- Operations and maintenance plans will be developed for all components of the recommended plan including the ribbed mussel installations. This plan will address the concerns noted as part of the implementation phase for the recommended plan,

6. Comments specific to the Vernam Barbadoes Peninsula Preserve:

- a. Investigate extent of industrial/commercial land uses within the preserve
- b. Formulate plan of action to remedy observed encroachment on public land
- c. Improve accessibility of the Peninsula by increasing trails
- d. Clean up the Peninsula to improve habitat
- e. Improve signage to direct visitors and clarify accessibility rules

Response:

- Addressing current land use issues on the Vernam Barbadoes Peninsula Preserve is not in the scope of the Jamaica Bay and Tributaries LTCP, as the issues do not directly relate to combined sewer overflows. However, DEP acknowledges and appreciates the comments, and will pass these comments along to other appropriate City agencies.

7. SWIM is generally in favor of an integrated approach and supports the proposed expansion of green infrastructure development in the separate sewer areas, wetland restoration, environmental dredging, and restoring ribbed mussel populations in the Bay.

Response:

- Thank you, the comment is noted.

8. The public requests additional formal opportunity to review and provide comments on DEP's final submitted Jamaica Bay LTCP before DEC issues a decision to approve or reject the LTCP.

Response:

- The comment is noted and has been referred to DEC.

- 9. Given that the integrated plan seeks to address discharges from both the combined and separate sewer systems, the LTCP should include all of the plan elements from EPA's Integrated Planning for Municipal Stormwater and Wastewater framework.**

Response:

- *The recommended plan is being submitted as a LTCP in accordance with the CSO Consent Order requirements and consistent with the EPA CSO Policy. It is not being submitted to align with the EPA's Integrated Planning Framework. However, many of the technical elements included in the Integrated Planning Framework are covered in one form or another in the LTCP. See responses to comments related to specific elements of the EPA Integrated Planning Framework below.*

- 10. It is not clear whether the triple-bottom-line analyses are intended to be the metrics to satisfy EPA's integrated plan Element 1 that include "metrics for evaluating and meeting human health and water quality objectives".**

Response:

- *The human health and water quality objectives for the LTCP are established by the EPA's CSO Policy as compliance with existing water quality standards. Where water quality standards cannot be met, the LTCP must include a Use Attainability Analysis. The triple-bottom-line evaluation was included in the Jamaica Bay and Tributaries LTCP as a means for demonstrating the benefits of watershed based, non-grey infrastructure alternatives, and for comparing benefits to more traditional grey-only alternatives. The triple-bottom-line assessment introduced differentiating factors which allowed for an appropriate evaluation of the benefits of alternatives versus the costs, and supported selection of the cost-effective recommended plan.*

- 11. Under EPA's integrated plan Element 3, relevant community stakeholders would be engaged "during the identification, evaluation, and selection of alternatives and other appropriate aspects of plan development". This did not appear to be the process used to develop DEP's proposed integrated plan.**

Response:

- *The public participation process for the Jamaica Bay and Tributaries LTCP included three formal public meetings and additional meetings with stakeholders. As described in Section 7 of the LTCP, the first public meeting was kickoff meeting, providing an overview of LTCP process, public participation schedule, watershed characteristics and sampling program. The second meeting presented information regarding the one-year extension for Jamaica Bay and Tributaries LTCP. The third meeting presented a review of alternatives and the recommended plan. Subsequent to the third public meeting, DEP met with stakeholder groups to present further information on the recommended plan.*

- 12. No implementation schedule was provided to the public.**

Response:

- *The implementation schedule for the recommended plan was still under development at the time of the April 18, 2018 public meeting. The proposed implementation schedule is included in Section 9 of the LTCP.*

13. Include performance criteria and measures of success along with a monitoring program and evaluation of green infrastructure (GI) performance.

Response:

- *As described in DEP's 2016 Green Infrastructure Performance Metrics Report, DEP has initiated a Green Infrastructure Research and Development (GI-RD) project to assist the agency in closing identified gaps in GI performance data and developing additional GI designs as part of the overall toolbox for both public and private property. Future GI performance monitoring activities under the GI-RD project will provide additional information for better understanding of GI performance and further refinement of GI modeling representation for subsequent performance metrics evaluations. The post-construction monitoring program for the recommended plan will incorporate findings from the GI-RD project in terms of methods of monitoring and evaluating GI performance.*

14. The public is unclear how the Jamaica Bay LTCP Alternatives and Recommended Plan would be made enforceable and whether it would be incorporated into the existing CSO Consent Order and/or the MS4 Permit and Stormwater Management Program Plan.

Response:

- *The milestones for implementing the elements of the recommended plan will be incorporated into the CSO Order similar to the milestones for the recommended plans for previously submitted and approved LTCPs.*

15. What assumptions and modeling conclusions did DEP make about the quantity and quality of combined sewer overflows and MS4 runoff, and what are the differences in the inputs to the Bay and its tributaries in terms of loading for fecal coliform, *Enterococci*, biological oxygen demand, chemical oxygen demand and nutrients for the evaluated alternatives (e.g., the Recommended Plan and 0%, 25%, 50%, 75%, and 100% capture) and other hypothetical modeled scenarios (e.g., 100% stormwater reduction)?

Response:

- *Specific information regarding the quantity and quality of CSO and stormwater discharges is presented in Section 6 and the Appendices of the LTCP. To summarize, the volumes of CSO and stormwater used to assess water quality impacts were generated by the calibrated InfoWorks collection system model. Fecal coliform, *Enterococci*, and BOD CSO loadings were developed by employing an hourly Monte Carlo randomization based on the measured range of CSO concentrations for the four outfalls contributing CSOs to Fresh Creek (26W-003), Bergen Basin (JAM-003 and JAM-003A), and the Paerdegat CSO Retention Facility (PB-CSO). The "measured range of concentrations" was from the LTCP sampling program, where samples were taken from CSO outfalls. Other CSO outfalls were assigned loadings based on a mass balance procedure, where the model calculated the CSO concentrations based on the mix of sanitary sewage and stormwater in the discharge. Stormwater concentrations were based on local sampling data where available, and other published sources where site-specific sampling data were not available. Section 8 of the LTCP presents curves of loadings for the various alternatives that were retained for the cost/performance evaluations.*

16. What are the modeled ambient water quality results for each of the above scenarios, for each of the pollutants? While DEP's PowerPoint presented some water quality modeling results for pathogens, maps were provided to illustrate the locations of non-compliance only for certain water quality criteria.

Response:

- *The water quality modeling results presented in the LTCP focus on percent attainment of water quality criteria for bacteria and DO. Section 6 of the LTCP presents tables of results of water quality modeling of baseline conditions and 100% CSO control, and Section 8 of the LTCP presents tables of results of water quality modeling for the retained alternatives selected for the recommended plan. For the recommended plan, the bacteria attainment is based on 10-year continuous model simulations, while the DO attainment is based on the 2008 typical year. Percent attainment of bacteria criteria for other retained alternatives (i.e., 0%, 25%, 50%, 75% and 100% capture) evaluated in Section 8 of the LTCP are presented in the form of cost/performance curves based on the 2008 typical year simulation.*

17. How does DEP define the metric of “percent attainment” with water quality standards? Based on DEP's previously submitted LTCPs, we assume this refers to “percent annual attainment”. However, this term has also not been clearly defined; please explain, in mathematical terms, what this metric represents.

Response:

- *For the existing water quality criteria for bacteria, the LTCP presents model results of percent attainment on both an annual and recreational season (May 1st through October 31st) basis. The criterion is a monthly fecal coliform geometric mean of ≤ 200 cfu/100mL. As has been the convention in previously submitted and approved LTCPs, the percent attainment has been calculated at the model cells corresponding to sampling stations within the waterbodies. The model calculates the depth-averaged concentration in the model cell for each hour, then calculates the geometric mean of those values for each month. For the 10-year model runs, the annual percent attainment is calculated by dividing the number of months where the geometric mean is ≤ 200 cfu/100mL by the total number of months in 10 years (120 months). The recreational season percent attainment is calculated by dividing the number of months within the recreational season (May 1st through October 31st) where the geometric mean is ≤ 200 cfu/100mL by the total number of recreational season months in 10 years (60 months).*

For DO, attainment is calculated at each of the 10 layers in the model and then averaged. This represents a volume based attainment. In Class I waterbodies, annual attainment is based on hourly model output where the number of hours greater than or equal to 4.0 mg/L is divided by the number of hours in a year (8,760 or 8,784 for leap years). In Class SB waterbodies, the acute criterion attainment is calculated in the same manner, but with respect to the criterion of 3.0 mg/L. The chronic SB DO criterion is based on a daily average of not less than 4.8 mg/L. In this case, the daily average concentration is calculated based on hourly model output, and the number of days with an average DO concentration greater than or equal to 4.8 mg/L is divided by the number of days in a year.

18. What retrofits are guaranteed to be completed by the City to separate the storm sewers in Southeast Queens, and by when? Why aren't any such major sewer modifications written into the LTCP as enforceable milestones? What are the modeled CSO volume, CSO frequency, pollutant loading, and water quality effects of that sewer separation?

Response:

- *The current implementation schedule for the build-out of drainage facilities in Southeast Queens (SEQ), including proposed sewer separation in the Laurelton area, extends beyond the 2030 planning horizon for the LTCP. DDC, DEP, and DOT are currently coordinating a series of infrastructure projects with construction set to begin before the end of 2025 at the estimated cost of almost \$2 billion. To-date, 35 projects have been fully scoped and are being advanced toward construction, and several more projects are expected to be added to this list in the next few years. This program is the largest of its kind in the City and will bring significant improvements to local communities of Southeast Queens. While significant funding has been allocated to initial phases of the storm sewer build-out, the scope, timing and funding for implementation of future phases will not align with the needs and requirements of the LTCP Program. The SEQ build-out program was therefore not included in the LTCP Baseline Conditions.*

19. How will we know DEP is on track with the Recommended Plan?

Response:

- *The implementation schedule for the recommended plan will be incorporated as enforceable milestones in the CSO Order upon approval of the LTCP by DEC. DEP regularly tracks project implementation progress against the CSO Order milestones, and reports on that progress on a quarterly basis to DEC. The Quarterly Reports are available to the public on the DEP's website: http://www.nyc.gov/html/dep/html/cso_long_term_control_plan/quarterly_progress_reports.shtml*

20. What metrics can we use to ensure permit compliance or to assess progress?

Response:

- *As noted in the response to Comment No. 19, progress towards implementing the recommended plan will be tracked against the schedule milestones, which will be incorporated into the CSO Order upon approval of the LTCP by DEC. Progress will be reported on a quarterly basis to DEC. A post-construction monitoring plan will be developed to evaluate performance of the recommended plan following completion of construction or implementation of the recommended plan.*

21. What will the milestones be? Will there be both narrative and quantitative water quality standards by which the proposed plan will be measured over time? Which pollutants of concern will DEP's Recommended Plan seek to address?

Response:

- *Schedule milestones for CSO recommended plans that have typically been incorporated into the CSO Order include: GI facility planning, design consultant procurement, initiate final design, final design completion, notice to proceed to construction, and construction completion. The specific milestones for the Jamaica Bay and Tributaries LTCP recommended plan will be identified as part of DEC's LTCP approval process. The existing water quality*

standards define the criteria through which attainment of those standards will be determined. Pollutants of concern affecting attainment of numerical criteria have been identified as fecal coliform bacteria and substances exerting an oxygen demand on the waterbodies. In March 2018 DEC proposed Enterococci water quality standards for coastal class SB waters during the recreational season that were also evaluated in the LTCP.

22. Are any of the proposed wetland restoration efforts included in other local, state, or federal plans or proposals relating to Jamaica Bay? What is the likelihood that any portion of the proposed wetland restoration efforts would occur – using other sources of funding or lead agencies – absent inclusion in this proposed LTCP?

Response:

- *The wetlands restoration projects proposed in the LTCP recommended plan do not overlap with current wetlands restoration projects that are planned or underway. It is not clear whether the LTCP-proposed wetlands restoration projects would have been implemented by other programs at some time in the future. However, by incorporating the projects into the LTCP recommended plan, the implementation schedules for the proposed wetlands restoration projects will become enforceable under the CSO Order.*

23. SWIM is opposed to chlorination in the event the integrated plan does not move forward.

Response:

- *Thank you, the comment is noted and has been referred to DEC.*

24. The public would like the wetland restoration effort to be expanded to include an annual Wetland Maintenance program.

Response:

- *All DEP tidal wetland restoration projects have a 2-year maintenance period to help in the establishment of the wetlands. Once the wetlands are established and have increased in spatial coverage, future maintenance is not required as the wetlands become self-sustaining. In addition, our regulatory permits typically have a 5-year reporting requirement to address any other issues that may arise.”*

25. SWIM is not satisfied with how DEP and DEC have handled comments submitted on prior LTCPs. The Responsiveness Summaries were published months after DEC had approved the LTCPs and members of the public were not notified of the availability of these responses. DEP must provide responses to public comments prior to any DEC approval or disapproval of a LTCP, and DEC, in turn, must respond to public comments prior to or concurrent its approval or disapproval. The public should be given immediate notice of the availability of such responses and of DEC determination approving or disapproving a LTCP. Recommended alternatives submitted by DEP, and determinations by DEC to approve or disapprove a plan, must take into account comments received, by making changes warranted by the merits of those comments.

Response:

- *Appendix B of the LTCP includes a listing of comments received at the public meetings held on the Jamaica Bay and Tributaries LTCP, along with DEP's responses to those comments. This responsiveness summary of written public comments is also included in Appendix B. DEP solicited input on the elements of the recommended plan at the April 18, 2018, public meeting as well as subsequent follow-up meetings with stakeholders, and the final configuration of the recommended plan reflects that input.*

26. The reconstructed A Train support infrastructure that was installed on an emergency basis following Superstorm Sandy hinders water circulation. The support structures should be studied, and plans developed for a more porous system to be installed.

Response:

- *Addressing the A Train support infrastructure is not in the scope of the Jamaica Bay and Tributaries LTCP, as this issue does not directly relate to combined sewer overflows. However, DEP acknowledges and appreciates the comment, and will pass this comment along to the Metropolitan Transit Authority.*