



GOWANUS CANAL

COMMUNITY ADVISORY GROUP (CAG)

your local voice for Superfund

For more information: www.GowanusCAG.org

TO: NYS Department of Environmental Conservation Natural Resource Damages Section
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RE: CAG Comments on the Gowanus Canal Natural Resources Damage Assessment Plan, 3/1/2024

Gowanus NRDA Trustee Council,

The U.S. Environmental Protection Agency (EPA) Gowanus Canal Community Advisory Group (CAG) thanks you for the opportunity to provide this community input for the Draft Natural Resources Damage Assessment Plan (NRDA) for the Gowanus Canal Superfund Site. We have reviewed the document and would like to provide further input on the matters of “what has been lost” as a result of the actions that lead up to the Superfund Listing and the remedies applied under the EPA Record of Decision. We also feel that the list of events/actions that caused these losses needs to be more expansive than the draft Damage Assessment document gives. Here are provided additional actions and events which are believed to have been pivotal in contributing to conditions described in the EPA Gowanus Feasibility Study. In addition, there needs to be a clearer understanding of the time frame defining the ‘baseline conditions’ which the Trust will be using as this process moves forward both for damage assessment and for restoration planning due to the longstanding contamination of the canal. Your consideration of the matters laid out below and those of other community members providing additional input is appreciated.

WHAT HAS BEEN LOST

DUE TO ACTIVITIES THAT RESULTED IN SUPERFUND DESIGNATION

Human Use / Community losses:

- lack of waterfront street end access;
- loss of air quality and non-malodorous air;
- loss of boating and water recreation;
- loss of visual access to the water from the upland areas.

Ecological Losses - Other species and their habitats:

- The 2003 Army Corps of Engineers’ Gowanus Wetland Restoration Study ([described in this document](#)) that examined the existing ecological conditions at that time and provided good background on ecological conditions should be included in this NRDA for Gowanus;
- shellfish habitat lost;

- loss of eelgrass habitats;
- loss of canal bottom sediment to serve fish feeding and breeding areas;
- loss of tree canopy directly triggered by Canal cleanup and redevelopment;
- current speed and flood surge speeds altered by canal bottom redesign impacting species needing variable bottom environments and lower water current speeds maintained by natural sedimentation process;
- jellyfish and shark have been observed trying to inhabit the canal area along with turtles, swans, shrimp, mussels, possums, migrating songbirds, cardinals, geese, crabs, turtles, apex predators such as hawks, and the residents of the Gowanus neighborhood (in addition to the numerous species outlined in the NRDA, e.g mollusks, eel, fish, heron, muskrat, double crested cormorant, black ducks, mallard ducks, wading birds, blue crab, raccoons, possum, and bats);
- loss of islands on the Canal have contributed to habitat loss for wildlife and sea life surface;
- two whales have been observed trying to live in the Gowanus area (as documented in the [New York Times, 2007](#) and by [John Kieran, A Natural History of New York City, 1959](#));
- loss of biomass with no support for trees or grass because of ongoing development and subsequent particulate matter and dust;
- Damage to and loss of prime bird fly zone. This is prime migration time, where many East Coast species fly over our area to head back North. Yet, when you look at the [Birding Club's map of Brooklyn](#) Birding spots, you can see that there are few locations where they could rest in Gowanus. The Community has lost the Gowanus and its (formerly greener) uplands as a stop-over for many bird species.

The migration route is called the [Atlantic Flyway](#).

Here is a list of birds that migrate along that route:

- [American Goldfinch](#)
- American Tree Sparrow
- [Baltimore Oriole](#)
- [Black-capped Chickadee](#)
- Blue Grosbeak
- [Blue Jay](#)
- Brown Thrasher
- Chipping Sparrow
- Common Redpoll
- [Dark-eyed Junco](#)
- Eastern Bluebird
- Eastern Meadowlark
- Eastern Towhee
- [Evening Grosbeak](#)
- Field Sparrow
- Hermit Thrush
- [House Finch](#)
- [Northern Cardinal](#)
- [Northern Flicker](#)
- [Orchard Oriole](#)



- Pine Grosbeak
- [Pine Siskin](#)
- Pine Warbler
- [Purple Finch](#)
- [Red-breasted Nuthatch](#)
- Red-winged Blackbird
- Ruby-crowned Kinglet
- [Ruby-Throated Hummingbird](#)
- [Song Sparrow](#)
- White-throated Sparrow
- Yellow-rumped Warbler
- loss of street trees have contributed to heat islands with only the buildings and concrete/asphalt remaining;
- The canal is not as wide as it was and is obviously no longer a marshland. Remediation and rehabilitation of these former habitats needs to extend beyond the current banks of the canal to encompass the full 100' width of the canal.
- Photos of observed Gowanus species are here:
<https://www.flickr.com/photos/51802375@N04/albums/72157629847297184/>

Superfund Remediation Impacts/Losses:

- New bulkheads, that are sealed to prevent remaining land contamination from entering the canal water, interfere with and diminish upland groundwater drainage to the low drainage point in the canal. Such drainage was engineered into the land under the 1849 New York State authorization of the Gowanus Canal;
- Development and remediation using non porous steel bulkheads has led to the covering and blocking of underground streams, and groundwater mounding, exacerbating inland flooding and sinking buildings and pavements;
- As of 2024, just under 1 acre (38,821 square feet) of Gowanus open water (marine habitat) has been landfilled with bulkhead encroachments into the public waters through bulkhead reconstruction prior to Superfund dredging;
- Specifically, Gowanus Canal navigable width of 100 feet has been improperly reduced to 65 feet width in worst case scenarios (Public Place); this change will impact the tidal exchange of water between the upper canal and the harbor;
- as well, 14.4 acres (627,448 square feet) of Gowanus open waterside basins were illegally landfilled by adjacent landowners over the last century - an oversight failure by the same federal agency that now must implement remediation because of lack of proper supervision of protected environments;
- New steel bulkheads have created impediments for natural succession ecologies due to lack of a more porous substrate for filtration and biodiversity;
- canal temperature changes triggered by conversion of banks from vegetated wood bulkheads to non life supporting steel;
- New steel bulkheads create impediments and safety issues for public uses of the water;

- New bulkhead heights, raised to address climate change, have removed and erased previously existing visual corridors of the waterway from the upland public ways which are protected under the NY State Public Trust Doctrine;
- Dredging has had a heavy impact on all pre-existing life (shellfish, algae, soil bacteria) and wiped out the majority, if not all, of it;
- the natural sedimentation accumulation process of the historic tidal marsh is now locked into a long-term cycle of life-disrupting dredging by current Superfund remediation planning;
- The work in the canal has both prevented and reduced the ability of the public to use the canal as a recreation resource.

HISTORIC EVENTS/ACTIONS WHICH CONTRIBUTED TO THE LOSSES

We ask that the NRDA report expand “*Exhibit I-3: Timeline of Example Major Contamination & Remediation Events at Gowanus Canal*,” found on Page 6 of the report, to include other significant historic events listed below:

Industrial activity:

- any industrialization resulting in pollution of nearby areas like the uplands, the lower part of the harbor, bay, and area around Governor’s Island contribute to ongoing contamination of the Canal and should be considered in Canal remediation;
- Citizens Gas Works altered the grade and filled in the Gowanus at Fifth and Hoyt Streets, as evidenced in the below:



Municipal activity:

- The construction of the “Big Sewer” in 1892 which drained sludge into the head of the canal as part of a Brooklyn drainage plan;
- The failure of New York City to keep the Flushing Tunnel operational since the 1970s, allowing conditions in the canal to severely deteriorate for many decades before taking action;
- The failure of NYC to keep the sewer drainage pipes, designed to carry sewage away from the Gowanus, functioning and operating with designed capacities:
 - The original 30” sewer line which carried sewage from the head of the canal through the Flushing Tunnel towards Columbia Street was taken out of service for decades due to saltwater damage to the sewer. This increased the amount of combined Sewage Overflow (CSO) released into the upper canal for many decades.
 - The Bond-Lorraine sewer line was improperly repaired in the vicinity of Public Place in the 1970s, reducing the diameter of the sewer pipe and restricting drainage capacity. This increased CSO outputs into the Canal. This still has not been remedied.

- ongoing CSO events when rainwater overwhelms the sewer systems so untreated sewage is released directly into the canal. This disrupts water quality levels and reduces the ability for species to survive. It occurs frequently after rain and could be mitigated through the creation of more CSO tanks that collect rainwater to minimize rain entering sewer systems and causing CSO events in the Canal. Additional actions like sponge parks that collect water so less untreated water is released into the canal after rain would, to some extent, could mitigate this sewer overload that leads to CSO events in the canal.

MOVING FORWARD TO RESTORATION OF THE GOWANUS

In anticipation of this process moving forward into planning for restoration, the CAG notes that, 43 CFR § 11.83 (a)(1)(ii) states that the community should be provided with:

“the replacement and/or acquisition of equivalent natural resources capable of providing such services; and the compensable value of the services lost to the public through the completion of the baseline restoration, rehabilitation, replacement, and/or acquisition of equivalent natural resources.”

We would like it known at this time that the CAG’s expectations are that any “*restoration, rehabilitation, replacement, and/or acquisition of equivalent natural resources*” under this process take place in the Gowanus canal or on/along the banks of the canal. We believe that varying situations, from the head of the canal to the open harbor end, offer numerous opportunities for effective and sustainable habitat restoration through *rehabilitation, replacement and acquisition* in and along the Gowanus Canal.

The Trust must address the lower part of the harbor because any industrialization and development of nearby areas results in pollution. This includes the uplands, the lower part of the harbor, bay and the area around Governor’s Island. All of these areas will contribute to ongoing contamination of the Canal and should be considered in Canal remediation.

CAG SUGGESTED RESTORATION ACTIVITIES

- Develop a restoration approach that considers uplands beyond the canal itself and considers the broader Gowanus ecosystem, such as a watershed-wide restoration scope or MOSS (Metropolitan Open Space System) to reconnect species via greenways to the Gowanus Canal;
- provide a restoration that results in vertical variability for controlling the velocity of the waters as tidal flows occur, and for providing areas for wildlife to breed, shelter, and hunt;
- Provide shore-side surface rainwater filtrations such as the engineered sponge-park to collect water so less untreated water is released into the canal after rain;
- Plantings, including grass, reeds and trees (in addition to other plants), to increase green space that absorbs rain and reduces heat islands created from buildings/concrete/asphalt. The City of NY as a PRP should be made to fund this;
- Banks v. Bulkheads - the width of the built canal is 100'. The restorative actions should include the whole 100' with new set backs;
- Living breakwaters in Gowanus Bay to protect against storm surge;
- Sea weeds should be introduced to absorb pollutants;

- There are local organizations building habitat to recruit ribbed mussels back to the Canal post-cleanup, as their habitat has been lost through the Superfund process: example: Mighty Mussels – Gowanus Dredgers Canoe Club. <https://gowanusdredgers.org/mighty-mussels/> We would like to see programs such as this expanded.
- Support for Historic Recordation and public exhibition that marks the past history of Gowanus;
- A key component to restoration is the Canal bottom bathymetry design;
- NYS Department of Environmental Conservation (DEC) should not be permitted to waive Federally required water quality standards;
- DEC, EDC, and DOB should not approve development plans that do not provide public greenspace;
- The sewer systems must be repaired and enlarged to mitigate the effects of groundwater mounding and restricted drainage described above, as well as mitigate the risks to humans including the life-threatening human pathogens carried by sewage that include cholera, typhoid and dysentery. Other diseases resulting from sewage contamination of water include schistosomiasis, hepatitis A, intestinal nematode infections, and numerous others;
- The 2002 Army Corps of Engineers' Gowanus Wetland Restoration Studies proposed wetland design scenarios for the Gowanus turning basins. These should serve as a base for restoration work in the canal;
- Photos provided below showing the Gowanus Whole Foods site prior to its being built demonstrates how wetlands in the area are highly viable, given that wetland grasses sprouted throughout the area following the removal of septic-tanks from the site under the Brownfield program. The new wetlands created before development provided a habitat to nesting shorebirds and water birds.

Gowanus “Heron” photo by Susan Yung



Saltwater terrapin, the rare turtles, are now recolonizing the Brooklyn shoreline northwards from Jamaica Bay, given acceptable habitats:



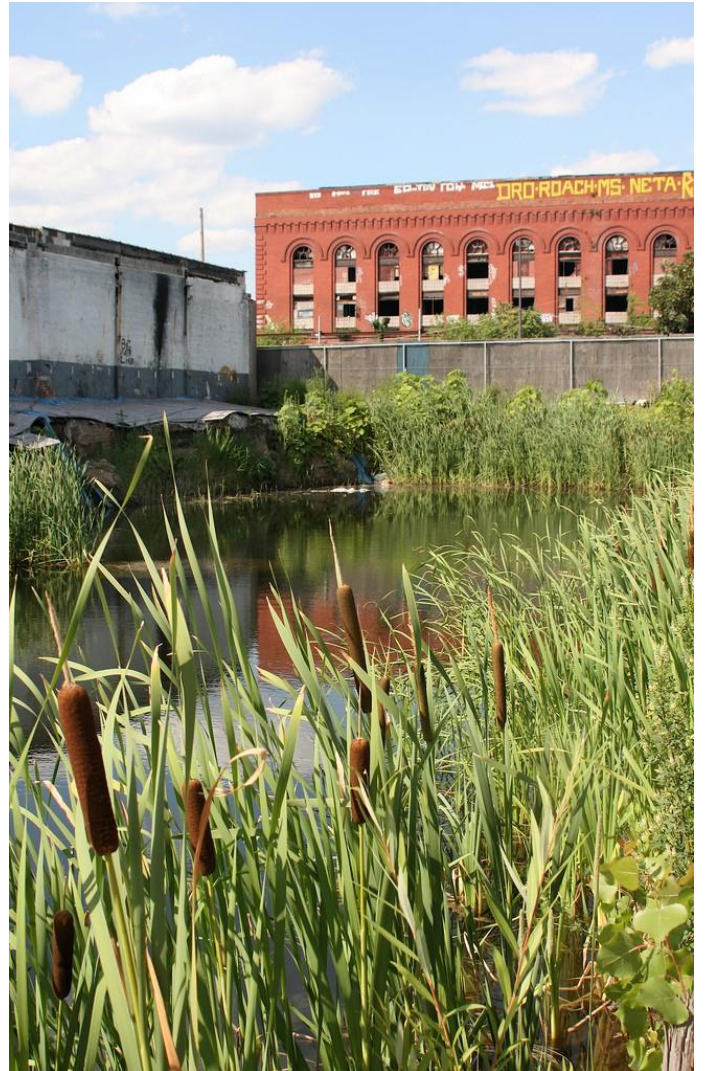
2013 June 29_Gowanus Canal turtle at 2nd Street (Malaclemys terrapin) pic by Romy Mann / Gowanus Dredgers

A nice calming video of a local salt water terrapin (frame 2:35) at 36 Street by Bart Chezar

<https://m.youtube.com/watch?v=mivMA2VEoYg>

GOWANUS WETLANDS: Some photos of the urban adapted species that automatically came back during the excavation of the contaminated soil at Whole Foods

2007 July 10 - Gowanus Canal Whole Foods site (3rd Avenue & 3rd Street) freshwater wetlands emerging from historic Dentons' pond when toxic soil was removed - photo by Robert Gusskind





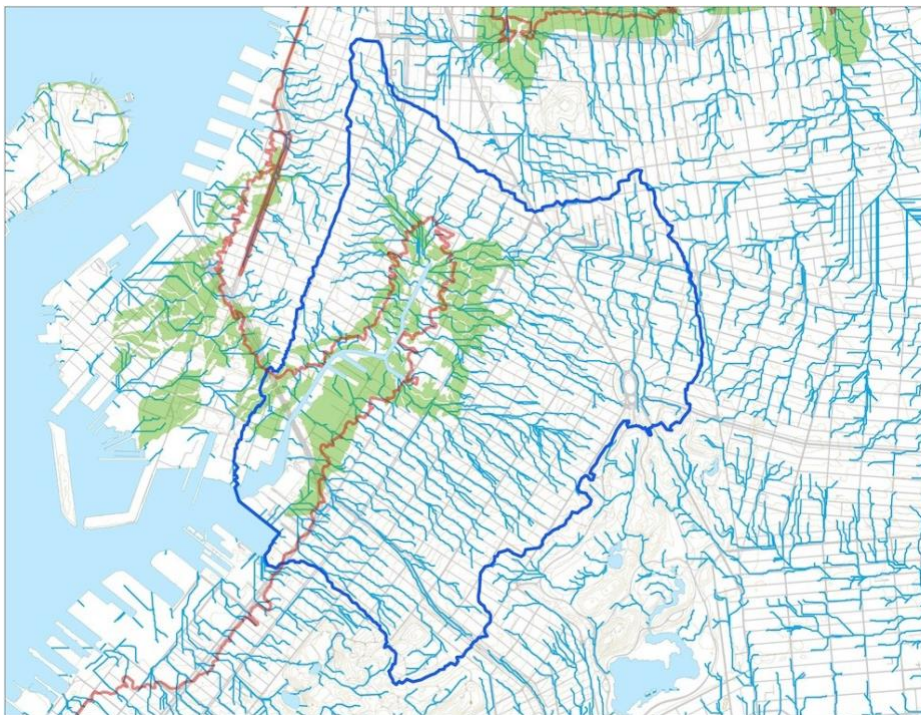
2009 - Gowanus Dentons Pond self healing - Whole Foods site during restoration with Paulownia (Empress tree), and bullrush - photo by Clayton Price

2009 - Whole Foods Site / Coignet Building area at 3 Av & 3 St - Wetlands growing in NYSDEC Brownfields / Dentons Ghost Pond excavation - photo by Nathan Kensinger

The blue watershed outline below is what should be used as the functional Gowanus Watershed NRDA restoration area

A Canal only NRDA focus is unscientific and ecologically meaningless in terms of how the Gowanus ecosystem works.

- Green shows the historical tidal wetland marsh (now buried).
- Red shows the Sandy storm surge flood limits. Obviously such a surge could reoccur. Consider the Sandy line as the functional Gowanus ecosystem flood zone.



- Thin blue lines represent storm water runoff that will eventually re-sediment the canal either through direct street runoff or through the combined sewer overflows.

Cc:

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