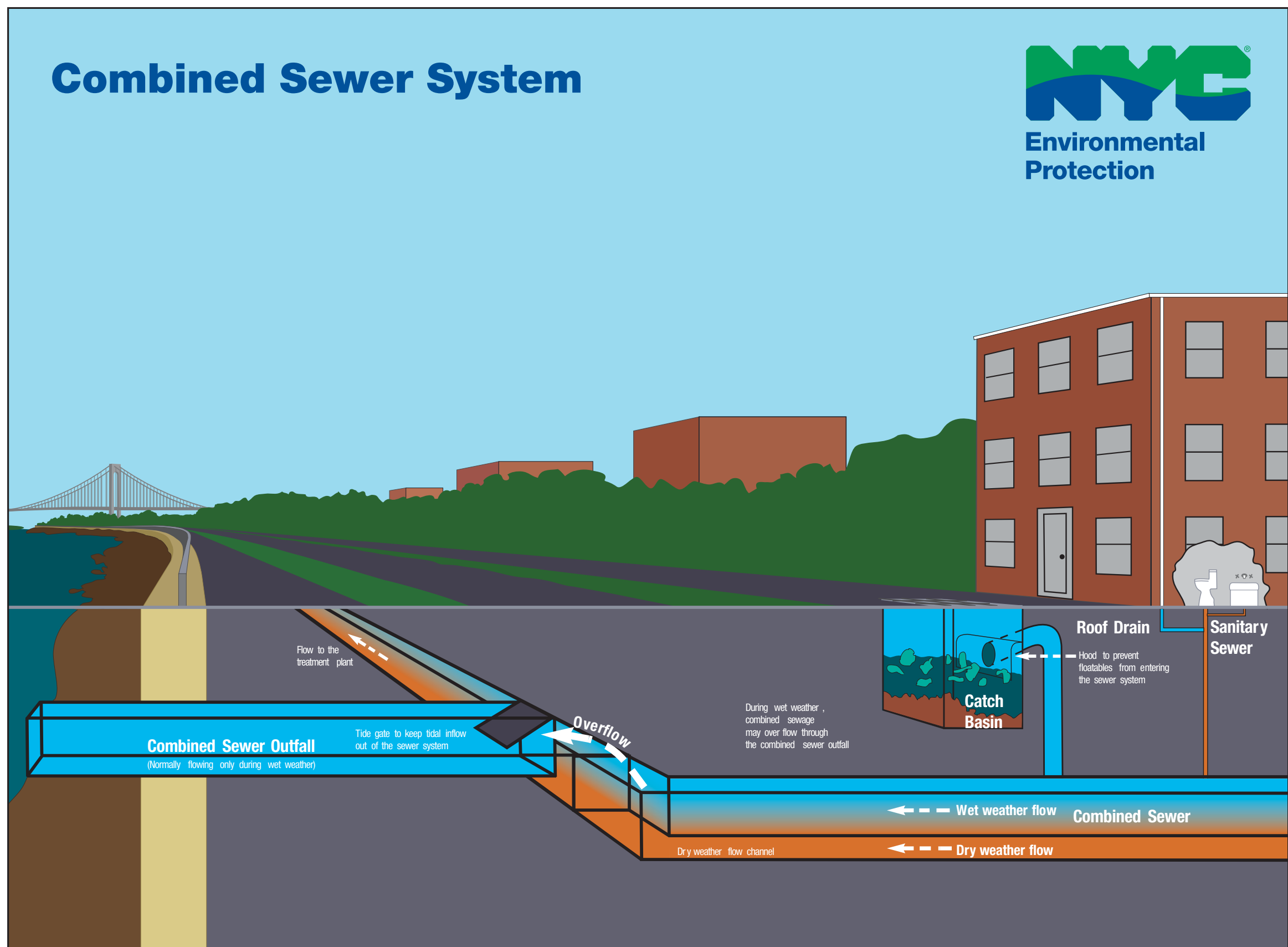


# What is a Combined Sewer Overflow?

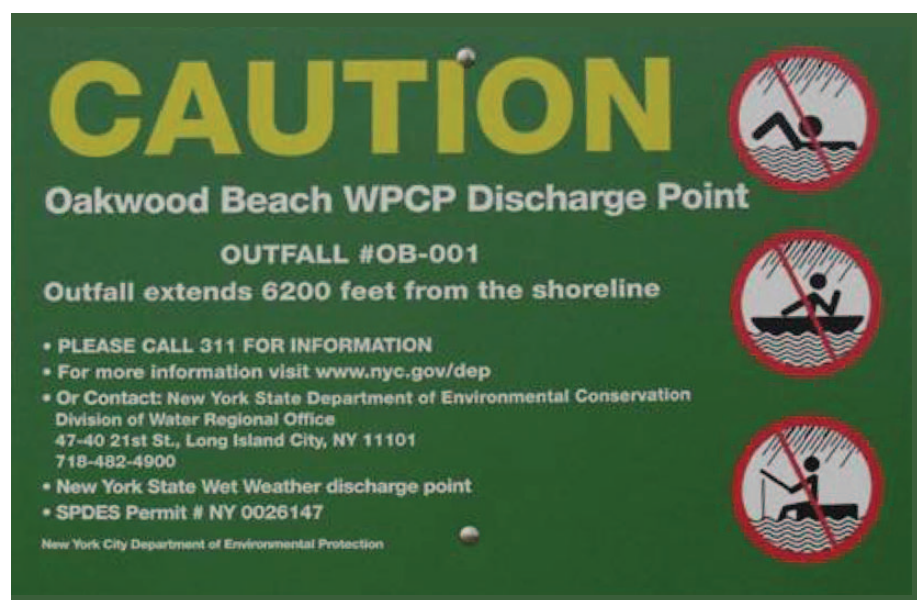
The majority of New York City's sewer system is combined, which means it is used to convey both sanitary and storm flows. Sometimes, during heavy rain and snow storms, combined sewers receive higher than normal flows. Treatment plants are unable to handle flows that are more than twice their design capacity and when this occurs, a mix of excess stormwater and untreated wastewater discharges directly into the city's waterways at certain outfalls to prevent upstream flooding. This is called a combined sewer overflow (CSO). CSOs are a concern because of their effect on water quality and recreational uses in local waterways.



# Combined Sewer Overflows in New York City

## Combined Sewer Overflow (CSO) Volumes

- **Tier 1** = 50% of Total CSO Volume
- **Tier 2** = 20% of Total CSO Volume
- **Tier 3** = 10% of Total CSO Volume



Signs are placed near every CSO outfall location





# Various Ongoing & Completed CSO Projects



Paerdegat Basin CSO Retention Facility



Gowanus Canal Pump Station & Flushing Tunnel



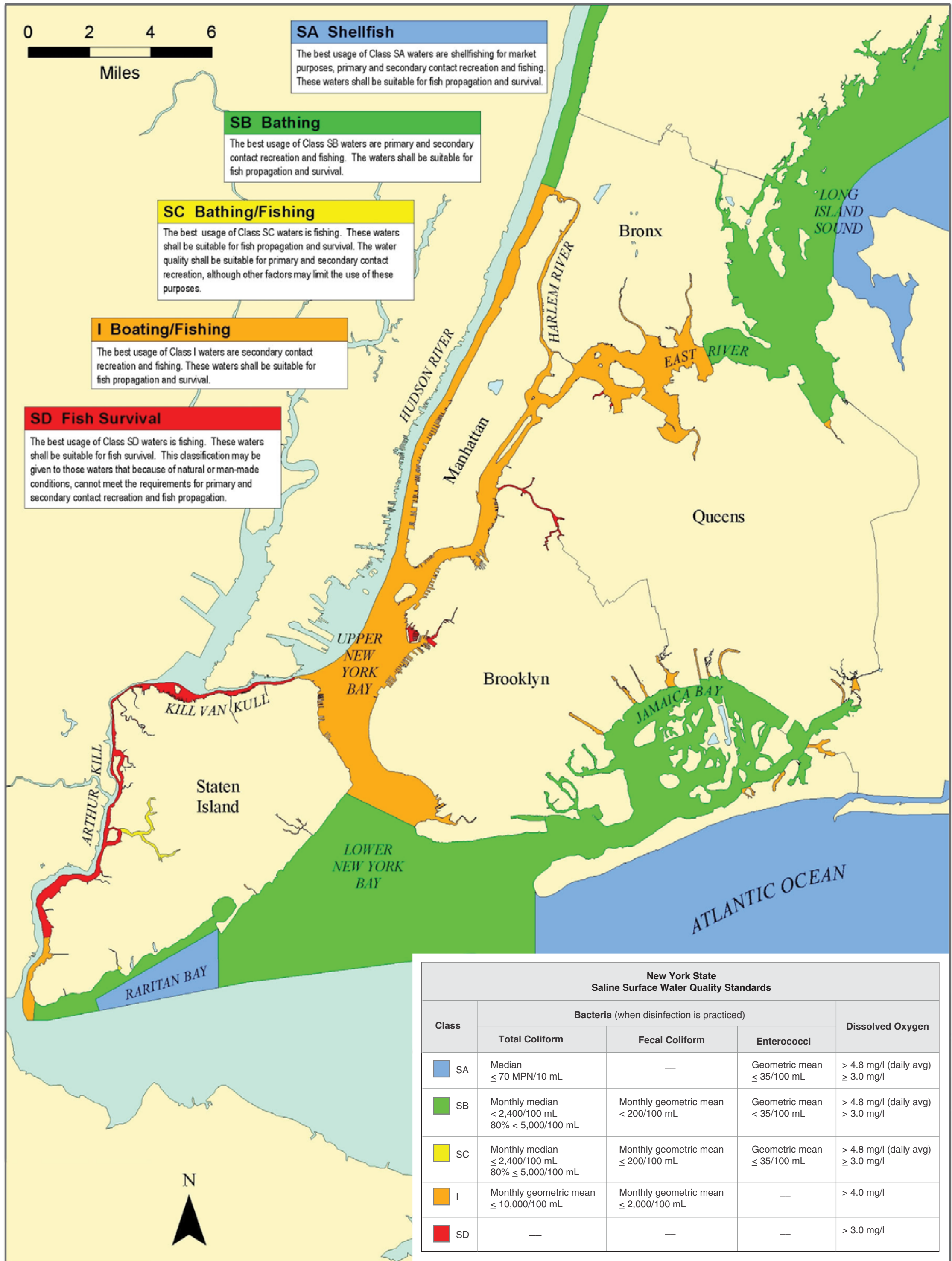
Flushing Bay CSO Retention Facility



English Kills In-Stream Aeration



# Current Water Quality Standards



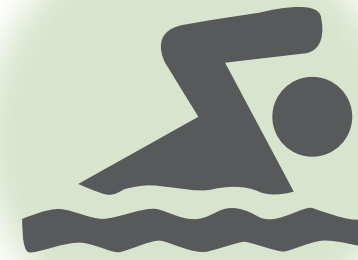
# Nine Elements of a Long Term Control Plan\*



Characterization, monitoring,  
and modeling of the combined  
sewer system



Public participation



Consideration of  
sensitive areas



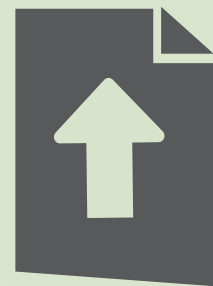
Evaluation of  
alternatives to meet  
CWA requirements



Cost/performance  
considerations



Operational Plan



Maximizing treatment at  
the existing wastewater  
treatment plant



Implementation  
schedule



Post-construction  
compliance  
monitoring program

\* As defined by EPA CSO Control Policy



# NYC's Combined Sewer Areas and LTCP Waterbodies

-  Combined Sewer Watersheds
-  Other (Separate Sewers, Direct Drainage, Unsewered Areas)

