



# Deer Island NPDES Permit

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Wastewater Advisory Committee  
February 4, 2022



## Current Status

- Current permit is in force until a new permit is issued.
  - Effective August 2000, expired 2005
  - Reapplication submitted 2005
  - No modifications are possible after the permit expires
- There are no current negotiations or discussions with EPA
  - EPA has requested updated data and told us they are working on the permit.
  - EPA has indicated they will have a meeting with us.



# Process/timeline

- Timeline
  - Permit application, at least 6 months before permit expires
  - Draft permit and Fact Sheet
    - <https://www.epa.gov/npdes-permits/massachusetts-draft-individual-npdes-permits>
  - **30 day** comment period
  - Final permit
  - Appeals (anything not appealed goes into effect)
  - Effective date (~60 days from signature)
- Fact Sheet, Draft permit, comments, responses = the administrative record
- Appeals
  - Within 30 days of receipt
  - Can only appeal provisions on which you commented,  
OR if there is something added to final that wasn't in the draft
  - Only organizations which commented can appeal
  - Appeals to EPA's Environmental Appeals Board



## 2000 DITP permit requirements

- Customary – found in most/all permits
- Special – unique to DITP
  - Ambient monitoring requirement, with plan attached to the permit
  - “Contingency Plan” to allow for rapid response in case unexpected adverse impacts occurred from relocating outfall
  - Outfall Monitoring Science Advisory Panel
  - Permit limit for dry-day flow
  - Infiltration/Inflow Task Force and regional I/I plan
  - Water conservation requirements
  - Web reporting and repository library



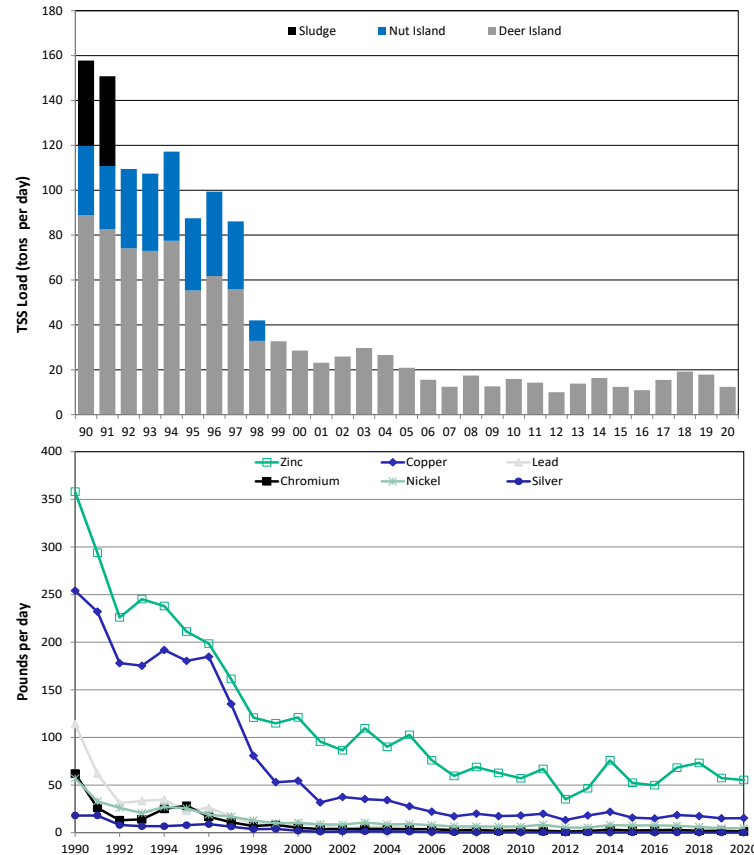
## Potential issues for future permit

- Nitrogen
- Co-permittees
- Dilution for bacteria
- *Enterococcus* limit (seasonal?)
- CSO reporting
- Blending
- Loading limits (weekly TSS/BOD)
- Ambient monitoring
- Contingency Plan



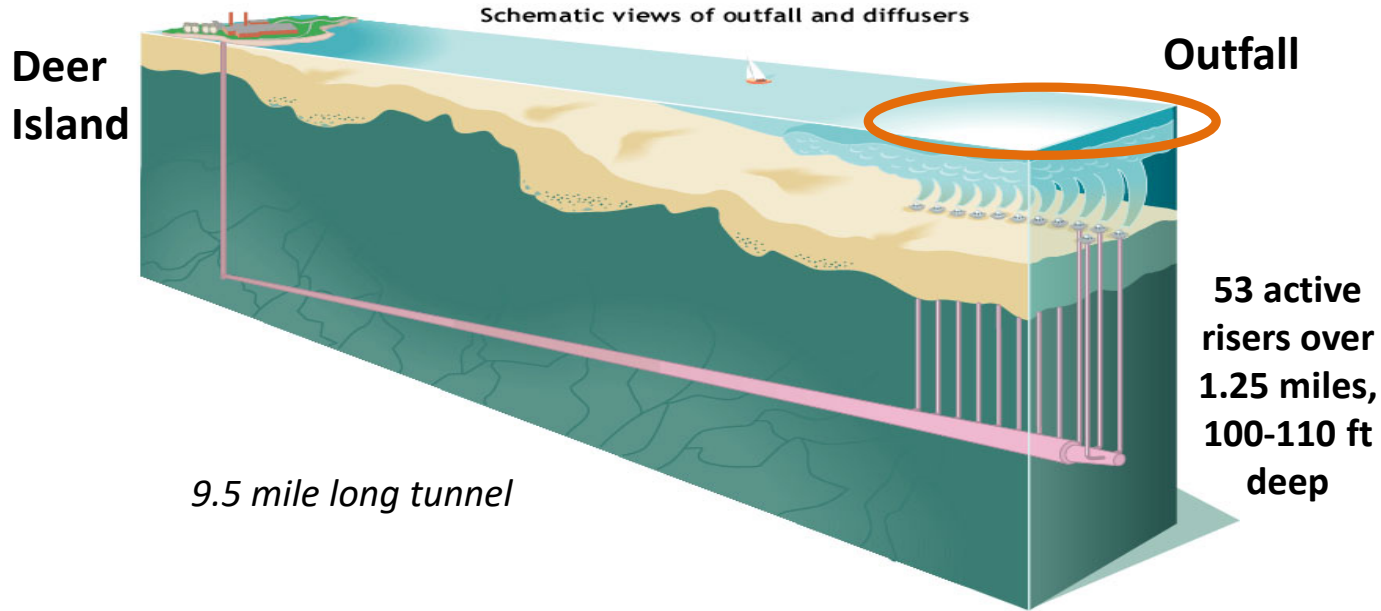
# Results – Plant Performance and Effluent Monitoring

- Deer Island Treatment Plant expects to earn NACWA Platinum 15 award in 2022
- Current effluent solids and metals loads small fraction of discharges into Harbor in early 1990s.
- Metals and organic contaminants like PCBs, DDTs, and other pesticides in effluent (not shown) are a small fraction of loads projected when EPA approved the outfall.





# Outfall Dilution and NPDES permit



- NPDES permit issued in 2000 when first operational
  - includes **minimum 70-fold dilution** factor, confirmed by oceanographic field studies (Hunt et al., 2010)



## Example permit limit and sampling requirement: Fecal coliform

- Permit limits effluent **fecal coliform** at Deer Island

Limit calculated as:

200 CFU/100mL  
*in 2000*

*Fecal coliform water quality standard*

*for primary contact recreation*

*(swimming)*

X 70

*Dilution factor in permit*

= **14,000 CFU/100mL**

***Fecal coliform limit***

- Samples collected 365 days/year, 3 times/day
- Lab analyses use standard EPA-approved methods
- Collection and analysis by MWRA staff





# Receiving water bacteria monitoring in Mass. Bay

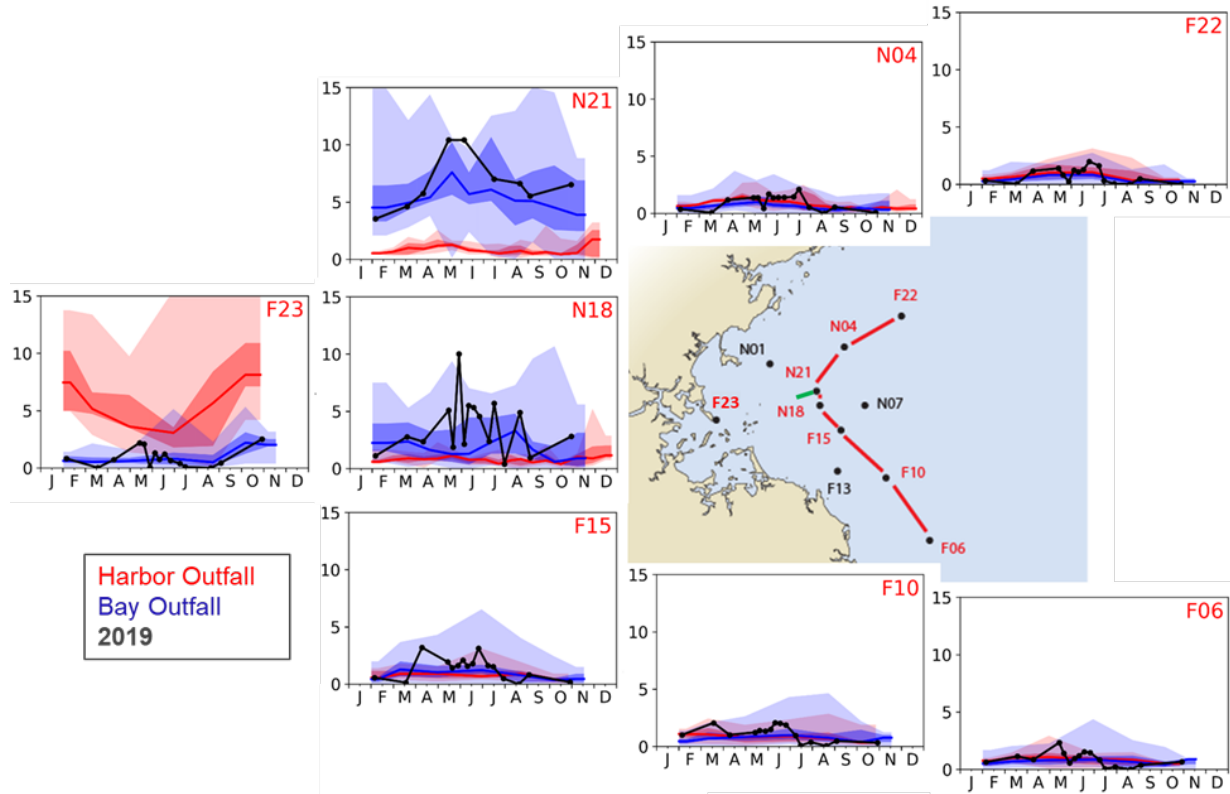
- **Fecal coliform** monitoring for **shellfishing** water quality
  - attached to Deer Island permit
  - MA Dept Marine Fisheries and US Food & Drug Admin
  - receiving waters **geometric mean < 14 CFU/100mL**
- Anticipating potential future limit, MWRA added *Enterococcus*
  - Recreational swimming in Mass Bay is unusual
  - Primary contact recreation standard: **geometric mean < 35 CFU/100mL**



Boston Light Swim  
(annual event for  
distance-swimming  
enthusiasts)



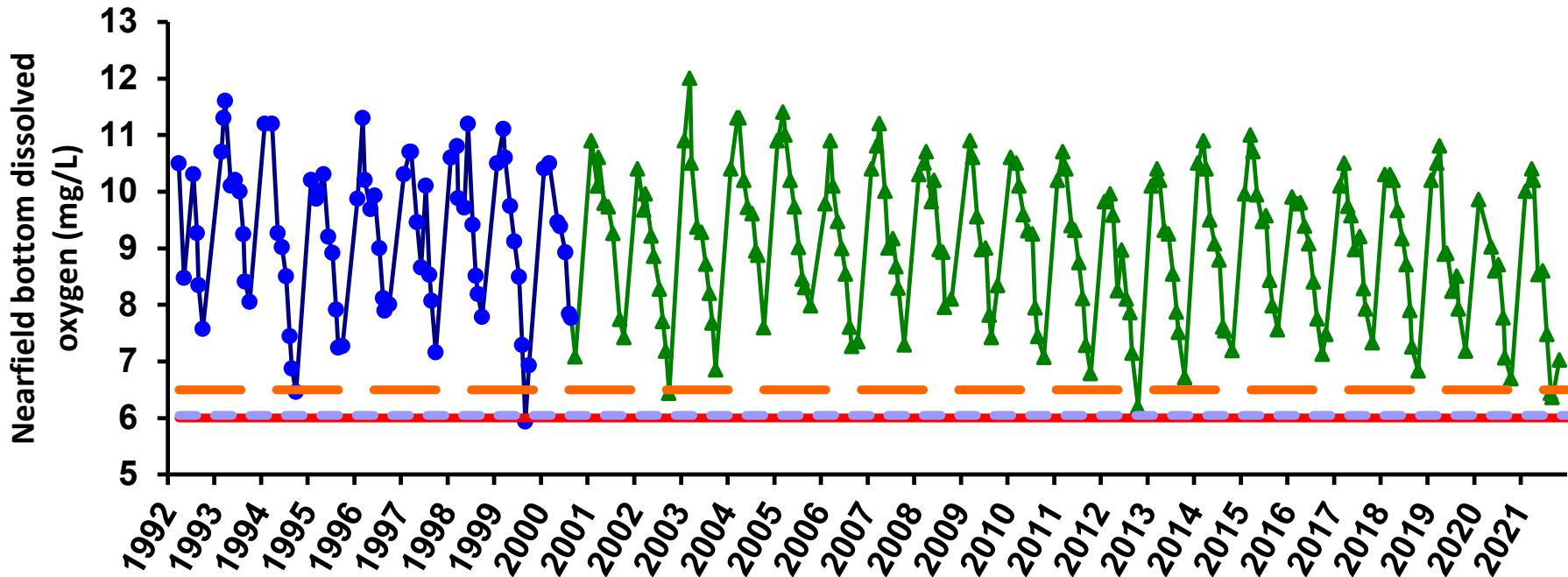
# Massachusetts Bay monitoring example: Nitrogen



Harbor Outfall  
Bay Outfall  
2019



# Contingency Plan thresholds example: Dissolved oxygen



Survey average near-bottom dissolved oxygen from stations near outfall



# Process/timeline recap

- Timeline
  - Permit application, at least 6 months before permit expires (*completed in 2004*)
  - Draft permit and fact sheet
    - <https://www.epa.gov/npdes-permits/massachusetts-draft-individual-npdes-permits>
  - **30 day** comment period (*can request an additional 30 days*)
  - Final permit (*no way to estimate the period for this to occur*)
  - Appeals (*anything not appealed goes into effect*)
  - Effective date (*generally 60 days from signature*)
- Fact Sheet, Draft permit, comments, responses = the administrative record
- Appeals
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# Questions?

