Draft 2020 303(d) Public Meeting

Todays Agenda
1. Overview of the Assessment Process
2. Overview of the CALM
3. What Documents are Available
4. How to Access Assessment Data
5. Visit Example Waters
6. Discussion

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  It will not be used to capture formal comments verbally or through the chat function

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Draft 2020 303(d) Data Day/
Public Informational Meeting

N.H. Department of Environmental Services
October 27th, 2020
Folks you will here from today

Matt Wood – NHDES, Water Quality Assessment Program Coordinator

Ken Edwardson – NHDES, Senior Scientist

Ted Diers – NHDES, Watershed Management Bureau Administrator
1. Overview of the Assessment Process
2. Overview of the CALM
3. What Documents are Available
4. How to Access Assessment Data
5. Visit Example Waters
6. Discussion
Assessment Process

• Biennial report fulfills Federal & State requirements to assess water quality.

• Completed biennially on even years
  – …, 2016, 2018, 2020, etc.

• 305(b) = All assessments.
  – 303(d) = Impairments that need a TMDL.
Assessment Process

- Assessments are governed by the Water Quality Standards, Env-Wq 1700 & RSA 485-A:8.
  - Designated Uses
  - Criteria - Numeric & Narrative
  - Antidegradation

- Consolidated Assessment & Listing Methodology (CAMP) defines how we apply the Water Quality Standards to available data.
Assessment Unit

- Spatial unit of record is the “Assessment Unit”.

Northwood
Consolidated Assessment & Listing Methodology (CALM)

- Translator document for how the water quality data will be used to make surface water quality attainment decisions by designated use, consistent with state surface water quality standards

- Like the 303(d), the CALM is available for public comment

- What kinds of things are in the CALM?
What kinds of things are in the CALM?

- Core parameters for each use (i.e. bacteria for swimming use).
- Minimum number of samples.
- Maximum age of samples.
- How older data is treated.
- When samples must be taken (seasonality, time of day, flow, ...).
- Where samples are collected (depth profiles, to compare with older data, ...).
- How multiple samples will be treated.
- ...
Assessment Process

- **Request Data from the Public** (Sept. 12, 2019)
- **Data Submitted to NHDES for EMD Import**
- **Gather All Readily Available Data** (Jan. 10, 2020)
- **Assess Data per CALM**
- **Revise CALM & Assessment Database as Necessary**
- **Draft 303(d) & CALM for Public Comment** (Oct. 16, 2020)
- **Public Comments on the 303(d) List & CALM due by Nov. 16th 2020**
- **Final 305(b)/303(d), CALM, and Response to Comments**
- **303(d) Portion is ‘Finalized’ when EPA ‘Approves the List’**
2012 – Full EPA Approval – September 24, 2015
2014 – Partial EPA Approval – March 16, 2018
2016 – Partial EPA Approval – June 22, 2018
2018 – EPA Approval, without 24 Estuarine AUs – February 25, 2019
2020 – Draft Out For Public Comment – October 16, 2020
Applicability of EPA Approved 303(d) Lists for New Hampshire Surface Waters

- 2012 EPA Approval Applies
- 2018 EPA Approval Applies

The data presented in this map is under constant revision, and may not depict the most up-to-date information. The New Hampshire Department of Environmental Services (NHDES) is not responsible for the use or interpretation of this information by third parties. Not for legal use. Map created 03/01/2020.
Let's Dig a Little Deeper

What resources are available
Draft 303(d) Document Availability

2020, Draft 303(d) List

- 2020 Draft Consolidated Assessment and Listing Methodology (CALM)
  - Request for Comments on the CALM
- 2020, 303(d) List Content Introduction
- Appendix A - 2020, Draft 303(d)
- Waters Removed from the 2018 303(d) List
- Waters Added to the 2020, Draft 303(d) List
- Request for Comments on the 2020, Draft 303(d) List
- Appendix B – New Hampshire’s Long-term 303(d) Vision and Request for Comments

Other related materials

- Technical Support Document for the Great Bay Estuary Aquatic Life Integrity Designated Use Assessments, 2020 Draft 305(b) Report/303(d) List
- GIS Layers for the 2020 Assessment
- Impairments Removed Since the 2018 305(b)
- Impairments Added to the 2020 305(b)
- Surface Water Quality Assessment Viewer and Watershed Report Cards
- 2020, Draft Status of Each Assessment Unit

Submitting Formal Comments

**SCHEDULE**
Submit written comments by Monday, Nov. 16, 2020.
WHAT TO SUBMIT

• General comments are useful but specific comments with supporting background information are preferred.

• Submittals should include the following contact information: Your Name and Organization, Mailing Address, E-mail, Phone number

• Your comments referenced to specific sections of the current CALM.

• Documentation supporting why you believe that a section of the CALM or 303(d) requires the changes suggested.
HOW TO SEND COMMENTS TO NHDES

By mail: 2020, 303(d) Comments
New Hampshire Department of Environmental Services
Watershed Management Bureau
29 Hazen Drive, P.O. Box 95
Concord, New Hampshire 03302-0095
Attention: Matt Wood

By fax: 2020, 303(d) Comments (603) 271-7894

By Email: 303dComment@des.nh.gov

QUESTIONS? Please email Matt Wood at matthew.wood@des.nh.gov
Example Waters
Changes in the Great Bay Estuary
Total Nitrogen Section of the CALM

Slight Rewording
• Criteria
• Thresholds
• Measures

Assessment Process
• Assessments are governed by the Water Quality Standards, Env-Wq 1700 & RSA 485-A:8.
  – Designated Uses
  – Criteria - Numeric & Narrative
  – Antidegradation

• Consolidated Assessment & Listing Methodology (CALM) defines how we apply the Water Quality Standards to available data.
GBE Withdrawn from 2018 Assessment

Which Waters?
• Great Bay
• Bellamy River
• Little Bay
• Upper Piscataqua River
• Portsmouth Harbor
• Little Harbor/Back Channel

Total Nitrogen History
• 2008 – First Impaired for TN, EPA Approved
• 2010 – TN Impaired, EPA Approved
• 2012 – TN Impaired, EPA Approved
• 2014 – Removed TN Impairment, EPA Deferred
• 2016 – TN Not Impaired, EPA Deferred
• 2018 – TN Not Impaired \(\rightarrow\) Retracted from Assessment
• 2020 – Now in Draft
Great Bay

- Added
  - Chlorophyll-a
  - Nitrogen (Total)

- Existing Impairments
  - Eelgrass (2008)
Great Bay

Chlorophyll-a

GREAT BAY

(Without GRBAP & GRBSQ)

 ug Chl-a / L


Annual 90th Percentile (All Chlorophyll a) (n≥9)
Great Bay

Dissolved Oxygen Concentration

GREAT BAY
(Without GRBAP & GRBSQ)

- DO mg/L Ind
- MAGEX
- DO mg/L Std
- "Current" Line for 2020
- DO-PPM-GRAB-NCP
- DO-PPM-24HR-MIN-NCP
- DO-PPM-GRAB-CP
- DO-PPM-24HR-MIN-CP
Great Bay

Dissolved Oxygen Percent Saturation

GREAT BAY

(Without GRBAP & GRBSQ)

- DO % Sat. Ind.
- MAGEX
- DO % Sat Ind.
- "Current" Line for 2020
- DO-PERC-2TIDE-GRAB-NCP
- DO-PERC-2TIDE-GRAB-CP
- DO-PERC-24H-MEAN-NCP
- DO-PERC-24H-MEAN-CP
- DO-SAT-GRAB

X-axis: Year
Y-axis: Dissolved Oxygen, Percent Saturation

Legend:
- Red dashed line: DO % Sat. Ind.
- Blue line: "Current" Line for 2020
- Green filled triangles: DO-PERC-2TIDE-GRAB-NCP
- Yellow filled triangles: DO-PERC-2TIDE-GRAB-CP
- Gray filled circles: DO-PERC-24H-MEAN-NCP
- Orange filled circles: DO-PERC-24H-MEAN-CP
- Red crosses: DO-SAT-GRAB
Great Bay

![TSS Graph](image-url)

- **1,000**
- **100**
- **10**
- **1**

**TSS**

**GREAT BAY**

(Without GRBAP & GRBSQ)

- "Current" Line for 2020
- **TSS**
- **Annual Median (TSS) (n>=5)**

**Y-axis:** TSS (mg/L)

**X-axis:** Year (2000-2020)
Great Bay

Light Attenuation

GREAT BAY
(Without GRBAP & GRBSQ)

- Min. for Survival Indicator (median)
- "Current" Line for 2020
- Light Attenuation Coefficient (Kd)
- Annual Median (Light)(n>=5)
Great Bay

Eelgrass and Light Attenuation

GREAT BAY

(Without GRBAP & GRBSQ)

**Kd** (lower is better)

- **Min. for Survival Indicator (median)**
- **Light Attenuation Coefficient (Kd)**
- **Eelgrass Cover**
- **Annual Median (Light)(n>=5)**

**Eelgrass Cover (acres)**

- 0
- 500
- 1,000
- 1,500
- 2,000
- 2,500
- 3,000
Great Bay

Total Nitrogen

GREAT BAY
(Without GRBAP & GRBSQ)

"Current" Line for 2020

Day Ave of TN

TN Annual Median (n>=5)
Bellamy River –
- Added
  - Chlorophyll-a
  - Light Attenuation
  - Nitrogen (Total)
  - DO (mg/L)

- Existing Impairments
  - Eelgrass (2008)
Little Bay

- Added
  - None

- Existing Impairments
  - Eelgrass (2008)
Upper Piscataqua River

- Added
  - None

- Existing Impairments
  - Eelgrass (2008)
Portsmouth Harbor

- Added
  - None

- Existing Impairments
  - Eelgrass (2008)
Little Harbor / Back Channel –

- Added
  - None

- Existing Impairments
  - Eelgrass (2008)
New GBE Impairment

Sagamore Creek –
- Added
  - Chlorophyll-a
  - Nitrogen (Total)
- Existing Impairments
  - DO (mg/L) (2018)
  - Eelgrass (2008)
Sagamore Creek

Chlorophyll-a

SAGAMORE CREEK

- Chl-a Ind. (90th percentile)
- "Current" Line for 2020
- Chlorophyll a, Corrected for Pheophytin
- Annual 90th Percentile (All Chlorophyll a) (n>=9)
Sagamore Creek

Dissolved Oxygen Concentration

SAGAMORE CREEK

- DO mg/L Ind
- MAGEX
- DO mg/L Std

"Current" Line for 2020

- DO-PPM-GRAB-NCP
- DO-PPM-24HR-MIN-NCP
- DO-PPM-GRAB-CP
- DO-PPM-24HR-MIN-CP

Dissolved Oxygen, mg / L

Sagamore Creek

Dissolved Oxygen Percent Saturation

SAGAMORE CREEK

- DO % Sat. Ind.
- MAGEX
- DO % Sat Ind.
- "Current" Line for 2020
- DO-PERC-24H-MEAN-NCP
- DO-PERC-24H-MEAN-CP
- DO-SAT-GRAB
Sagamore Creek

Light Attenuation

SAGAMORE CREEK

- Min. for Survival Indicator (median)
- "Current" Line for 2020
- Light Attenuation Coefficient (Kd)
Sagamore Creek

Total Nitrogen

SAGAMORE CREEK

- "Current" Line for 2020
- Day Ave of TN
- TN Annual Median ($n>=5$)

Graph showing total nitrogen levels over time from 2000 to 2020.
GBE Zones with New TN Impairments

**Great Bay –**
- **Added**
  - Chlorophyll-a
  - Nitrogen (Total)
- **Existing Impairments**

**Sagamore Creek –**
- **Added**
  - Chlorophyll-a
  - Nitrogen (Total)
- **Existing Impairments**
  - *DO (mg/L)* (2018)

**Bellamy River –**
- **Added**
  - Chlorophyll-a
  - Light Attenuation
  - Nitrogen (Total)
  - *DO (mg/L)*
- **Existing Impairments**
GBE Zones without TN Impairments

Little Bay –
  • Existing Impairments
    • Eelgrass (2008)
    • Light Attenuation (2008)

Upper Piscataqua River –
  • Existing Impairments
    • Eelgrass (2008)
    • Light Attenuation (2008)

Portsmouth Harbor –
  • Existing Impairments
    • Eelgrass (2008)
    • Light Attenuation (2008)

Little Harbor Back Channel –
  • Existing Impairments
    • Eelgrass (2008)
    • Light Attenuation (2008)
Discussion
Questions?

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