

# Permitting and Regulatory Updates

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Susy King, NPDES Section Chief, MassDEP

# Overview

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- ▶ Phosphorus in Massachusetts NPDES Permits
- ▶ Current status of SuAsCo watershed NPDES permits
- ▶ Future of SuAsCo watershed NPDES permits
- ▶ Upcoming changes to MassDEP WQS for Aluminum



# Phosphorus in MA NPDES Permits

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- ▶ 70 MA facilities have total phosphorus limits
  - ▶ 28 facilities have TP limits  $<0.2$  mg/L
  - ▶ 19 facilities have TP limits of 0.2 mg/L
  - ▶ 11 facilities have TP limits  $>0.2$  mg/L, but  $<1$  mg/L
  - ▶ 12 facilities have TP limits  $\geq 1$  mg/L
- ▶ 67 of 70 facilities are municipal facilities or private facilities treating domestic waste
- ▶ Some facilities under enforcement orders due to inability to meet limit at this time



# Current Status of SuAsCo NPDES Permits

Facility	Receiving Water	Effective Date	TP Limit (Summer/Winter)
Billerica	Concord River	July 2014	0.2 mg/L / 1.0 mg/L
Concord	Concord River	October 2013	0.2 mg/L / 1.0 mg/L
Hudson	Assabet River	May 2019	0.1 mg/L / 0.2 mg/L
Marlborough East	Hop Brook	November 2004	0.1 mg/L / 0.75 mg/L
Marlborough West	Assabet River	November 2005	0.1 mg/L / 1.0 mg/L
Maynard	Assabet River	November 2005	0.1 mg/L / 1.0 mg/L
MCI Concord	Assabet River	November 2016	0.2 mg/L / 0.5 mg/L
Middlesex School	Spencer Brook	February 2012	0.2 mg/L / 1.0 mg/L
Wayland	Sudbury River	December 2008	0.1 mg/L year round
Westborough	Assabet River	November 2005	0.1 mg/L / 1.0 mg/L

# Future of Assabet River NPDES Permits

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- ▶ Hudson final renewal permit issued March 2019
- ▶ Maynard draft renewal released October 2019, final expected in coming months
- ▶ Westborough and Marlborough West draft permits to follow



# Phosphorus in Assabet River Permit Renewals

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- ▶ Assabet River remains impaired
- ▶ Army Corps study concluded dam removal is best alternative for addressing ongoing phosphorus issues
  - ▶ No dam removal currently occurring or planned
- ▶ Model shows winter phosphorus loading may have significant effect on summer phosphorus sediment flux
- ▶ Maintain 0.1 mg/L TP summer limit
- ▶ Reduce 1.0 mg/L TP winter limit to 0.2 mg/l



# Future of Other SuAsCo NPDES Permits

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- ▶ All due for renewal
  - ▶ No specific timeline for renewal at this time
- ▶ Warm and cold season TP limits to be re-evaluated at renewal
  - ▶ Evaluate available ambient phosphorus data
  - ▶ No specific strategy planned at this time



# Upcoming changes to MA WQS

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- ▶ Anticipate draft regulations (314 CMR 4.00) for public comment in late spring/early summer 2019
- ▶ Includes changes to freshwater aluminum criteria for protection of aquatic life
- ▶ EPA published new final aluminum criteria guidelines December 2018 (Multiple Linear Regression – MLR Model)
- ▶ MA expects to be first state to adopt these criteria

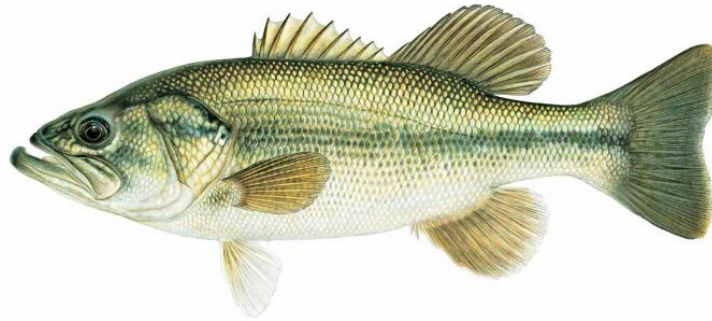




# Aluminum Criteria in MA

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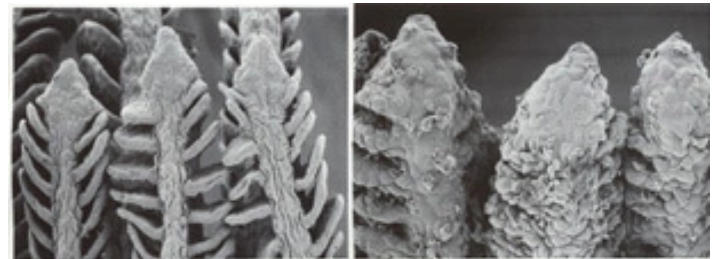
- ▶ Equation-based criteria using DOC, pH, hardness
- ▶ MassDEP developed default criteria by watershed
- ▶ Option for discharge-specific criteria



# Aluminum Limits in MA NPDES Permits

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- ▶ 47 facilities have average monthly Al limits (based on current chronic Al criteria of 87  $\mu\text{g/l}$ )
  - ▶ 19 facilities have limit of 87  $\mu\text{g/L}$
  - ▶ 8 facilities have limit 88-100  $\mu\text{g/L}$
  - ▶ 12 facilities have limit 101-200  $\mu\text{g/L}$
  - ▶ 8 facilities have limits  $>200$   $\mu\text{g/L}$
- ▶ Some facilities under enforcement orders due to inability to meet limit at this time



Healthy gills (left), Al-impacted (right) of Atlantic Salmon

Source: The Northeast Fisheries Science Center

[www.nefsc.noaa.gov/salmon/factsheets/sss\\_factsheet.pdf](http://www.nefsc.noaa.gov/salmon/factsheets/sss_factsheet.pdf)

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# Aluminum Limits in the SuAsCo Watershed

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Facility	Receiving Water	Aluminum Limit
Billerica	Concord River	171 µg/L
Concord	Concord River	Report only
Hudson	Assabet River	278 µg/L (87 µg/L)
Marlborough East	Hop Brook	Report only
Marlborough West	Assabet River	218 µg/L
Maynard	Assabet River	Report only
MCI Concord	Assabet River	147 µg/L
Middlesex School	Spencer Brook	87 µg/L
Wayland	Sudbury River	Report only
Westborough	Assabet River	Report only



# Proposed Default Aluminum Criteria

Default Freshwater Aluminum Criteria by Watershed (River Basin or Coastal Drainage Area)*		
River Basin or Coastal Drainage Area	CMC† (Acute) ug/L	CCC† (Chronic) ug/L
Blackstone	542	270
Boston Harbor/Charles	970	390
Buzzards Bay/Mt Hope Bay/Narragansett Bay/Taunton/Ten-Mile	490	260
Cape Cod Coastal	**	**
Chicopee (5 <sup>th</sup> percentile)	291	171
Connecticut (5 <sup>th</sup> percentile)	630	300
Deerfield	450	220
Farmington/Westfield (5 <sup>th</sup> percentile)	309	180
French/Quinebaug	580	280
Housatonic/Hudson	1400	520
Ipswich/North Coastal/Parker	954	406
Islands Coastal	**	**
Merrimack/Shawsheen (5 <sup>th</sup> percentile)	470	259
Millers	340	210
Nashua (5 <sup>th</sup> percentile)	350	200
South Coastal	1200	460
<b>Sudbury, Assabet, and Concord (SuAsCo)</b>	<b>954</b>	<b>394</b>

\*Defaults are based on 10<sup>th</sup> percentile criteria calculated from concurrent pH, DOC, and hardness data, except watersheds marked as 5<sup>th</sup> percentile to protect state and federal endangered species.

\*\* Insufficient data are available to calculate watershed-based default criteria.

†The CMC = Criterion Maximum Concentration and the CCC = Criterion Continuous Concentration



# Discharge-Specific Aluminum Criteria

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- ▶ Entities will have the option of using the default criteria for their watershed, or collecting data at the relevant location to use as inputs to the aluminum criteria calculator
- ▶ Discharge-specific criteria derived for use in establishing effluent limits in NPDES permits require approval by MassDEP/EPA
- ▶ These criteria would then be subject to public notice in connection with the NPDES permitting process
- ▶ Data currently being collected by USGS at four Assabet River facilities (Hudson, Marlborough West, Maynard, Westborough)



# Impacts on Permits

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- ▶ New criteria must be promulgated by MassDEP and approved by EPA before they can be used in permits
- ▶ Prior to promulgation and approval of new criteria
  - ▶ Permit limits based on current criteria (87  $\mu\text{g/L}$  and 750  $\mu\text{g/L}$ ), with 3-year compliance schedule
  - ▶ Limit does not go into effect until end of 3 years; option to extend beyond 3 years
- ▶ After promulgation and approval of new criteria
  - ▶ Permit limits based on new criteria (watershed default or discharge-specific)
- ▶ Anti-backsliding and anti-degradation must be considered in setting permit limits based on new criteria for facilities that have existing limits



# Questions?

Susy King, NPDES Section Chief,  
MassDEP

[susannah.king@mass.gov](mailto:susannah.king@mass.gov)

617-556-1147

