

# Great Bay Nitrogen General Permit - State Role

- New Hampshire is non-delegated for NPDES
- Asked EPA for flexibility – promised assistance
- **Technical Assistance**
  - Monitoring
  - PTAP
  - Nitrogen Reduction
- **Science**
  - Data analysis
  - Modeling
  - TMDL (or alt)
- **Funding**
  - Monitoring
  - SRF – planning and implementation
  - ARPA

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# Piscataqua Region Monitoring Collaborative (PRMC)

- What is PRMC?
- What questions is it trying to answer? Eg.
  - **Is the health of eelgrass and related factors at key index sites changing over time?**
  - **Are light conditions at key sites changing over time?**
  - **Are important Water Column parameters changing over time?**
  - **Are Phytoplankton Size and Species Composition changing over time?**
- How much does it cost?
- How are decisions made?
- How does it relate to the permit?



# Pollution Tracking and Accounting Program (PTAP)

- What is PTAP?
- How was it developed?
- What is its current status and use?
- Where does PTAP “live”?
- Who owns/manages PTAP?
- How is PTAP funded?
- UNH and NHDES tech. assistance for program implementation and growth



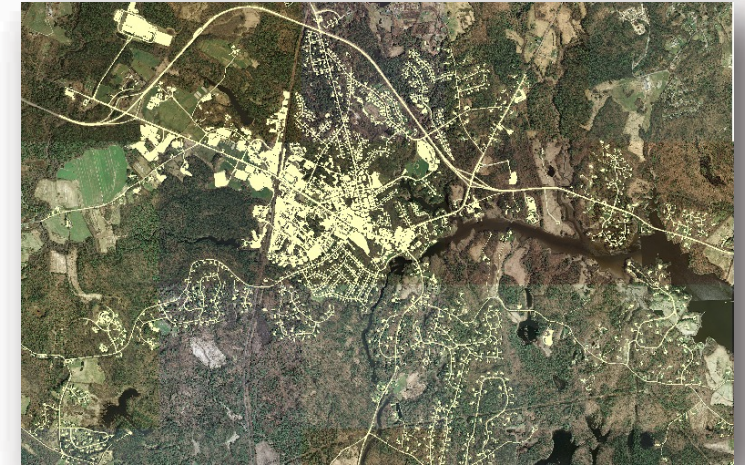
# Newmarket Example

Structural BMP	IC Managed (acres)	# of BMPs
Bio-filtration	0.83	4
Enhanced Bio-filtration with Internal Storage Reservoir (ISR)	0	0
Extended Dry Detention Pond	0	0
Gravel Wetland	0.56	1
Infiltration/Surface Infiltration	7.98	9
Infiltration Trench	1.86	2
Porous Pavement	0	0
Sand Filter	0	0
Water Quality Grass Swale with Detention	0	0
Wet Ponds	0	0
Other	0	0
Not Specified	0	40
<b>Totals</b>	<b>11.23</b>	<b>56</b>
<b>Total EIC</b>	<b>-9.35</b>	

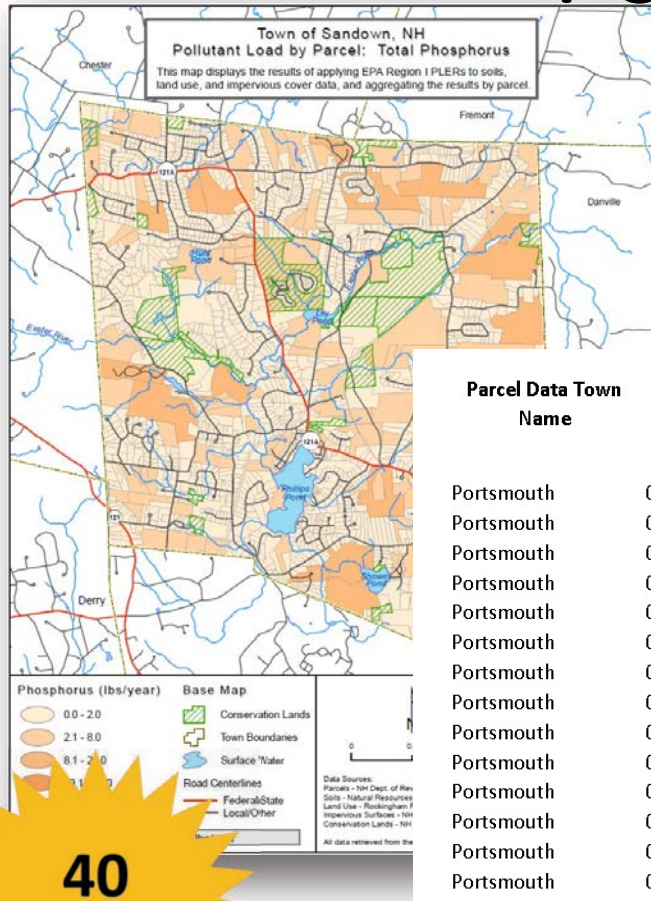
= Reduction of  
~ 15 lbs of TN

# Nitrogen reductions

- Some of this is “baked in” – atmospheric deposition, redevelopment (1.4% per year), changes in ordinances, baseline is 2016 (maybe earlier for NPS).
- Can't get 40% reduction from 8% of the land area.
- Need plans and priorities for implementation
- Possibility for low-cost approach for planning – Hot spots



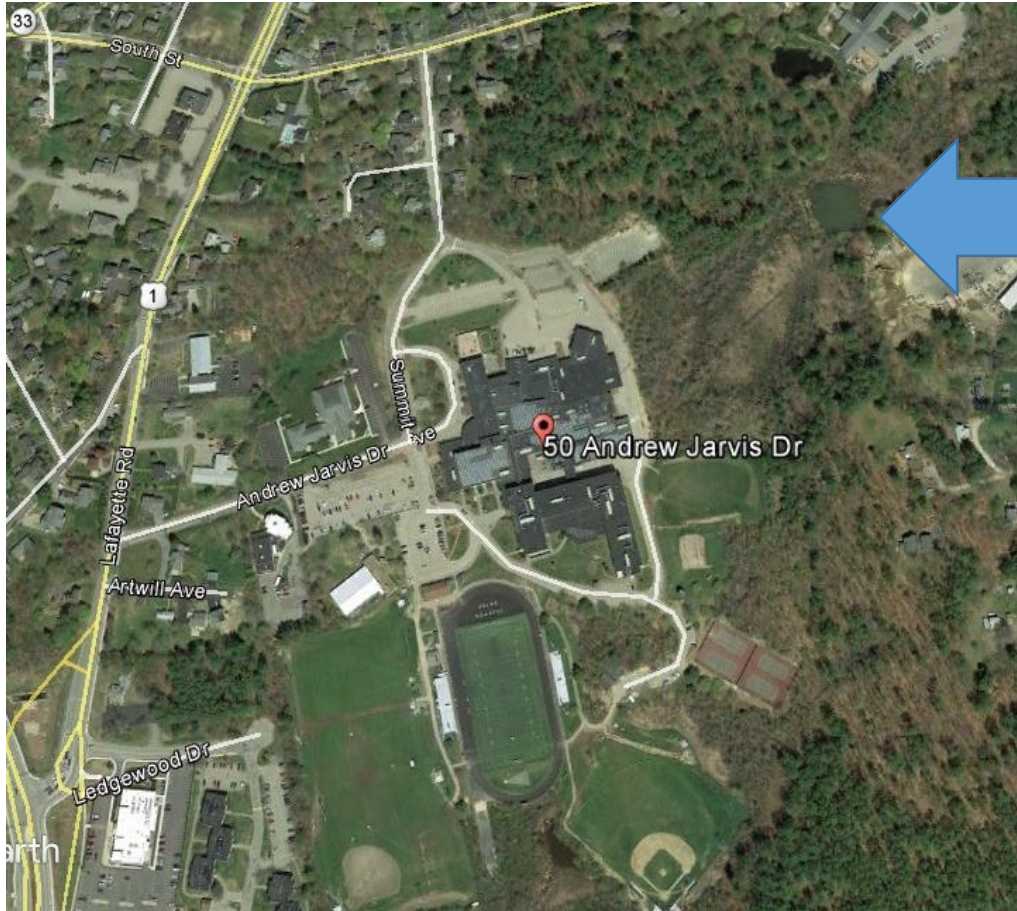
# Pollutant Hot Spot Data



**40**  
towns  
mapped

Parcel Data Town Name	Map Block and Lot Number (Mblu)	Town Owned Flag	Conservation Lands Flag	Acres	ICAcres	ScoreTSS	ScoreTP	ScoreTN	
Portsmouth	0214-0002-0000	0	0	40.92	19.45	8738.13	34.15	288.40	Likely off Gosling road - near Schiller Station
Portsmouth	0229-0003-0000	1	1	55.34	17.94	9866.36	33.19	281.40	50 Andrew Jarvis Road
Portsmouth	0291-0007-0000	0	0	67.10	20.33	15490.07	35.80	264.83	3201 Lafayette Road
Portsmouth	0272-0009-0000	0	1	68.22	12.78	11067.80	32.24	264.81	N/F
Portsmouth	0273-0005-0000	0	0	74.14	18.27	12833.20	31.70	246.58	2300 Lafayette Road
Portsmouth	0216-0003-0000	0	0	19.87	16.23	6134.66	28.89	245.03	1465 Woodbury Ave.
Portsmouth	0273-0003-0000	0	0	18.71	15.81	5989.55	28.20	239.32	N/F
Portsmouth	0223-0030-0000	0	1	53.34	14.61	11379.92	29.96	231.28	N/F
Portsmouth	0313-0003-0000	0	0	21.55	14.04	5300.20	25.00	212.06	164-166 Corporate Drive
Portsmouth	0211-0001-0000	0	0	32.62	13.89	5322.87	24.65	208.85	3 Michael Succi Drive - Nat'l Gypsum
Portsmouth	0240-0002-0001	0	1	19.63	13.53	5238.25	24.51	208.41	333 Borthwick Ave. - HCA Health
Portsmouth	0238-0020-0000	0	0	23.26	14.08	6518.70	24.61	207.54	100 Arthur F. Brady Drive
Portsmouth	0285-0016-0002	0	0	20.26	14.26	7336.87	24.69	207.40	2460 Lafayette Road - WalMart
Portsmouth	0254-0007-0000	0	0	26.52	12.79	4883.44	22.74	192.77	650 Peverly Hill Road - Pike Industries
Portsmouth	0119-0005-0000	0	0	12.65	11.59	4417.08	20.60	174.72	555 Market St. - Port Auth
Portsmouth	0305-0006-0000	0	0	16.22	11.23	4573.31	19.85	168.03	101 Int. Dr. - Lonza
Portsmouth	0238-0016-0000	0	0	15.94	10.28	3973.04	18.65	158.70	1600 Woodbury Ave
Portsmouth	0307-0002-0000	0	0	17.61	13.73	20442.20	18.87	144.66	12 Aviation Ave. - PDA
Portsmouth	0217-0002-0000	0	0	27.32	10.59	6384.36	19.12	143.02	N/F
Portsmouth	0308-0000-0000	0	0	18.34	9.57	5571.33	16.94	142.61	Aviation Ave - PDA
Portsmouth	0239-0018-0000	0	0	16.75	9.41	4956.34	16.78	141.77	100 Durgin Lane
Portsmouth	0254-0008-0000	1	0	60.36	7.83	4228.15	15.94	137.93	DPW - 680 Peverly

# Project implementation planning



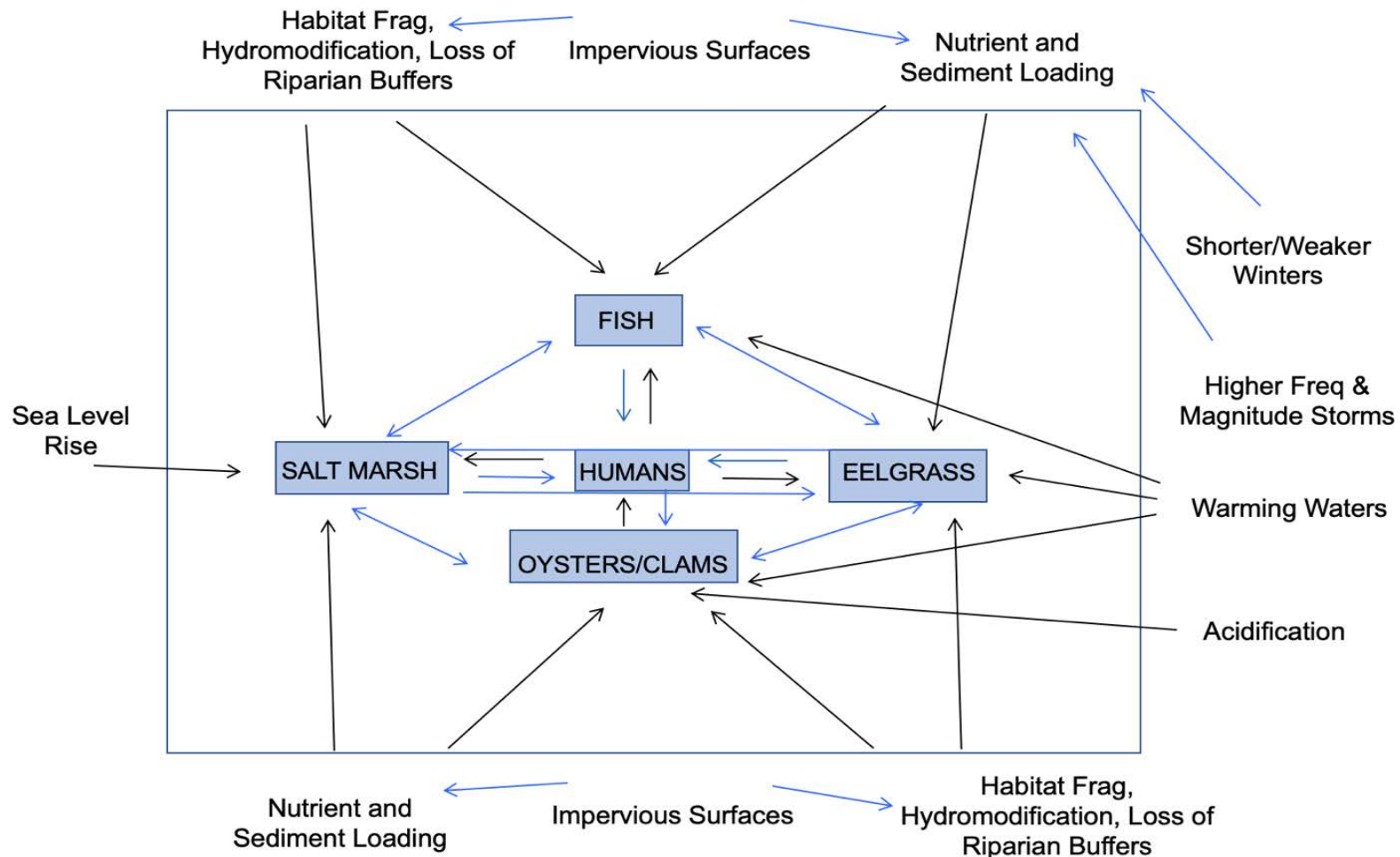
Here is 50 Andrew Jarvis Drive

- Highest muni N load
- Highest muni IC ac
- Second highest overall N
- Fourth highest overall IC
- *Note:* Flagged as conservation

Up to the community to decide what to do and where

# Scientific & methodological issue evaluation

Overall Conceptual Model





# Proposed TMDL timeline

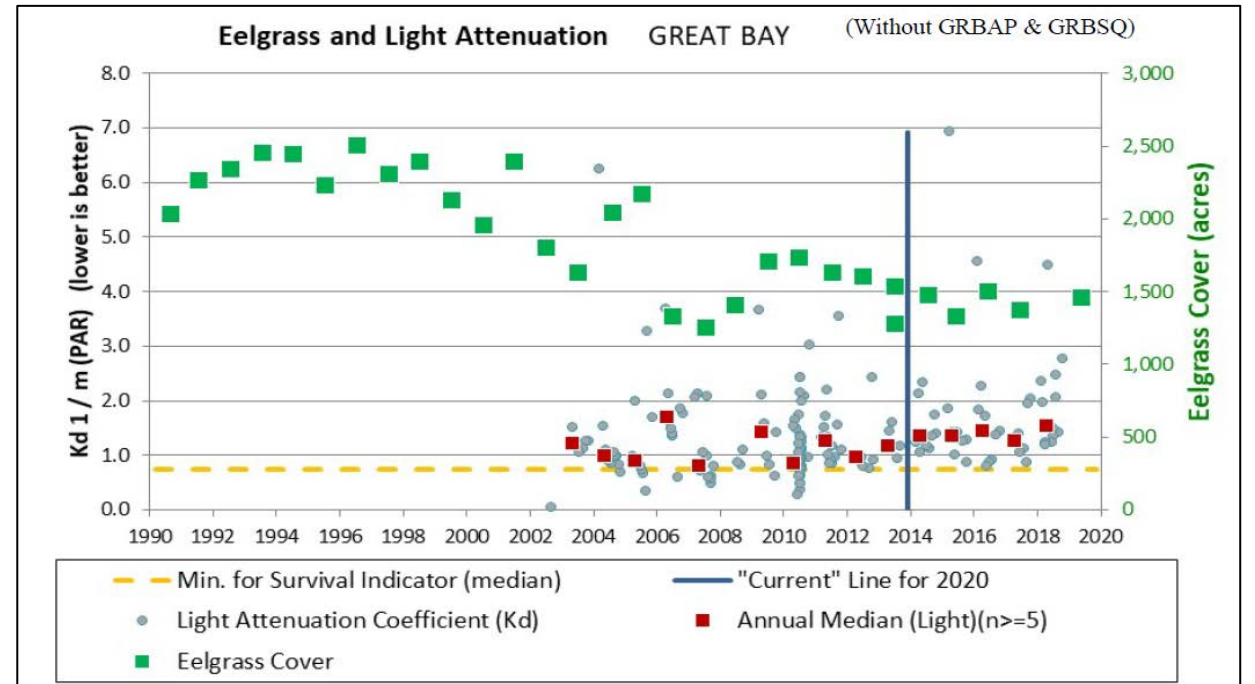
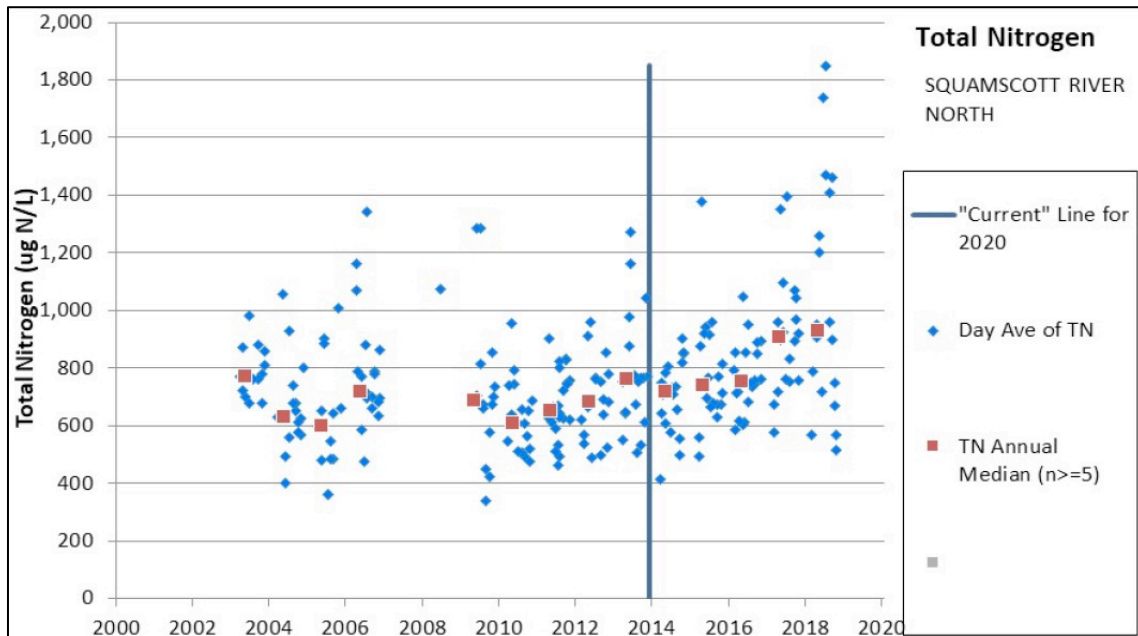
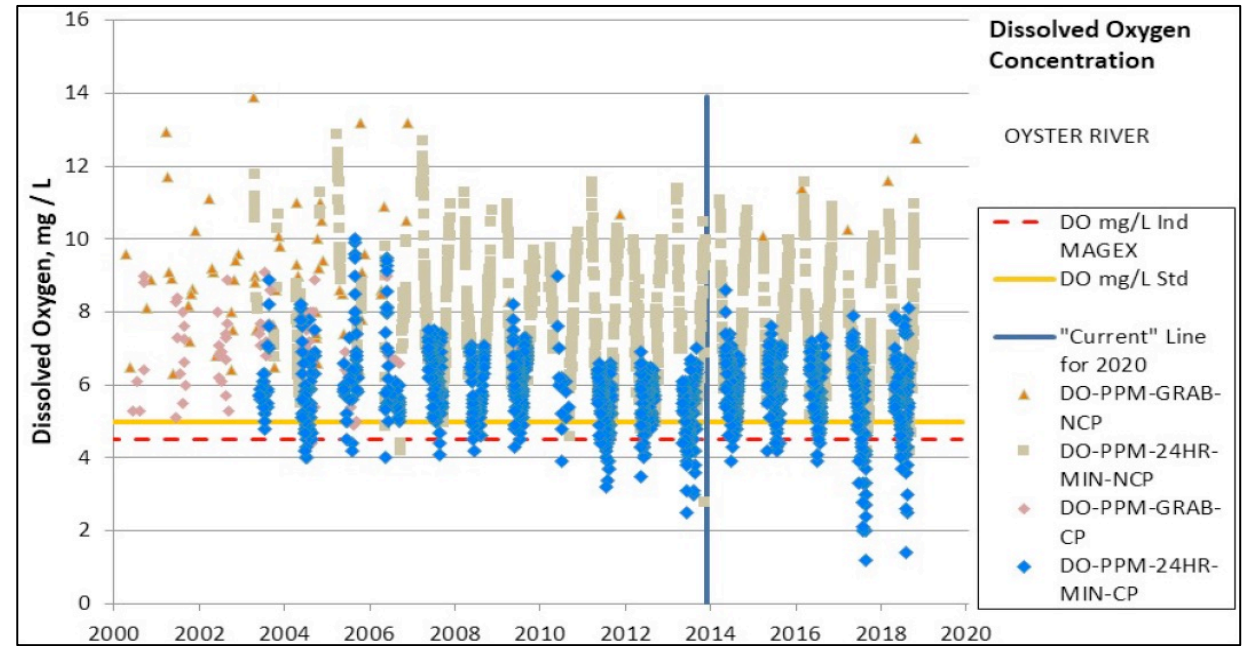
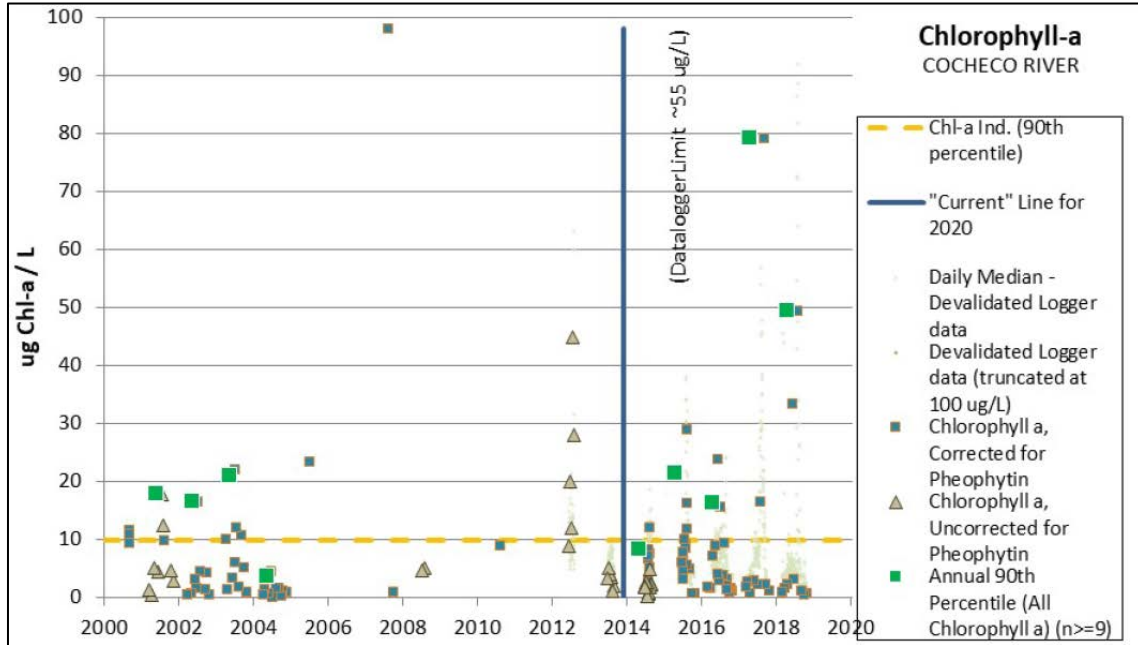
- NHDES involvement early in process
- What is the target?
- Make a decision at 5 years
- Will need contractor assistance



## TMDL Requirements:

- Pollutant(s) to consider.
- Estimation assimilative capacity
- Estimation of loading from all sources
- Analysis and determination of needed reductions.
- Allocation (with margin of safety) of the allowable pollutant load among the different pollutant sources.

# 303d/305b Assessments



# Funding



- Clean Water SRF – stormwater planning and implementation
- Asset management – loan forgiveness
- ARPA -- \$150 million for water and sewer infrastructure, dams, PFAS
- Infrastructure Act – Additional funds for PREP, NERRS, and SRF
- Ongoing funding of projects and monitoring



***Bipartisan Infrastructure  
Investment and Jobs Act***

# The Grand Experiment

- Estuaries are “messy”
- Monitoring to feed model and trend analysis
- Modeling
- Some pieces are totally unknown – sediment budget, sediment nutrient flux, impacts of temperature, carbon budget – acidification, river darkening (DOC) – changing climate
- Confounding variables – which ones can actually be managed?
- Policy/permits/future investment will be made based on this science
- Adapt permit as conditions and science warrant
- Permit gets to stormwater and NPS reductions sooner than later

