

STATE OF NEW HAMPSHIRE

**Impairments Removed (i.e. Delisted)
from the 2020/2022 303(d) List
of Threatened or Impaired Waters
(i.e. Category 5)**

February 18, 2022



STATE OF NEW HAMPSHIRE

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303(d)
List of Threatened or Impaired Waters (i.e. Category 5)**

**STATE OF NEW HAMPSHIRE
DEPARTMENT OF ENVIRONMENTAL SERVICES
29 HAZEN DRIVE
CONCORD, N.H. 03301**

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February 18, 2022

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Introduction

In accordance with Section 303(d) of the federal Clean Water Act, States must prepare a list of impaired waters that require a Total Maximum Daily Load study every two years (i.e., the 303(d) List). The last approved 303(d) List was prepared by the New Hampshire Department of Environmental Services (NHDES) in 2018.

Downloadable copies of the past lists as well as the 303(d) 2020/2022 list are available on the [NHDES website](#) for review. This document provides a list of all surface waters and parameter combinations that were removed as impairments on the 2020/2022 303(d) List and the reasons why they were removed.

Assessment outcomes cover a spectrum from very good to very bad coded as an alpha numeric scale that provides additional distinctions in cases where an impairment exists. In each of the new impairments detailed within this document the 2018 and 2020/2022 assessment status is highlighted applying the categories in the table below.

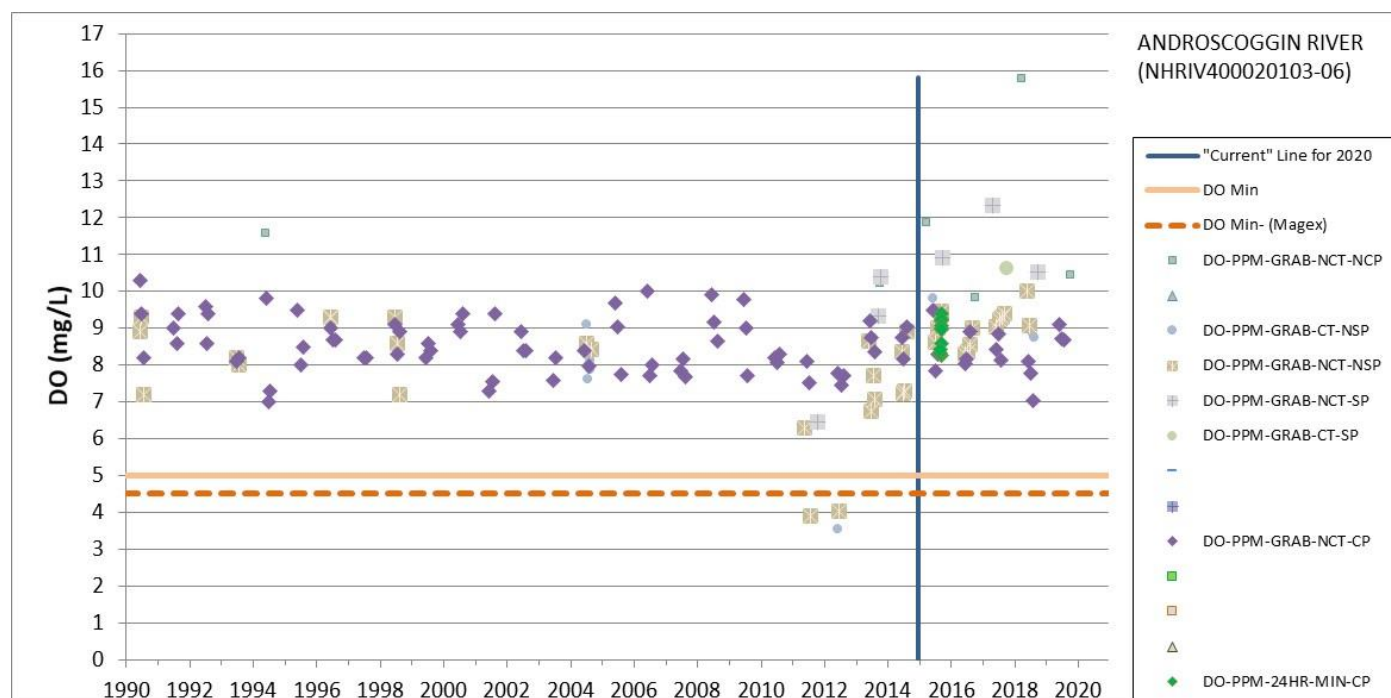
		Severe	Poor	Likely Bad	No Data	Likely Good	Marginal	Good
		Not Supporting, Severe	Not Supporting, Marginal	Insufficient Information – Potentially Not Supporting	No Data	Insufficient Information – Potentially Full Supporting	Full Support, Marginal	Full Support, Good
CATEGORY	Description							
Category 2	Meets standards						2-M or 2-OBS	2-G
Category 3	Insufficient Information			3-PNS	3-ND	3-PAS		
Category 4	Does not Meet Standards;							
4A	TMDL Completed	4A-P	4A-M or 4A-T					
4B	Other enforceable measure will correct the issue.	4B-P	4B-M or 4B-T					
4C	Non-pollutant (i.e. exotic weeds)	4C-P	4C-M					
Category 5	TMDL Needed	5-P	5-M or 5-T					

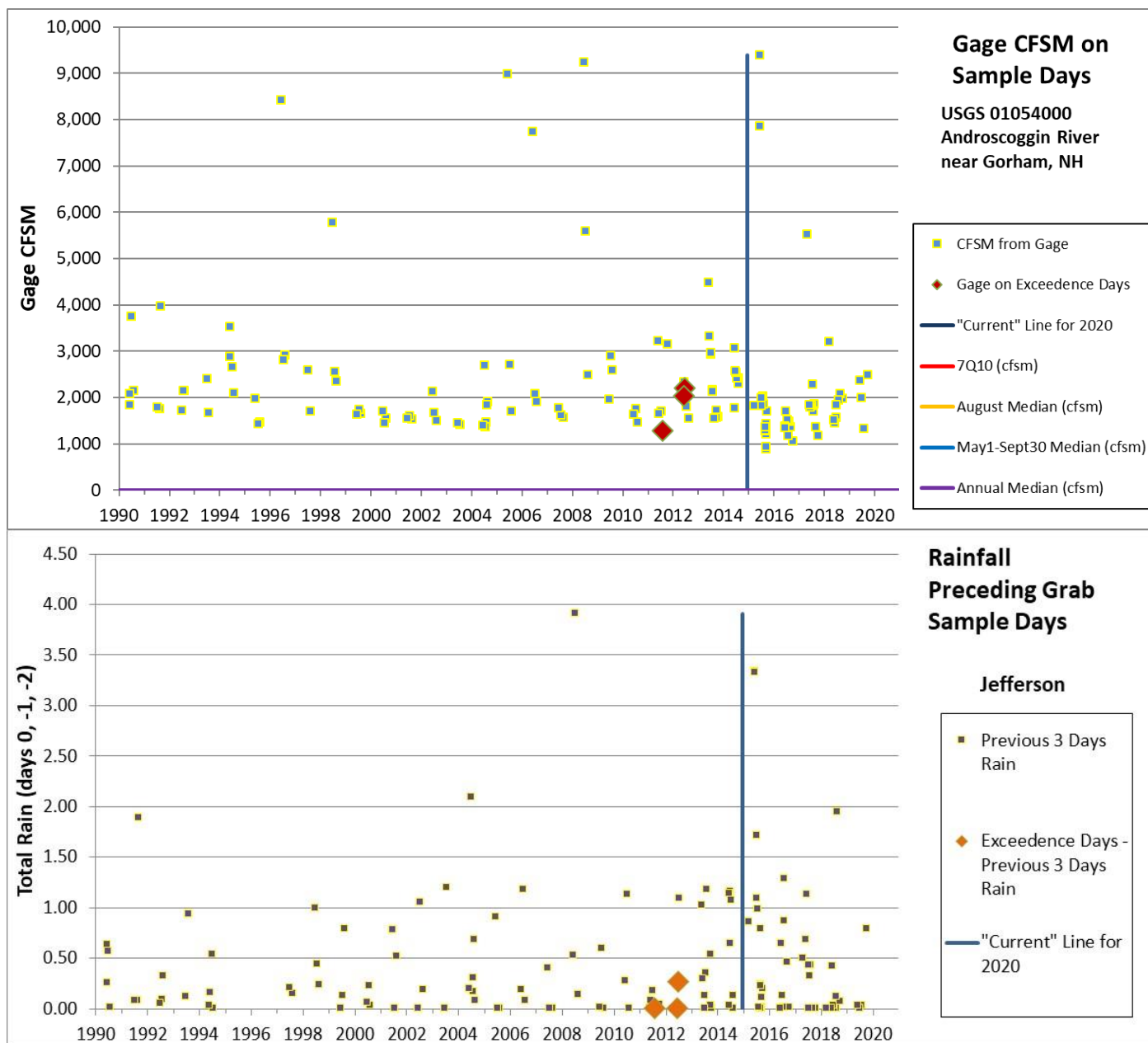
Dissolved Oxygen Concentration for Aquatic Life Integrity

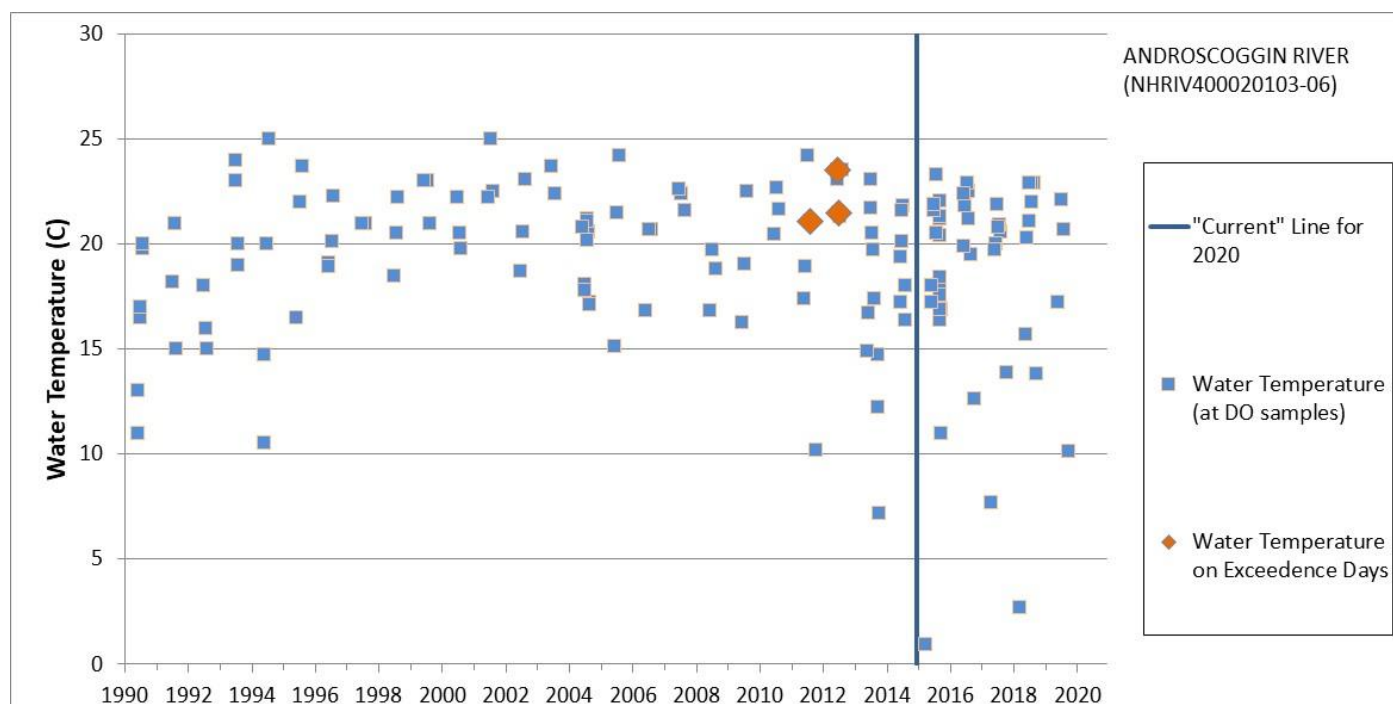
ANDROSCOGGIN RIVER (NHRIV400020103-06)

Assessment Unit Name	Assessment Unit ID	Parameter Name	Town(s) - Primary Town Listed First	2018	2020/2022
ANDROSCOGGIN RIVER	NHRIV400020103-06	DISSOLVED OXYGEN (MG/L)	SHELBURNE	5-P	2-G

The Androscoggin River (NHRIV400020103-06) was originally impaired during the 2012 assessment cycle using data collected at station 02-AND. Since 1990, three of 157 (1.9%) grab samples and 24-hr min datalogger values collected at stations 02-AND and 01-AND were below the dissolved oxygen threshold of 5 mg/L. The low dissolved oxygen samples were collected at flows ranging from 1,280-2,210 cfs on the Androscoggin River gage (01054000), water temperatures ranging from 21.1-23.5 degrees C and three-day rainfall totals ranging from 0.00-0.27 inches. Two of the three of these samples were collected during NSP. In the current assessment period (2015-2020), all samples (n=52) collected at stations 02-AND and 01-AND were above the dissolved oxygen threshold of 5 mg/L. The 52 dissolved oxygen samples were collected at a wide variety of flows ranging from 887-9,390 cfs on the Androscoggin River gage (01054000), water temperatures ranging 0.9-23.3 degrees C, and three-day rainfall totals ranging from 0.00-3.34 inches. The current data was collected at the same station (with the addition of data collected at 01-AND) and under similar hydrological and meteorological conditions as those that drove the initial impairment, which supports the delisting of the Androscoggin River in the 2020/2022 cycle. The Androscoggin River (NHRIV400020103-06) has been moved from 5-P to 2-G for dissolved oxygen (mg/L) for the aquatic life integrity designated use based on data collected in the current assessment period.







Notes:

DO-PPM-GRAB-NCT-CP = Grab samples of dissolved oxygen not in the early morning hours of the summer critical period.

DO-PPM-GRAB-CT-SP = Grab samples of dissolved oxygen during the early morning hours of the critical spawning period.

DO-PPM-GRAB-CT-NSP = Grab samples of dissolved oxygen during the early morning hours and not during the critical spawning period.

DO-PPM-GRAB-NCT-SP = Grab samples of dissolved oxygen not in the early morning hours of the critical spawning period.

DO-PPM-GRAB-NCT-NSP = Grab samples of dissolved oxygen not in the early morning hours and outside the critical spawning period.

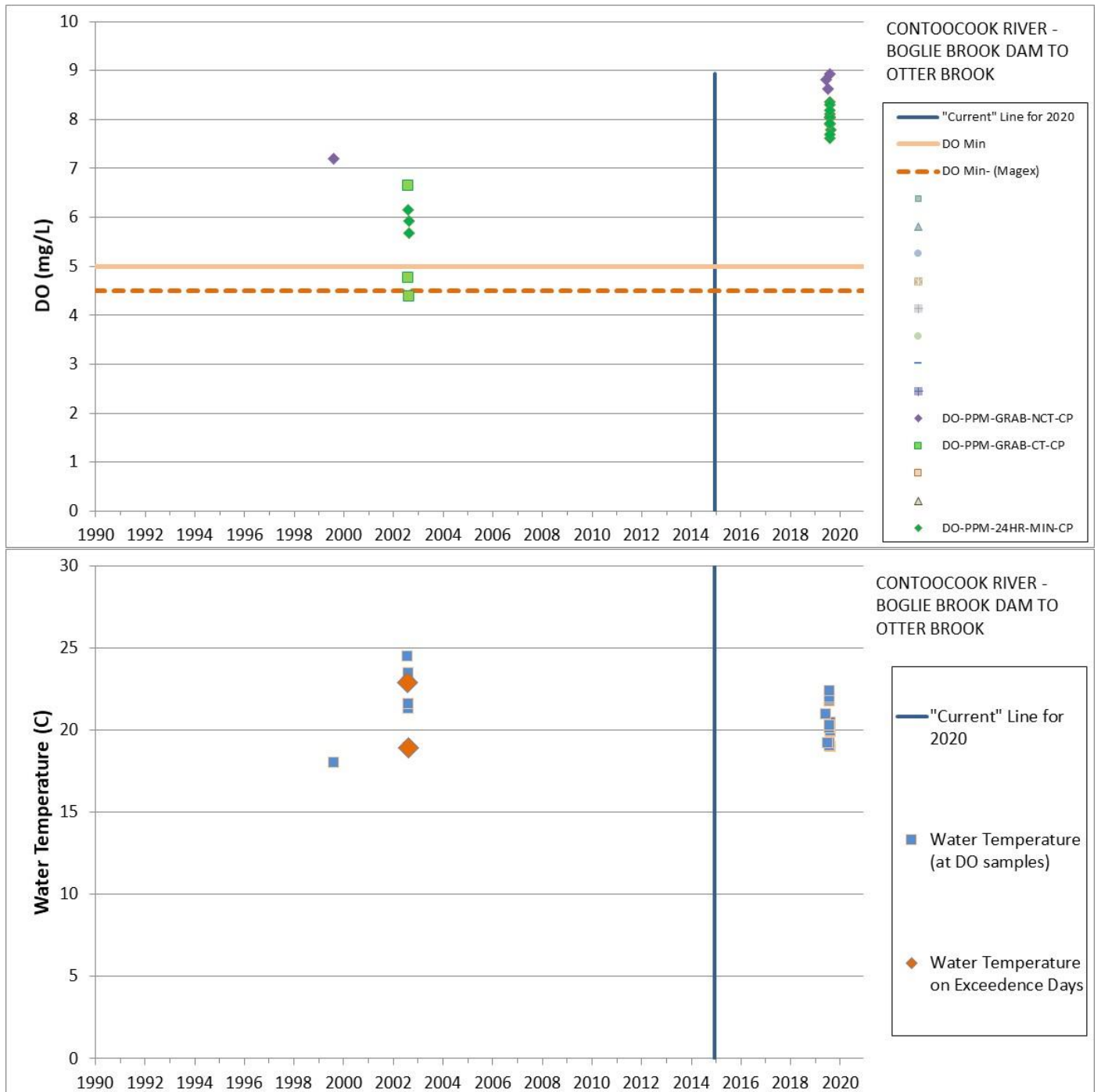
DO-PPM-24HR-MIN-CP = 24-hour minimum dissolved oxygen concentration from a datalogger deployed during the summer critical period.

"Current" Line for 2020 – Per the methodology outlined in the CALM, all data from this referenced data is considered "current" unless available older data is provided for context. See the 2020 CALM for addition details.

CONTOOCCOOK RIVER - BOGLIE BROOK DAM TO OTTER BROOK (NHRIV700030104-23)

Assessment Unit Name	Assessment Unit ID	Parameter Name	Town(s) - Primary		
			Town Listed First	2018	2020/2022
CONTOOCCOOK RIVER - BOGLIE BROOK DAM TO OTTER BROOK	NHRIV700030104-23	DISSOLVED OXYGEN (MG/L)	PETERBOROUGH	5-P	2-G

The Contoocook River- Boglie Brook Dam to Otter Brook (NHRIV700030104-23) was originally impaired during the 2006 assessment cycle using data collected at station 25X-CTC. Since 1999, two of 22 (9.1%) grab samples and 24-hr min datalogger values collected at stations 25X-CTC were below the dissolved oxygen threshold of 5 mg/L. The low dissolved oxygen samples were collected at a flow of 0.14 cfms on the Contoocook River gage (01082000) and water temperatures of 18.9 and 24.5 degrees C. These two samples were grab samples collected during the critical period and time, but were at 4.38 and 4.77 mg/L. In the current assessment period (2015-2020), all samples (n=15) collected at station 25X-CTC were above the dissolved oxygen threshold of 5 mg/L. The 15 dissolved oxygen samples were collected at a wide variety of flows ranging from 0.22-2.69 cfms on the Contoocook River gage (01082000), water temperatures ranging 19.0-22.4 degrees C, and three-day rainfall totals ranging from 0.00-2.60 inches. The current data was collected at the same station and under similar hydrological and meteorological conditions as those that drove the initial impairment, which supports the delisting of the Contoocook River in the 2020/2022 cycle. Although the data was only collected in 2019, 12 of the samples were collected from a datalogger during the critical period. The Contoocook River- Boglie Brook Dam to Otter Brook (NHRIV700030104-23) has been moved from 5-P to 2-G for dissolved oxygen (mg/L) for the aquatic life integrity designated use based on data collected in the current assessment period.





Notes:

DO-PPM-GRAB-CT-CP = Grab samples of dissolved oxygen during the early morning hours of the summer critical period.

DO-PPM-GRAB-NCT-CP = Grab samples of dissolved oxygen not in the early morning hours of the summer critical period.

DO-PPM-24HR-MIN-CP = 24-hour minimum dissolved oxygen concentration from a datalogger deployed during the summer critical period.

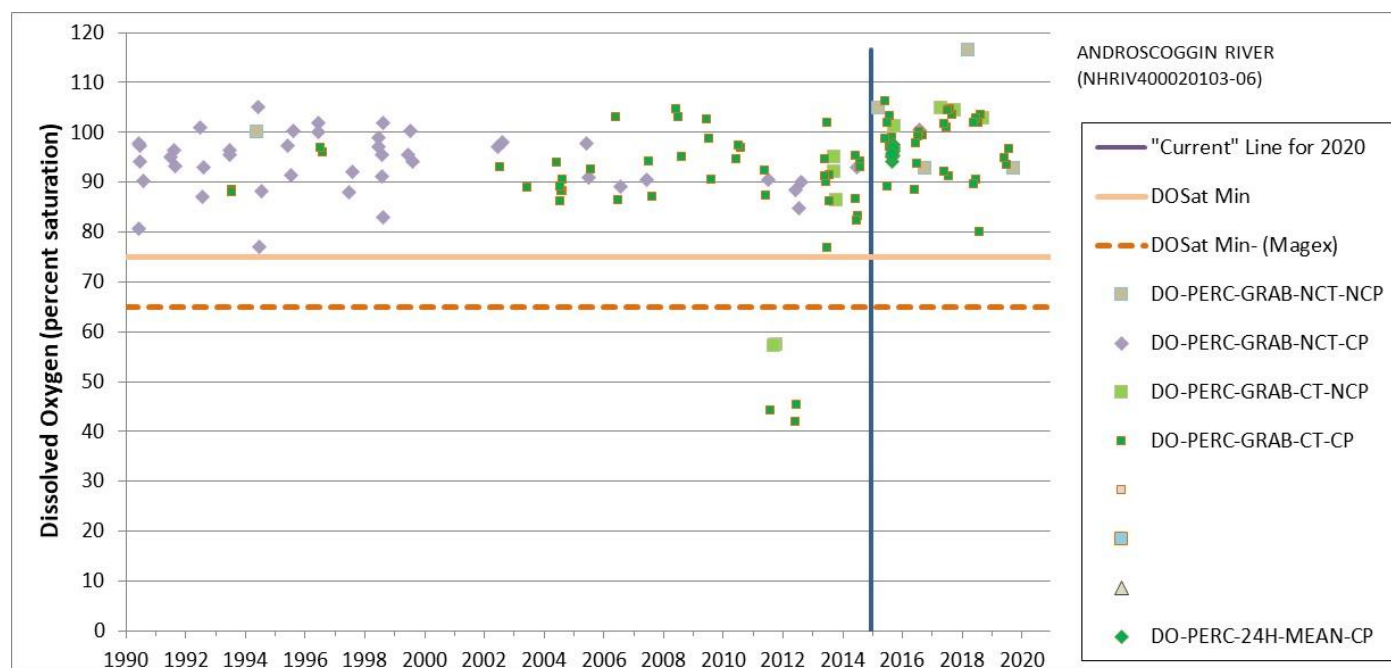
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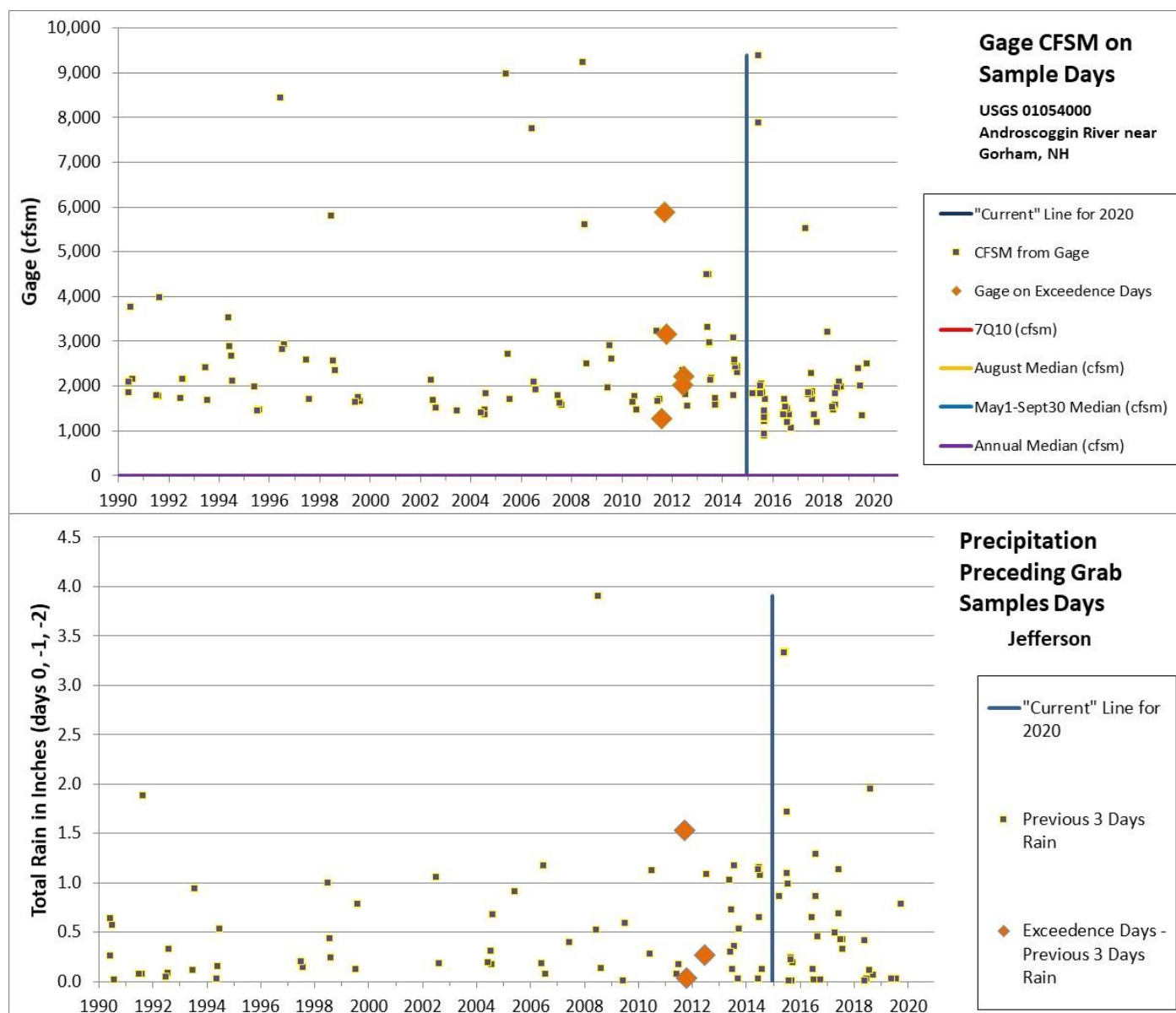
Dissolved Oxygen Saturation for Aquatic Life Integrity

ANDROSCOGGIN RIVER (NHRIV400020103-06)

Assessment Unit Name	Assessment Unit ID	Parameter Name	Town(s) - Primary Town Listed First	2018	2020/2022
ANDROSCOGGIN RIVER	NHRIV400020103-06	Dissolved Oxygen (Percent Saturation)	SHELBURNE	5-M	2-G

The Androscoggin River (NHRIV400020103-06) was originally impaired in the 2012 assessment cycle based on 5 grab samples collected that were below the dissolved oxygen (percent saturation) criteria of 75% (24-hour average). These low samples were collected at station 02-AND in 2012, at flows ranging from 1,280-5,880 cfs on the Androscoggin River gage (01054000) and during three-day rainfall totals of 0.00-1.51 inches. All samples taken (n=50) in the current assessment period (2015-2020) were above the dissolved oxygen (percent saturation) threshold of 75%. These samples were taken at station 01-AND and 02-AND at flows ranging from 887-9,390 cfs on the Androscoggin River gage (01054000) and during three-day rainfall totals of 0.00-3.34 inches. Thirty of the 50 samples were taken within the critical period and critical time. The current data were collected at the same station (with the addition of 01-AND) and under similar hydrological and meteorological conditions as those that drove the initial impairment, which supports the delisting of the Androscoggin River in the 2020/2022 cycle. The Androscoggin River (NHRIV400020103-06) has been moved from 5-M to 2-G for dissolved oxygen (percent saturation) for the aquatic life integrity designated use based on data collected in the current assessment period.





Notes:

DO-PERC-GRAB-CT-CP = Grab samples of dissolved oxygen during the early morning hours of the summer critical period.

DO-PERC-GRAB-CT-NCP = Grab samples of dissolved oxygen during the early morning hours and not during the summer critical period.

DO-PERC-GRAB-NCT-CP = Grab samples of dissolved oxygen not in the early morning hours of the summer critical period.

DO-PERC-GRAB-NCT-NCP = Grab samples of dissolved oxygen not in the early morning hours and outside the summer critical period.

DO-PERC-24HR-MEAN-CP = 24-hour average dissolved oxygen saturation from a datalogger deployed during the summer critical period.

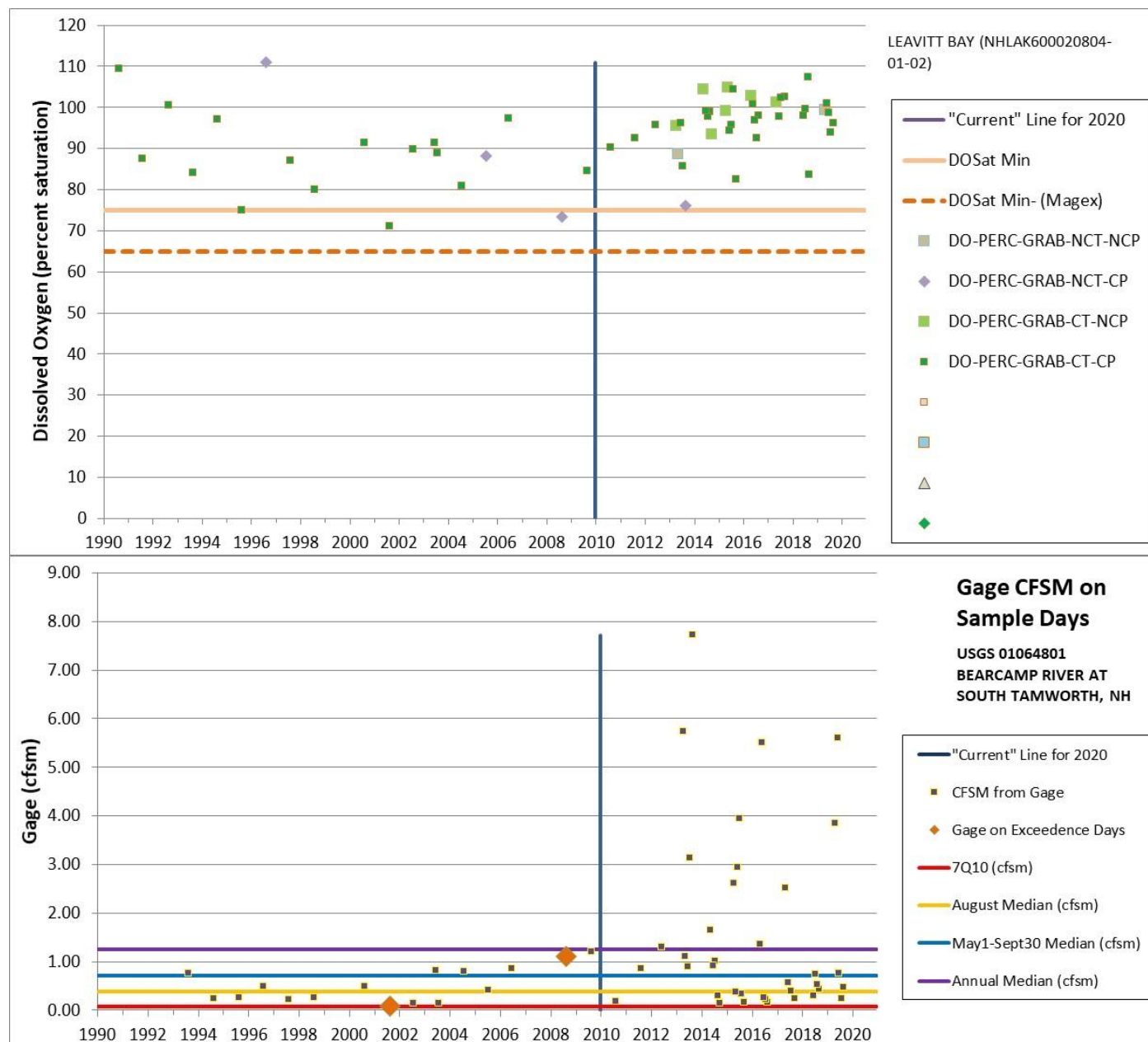
"Current" Line for 2020 – Per the methodology outlined in the CALM, all data from this referenced data is considered "current" unless available older data is provided for context. See the 2020 CALM for addition details.

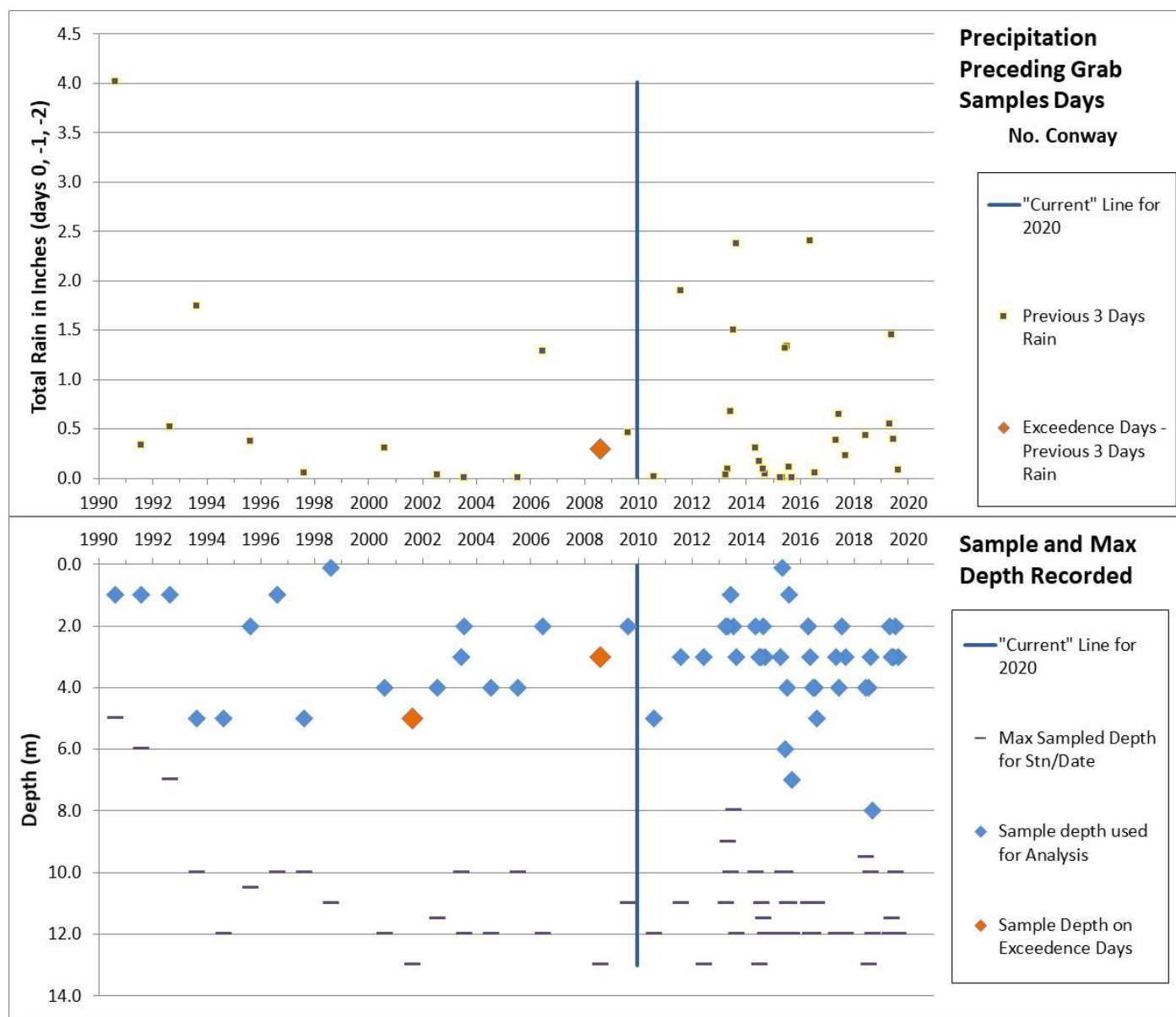
LEAVITT BAY (NHLAK600020804-01-02)

Assessment Unit Name	Assessment Unit ID	Parameter Name	Town(s) - Primary Town Listed First	2018	2020/2022
Leavitt Bay	NHLAK600020804-01-02	Dissolved Oxygen (Percent Saturation)	EFFINGHAM, FREEDOM, OSSIPEE	5-M	2-M

Leavitt Bay (NHLAK600020804-01-02) was originally impaired in the 2010 assessment cycle based on 2 grab samples collected that were below the dissolved oxygen (percent saturation) criteria of 75% (24-hour average). These low samples were collected at

station LEAOSSD, in mid-late August, when water temperatures were between 21.4 and 24.5 degrees C. Grab samples collected in the last 10 years indicate that Leavitt Bay is attaining water quality standards for DO %sat, with all samples above the dissolved oxygen (percent saturation) threshold of 75%, including those collected under similar conditions to those that led to the initial impairment (same station, similar time of year and similar and even higher water temperatures). Based on the data that are available, Leavitt Bay (NHLAK600020804-01-02) has been moved from 5-M to 2-G for dissolved oxygen (percent saturation) for the aquatic life integrity designated use based on data collected in the current assessment period.





MERRIMACK RIVER (NHRIV700060802-14-02)

Assessment Unit Name	Assessment Unit ID	Parameter Name	Town(s) - Primary Town Listed First	2018	2020/2022
MERRIMACK RIVER	NHRIV700060802-14-02	Dissolved Oxygen (Percent Saturation)	HOOKSETT, MANCHESTER	5-P	2-G

During the current assessment period (2015-2019) a datalogger was deployed at station P1893-05 in NHRIV700060802-14-02 from September 1st through September 19th. There were 19 days of full 24-hour data and during all of these the daily average dissolved oxygen (% saturation) was above 94%. Flows during the deployment ranged from below the August median to above the May 1st –

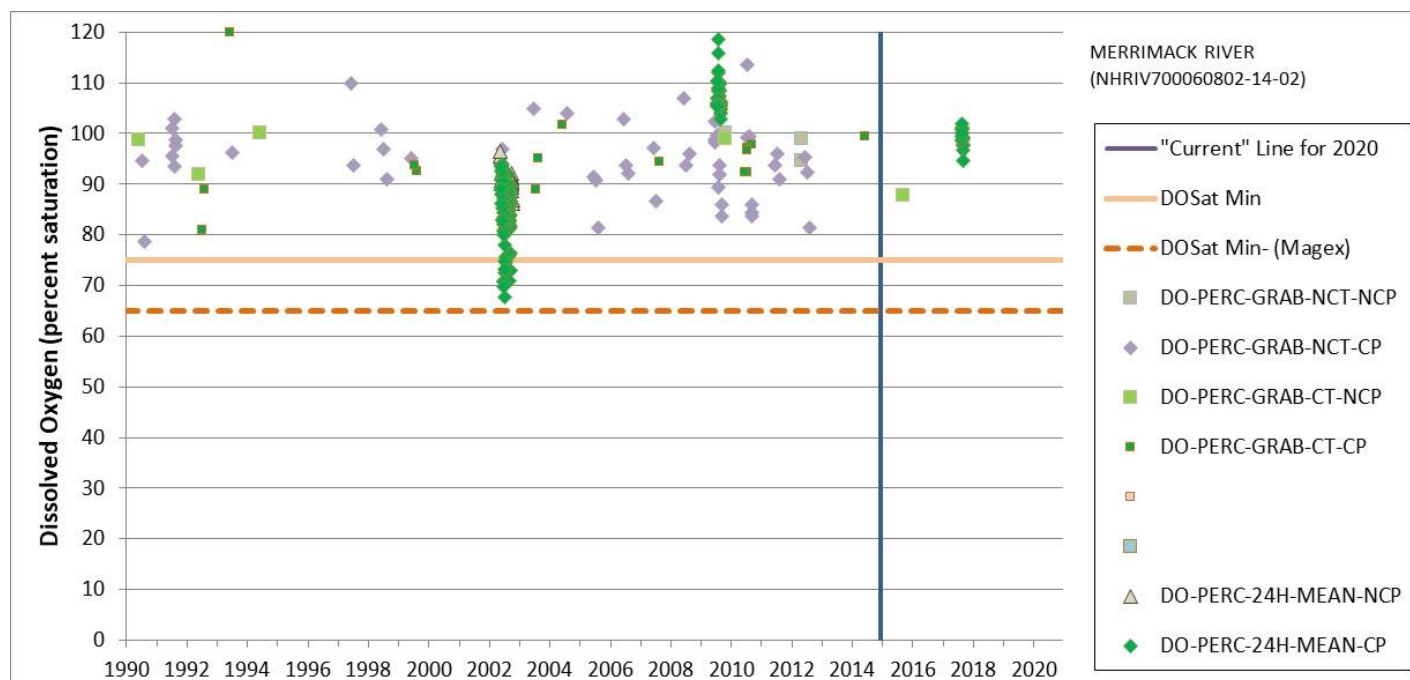
September 30th median. Precipitation conditions varied from no rain in the prior three days to greater than 1 inch of rain. The water temperature daily average during the deployment ranged from below 18.8 degrees C. to above 22.5 degrees C.

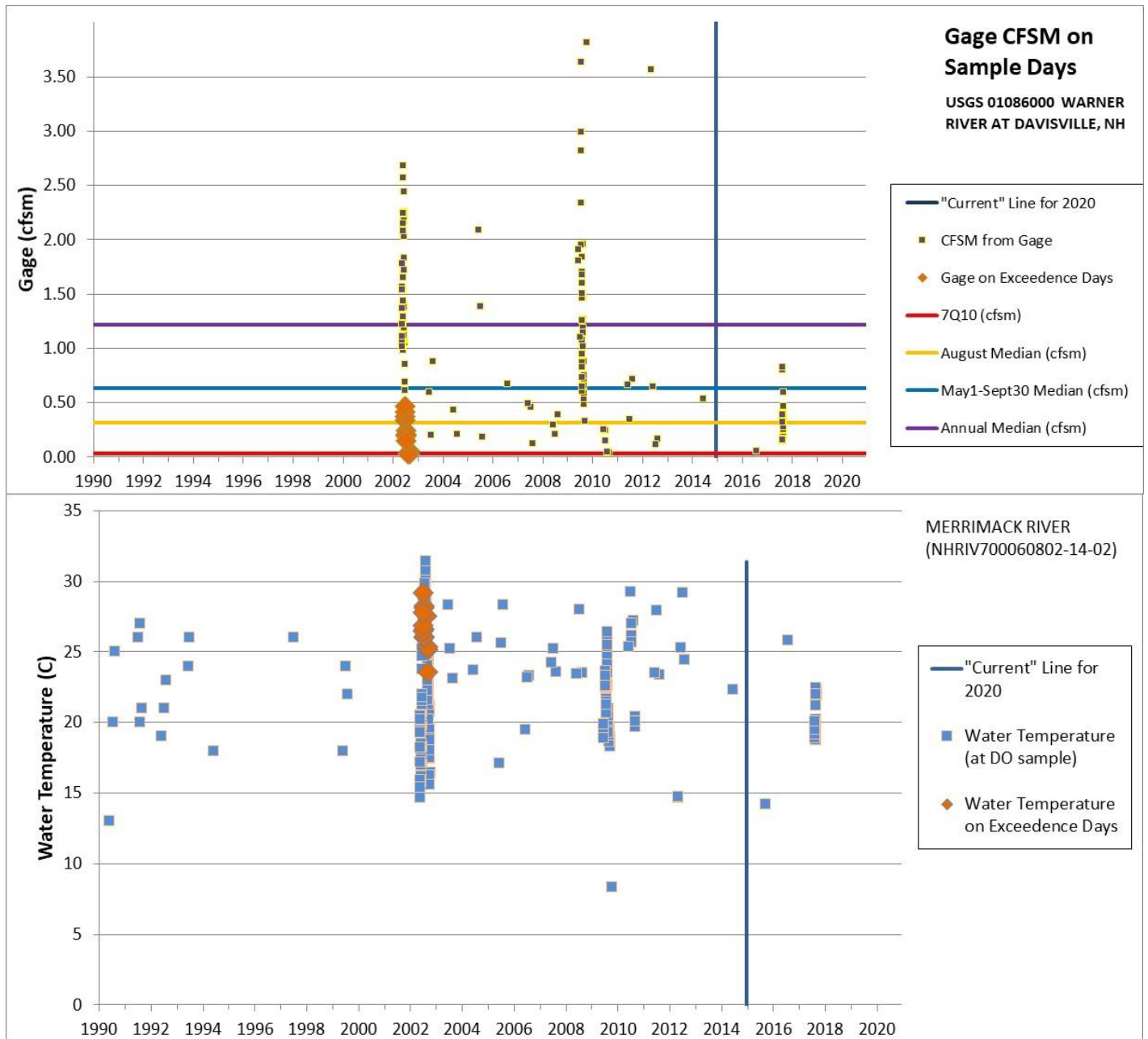
In 2009 a datalogger was deployed at station 16C-MER in NHRIV700060802-14-02 from July 30th through September 14th. Station 16C-MER is approximately 250 feet downstream from station P1893-05. Both stations are just downstream of the Hooksett Hydroelectric dam. There were 39 days of full 24-hour data and during all of these the daily average dissolved oxygen (% saturation) was above 102%. Flows during the deployment ranged from the August median to above the annual median. Precipitation conditions varied from no rain in the prior three days to greater than 1 inch of rain. The water temperature daily average during the deployment ranged from below 18.3 degrees C. to above 26.4 degrees C.

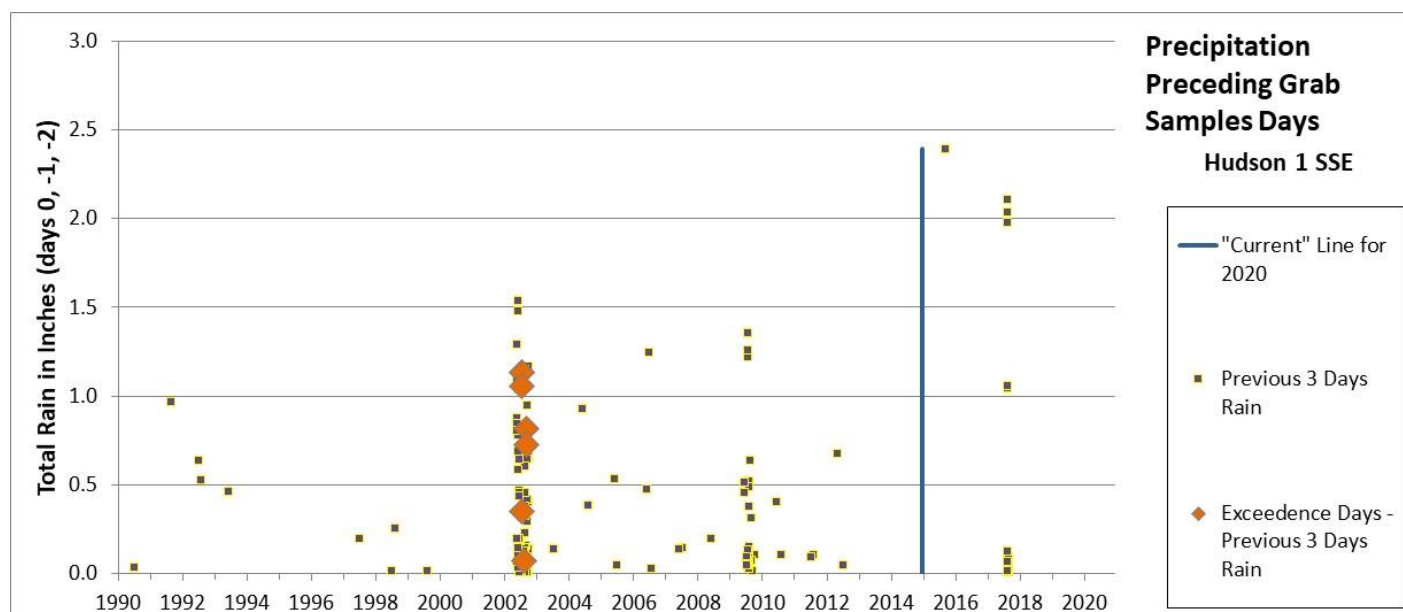
This assessment unit was listed as impaired due to a datalogger deployment in 2002 at station P1893-05. The 2002 datalogger deployment was done from May 25th through October 14th. There were 126 days of full 24-hour data and for 9.5% (n=12) days the daily average dissolved oxygen (% saturation) was below the water quality criteria of 75%. Table 3-13 in the 2020/2022 CALM lists the minimum number of exceedances needed to assess a waterbody as impaired compared to the total number of samples collected. As per Table 3-13 for a samples size of 126 there would need to be 13 exceedances for NHRIV700060302-25-02 to be considered impaired. The total number of exceedances in during the 2020 datalogger deployment was 12.

The 2002 datalogger was deployed to collect data for the FERC relicensing process of the Hooksett hydroelectric dam. As per the 2005 renewed FERC license new minimum flow requirements were implements. The 2005 FERC license requires a minimum flow release of 819 cfs or inflow, whichever is lower. In addition, the 2005 FERC license implemented minimum flow releases of 64 cfs in the fish bypass channel.

The datalogger deployments from 2009 and 2017 indicate that stations P1893-05 and 16C-MER in NHRIV700060802-14-02 are meeting the water quality criteria for dissolved oxygen (% saturation). Merrimack River (NHRIV700060802-14-02) has been moved from 5-P to 2-G for dissolved oxygen (% saturation) for the aquatic life integrity designated use based on data collected in the current and past assessment periods. It should be noted that this is a delisting that is tied to an assessment unit that falls within EPA's 2017 MS4 General Permit Area.







Notes:

DO-PERC-GRAB-CT-CP = Grab samples of dissolved oxygen during the early morning hours of the summer critical period.
 DO-PERC-GRAB-CT-NCP = Grab samples of dissolved oxygen during the early morning hours and not during the summer critical period.
 DO-PERC-GRAB-NCT-CP = Grab samples of dissolved oxygen not in the early morning hours of the summer critical period.
 DO-PERC-GRAB-NCT-NCP = Grab samples of dissolved oxygen not in the early morning hours and outside the summer critical period.
 DO-PERC-24HR-MEAN-CP = 24-hour average dissolved oxygen saturation from a datalogger deployed during the summer critical period.
 DO-PERC-24HR-MEAN-NCP = 24-hour average dissolved oxygen saturation from a datalogger not deployed during the summer critical period.
 "Current" Line for 2020 – Per the methodology outlined in the CALM, all data from this referenced data is considered "current" unless available older data is provided for context. See the 2020 CALM for addition details.

MERRIMACK RIVER (NHRIV700060302-25-02)

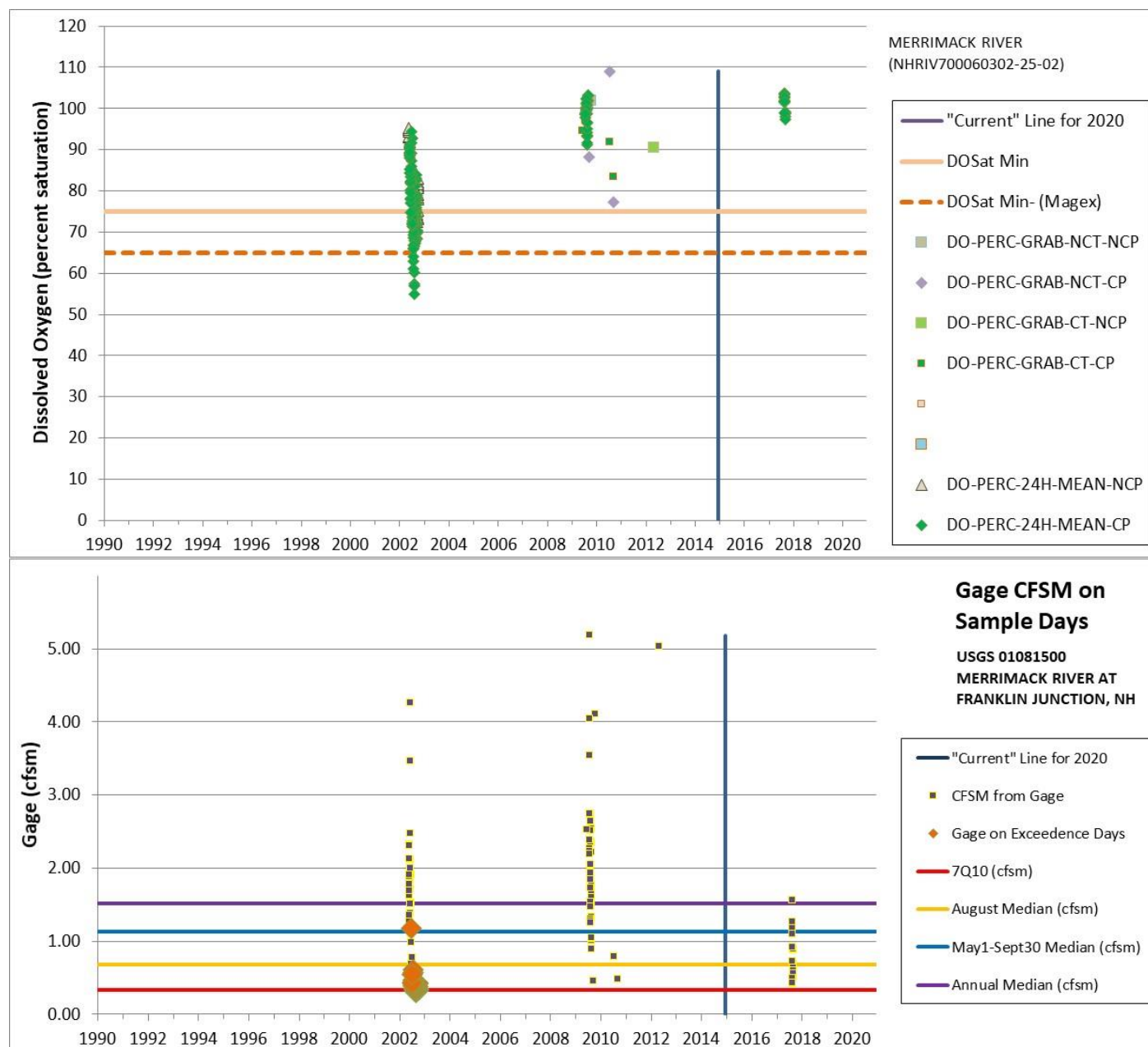
Assessment Unit Name	Assessment Unit ID	Parameter Name	Town(s) - Primary Town Listed First	2018	2020/2022
MERRIMACK RIVER	NHRIV700060302-25-02	Dissolved Oxygen (Percent Saturation)	BOW, CONCORD, PEMBROKE	5-P	2-M

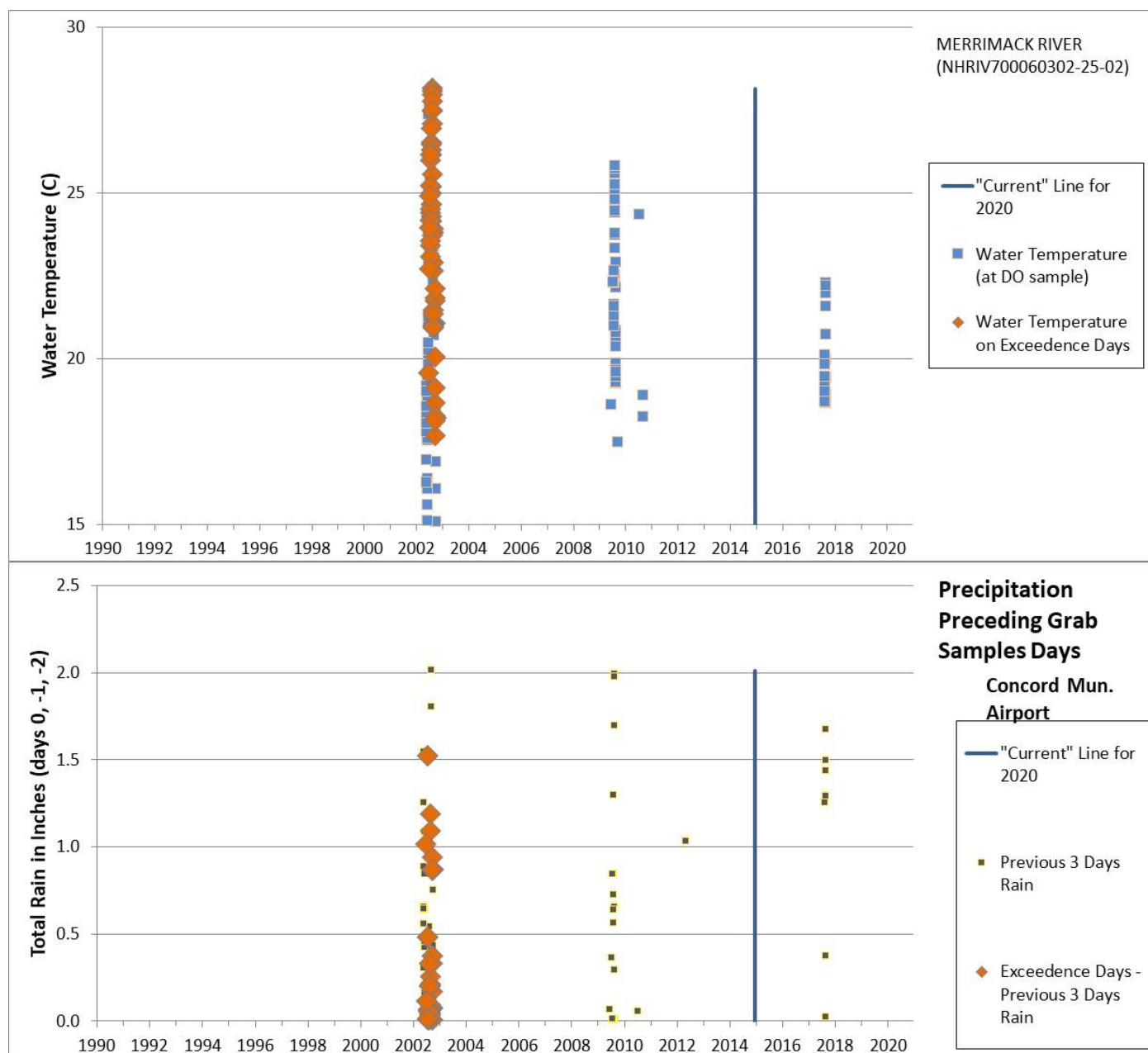
During the current assessment period (2015-2019) a datalogger was deployed at station P1893-03 in NHRIV700060302-25-02 from September 1st through September 19th. There were 19 days of full 24-hour data and during all of these the daily average dissolved oxygen (% saturation) was above 95%. Flows during the deployment ranged from below the August median to above the annual median. Precipitation conditions varied from no rain in the prior three days to greater than 1 inch of rain. The water temperature daily average during the deployment ranged from below 18 degrees C. to above 22 degrees C.

In 2009 a datalogger was deployed at station 19B-MER in NHRIV700060302-25-02 from August 4th through September 7th. Station 19B-MER is approximately 2000 feet downstream from station P1893-03. Both stations are just downstream of the Garvin Falls Hydroelectric dam. There were 36 days of full 24-hour data and during all of these the daily average dissolved oxygen (% saturation) was above 90%. Flows during the deployment ranged from below the August median to above the annual median. Precipitation conditions varied from no rain in the prior three days to greater than 1 inch of rain. The water temperature daily average during the deployment ranged from below 17 degrees C. to above 25 degrees C.

This assessment unit was listed as impaired due to a datalogger deployment in 2002 at station P1893-03. The 2002 datalogger deployment was done from May 25th through October 14th. There were 126 days of full 24-hour data and for 42% (n=58) days the daily average dissolved oxygen (% saturation) was below the water quality criteria of 75%. The 2002 datalogger was deployed to collect data for the FERC relicensing process of the Garvin Falls hydroelectric dam. As per the 2005 renewed FERC license new minimum flow requirements were implements. The 2005 FERC license requires a minimum flow release of 719 cfs or inflow, whichever is lower. In addition, the 2005 FERC license implemented minimum flow releases of 55 cfs in the main stem bypass and 23 cfs in the downstream fish bypass channel.

The datalogger deployments from 2009 and 2017 indicate that stations P1893-03 and 19B-MER in NHRIV700060302-25-02 are meeting the water quality criteria for dissolved oxygen (% saturation). Merrimack River (NHRIV700060302-25-02) has been moved from 5-P to 2-M for dissolved oxygen (% saturation) for the aquatic life integrity designated use based on data collected in the current and past assessment periods. It should be noted that this is a delisting that is tied to an assessment unit that falls within EPA's 2017 MS4 General Permit Area.





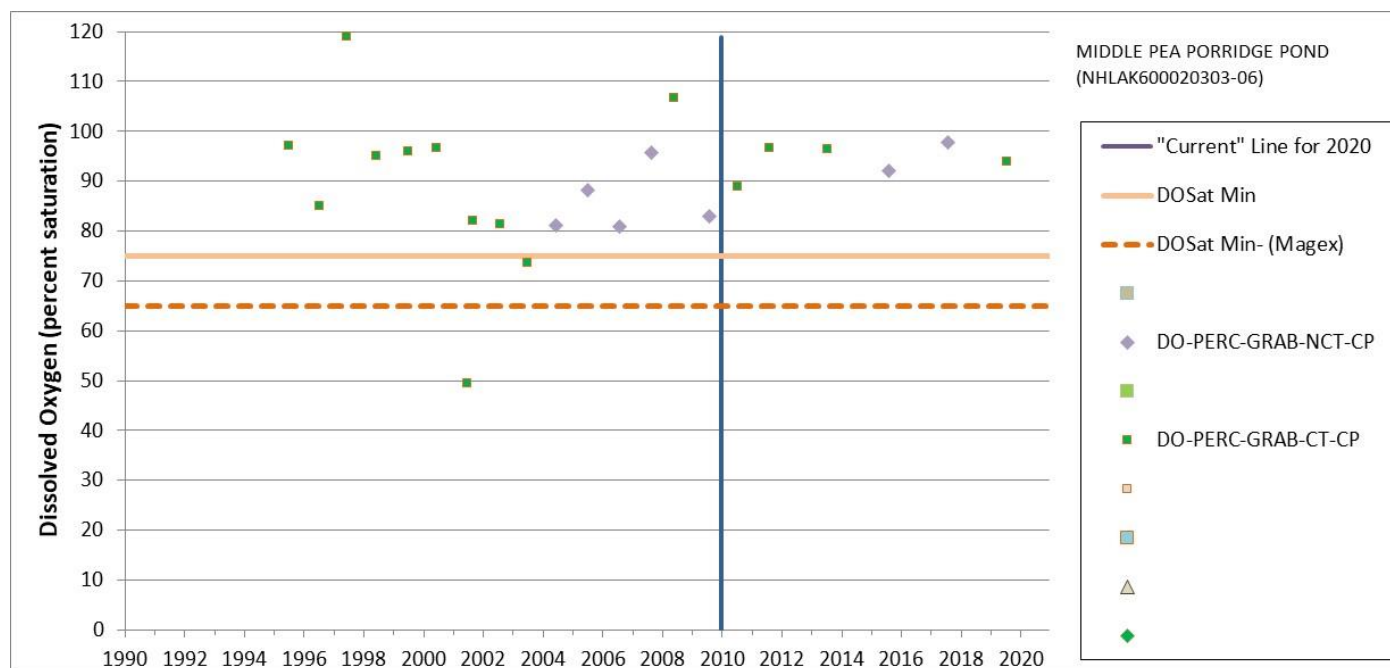
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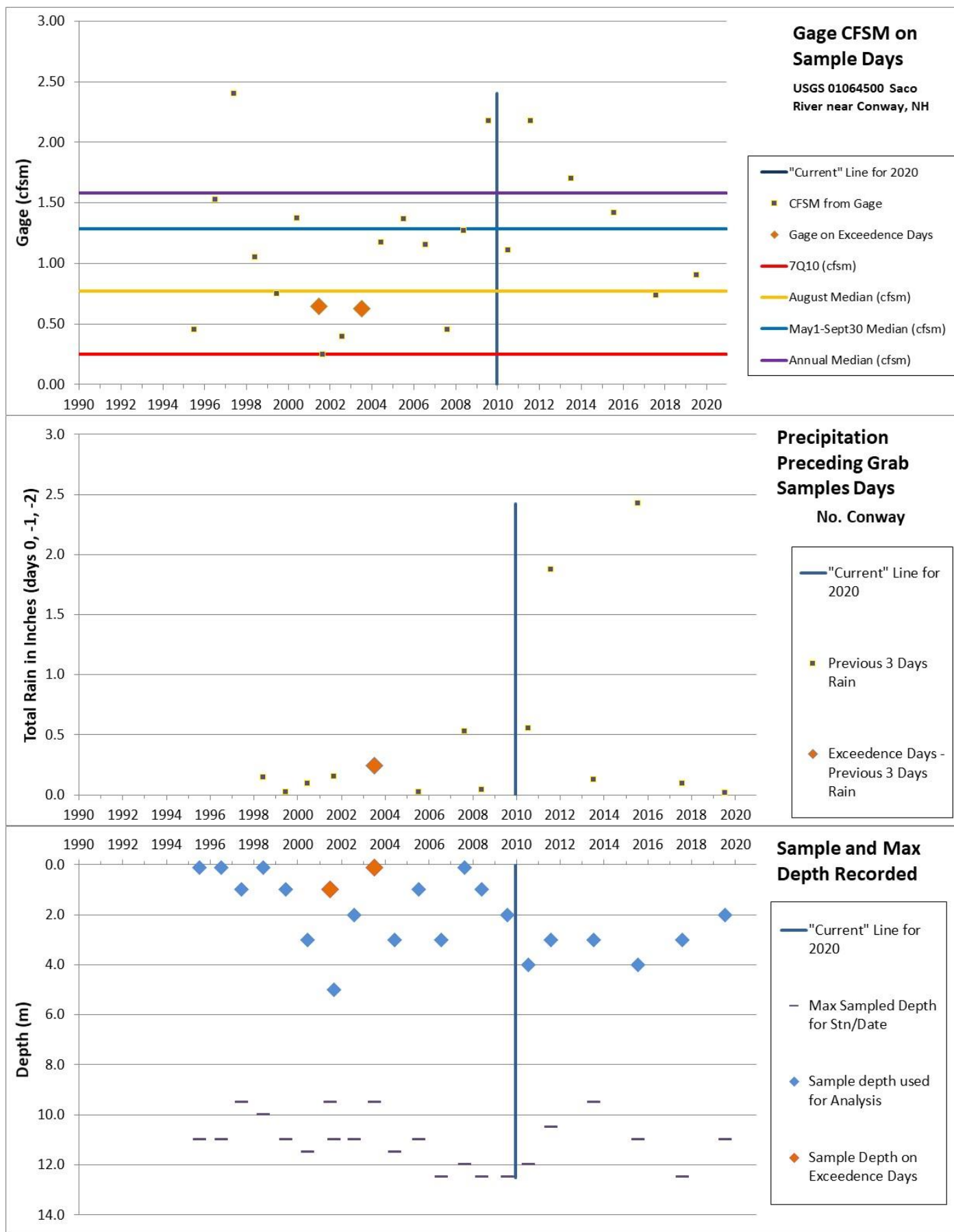
DO-PERC-GRAB-CT-CP = Grab samples of dissolved oxygen during the early morning hours of the summer critical period.
 DO-PERC-GRAB-CT-NCP = Grab samples of dissolved oxygen during the early morning hours and not during the summer critical period.
 DO-PERC-GRAB-NCT-CP = Grab samples of dissolved oxygen not in the early morning hours of the summer critical period.
 DO-PERC-GRAB-NCT-NCP = Grab samples of dissolved oxygen not in the early morning hours and outside the summer critical period.
 DO-PERC-24HR-MEAN-CP = 24-hour average dissolved oxygen saturation from a datalogger deployed during the summer critical period.
 DO-PERC-24HR-MEAN-NCP = 24-hour average dissolved oxygen saturation from a datalogger not deployed during the summer critical period.
 "Current" Line for 2020 – Per the methodology outlined in the CALM, all data from this referenced data is considered "current" unless available older data is provided for context. See the 2020 CALM for addition details.

MIDDLE PEA PORRIDGE POND (NHLAK600020303-06)

Assessment Unit Name	Assessment Unit ID	Parameter Name	Town(s) - Primary Town Listed First	2018	2020/2022
Middle Pea Porridge Pond	NHLAK600020303-06	Dissolved Oxygen (Percent Saturation)	Madison	5-M	3-PAS

Middle Pea Porridge Pond has been listed as 5-M for dissolved oxygen percent saturation for the last few assessment cycles, based on one standard exceedance (2003) and one magex result (June 2001). The bulk of the data (n=20) from station PEAMMADD were collected under a range of flow conditions, in mostly warmer water conditions, and indicate that Middle Pea Porridge Pond is attaining standards for dissolved oxygen percent saturation. Evaluation of the low dissolved oxygen result (49.4%) collected on June 29, 2001 indicates that the meter used to conduct the survey may have been faulty or not calibrated correctly. Investigations revealed that the values collected throughout the whole water column were abnormally low. Values collected two months later in the season (August 2001) during a lake trophic survey, showed dissolved oxygen percent saturation levels were much higher (> 75%) at a later time in the growing season when we would typically expect lower dissolved oxygen than values collected a month prior. Based on this new information it appears that Middle Pea Porridge Pond (NHLAK600020303-06) was mistakenly impaired in 2006. Although the remainder of the data from 1995 through 2019 indicates that Middle Pea Porridge Pond is meeting water quality standards, there are less than 10 samples in the current period (2010-2020), which are needed to make a full assessment determination. Therefore, Middle Pea Porridge Pond (NHLAK600020303-06) has been moved from 5-M to 3-PAS for dissolved oxygen (percent saturation) for the aquatic life integrity designated use based on data collected in the current assessment period and the fact that the low dissolved oxygen saturation value (49.4%) used to make the initial impairment determination was deemed questionable.





Notes:

DO-PERC-GRAB-CT-CP = Grab samples of dissolved oxygen during the early morning hours of the summer critical period.

DO-PERC-GRAB-NCT-CP = Grab samples of dissolved oxygen not in the early morning hours of the summer critical period.

“Current” Line for 2020 – Per the methodology outlined in the CALM, all data from this referenced data is considered “current” unless available older data is provided for context. See the 2020 CALM for addition details.

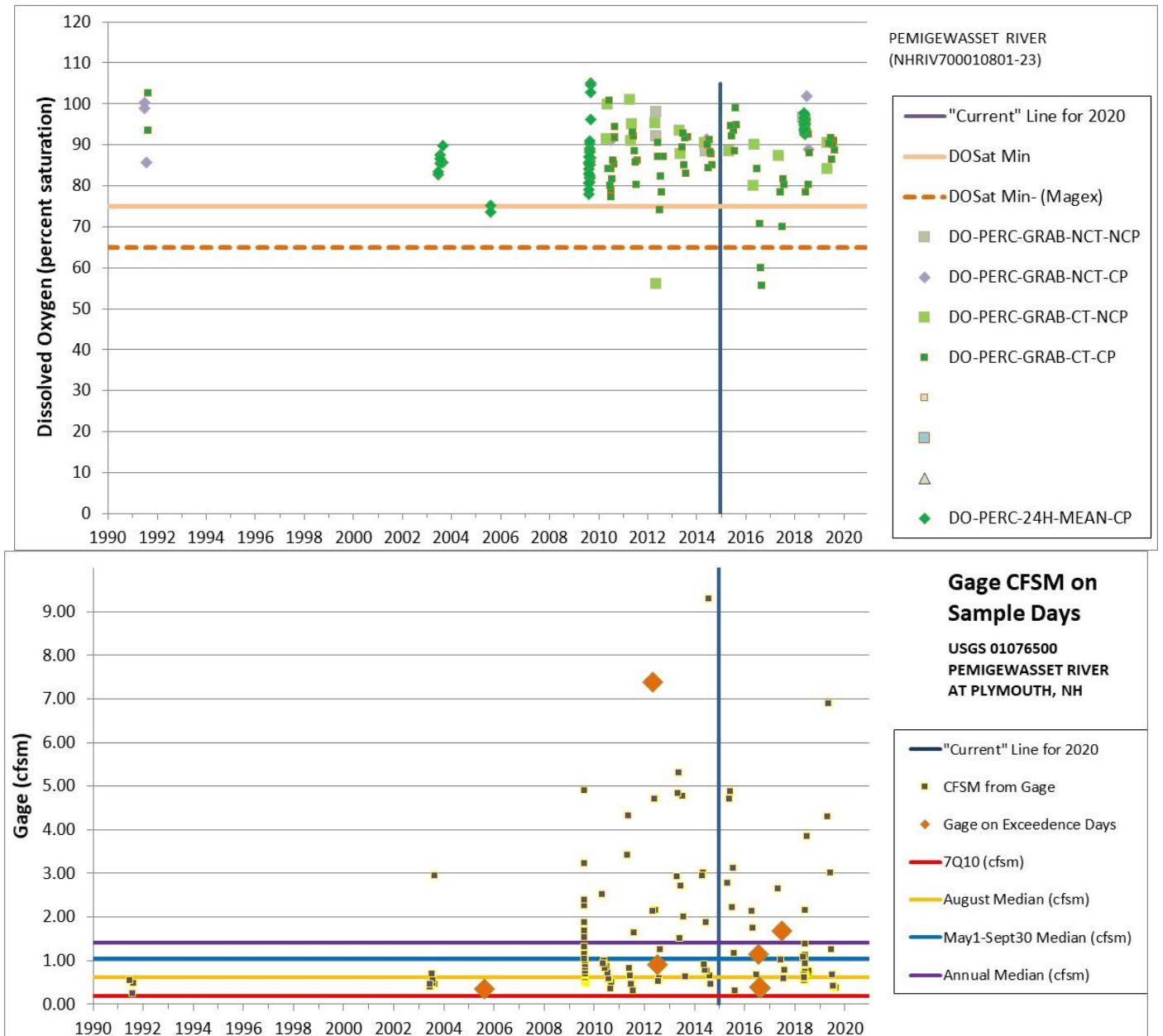
PEMIGEWASSET RIVER (NHRIV700010801-23)

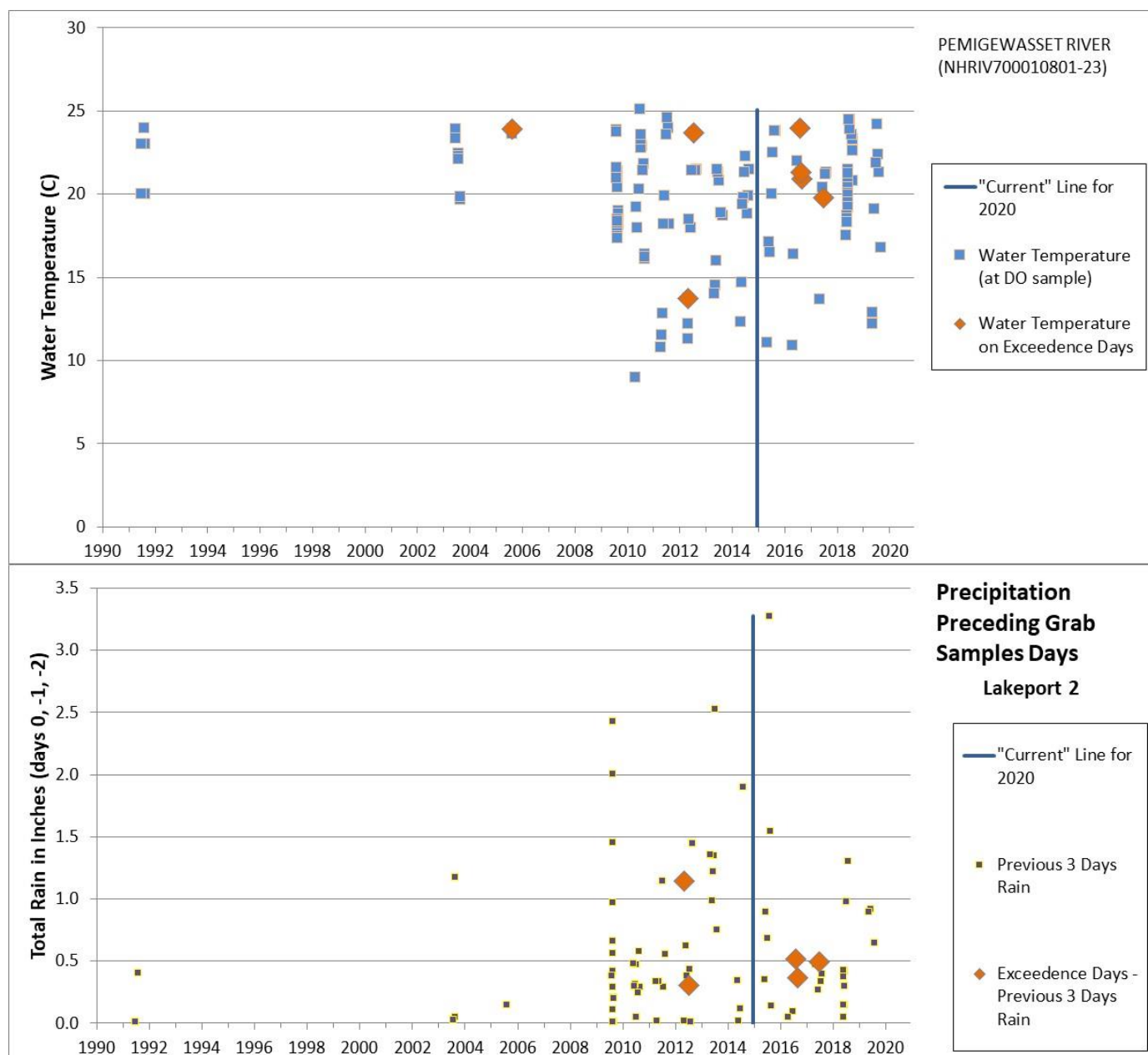
Assessment Unit Name	Assessment Unit ID	Parameter Name	Town(s) - Primary Town Listed First	2018	2020/2022
PEMIGEWASSET RIVER	NHRIV700010801-23	Dissolved Oxygen (Percent Saturation)	BRISTOL, NEW HAMPTON	5-P	2-M

During the current assessment period (2015-2020) there were 34 instantaneous measurements of dissolved oxygen (% saturation) taken at stations 07-PMI and 07R-PMI in NHRIV700010801-23. Of these, four were below the water quality criteria threshold of 75% and two were also below the MAGEX threshold of 65%. In 2018 there was also a 14-day deployment of a datalogger at stations 07-PMI and 07R-PMI from June 12 – 25. The dissolved oxygen (% saturation) daily 24-hour average was above 90% at both stations on all days. The datalogger deployment was done during days that captured the same flow, water temperature, and precipitation conditions during which prior instantaneous measurements were taken that were below the 75% criteria. During the 2018 datalogger deployments flow conditions ranged from well below the August median to above the annual median. Precipitation conditions ranged from almost no rain in the prior three days to greater than 0.5 inches during the deployments. Water temperatures ranged from above to below those seen during any prior instantaneous measurements below 75%.

From 2009 – 2015 there were 51 instantaneous measurements of dissolved oxygen (% saturation) taken at stations 07-PMI and 07R-PMI in NHRIV700010801-23. Of these two were below the water quality criteria threshold of 75% one of which was also below the MAGEX threshold of 65%. In 2009 there was also a 28-day deployment of a datalogger at station 07R-PMI from August 20 – September 17. The dissolved oxygen (% saturation) daily 24-hour average was above 75% water quality criteria for dissolved oxygen (% saturation) on all days. The 2009 datalogger deployment was done during days that captured the same flow, water temperature, and precipitation condition during which instantaneous measurements were taken that were below the 75% criteria. During the 2009 datalogger deployments flow conditions ranged from well below the August median to above the annual median. Precipitation conditions ranged from almost no rain in the prior three days to greater than one inch during the deployments. Water temperatures ranged from above to below those seen during any instantaneous measurements below 75%.

The datalogger daily averages provide a more thorough and accurate assessment of the dissolved oxygen (% saturation) and indicate that stations 07-PMI and 07R-PMI in NHRIV700010801-23 are meeting the water quality criteria for dissolved oxygen (% saturation). As per Table 3-13 in the CALM, the minimum number of exceedances needed to list this waterbody as impaired using the “10% rule” and given the number of samples (n=48) is five. As there were only four exceedances this waterbody should not be listed as impaired. Pemigewasset River (NHRIV700010801-23) has been moved from 5-P to 2-M for dissolved oxygen (% saturation) for the aquatic life integrity designated use based on data collected in the current and past assessment periods.





Notes:

DO-PERC-GRAB-CT-CP = Grab samples of dissolved oxygen during the early morning hours of the summer critical period.

DO-PERC-GRAB-CT-NCP = Grab samples of dissolved oxygen during the early morning hours and not during the summer critical period.

DO-PERC-GRAB-NCT-CP = Grab samples of dissolved oxygen not in the early morning hours of the summer critical period.

DO-PERC-GRAB-NCT-NCP = Grab samples of dissolved oxygen not in the early morning hours and outside the summer critical period.

DO-PERC-24HR-MEAN-CP = 24-hour average dissolved oxygen saturation from a datalogger deployed during the summer critical period.

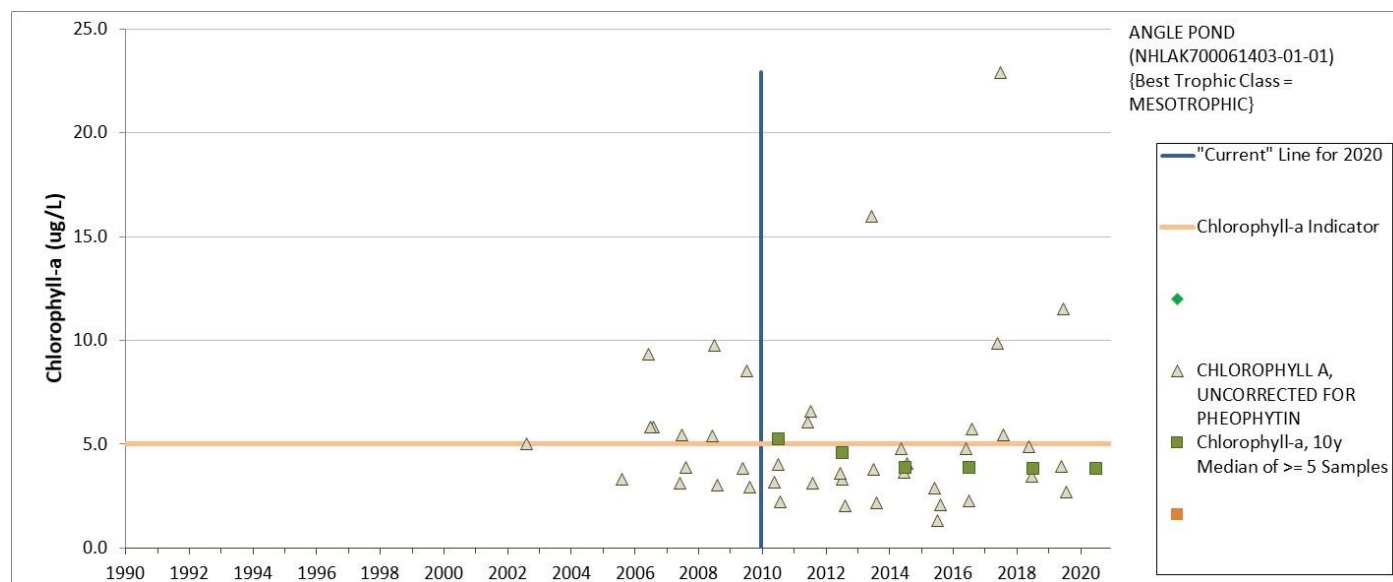
"Current" Line for 2020 – Per the methodology outlined in the CALM, all data from this referenced data is considered "current" unless available older data is provided for context. See the 2020 CALM for addition details.

Chlorophyll-a & Total Phosphorus for Aquatic Life Integrity

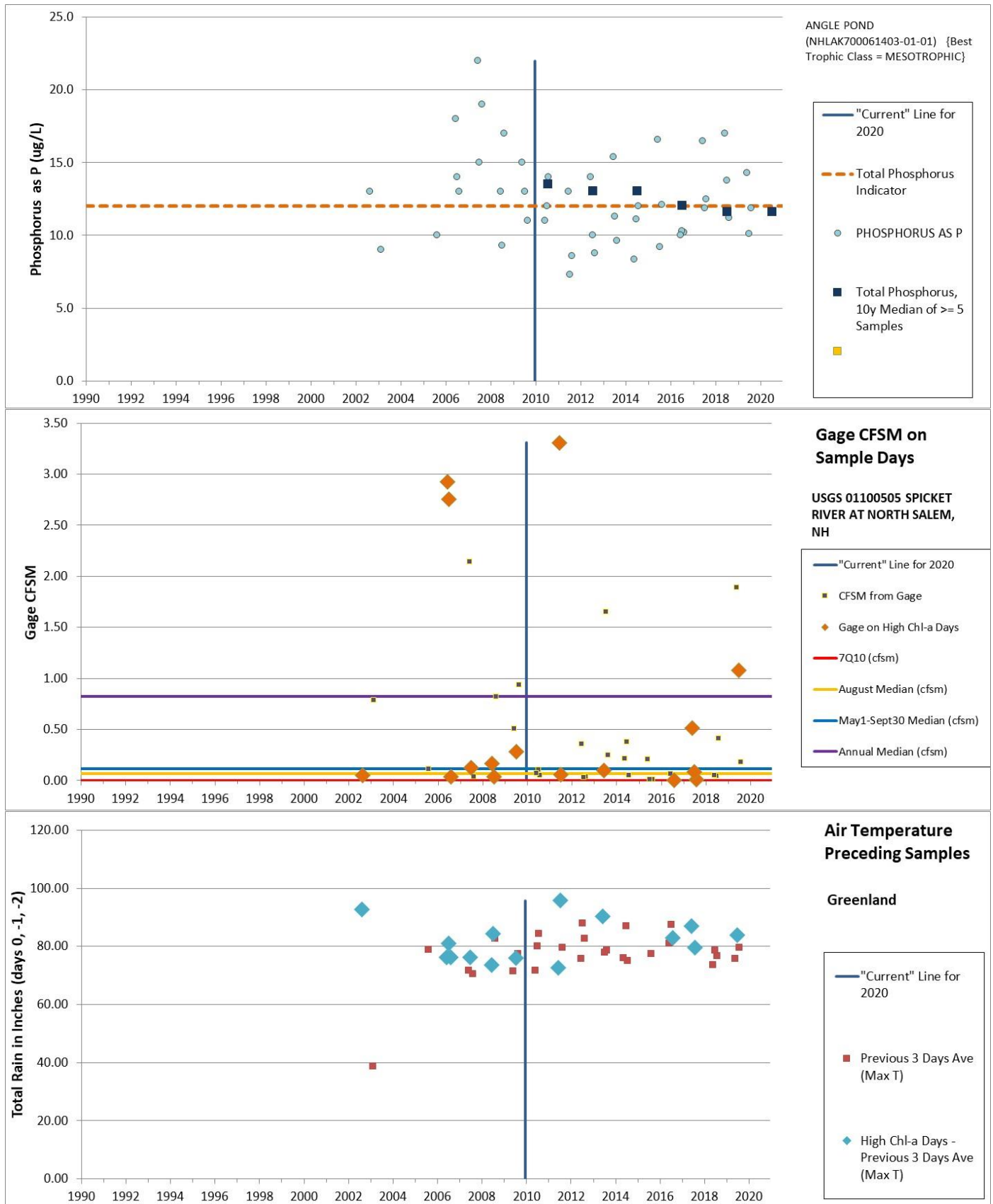
ANGLE POND (NHLAK700061403-01-01)

Assessment Unit Name	Assessment Unit ID	Parameter Name	Town(s) - Primary Town Listed First	2018	2020/2022
ANGLE POND	NHLAK700061403-01-01	Chlorophyll-a	HAMPSTEAD, SANDOWN	5-M	2-M
ANGLE POND	NHLAK700061403-01-01	Phosphorus (Total)	HAMPSTEAD, SANDOWN	5-M	3-PNS

Chlorophyll-a median has remained below threshold for mesotrophic lakes since 2012 assessment cycle. Total phosphorus levels have decreased and median value has remained approximately equal to the threshold for mesotrophic lakes since 2016. Decrease in phosphorus levels combined with an increase in dissolved organic matter that imparts a “tea” color to the water have resulted in limiting nutrients and light availability for algal growth. An active lake association and education/outreach efforts on best practices within the watershed since joining VLAP also help to limit nutrients entering the pond. Angle Pond (NHLAK700061403-01-01) has been moved from 5-M to 2-M for chlorophyll-a for the aquatic life integrity designated use based on data collected in the current assessment period. Total phosphorus levels remain elevated, however following the stressor-response matrix it has been moved from 5-M to 3-PNS for the aquatic life integrity designated use based on data collected in the current assessment period. It should be noted that this is a delisting that is tied to an assessment unit that falls within EPA’s 2017 MS4 General Permit Area.



Impairments Removed (i.e. Delisted) from the 2020/2022 303(d) List of Threatened or Impaired Waters (i.e. Category 5)

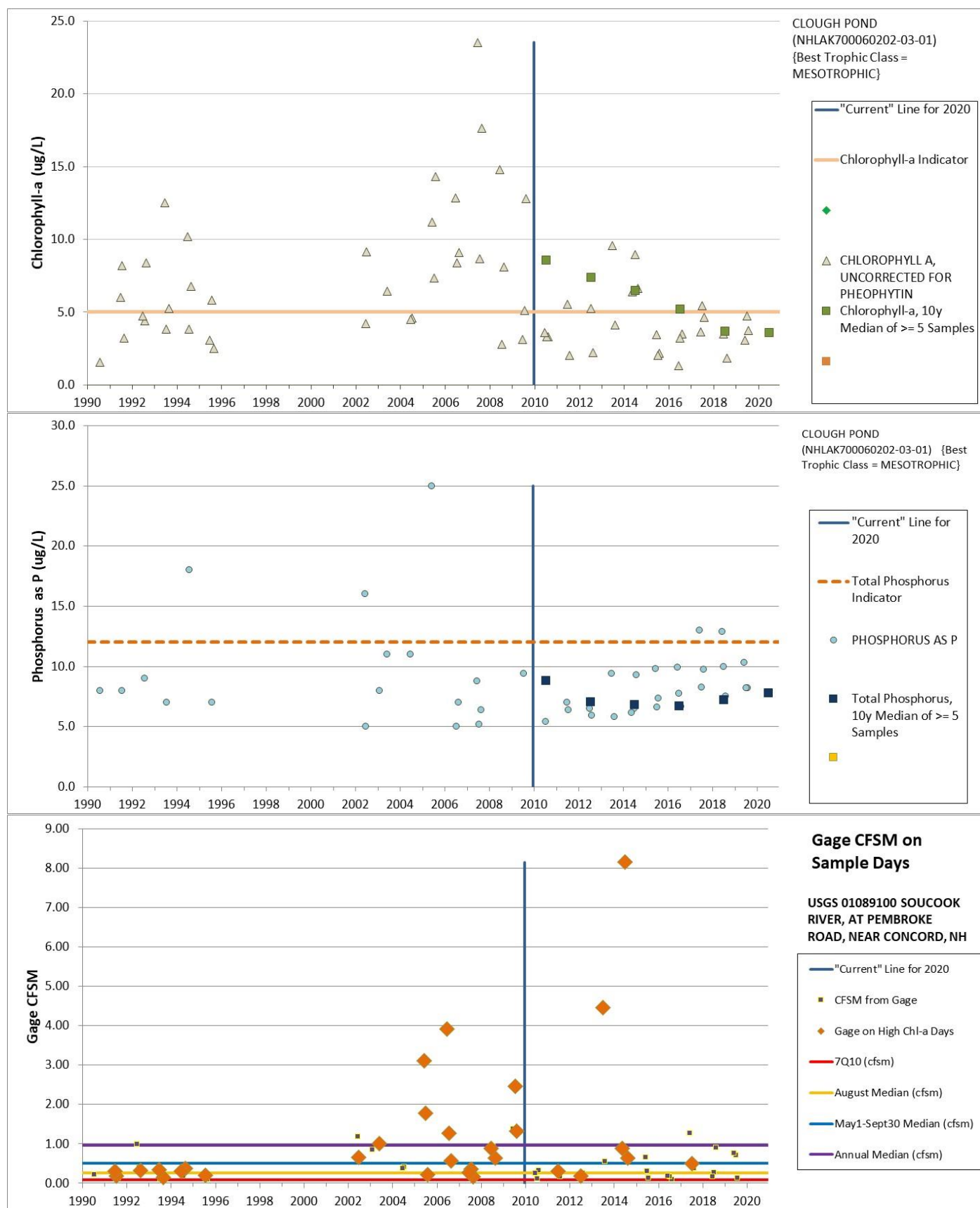


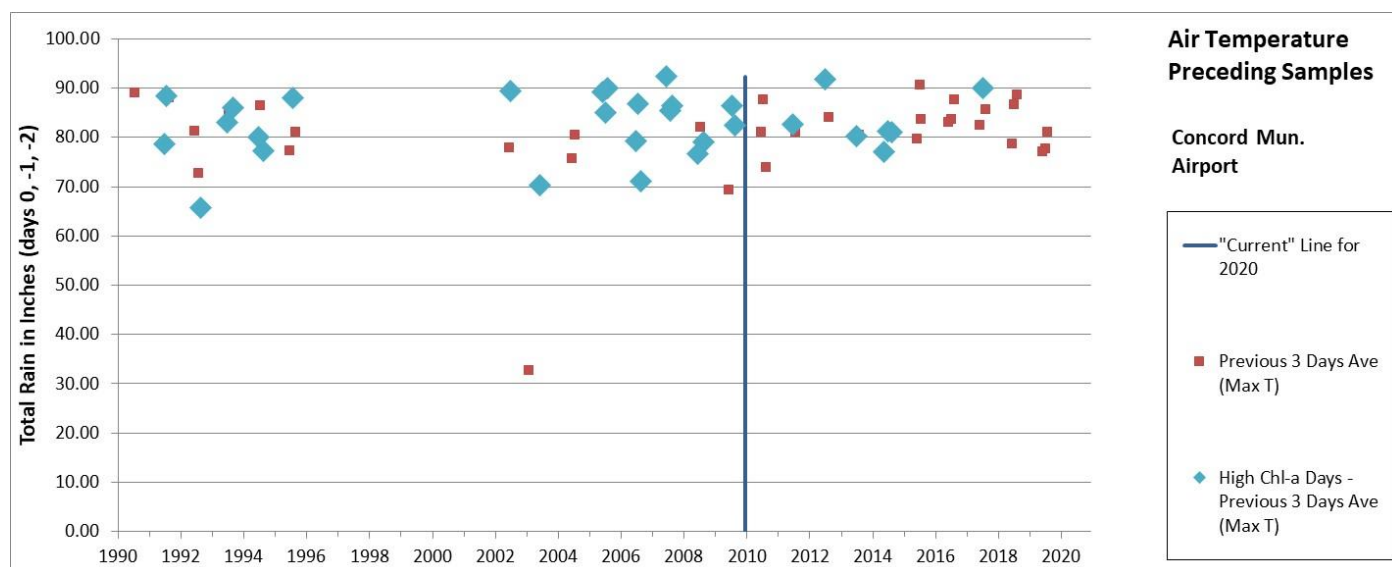
CLOUGH POND (NHLAK700060202-03-01)

Assessment Unit Name	Assessment Unit ID	Parameter Name	Town(s) - Primary Town Listed First	2018	2020/2022
CLOUGH POND	NHLAK700060202-03-01	Chlorophyll-a	CANTERBURY, LOUDON	5-M	2-M
CLOUGH POND	NHLAK700060202-03-01	Phosphorus (Total)	CANTERBURY, LOUDON	5-M	2-M

Chlorophyll-a median has steadily declined from 8.53 ug/L in 2010 assessment cycle to 3.55 ug/L in 2020/2022 assessment cycle. The median chlorophyll-a level has remained below the threshold for mesotrophic lakes for two cycles now with data clearly showing significantly decreasing chlorophyll-a levels since 2002. A multitude of stormwater management activities have occurred within the watershed and direct drainage area of the pond. The most recent was the perching of the Town Beach and implementation of stormwater runoff BMPs at the beach area. Residents are actively implementing stormwater management as well as maintaining septic systems and vegetative buffers along the shoreline. In response to these management efforts, pond phosphorus levels have remained stable and less than the threshold for mesotrophic lakes and algal growth has significantly decreased. The pond does occasionally experience cyanobacteria blooms, and VLAP data suggest cyanobacteria presence in the metalimnion, however this has not affected chlorophyll-a levels. The pond does have an internal loading of phosphorus that likely feeds the cyanobacteria growth, but again has not affected chlorophyll-a levels in recent years, and hypolimnetic phosphorus levels are not increasing, rather show signs of slow improvement as well. Clough Pond (NHLAK700060202-03-01) has been moved from 5-M to 2-M for both chlorophyll-a and total phosphorus for the aquatic life integrity designated use based on data collected in the current assessment period.

Impairments Removed (i.e. Delisted) from the 2020/2022 303(d) List of Threatened or Impaired Waters (i.e. Category 5)





DANIELS LAKE (NHLAK700060605-01-01)

Assessment Unit Name	Assessment Unit ID	Parameter Name	Town(s) - Primary Town Listed First	2018	2020/2022
DANIELS LAKE	NHLAK700060605-01-01	Chlorophyll-a	WEAR	5-M	4A-M
DANIELS LAKE	NHLAK700060605-01-01	Phosphorus (Total)	WEAR	5-M	4A-M

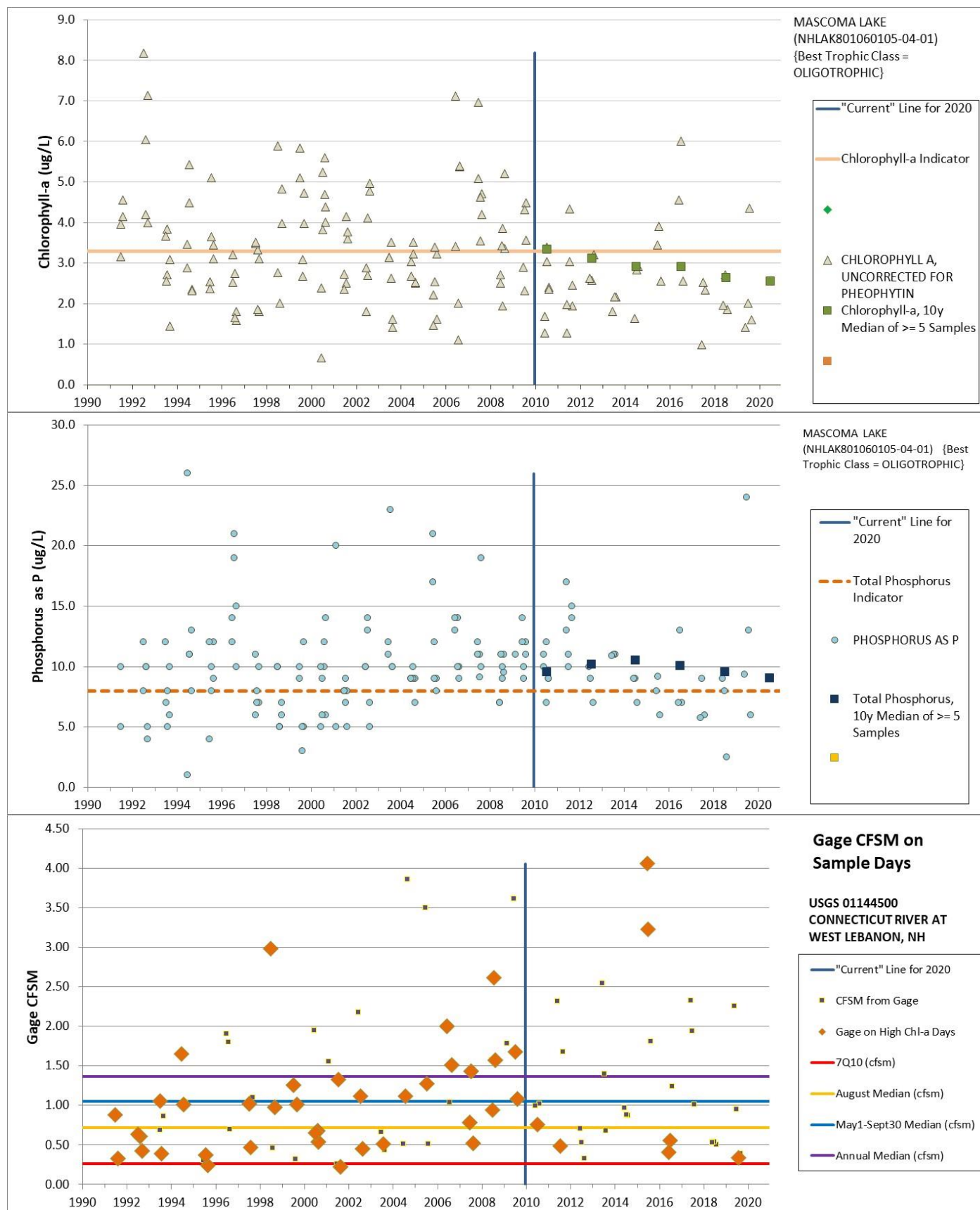
On September 28, 2021 EPA approved the Total Maximum Daily Load for Phosphorus for Daniels Lake, Wear, NH. The purpose of the TMDL is to address impairments of the aquatic life integrity designated use due to total phosphorus and chlorophyll-a. These impairments were due to atmospheric deposition, internal loading, septic systems (within 250 feet of the lake), waterfowl and watershed loads. The TMDL will result in attainment of surface water quality criteria and thresholds for total phosphorus, chlorophyll-a, dissolved oxygen, as well as cyanobacteria. A copy of the EPA TMDL approval letter and additional detail documents may be found in [NHDES' TMDL Webpage](#). Since the TMDL has been approved by EPA, Daniels Lake (NHLAK700060605-01-01) has been moved from 5-M to 4A-M for Phosphorus (Total) and Chlorophyll-a for the aquatic life integrity designated use.

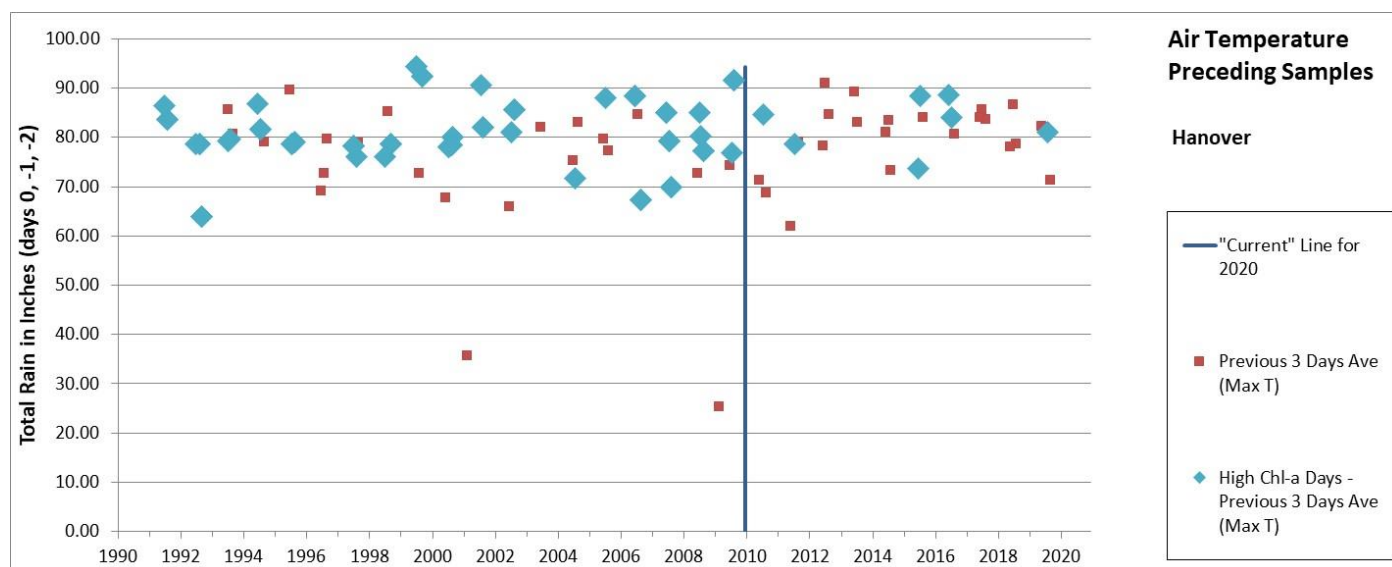
MASCOMA LAKE (NHLAK801060105-04-01)

Assessment Unit Name	Assessment Unit ID	Parameter Name	Town(s) - Primary Town Listed First	2018	2020/2022
MASCOMA LAKE	NHLAK801060105-04-01	Chlorophyll-a	ENFIELD, LEBANON	5-M	2-M
MASCOMA LAKE	NHLAK801060105-04-01	Phosphorus (Total)	ENFIELD, LEBANON	5-M	3-PNS

The chlorophyll-a as median value has remained below threshold for oligotrophic lakes for 5 assessment cycles and continues to decrease. Elevated chlorophyll-a in August, 2019 has been attributed to flooding a month earlier. Total phosphorus median remains above threshold for oligotrophic lakes by a small margin. Elevated phosphorus concentration observed in July, 2019 was attributed to flooding. The lake association has made great progress in addressing stormwater runoff and due to several flooding events in the area, the resulting management actions have likely contributed to improved water quality. Mascoma Lake (NHLAK801060105-04-01) has been moved from 5-M to 2-M for chlorophyll-a for the aquatic life integrity designated use based on data collected in the current assessment period. Median total phosphorus levels remain above the threshold for oligotrophic lakes, however following the stressor-response matrix it has been moved from 5-M to 3-PNS for the aquatic life integrity designated use based on data collected in the current assessment period.

Impairments Removed (i.e. Delisted) from the 2020/2022 303(d) List of Threatened or Impaired Waters (i.e. Category 5)





WEBSTER STREAM - LOCKE LAKE (NHIMP700060402-02)

Assessment Unit Name	Assessment Unit ID	Parameter Name	Town(s) - Primary Town Listed First	2018	2020/2022
WEBSTER STREAM - LOCKE LAKE	NHIMP700060402-02	Chlorophyll-a	BARNSTEAD	5-M	4A-M
WEBSTER STREAM - LOCKE LAKE	NHIMP700060402-02	Phosphorus (Total)	BARNSTEAD	5-M	4A-M

On September 29, 2020 EPA approved the Total Maximum Daily Load for Phosphorus for Locke Lake, Barnstead, NH. The purpose of the TMDL is to address impairments of the aquatic life integrity designated use due to total phosphorus, chlorophyll-a, pH and for the primary contact recreation designated use due to cyanobacteria hepatotoxic microcystins. These impairments were due to atmospheric deposition, internal loading, septic systems (within 125 feet of the pond), waterfowl and watershed loads. The TMDL will result in attainment of surface water quality criteria and thresholds for total phosphorus, chlorophyll-a, dissolved oxygen, as well as cyanobacteria. A copy of the EPA TMDL approval letter and additional detail documents may be found in [NHDES' TMDL Webpage](#). Since the TMDL has been approved by EPA, Webster Stream - Locke Lake (NHIMP700060402-02) has been moved from 5-M to 4A-M for Phosphorus (Total) and Chlorophyll-a for the aquatic life integrity designated use.

Cyanobacteria for Primary Contact Recreation (i.e. swimming)

LAKE WINNIPESAUKEE (NHLAK700020110-02-19)

Assessment Unit Name	Assessment Unit ID	Parameter Name	Town(s) - Primary Town Listed First	2018	2020/2022
Lake Winnepesaukee	NHLAK700020110-02-19	Cyanobacteria hepatotoxic microcystins	ALTON, CENTER HARBOR, GILFORD, LACONIA, MEREDITH, MOULTONBOROUGH, TUFTONBORO, WOLFEBORO	5-M	2-M

Lake Winnepesaukee (NHLAK700020110-02-19) was listed as impaired for the primary contact recreation designated use due to cyanobacteria hepatotoxic microcystins in 2012. There is a consistent population of the cyanobacteria taxon, primarily *Gloeotrichia*, in Lake Winnepesaukee. This type of cyanobacteria does not form typical green surface scums and is often observed in very low concentrations in all towns that the lake resides in. Elevated levels are sometimes observed in late summer, near Labor Day but still do

not exceed the threshold. However, since 2011 there has only been one advisory for cyanobacteria issued, in Winter Harbor (Wolfeboro), in 2018. Although an advisory was issued the cell counts were only slightly over the 70,000 total cells/mL threshold, ranging between 73,000 - 80,000 cells/ml on 9/5/2018. It should also be noted that due to the overall size of Lake Winnepesaukee (44,315 acres) compared to the localized area in which the bloom took place, that NHDES does not consider this to be a significant interference with the primary contact recreational use of the lake in its entirety. Although cyanobacteria cell concentrations are rarely high enough to form surface blooms on this lake, likely since it is oligotrophic and also due to the large area and depth of the lake, NHDES has noted the presence of *Anabaena/Dolichospermum*, *Microcystis*, *Woronichinia*, *Oscillatoria*, *Pseudoanabaena*, *Stigonematales*, *Picocyanobacteria*, and *Snowella* over the years. With the exception of the bloom reported in 2018, the last reported bloom was in 2011. The Lake Winnepesaukee Association (LWA) facilitates and coordinates the monitoring program on Winnepesaukee; partnering with the UNH LLMP to recruit, train, and support the local volunteers. The LWA has expanded the monitoring program to include cyanobacteria, and has created a weekly Winni Bloom Watch report and map. The Lake Winnepesaukee Association collaborates with multiple towns, organizations and associations to continue this work, including The Town of Wolfeboro who has developed a response protocol for future cyanobacterial blooms, and follows the EPA's Cyanobacteria Monitoring Collaborative. Therefore, Lake Winnepesaukee (NHLAK700020110-02-19) has been moved from category 5-M to 2-M for cyanobacteria hepatotoxic microcystins for the primary contact recreation designated use at this time.

ROCHESTER RESERVOIR (NHLAK600030602-03)

Assessment Unit Name	Assessment Unit ID	Parameter Name	Town(s) - Primary Town Listed First	2018	2020/2022
Rochester Reservoir	NHLAK600030602-03	Cyanobacteria hepatotoxic microcystins	ROCHESTER, BARRINGTON	5-M	2-M

Rochester Reservoir (NHLAK600030602-03) was listed as impaired for the primary contact recreation designated use due to cyanobacteria hepatotoxic microcystins in 2008. There have been no blooms reported for Rochester Reservoir and no exceedances of the threshold (70,000 total cells/mL of water) since 2006 (14 years). However, there is still a persistent population of cyanobacteria in this waterbody. In recent years, they have found low cell counts of *Anabaena/Dolichospermum*. There have been no recent advisories, but further monitoring should continue for this system. The operators of this public water system are participating in the NHDES DWGB grant program for monitoring cyanobacteria, and they have not reported any new bloom to NHDES as part of these efforts. Therefore, Rochester Reservoir (NHLAK600030602-03) has been moved from 5-M to 2-M for cyanobacteria hepatotoxic microcystins for the primary contact recreation designated use at this time.

WEBSTER STREAM - LOCKE LAKE (NHIMP700060402-02)

Assessment Unit Name	Assessment Unit ID	Parameter Name	Town(s) - Primary Town Listed First	2018	2020/2022
WEBSTER STREAM - LOCKE LAKE	NHIMP700060402-02	Cyanobacteria hepatotoxic microcystins	BARNSTEAD	5-M	4A-M

On September 29, 2020 EPA approved the Total Maximum Daily Load for Phosphorus for Locke Lake, Barnstead, NH. The purpose of the TMDL is to address impairments of the aquatic life integrity designated use due to total phosphorus, chlorophyll-a, pH and for the primary contact recreation designated use due to cyanobacteria hepatotoxic microcystins. These impairments were due to atmospheric deposition, internal loading, septic systems (within 125 feet of the pond), waterfowl and watershed loads. The TMDL will result in attainment of surface water quality criteria and thresholds for total phosphorus, chlorophyll-a, dissolved oxygen, as well as cyanobacteria. A copy of the EPA TMDL approval letter and additional detail documents may be found in [NHDES' TMDL Webpage](#). Since the TMDL has been approved by EPA, Webster Stream - Locke Lake (NHIMP700060402-02) has been moved from 5-M to 4A-M for Cyanobacteria hepatotoxic microcystins for the aquatic life integrity designated use.

WHITE LAKE - STATE PARK BEACH (NHLAK600020605-02-02)

Assessment Unit Name	Assessment Unit ID	Parameter Name	Town(s) - Primary Town Listed First	2018	2020/2022
White Lake - State Park Beach	NHLAK600020605-02-02	Cyanobacteria hepatotoxic microcystins	TAMWORTH	5-M	2-M

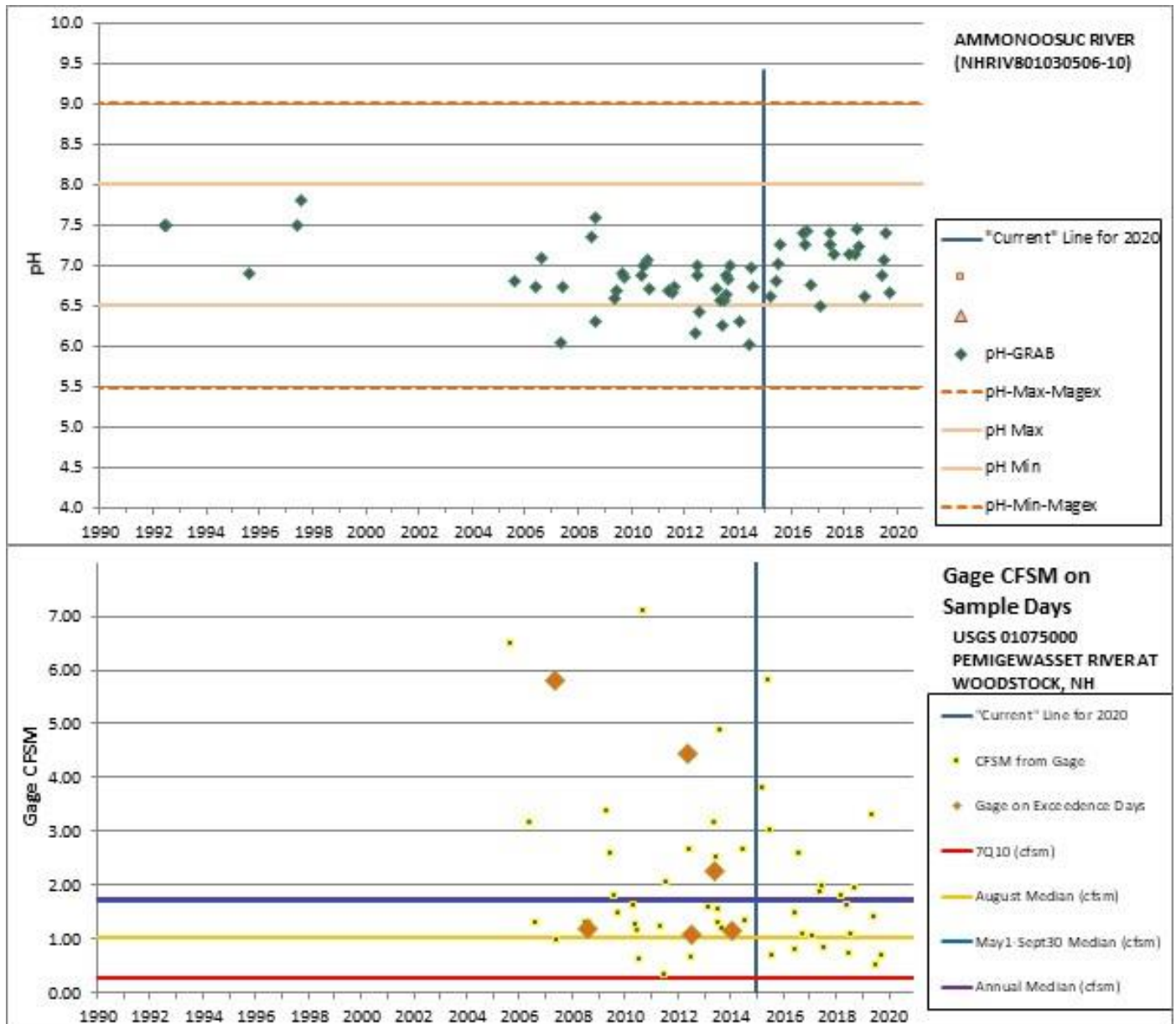
White Lake - State Park Beach (NHLAK600020605-02-02) was listed as impaired for the primary contact recreation designated use due to cyanobacteria hepatotoxic microcystins in 2012. There have not been any bloom sightings reported to NHDES since 2010. Although the waterbody has been monitored routinely over the years, because no blooms have been reported, no samples have been collected since 2011. In 2019 the NHDES Beach Program sampled during a routine beach inspection just to check and see if any cyanobacteria were present in the waterbody. There was only one colony of Aphanizomenon (cyanobacteria taxon) present in the sample. Since no blooms have been reported since 2010 and no cyanobacteria has been present in concentrations above the threshold (70,000 total cells/mL of water), it is NHDES' conclusion that this beach and waterbody are attaining standards. Therefore, White Lake State Park Beach (NHLAK600020605-02-02) has been moved from 5-M to 2-M for cyanobacteria hepatotoxic microcystins for the primary contact recreation designated use for the 2020/2022 assessment cycle.

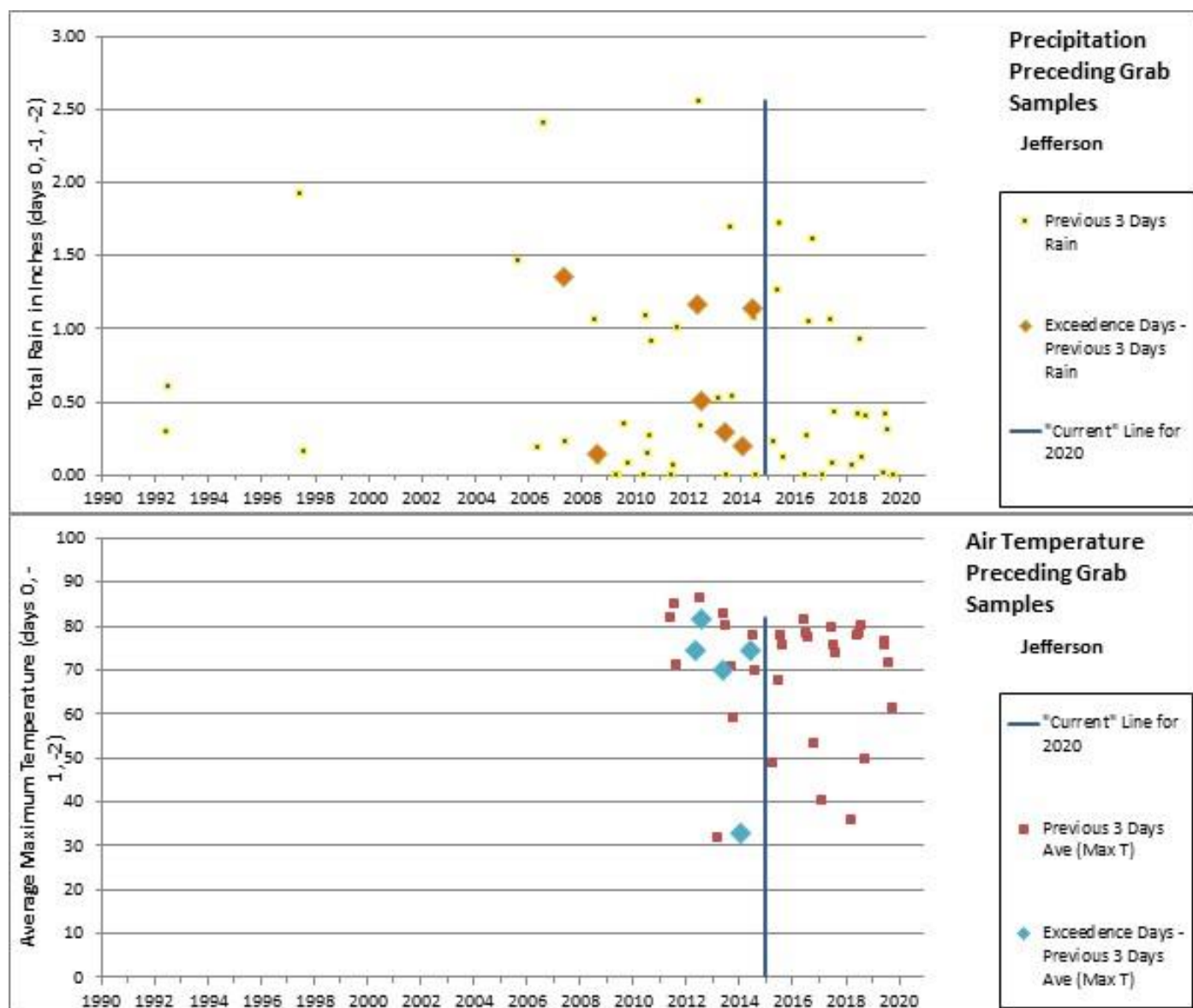
pH for Aquatic Life Integrity

AMMONOOSUC RIVER (NHRIV801030506-10)

Assessment Unit Name	Assessment Unit ID	Parameter Name	Town(s) - Primary Town Listed First	2018	2020/2022
Ammonoosuc River	NHRIV801030506-10	pH	Bath	5-M	2-M

The Ammonoosuc River Dam Pond (NHRIV801030506-10) was originally impaired during the 2010 assessment cycle using data collected at station 03-AMM. During the current assessment cycle (2015-2020) none of the 21 (0%) grab samples collected at station 03-AMM were below the lower pH threshold of 6.5 or above the upper pH threshold of 8.0. Samples were collected during flows ranging from 0.51 to 5.80 cfs at the Pemigewasset River gauge (01075000) and under variable weather conditions (0.00 to 1.72 inch 3-day rainfall total). The current data was collected at the same station and under similar hydrological and meteorological conditions as those that drove the initial impairment, which supports the delisting of the Ammonoosuc River in the 2020/2022 assessment cycle. The Ammonoosuc River (NHRIV801030506-10) has been moved from 5-M to 2-M for pH for the aquatic life integrity designated use based on data collected in the current assessment period.

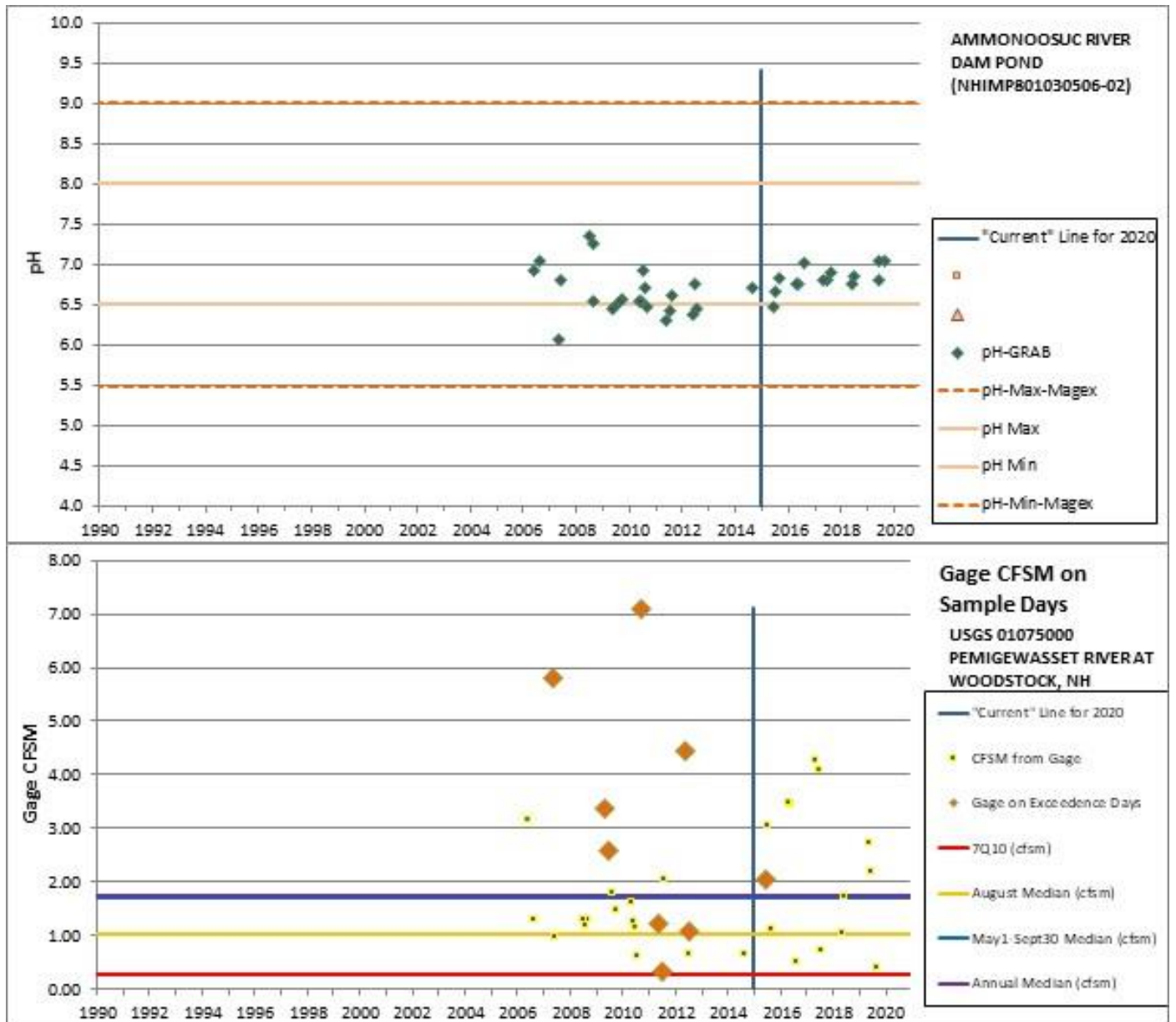


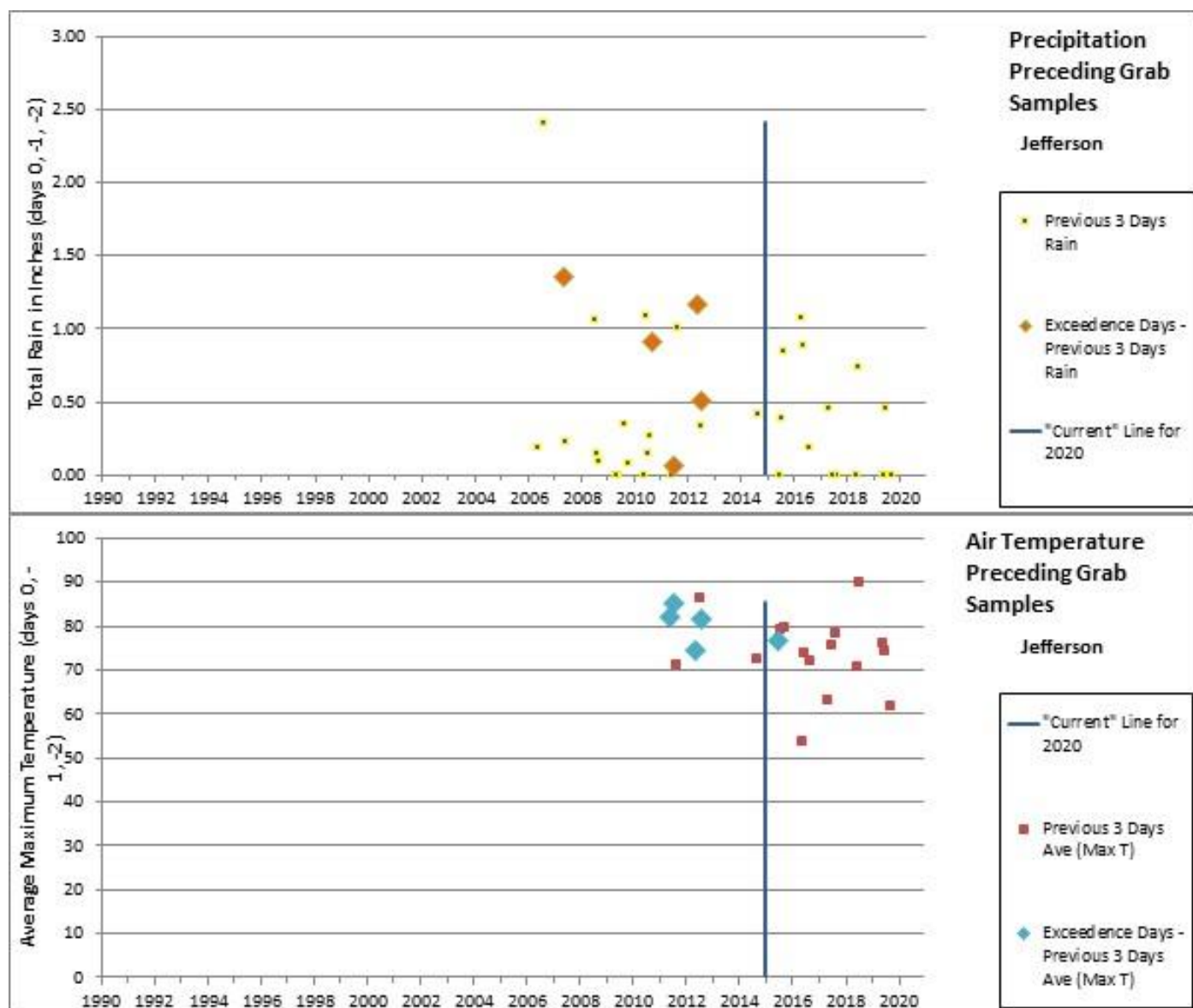


AMMONOOSUC RIVER DAM POND (NHIMP801030506-02)

Assessment Unit Name	Assessment Unit ID	Parameter Name	Town(s) - Primary Town Listed First	2018	2020/2022
AMMONOOSUC RIVER DAM POND	NHIMP801030506-02	pH	BATH	5-M	2-M

The Ammonoosuc River Dam Pond (NHIMP801030506-02) was originally impaired during the 2010 assessment cycle using data collected at station 04-AMM. Since 1990, 9 of 37 (24.3%) grab samples collected were below the lower pH threshold of 6.5. Of the 9 samples, 6 samples ranged from 6.43-6.48, which is very close to the 6.5 threshold. The three remaining low pH samples were collected at flows ranging from 0.32-5.80 cfs on the Pemigewasset River gage (01075000) and varying weather conditions (three-day rainfall total of 0.00-1.36). In the current assessment period (2010-2020), only 1 of 14 (7%) grab samples were below the lower pH criterion, although very close at 6.48. The pH samples collected during this assessment period were collected at flows ranging from 0.41-4.26 cfs on the Pemigewasset River gage (01075000) and varying weather conditions (three-day rainfall total of 0.00 – 1.07 inches). The current data was collected at the same station and under similar hydrological and meteorological conditions as those that drove the initial impairment, which supports the delisting of the Ammonoosuc River Dam Pond in the 2020/2022 assessment cycle. The Ammonoosuc River Dam Pond (NHIMP801030506-02) has been moved from 5-M to 2-M for pH for the aquatic life integrity designated use based on data collected in the current assessment period.

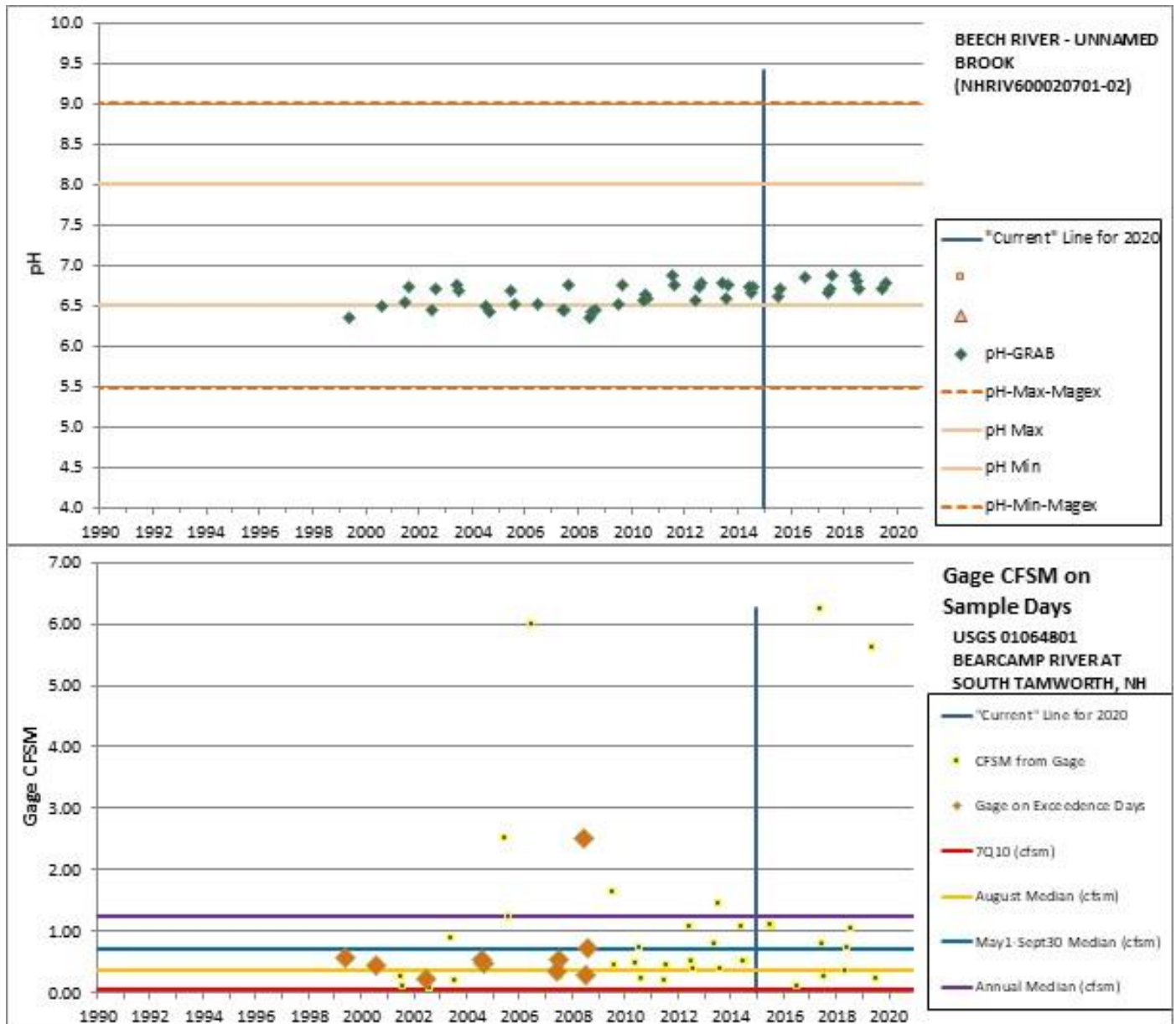


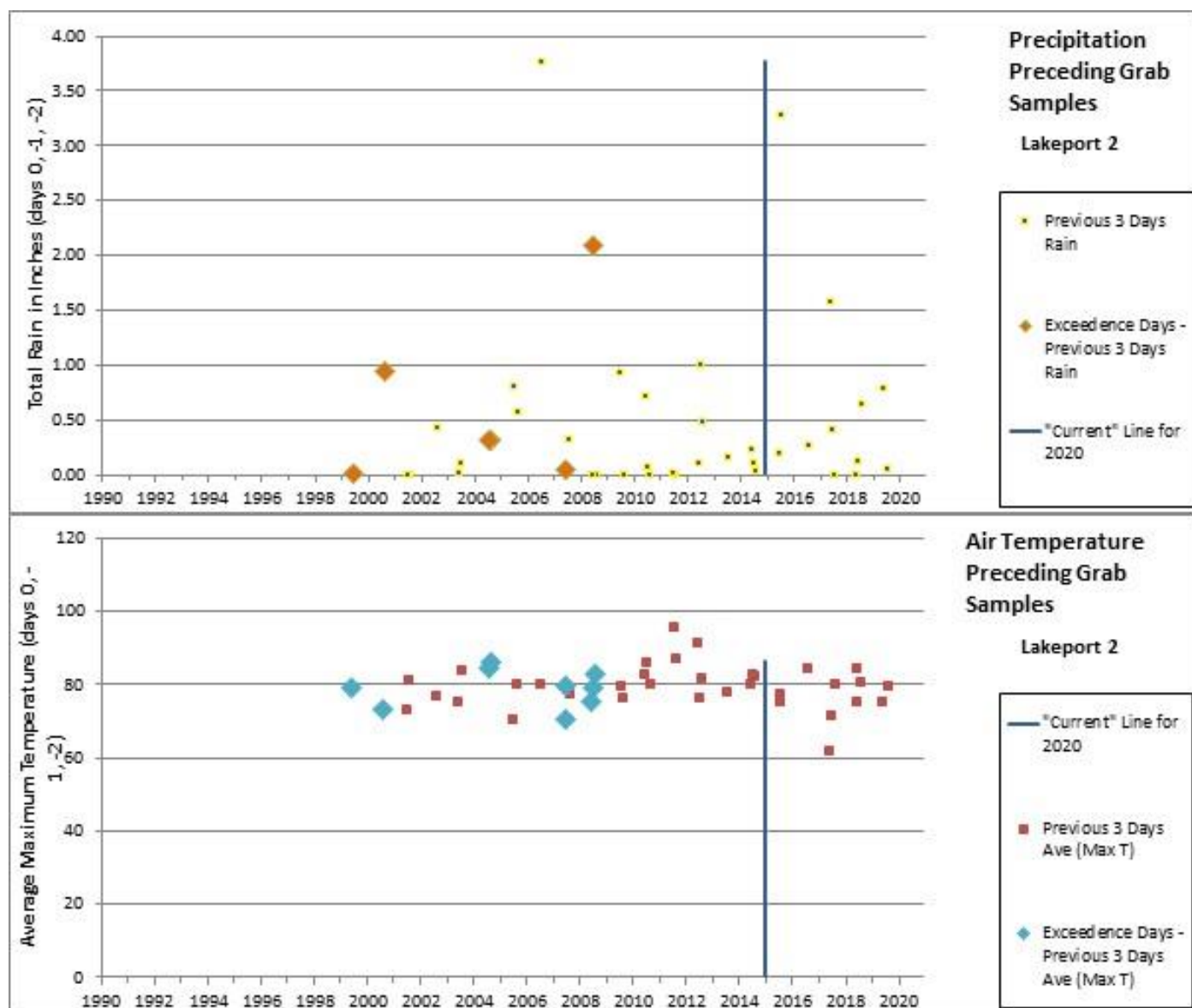


BEECH RIVER - UNNAMED BROOK (NHRIV600020701-02)

Assessment Unit Name	Assessment Unit ID	Parameter Name	Town(s) - Primary Town Listed First	2018	2020/2022
BEECH RIVER - UNNAMED BROOK	NHRIV600020701-02	pH	TUFTONBORO	5-M	2-G

The Beech River-Unnamed Brook (NHRIV600020701-02) was originally impaired during the 2006 assessment cycle using data collected at station BEELTUFO. Since 1990, 10 of 46 (21.7%) grab samples collected were below the lower pH threshold of 6.5. The low pH samples were collected at flows ranging from 0.23-2.51 cfs on the Bearcamp River gage (01064801) and varying weather conditions (three-day rainfall total of 0.00-2.09 inches). Of the 10 samples, 8 samples ranged from 6.42-6.49, which is very close to the 6.5 threshold. In the current assessment period (2015-2020), all of the grab samples (n=11) collected at station BEELTUFO were between the lower and upper pH criteria (6.5 and 8.0, respectively). These pH samples were collected between June and August at flows ranging from 0.10 to 6.24 cfs on the Bearcamp River gage (01064801) and varying weather conditions (three-day rainfall total of 0.00 – 3.28 inches). The current data was collected at the same station and under similar hydrological and meteorological conditions as those that drove the initial impairment, which supports the delisting of the Beech River-Unnamed Brook in the 2020/2022 cycle. The Beech River-Unnamed Brook (NHRIV600020701-02) has been moved from 5-M to 2-G for pH for the aquatic life integrity designated use based on data collected in the current assessment period.



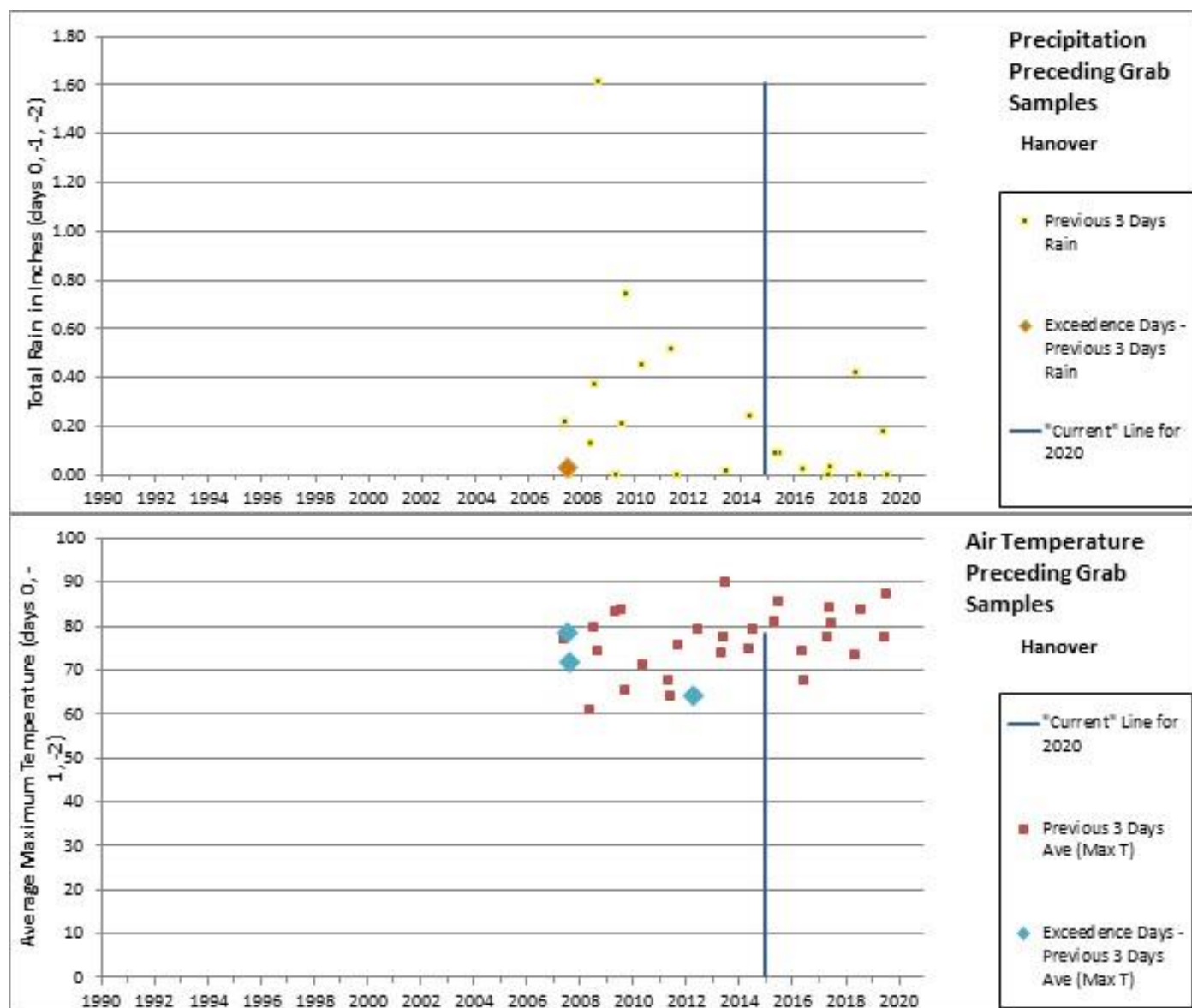


BIG ISLAND COVE BROOK – TO GOOSE POND (NHRIV801060103-08)

Assessment Unit Name	Assessment Unit ID	Parameter Name	Town(s) - Primary Town Listed First	2018	2020/2022
Big Island Cove Brook – to Goose Pond	NHRIV801060103-08	pH	Canaan, Hanover	5-M	2-M

Big Island Cove Brook – to Goose Pond (NHRIV801060103-08) was originally impaired during the 2010 assessment cycle using data collected at station GOOCANBI. During the current assessment period (2015-2020) none of the twelve (0%) grab samples collected at station GOOCANBI were below the lower pH threshold of 6.5 or above the upper pH threshold of 8.0. Samples were collected during flows ranging from 0.5 to 2.72 cfs at the White River gauge (01144000) and under variable weather conditions (0.0 to 1.60 inch 3-day rainfall total). The current data was collected at the same station and under similar hydrological and meteorological conditions as those that drove the initial impairment, which supports the delisting of the Big Island Cove Brook – to Goose Pond in the 2020/2022 assessment cycle. The Big Island Cove Brook – to Goose Pond (NHRIV801060103-08) has been moved from 5-M to 2-M for pH for the aquatic life integrity designated use based on data collected in the current assessment period.



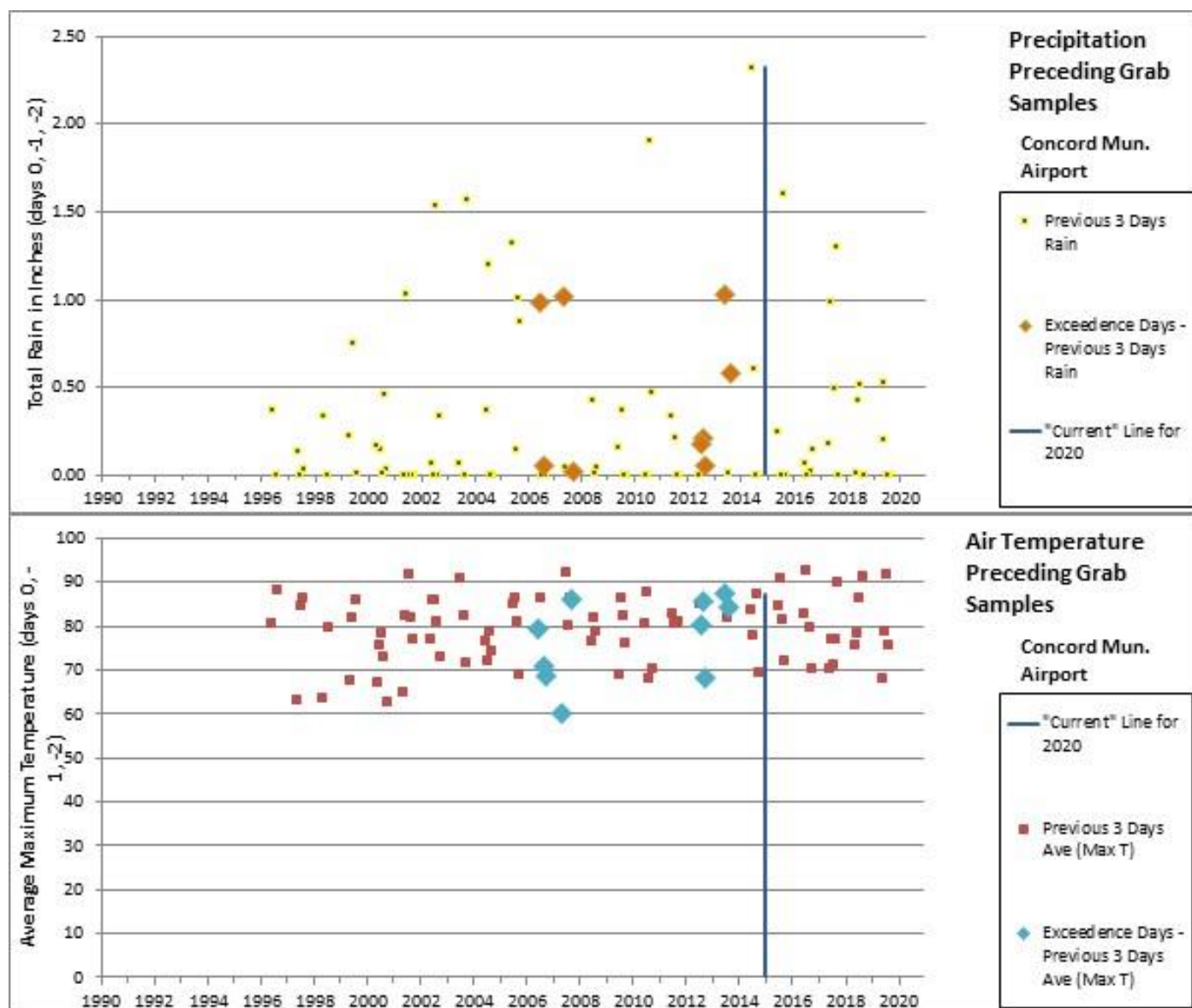


BLACKWATER RIVER (NHIMP700030402-04)

Assessment Unit Name	Assessment Unit ID	Parameter Name	Town(s) - Primary Town Listed First	2018	2020/2022
BLACKWATER RIVER	NHIMP700030402-04	pH	NEW LONDON	5-M	2-G

The Blackwater River (NHIMP700030402-04) was originally impaired during the 2008 assessment cycle using data collected at station PLENWLPL1. Since 1990, 10 of 92 (10.9%) grab samples collected were below the lower pH threshold of 6.5. The low pH samples were collected at flows ranging from 0.09-5.22 cfs on the Warner River gage (01086000) and varying weather conditions (three-day rainfall total of 0.00-1.03 inches). Of the 10 samples, 7 samples ranged from 6.35-6.46, which is very close to the 6.5 threshold. In the current assessment period (2015-2020), all of the grab samples (n=21) collected at station PLENWLPL1 were between the lower and upper pH criteria (6.5 and 8.0, respectively). The pH samples were collected between May and October at flows ranging from 0.04 to 3.48 cfs on the Warner River gage (01086000) and varying weather conditions (three-day rainfall total of 0.00 – 1.60 inches). The current data was collected at the same station and under similar hydrological and meteorological conditions as those that drove the initial impairment, which supports the delisting of Blackwater River in the 2020/2022 cycle. The Blackwater River (NHIMP700030402-04) has been moved from 5-M to 2-G for pH for the aquatic life integrity designated use based on data collected in the current assessment period.

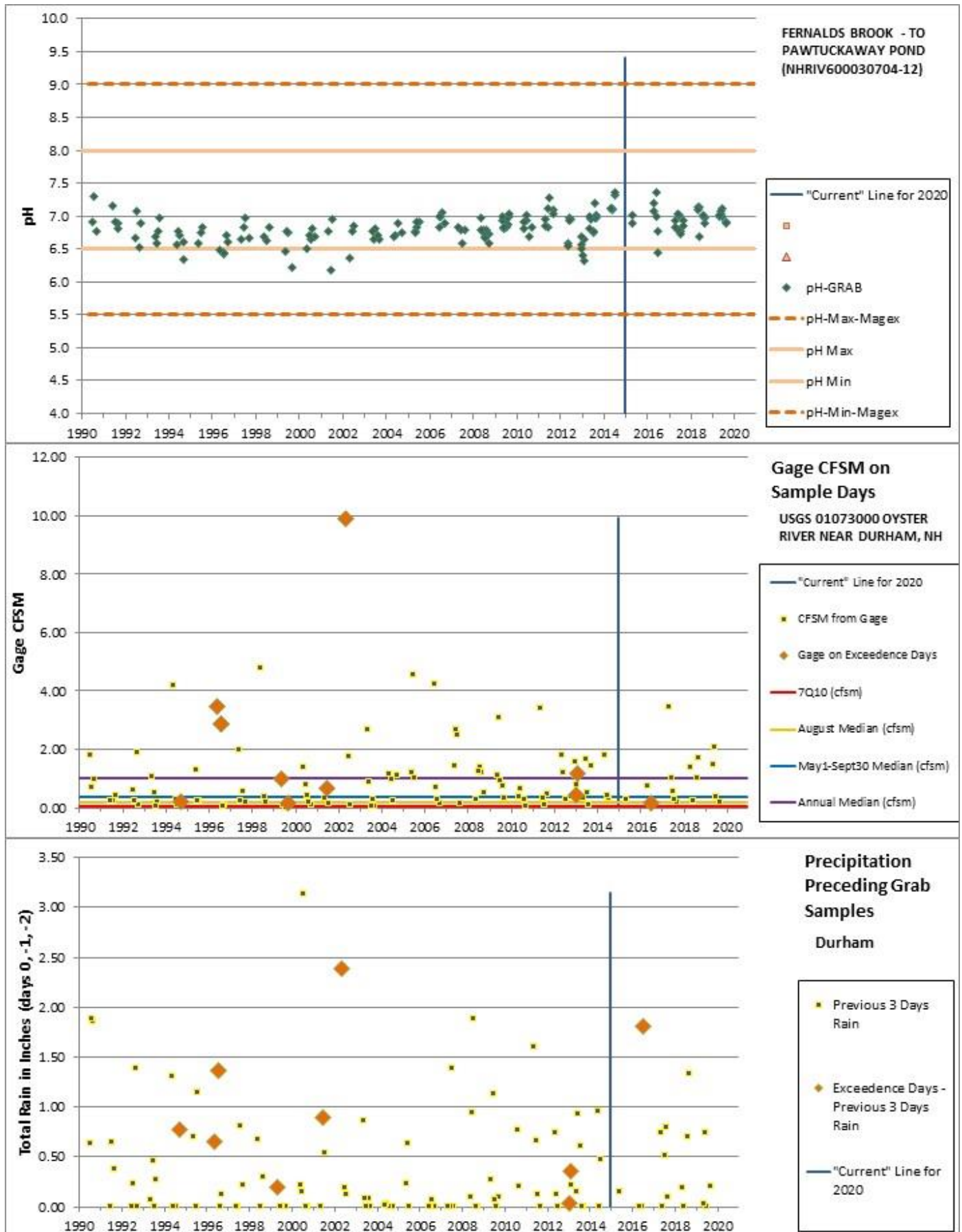


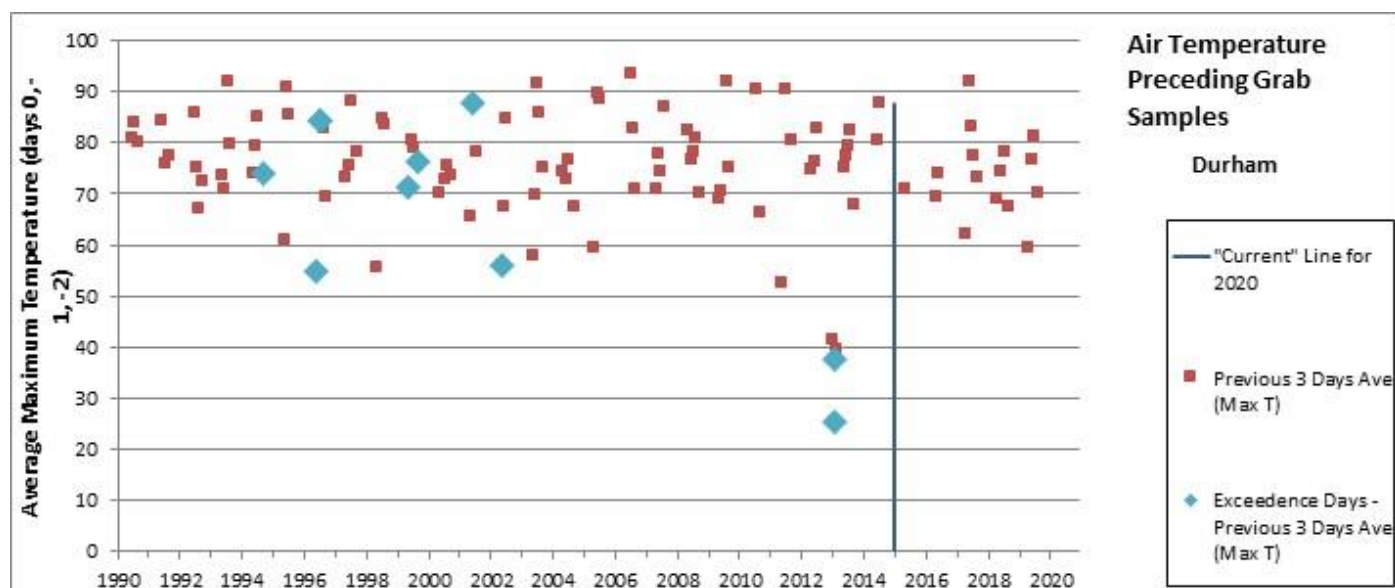


FERNALDS BROOK - TO PAWTUCKAWAY POND (NHRIV600030704-12)

Assessment Unit Name	Assessment Unit ID	Parameter Name	Town(s) - Primary Town Listed First	2018	2020/2022
FERNALDS BROOK - TO PAWTUCKAWAY POND	NHRIV600030704-12	pH	NOTTINGHAM	5-M	2-M

Fernalds Brook-To Pawtuckaway Pond (NHRIV600030704-12) was originally impaired during the 2004 assessment cycle using data collected at station PAWNOTF1 and PAWNOTF3. Since 1990, 11 of 166 (6.6%) grab samples collected were below the lower pH threshold of 6.5. The low pH samples were collected at flows ranging from 0.16-9.92 cfs on the Oyster River gage (01073000) and varying weather conditions (three-day rainfall total of 0.00-2.39 inches). Of the 11 samples, 6 samples ranged from 6.41-6.48, which is very close to the 6.5 threshold. In the current assessment period (2015-2020), only 1 of 33 (3%) samples collected at station PAWNOTF1 was below the pH threshold of 6.5, although very close at 6.44. The 33 pH samples were collected at flows ranging from 0.21-3.45 cfs on the Oyster River gage (01073000) and varying weather conditions (three-day rainfall total of 0.00 – 1.81 inches). The current data was collected at the same stations and under similar hydrological and meteorological conditions as those that drove the initial impairment, which supports the delisting of Fernalds Brook-To Pawtuckaway Pond in the 2020/2022 cycle. The Fernalds Brook-To Pawtuckaway Pond (NHRIV600030704-12) has been moved from 5-M to 2-M for pH for the aquatic life integrity designated use based on data collected in the current assessment period.

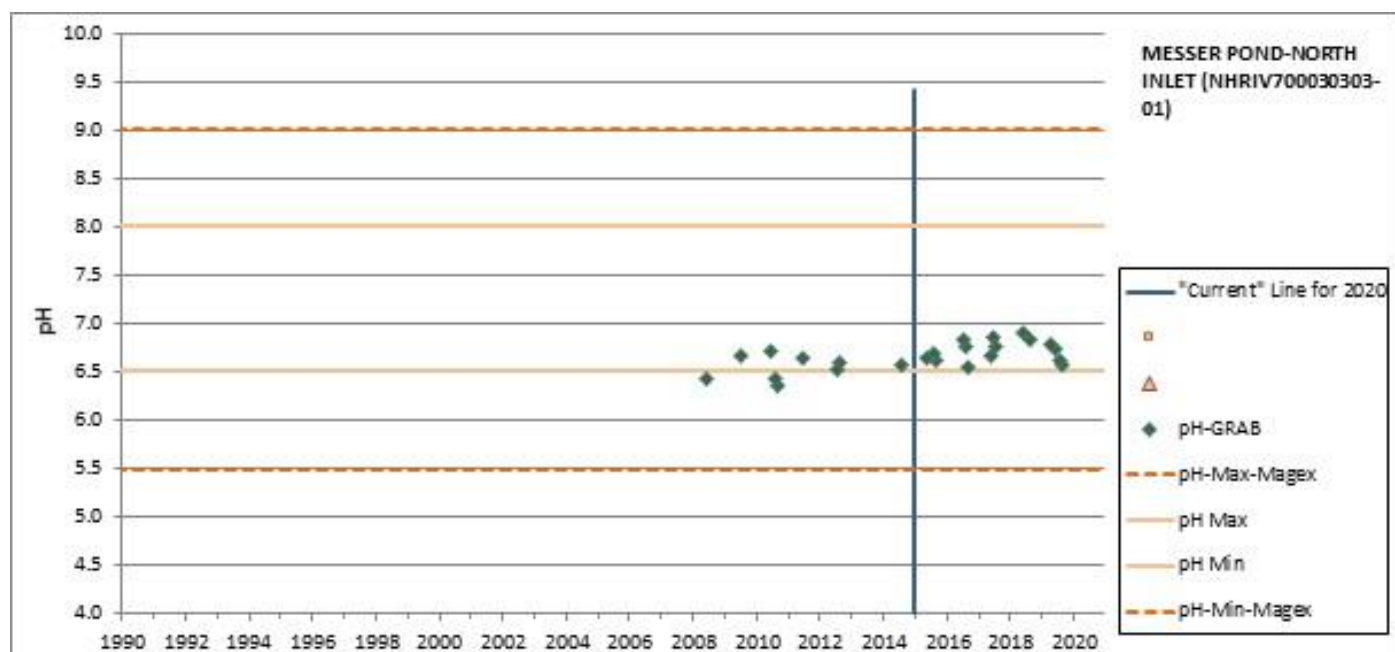


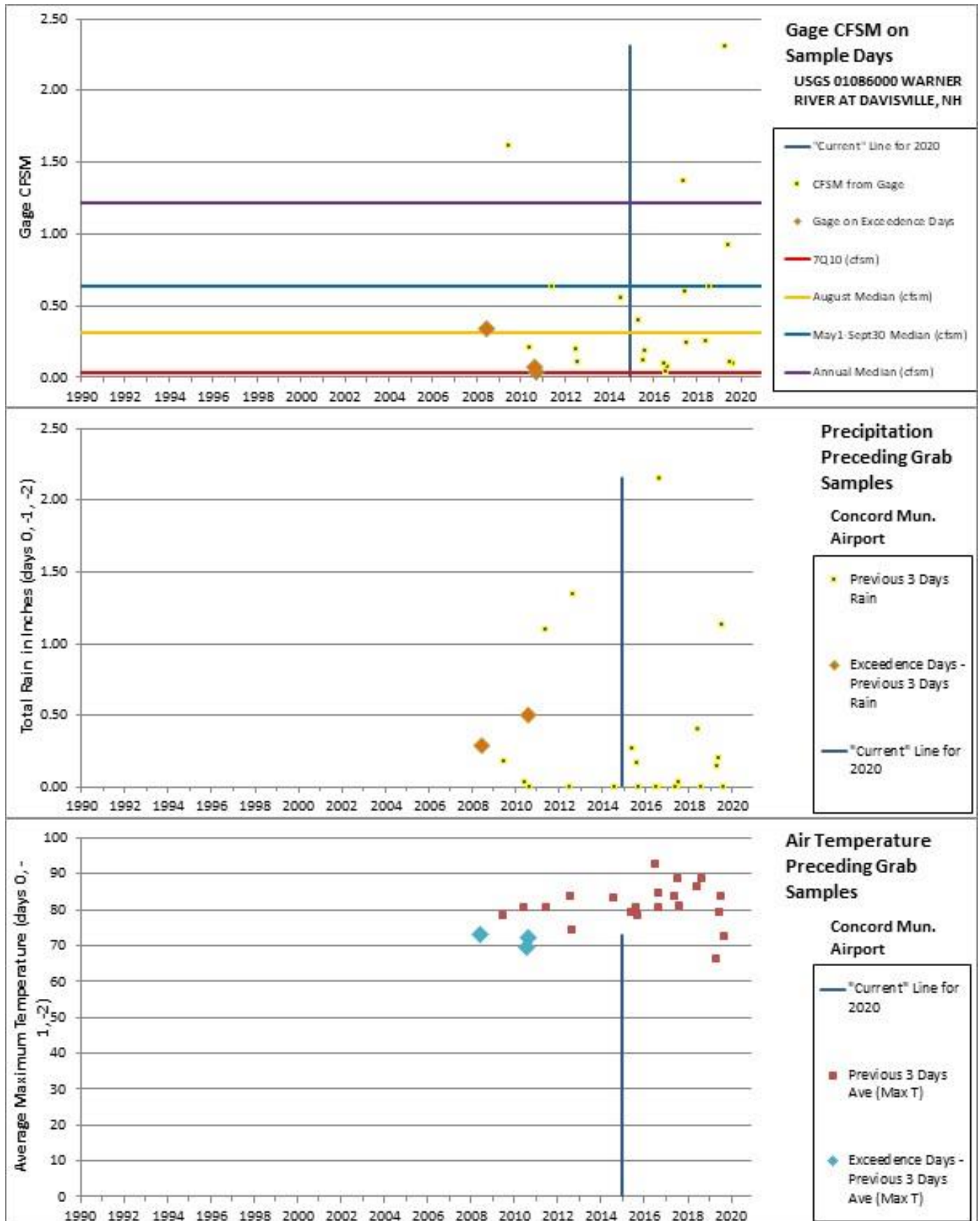


MESSER POND-NORTH INLET (NHRIV700030303-01)

Assessment Unit Name	Assessment Unit ID	Parameter Name	Town(s) - Primary Town Listed First	2018	2020/2022
MESSER POND-NORTH INLET	NHRIV700030303-01	pH	NEW LONDON	5-M	2-G

Messer Pond-North Inlet (NHRIV700030303-01) was originally impaired during the 2012 assessment cycle using data collected at station MESNWL2. Since 2008, 3 of 24 (12.5%) grab samples collected at MESNWL2 were below the lower pH threshold of 6.5. The low pH samples were collected at flows ranging from 0.04-0.34 cfs on the Warner River gage (01086000) and varying weather conditions (three-day rainfall total of 0.00-0.50 inches). These 3 samples (6.36,6.43,6.43) were all close to the 6.5 threshold. In the current assessment period (2015-2020), all of the grab samples collected at station MESNWL2 (n=15) were within the lower and upper pH thresholds (6.5 and 8.0, respectively). The 15 pH samples were collected at flows ranging from 0.07-2.31 cfs on the Warner River gage (01086000) and varying weather conditions (three-day rainfall total of 0.00 – 2.15 inches). The current data was collected at the same station and under similar hydrological and meteorological conditions as those that drove the initial impairment, which supports the delisting of the Messer Pond-North Inlet in the 2020/2022 cycle. Messer Pond-North Inlet (NHRIV700030303-01) has been moved from 5-M to 2-G for pH for the aquatic life integrity designated use based on data collected in the current assessment period.

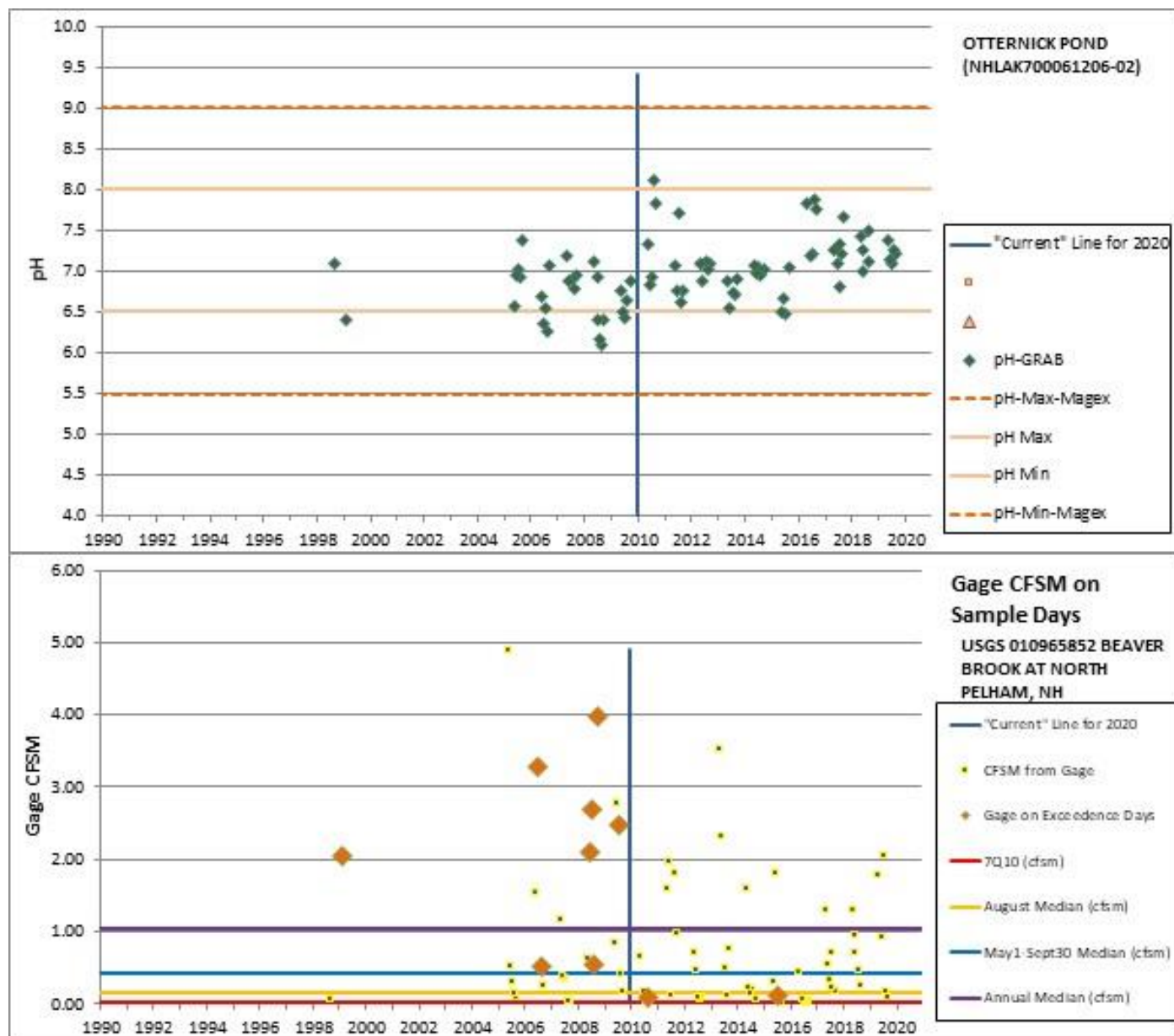


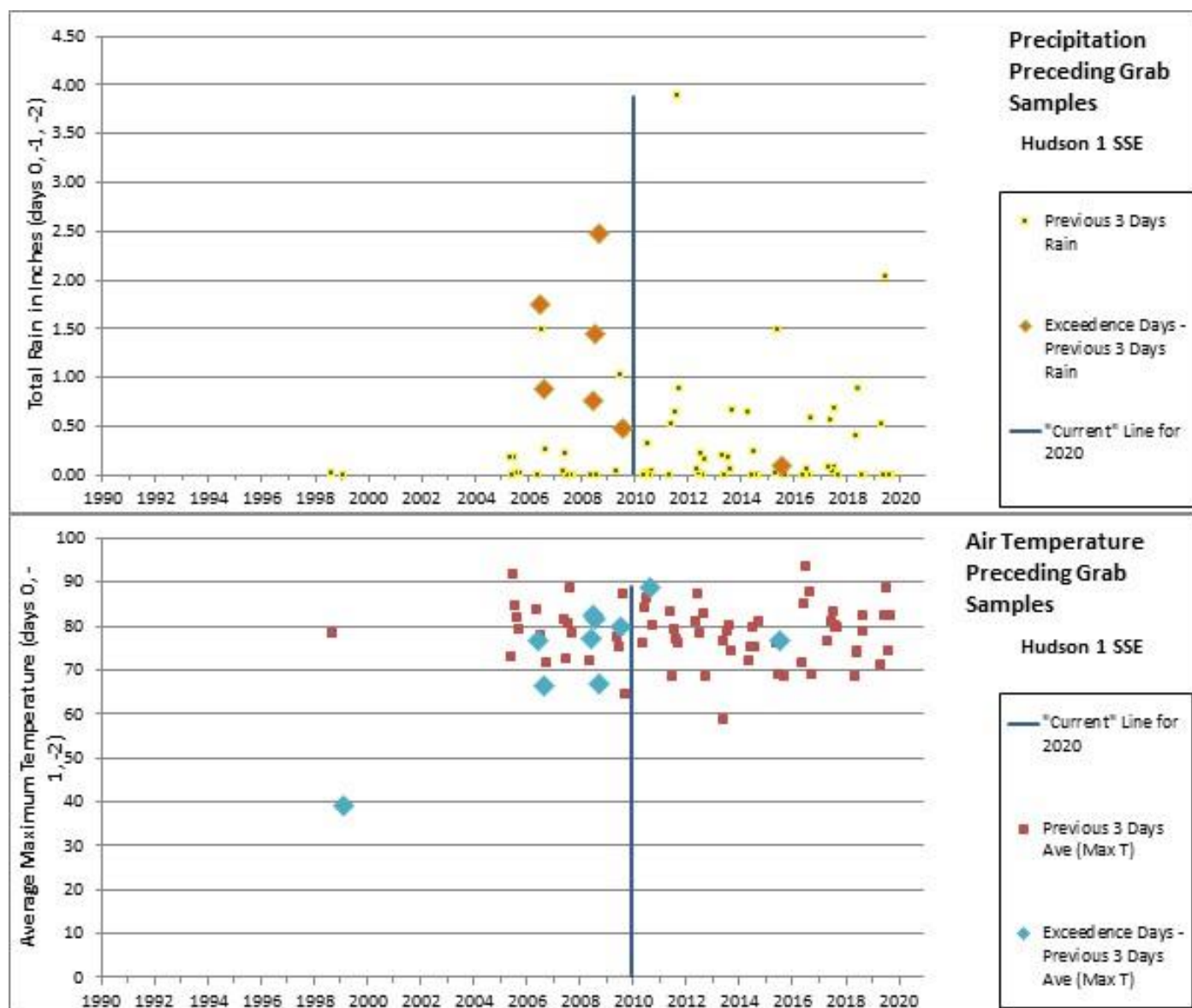


OTTERNICK POND (NHLAK700061206-02)

Assessment Unit Name	Assessment Unit ID	Parameter Name	Town(s) - Primary Town Listed First	2018	2020/2022
OTTERNICK POND	NHLAK700061206-02	pH	HUDSON	5-M	2-M

Otternick Pond (NHLAK700061206-02) was originally implemented during the 2010 assessment cycle using data collected at station OTTHUDD. Since 1990, 10 of 78 (12.8%) grab samples collected were not within the lower and upper pH thresholds (6.5 and 8.0, respectively). Of the 10 samples, 5 samples ranged from 6.40-6.47, which is very close to the 6.5 threshold. The remaining low pH samples were collected at flows ranging from 0.09-3.97 cfs on the Beaver Brook gage (010965852) and varying weather conditions (three-day rainfall total of 0.00-2.47). In the current assessment period (2010-2020), only 1 of 50 grab samples was below the lower pH criterion, although very close at 6.47. The pH samples collected during this assessment period were collected at flows ranging from 0.01-3.54 cfs on the Beaver Brook gage (010965852) and varying weather conditions (three-day rainfall total of 0.00 – 3.88 inches). The current data was collected at the same station and under similar hydrological and meteorological conditions as those that drove the initial impairment, which supports the delisting of Otternick Pond. Otternick Pond (NHLAK700061206-02) has been moved from 5-M to 2-M for pH for the aquatic life integrity designated use based on data collected in the current assessment period. It should be noted that this is a delisting that is tied to an assessment unit that falls within EPA's 2017 MS4 General Permit Area.

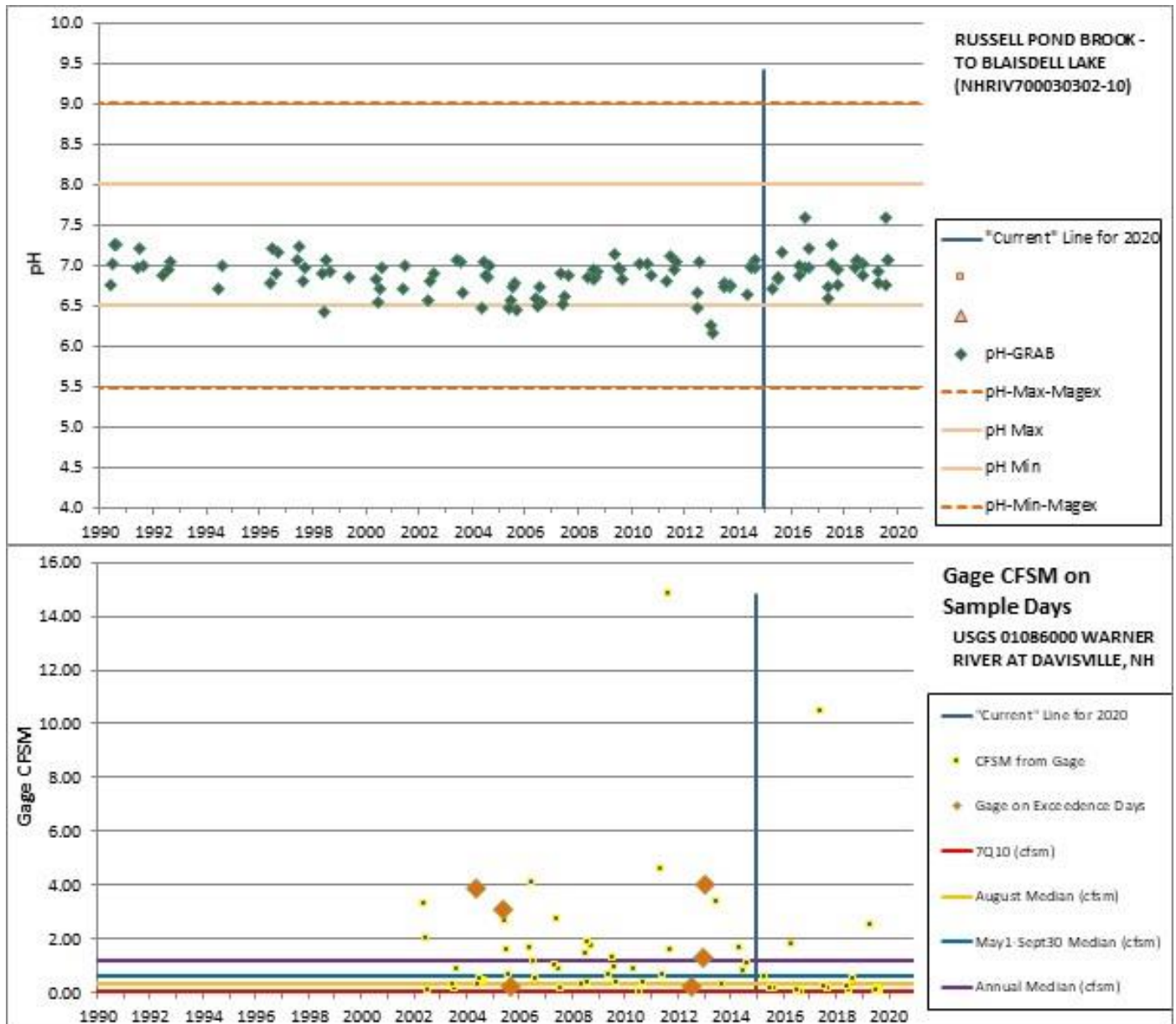


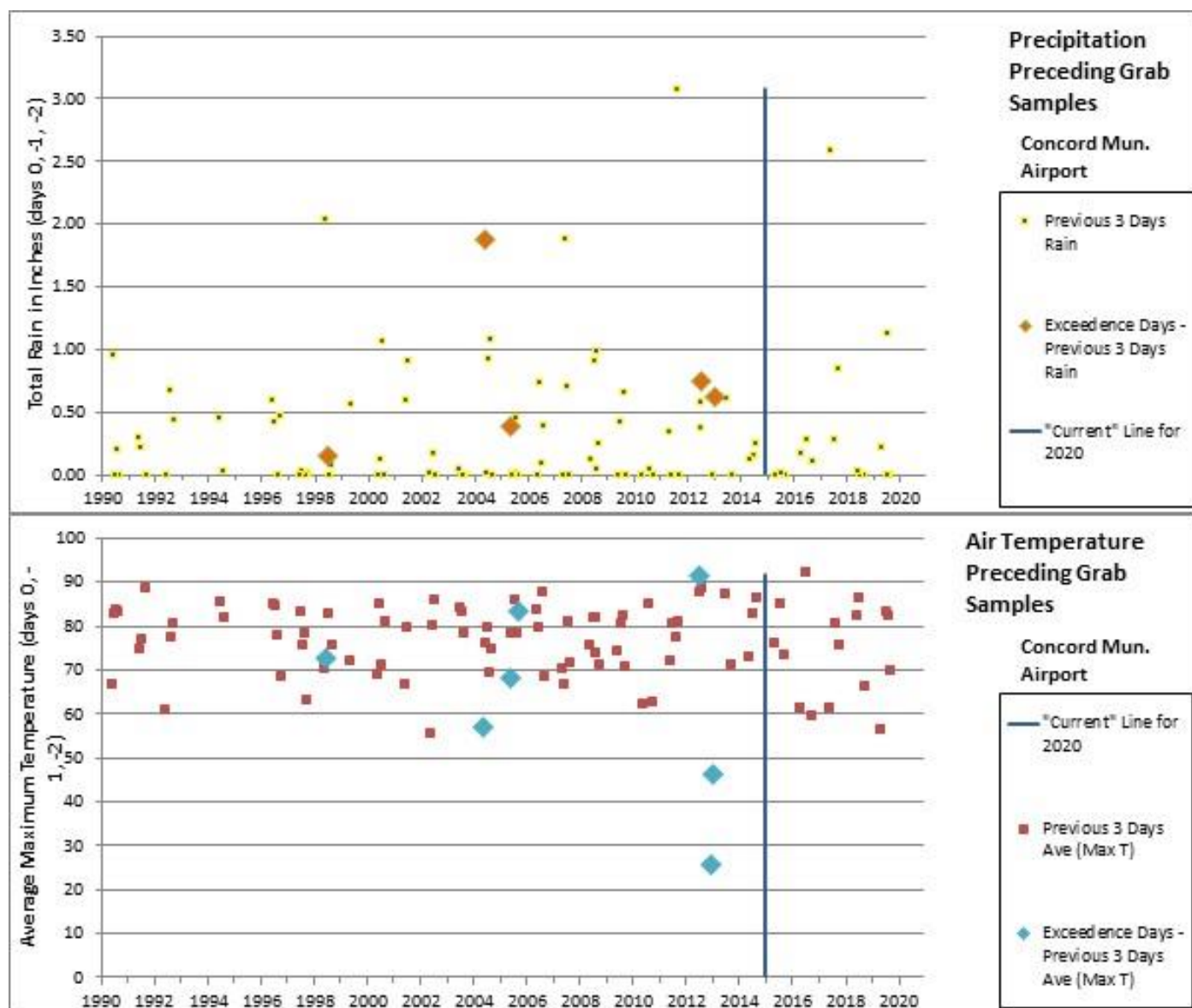


RUSSELL POND BROOK - TO BLAISDELL LAKE (NHRIV700030302-10)

Assessment Unit Name	Assessment Unit ID	Parameter Name	Town(s) - Primary Town Listed First	2018	2020/2022
RUSSELL POND BROOK - TO BLAISDELL LAKE	NHRIV700030302-10	pH	SUTTON	5-M	2-G

The Russell Pond Brook-To Blaisdell Lake (NHRIV700030302-10) was originally impaired during the 2006 assessment cycle using data collected at station BLASUTR. Since 1990, 7 of 112 (6.3%) grab samples collected at BLASUTR and BLASUTRP were below the lower pH threshold of 6.5. The low pH samples were collected at flows ranging from 0.22-4.01 cfs on the Warner River gage (01086000) and varying weather conditions (three-day rainfall total of 0.00-1.88 inches). Of the 7 samples, 5 samples ranged from 6.42-6.48, which is very close to the 6.5 threshold. In the current assessment period (2015-2020), all of the grab samples collected at station BLASUTR (n=15) and BLASUTRP (n=12) were within the lower and upper pH threshold (6.5 and 8.0, respectively). The pH samples at BLASUTR were collected at flows ranging from 0.05-10.48 cfs on the Warner River gage (01086000) and varying weather conditions (three-day rainfall total of 0.00 – 2.59 inches). The current data was collected at the same station (with additional data at a nearby station) and under similar hydrological and meteorological conditions as those that drove the initial impairment, which supports the delisting of the Russell Pond Brook- To Blaisdell Lake in the 2020/2022 cycle. Russell Pond Brook-To Blaisdell Lake (NHRIV700030302-10) has been moved from 5-M to 2-G for pH for the aquatic life integrity designated use based on data collected in the current assessment period.

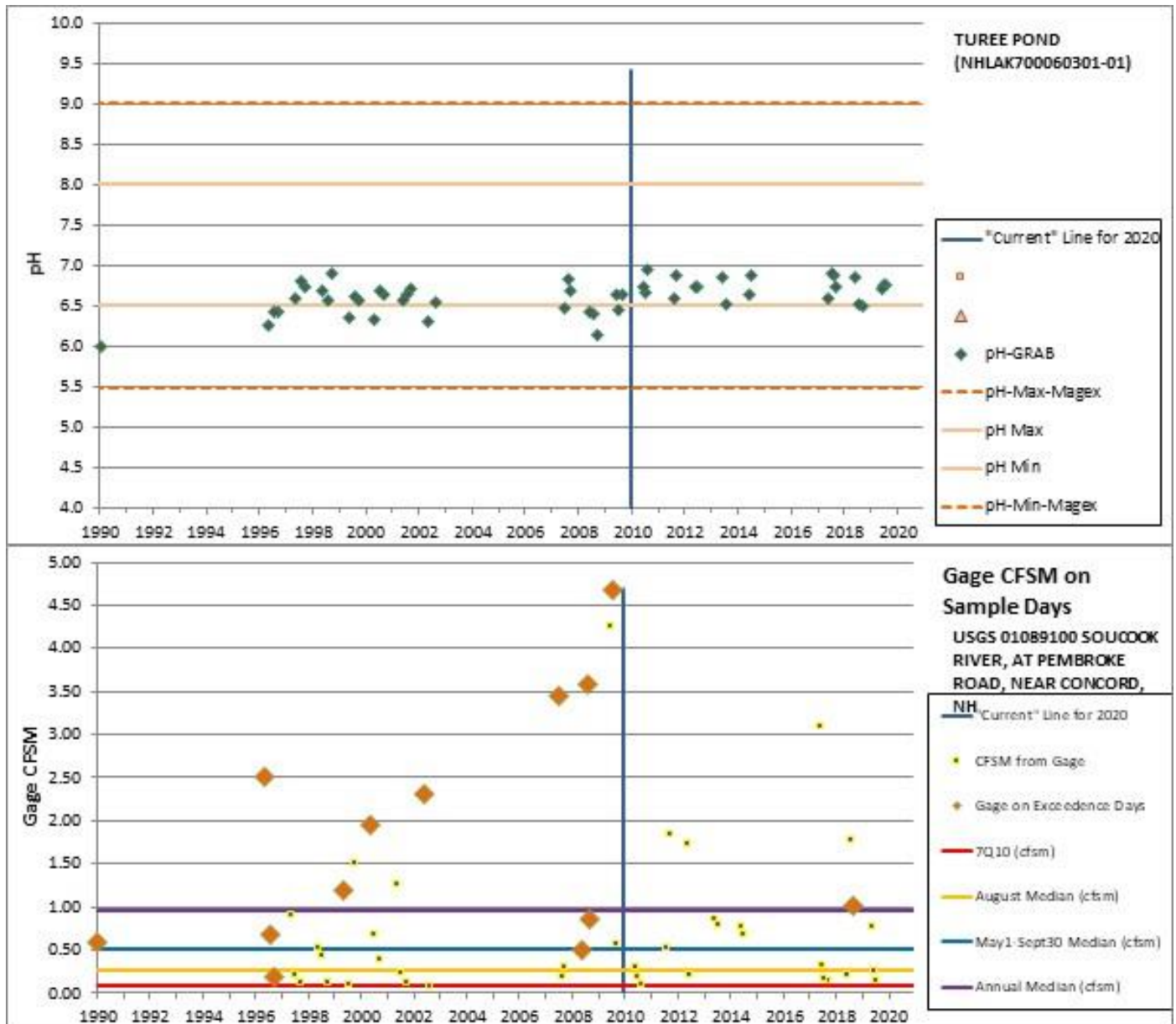


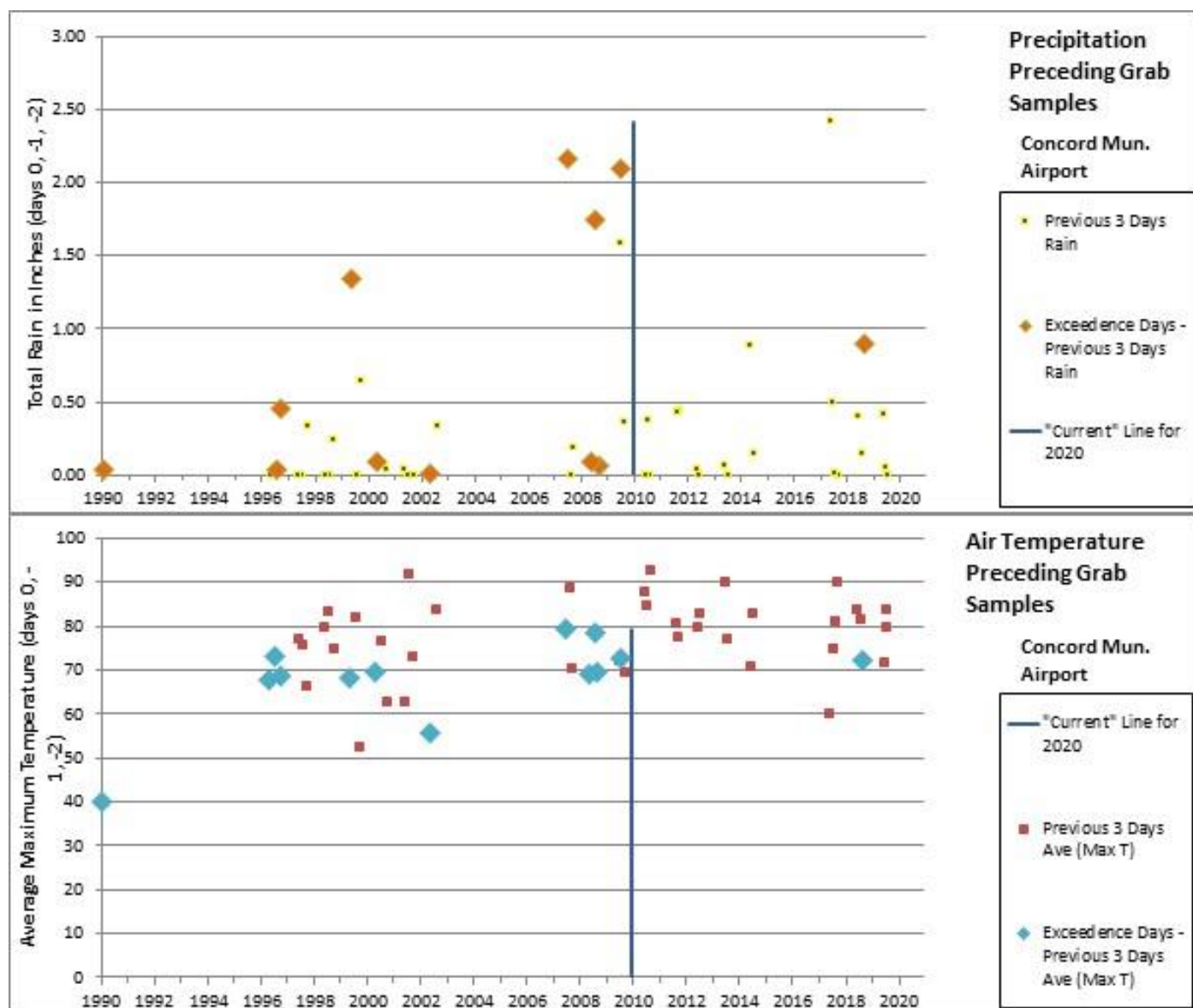


TURREE POND (NHLAK700060301-01)

Assessment Unit Name	Assessment Unit ID	Parameter Name	Town(s) - Primary Town Listed First	2018	2020/2022
TURREE POND	NHLAK700060301-01	pH	BOW	5-M	2-M

Turree Pond (NHLAK700060301-01) was originally impaired during the 2010 assessment cycle using data collected at station TURBOWD. Since 1990, 13 of 51 (25.5%) grab samples collected were below the lower pH threshold of 6.5. The low pH samples were collected at flows ranging from 0.18-4.68 cfs on the Soucook River gage (01089100) and varying weather conditions (three-day rainfall total of 0.00-2.16 inches). Of the 13 samples, 7 samples ranged from 6.41-6.49, which is very close to the 6.5 threshold. In the current assessment period (2010-2020), only 1 of 21 (4.8%) grab samples were below the lower pH criteria, although only slightly below at 6.49. The pH samples collected during this assessment period were collected at the same station and under similar hydrological and meteorological conditions to those that drove the initial impairment, with flows ranging from 0.11 to 3.10 cfs on the Soucook River gage (01089100) and three-day rainfall total of 0.00 – 2.41 inches. This new additional data collected during similar conditions supports the delisting of Turree Pond for the 2020/2022 cycle. Turree Pond (NHLAK700060301-01) has been moved from 5-M to 2-M for pH for the aquatic life integrity designated use based on data collected in the current assessment period.

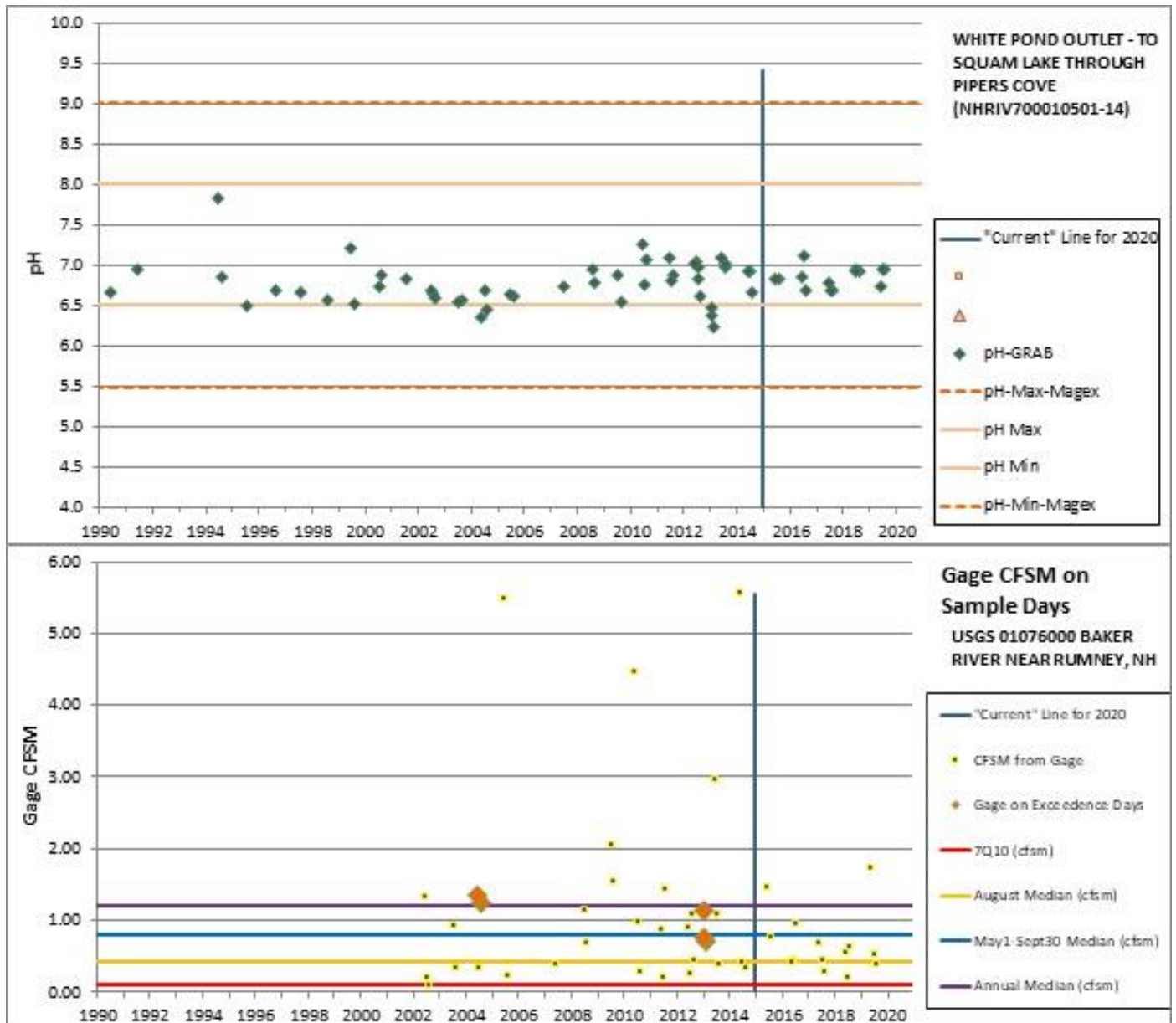


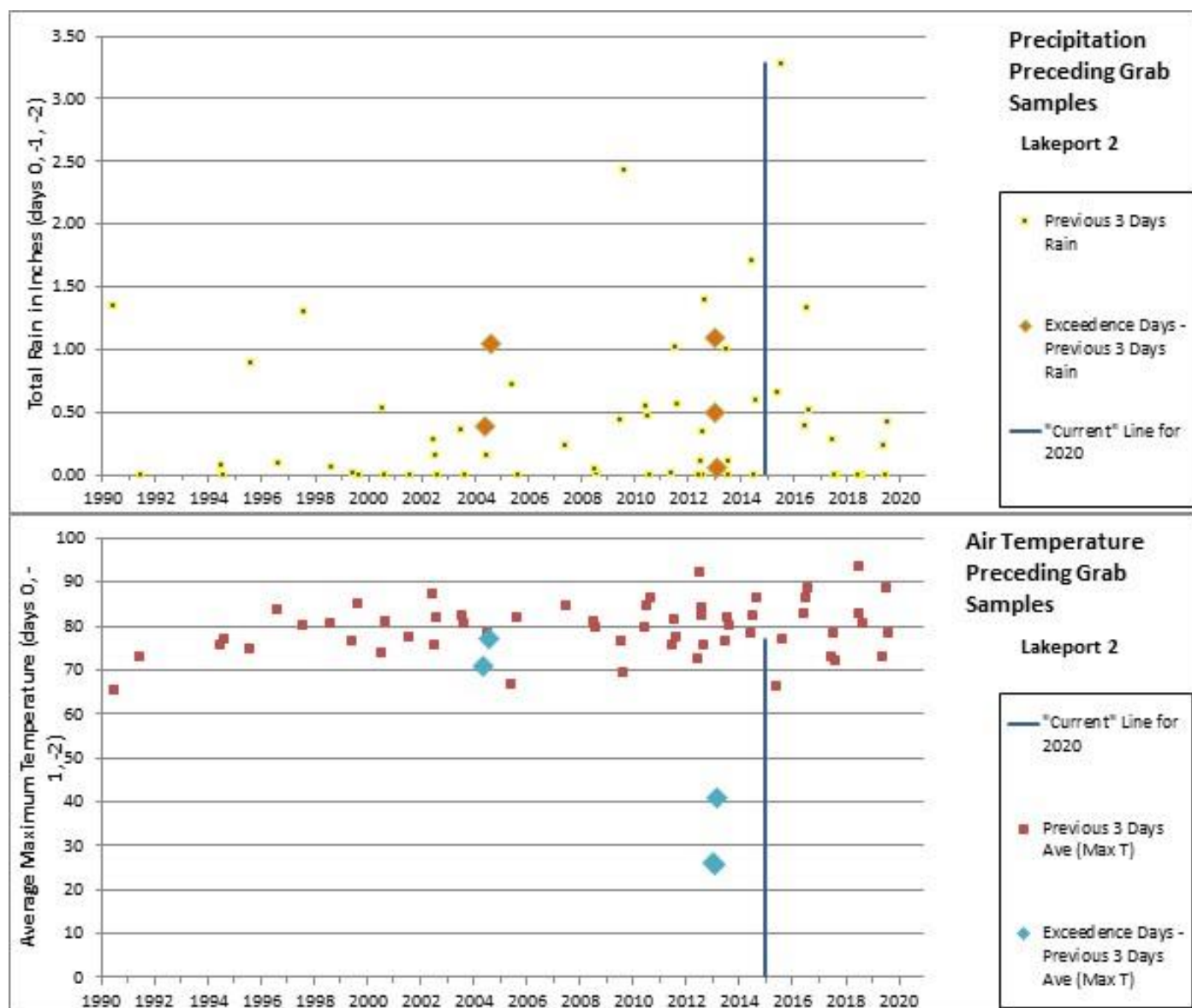


WHITE POND OUTLET - TO SQUAM LAKE THROUGH PIPERS COVE (NHRIV700010501-14)

Assessment Unit Name	Assessment Unit ID	Parameter Name	Town(s) - Primary Town Listed First	2018	2020/2022
WHITE POND OUTLET - TO SQUAM LAKE THROUGH PIPERS COVE	NHRIV700010501-14	pH	HOLDERNESS	5-M	2-G

White Pond Outlet - To Squam Lake Through Pipers Cove (NHRIV700010501-14) was originally impaired during the 2012 assessment cycle using data collected at station WHIHOL4. Since 1990, 5 of 62 (8.1%) grab samples collected at WHIHOL4 were below the lower pH threshold of 6.5. The low pH samples were collected at flows ranging from 0.70-1.35 cfs on the Baker River gage (01076000) and varying weather conditions (three-day rainfall total of 0.06-1.10 inches). Of the 5 samples, 3 samples range from 6.39-6.48, which is very close to the 6.5 threshold. In the current assessment period (2015-2020), all of the grab samples collected at stations WHIHOL4 (n=14) were within the lower and upper pH thresholds (6.5 and 8.0, respectively). These pH samples were collected at flows ranging from 0.20-1.73 on the Baker River gage (01076000) and varying weather conditions (three-day rainfall total of 0.00 – 3.28 inches). The current data was collected at the same station and under similar hydrological and meteorological conditions as those that drove the initial impairment, which supports the delisting of White Pond Outlet in the 2020/2022 cycle. White Pond Outlet - To Squam Lake Through Pipers Cove (NHRIV700010501-14) has been moved from 5-M to 2-G for pH for the aquatic life integrity designated use based on data collected in the current assessment period.





WEBSTER STREAM - LOCKE LAKE (NHIMP700060402-02)

Assessment Unit Name	Assessment Unit ID	Parameter Name	Town(s) - Primary Town Listed First	2018	2020/2022
WEBSTER STREAM - LOCKE LAKE	NHIMP700060402-02	pH	BARNSTEAD	5-M	4A-M

On September 29, 2020 EPA approved the Total Maximum Daily Load for Phosphorus for Locke Lake, Barnstead, NH. The purpose of the TMDL is to address impairments of the aquatic life integrity designated use due to total phosphorus, chlorophyll-a, pH and for the primary contact recreation designated use due to cyanobacteria hepatotoxic microcystins. These impairments were due to atmospheric deposition, internal loading, septic systems (within 125 feet of the pond), waterfowl and watershed loads. The TMDL will result in attainment of surface water quality criteria and thresholds for total phosphorus, chlorophyll-a, dissolved oxygen, as well as cyanobacteria. A copy of the EPA TMDL approval letter and additional detail documents may be found in [NHDES' TMDL Webpage](#). Since the TMDL has been approved by EPA, Webster Stream - Locke Lake (NHIMP700060402-02) has been moved from 5-M to 4A-M for Cyanobacteria hepatotoxic microcystins for the aquatic life integrity designated use.

Macroinvertebrates for Aquatic Life Integrity

AMEY BROOK (NHRIV700030502-10)

Assessment Unit Name	Assessment Unit ID	Parameter Name	Primary Town	2018	2020/2022
AMEY BROOK	NHRIV700030502-10	Benthic-Macroinvertebrate Bioassessments (Streams)	HENNIKER	5-P	2-G

Two invertebrate samples collected (1998 and 2018). B-IBI ratio less than 1.0 in 1998 and greater than 1.0 in 2018. B-IBI ratios (NH B-IBI/ 90% threshold) greater than 1.0 indicate the invertebrate community meets or exceeds the narrative aquatic life use water quality criteria. The B-IBI ratio in 2018 was 1.23, meeting the 2-G category. Poor B-IBI score in 1998 a result of water quality violations from an adjacent crushed stone/concrete operation that was directly discharging turbid water and silt/sediment to Amey Brook. Site inspection details/photos can be found with the site information from 1999. The owner at that time hired an engineering firm to come into compliance. During site visits in 2018, no indication of recent water quality violations were present. Documentation in the NHDES Alteration of Terrain file (permit WPS-5833-A, dated Dec. 6, 2001) outlined corrective measures eliminating water quality violations from the crushed stone/ concrete operation occurred in 1999 and 2000. Amey Brook (NHRIV700030502-10) has been delisted from 5-P to 2-G for Benthic-Macroinvertebrate Bioassessments (Streams) for the aquatic life integrity designated use based on data collected in the current assessment period.

Waterbody	Station ID	Activity ID	Collection Date	B-IBI Score	B-IBI Threshold (90%)	B-IBI Ratio (B-IBI score /90%Threshold)
Amey Brook	03-AMY	BEN-03-AMY-01	14-Sep-18	68.67	55.53	1.24
Amey Brook	03-AMY	BEN99M-51	28-Sep-99	51.07	55.53	0.92