Yadkin Hydroelectric Project (P-2197)
Narrows Reservoir (Badin Lake)
Stakeholder Meeting
August 2026

Meeting Purpose

Objectives

- Introductions
- Describe how Yadkin Project is licensed/regulated
- Review operating requirements
- Provide current drought condition information
- Review the Low Inflow Protocol (LIP)
- Share Shoreline Management Plan Update timeline
- Discuss hydrilla and lyngbya management
- Questions & Answers

YADKIN HYDROELECTRIC PROJECT

Our Relicensing Journey: 2002 – 2055 and Beyond

2002
Relicensing Initiation

The formal relicensing process began, involving the initiation of technical studies in close consultation with stakeholders.

2002–2015
Stakeholder Engagement and Studies

More than a decade of stakeholder engagement took place, during which 25 technical study reports (comprising thousands of pages) were produced to support the relicensing.

2006
Final License Application

The Final License Application for the project was filed with the Federal Energy Regulatory Commission (FERC).

2007
Relicensing Settlement Agreement (RSA)

The RSA was executed following years of negotiations and consensus-building among 22 stakeholder organizations, including federal and state agencies, local governments, and environmental groups.

Post-2007 to 2015
Regulatory Review

This period included the FERC Environmental Review and the Water Quality Certification process overseen by the NCDEQ.

2016
New FERC License Issued

FERC issued the new federal license for the project, which incorporates the operational requirements established in the RSA and the Low Inflow Protocol (LIP).

2026
Current Operations

The project continues to operate under the requirements of the 2016 license, specifically managing reservoir levels during significant drought conditions through the Low Inflow Protocol.

2027
Upcoming Five-Year LIP Review

A scheduled review of the Low Inflow Protocol is set for 2027 to evaluate data, discuss lessons learned, and consider potential improvements based on stakeholder input and technical analysis.

2055
FERC Hydropower License Expiration

The current federal license expires in 2055, marking the end of this license term.

A COLLABORATIVE EFFORT

Building a sustainable future for the Yadkin River through partnership, science, and responsible stewardship.

Stakeholder Engagement

Science & Studies

Regulatory Compliance

Reliable Hydropower

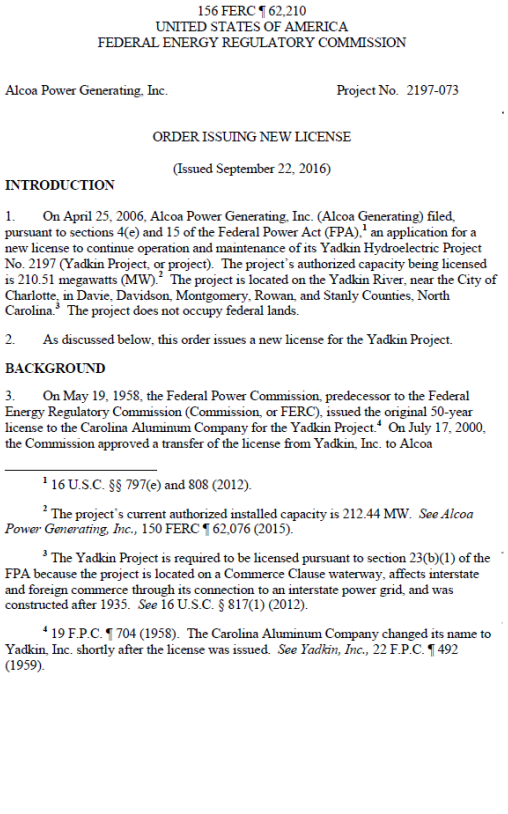
Sustainable Communities

Project Regulation

Federally Licensed Hydroelectric Project

Cube Yadkin must operate the project in compliance with the:

- 2007 Relicensing Settlement Agreement (22 signatories)
  - Badin Lake Association
  - Uwharrie Point Community Association
- 2015 NCDEQ 401 Water Quality Certification
- September 22, 2016, FERC Order Issuing New License



156 FERC ¶ 62,210
UNITED STATES OF AMERICA
FEDERAL ENERGY REGULATORY COMMISSION

Alcoa Power Generating, Inc. Project No. 2197-073

ORDER ISSUING NEW LICENSE

(Issued September 22, 2016)

INTRODUCTION

1. On April 25, 2006, Alcoa Power Generating, Inc. (Alcoa Generating) filed, pursuant to sections 4(e) and 15 of the Federal Power Act (FPA),[1] an application for a new license to continue operation and maintenance of its Yadkin Hydroelectric Project No. 2197 (Yadkin Project, or project). The project's authorized capacity being licensed is 210.51 megawatts (MW).[2] The project is located on the Yadkin River, near the City of Charlotte, in Davie, Davidson, Montgomery, Rowan, and Stanly Counties, North Carolina.[3] The project does not occupy federal lands.

2. As discussed below, this order issues a new license for the Yadkin Project.

BACKGROUND

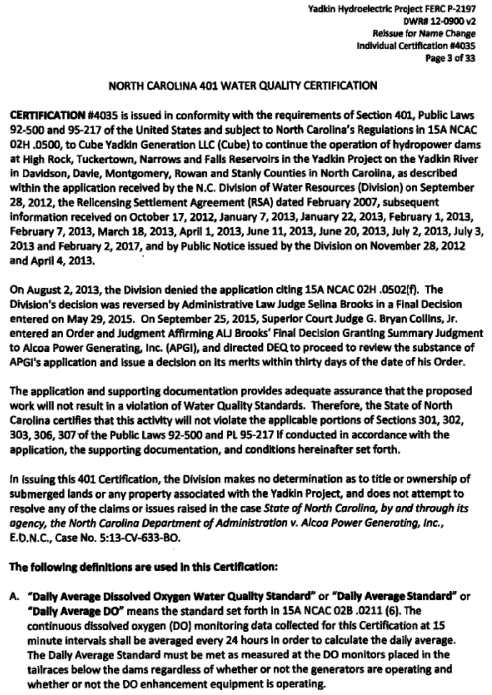
3. On May 19, 1958, the Federal Power Commission, predecessor to the Federal Energy Regulatory Commission (Commission, or FERC), issued the original 50-year license to the Carolina Aluminum Company for the Yadkin Project.[4] On July 17, 2000, the Commission approved a transfer of the license from Yadkin, Inc. to Alcoa

[1] 16 U.S.C. §§ 797(e) and 808 (2012).

[2] The project's current authorized installed capacity is 212.44 MW. *See Alcoa Power Generating, Inc.*, 150 FERC ¶ 62,076 (2015).

[3] The Yadkin Project is required to be licensed pursuant to section 23(b)(1) of the FPA because the project is located on a Commerce Clause waterway, affects interstate and foreign commerce through its connection to an interstate power grid, and was constructed after 1935. *See* 16 U.S.C. § 817(1) (2012).

[4] 19 F.P.C. ¶ 704 (1958). The Carolina Aluminum Company changed its name to Yadkin, Inc. shortly after the license was issued. *See Yadkin, Inc.*, 22 F.P.C. ¶ 492 (1959).



Yadkin Hydroelectric Project FERC P-2197
DWR# 12-0900 v2
Reissue for Name Change
Individual Certification #4035
Page 3 of 33

NORTH CAROLINA 401 WATER QUALITY CERTIFICATION

CERTIFICATION #4035 is issued in conformity with the requirements of Section 401, Public Laws 92-500 and 95-217 of the United States and subject to North Carolina's Regulations in 15A NCAC 02H .0500, to Cube Yadkin Generation LLC (Cube) to continue the operation of hydropower dams at High Rock, Tuckertown, Narrows and Falls Reservoirs in the Yadkin Project on the Yadkin River in Davidson, Davie, Montgomery, Rowan and Stanly Counties in North Carolina, as described within the application received by the N.C. Division of Water Resources (Division) on September 28, 2012, the Relicensing Settlement Agreement (RSA) dated February 2007, subsequent information received on October 17, 2012, January 7, 2013, January 22, 2013, February 1, 2013, February 7, 2013, March 18, 2013, April 1, 2013, June 11, 2013, June 20, 2013, July 2, 2013, July 3, 2013 and February 2, 2017, and by Public Notice issued by the Division on November 28, 2012 and April 4, 2013.

On August 2, 2013, the Division denied the application citing 15A NCAC 02H .0502(f). The Division's decision was reversed by Administrative Law Judge Selina Brooks in a Final Decision entered on May 29, 2015. On September 25, 2015, Superior Court Judge G. Bryan Collins, Jr. entered an Order and Judgment Affirming ALJ Brooks' Final Decision Granting Summary Judgment to Alcoa Power Generating, Inc. (APGI), and directed DEQ to proceed to review the substance of APGI's application and issue a decision on its merits within thirty days of the date of his Order.

The application and supporting documentation provides adequate assurance that the proposed work will not result in a violation of Water Quality Standards. Therefore, the State of North Carolina certifies that this activity will not violate the applicable portions of Sections 301, 302, 303, 306, 307 of the Public Laws 92-500 and PL 95-217 if conducted in accordance with the application, the supporting documentation, and conditions hereinafter set forth.

In issuing this 401 Certification, the Division makes no determination as to title or ownership of submerged lands or any property associated with the Yadkin Project, and does not attempt to resolve any of the claims or issues raised in the case *State of North Carolina, by and through its agency, the North Carolina Department of Administration v. Alcoa Power Generating, Inc.*, E.D.N.C., Case No. 5:13-CV-633-BO.

The following definitions are used in this Certification:

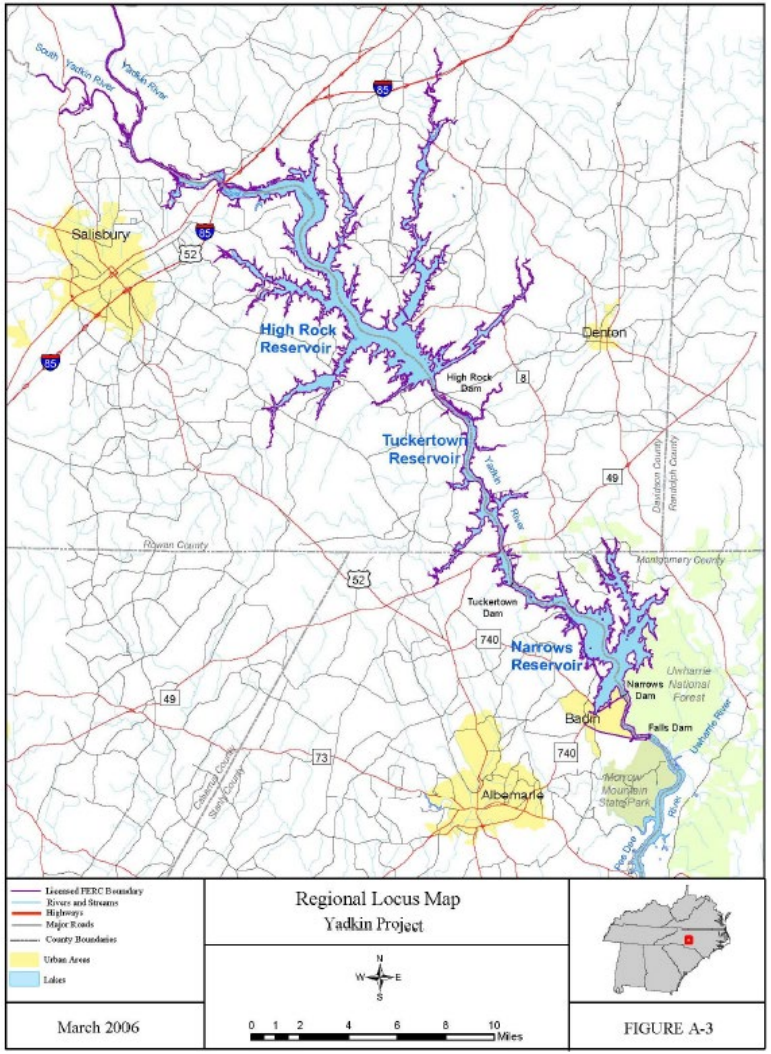
A. "Daily Average Dissolved Oxygen Water Quality Standard" or "Daily Average Standard" or "Daily Average DO" means the standard set forth in 15A NCAC 02B .0211 (6). The continuous dissolved oxygen (DO) monitoring data collected for this Certification at 15 minute intervals shall be averaged every 24 hours in order to calculate the daily average. The Daily Average Standard must be met as measured at the DO monitors placed in the tailraces below the dams regardless of whether or not the generators are operating and whether or not the DO enhancement equipment is operating.

2007 Relicensing Settlement Agreement (RSA)

- Operational requirements supported by technical study and modeling during relicensing
- Years of negotiations among many parties, numerous in-person meetings
- Signatories - 22 stakeholder organizations
  - Federal agencies: USFS
  - NC/SC agencies: NCDENR (now NCDEQ), NCWRC, SCDHEC, SCDNR
  - Local governments: City of Albemarle, Montgomery County, Rowan County, Town of Badin
  - Shoreline owner interests: **Badin Lake Association, Uwharrie Point Community Association**, High Rock Lake Association
  - Business interests: High Rock Business Owners Association, Piedmont Boat Club, Salisbury/Rowan Association of Realtors
  - Other organizations: American Rivers, Badin Historic Museum, Coastal Conservation League, Land Trust for Central NC, The Nature Conservancy, Pee Dee River Coalition
  - Native American Tribes: Catawba Indian Nation

Yadkin Project Reservoirs

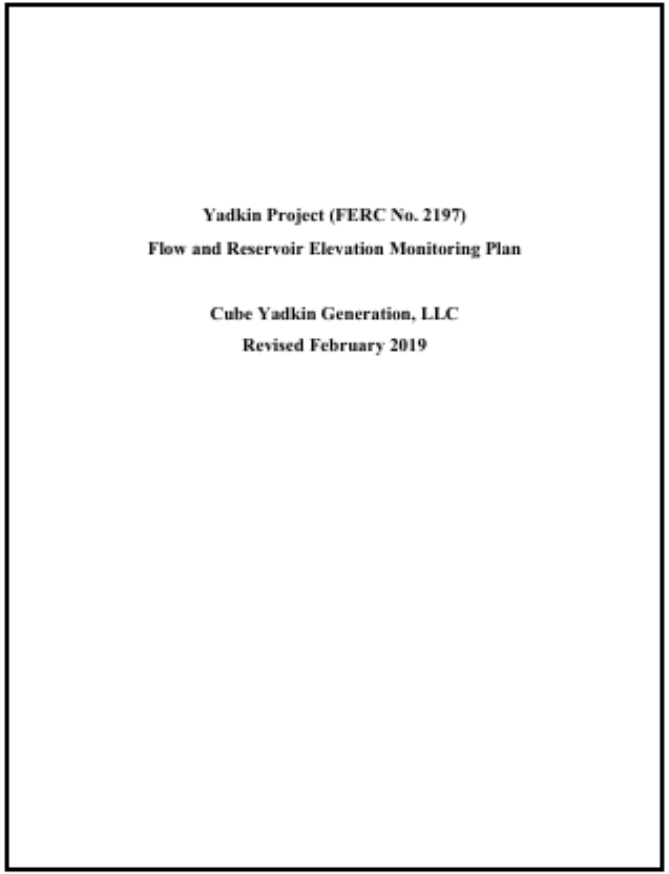
- Managed as an integrated 4-reservoir system with obligations for:
  - Renewable energy generation
  - Water supply
  - Minimum downstream flow
  - Water quality
  - Aquatic habitat
  - Recreation
- Unless operating in accordance with the Hydro Project Maintenance and Emergency Protocol (HPMEP) and Low Inflow Protocol (LIP), Project minimum flows take priority over reservoir water elevations.



Minimum Flow Requirements

- Except when operating under the LIP or HPMEP, Licensee must operate the Project to provide a daily average minimum flow from the Falls Development* according to the following schedule:
    - June 1 – January 31: 1,000 cfs
    - February 1 – May 15: 2,000 cfs
    - May 16 – May 31: 1,500 cfs

*Measured at Narrows per Yadkin Flow and Reservoir Elevation Monitoring Plan, Revised February 2019; FERC approval on April 30, 2019)

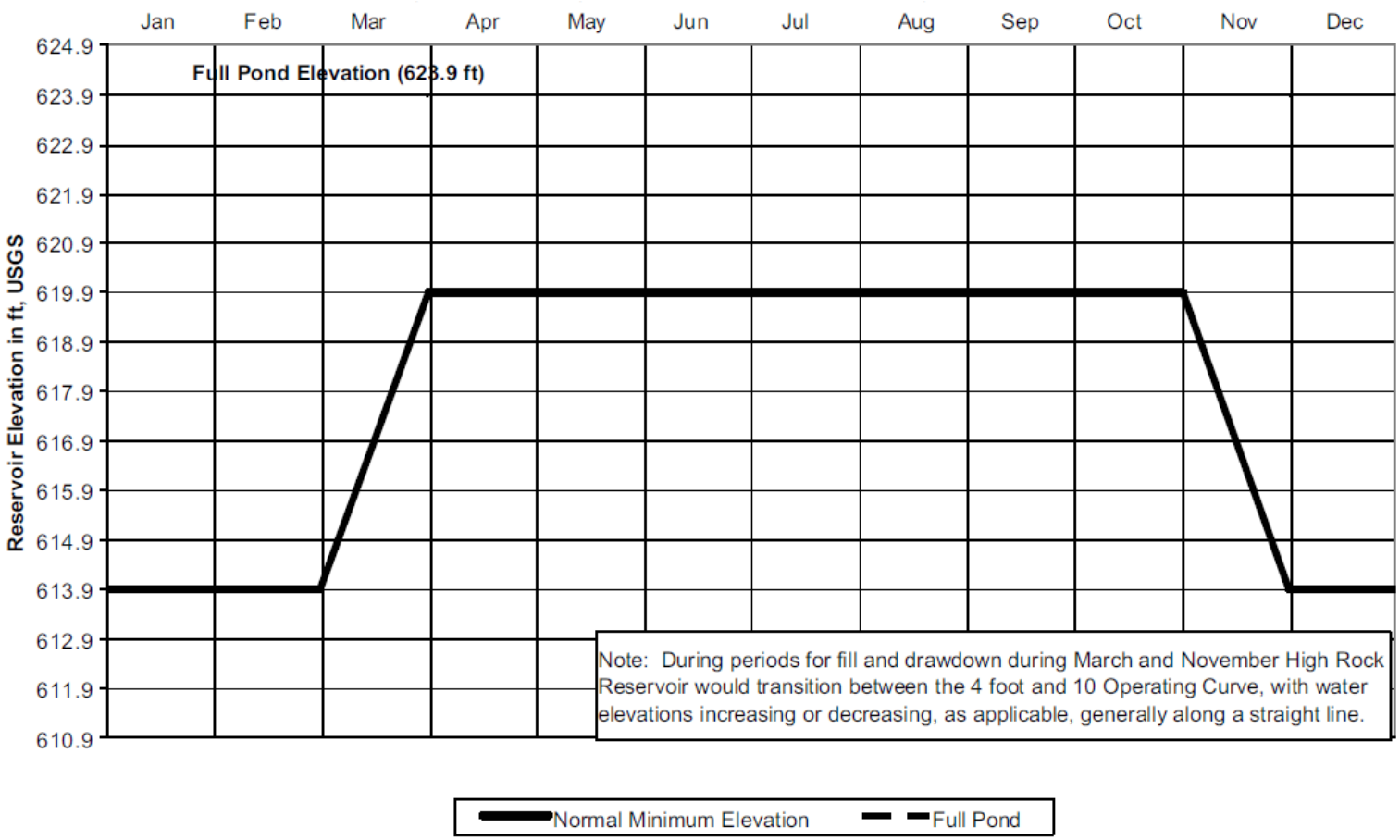

Yadkin Project (FERC No. 2197)

Flow and Reservoir Elevation Monitoring Plan

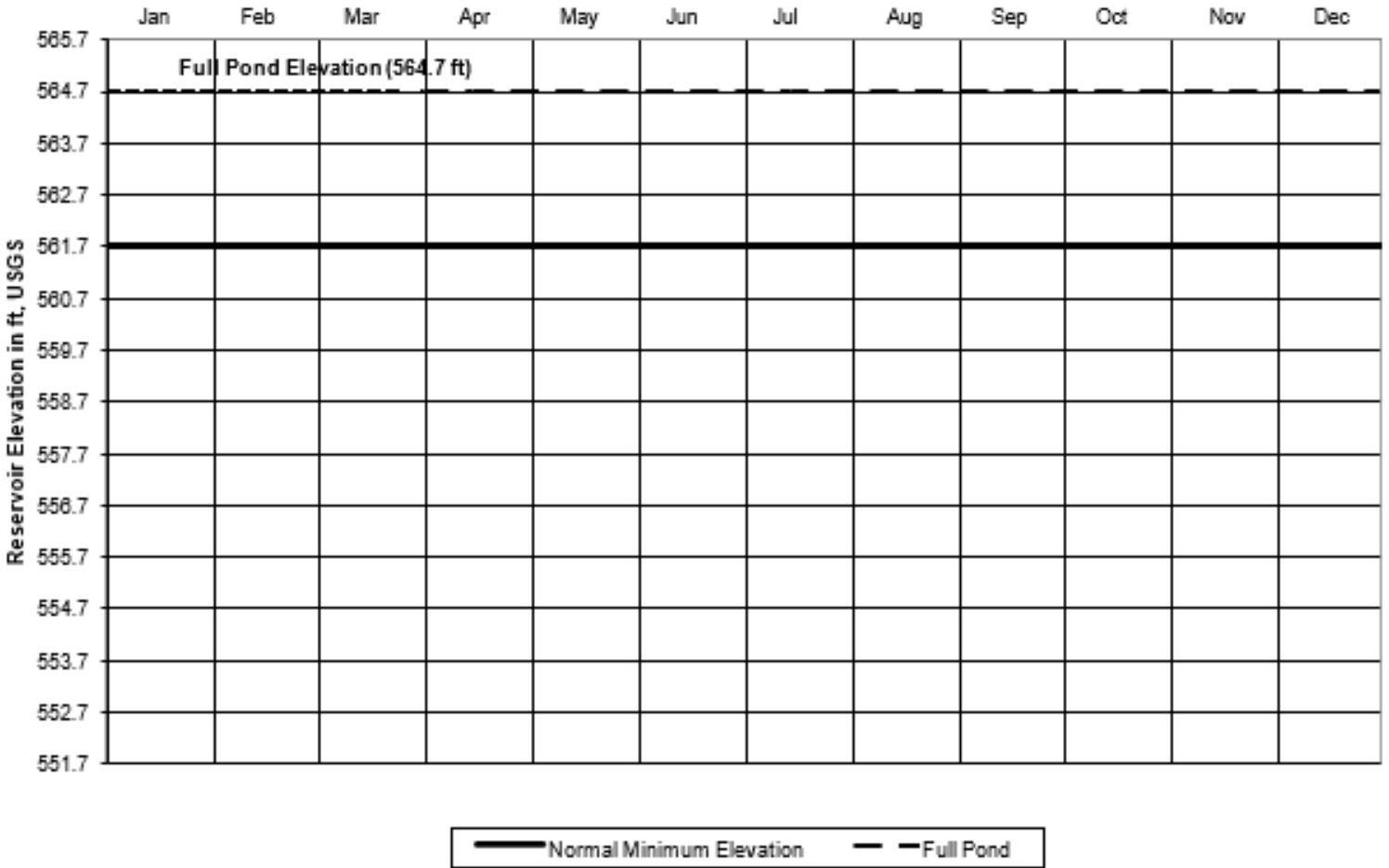
Cube Yadkin Generation, LLC

Revised February 2019

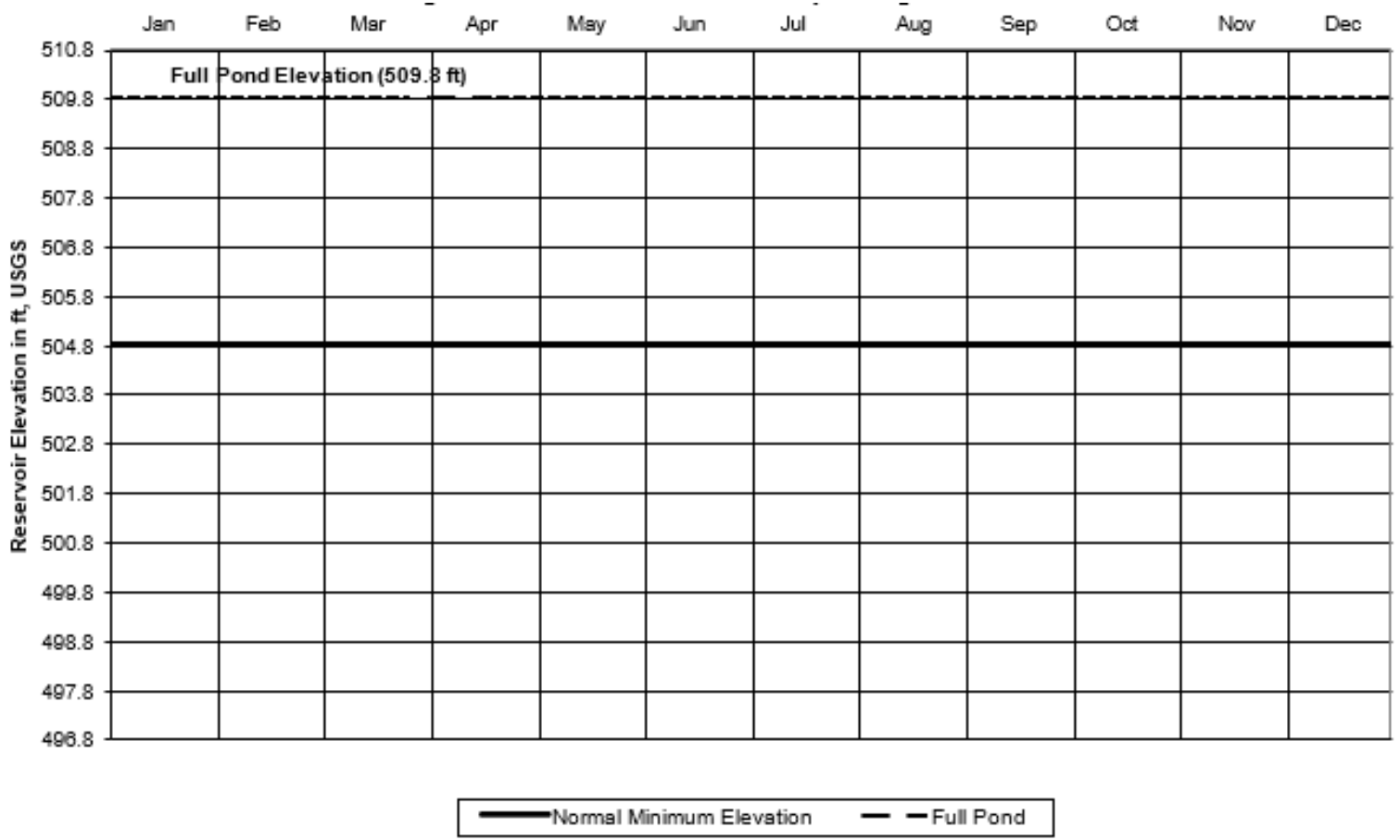
High Rock Reservoir Operating Curve



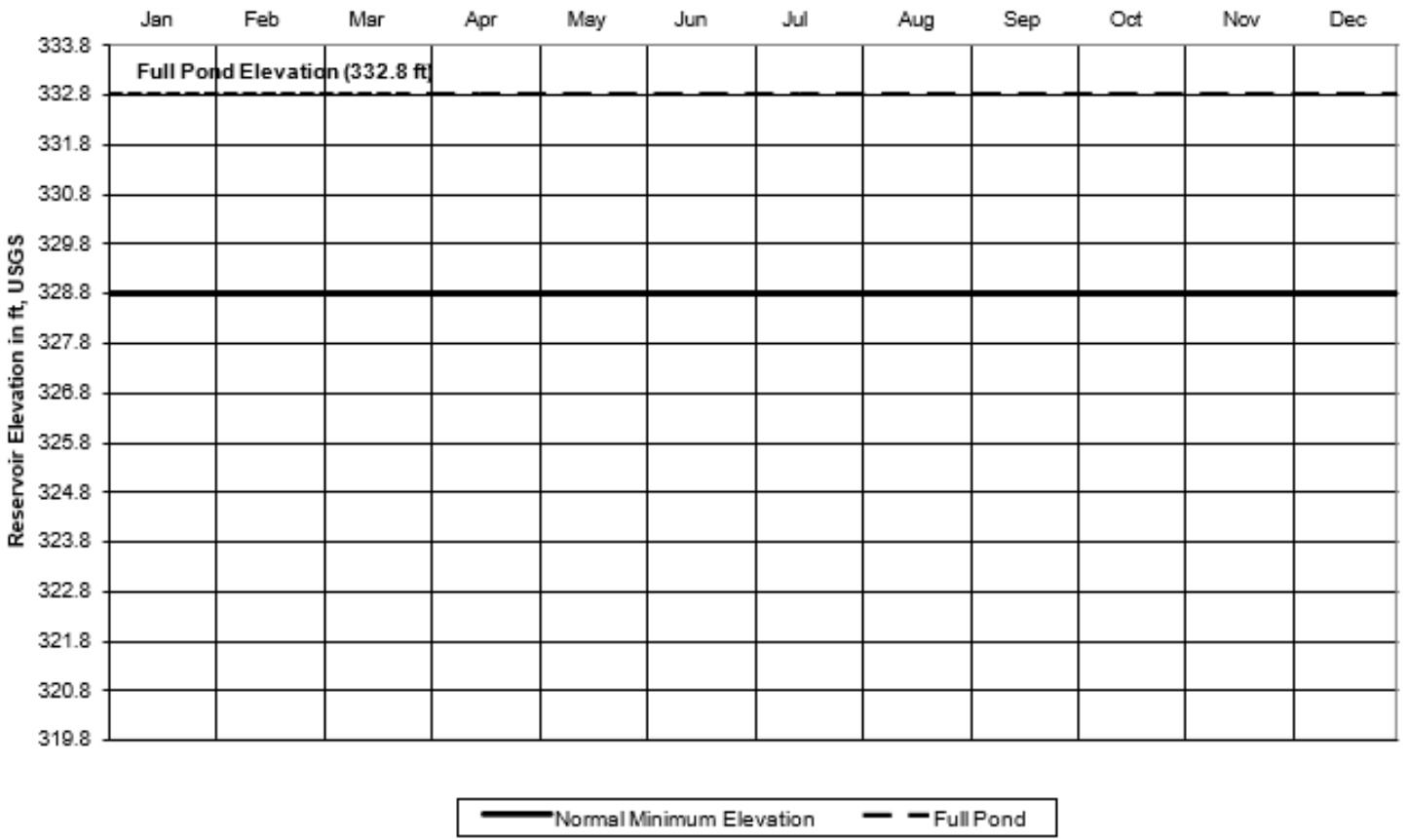
Tuckertown Reservoir Operating Curve



Narrows Reservoir (Badin Lake) Operating Curve

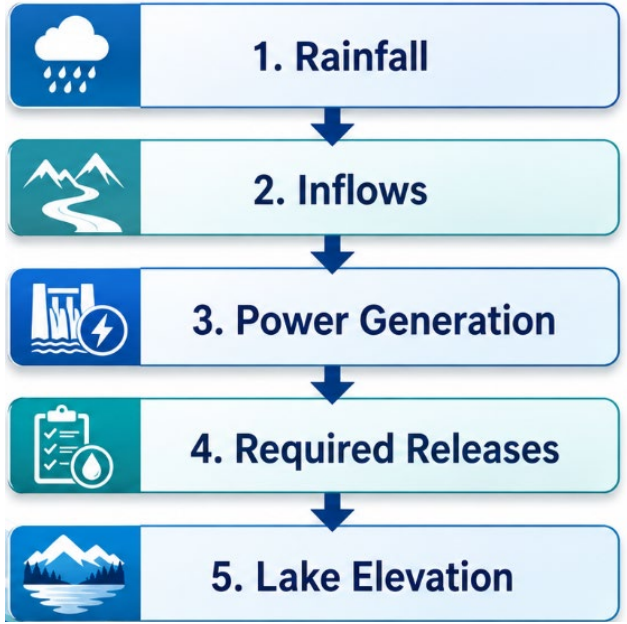


Falls Reservoir Operating Curve



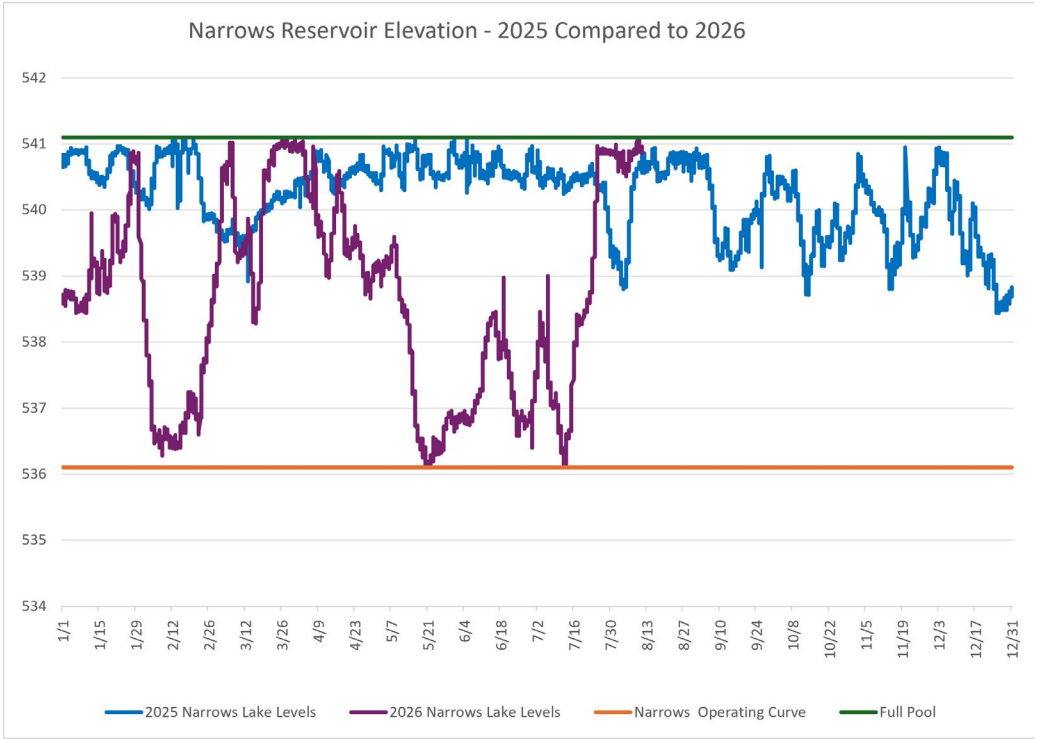
Reservoir Levels Influenced By

- Drought
- Rainfall/Storms/Hurricanes
- Seasonal inflows
- US Army Corps of Engineers W. Kerr Scott Operations
- Minimum flow requirements
- Downstream obligations
- Tailwater dissolved oxygen requirements
- Unit availability



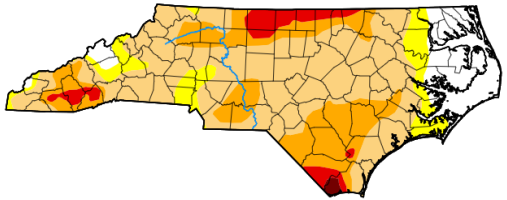
2025 vs. 2026 Narrows Reservoir Elevations

- Compliant operations – both years are within the licensed operating range
- Drought-related impacts in 2026
- Annual compliance report submitted to NCDEQ and FERC, available on FERC's e-library
- No operating violations



Current Drought Conditions

- US Drought Monitor for North Carolina [US Drought Monitor for North Carolina]
  - Figures August 5, 2026, compared to August 5, 2025
- Inflows to Project generally low since fall 2025
- Regional drought affects all reservoirs, not unique to Narrows Reservoir



U.S. Drought Monitor
North Carolina

Map released: Thurs. August 6, 2026
Data valid: August 4, 2026 at 8 a.m. EDT

Intensity

- None
- D0 (Abnormally Dry)
- D1 (Moderate Drought)
- D2 (Severe Drought)
- D3 (Extreme Drought)
- D4 (Exceptional Drought)
- No Data

Authors

United States and Puerto Rico Author(s):
Richard Tinker, NOAA/NWS/NCEP/CPC

Pacific Islands and Virgin Islands Author(s):
Daniel Whitesel, National Drought Mitigation Center

August 5, 2025
(Released Thursday, Aug. 7, 2025)
Valid 8 a.m. EDT

Drought Conditions (Percent Area)

	None	D0	D1	D2	D3	D4
Current	96.45	3.55	0.00	0.00	0.00	0.00
Last Week 07-29-2025	91.08	8.92	0.00	0.00	0.00	0.00
3 Months Ago 05-06-2025	26.30	27.81	39.21	6.67	0.00	0.00
Start of Calendar Year 01-07-2025	11.26	39.90	48.84	0.00	0.00	0.00
Start of Water Year 10-01-2024	100.00	0.00	0.00	0.00	0.00	0.00
One Year Ago 08-06-2024	71.20	26.41	2.40	0.00	0.00	0.00

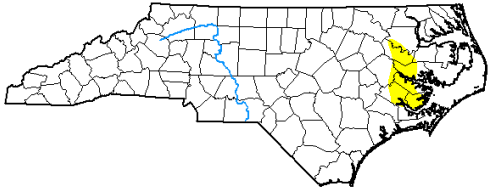
Intensity:
None · D0 Abnormally Dry · D1 Moderate Drought · D2 Severe Drought · D3 Extreme Drought · D4 Exceptional Drought

The Drought Monitor focuses on broad-scale conditions. Local conditions may vary. For more information on the Drought Monitor, go to https://droughtmonitor.unl.edu/About.aspx

Statistics

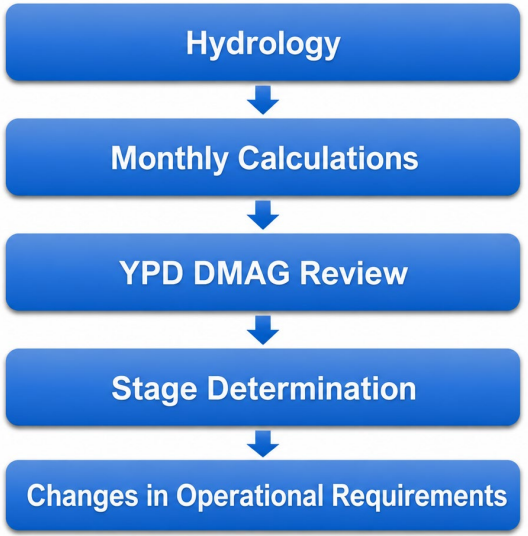
Statistics type: Categorical Percent Area | Export Table | View More Statistics

Week	Date	None	D0	D1	D2	D3	D4	DSCI
Current	2026-08-04	9.06	9.50	52.28	22.96	5.72	0.49	208
Last Week to Current	2026-07-28	7.55	6.07	45.01	32.40	8.32	0.66	230
3 Months Ago to Current	2026-05-05	0.00	0.00	4.45	34.79	59.71	1.04	357
Start of Calendar Year to Current	2025-12-30	4.98	35.07	59.64	0.31	0.00	0.00	155
Start of Water Year to Current	2025-09-30	18.38	57.71	23.92	0.00	0.00	0.00	106
One Year Ago to Current	2025-08-05	96.45	3.55	0.00	0.00	0.00	0.00	4



Low Inflow Protocol (LIP)

- LIP is part of the RSA, 401 WQC, and the FERC license – it was not created by Cube Yadkin independently
- Fundamental LIP goal – take staged actions in the basin to delay the point at which available water storage in Cube Yadkin's and Duke's reservoirs is fully depleted while maintaining downstream flows
- LIP purpose to maintain:
  - water supply
  - aquatic resources
  - downstream flows
  - system reliability
- Stage determination is reviewed/determined monthly by YPD DMAG (not by Cube Yadkin independently)



Low Inflow Protocol

LIP Stages

- First of each month Cube Yadkin calculates LIP stage, shares calculation with NCDEQ, Duke, and Yadkin Riverkeeper. Also posted on website August 1, 2026, LIP Calculation
- Certain criteria must be met before LIP is triggered
- Operational changes are implemented at Stage 1 and higher
  - LIP flows implemented
  - Project inflows supplemented by **drawing first from Narrows until Narrows drawdown below its NME matches High Rock elevation below its NME**

Table 5. Summary of LIP Triggers

Stage	High Rock Reservoir Elevation		US Drought Monitor Three-Month Numeric Average		Stream Gage Three-Month Rolling Average as a percent of the Historical Average
0	< NME minus 0.5 ft	**and**	any	**or**	any
	OR				
	< NME	**and either**	≥ 0	**or**	< 48 %
1	< NME minus 1 ft	**and either**	≥ 1	**or**	< 41 %
2	< NME minus 2 ft	**and either**	≥ 2	**or**	<35 %
3	< NME minus 3 ft	**and either**	≥ 3	**or**	<30 %
4	< ½ of (NME minus Critical Reservoir Water Elevation)	**and either**	≥ 4	**or**	<30 %

LIP Stage 1 and higher allow reservoir elevations to fall below the normal operating curve

Why Wasn't LIP Declared?

- Yadkin-Pee Dee Drought Management Advisory Group (YPD DMAG) reviews basin conditions monthly
- Hydrology did not meet all criteria for LIP Stage 0 – Low Inflow Watch
    - NCDWR activates YPD-DMAG and initiates monthly meetings
- Hydrology did not meet all criteria for LIP Stage 1 – Low Inflow Condition
    - Implement LIP Flows (by 7th day of month Stage 1 declared)
    - Supplement Project inflows by **drawing first from Narrows until Narrows drawdown below its NME matches High Rock elevation below its NME**
    - Supplement Project inflows by **drawing from High Rock and Narrows reservoirs approximately equally on a foot-per-foot basis below the NME**
    - Duke supplement Project inflows by drawing from either Tillery or Blewett Falls

Table 6. LIP Flows[1], cfs

Stage	High Rock (daily average maximum flow target)			Falls[2] (daily average flow target)			Blewett Falls[2] (continuous flow target[3])		
	Feb 1–May 15	May 16-31	Jun 1-Jan 31	Feb 1–May 15	May 16-31	Jun 1-Jan 31	Feb 1–May 15	May 16-31	Jun 1-Jan 31
0	2000	1500	1000	2000	1500	1000	2400	1800	1200
1	1450	1170	900	1450	1170	900	1750	1400	1080
2	1080	950	830	1080	950	830	1300	1150	1000
3	770	770	770	770	770	770	925	925	925
4	Additional measures may be determined by consensus of the Licensees and State Agencies. FERC approval of								

2026 Annual YPD DMAG Meeting

- Annual YPD DMAG Meeting – May 2026
- May 2026 attendees: NCDEQ, Cube Yadkin, Duke, NC State Climate Office, National Weather Service
- Yadkin River basin hydrology was reviewed
- YPD DMAG discussed the scheduled 5-year LIP review – will revisit in 2027

Yadkin-Pee Dee River Basin Drought Management Advisory Group Annual Meeting

Thursday, May 14, 2026 12:00 PM

Location: Salisbury-Rowan Utilities Administration Building, 1 Water Street, Salisbury, North Carolina 28144

AGENDA

12:00 PM **Introduction –** Harold Brady, NC Division of Water Resources

12:05 PM **Presentations**

- Update on Conditions in the Basin - Corey Davis, State Climate Office
- Weather Forecast – Joshua Palmer, National Weather Service
- Update on Reservoir Conditions:
  - Richard Williams – Cube Hydro
  - Lynne Dunn – Duke Energy

12:30 PM **Questions**

12:45 PM **Closing** – Harold Brady

Low Inflow Protocol

Five-Year LIP Review

- Any changes to the LIP require: YPD DMAG review, stakeholder input, technical analysis, recommendations, agency review, and FERC approval
- Opportunity to review data
- Discuss lessons learned

Low Inflow Protocol
for the
Yadkin & Yadkin-Pee Dee River Hydroelectric Projects

GOAL

The fundamental goal of this Low Inflow Protocol (LIP) is to take staged actions in the Yadkin-Pee Dee River Basin needed to delay the point at which available water storage in the Yadkin Hydroelectric Project (Federal Energy Regulatory Commission – FERC No. 2197) and the Yadkin-Pee Dee Hydroelectric Project (FERC No. 2206) (collectively, projects) reservoirs is fully depleted while maintaining downstream flows. This LIP is intended to provide additional time to increase the probability that precipitation will restore streamflow and reservoir water elevations to normal ranges. The amount of additional time that is gained during implementation of this LIP depends on the diagnostic accuracy of the trigger points, the amount of regulatory flexibility available to operate the projects, and the effectiveness of the projects' operators and the water users in working together to implement required actions and achieve significant water use reductions. It is assumed that water users in the Yadkin-Pee Dee River Basin not subject to this LIP must comply with all applicable State and local drought response requirements.

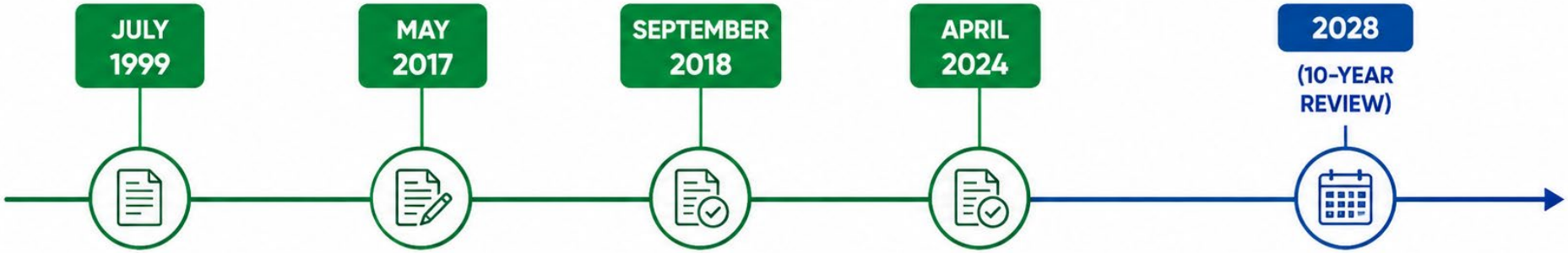
More specifically, this LIP establishes procedures for adjusting operations during periods of low inflow to the Yadkin Hydroelectric Project owned and operated by Alcoa Power Generating Inc. (APGI) and the Yadkin-Pee Dee River Hydroelectric Project owned by Carolina Power & Light Company and operated by Progress Energy Carolinas, Inc. (PE) (collectively, Licensees) during the term of the new FERC licenses issued for these projects. The provisions of this LIP should be interpreted in a manner consistent with all other provisions of the new FERC licenses.

OVERVIEW

This LIP will be implemented during periods when there is not enough water flowing into the projects' reservoirs to meet the projects' Required Minimum Instream Flows while maintaining reservoir water elevations within Normal Operating Ranges. This LIP provides trigger points and operating procedures that the Licensees will follow for the projects. This LIP also specifies water withdrawal reduction measures for other water users in portions of the Yadkin-Pee Dee River Basin.

The Licensees will provide flow from storage in the projects' reservoirs to support hydroelectric generation and to provide Required Minimum Instream Flows in accordance with their respective new FERC licenses. During periods of normal inflow, reservoir water elevations will be maintained within their Normal Reservoir Operating Ranges. During times that inflow is not adequate to provide Required Minimum Instream Flows and maintain reservoir water elevations within their Normal Reservoir Operating Ranges, the Licensees will reduce releases for hydroelectric generation. If reservoir storage continues to drop and climatologic or hydrologic conditions worsen until trigger points defined in this LIP are reached, the Licensees will implement additional provisions of this LIP, including meeting with the designated agencies and water users to discuss the need for actions pursuant to this LIP. If conditions worsen, progressive stages of this LIP will allow additional use of the available water storage inventory, while conserving water storage volumes through required reductions in LIP Flows and required reductions in water withdrawals.

Yadkin Shoreline Management Plan (SMP) Timeline



Filed original SMP

FERC approval
2000

Filed revised SMP appendices (E, F, and G)

Revisions to appendices in accordance with FERC license

Filed revised SMP

FERC approved
2019

Filed revised Appendix E to SMP

FERC approved
2024

- Revisions to Specifications for Private Recreation Facilities (Appendix E)
- Minor changes to provide clarifications, allow greater flexibility in private pier configurations

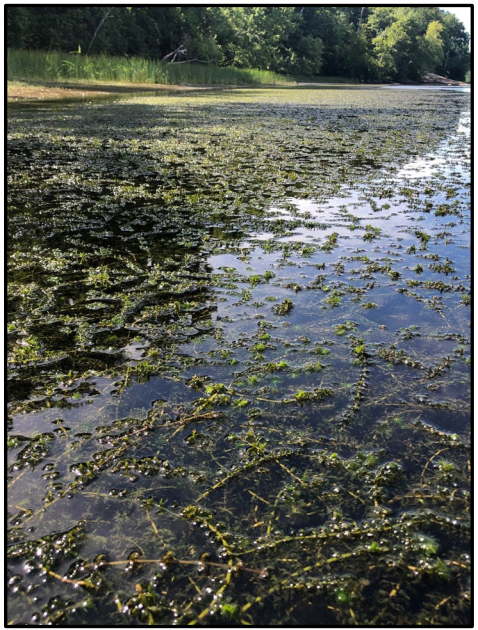
SMP 10-year Review/ Report and, if needed, SMP Update

- Review/report describing whether or not an update to SMP is needed
- If update necessary, report includes schedule for updated SMP

SMP DOES NOT ADDRESS OPERATING REQUIREMENTS

Hydrilla and Lyngbya

- Cube Yadkin has managed hydrilla and lyngbya on the Project reservoirs for more than a decade
- In cooperation with NCDEQ's Aquatic Weed Control Program (hydrilla only), NCWRC, and NCSU (and more recently with Aqua Services)
- Hydrilla responds well to biological (triploid grass carp) and chemical controls (herbicides)
- Lyngbya more difficult to control; chemical controls showing some promise



Aquatic Weeds on the Yadkin Project Reservoirs

What is hydrilla?

- Hydrilla is a submersed aquatic plant recognized by the State of North Carolina as a noxious aquatic weed.
- Hydrilla forms nearly impenetrable mats of stems and leaves at the surface of the water.
- Hydrilla currently infests many aquatic systems throughout North Carolina.
- Advanced infestations can alter aquatic habitats and drive ecological shifts; and can cause the loss of recreational use of waters.
- Hydrilla is spread primarily by human activities. Plant fragments are spread from boat motors and trailers or from live wells and bait containers.

What is lyngbya?

- Lyngbya is a blue-green algae that is **not** recognized by the State of North Carolina or the Aquatic Weed Control Program as a noxious aquatic weed.
- Lyngbya forms long filamentous hair-like strands that mat together in thick layers and can form mats at the surface and throughout the water column.
- This algae crowds out beneficial native aquatic plant species and may impact recreation because of the distasteful appearance, rotten egg smell, and entanglement problems.
- Lyngbya is common in North Carolina waterbodies, with no simple solution for permanent removal.

What is Cube Yadkin doing to manage hydrilla and lyngbya in the Yadkin Project reservoirs?

- Began cooperating with the NC Aquatic Weed Control Program and the Wildlife Resources Commission in 2011 to actively manage and control hydrilla in the Project reservoirs.
- Supported the management of hydrilla in the Project reservoirs with biological (triploid grass carp) and chemical controls (herbicides) since 2012.
- Partnered with NC State University to conduct annual aquatic vegetation surveys.
- In 2014, in cooperation with SePRO, tested stands of lyngbya to develop recommendations for chemical treatment.
- The 2018 vegetation survey of Tuckertown and Narrows Reservoirs, showed that the percent occurrence of hydrilla on both reservoirs has decreased over time:

Hydrilla	2015	2018	2021	2023	2024	2025
Tuckertown	55%	0%	0%	0%	0%	0%
Narrows	2%	0%	0%	0%	0%	0%
High Rock	-	-	-	2%	8%	16%

- During this same time period, lyngbya has continued to persist, despite treatment:

Lyngbya	2015	2018	2021	2023	2024	2025
Tuckertown	58%	58%	68%	57%	90%	83%
Narrows	6%	21%	32%	34%	36%	37%
High Rock	-	-	-	6%	15%	12%

- In cooperation with the NC Aquatic Weed Control Program posted "Stop the Spread of Aquatic Weeds" at Project boat access areas.
- Cube Yadkin continues to cooperate with the State of North Carolina and NC State University in 2026. Management activities to date include:
  - Grass carp stocking (1,185 in 2026).
  - Herbicide applications by NCDEQ and NCSU/Aqua Services Inc.
  - Vegetation survey through NCWRC and NCSU.

What can I do to prevent the spread of these aquatic weeds?

- Practice good environmental stewardship by inspecting your boat, trailer, and equipment and removing all visible aquatic plants.
- Drain water from your boat, motor, bilge, live wells, and bait containers before leaving the access area.
- Spray, rinse, or dry boats and equipment to remove invisible hitchhikers.
- Dispose of unwanted bait and other animals or aquatic plants in the trash.
- Use best practices when applying lawn fertilizers and do not apply within 20-ft of the shoreline.
- Inspect and ensure home septic systems are functioning properly up to code.

CUBE HYDRO CAROLINAS

[Invasive Aquatic Vegetation Info]

2025 Narrows Reservoir Aquatic Surveys

Lyngbya

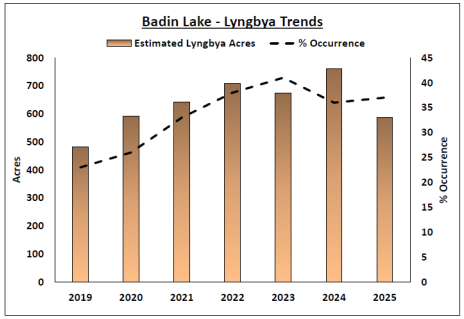


Figure 15: Historical trends in lyngbya acreage and occurrence as reported in NCSU's annual vegetation surveys of Badin Lake. Values for percent occurrence refer to the percent of survey sites in which lyngbya was present as compared to the total number of sites surveyed.

Table 2: Abundance trends for two noxious species, hydrilla and lyngbya, reported for High Rock Lake, Tuckertown Reservoir, Badin Lake, and Palmerville Impoundment. Values indicate the percent occurrence of each species in relation to the total number of sites surveyed in a given year. Systems are listed chronologically by NCSU APMP annual survey initiation year.

	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025
TUCKERTOWN													
Hydrilla	43%	*Draw Down*	55%	28%	—	—	—	—	—	—	—	—	—
Lyngbya	63%	*Draw Down*	58%	59%	58%	58%	69%	75%	71%	55%	79%	90%	83%
BADIN													
Hydrilla		1%	2%	< 1%	—	—	—	—	—	—	—	—	—
Lyngbya		4%	6%	17%	38%	21%	23%	26%	33%	38%	41%	36%	37%
PALMERVILLE													
Hydrilla			70%	—	15%	—	—	—	—	—	—	—	—
Lyngbya			—	—	< 1 %	0%	0%	< 1 %	5%	15%	9%	14%	—
HIGH ROCK													
Hydrilla											2%	8%	16%
Lyngbya											6%	15%	12%

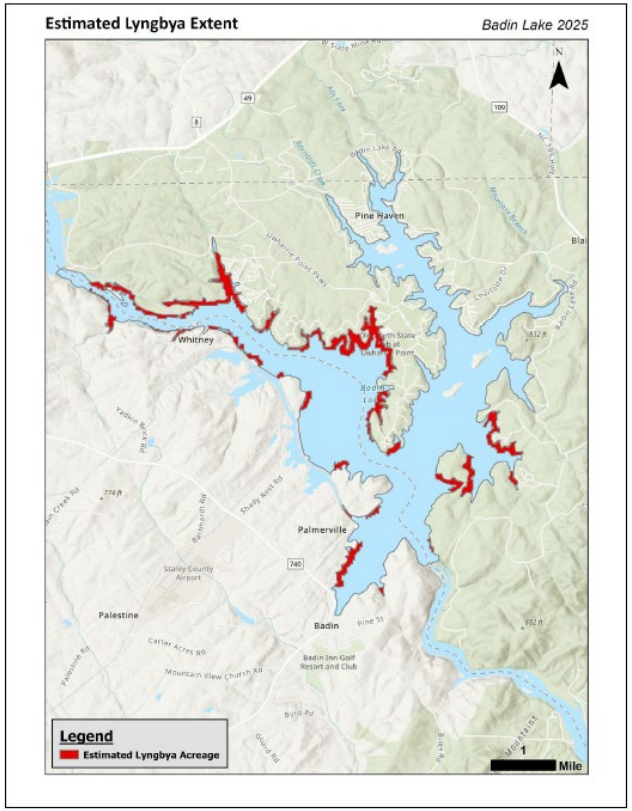


Figure 17: Estimated Lyngbya extent (588 acres) in Badin Lake documented during the 2025 Aquatic Vegetation Survey. Areas highlighted in red show the maximum estimated extent for lyngbya presence within the system based on reported distribution and bathymetric restrictions.

Q&A

We're here to help.

Your questions drive the conversation.

CLEAN ENERGY

RENEWABLE RESOURCE

RELIABLE POWER

STRONGER TOGETHER