

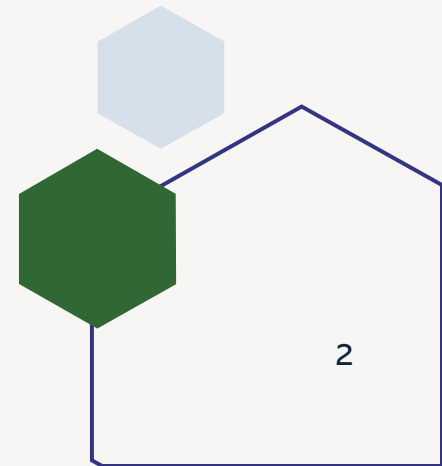
Country Pond & Tricking Falls Dam

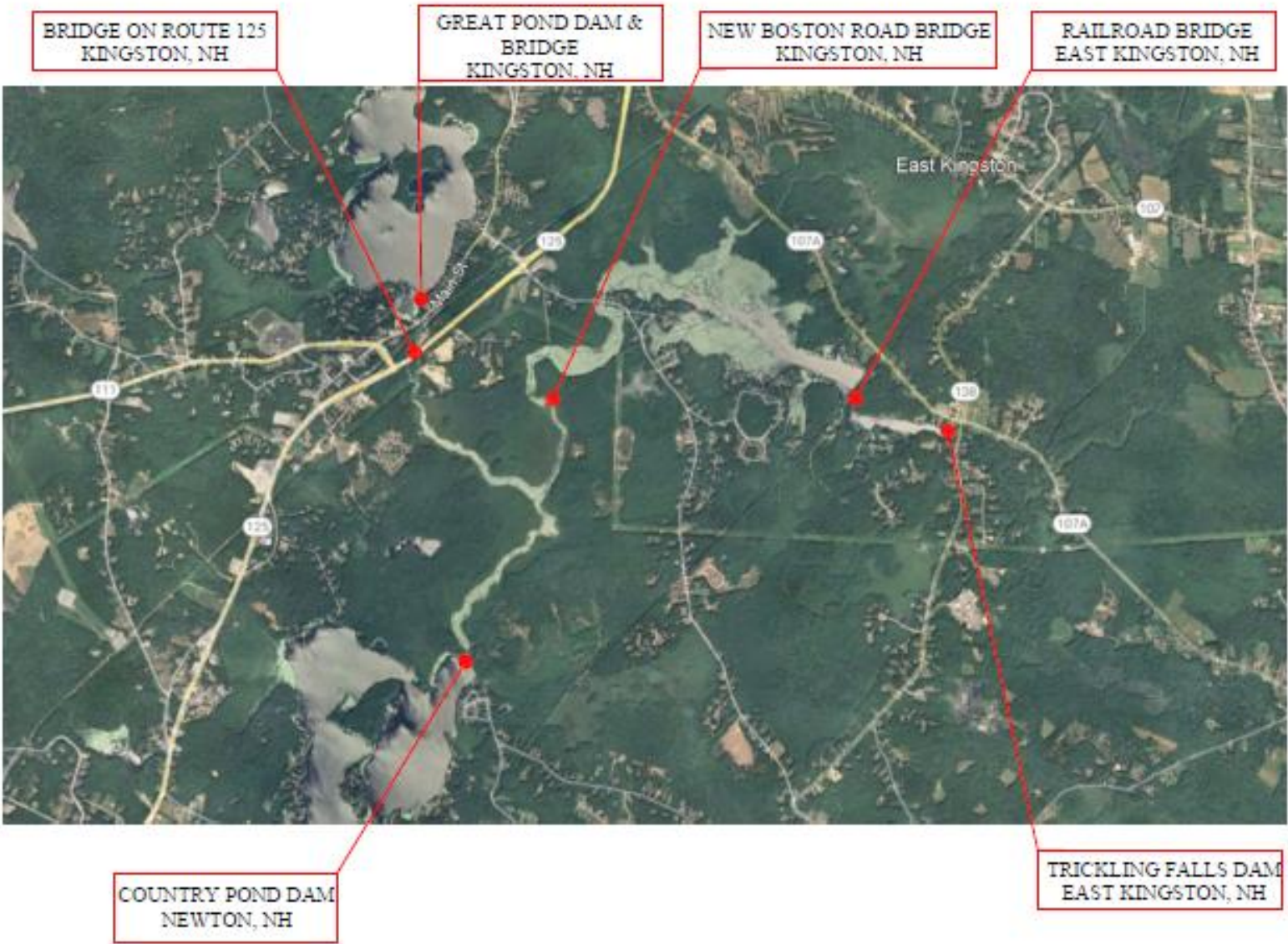
June 13, 2026



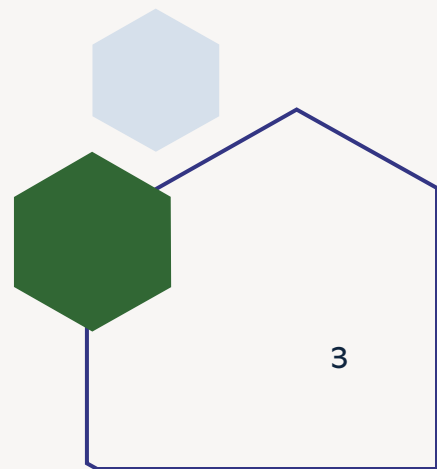
Agenda

- Dam layout and operations overview
- Investigation Results
- Next Steps





Silver
Lake



Dams within Watershed

Powwow Pond/Trickling Falls Dam (D072001)

Owner = State of NH –NHDES

Significant Hazard Structure

Height of Dam = 12 ft.

Drainage Area = 29.4 mi²

Country Pond Dam (D179002) Owner = Unknown

Non-menace Structure, possibly upgraded to

Low Hazard based on Height

Height of Dam = 7.5 ft.

Drainage Area = 14.5 mi²

Great Pond Dam (D129010)

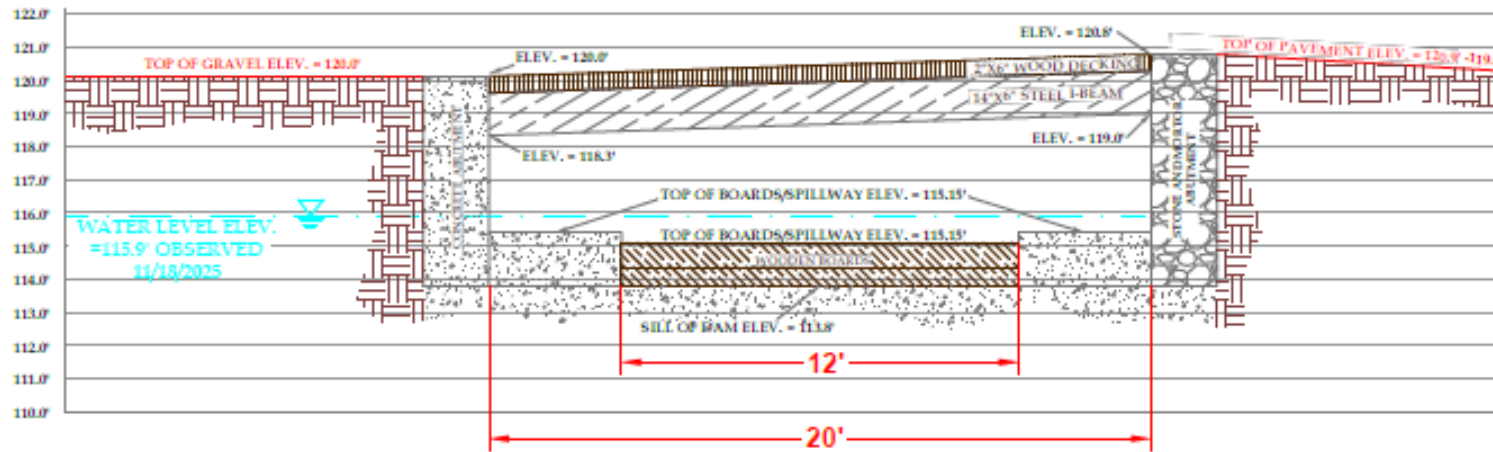
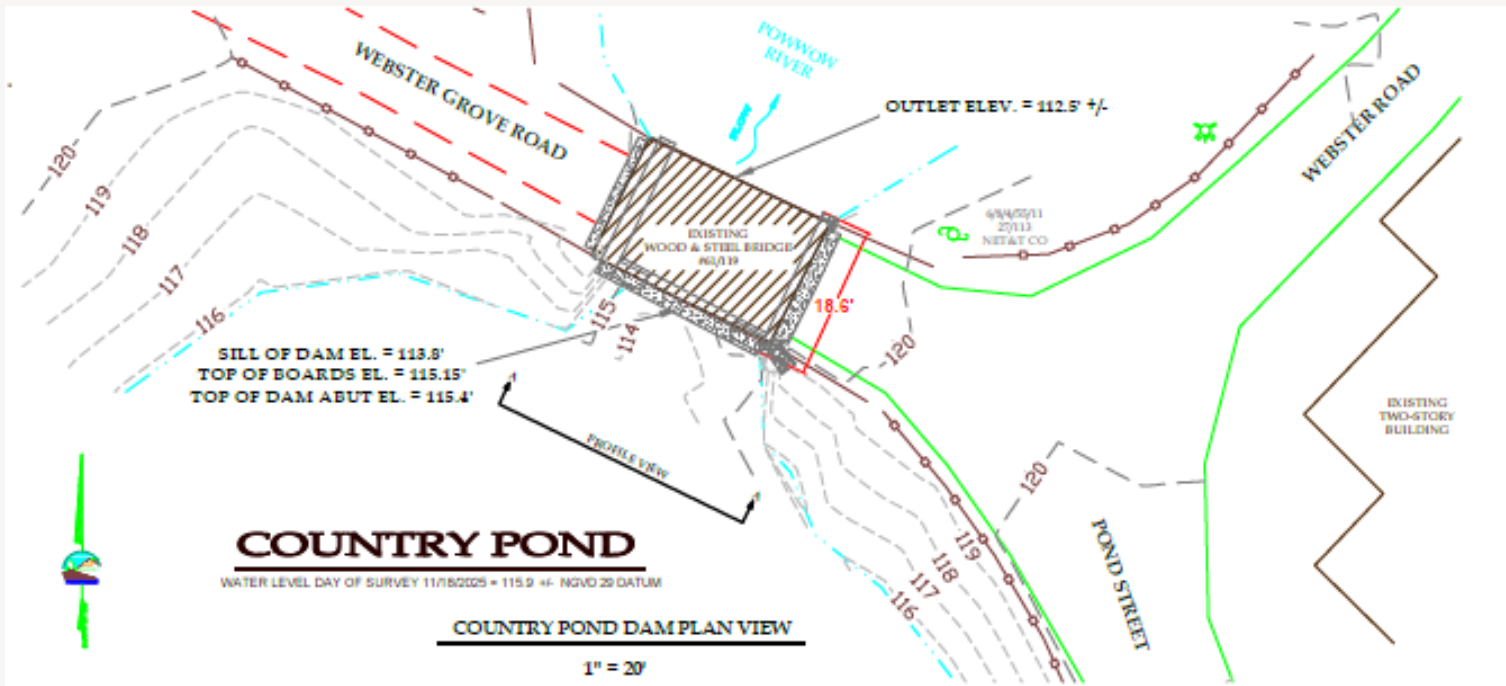
Owner = State of NH –NHDES

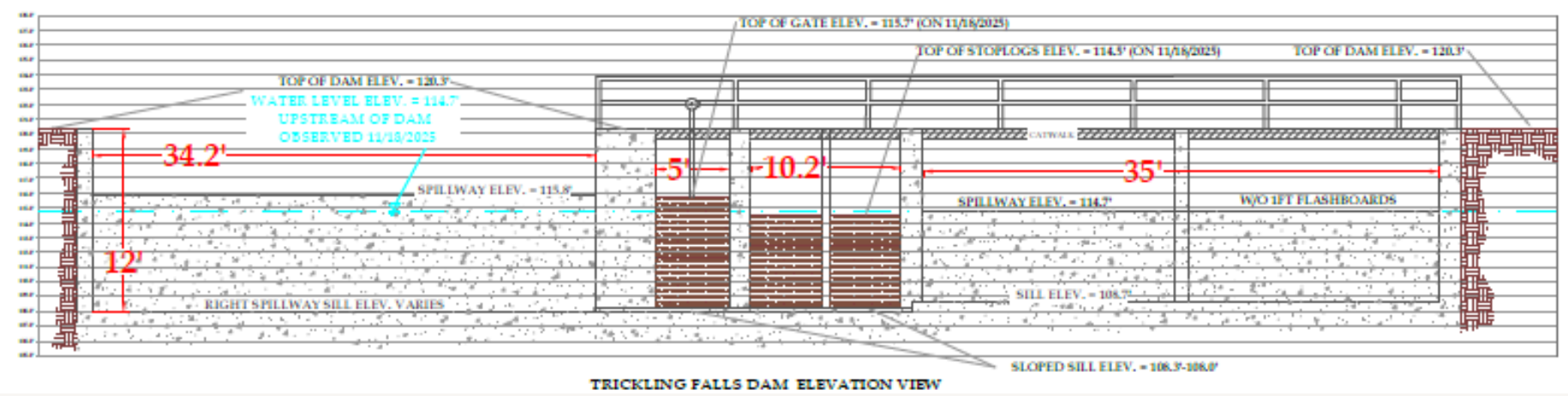
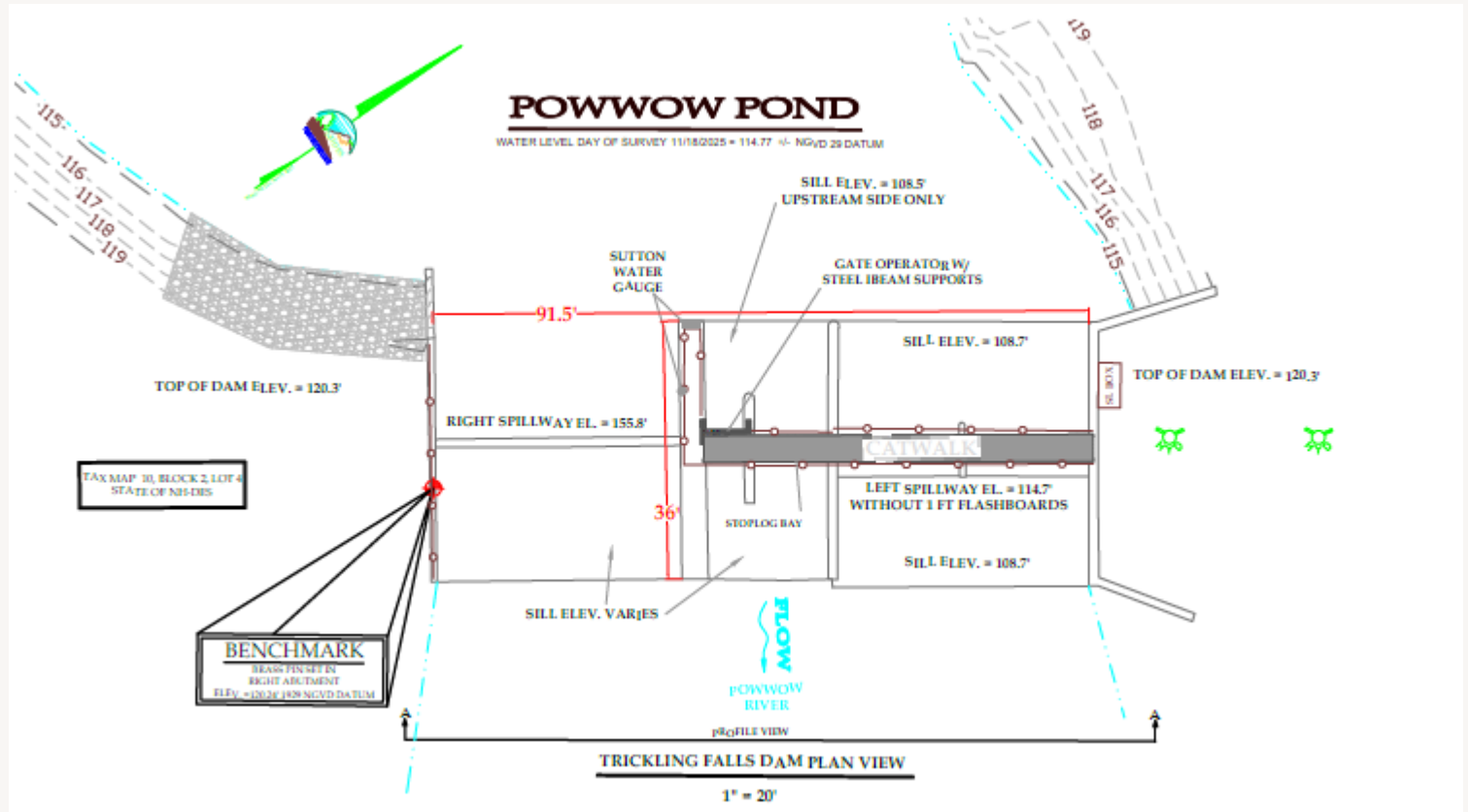
Non-menace Structure

Height of Dam = 5.0 ft.

Drainage Area = 10.0 mi²







Country Pond Dam impounding water:



Water levels have been simultaneously checked at both locations over the years to try to determine the influence of the water level at the Tricking Falls Dam on Country Pond. Country Pond is consistently higher:

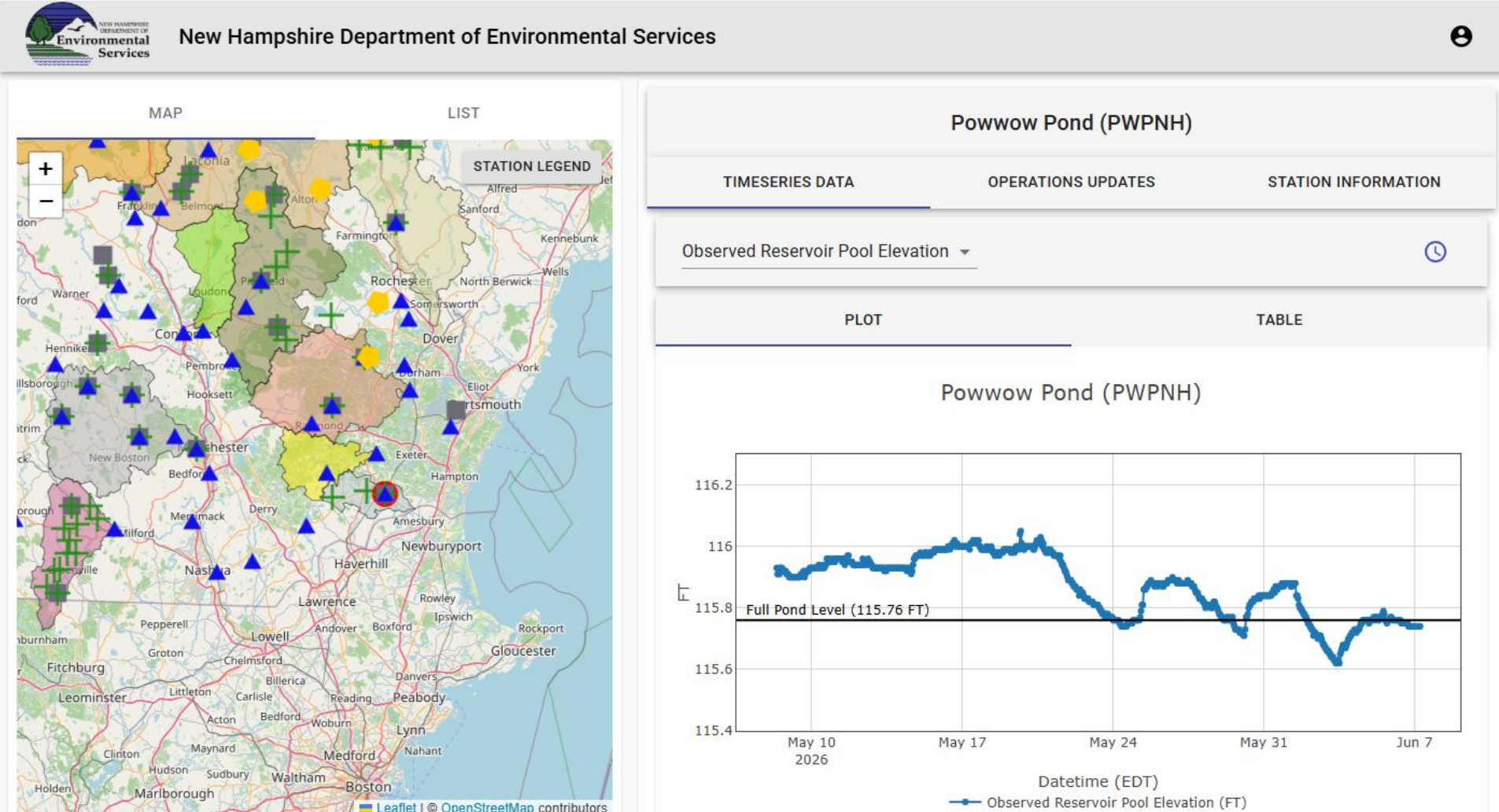
Date Elevation	Country Pond (feet, NGVD)	Pow Wow Pond (feet, NGVD)	Difference i_____n
9/20/88	115.85	115.30	.55
9/16/88	116.12	115.50	.62
9/13/88	116.40	115.70	.70
8/25/88	116.20	115.95	.25
7/29/88	116.60	116.17	.43
7/15/88	115.90	115.80	.10
3/6/75	115.70	115.53	.17

Following a rain event:

Country Pond:	Tricking Falls:	Great Pond:
11/1/06 +1.30'	11/1/06 +0.25	11/1/06 -.30'
11/13/06 +1.60'	11/13/06 +0.05'	11/13/06 +0.75'
11/15/06 +1.60'	11/15/06 -0.50'	11/17/06 +1.25'
11/17/06 +1.60'	11/17/06 -0.60'	11/20/06 +1.30'
11/20/06 +1.55'	11/20/06 -0.85'	

Note: Tricking Falls, four strings out 11/1; gate open 32" on 11/13

Water levels at the Tricking Falls Dam on Powwow Pond are monitored with a gauging station. These levels are then transmitted via a satellite link to our office, where the data is placed on our webpage.



Hydrologic and Hydraulic Modeling results recently performed.

- The basin drainage system responds very slowly after a storm, not returning the starting water elevations even after 9 days.
- For larger storms like the 10-year storm or larger, the New Boston Road Bridge and the Railroad culvert across Powwow Pond restrict flows.
- Smaller storms, the one-year interval and the two-year interval storms were analyzed to see what impacts could result from operations at the Trickling Falls Dam.
- During these less frequent rainfall events, the spillway at Country Pond dam only minimally increases the water level in Country Pond as the water levels are primarily controlled further down river.
- It should be noted following or prior to rainfall event, there are operations conducted at the Trickling Falls Dam to manage the water level of Powwow Pond.
- The overall basin was modeled with the hydrologic modeling program HydroCAD, which uses level pool modeling for waterbodies like ponds, lakes, and potentially wetlands. For better results, from Country Pond and Great Pond down to and including Powwow Pond with the Trickling Falls Dam at its outlet, the downstream wetlands, dams, and bridges were modeled in the modeling program HEC-RAS because tailwater effects have a significant influence on flow through the system, and this program addresses that. The area between Country Pond, Great Pond, and Powwow Pond is mostly flat, and proper modeling requires dynamic water-surface profile computations between each dam and bridge.

Hydrologic model (HydroCad)

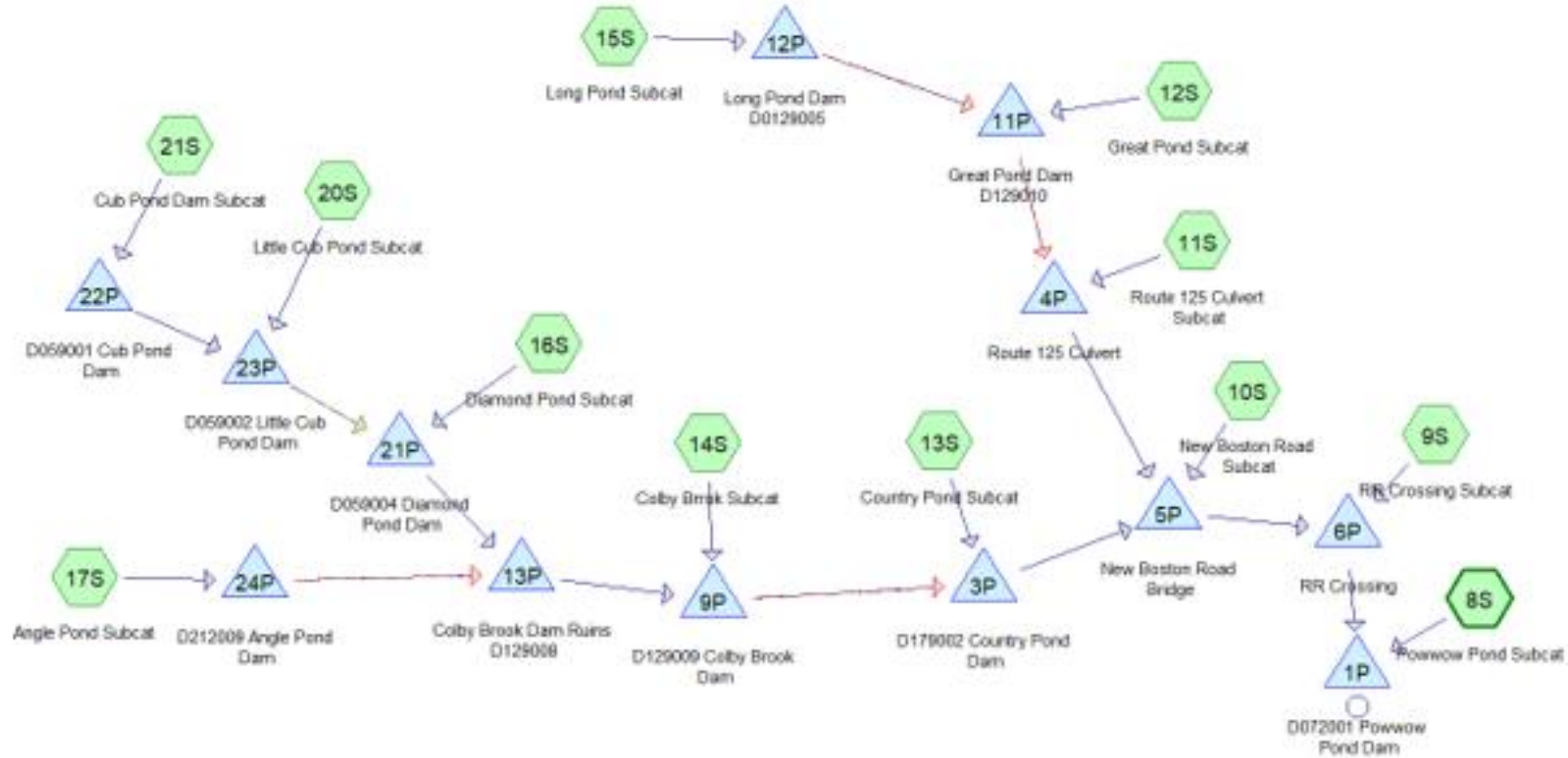
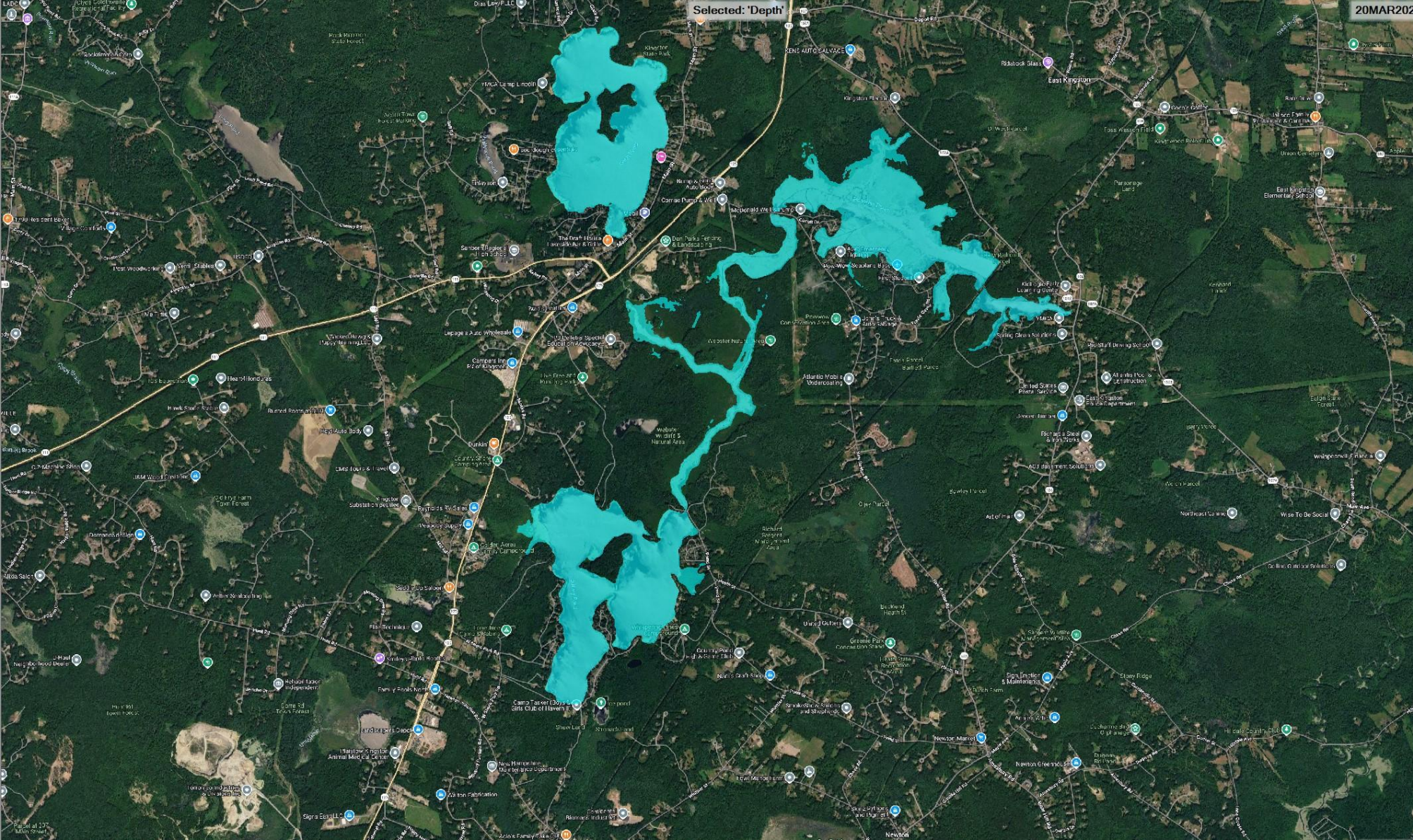
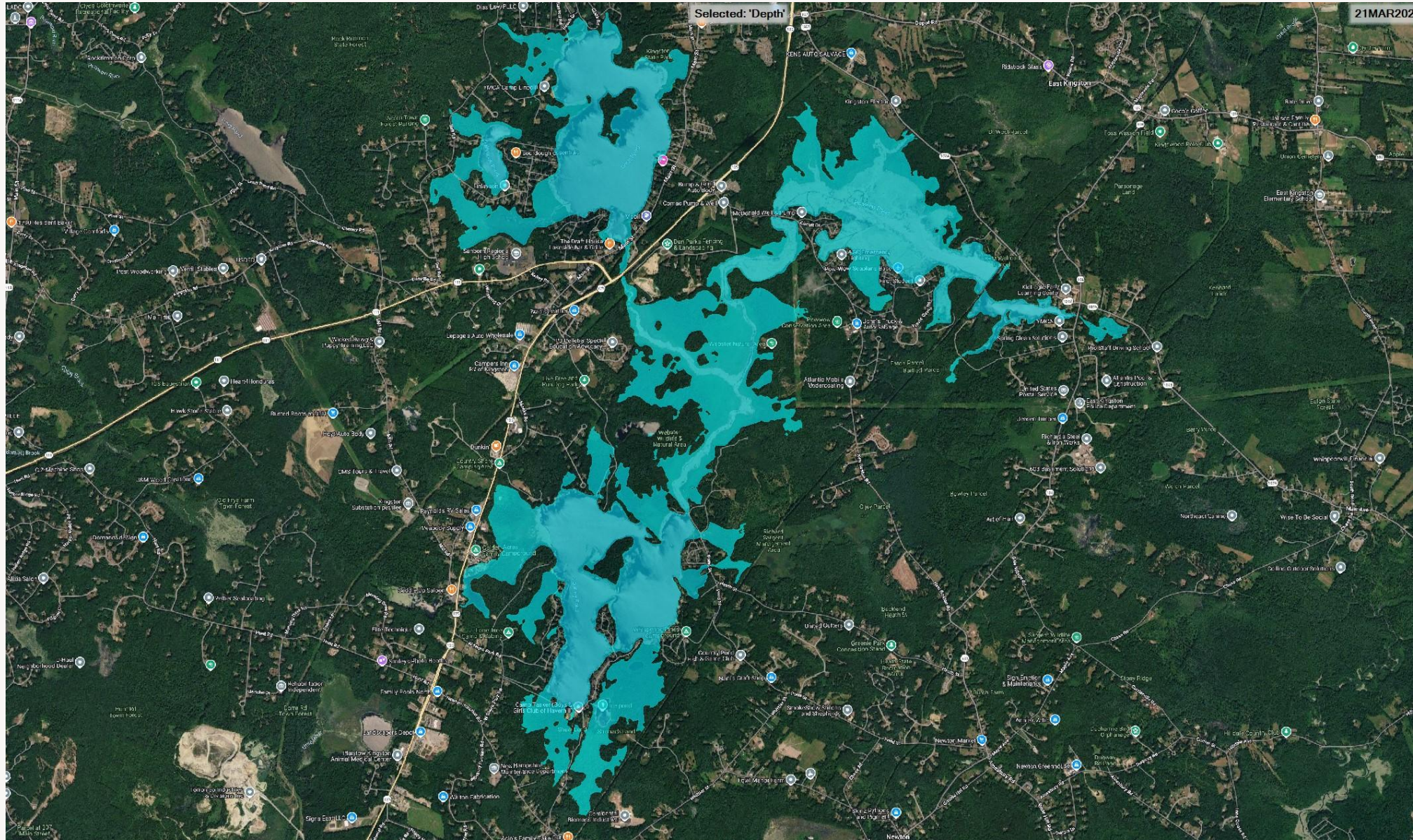


Figure 1: Schematic depicting hydraulic connection between different nodes within the Powwow Pond Dam watershed.

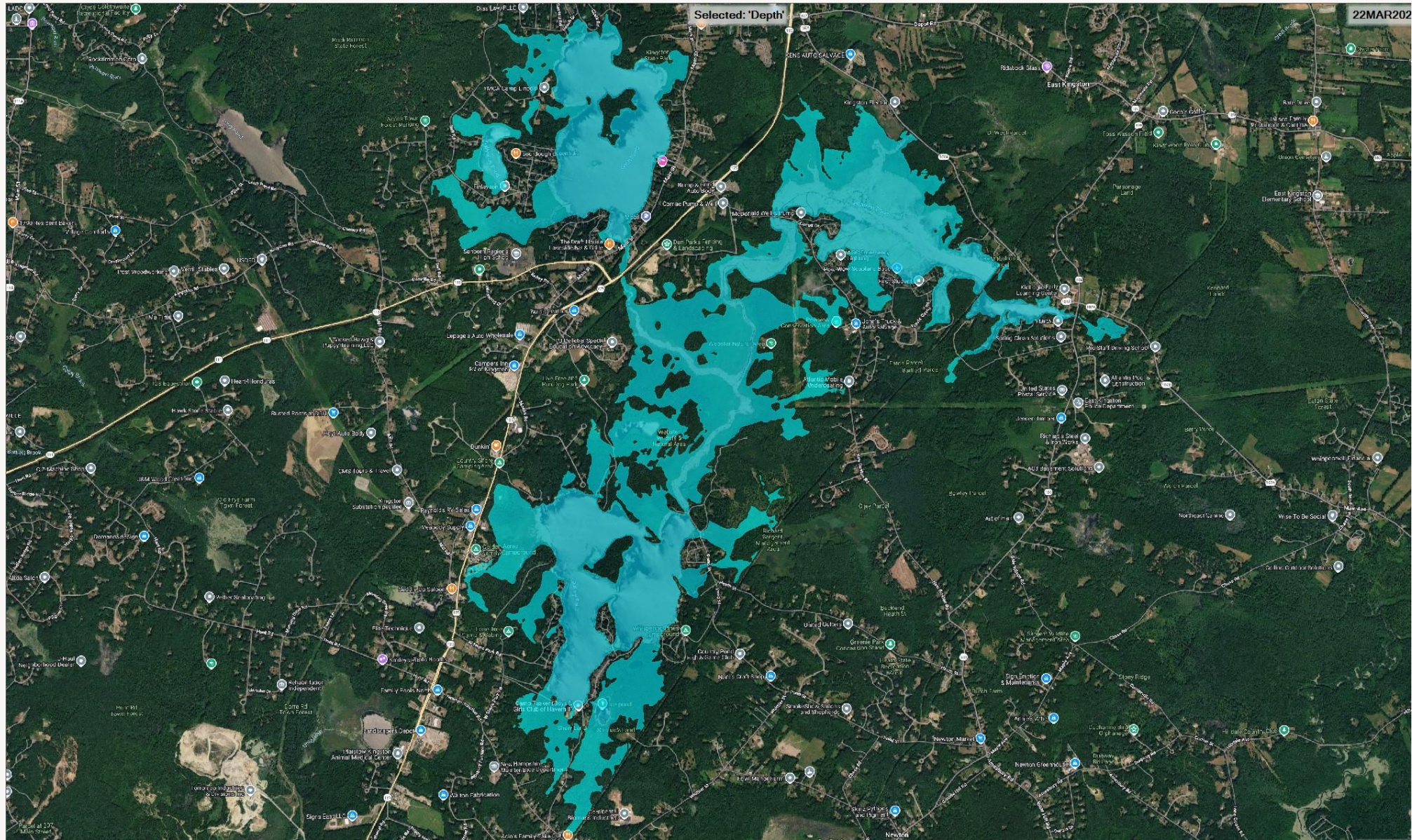
Modeling results : 50-yr storm at start



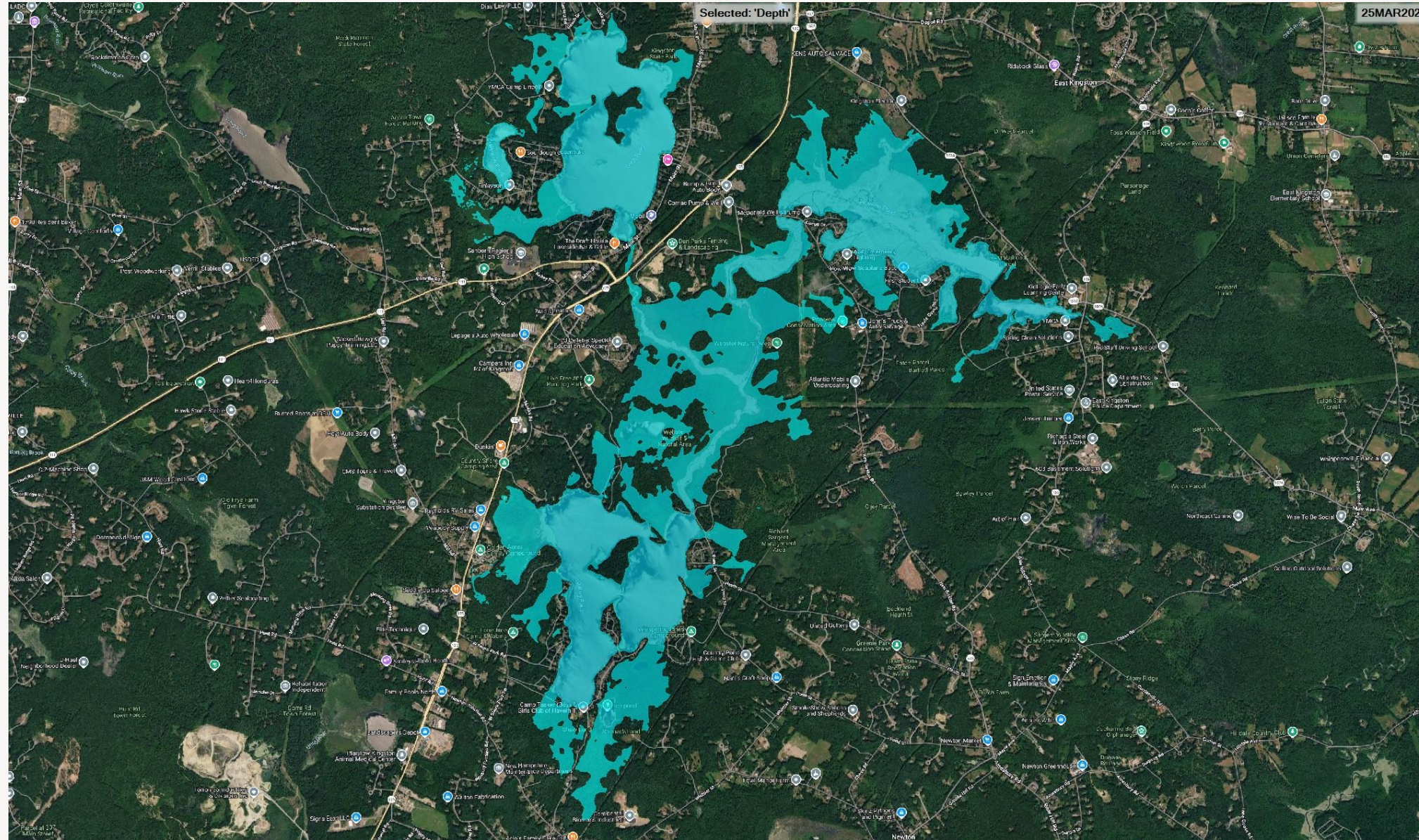
Modeling results : 50-yr Day 1



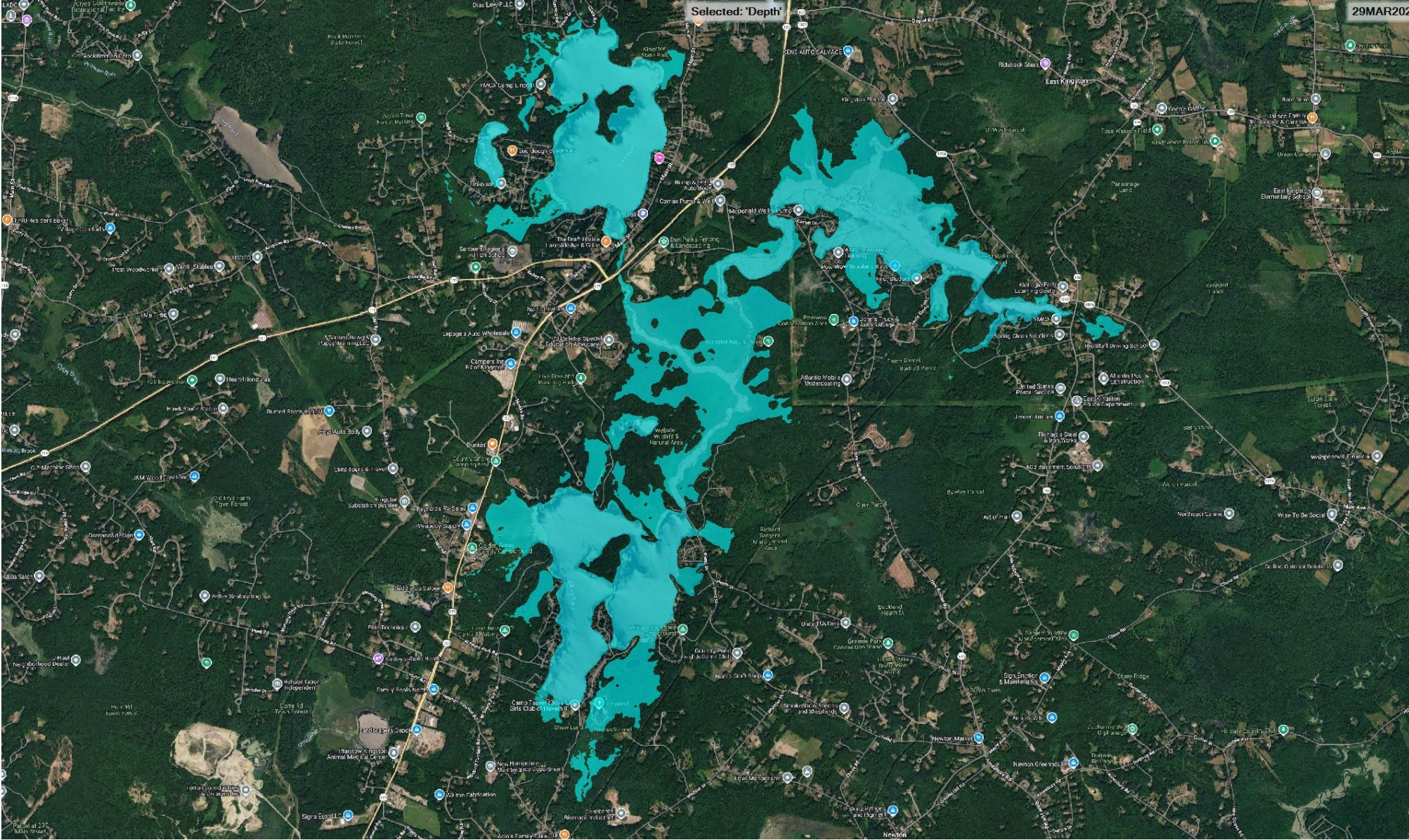
Modeling results : Day 2



Modeling results : Day 5



Modeling results : Day 9



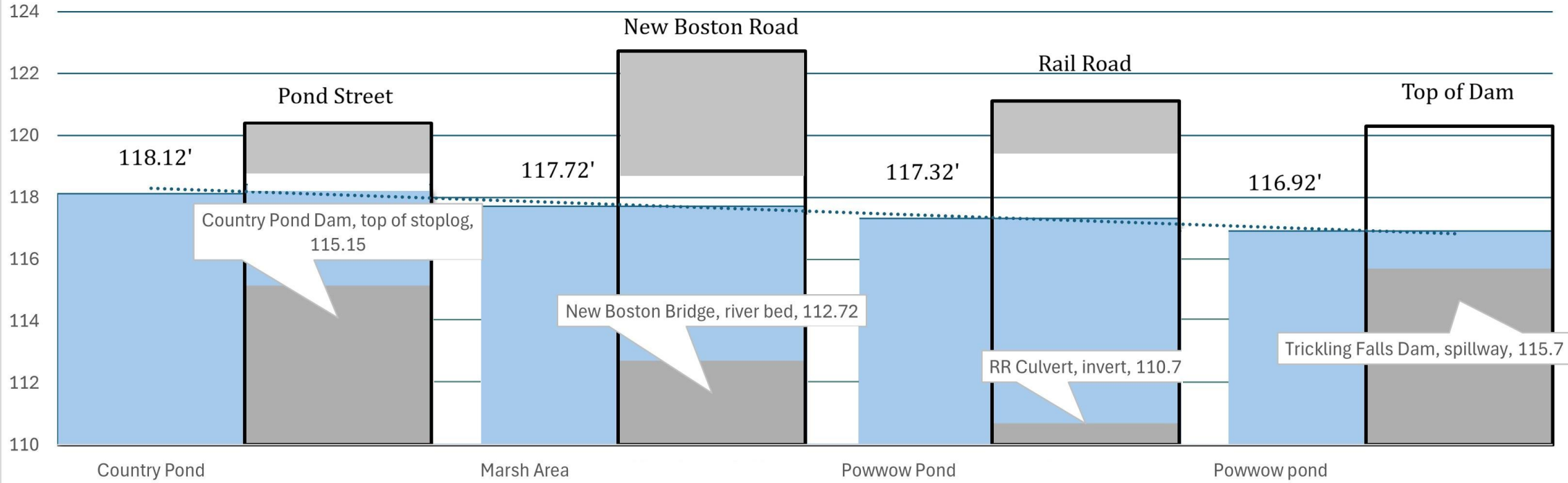
Modeling results

Elevation differentials were found to be less than one foot for the 2 inch, 1-, 2-, 5-, and 10-year storms. Even at the 50-year storm the total elevation difference of the water surface between Country Pond and Powwow Pond Dam is only 1.2 feet.

Location	2 -inch storm (feet)	1-year Storm (feet)	2-year Storm (feet)	5-year Storm (feet)	10-year Storm (feet)	25-year Storm (feet)	50-year Storm (feet)
Rainfall Event Depth	2.00 inch	2.50 inch	3.11 inch	4.12 inch	4.96 inch	6.11 inch	6.96 inch
Difference between Country Pond and Powwow Pond	0.0	0.0	0.2	0.5	0.7	1.0	1.2

High tail-water at each of the outlet structures results in very small elevation differences in the approximately 2-mile distance between the Country Pond Dam and the Trickling Falls Dam. The results in very low flow rates down through the system.

50-year Storm Event

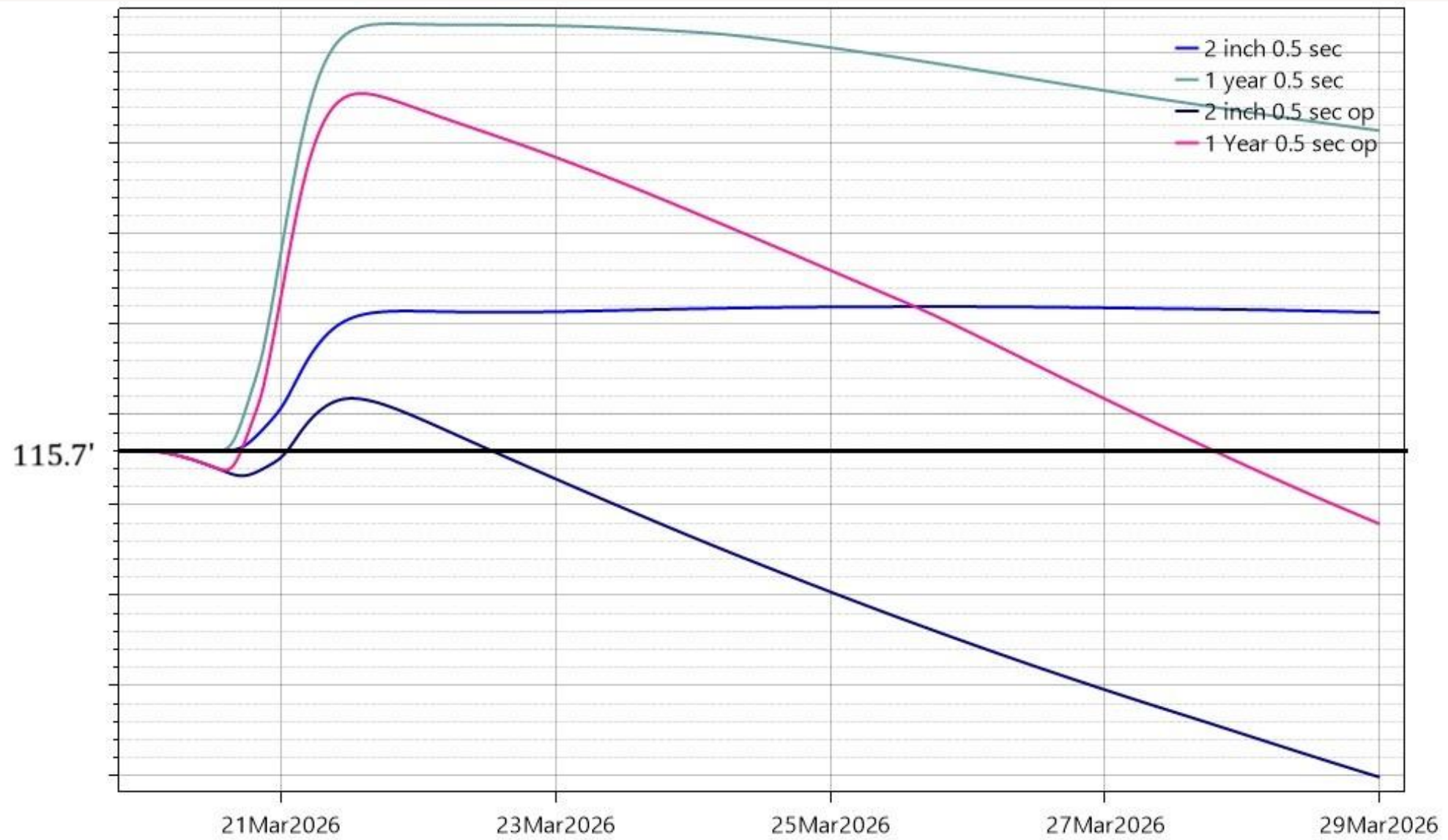


Impacts from operations at the Trickling Falls Dam

Powwow Pond Dam has two stoplog bays that are routinely used by the NHDES Dam Bureau to manage water levels and conduct winter drawdowns.

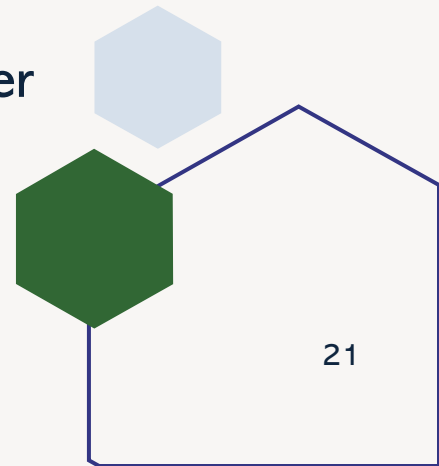
Model simulations were performed to evaluate how removing stoplogs at the start of a storm event affects water levels at Country Pond. The modeled operation at Powwow Pond Dam consisted of removing approximately 1.9 feet of stoplogs from the two stoplog bays (three strings total).

When comparing the same storm event with and without these operations, with no operations the maximum water surface elevation at Country Pond does not change significantly. However, removing the stoplogs at the start of the storm allows water levels at Country Pond to return to normal more quickly: within 3 days for a 2 inch storm, and within 8 days for the 1-year storm.

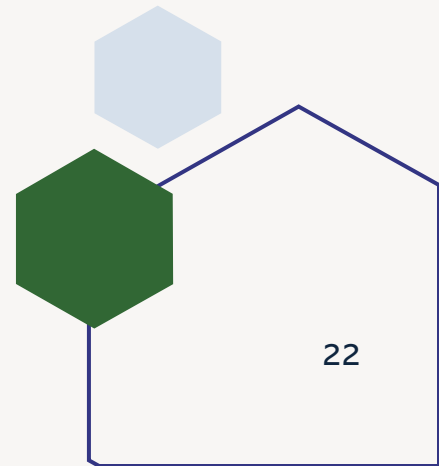


Next steps

- NHDES will finalize ownership review of the outlet structure at Country Pond; current research indicates it may be orphaned.
- Confirm hazard classification update from Non-Menace to Low Hazard based on structure height (>6 ft) and connection to Pond Street.
- If State ownership is confirmed, NHDES would be interested in transferring rights to the Town or possibly the Lake Association. If no local party accepts transfer, NHDES may consider removal of the concrete structure below Pond Street bridge to increase discharge capacity during storm events with normal levels still governed by Trickling Falls Dam.
- Continue integrating watershed-wide H&H modeling with forecasting tools to better anticipate high water events and operational guidance at Trickling Falls Dam.



Q&A





Thank you!

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