



City of Taunton, Massachusetts  
DEPARTMENT OF PUBLIC WORKS

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*Fred J. Cornaglia*  
Commissioner

*Anthony Abreau*  
Assistant Commissioner

June 7, 2023

Mr. Duane LeVangie, Program Chief  
Water Management Act Program  
MassDEP - Boston  
100 Cambridge Street Suite 900  
Boston, MA 02114

RE: WMA permit required submission

Dear Mr. LeVangie,

Please find the attached update to the APC Operation and Management plan, as required in Taunton's latest WMA permit. This update primarily covers how the Taunton Water Division operates and maintains the Assawompset Dam. While the permit condition speaks to broader concerns across the Assawompset Pond Complex, it became apparent during this process that Taunton only has direct influence over dam operations on the Assawompset Pond, where the Nemasket River begins.

Representatives from local and state fisheries, as well as the City of New Bedford's water department, were consulted as part of this update. Due to reasons beyond our control, Taunton was unable to elicit updated procedures in and around Pocksha Pond, as well as Great and Little Quitticus Ponds. As New Bedford is the entity with direct influence over those bodies of water, Taunton feels it is more appropriate for them to submit those specific plans. As of now, Taunton does not believe those plans are forthcoming ahead of our 6/30/23 update deadline, and therefore is submitting an update for what we feel our primary responsibilities are in regards to the APC.

Information gathered from fisheries representatives were incorporated into Taunton's dam management procedures, and culminated in the attached update. We believe these procedures represent best practices for co-managing adequate public water supply, facilitating migratory fish, and mitigating flood risk around the Assawompset Pond and upper Nemasket River. Should the City of New Bedford ever submit their operational procedures, we will incorporate them into this update.

Sincerely,

*Jodi Raposa*  
Jodi Raposa, Plant Manager

**Charles J. Rocheleau Water Filtration Plant**

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# Assawompset Dam Operation & Maintenance

Updated by Taunton Water Division, PWS #4293000; May, 2023

## Operations

### **Spring: (Target = 51.32' rising to 52.82' NAVD 88)**

Level may peak at >100% full pond (53'), even with all stop logs out. As end of Spring approaches, watch pond level for a downward trend to begin. Once this happens, stop logs should be placed in the dam when target level of 52.82' is observed, and the trend is *declining*. Stop logs should not be placed at 52.82' when trend is *ascending*. It is important to wait until level has reached its peak, then comes back down to target, before boarding. There is an increased risk of flooding if boarded too soon.

If the level never peaks at or above 52.82', then stop logs should be placed as soon as the impending shortfall is realized. This may present as a downward trend occurring below target, or unseasonably dry conditions being forecasted with reasonable certainty.

To accommodate the adult upstream herring migration period (beginning approx. mid-March), Bay 1 and/or 2 should have one less board than the others, to allow for passage between the Nemasket River and the Assawompset Pond. Whenever possible, levels in the river and pond should be almost the same to avoid a "waterfall" scenario, which the fish are unable to swim against. The fish ladder should also remain passable at all times, as an alternative.

When the water suppliers decide it's time to place stop logs, the fisheries representatives shall be consulted to confirm planned activities will facilitate whatever current migration conditions are. The Town of Middleboro shall also be informed so downstream adjustments can be made, as needed.

### **Summer: (Target = 52.82' dropping to 52.32' NAVD 88)**

The Spring stop log configuration will typically remain in place throughout the Summer. To accommodate the post-spawn and juvenile fish downstream emigration period (beginning approx. mid-May and may last through winter), Bay 1 or 2 should maintain the open space at the top.

There may be times during the Summer when the pond level is lower than the board configuration, and therefore, the fish passage is obstructed. However, if pond level is below the water supply target, stop logs will remain in place to ensure adequate supply of public drinking water. If a large buildup of fish trying unsuccessfully to exit the pond is observed during low pond conditions, the fisheries representatives may ask the water suppliers if a short, temporary, partial removal of stop logs is feasible to allow those fish to move. The fish ladder should remain open and passable as an alternative.

### **Fall: (Target = 52.32' dropping to 51.82' NAVD 88)**

If level is above target going into Fall, stop logs may be removed in order to drop level to 51.82'. If level is below target, but at or above 51.32', leave stop logs as-is. If level is below all targets, wait for Fall precipitation to replenish the pond. Once the level has reached the winter target of 51.32', and the trend is *ascending*, stop logs can be removed. Temporary bumps in levels immediately following a precipitation event should not be used for decision-making, as they sometimes are followed by sharp decline. Wait to see a steady, consistent, incline in pond level trend line before deciding to remove stop logs.

### **Winter: (Target = 51.82' dropping to 51.32' NAVD 88)**

In a typical year, stop logs will remain out for the duration of Winter. Flooding and ice damage are more of a concern during this time than a water supply shortage. If unseasonably dry, and level is a concern, all interested parties should discuss options and agree on a course of action.

Note: Please reference attached examples of "wet" & "dry" year cycles to see how weather conditions affect ability to meet targets.

## **Maintenance**

The Taunton Water Dept shall keep all stop logs in good condition, and replace as needed. They will also maintain/replace fish ladder planks.

The mortared-block abutments and intermediate piers shall be monitored for displacement and repair needs.

The earthen dam should be periodically cleared of trees and brush overgrowth. This requires a Chapter 253 Dam Safety Permit Application to be filed by a licensed engineer. Taunton will work together with other members of the APC workgroup to coordinate these activities. A tree-clearing project, scheduled to commence June 2023, is in the final planning stages as of this update.

Periodic removal of sediment at the foot of the dam should be coordinated between the water suppliers and affected towns.

General landscaping and minor maintenance activities will be conducted by the Taunton Water Dept., as needed.

## Winter

In a typical year, boards will remain out for the duration of Winter. Pond level will fluctuate with weather conditions. If level gets unusually low, workgroup should discuss options.

## Spring

Level may peak at >100% full pond (53'), even with all boards out. After peak Spring level is achieved, a downward trend emerges. Boards should be placed in the dam when target level of 52.82' is observed, and the trend is **declining**. The top board of bay 1 or 2 should be left out to allow for fish to swim between the pond and the Nemasket River.

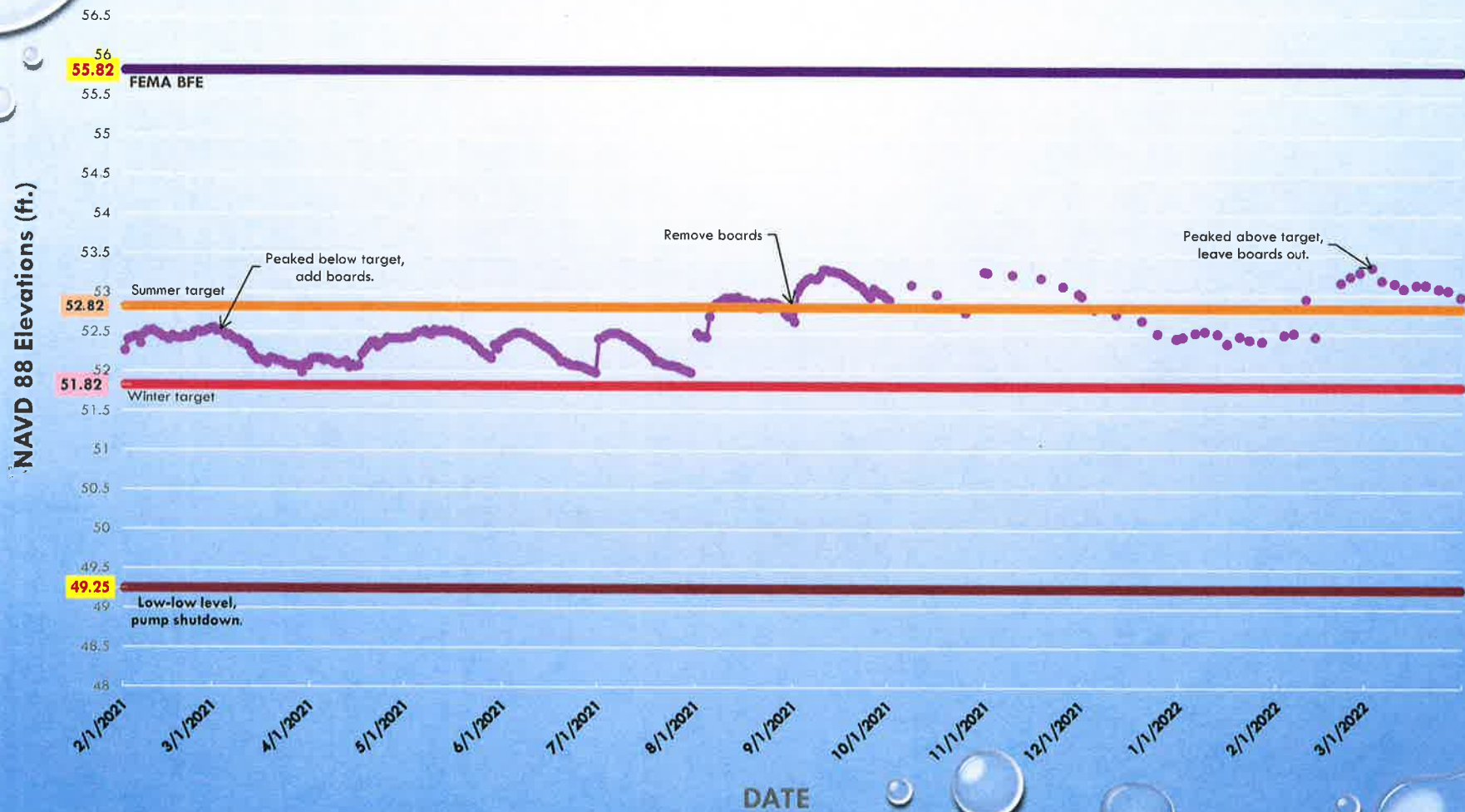
## Summer

The Spring stop log configuration will typically remain in place throughout the Summer. To accommodate the post-spawn and juvenile fish downstream emigration period beginning mid-May, Bay 1 or 2 should maintain the open space at the top and the fish ladder should remain passable.

## Fall

If level is above Summer target going into Fall, stop logs may be removed in order to drop level to Fall target. If level is below Summer target, but at or above Fall target, leave stop logs as-is. If level is below all targets, wait for Fall precipitation to replenish the pond. Once the level has reached the winter target of 51.32', and the trend is **ascending**, stop logs can be removed.

## Assawompset Pond Level – Spring '21 to Spring '22; “wet” year





## Assawompset Pond level – Spring '22 to Spring '23; “dry” year

