

# **Foxborough Witch Pond Wells IBT Staff Recommendation**

**Massachusetts Water Resources  
Commission Vote**

**July 11, 2013**

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# Foxborough Wells 14 and 15

- IBT approved 1.44 MGD from Tenmile to Taunton basin with conditions
  - Baseline and Operational Monitoring/Reporting Requirements
  - Water Level shutoff thresholds to protect wetlands
  - Wetland monitoring
- Pumped at 0.2 MGD combined in summers 2010-2012

# Foxborough Witch Pond Swamp

- Atlantic White Cedar (AWC) swamp
- Hessel's Hairstreak Rare and Endangered Species dependent on the Atlantic white cedar swamp ecosystem
- Spotted turtle also present and protected in IBT approval
- Shrub layer berry bushes nectar source for Hessel's Hairstreak

Spotted Turtle



Hessel's Hairstreak



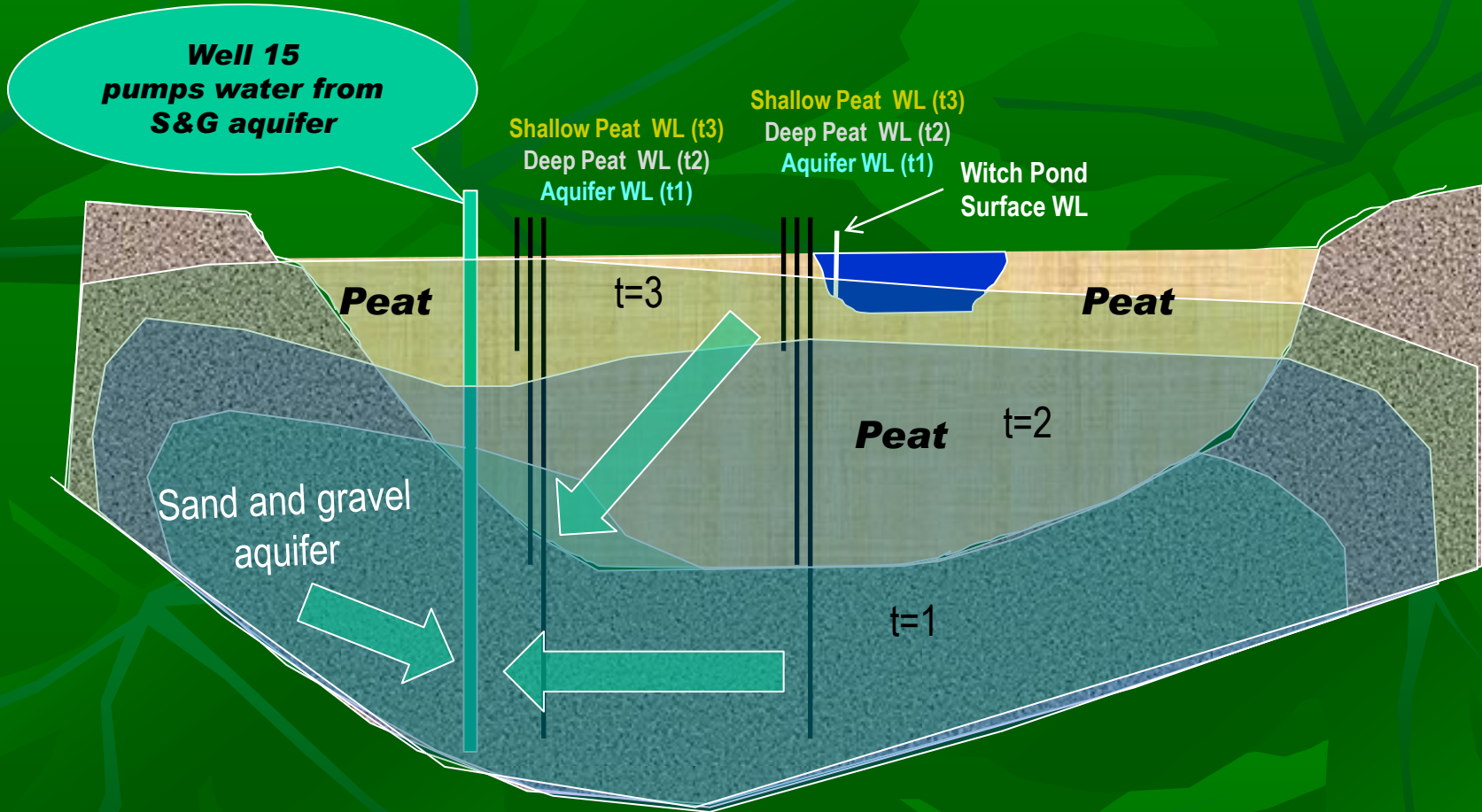
# IBT Decision Conditions Adaptive Management

- “During the baseline monitoring period and the first five years of well operation, the threshold levels... will be used to verify the expected hydrologic responses to pumping in the various geologic layers. Following review of data collected..., adjustment of the threshold levels and/or the well usage may be appropriate.”





# Propagation of Well 15 Impacts measured in observation wells



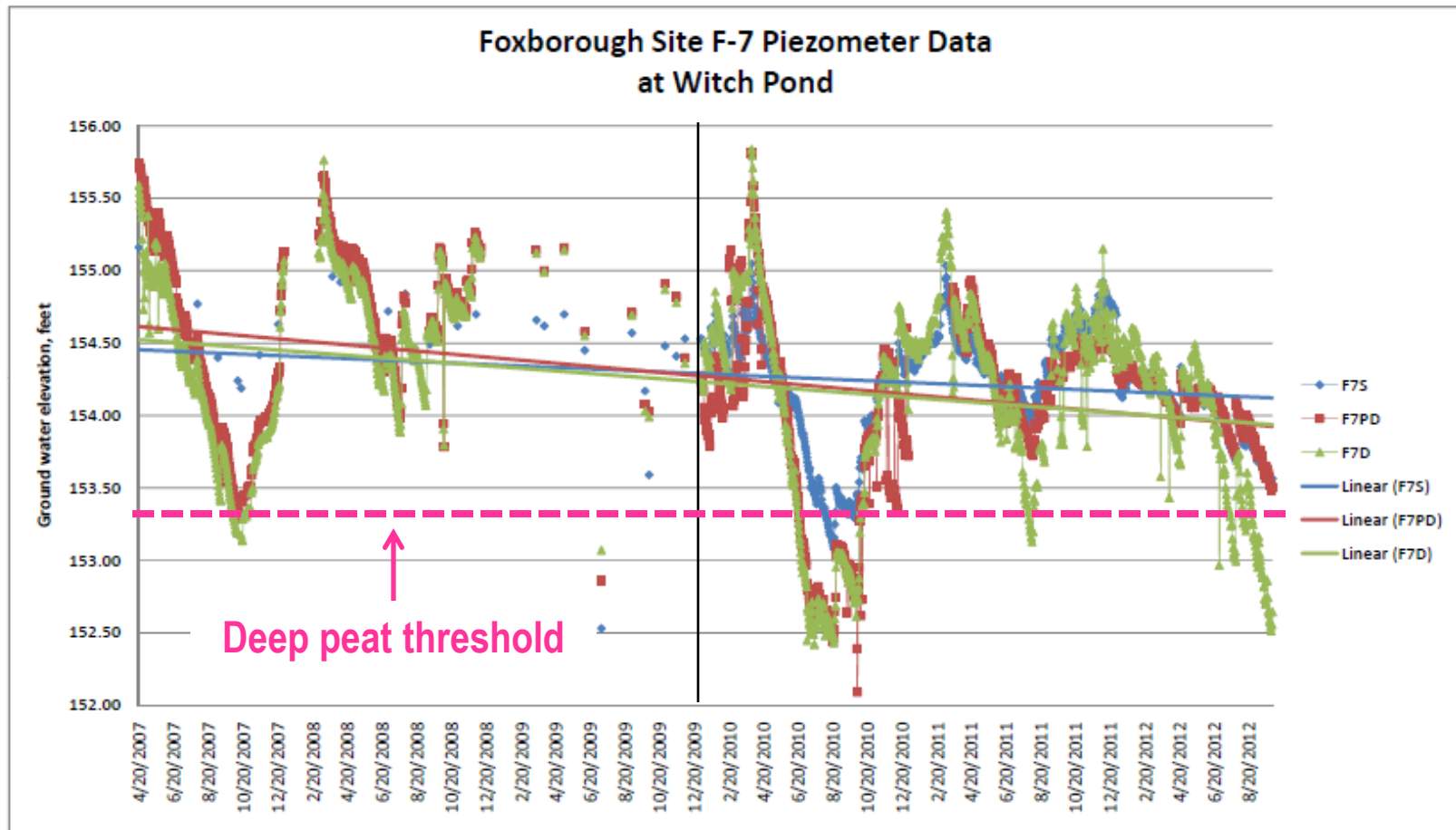
**Impacts propagate upward from aquifer to surface over summer season**

# Staff Recommendation

## Additional Threshold

- Deep peat threshold adjacent to Witch Pond
- F-7PD threshold = 153.3 feet
- Threshold = Lowest elevation measured in deep peat during pre-pumping baseline period
- Threshold elevation measured October 2007 during Drought Advisory

# Deep Peat Threshold 153.3 feet





# Estimated effect of deep peat threshold

- Prevents pumping and additional loss of water from peat layer during dry periods
- Would have extended 57-day pumping shutoff period in summer 2010 by 50 days
- Would not have been met summers 2011 or 2012

# Modifications to Staff Recommendation

- As water level approaches deep peat threshold, well use is reduced;
- Monitoring and reporting must continue through duration of Emergency Declaration;
- Monitoring Plan revision to incorporate deep peat threshold;
- Surveying to include ground surface elevation (check for land subsidence)

# Future deep peat threshold modification

- Foxborough may install alternative deep peat monitoring well (to become threshold compliance point with WRC approval)
- Foxborough may propose alternative deep peat threshold elevation supported by technical justification, requiring approval by WRC