



MEMO

To: File
From: Jeff Wennberg, Commissioner of Public Works
Date: January 9, 2017
Re: 2016 Brook Temperature Monitoring

The temperature monitoring program on Moon and other brooks in the City began in 2006, and has continued through 2016. The collected data through 2014 was used for the “third party review” (March, 2015) of the impairment of Moon Brook and all data sets since 2006 are available online.

The recording temperature monitors (HOBOS) were deployed in mid-May and recorded temperatures at 15 minute intervals until late October. Ten sites were monitored, six on Moon Brook, two on Mussey Brook, and two on Tenney Brook. All locations were consistent with locations used in prior years. Approximate locations are shown on the attached map.

According to the NWS monthly average temperatures throughout the period were nearly identical to average temperatures for these months since 2006. Precipitation was below average throughout the period, with July 2016 being the driest July over the 11 year span.

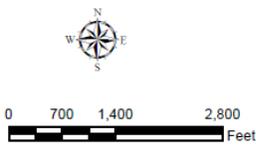
Using 75 degrees Fahrenheit as the maximum sustained temperature for brook trout, the following table gives the number of hours throughout the summer that this was exceeded at each location:

Location	Hours above 75 Deg F
Mussey at S Main	4.50
Mussey at Park St	120.25
Moon above Combination Pond	0.00
Moon below Combination Pond	1364.00
Moon above Piedmont Pond	77.25
Moon below Piedmont Pond	216.00
Moon at Perry St*	0.00
Moon at Forest St	21.75
Tenney at Swards	138.00
Tenney at Lincoln Ave	178.00

*This is nearest to the only location on Moon Brook downstream of Combination Pond found to be in compliance with Vermont Water Quality Standards in summer 2014.

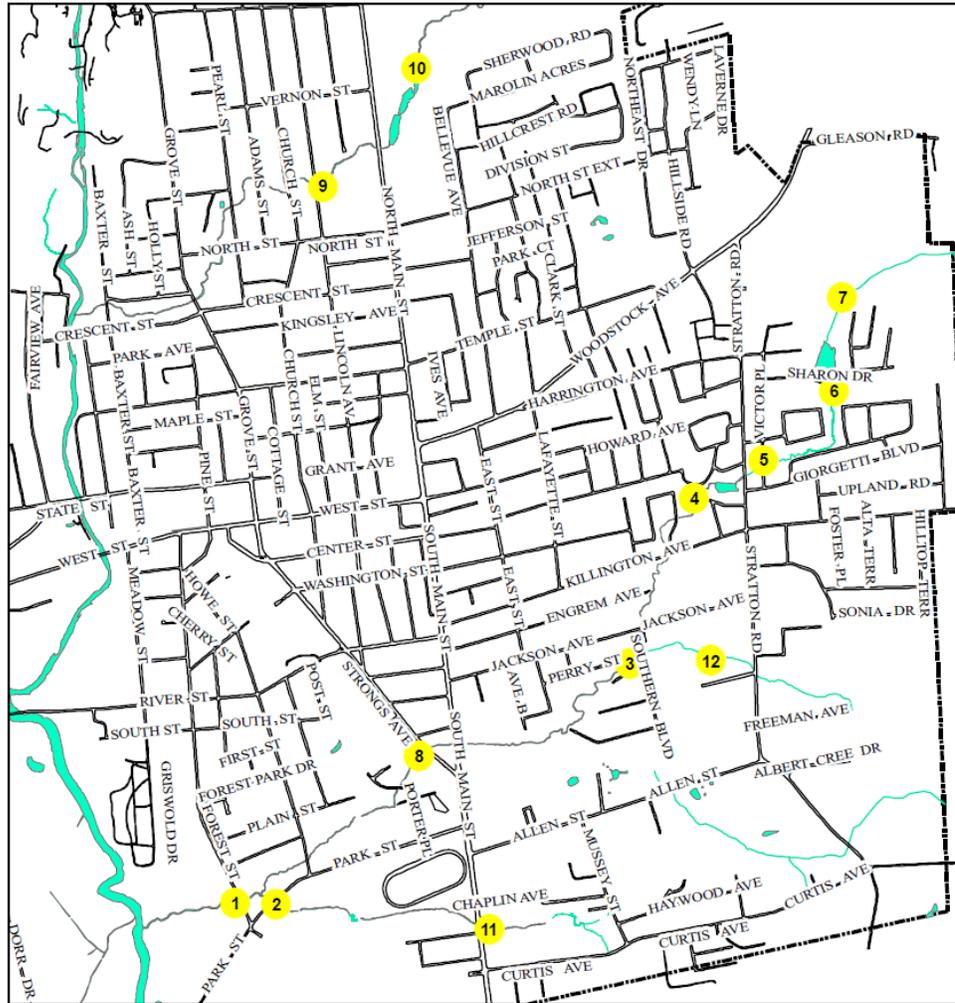
HOBO Temperature Monitoring Locations

- 1-- Moon at Forest
- 2--Mussey at Park St.
- 3--Moon at Perry St.
- 4--Piedmont Pond Outfall
- 5--Above Piedmont Pond
- 6--Combination Pond Outfall
- 7--Above Combination Pond
- 8--Moon at Strongs Ave
- 9--Tenney at Lincoln
- 10--Tenney at Swards
- 11--Mussey at S Main
- 12--Paint Mine Brook



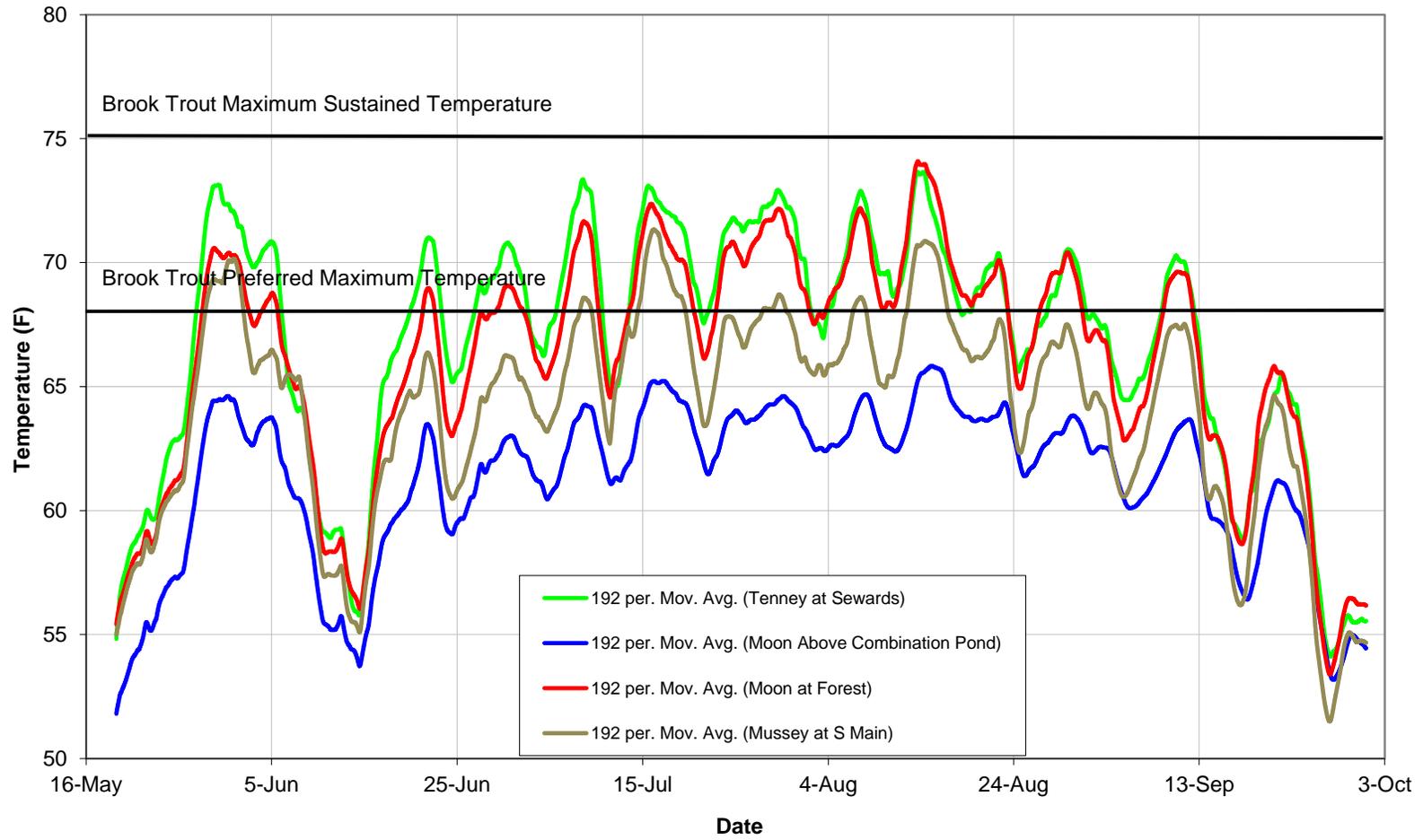
11/19/2014

features and contours based on aerial photos dated December 3, 2001
 This sketch as supplied by DPW shows selected items visible on the aerial photos and may not be complete as to each feature class
 Lot lines are approximate and are not to be used for construction location, property rights conveyance, or other purposes where the locations of such lines are important
 All feature locations are approximate
 Contour lines should not be used for fine grading

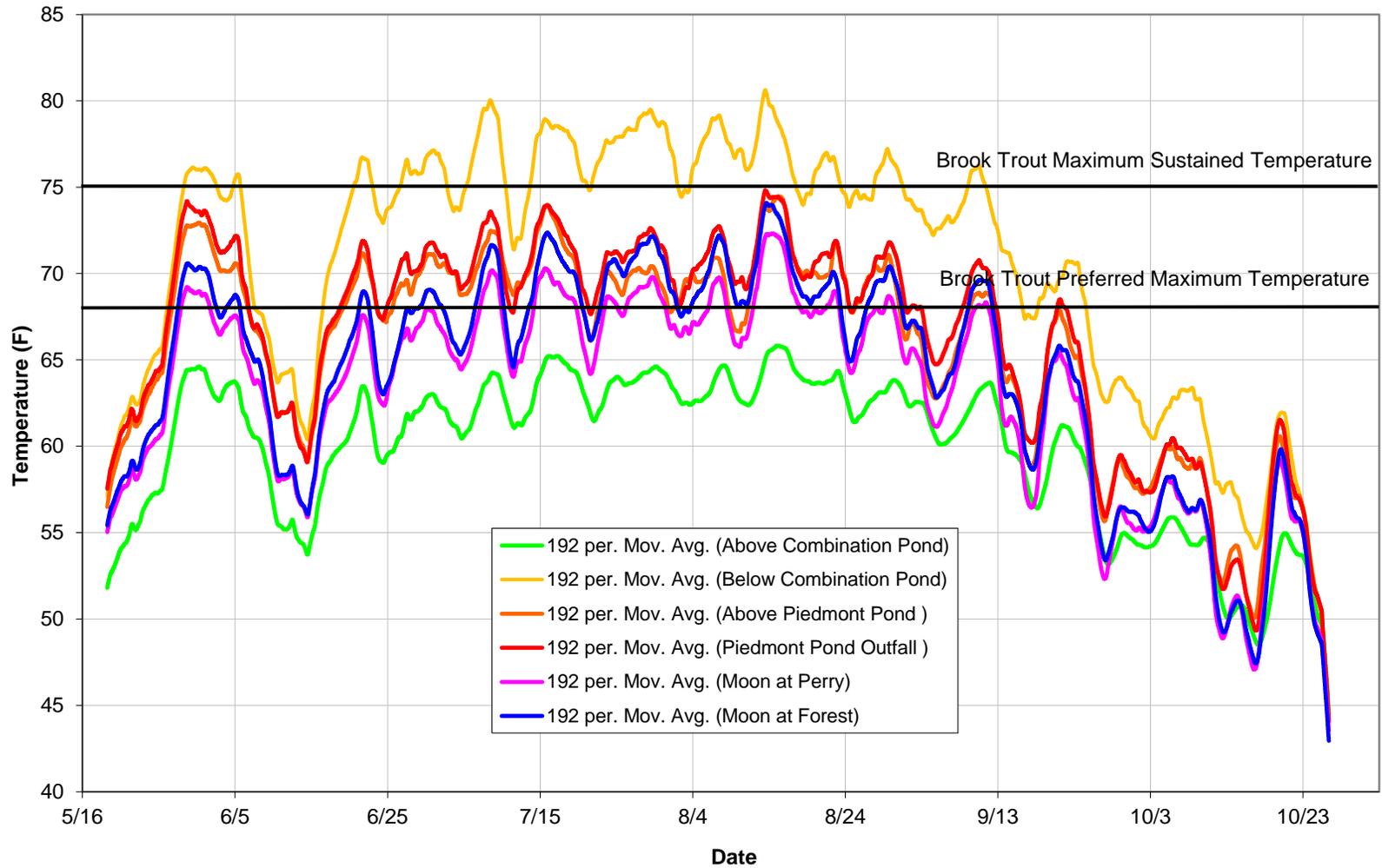


NOTE: Locations 8 and 12 were not deployed in 2016

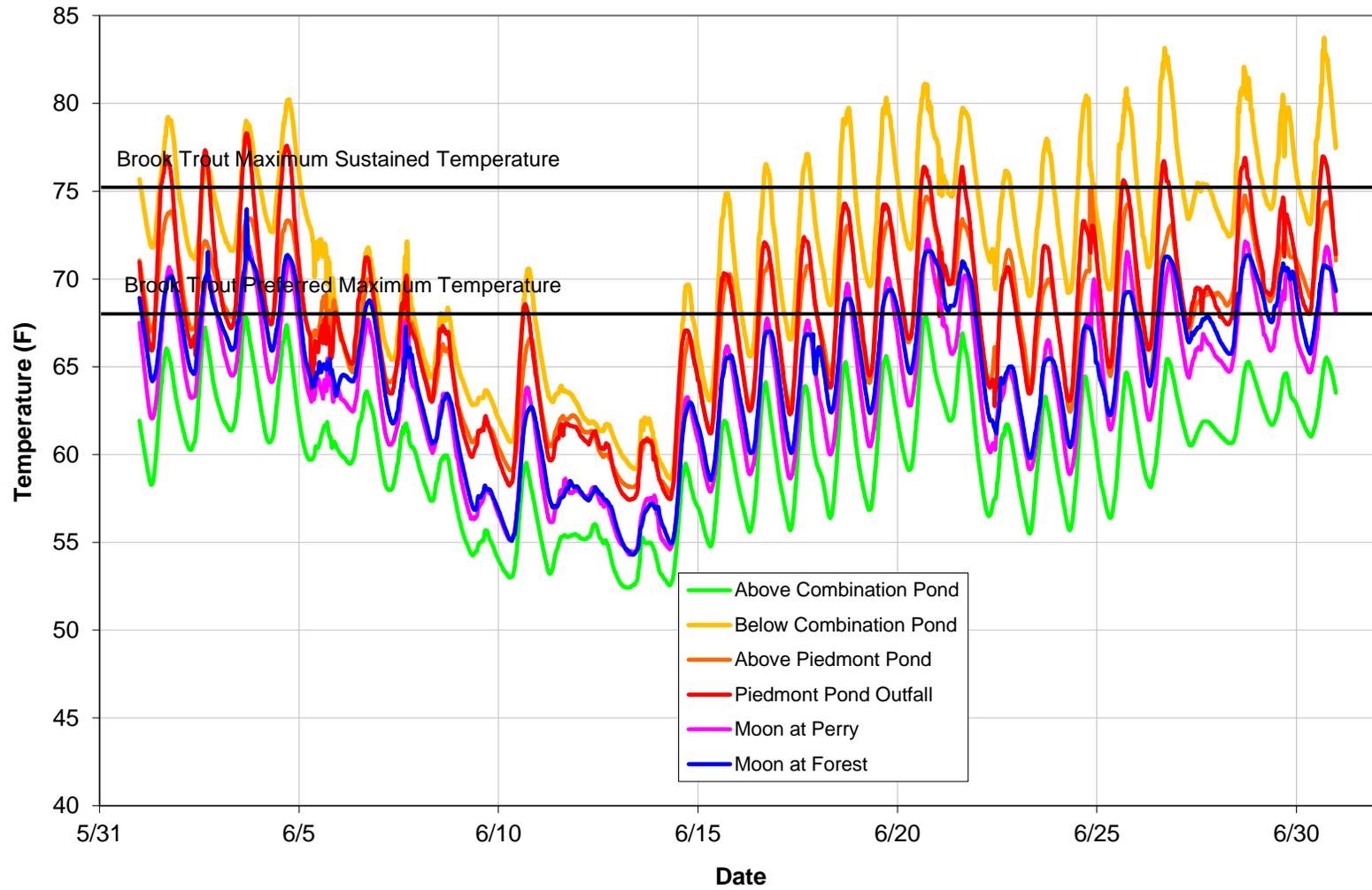
2016 Stream Temperature Comparison 2 Day Trendline



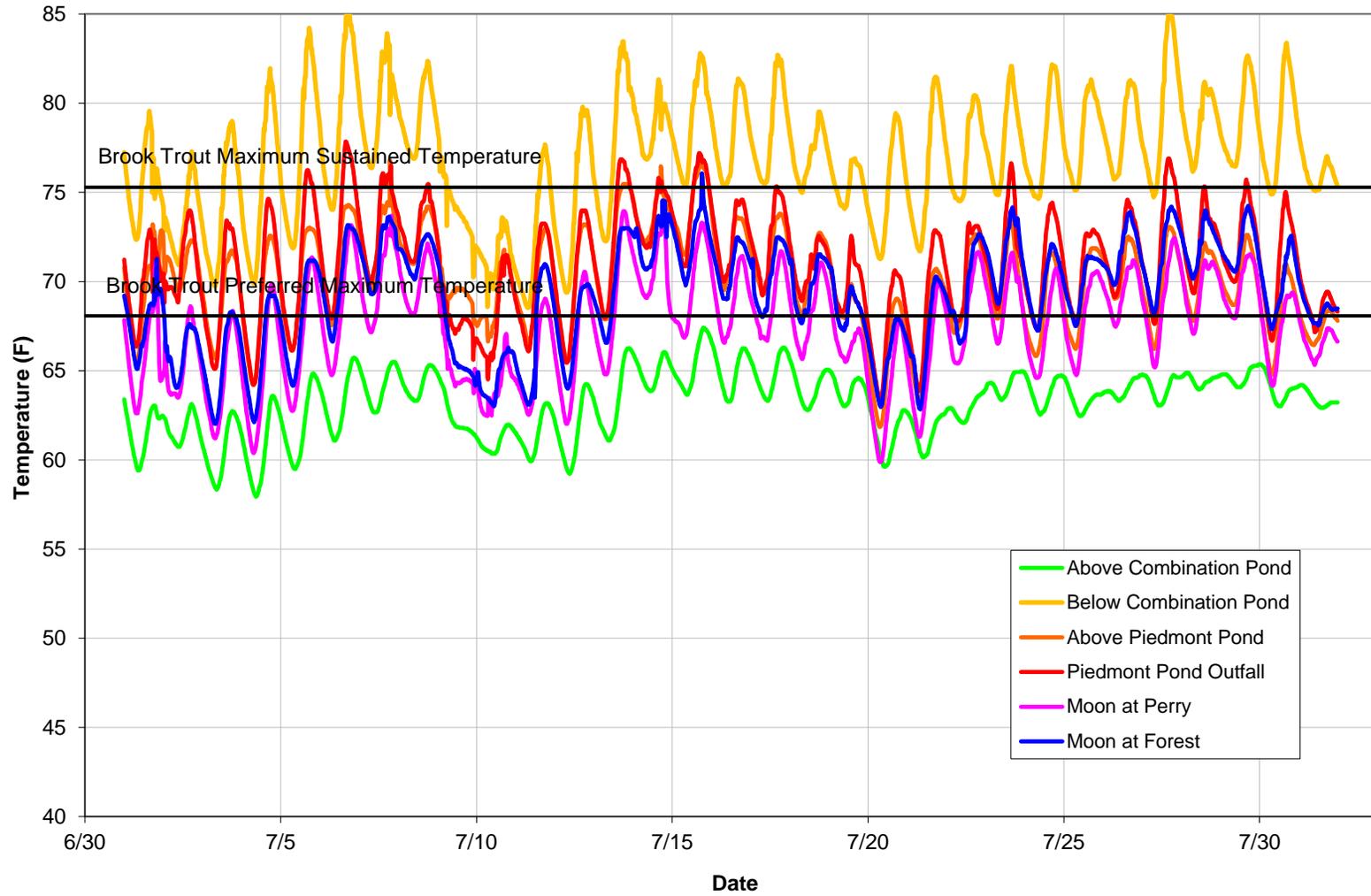
Moon Brook Temperature 2016 With 2 Day Trend Line



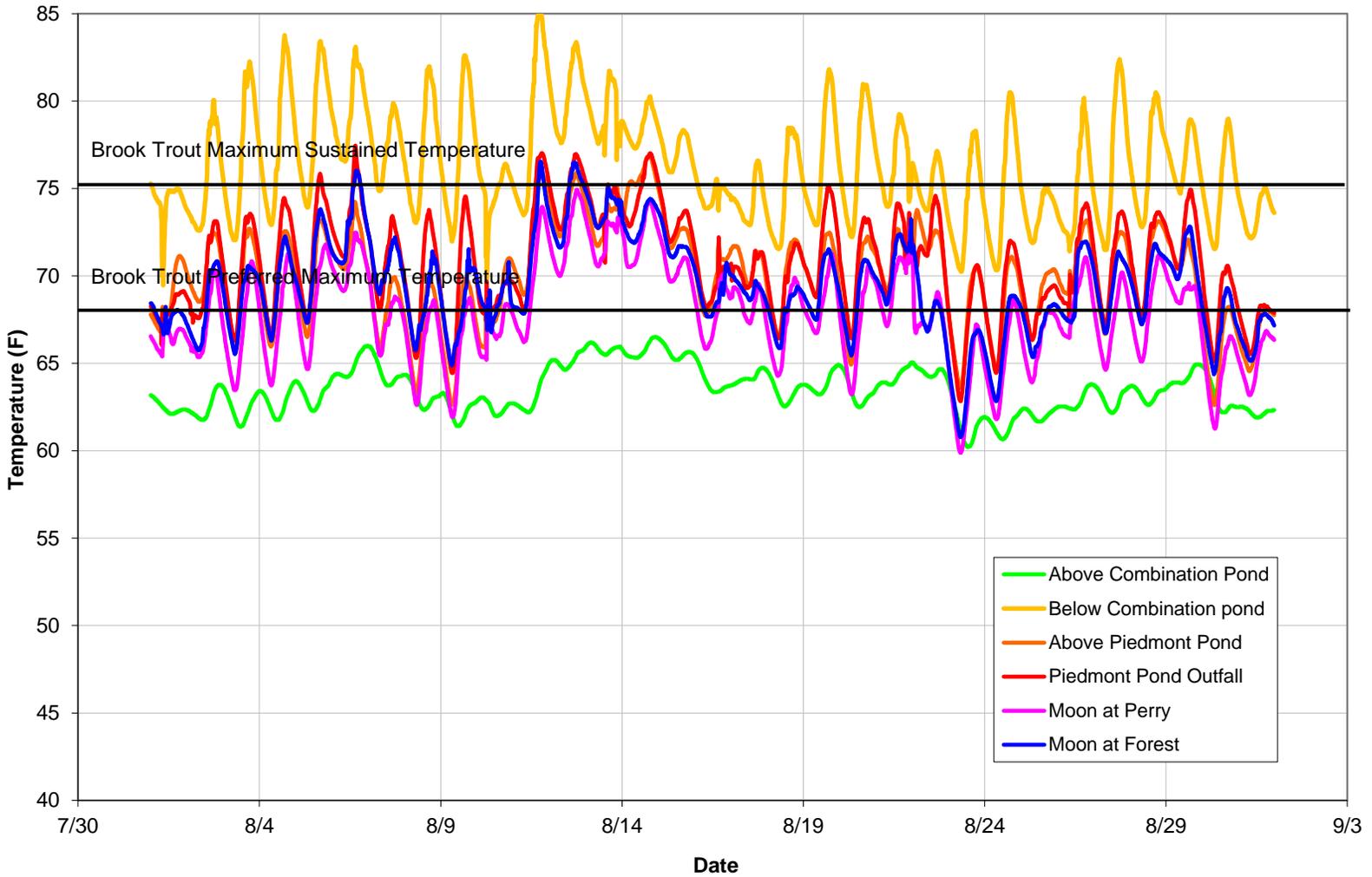
June 2016 Moon Brook Temperature



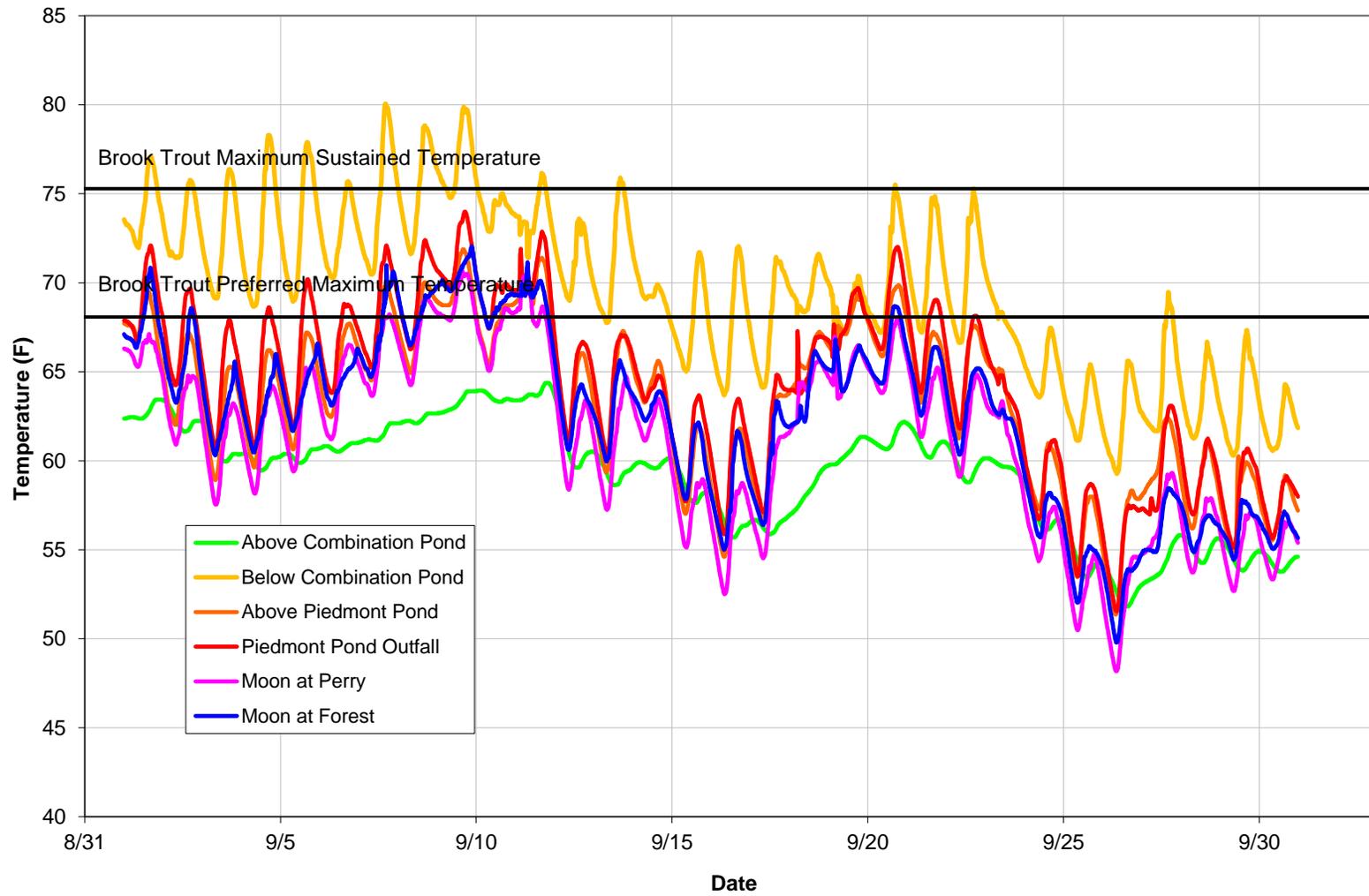
July 2016 Moon Brook Temperature



August 2016 Moon Brook Temperature



September 2016 Moon Brook Temperature



2016 Mussey Brook Temperature

