# MEMO

**To:** File

**From:** Evan Pilachowski, DPW Commissioner

**Date:** March 1, 2013

**Re:** 2012 Brook Temperature Monitoring Summary

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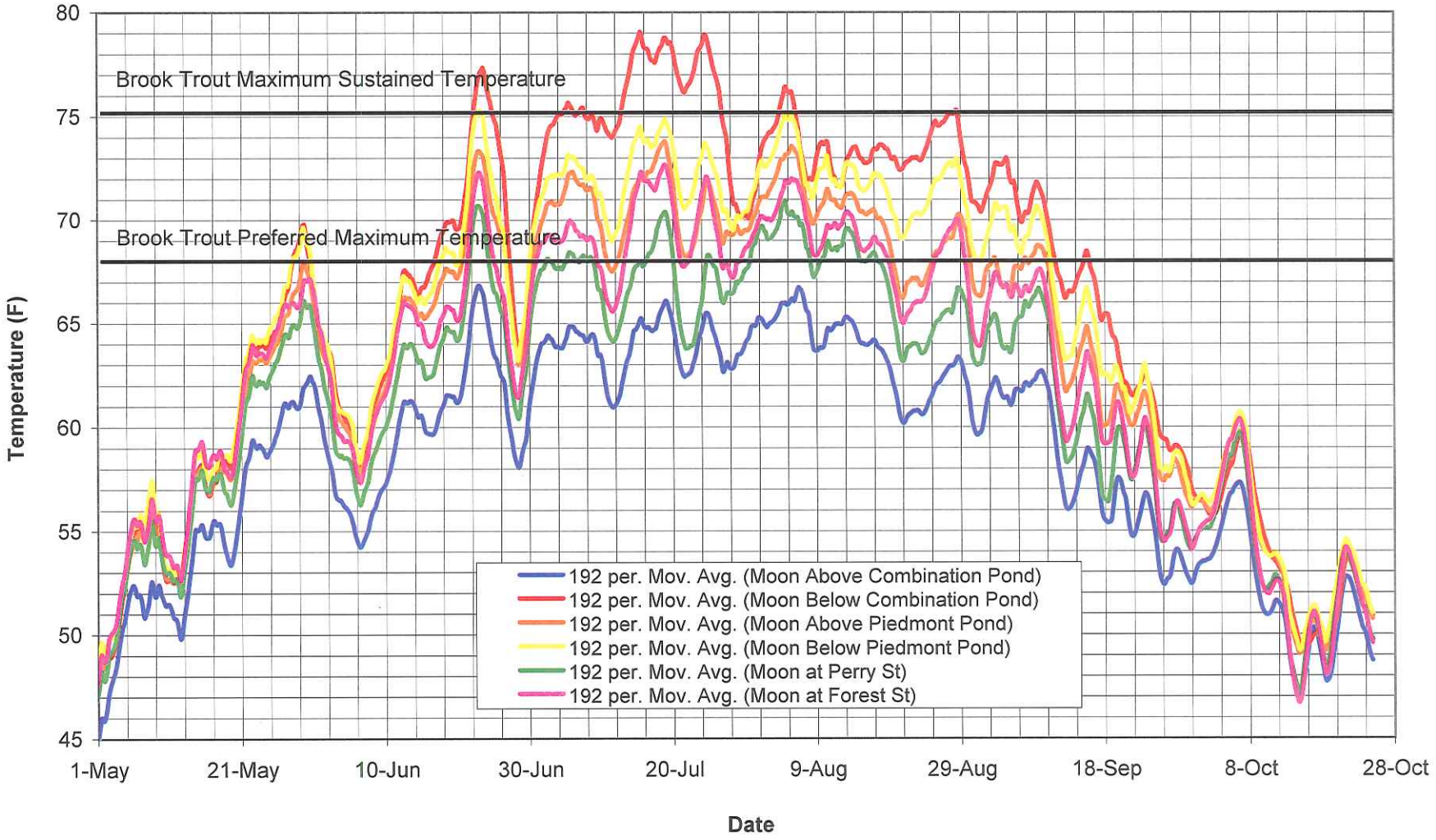
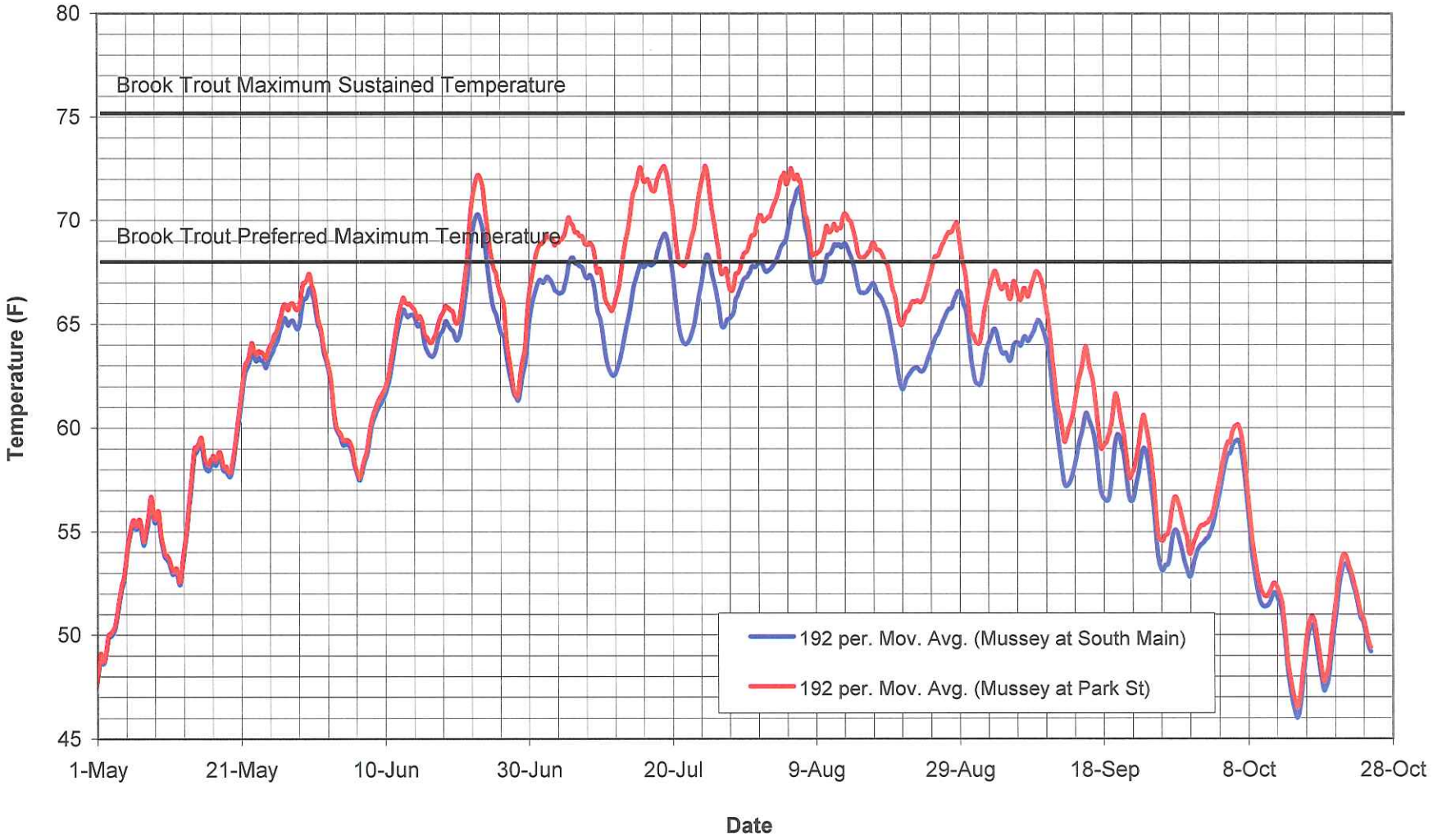
I have analyzed the temperature monitoring data from 2012. Graphs are attached that summarize the findings. In addition to the graphs, I have analyzed the habitat suitability of Moon Brook for brook trout in relation to temperature and the accuracy of the determination of Moon Brook as a Coldwater Fishery according to standards established by the Surface Water Quality Bureau of the New Mexico Environment Department (Bureau). According to a study conducted by the Bureau in July of 1999, a coldwater fishery is classified as having instantaneous temperatures below 75.2 °F (24 °C), no single day with temperatures above 68 °F (20 °C) for more than 8 hours, and no more than three days in a row with maximum temperatures above 68 °F (20 °C). The following table was prepared using these standards for the 188 day period from April 21, 2012 to October 25, 2012.

| Location | Number of Day Outside Coldwater Fisheries Criteria | Maximum Recorded Temperature (degrees F) |
|---|---|---|
| Mussey Brook Above Fairgrounds | 31 | 74.4 |
| Mussey Brook Below Fairgrounds | 65 | 77.2 |
| Moon Brook Above Combination Pond | 1 | 70.4 |
| Moon Brook Below Combination Pond Outfall | 87 | 83.8 |
| Moon Brook Above Piedmont Pond | 80 | 78.3 |
| Moon Brook Below Piedmont Pond Outfall | 91 | 80.1 |
| Moon Brook at Perry St | 42 | 76.1 |
| Moon Brook at Forest St | 63 | 75.5 |

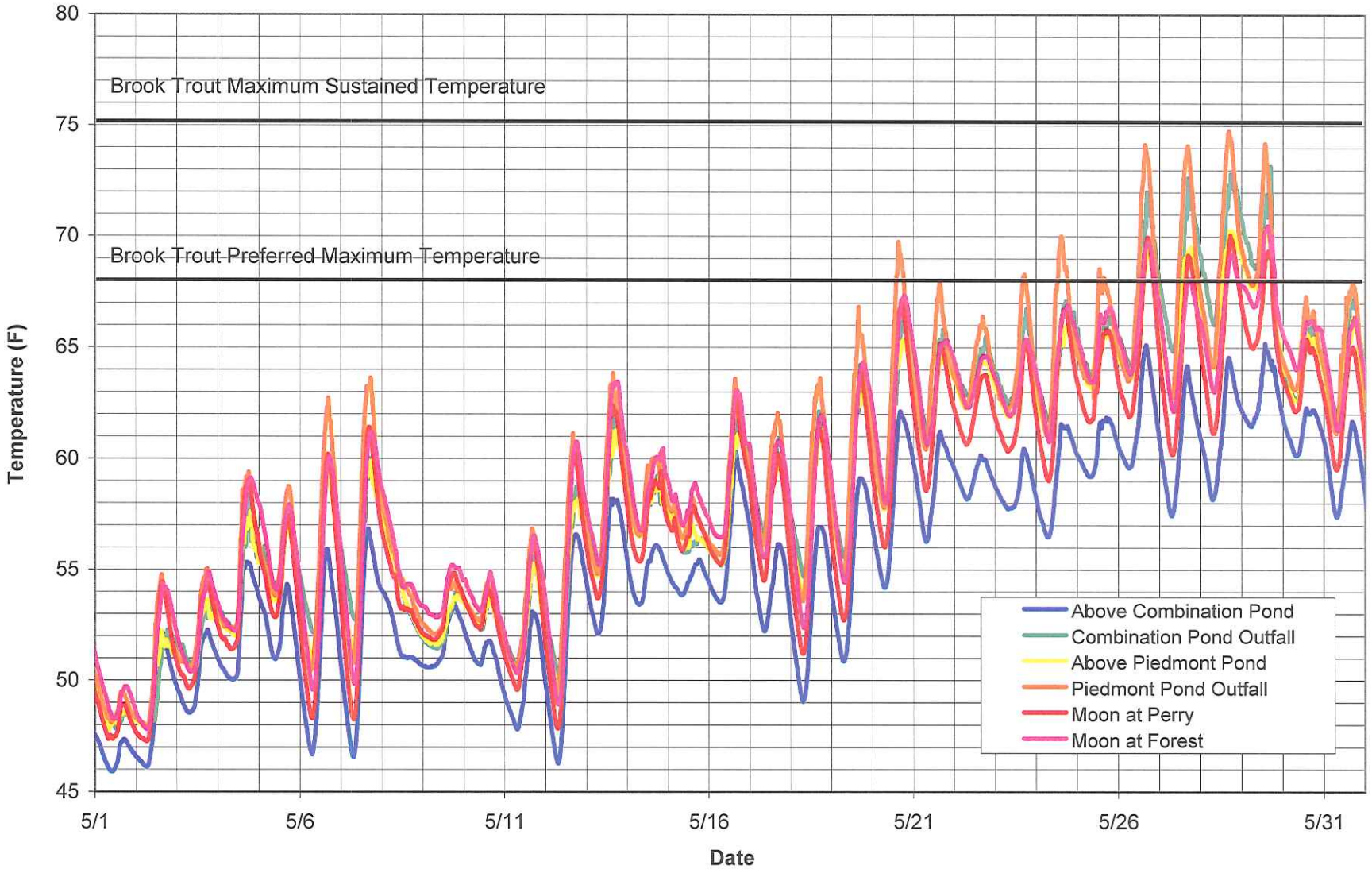
## 2012 Stream Temperature Comparison
## 2 Day Average

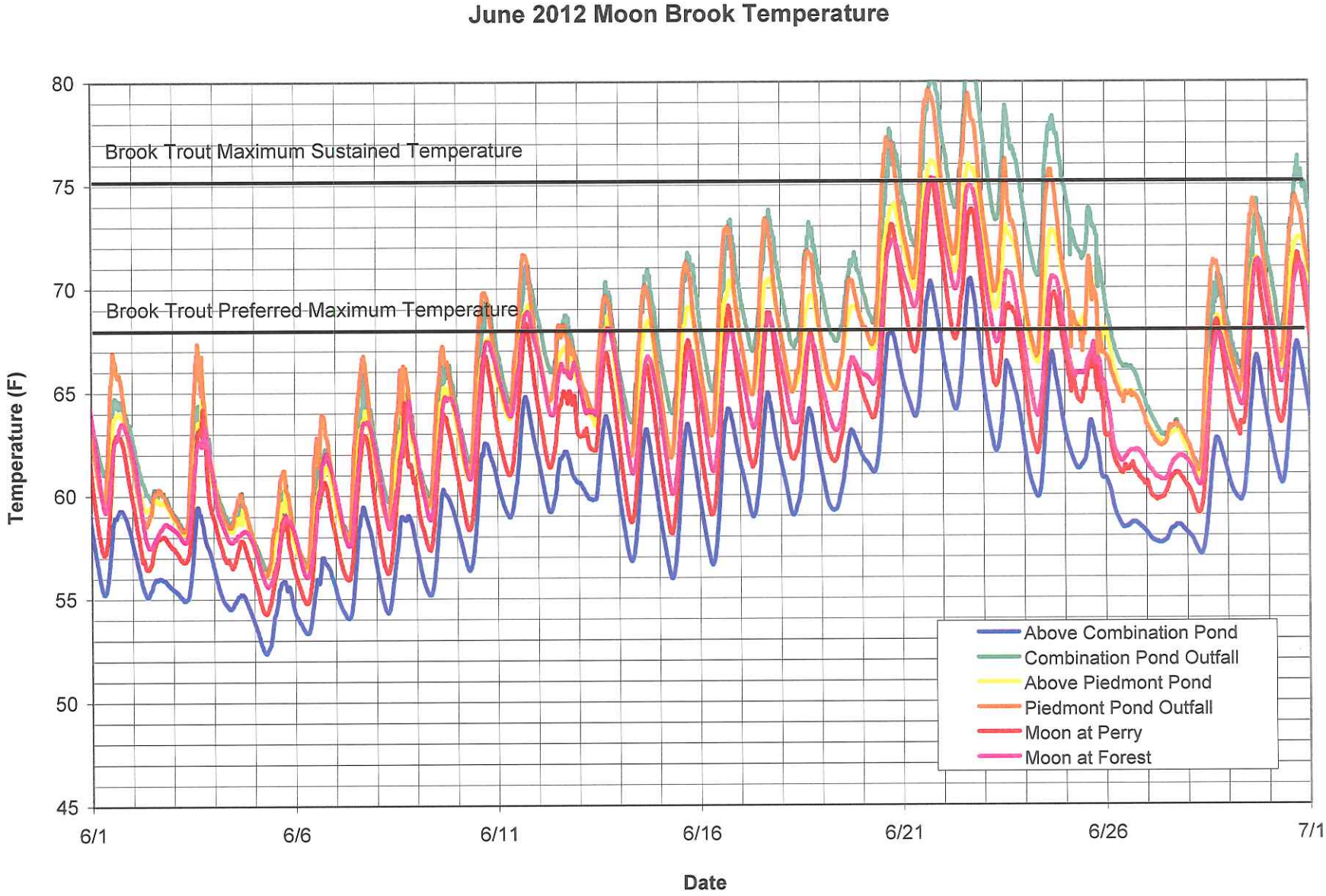


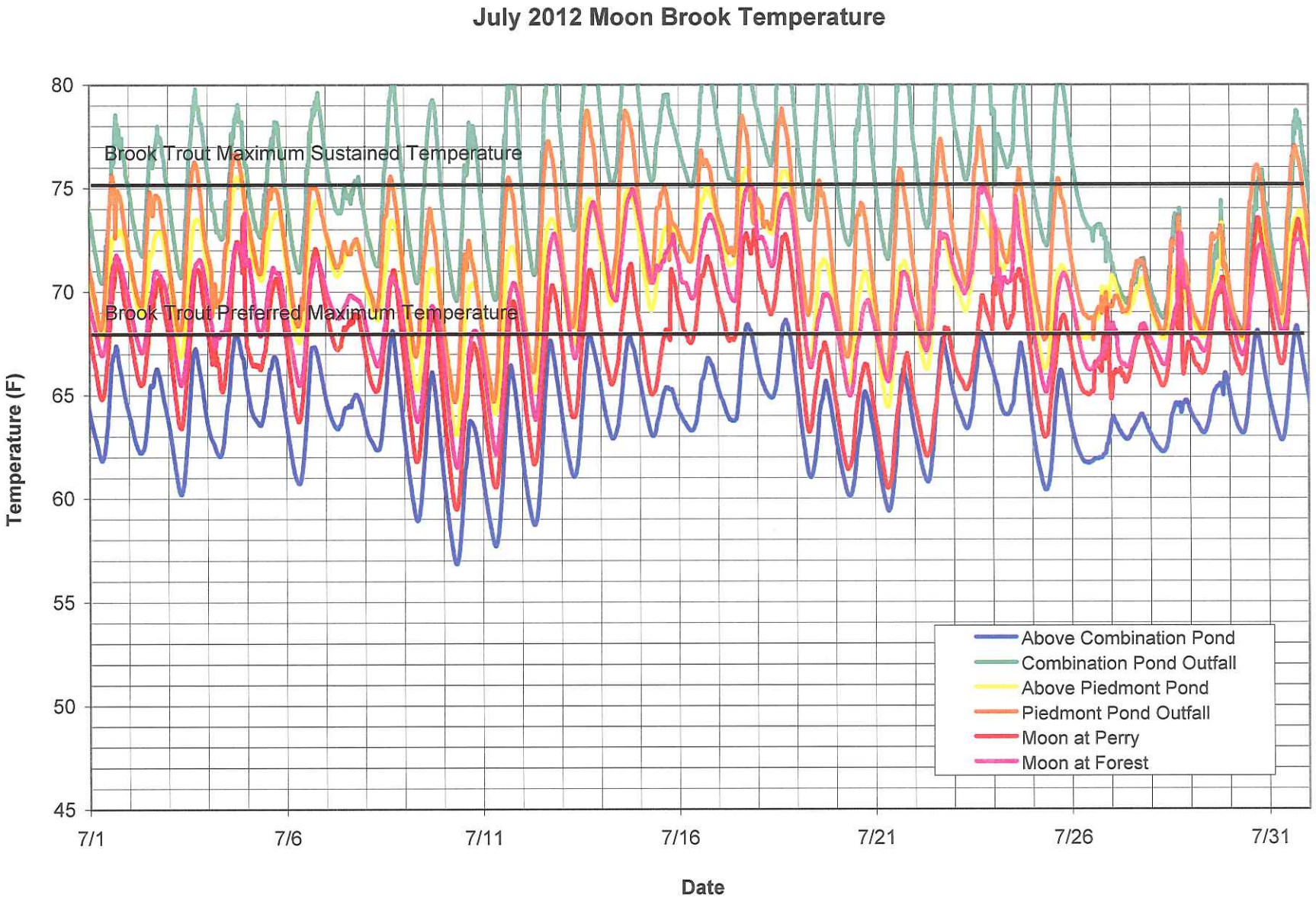
## 2012 Mussey Brook Temperature
## 2 Day Average

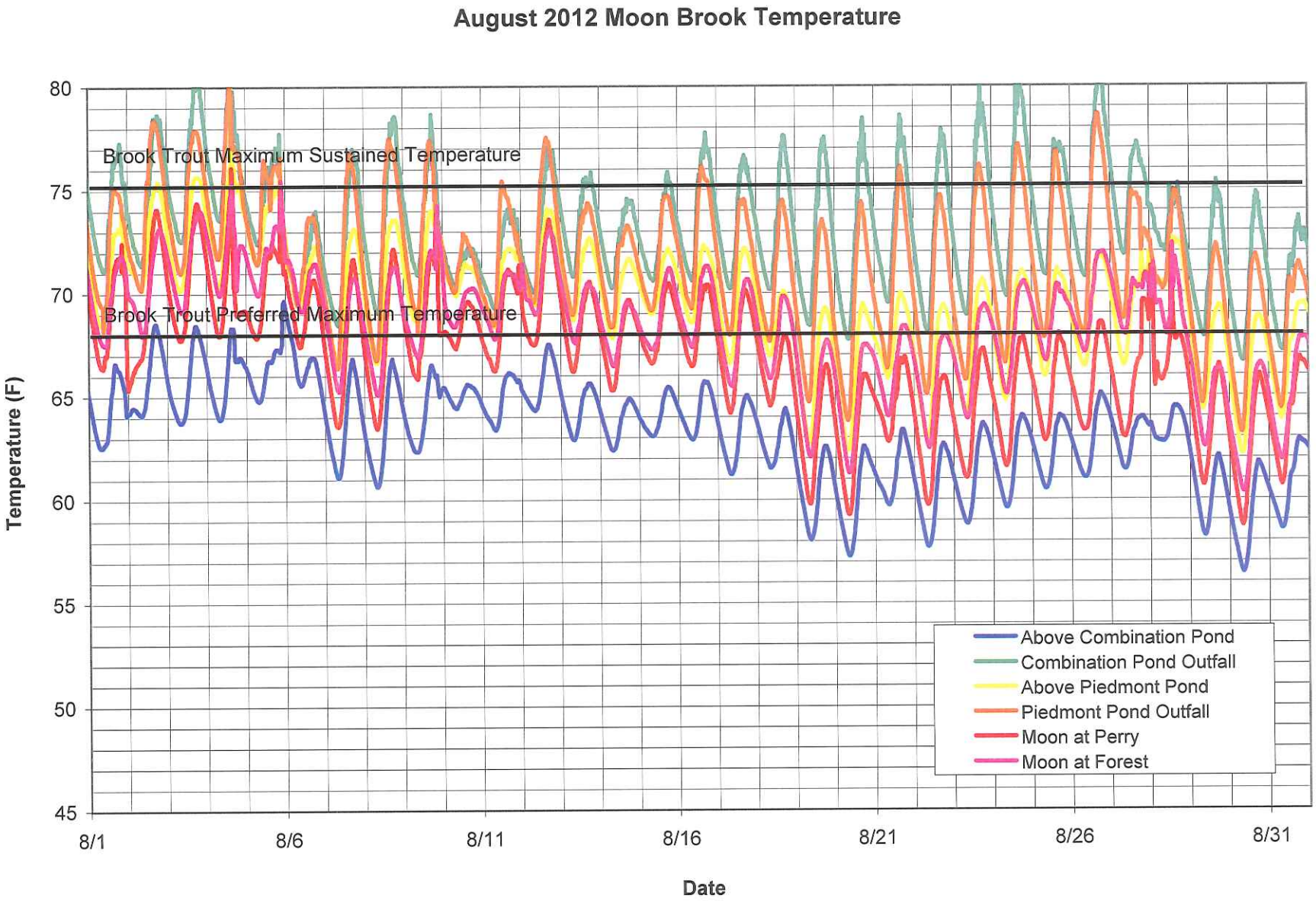


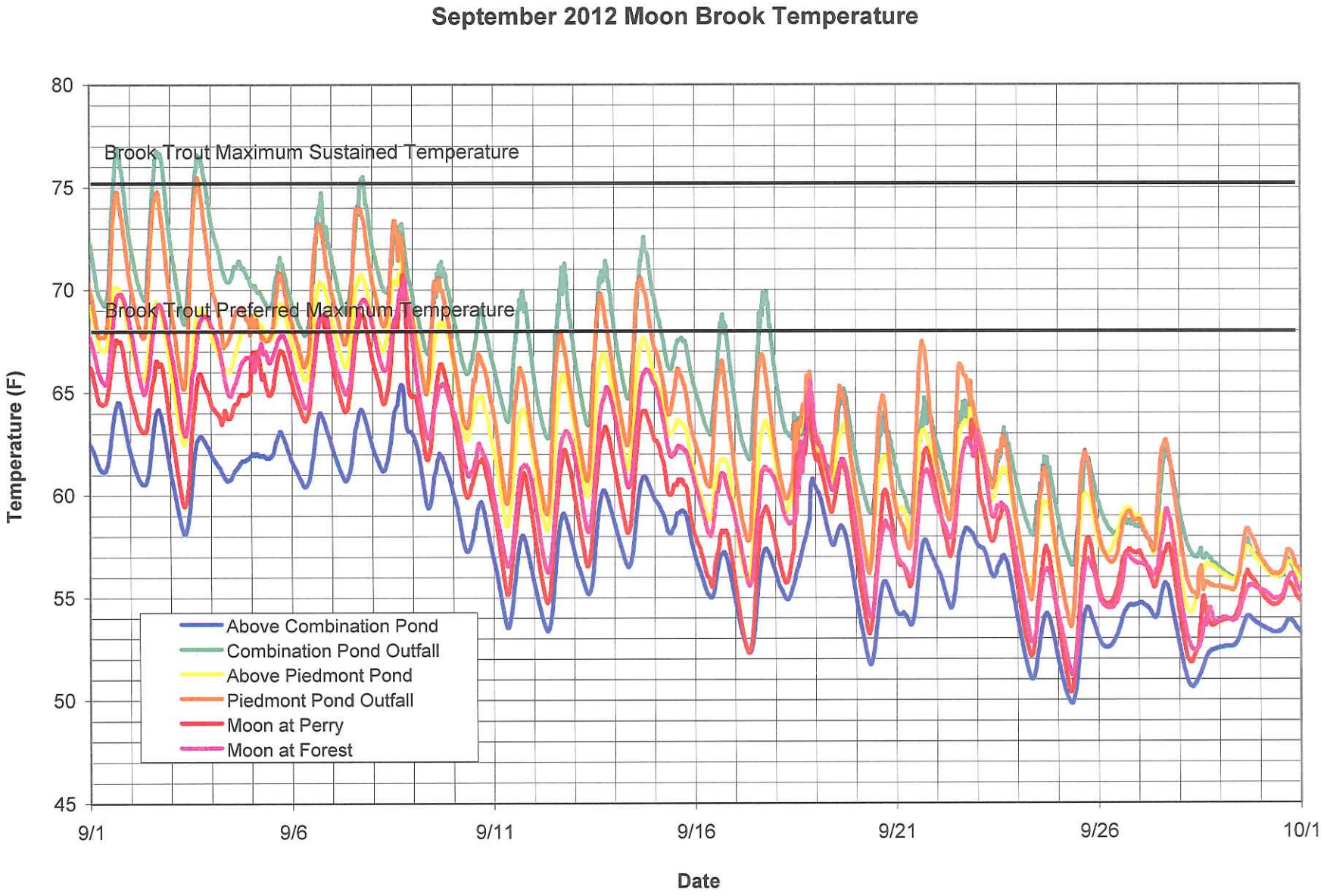
## May 2012 Moon Brook Temperature




June 2012 Moon Brook Temperature
Brook Trout Maximum Sustained Temperature
Brook Trout Preferred Maximum Temperature
Temperature (F)
80
75
70
65
60
55
50
45
6/1
6/6
6/11
6/16
6/21
6/26
7/1
Date
Above Combination Pond
Combination Pond Outfall
Above Piedmont Pond
Piedmont Pond Outfall
Moon at Perry
Moon at Forest


July 2012 Moon Brook Temperature
Brook Trout Maximum Sustained Temperature
Brook Trout Preferred Maximum Temperature
Temperature (F)
80
75
70
65
60
55
50
45
7/1
7/6
7/11
7/16
7/21
7/26
7/31
Date
Above Combination Pond
Combination Pond Outfall
Above Piedmont Pond
Piedmont Pond Outfall
Moon at Perry
Moon at Forest


August 2012 Moon Brook Temperature
Brook Trout Maximum Sustained Temperature
Brook Trout Preferred Maximum Temperature
Temperature (F)
80
75
70
65
60
55
50
45
8/1
8/6
8/11
8/16
8/21
8/26
8/31
Date
Above Combination Pond
Combination Pond Outfall
Above Piedmont Pond
Piedmont Pond Outfall
Moon at Perry
Moon at Forest


September 2012 Moon Brook Temperature
Brook Trout Maximum Sustained Temperature
Brook Trout Preferred Maximum Temperature
Above Combination Pond
Combination Pond Outfall
Above Piedmont Pond
Piedmont Pond Outfall
Moon at Perry
Moon at Forest
Temperature (F)
80
75
70
65
60
55
50
45
9/1
9/6
9/11
9/16
9/21
9/26
10/1
Date