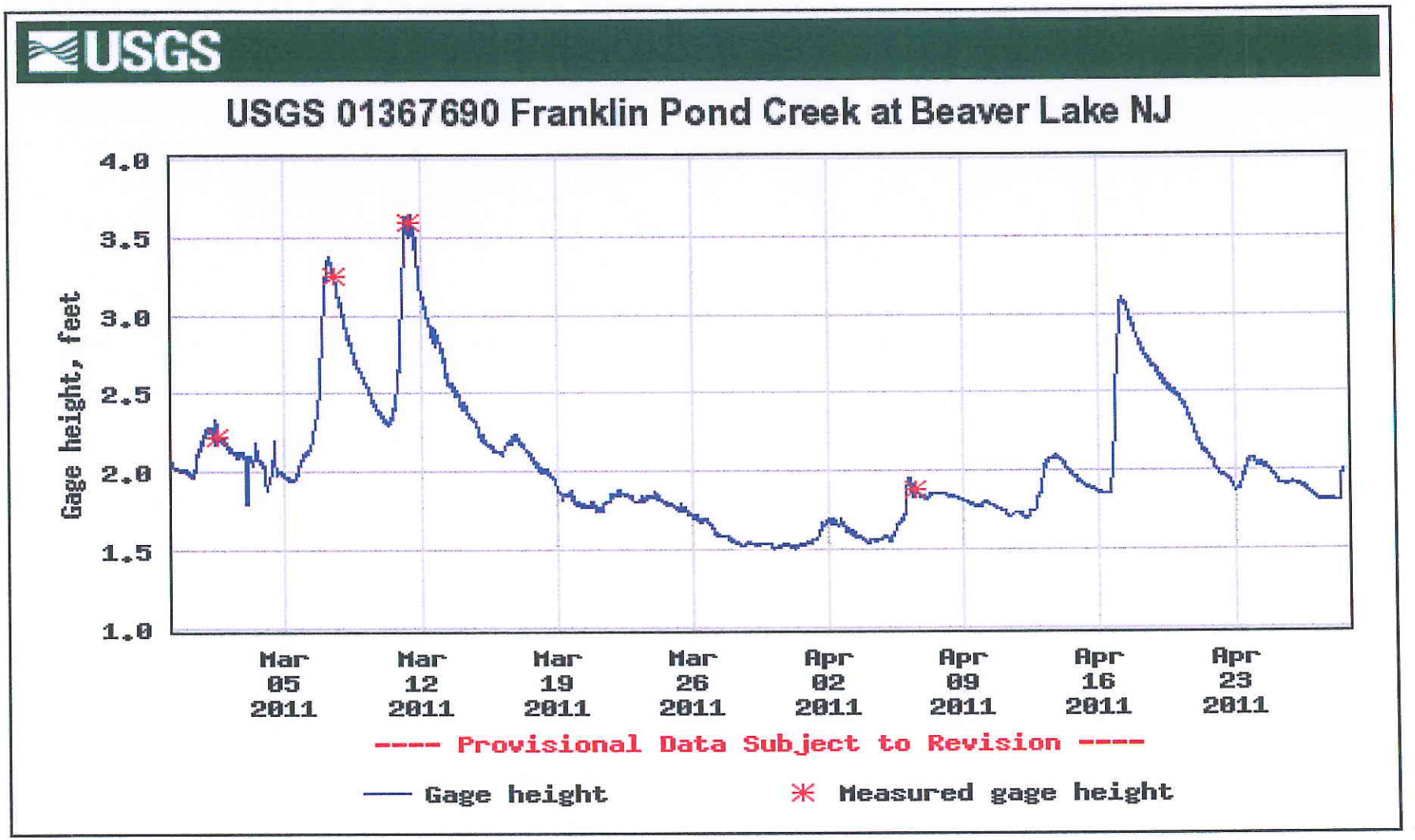
WESTWOOD FLOODING

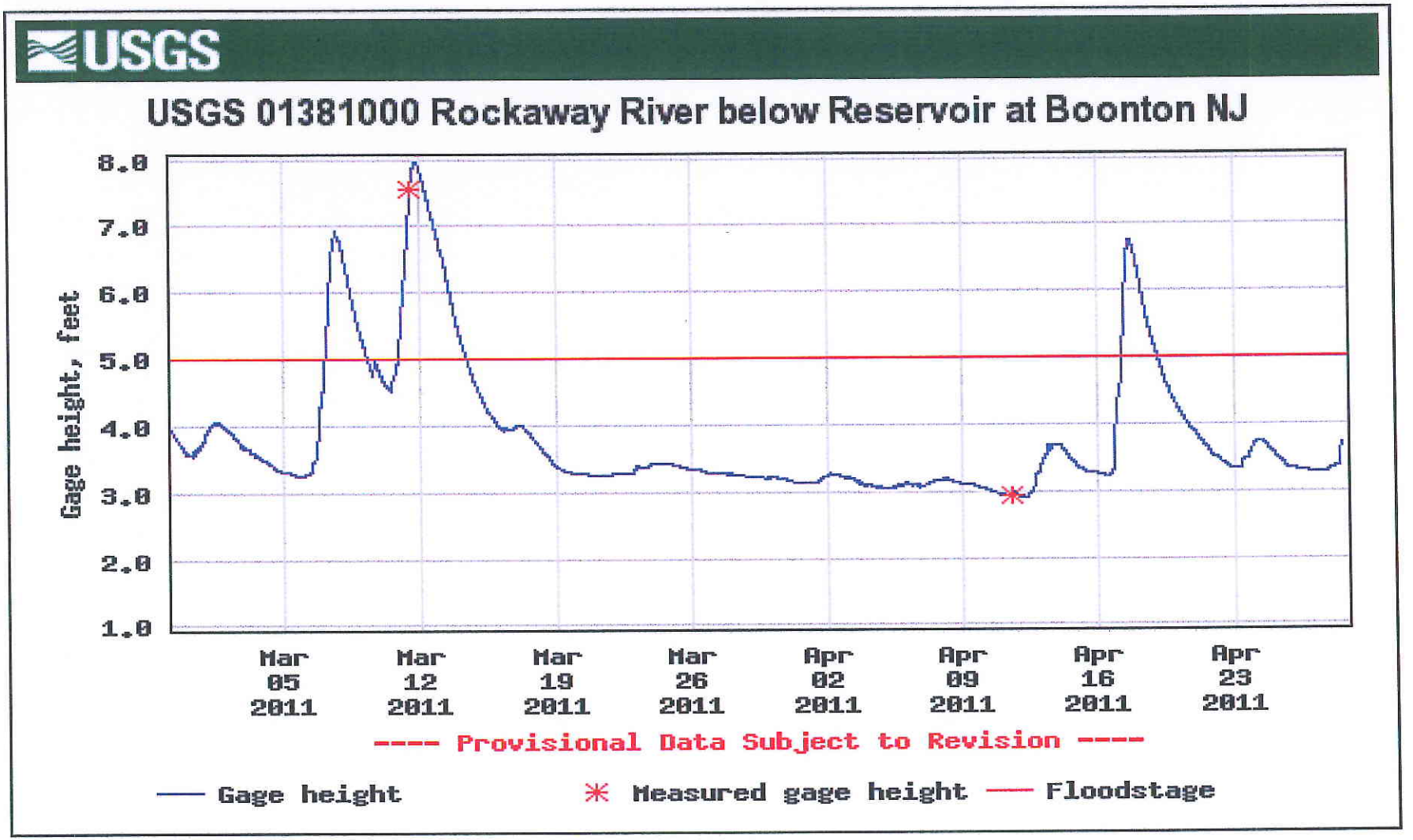
Statewide Rainfall

- For the three (3) 2011 storm events, March 6-7, March 10-11 and April 16-17, the Gage Height in feet for various waterways in the State of New Jersey is as follows:

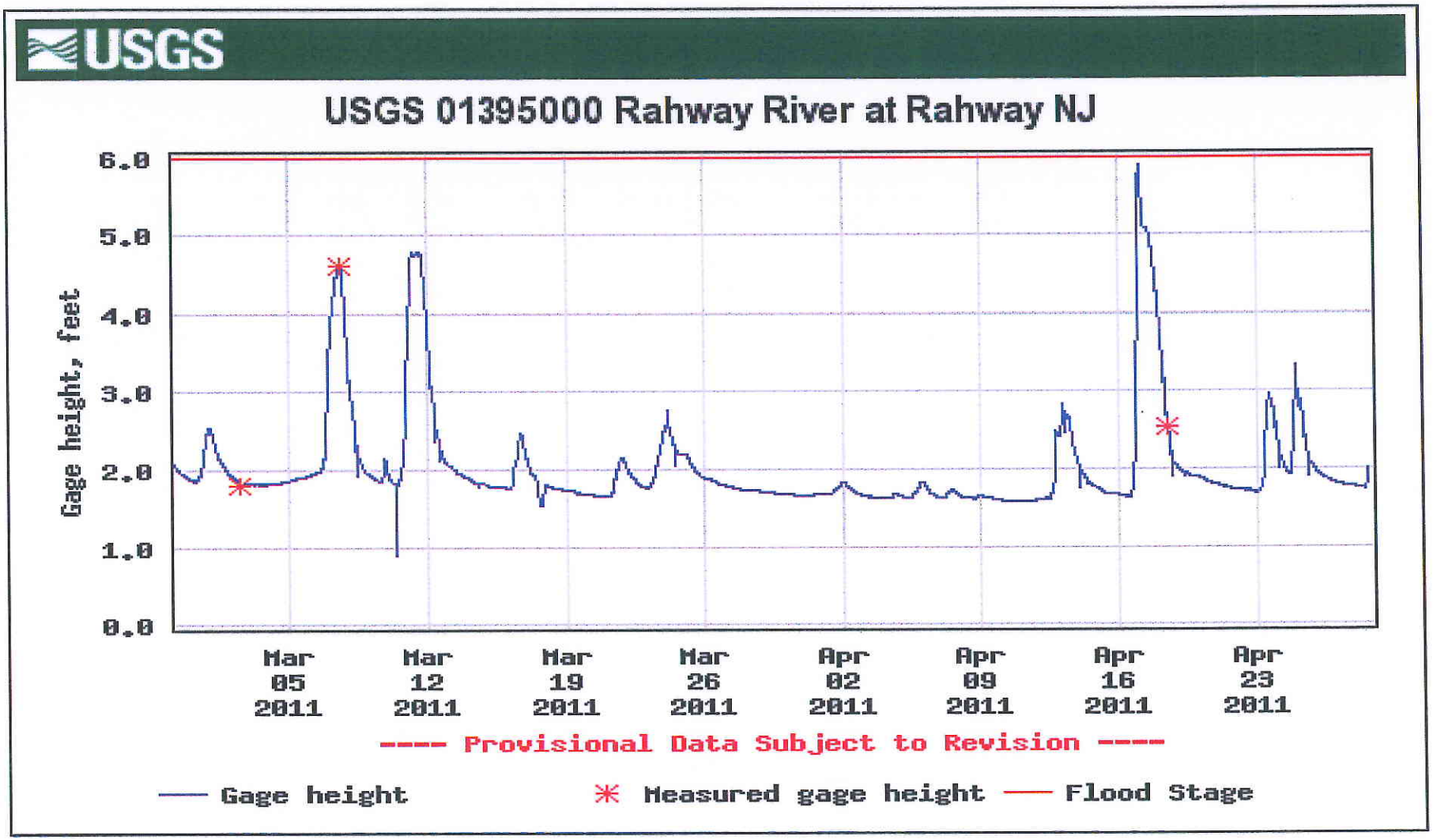
Franklin Pond Creek



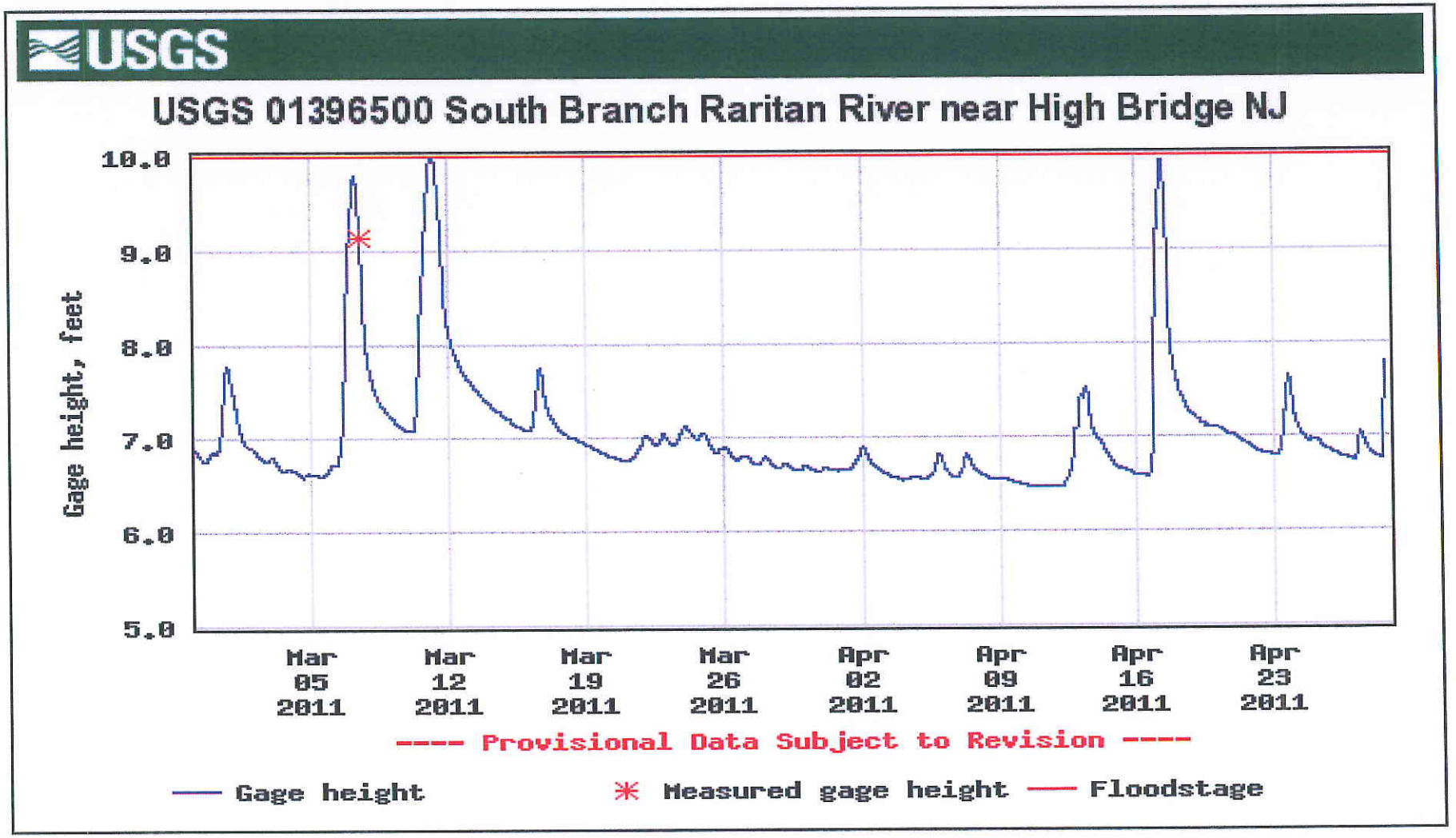
Rockaway River



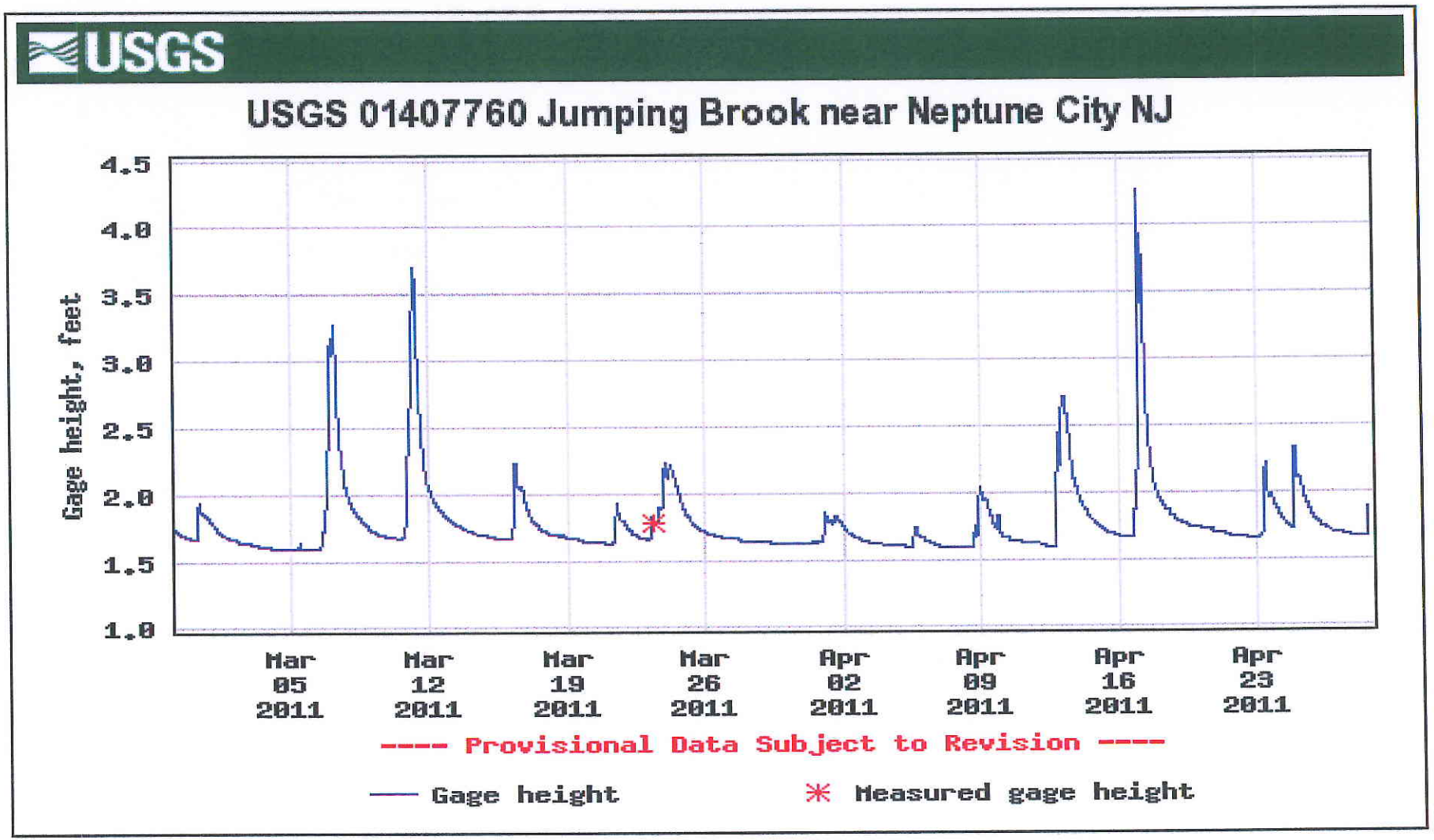
Rahway River



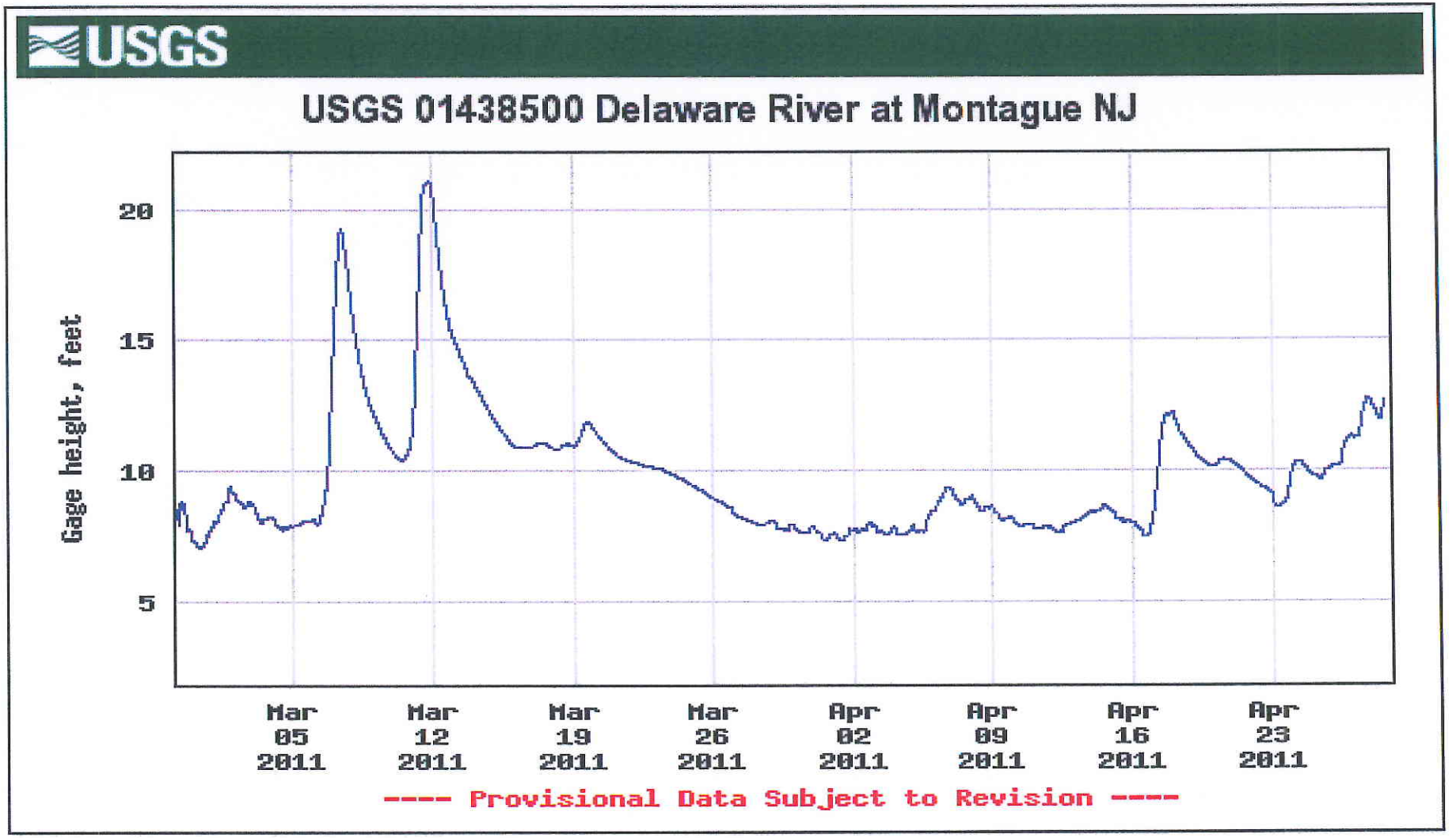
South Branch Raritan River



Jumping Brook



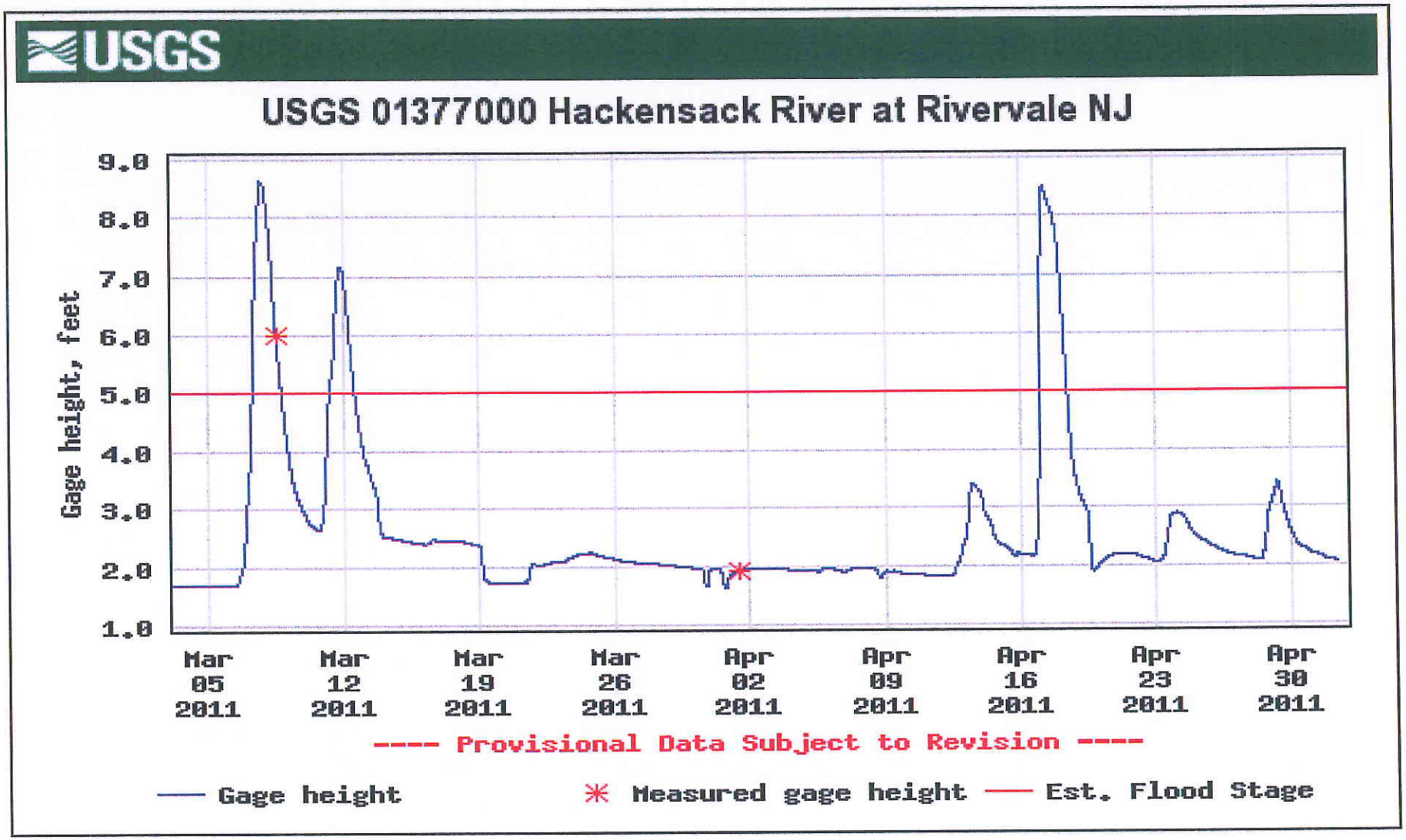
Delaware River



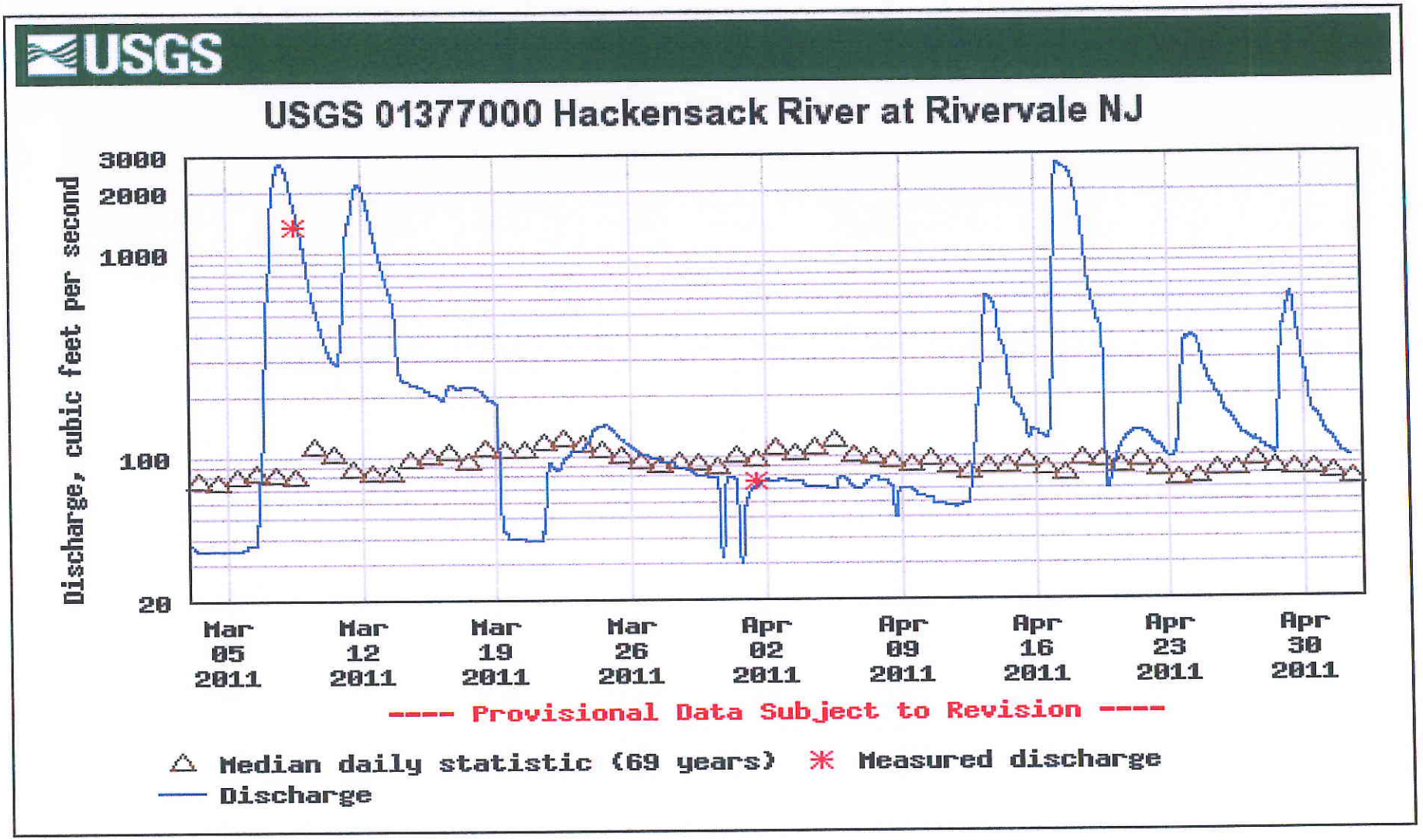
Bergen County Waterways

- Hackensack River at River Vale, NJ
- Hackensack River at New Milford, NJ
- Pascack Brook at Park Ridge, NJ
- Pascack Brook at Westwood, NJ

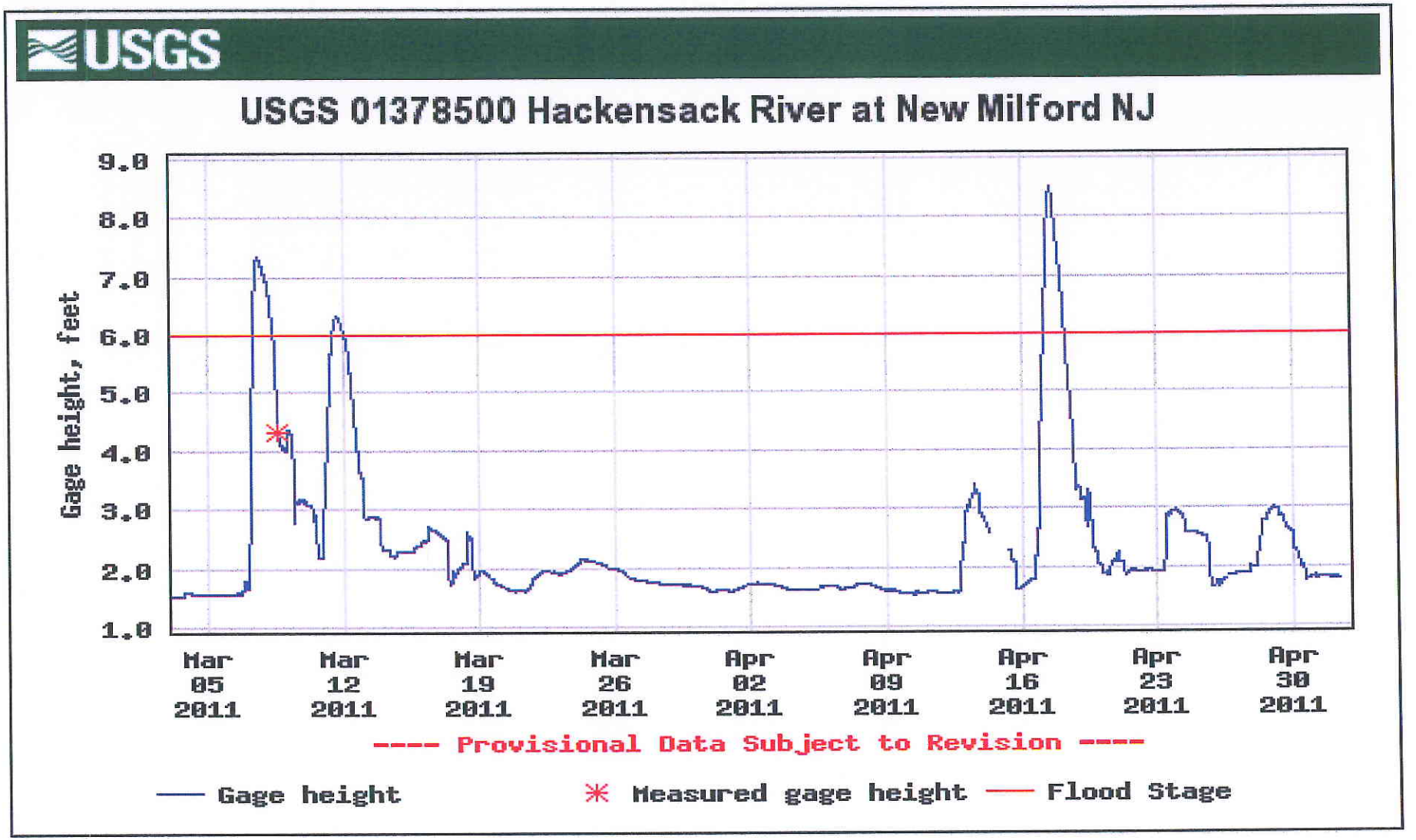
Hackensack River at River Vale



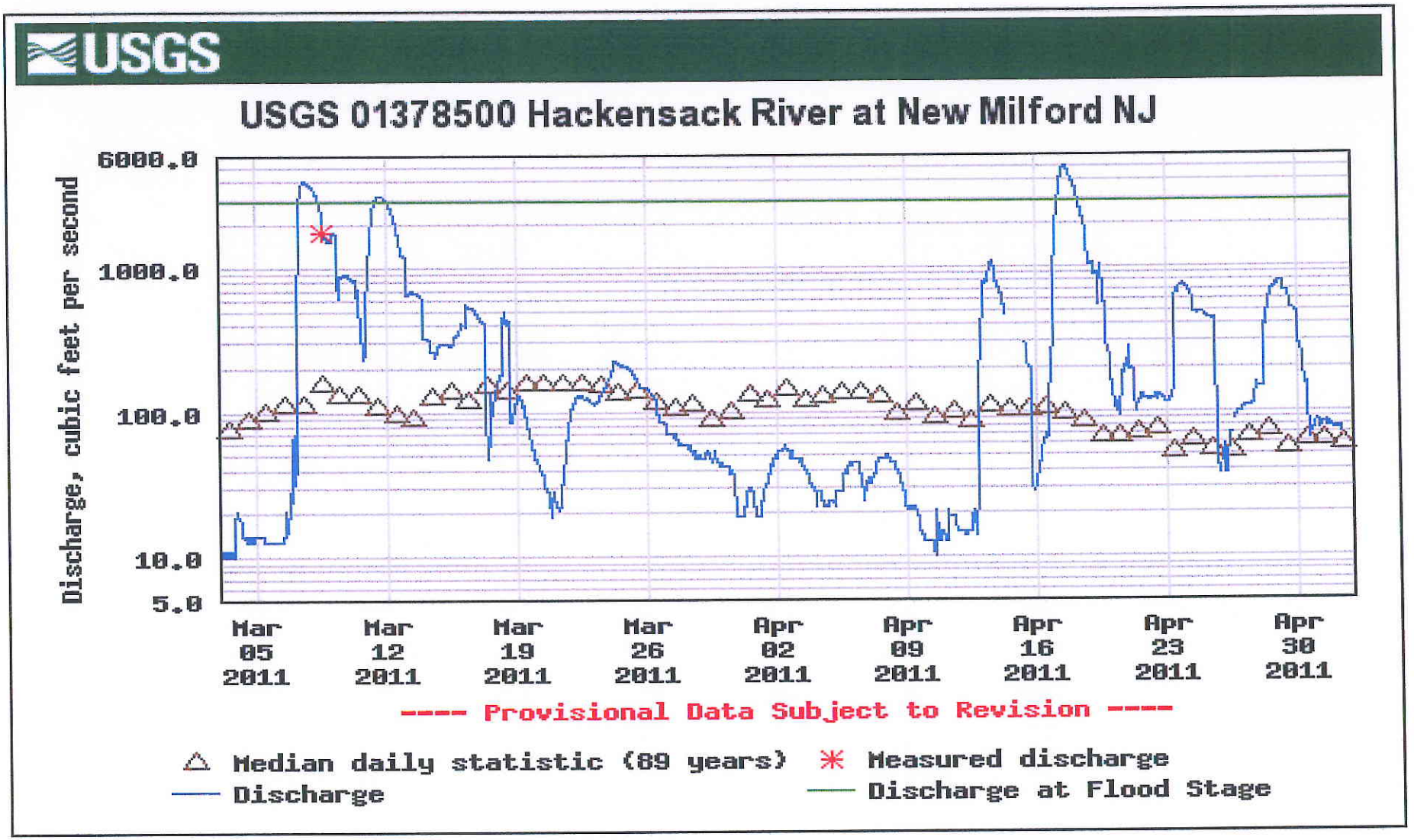
Hackensack River at River Vale



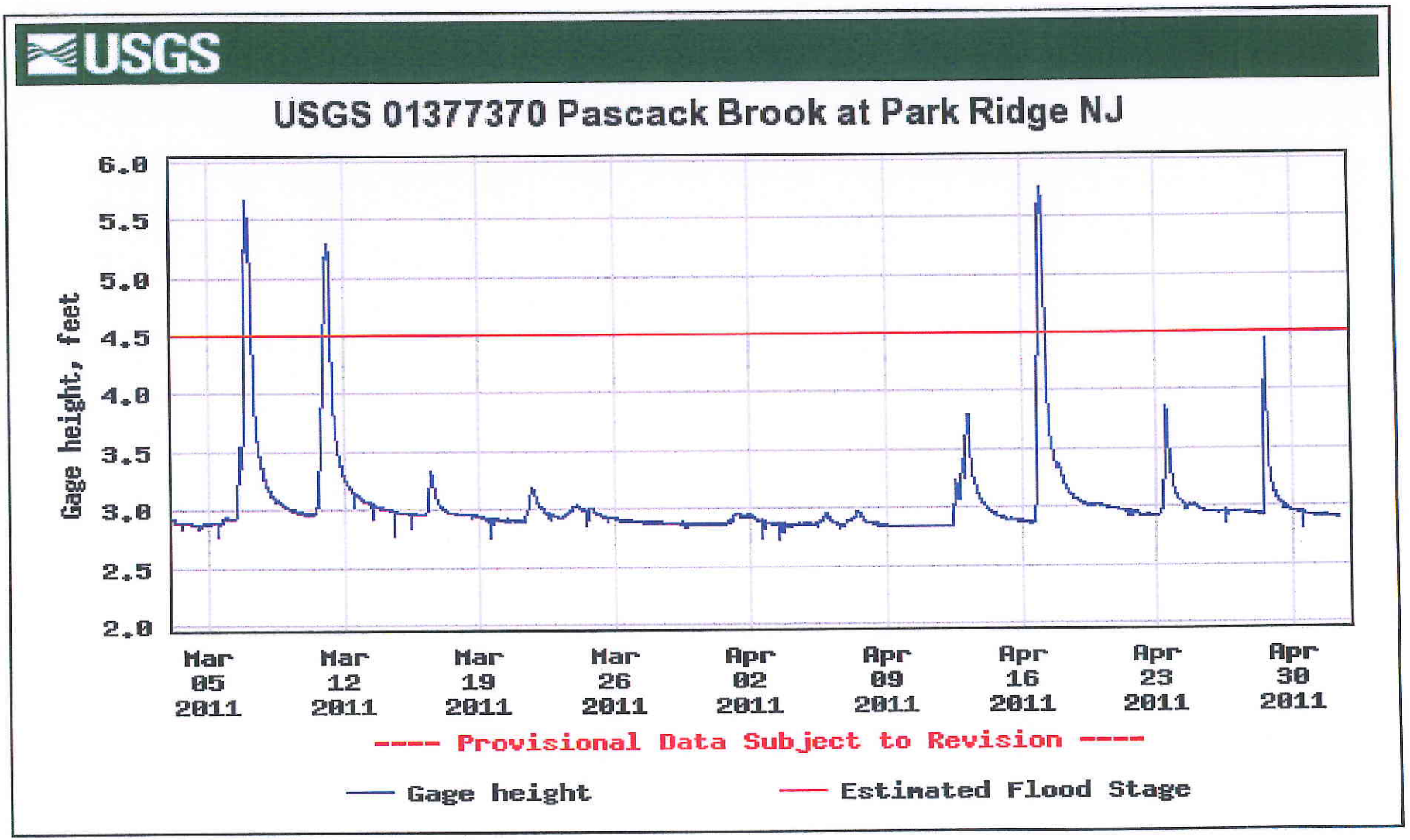
Hackensack River at New Milford



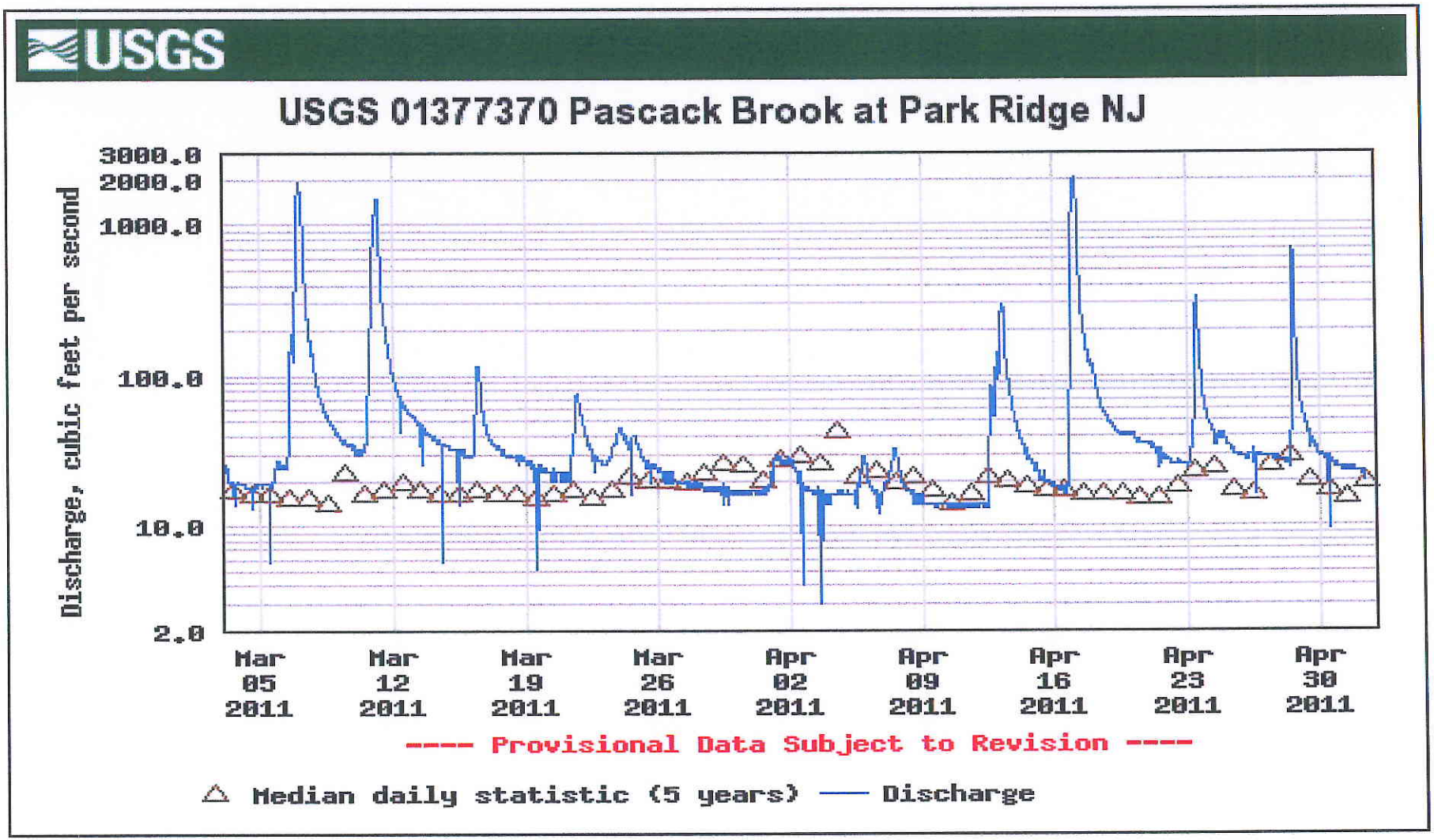
Hackensack River at New Milford



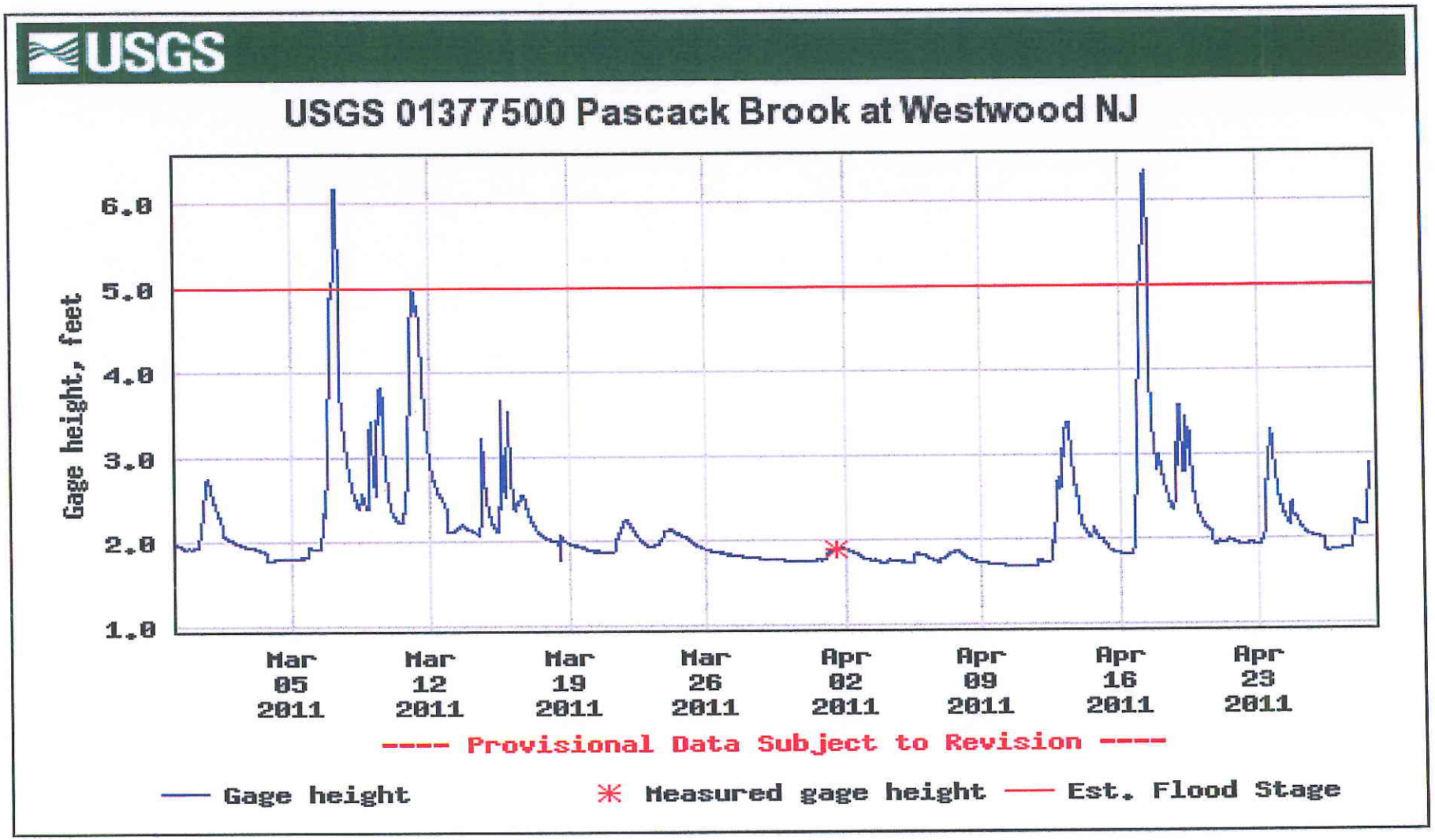
Pascack Brook at Park Ridge



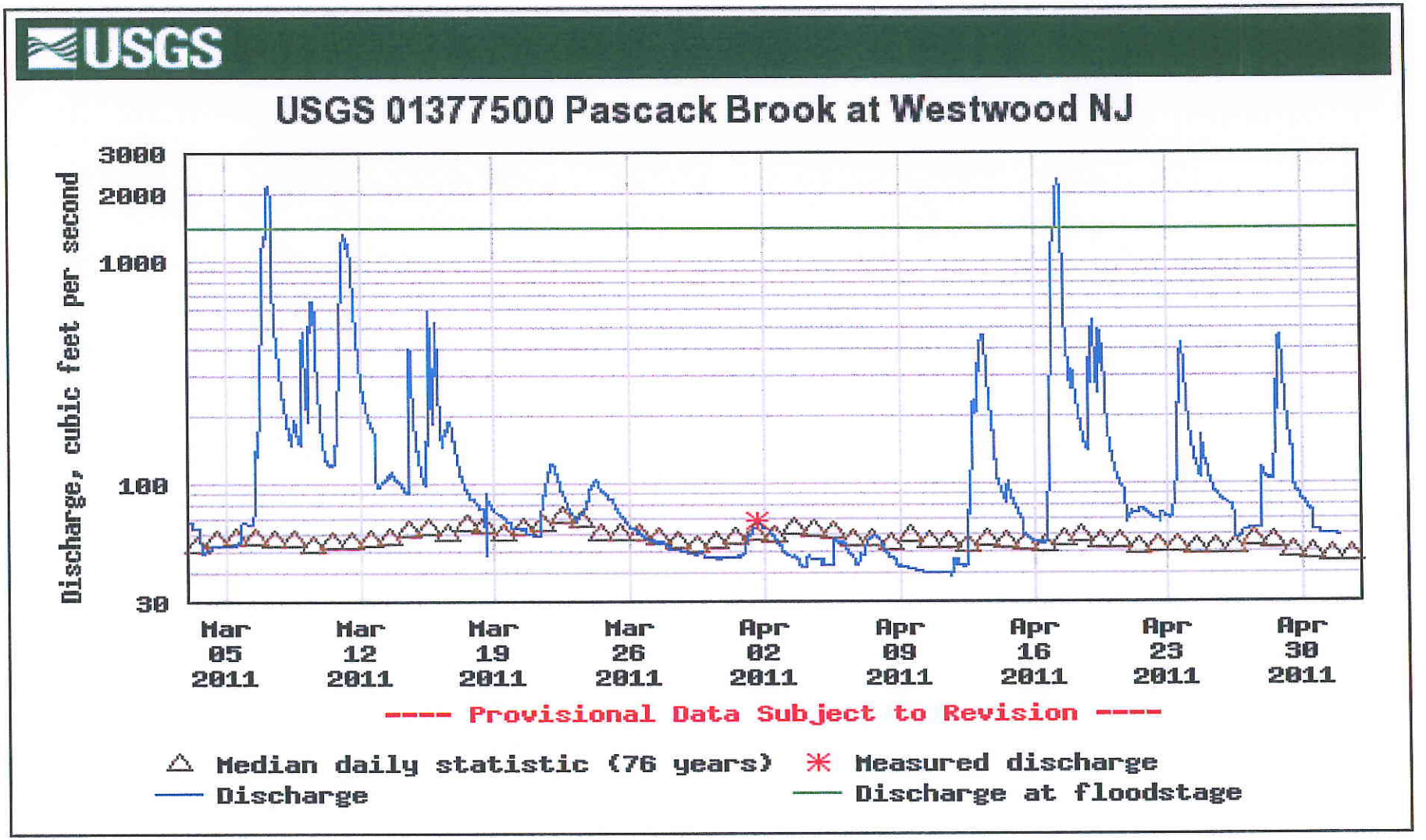
Pascack Brook at Park Ridge



Pascack Brook at Westwood



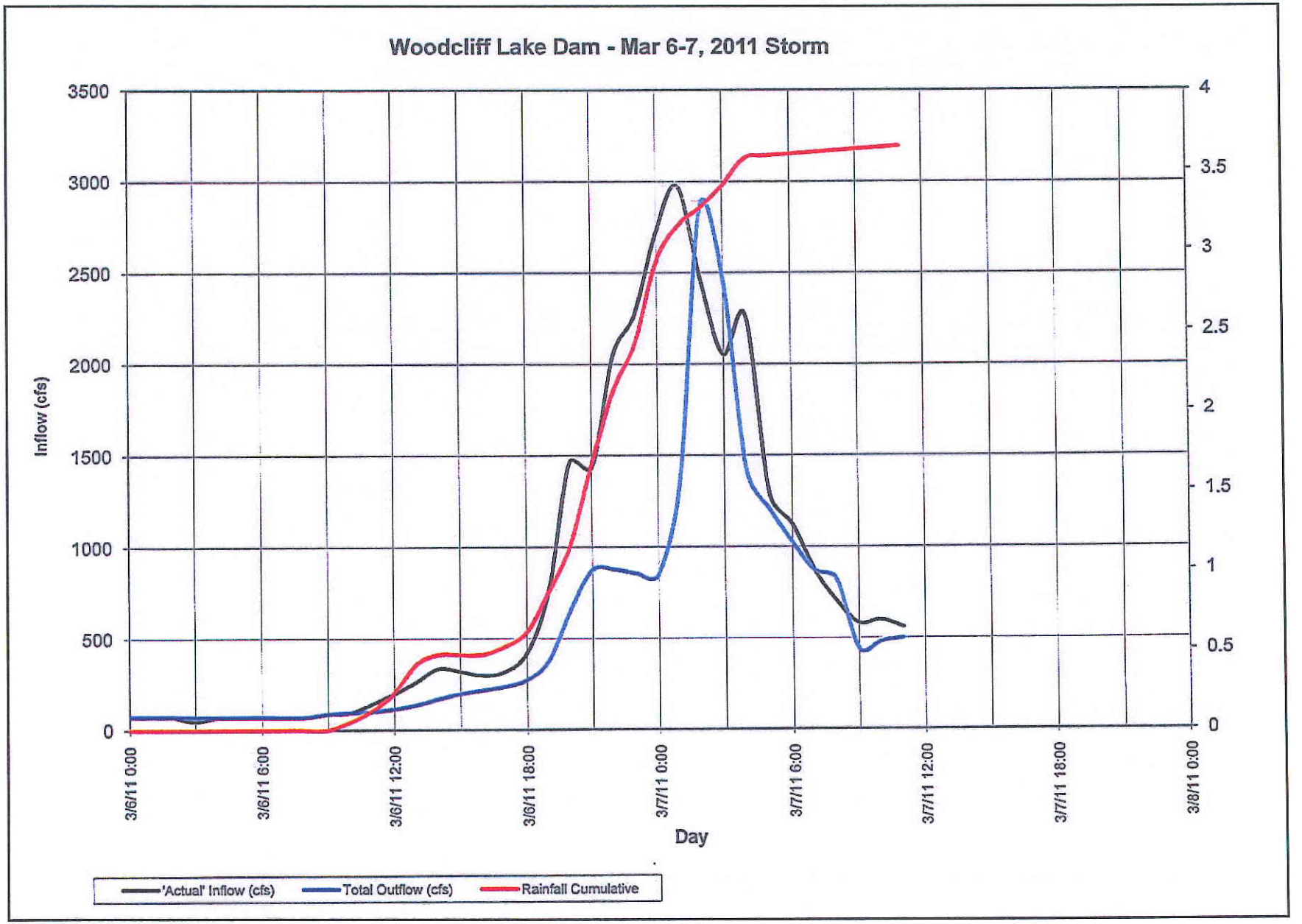
Pascack Brook at Westwood

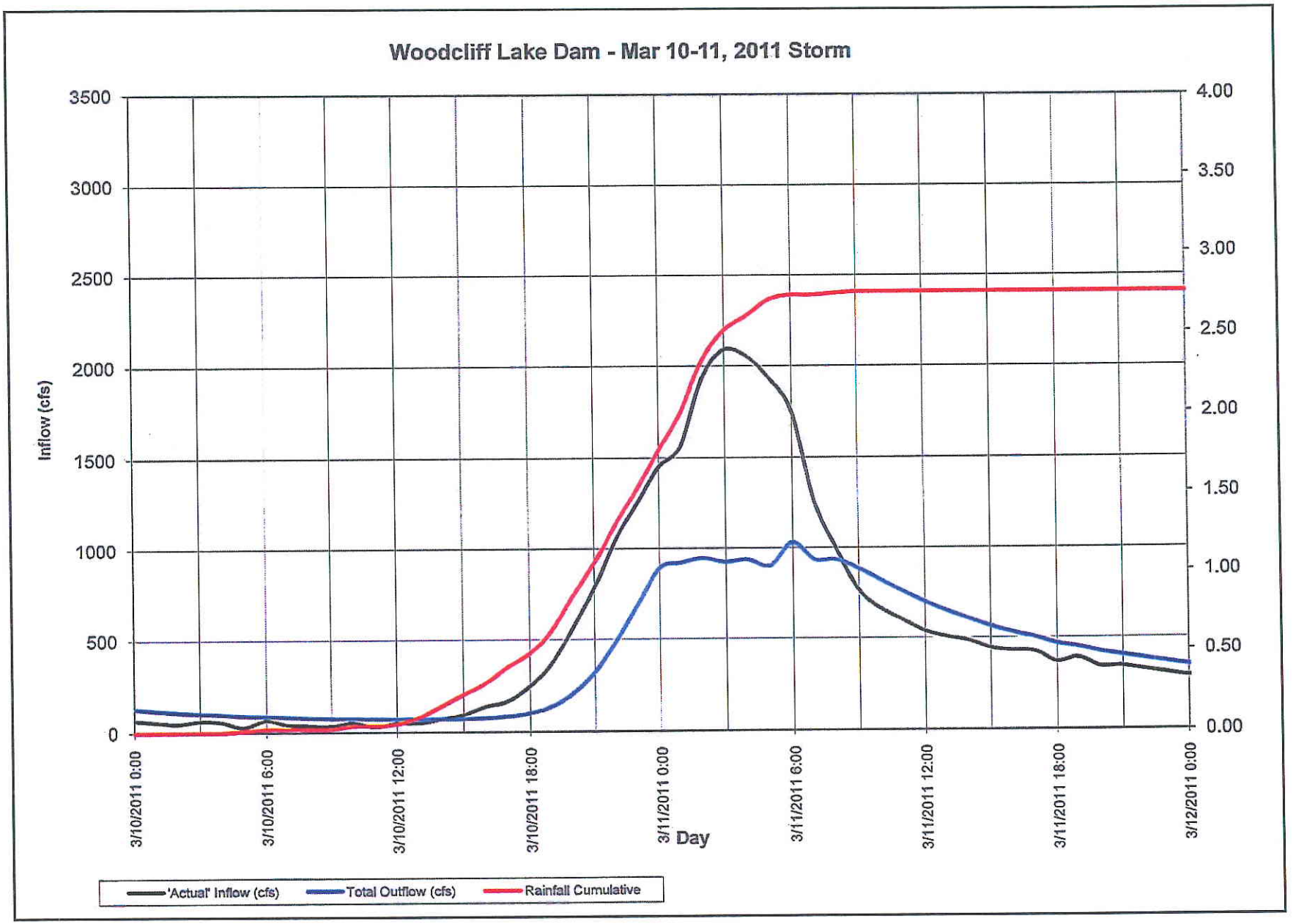


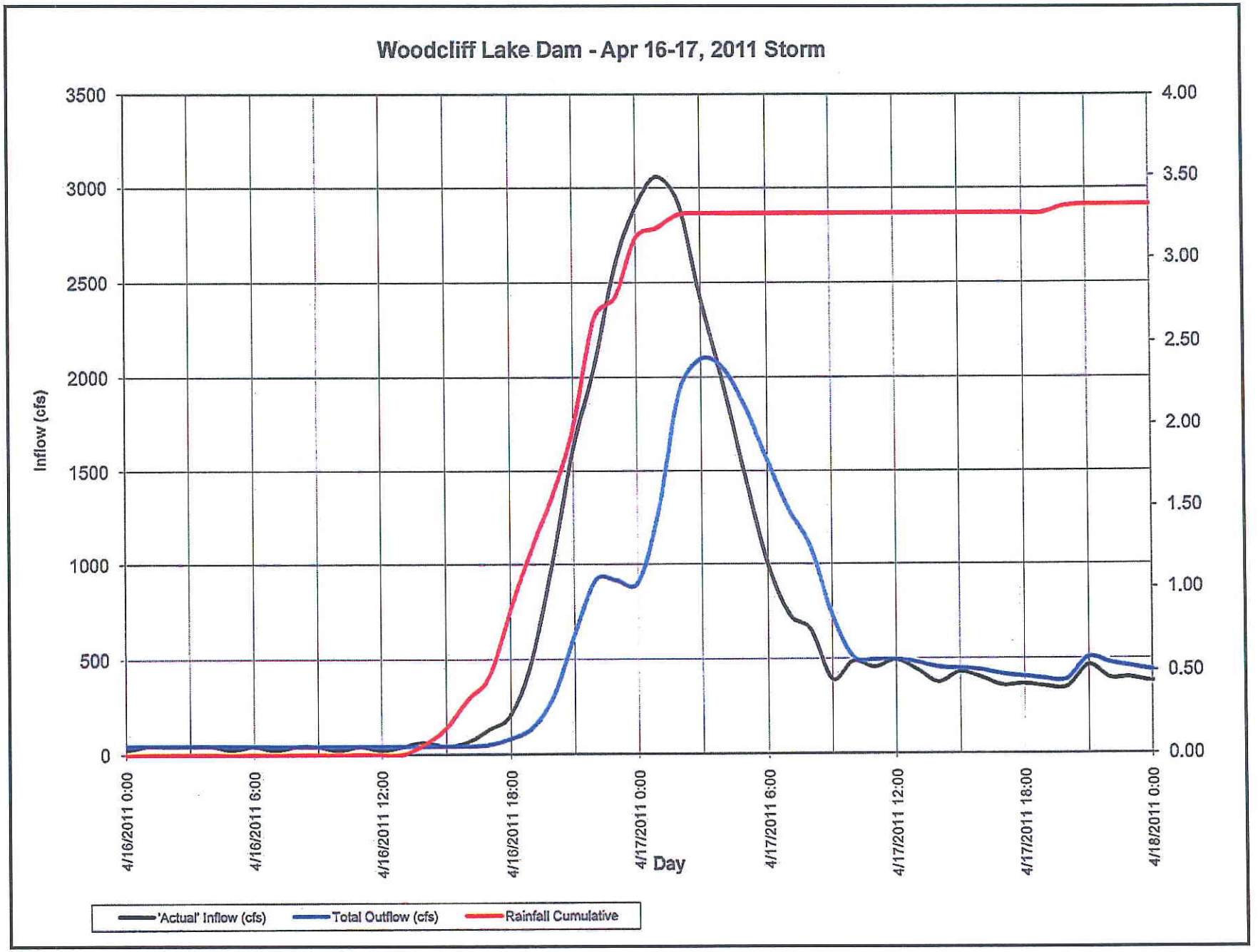
Woodcliff Lake Reservoir

- Created circa 1903 by damming the Pascack Brook
- 871 million US gallons capacity
- 19.4 square mile watershed
- Primary Inflows: Pascack Brook,
  Bear Brook
- Primary Outflow: Pascack Brook

Effects of the Woodcliff Lake Dam


Woodcliff Lake Dam - Mar 6-7, 2011 Storm
Inflow (cfs)
3500
3000
2500
2000
1500
1000
500
0
4
3.5
3
2.5
2
1.5
1
0.5
0
3/6/11 0:00
3/6/11 6:00
3/6/11 12:00
3/6/11 18:00
3/7/11 0:00
3/7/11 6:00
3/7/11 12:00
3/7/11 18:00
3/8/11 0:00
Day
'Actual' Inflow (cfs)
Total Outflow (cfs)
Rainfall Cumulative


Woodcliff Lake Dam - Mar 10-11, 2011 Storm
Inflow (cfs)
3500
3000
2500
2000
1500
1000
500
0
4.00
3.50
3.00
2.50
2.00
1.50
1.00
0.50
0.00
3/10/2011 0:00
3/10/2011 6:00
3/10/2011 12:00
3/10/2011 18:00
3/11/2011 0:00
3/11/2011 6:00
3/11/2011 12:00
3/11/2011 18:00
3/12/2011 0:00
Day
'Actual' Inflow (cfs)
Total Outflow (cfs)
Rainfall Cumulative


Woodcliff Lake Dam - Apr 16-17, 2011 Storm
Inflow (cfs)
3500
3000
2500
2000
1500
1000
500
0
4.00
3.50
3.00
2.50
2.00
1.50
1.00
0.50
0.00
4/16/2011 0:00
4/16/2011 6:00
4/16/2011 12:00
4/16/2011 18:00
4/17/2011 0:00
4/17/2011 6:00
4/17/2011 12:00
4/17/2011 18:00
4/18/2011 0:00
Day
'Actual' Inflow (cfs)
Total Outflow (cfs)
Rainfall Cumulative

Renovations of the Woodcliff Lake Dam

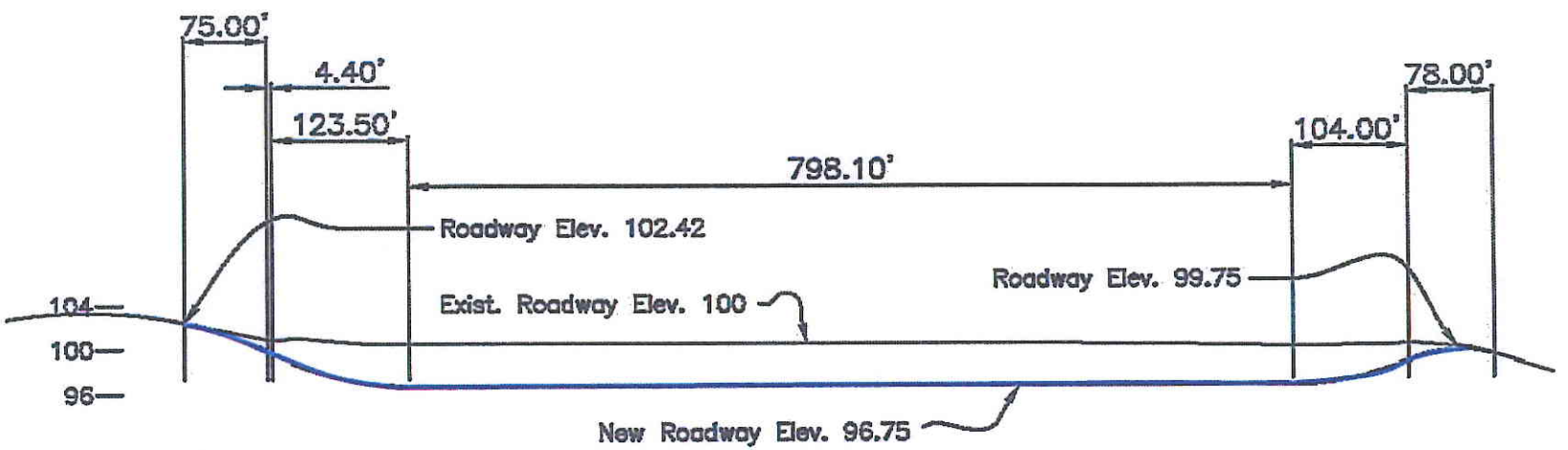
What is the Probable Maximum Flood (PMF)?

In Bergen County,

- 100 yr storm = 8.3 inches rainfall in 24 hrs
  (over the entire drainage area)
  [was 7.5 inches rainfall in 24 hrs]
- 500 yr storm = ~ 10.5 inches of rainfall in 24 hrs
  (over the entire drainage area)
- PMF = 33 inches of rainfall in 24 hours
  over a 10 sq. mile area

PROJECT DESCRIPTION – AUXILIARY SPILLWAY

- **Location**
  - East of Existing Primary Spillway
- **Goals**
  - Provide Additional Spillway Capacity
    - Lowers Peak Reservoir Elevation During PMF
  - Not in Service for Small Storms (≤ 100 Year Storm)
    - Historical Maximum Reservoir Elevation – Elev. 96.4 (TS Floyd)



Topics For Discussion In Modifying Dam Operation

1. Maintenance of the Water Level in the Reservoir in Winter (Oct. 1 – May 1).
2. Optimum Depth of Bascule Overflow.