Stream Flow Measurements

Enough data points were obtained at eleven sites during the 1999 and 2000 seasons to develop stage/discharge curves: Beaver River sites #1, 2, and 4; Green Falls sites #1, 2, and 3; Meadow Brook sites #2 and 3; and Queens River watershed sites #1, 2, and 3. Existing USGS gauging stations at Beaver site #3 and Queens River site #5, and a new station at Queens #4, were used. Beaver River site #5 was not appropriate for flow measurements. Meadow Brook site #1 was often too dry to measure flow.

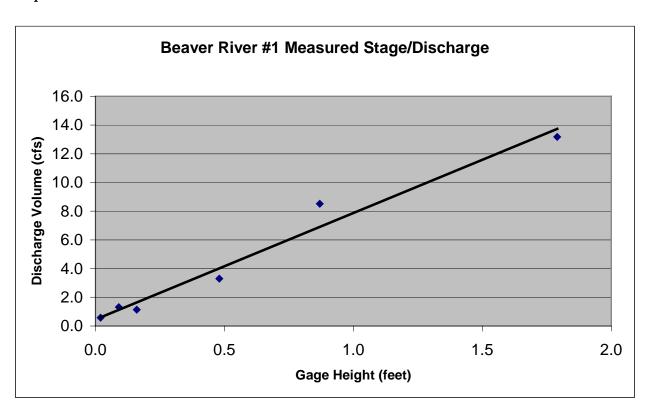
There were not enough data points from the Locustville Pond watershed sites to produce a reliable stage/discharge relationship. Statistical analysis was performed on eight of the sites that had at least seven data points. Only Beaver River #2 did not meet normal standards.

The calculated stage/discharge relationships were then used to develop estimated flow charts, based on the stage height, or the gauge reading, done by the volunteers. These charts showed a seasonal flow with the summer of 1999 having the lowest flows.

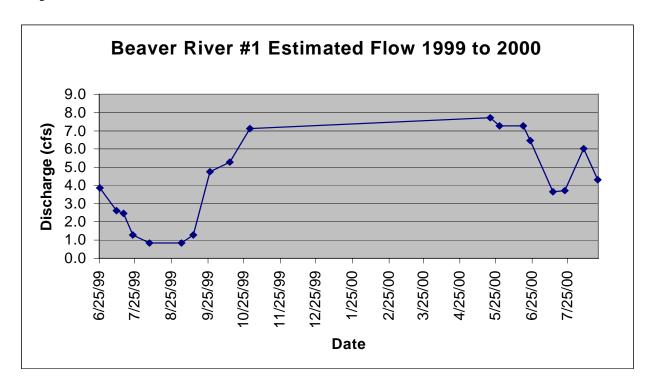
Road projects at some sites resulted in removal of stream gauges, which requires reinstallation and re-calibration of the curve for that site via new flow measurements. Dumping of debris, or placement of obstructions also altered flow, such as the screening put in at Meadow Brook site #1.

Recommendations to improve flow measurements in 2001 include: more frequent site visits throughout the monitoring season and periodically thereafter; more flow measurements at various gauge heights for sites with too few data points to establish a stage/discharge curve; Each site needs to be checked at the beginning of the monitoring season and periodically thereafter. In general, more data points covering the entire range of data will appreciably improve the accuracy and precision of calculated discharge based on gauge headings.

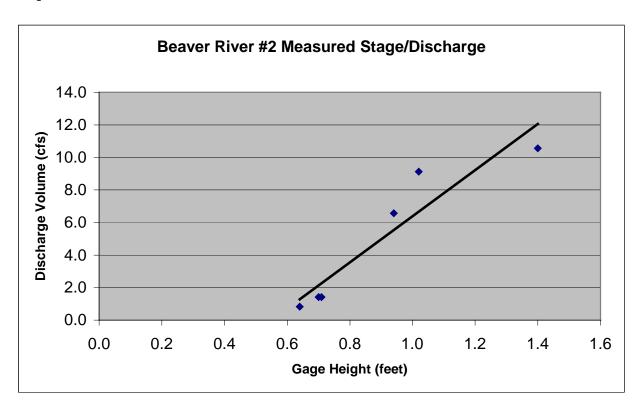
Graph 17. Beaver River #1



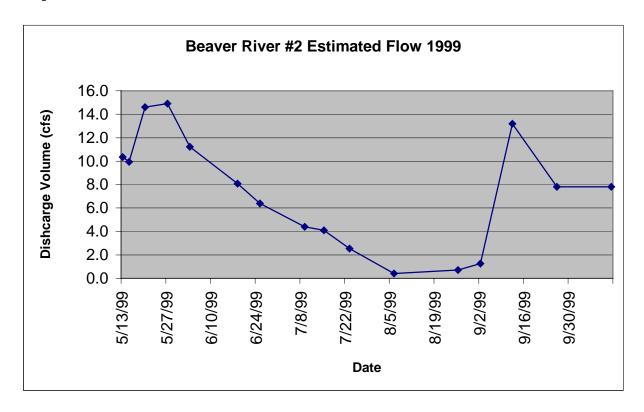
Graph 18. Beaver River #1



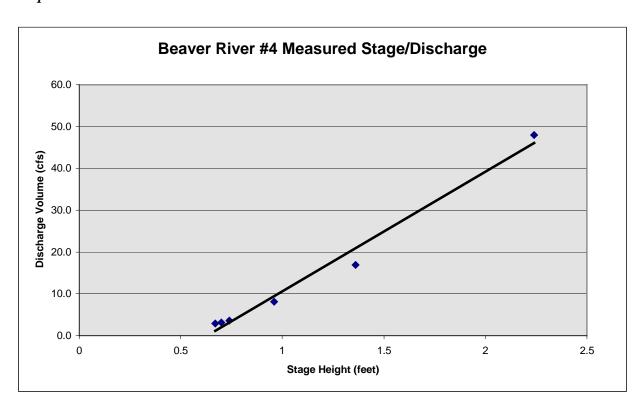
Graph 19. Beaver River #2



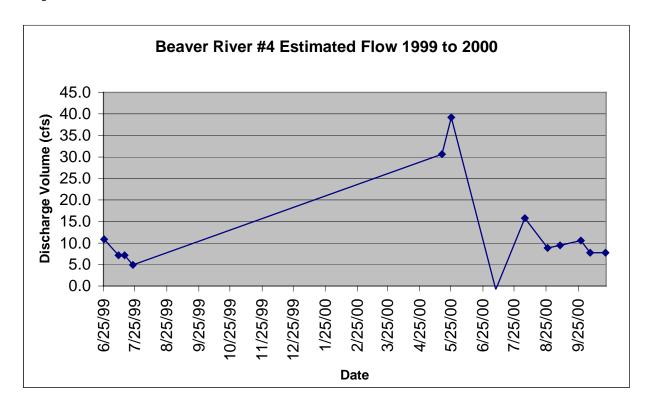
Graph 20. Beaver River #2



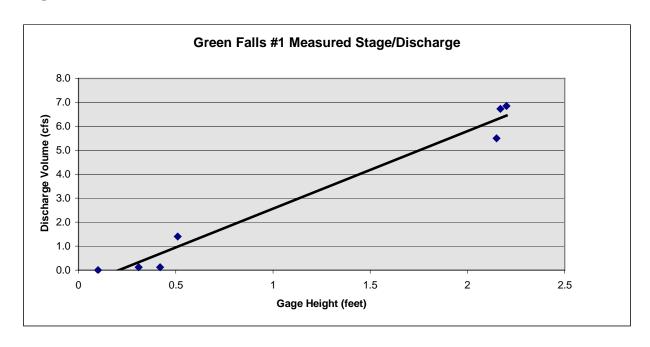
Graph 21. Beaver River #4



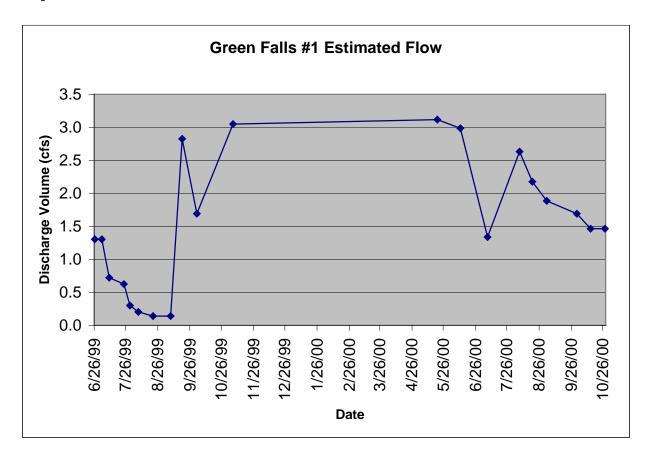
Graph 22. Beaver River #4



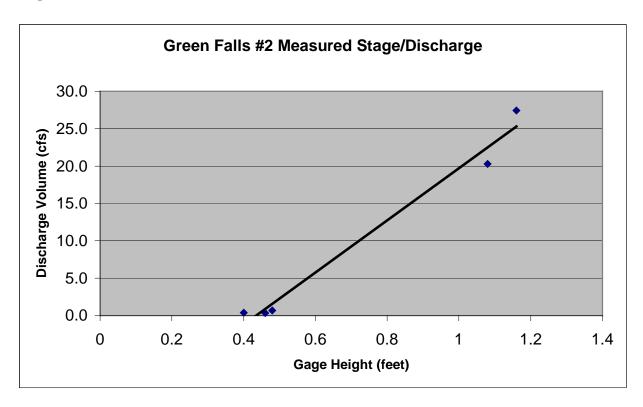
Graph 23. Green Falls River #1



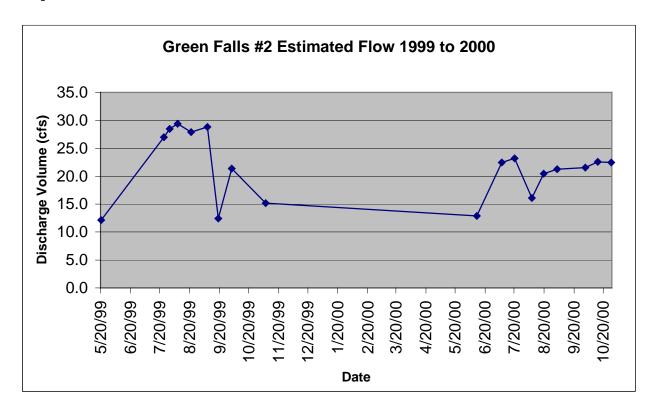
Graph 24. Green Falls River #1



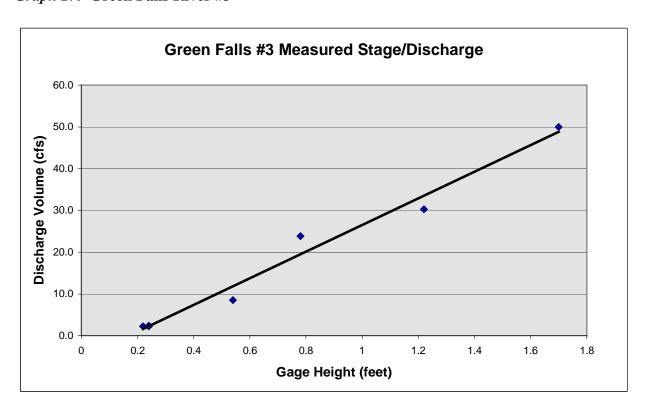
Graph 25. Green Falls River #2



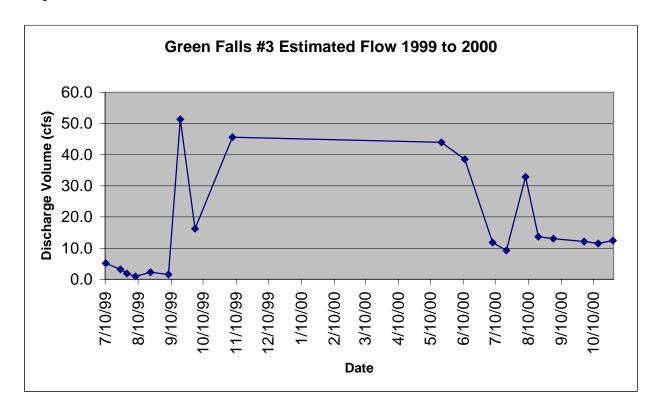
Graph 26. Green Falls River #2



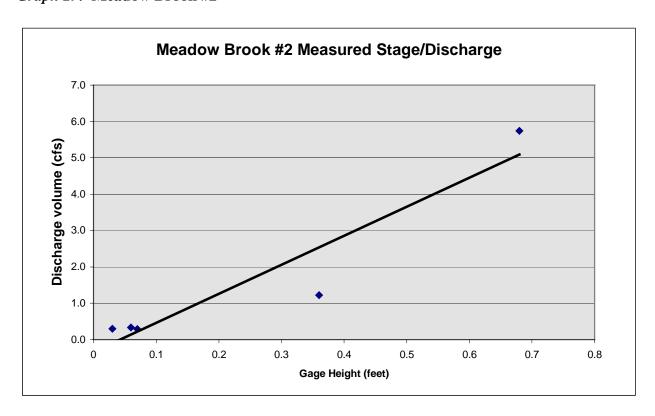
Graph 27. Green Falls River #3



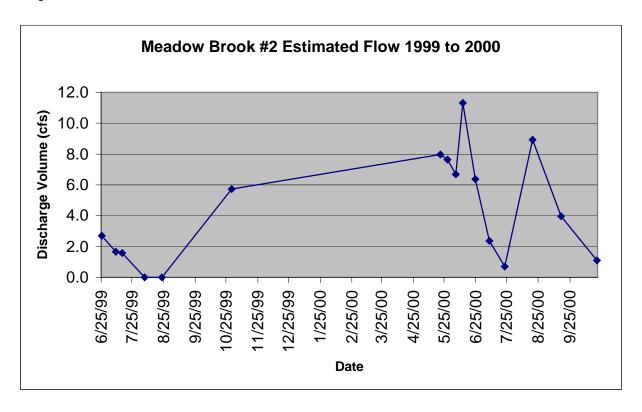
Graph 28. Green Falls River #3



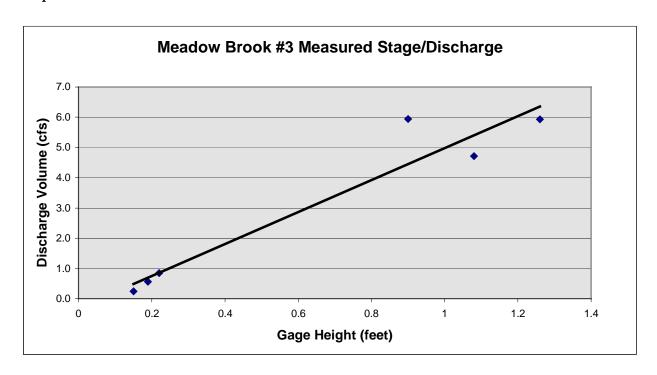
Graph 29. Meadow Brook #2



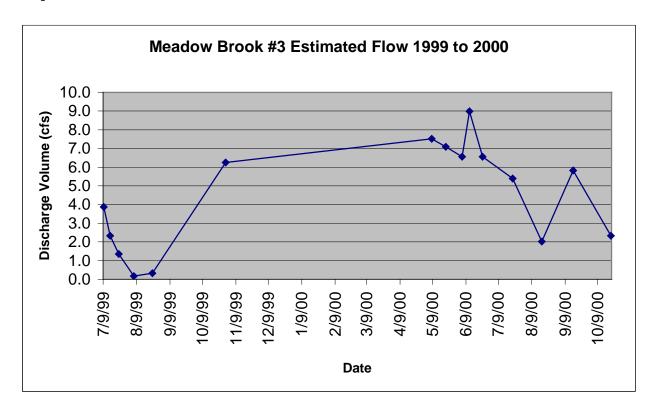
Graph 30. Meadow Brook #2



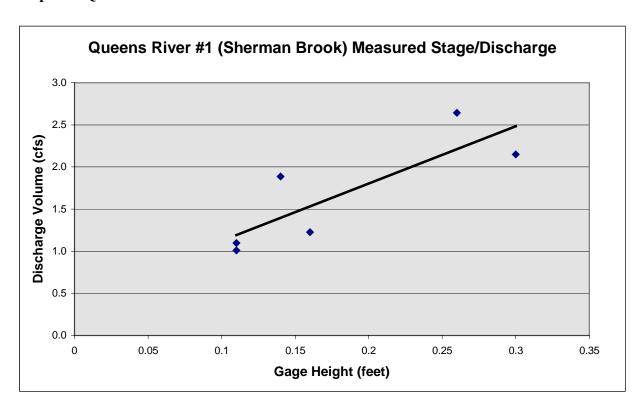
Graph 31. Meadow Brook #3



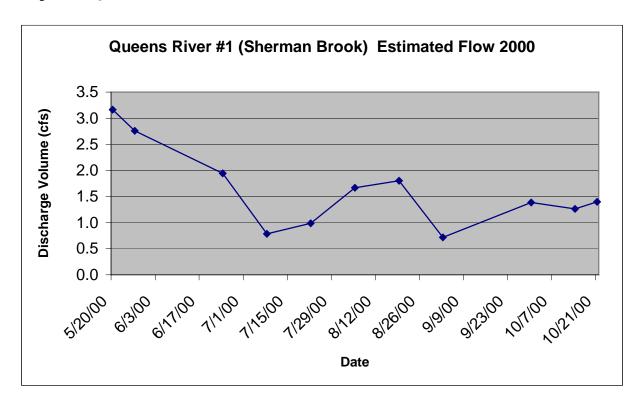
Graph 32. Meadow Brook #3



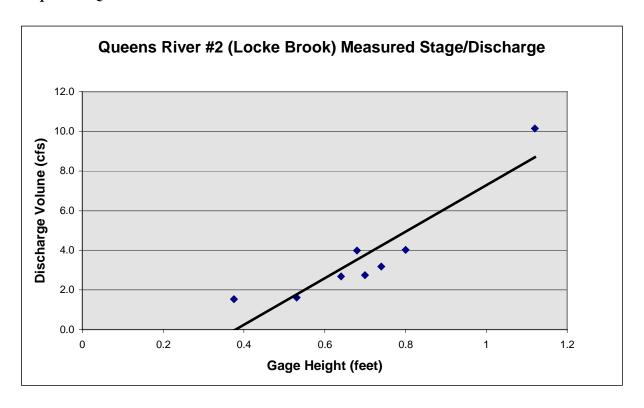
Graph 33. Queens River #1



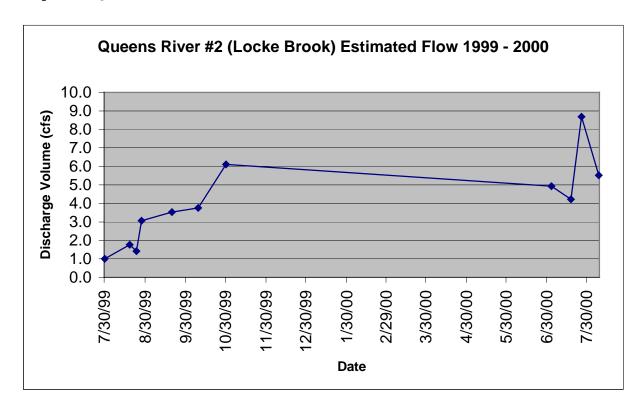
Graph 34. Queens River #1



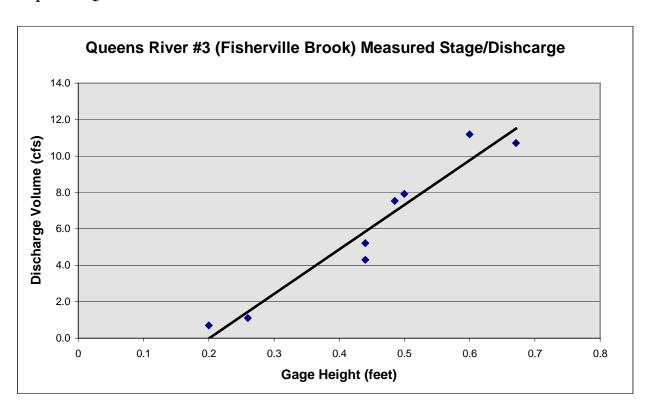
Graph 35. Queens River #2



Graph 36. Queens River #2



Graph 37. Queens River #3



Graph 38. Queens River #3

