



# Suspended Sediment and Turbidity in the Esopus Creek Watershed

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## Objectives

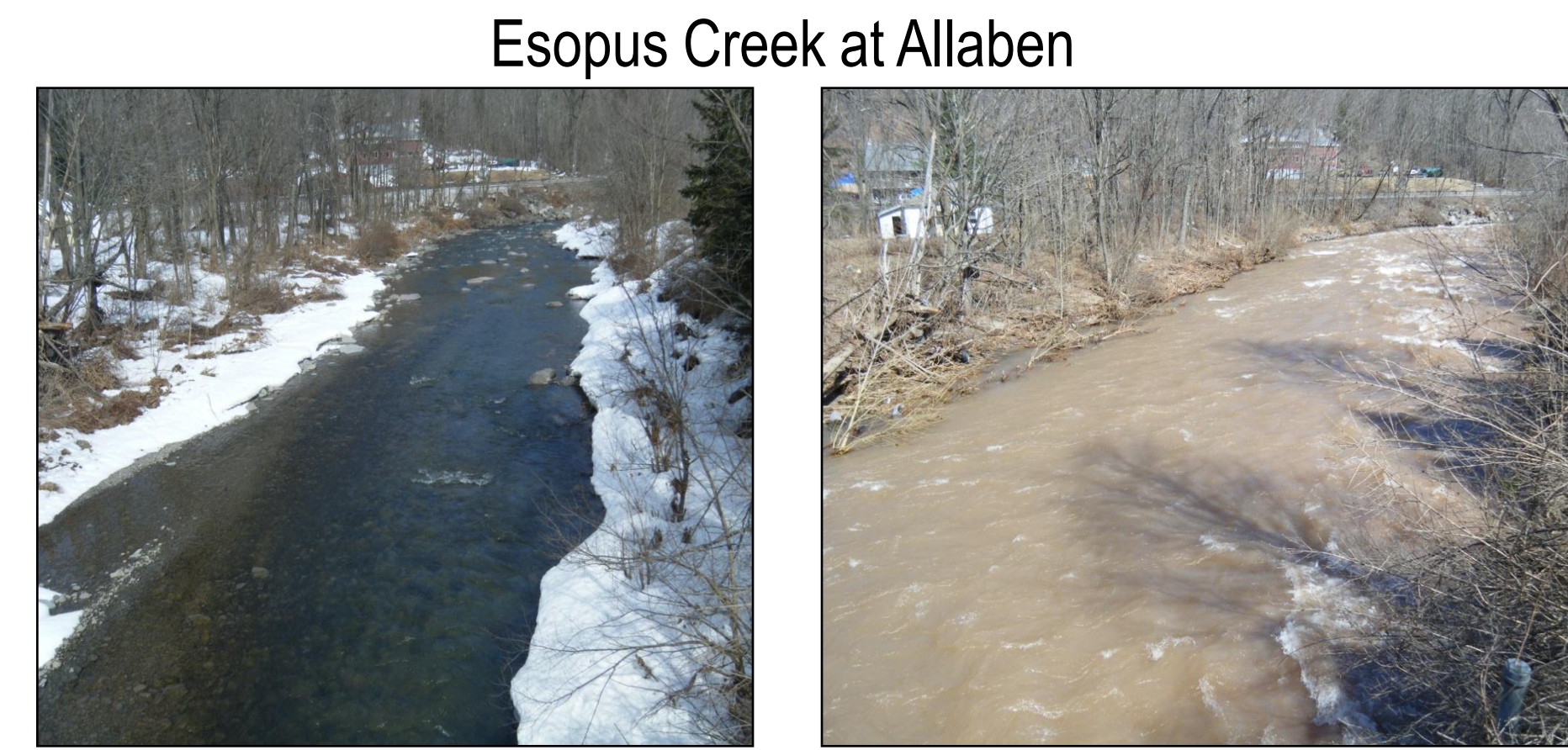
- Quantify the amount of suspended sediment and turbidity each monitored tributary contributes to Upper Esopus Creek.
- Determine when the highest suspended sediment and turbidity levels are observed.
- Examine longitudinal trends in suspended sediment and turbidity in Upper Esopus Creek.

## Methods

- Suspended sediment concentration (SSC) and turbidity was measured at 4 main-stem and 9 tributary sites.

## Preliminary Results

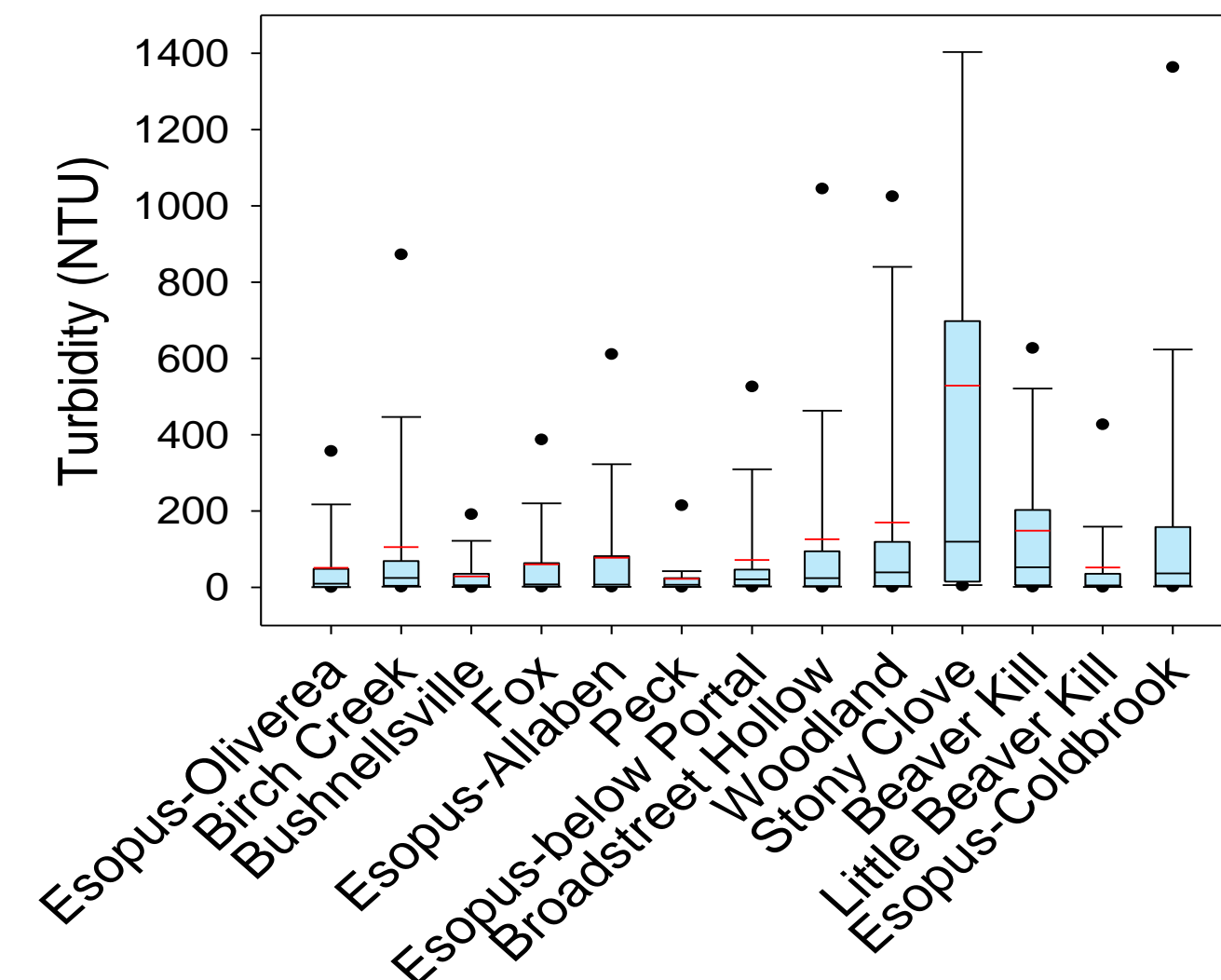
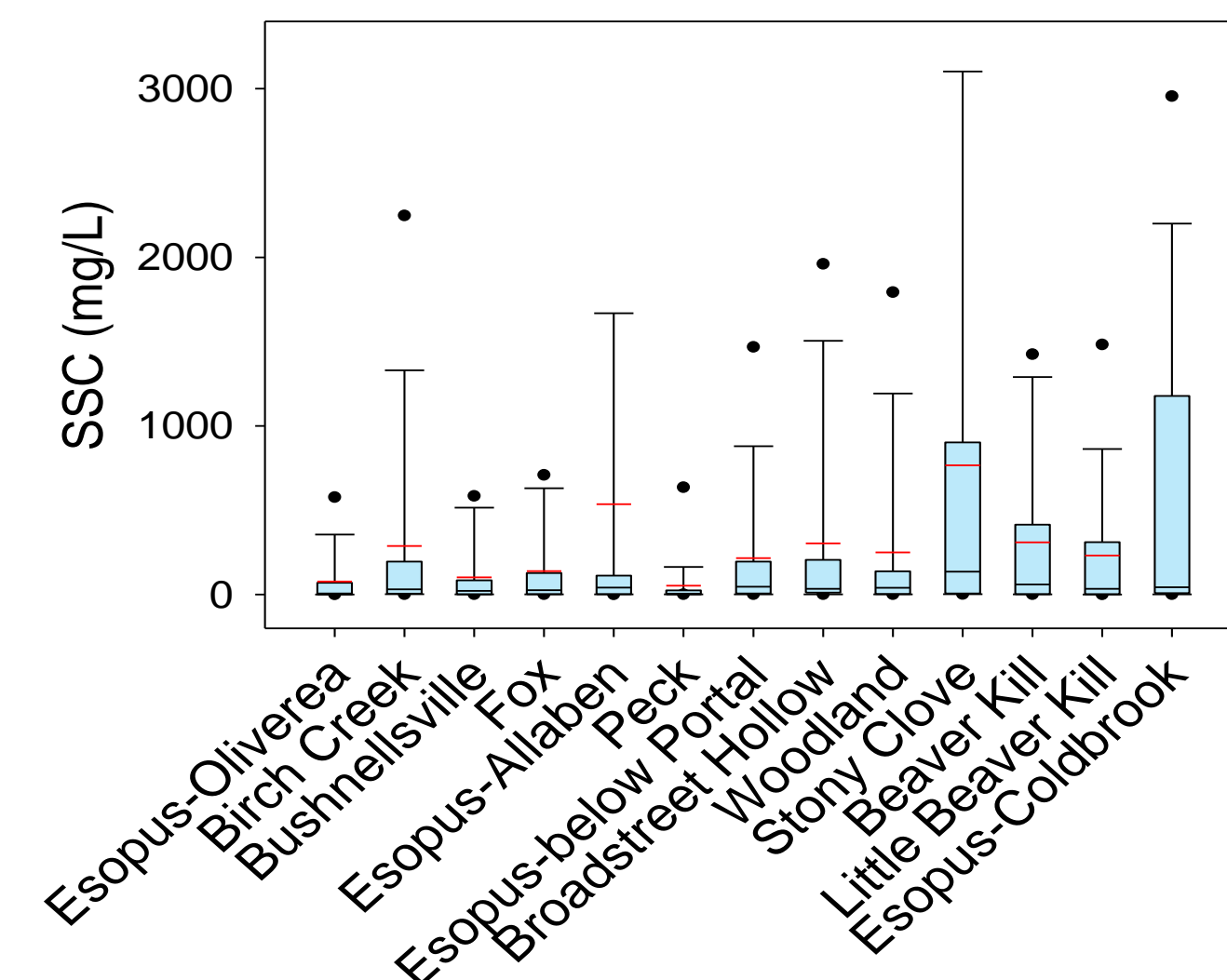
- High suspended sediment and turbidity are associated with storm runoff.



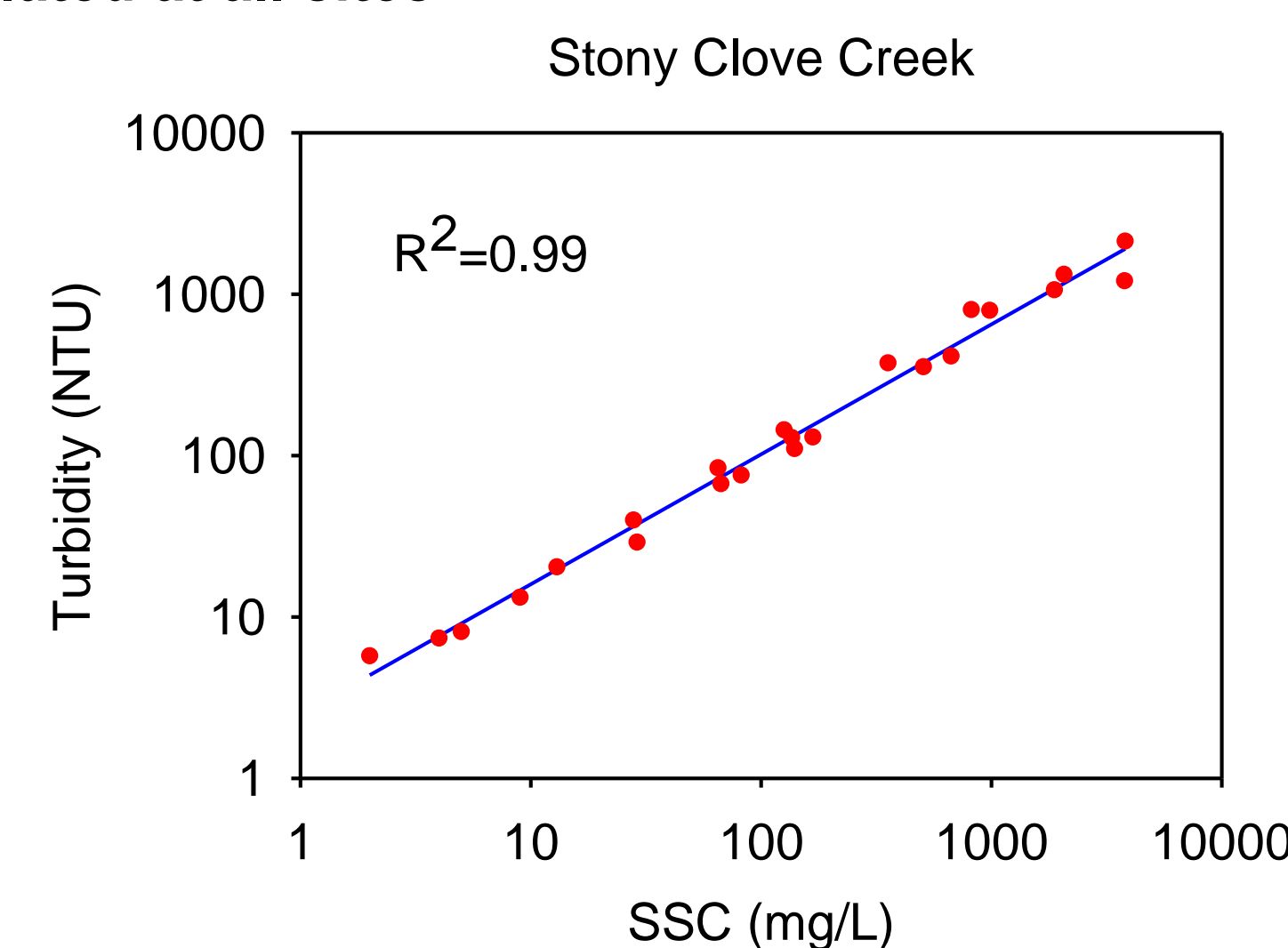
Low flow

High flow

- Most suspended sediment and turbidity in Esopus Creek comes from a few tributaries and the Shandaken portal.

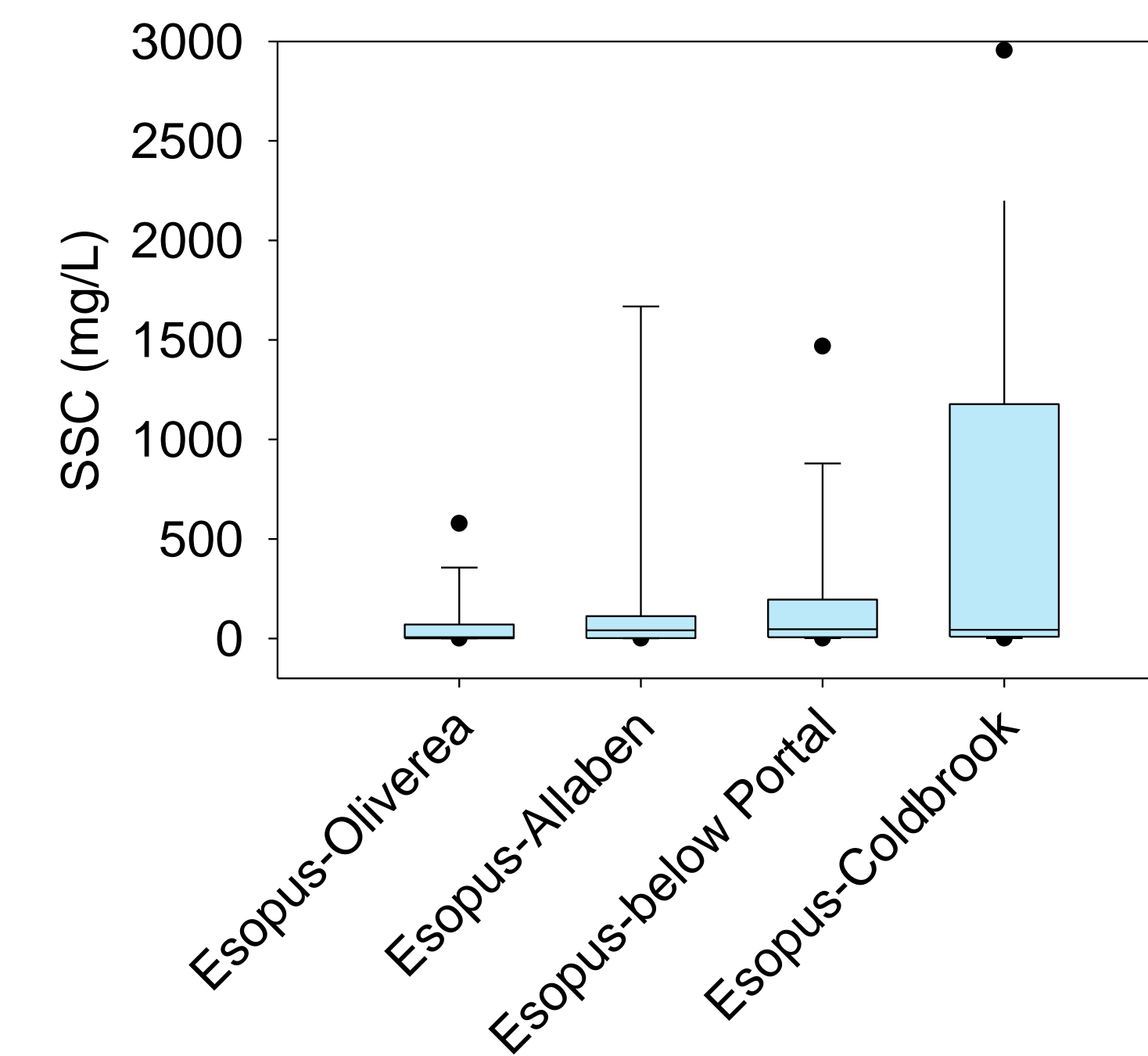


- Suspended sediment concentration and turbidity were correlated at all sites.



## Preliminary Results

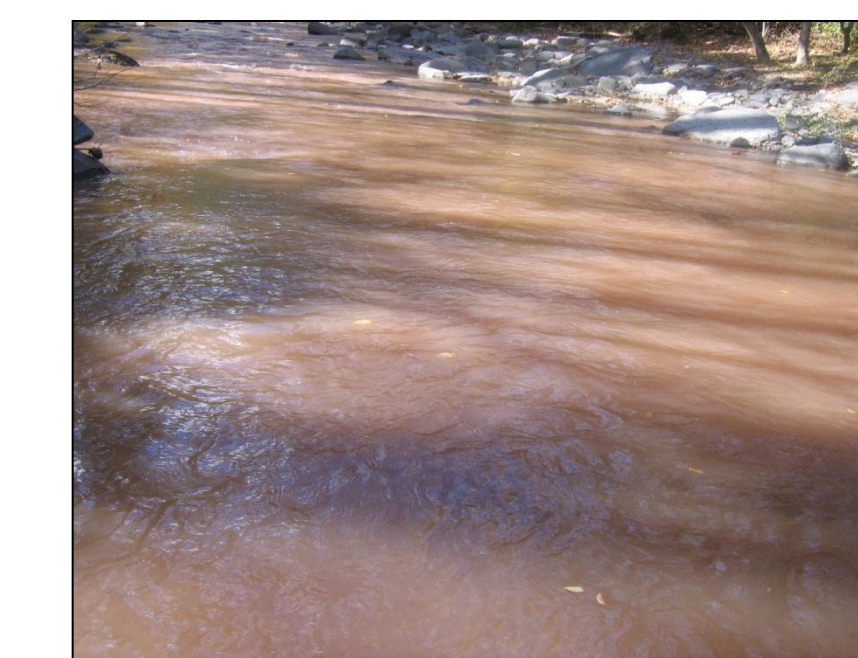
- Most suspended sediment is contributed downstream of the portal.



- Some tributaries remain slightly turbid during baseflow.

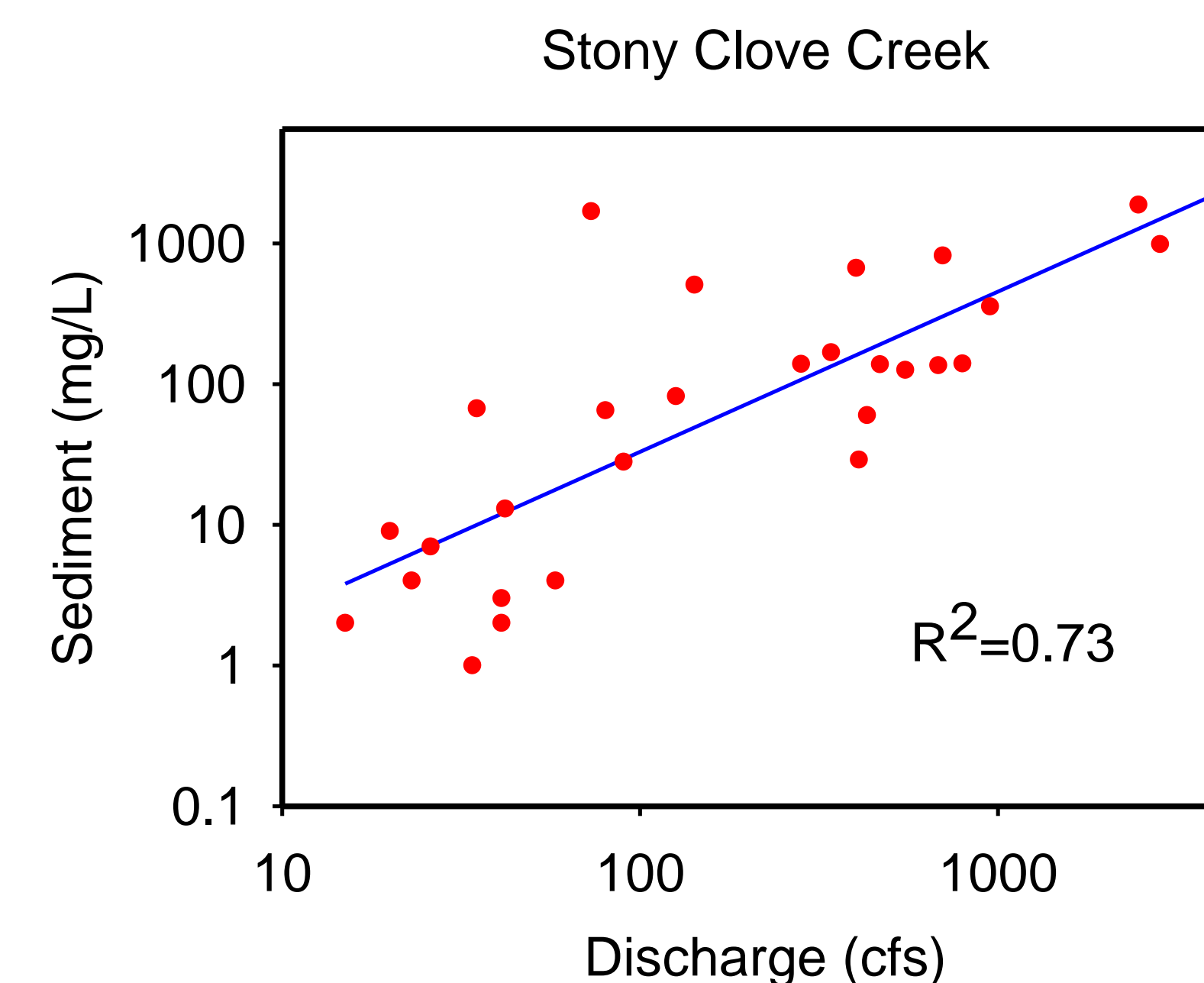


Stony Clove Creek



Broad St. Hollow

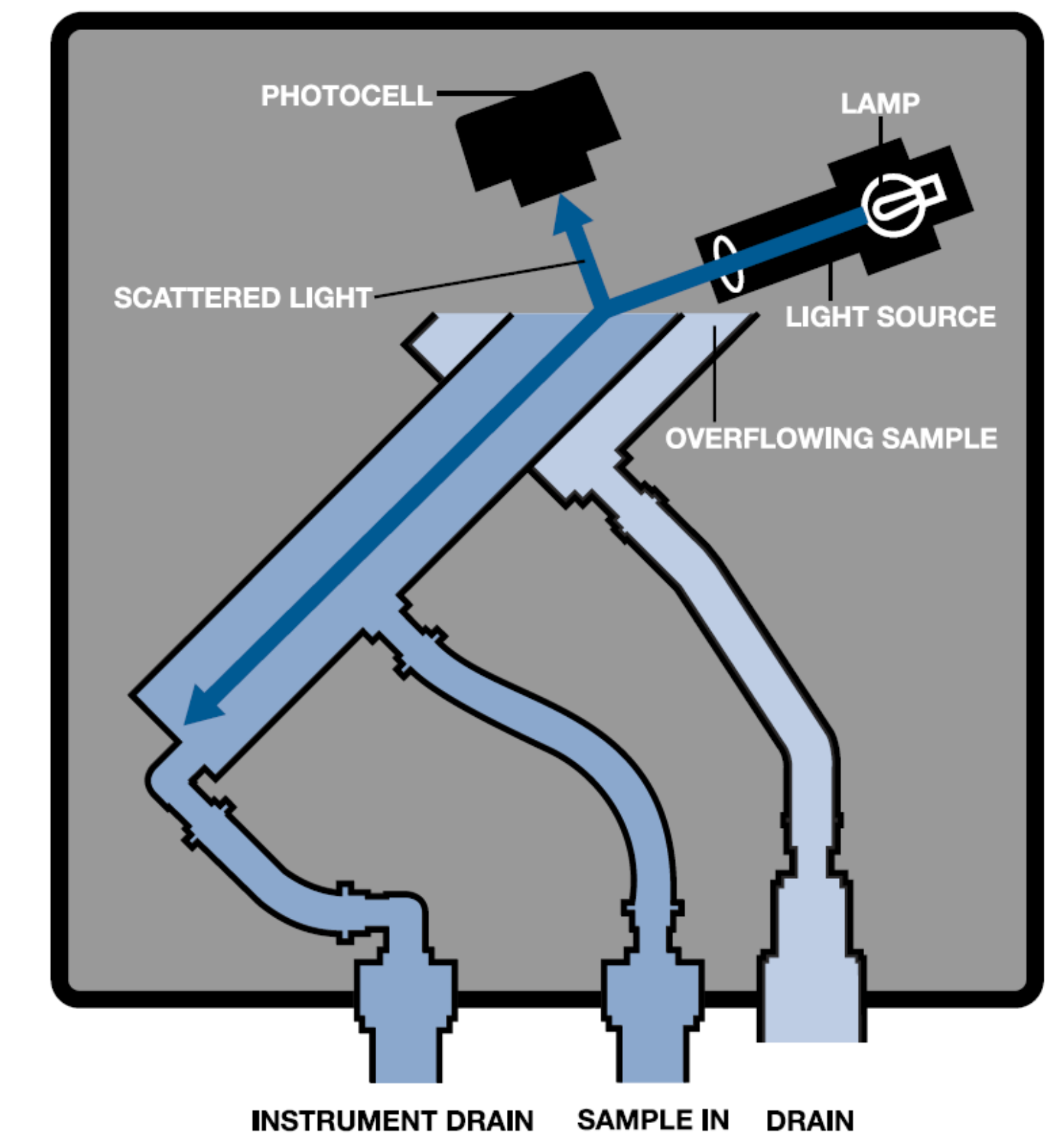
- Suspended sediment concentration and streamflow were correlated at all sites.



## Future Plans

- Continue sediment sampling at 13 study sites for one additional year and for 3 additional years at all 5 USGS gaging stations upstream of the Ashokan Reservoir.
- Use loads to quantify the total amount of suspended sediment that flows past each site.
- Begin continuous turbidity monitoring at most study sites. Turbidity will be measured using either:

- Hach surface scatter 7 turbidimeter



- DTS-12 turbidity probe



We will establish comparability between the two measurement types using turbidity standards and by co-locating probes at the Stony Clove site.

## Acknowledgements

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## Stony Clove Creek

