



The Next Step: Eno River Demonstration Project

NC Ecological Flows Science Advisory Board

Eno River State Park Ecological Flow Study

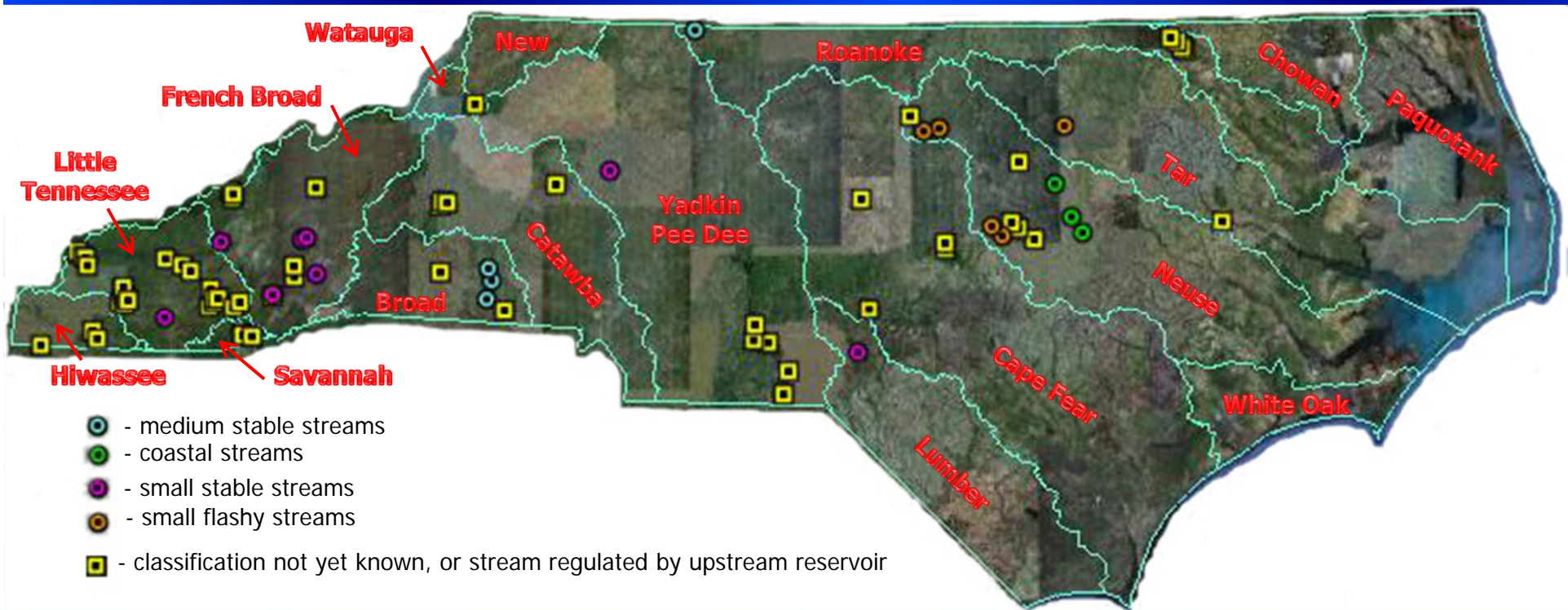
- **Data collected 7/1986 – 6/1988 at flows ranging from 1.9 to 234 cfs**
- **Existing model of physical/ hydraulic conditions will be used**
- **Habitat suitability indices will be updated with additional aquatic species and guilds**

Eno River State Park Ecological Flow Study

- Various flow management alternatives will be evaluated for habitat effects.
- A second Eno River study site farther upstream at Hillsborough will also be evaluated using a similar approach.
- If this approach proves workable, there are other existing flow vs. habitat study sites on other types of streams that could also be analyzed.

Aquatic Habitat vs. Flow Studies

Existing Study Sites in NC



Note: classifications are based on NC hydrologic stream classification system

Eno River State Park

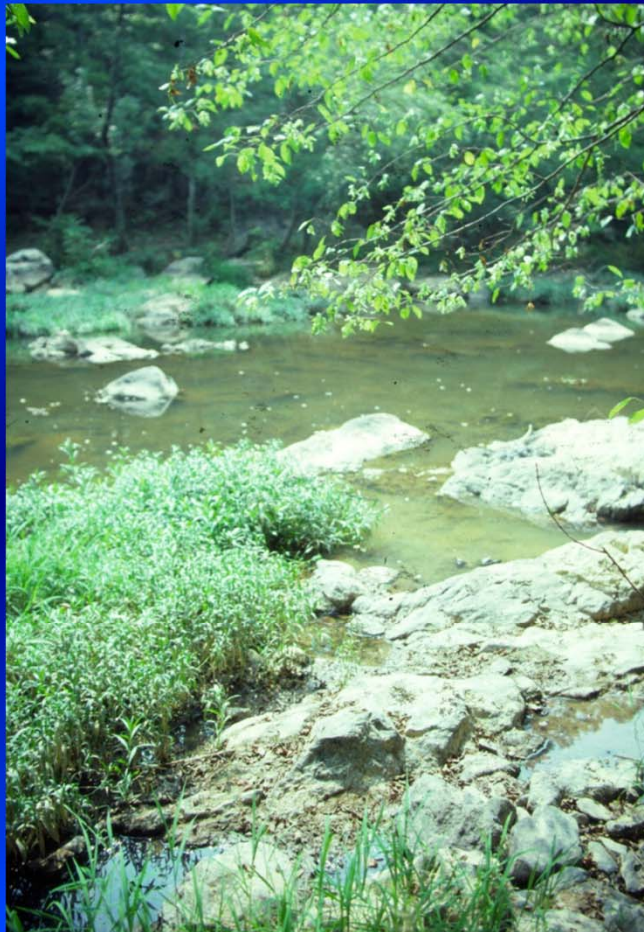
Ecological Flow Study - Site Characteristics

- **Drainage Area = 99.4 square miles**
- **Mean Annual Flow ~ 86.4 cfs**
- **7Q10 ~ 2.6 cfs**
- **September median flow ~ 11.2 cfs**
- **Wetted perimeter method**

flow recommendation = 19.4 cfs

- *Note: All photos in the following slides are taken from the left bank as you face upstream*

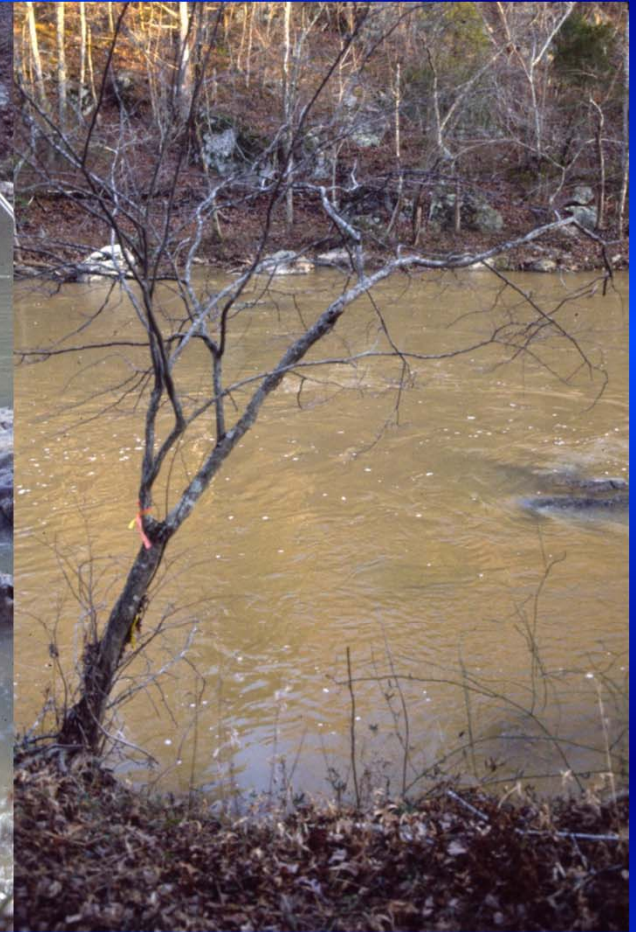
Eno River State Park Ecological Flow Study Transect #1, Shallow Run



2 cfs

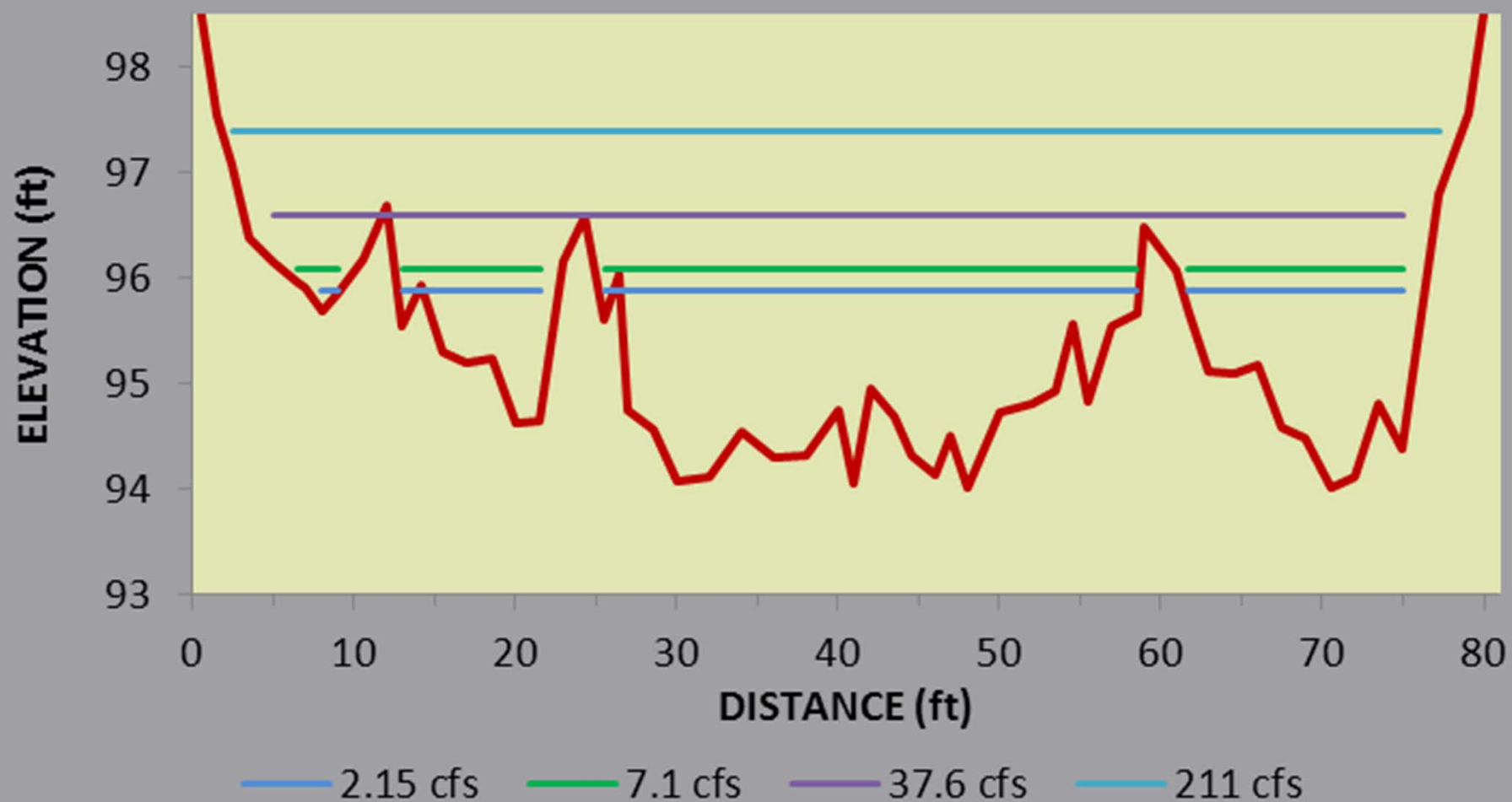


38 cfs



215 cfs

Transect #1 - shallow run (11.8%)





2 cfs

**Transect
#2, Run**

5 cfs



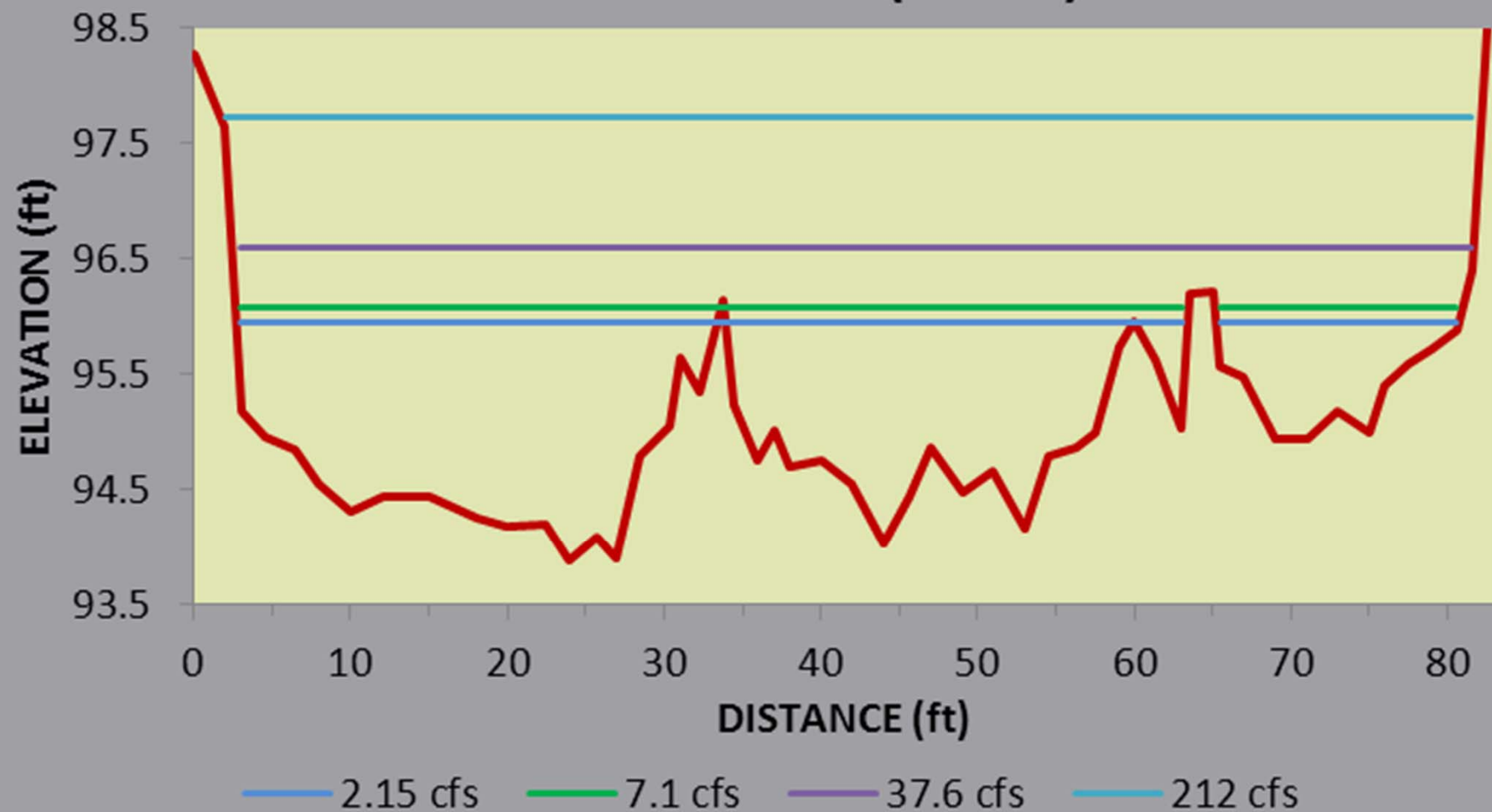
215 cfs



38 cfs



Transect #2 - run (11.4%)



Eno River State Park Ecological Flow Study

Transect #3, Riffle



2 cfs

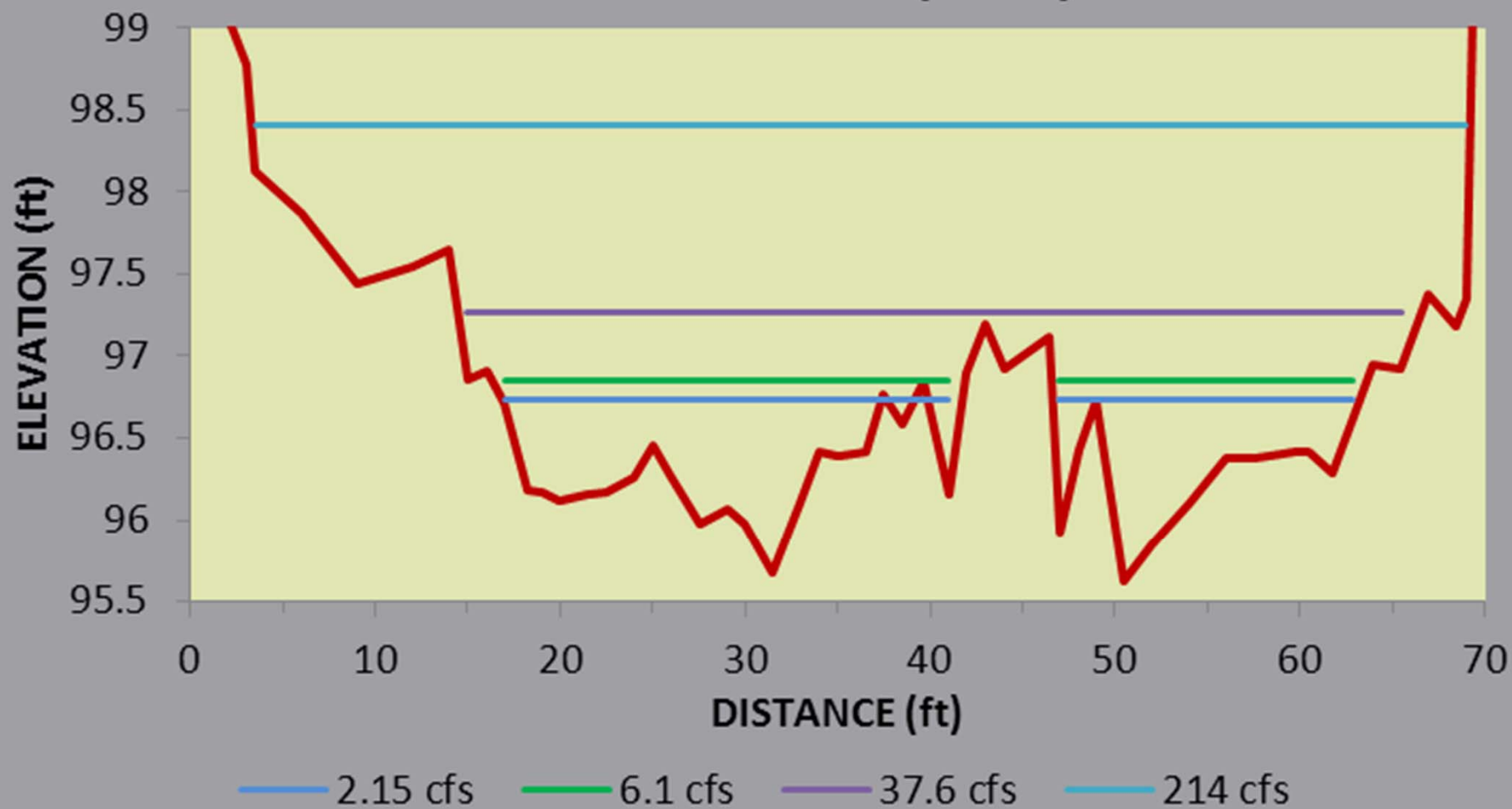


5 cfs



38 cfs

Transect #3 - riffle (2.2%)



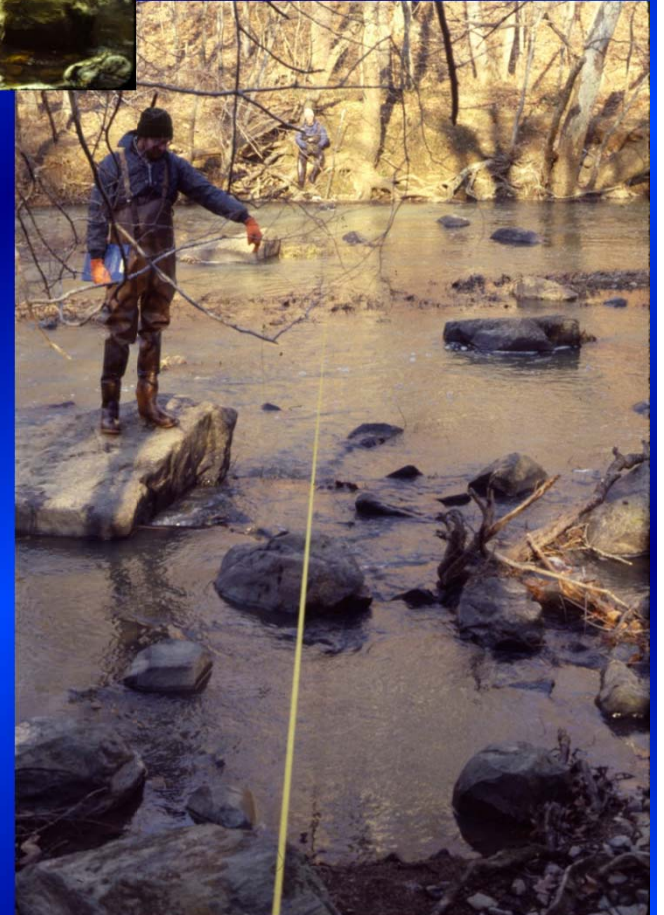
2 cfs



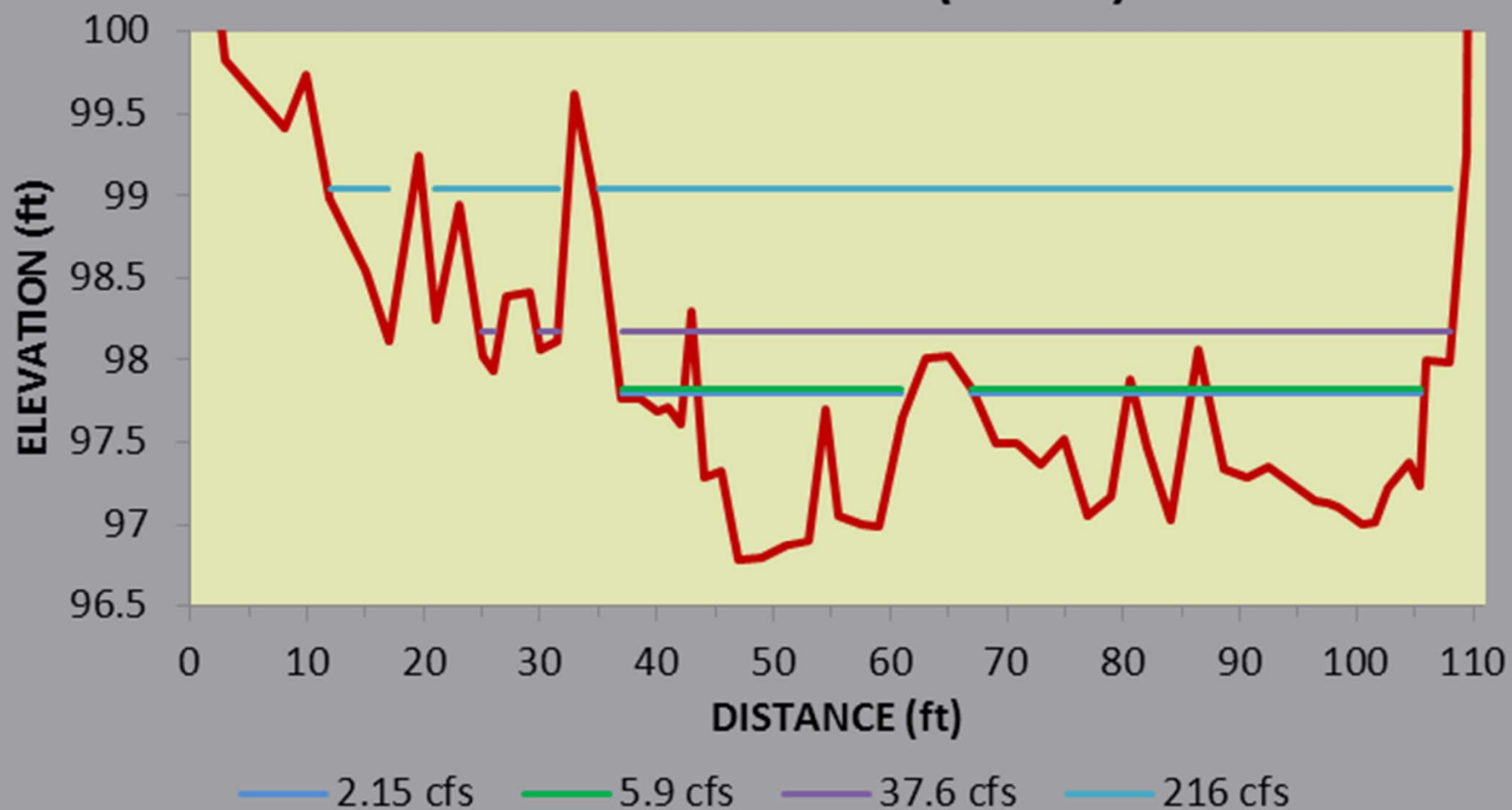
38 cfs

5 cfs

**Transect #4,
Braided**



Transect #4 - braided (16.9%)

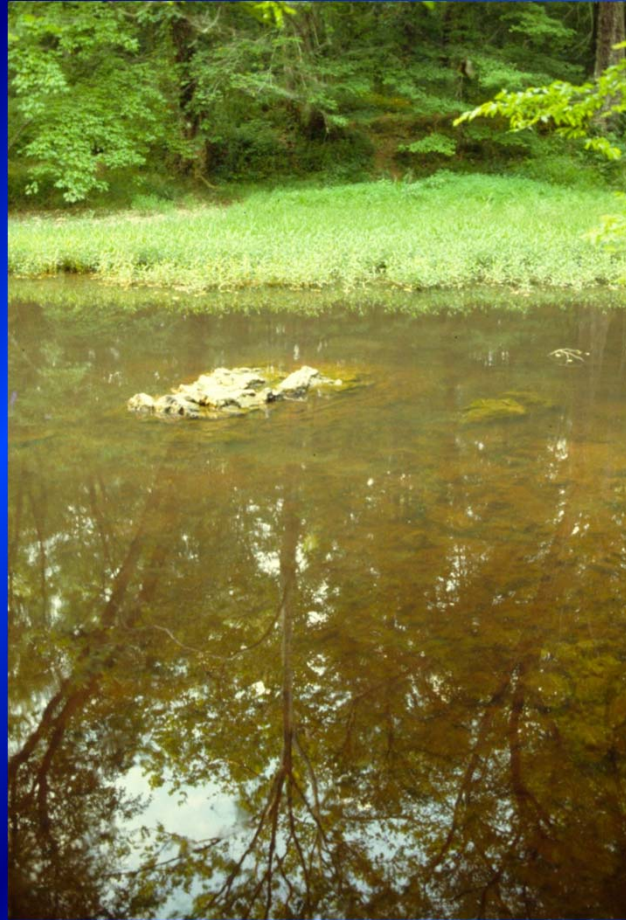


Eno River State Park Ecological Flow Study

Transect #5, Marginal Bars



2 cfs

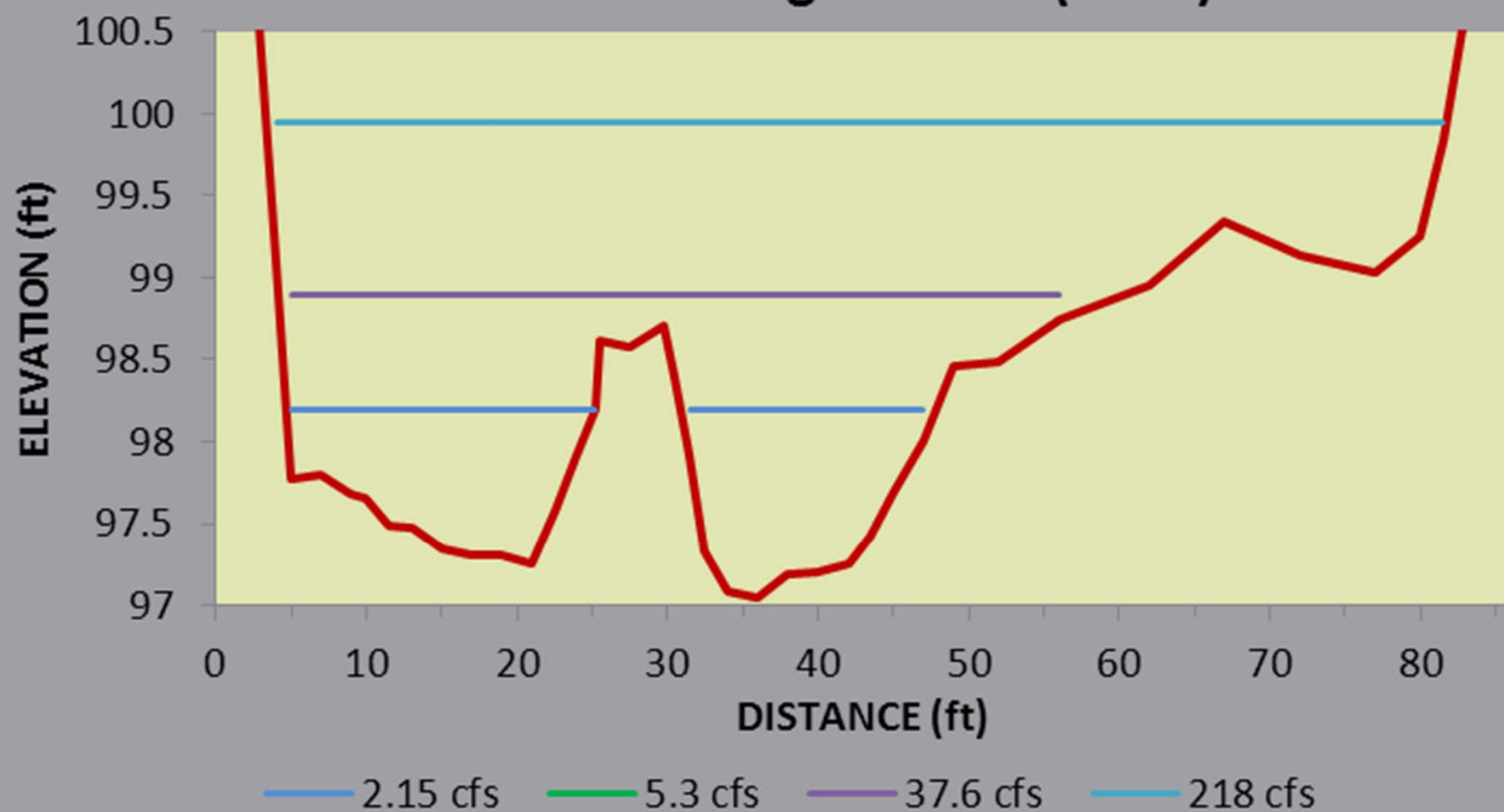


5 cfs



38 cfs

Transect #5 - marginal bars (5.9%)



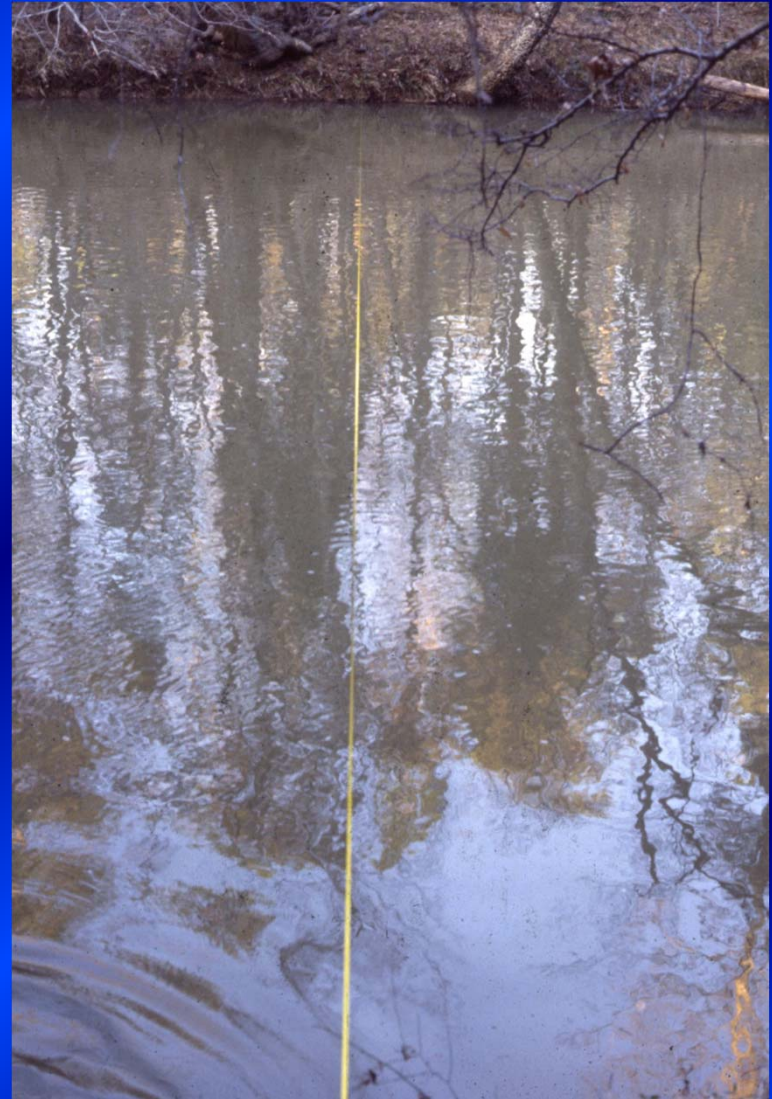
Eno River State Park Ecological Flow Study

Transect #6, Shallow Pool

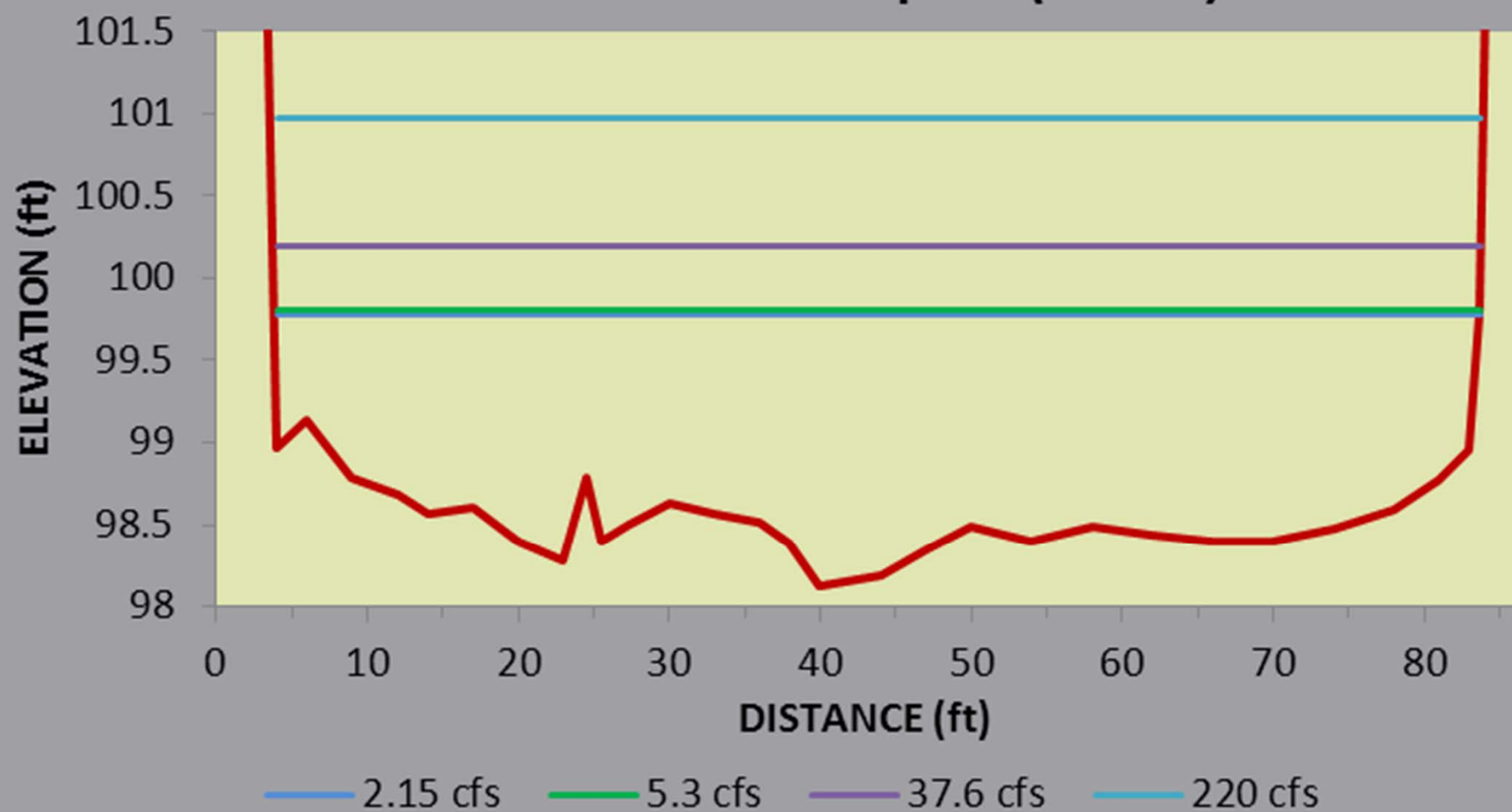
2 cfs



38 cfs



Transect #6 - shallow pool (18.1%)



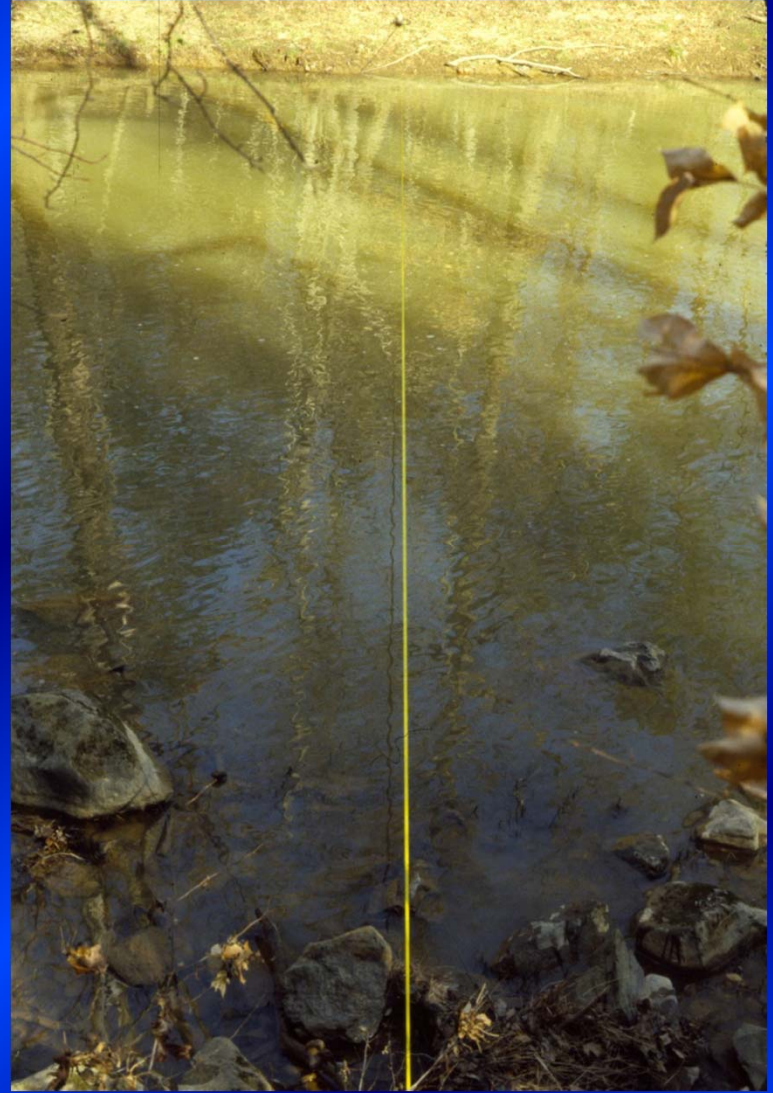
Eno River State Park Ecological Flow Study

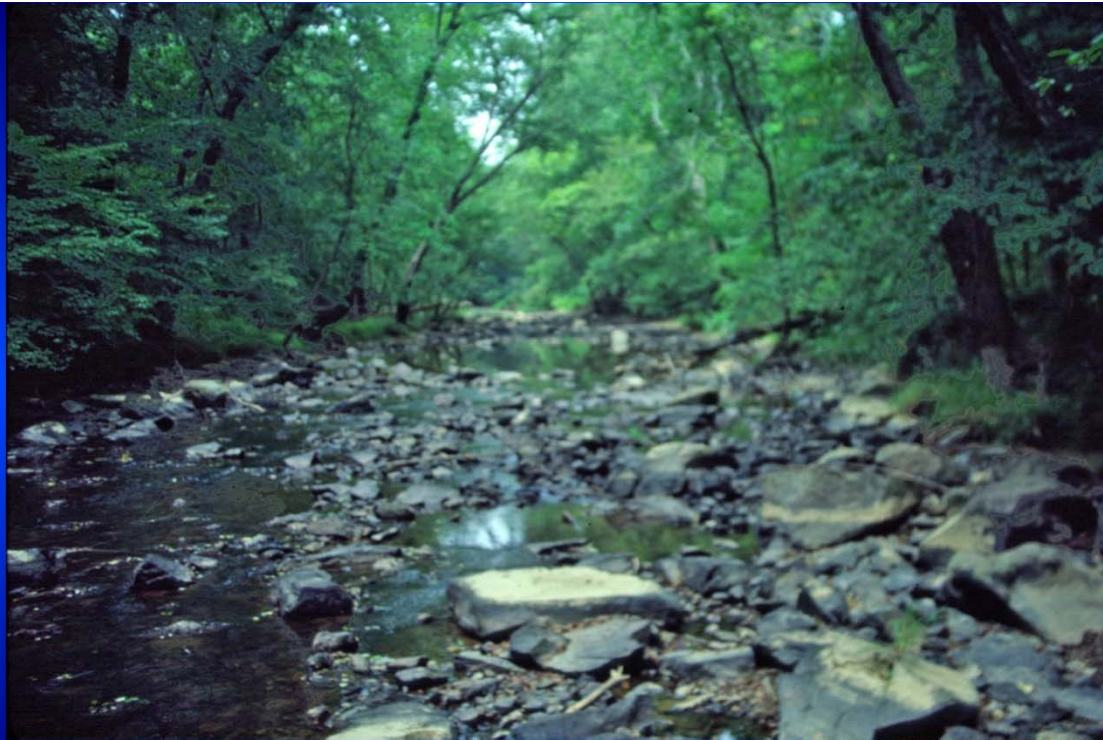
Transect #7, Shallow Pool

2 cfs



31 cfs

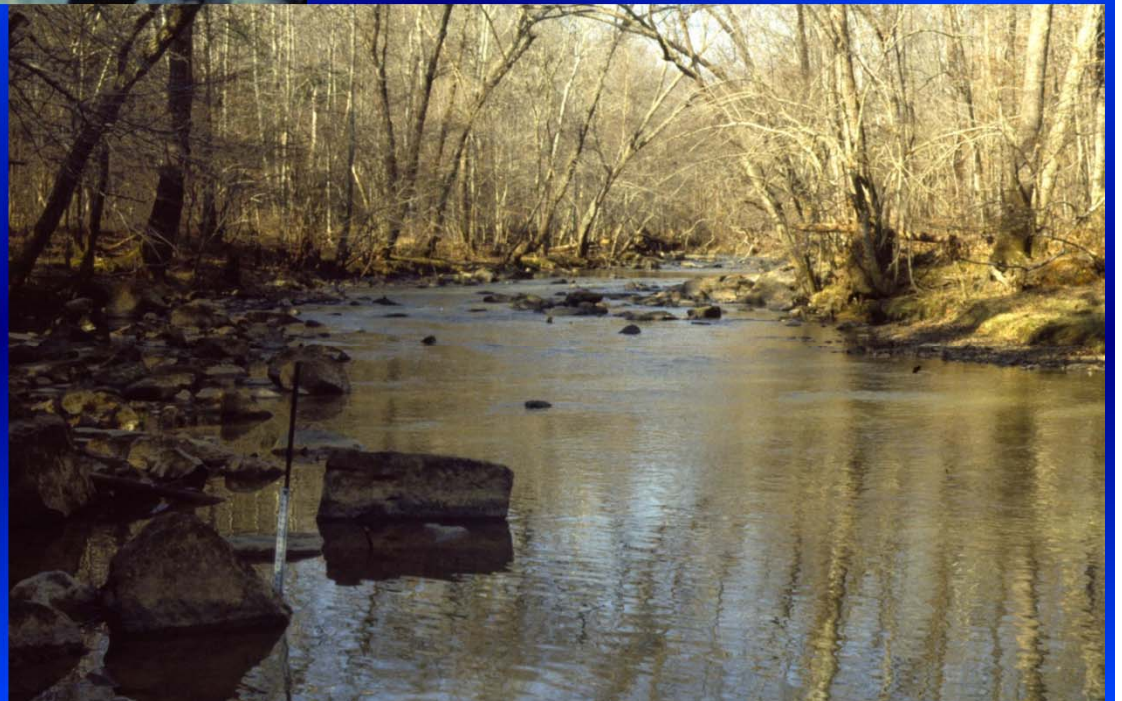




31 cfs

2 cfs

**Looking
upstream
from Transect
#7**

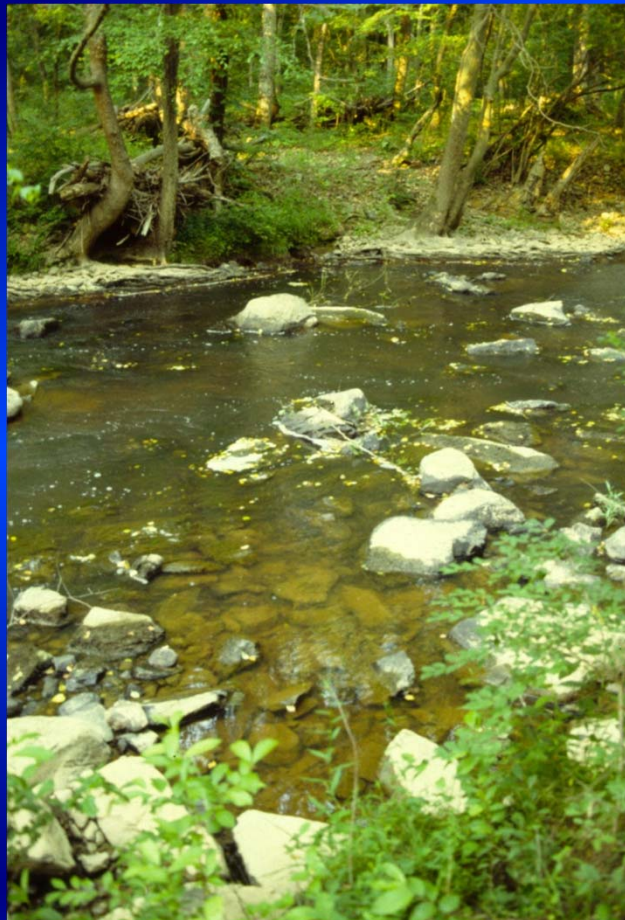


Eno River State Park Ecological Flow Study

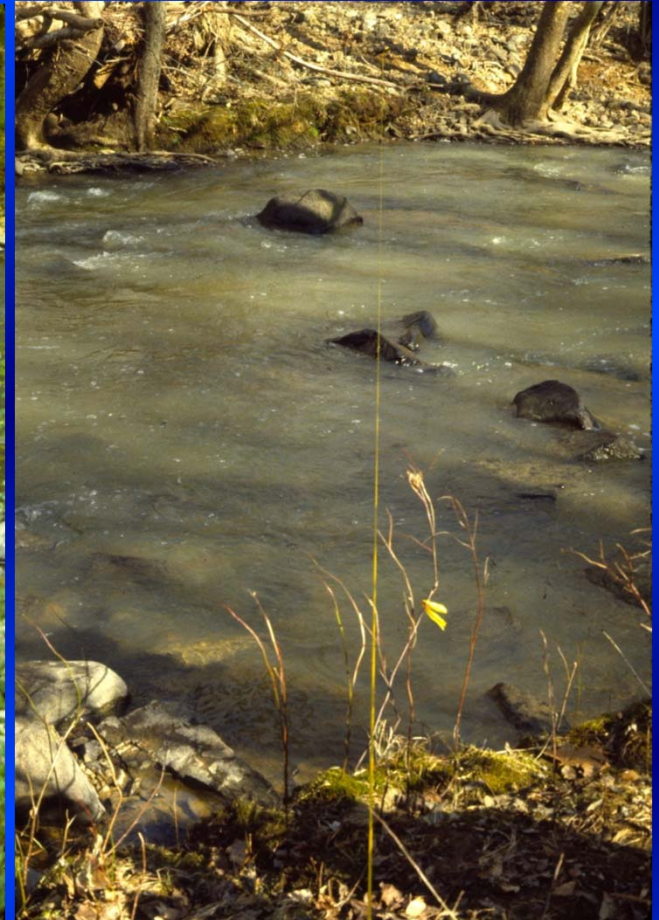
Transect #8, Run/Riffle



2 cfs

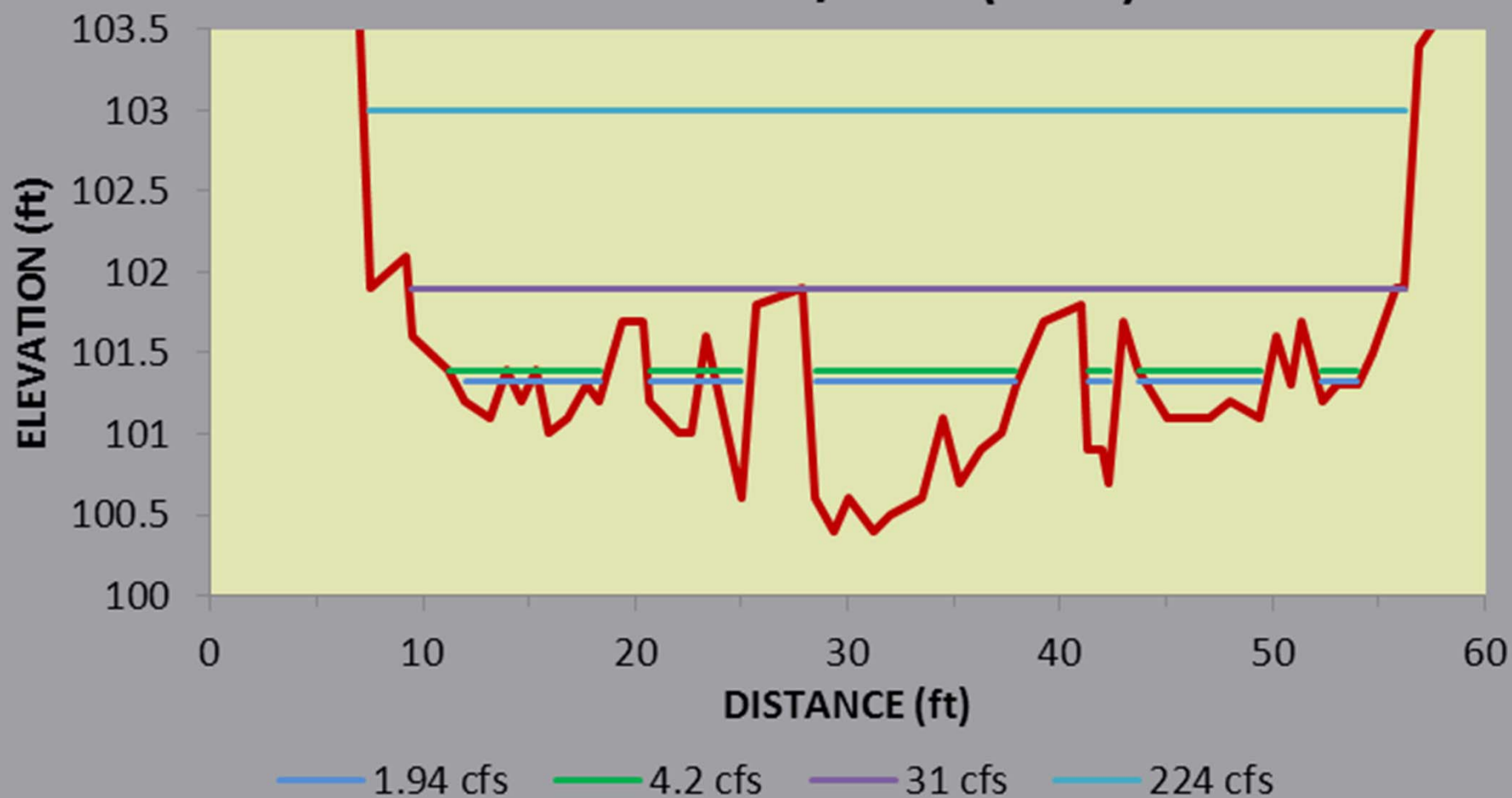


5 cfs



31 cfs

Transect #8 - run/riffle (8.7%)



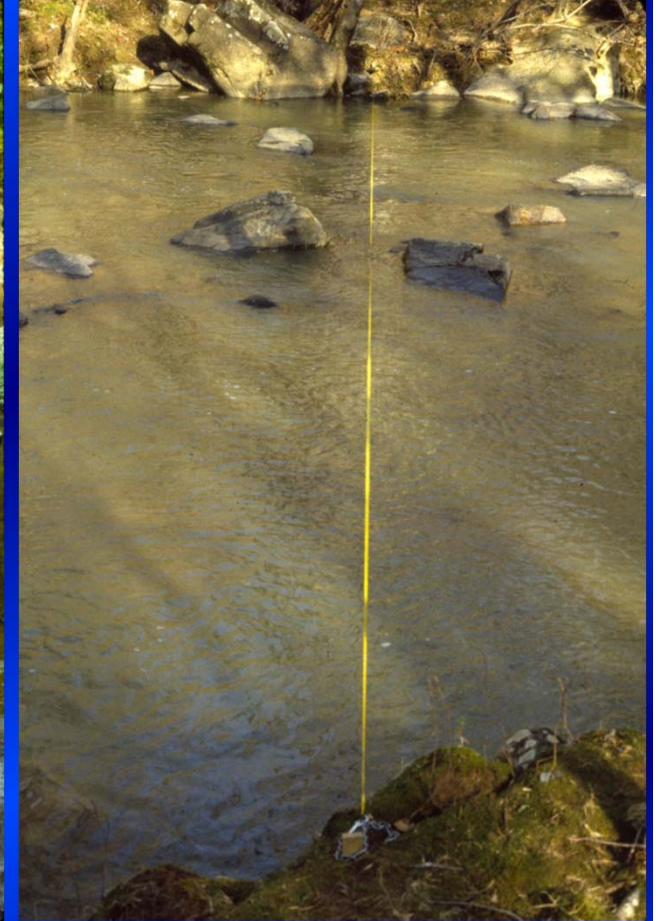
Eno River State Park Ecological Flow Study Transect #9, Run



2 cfs

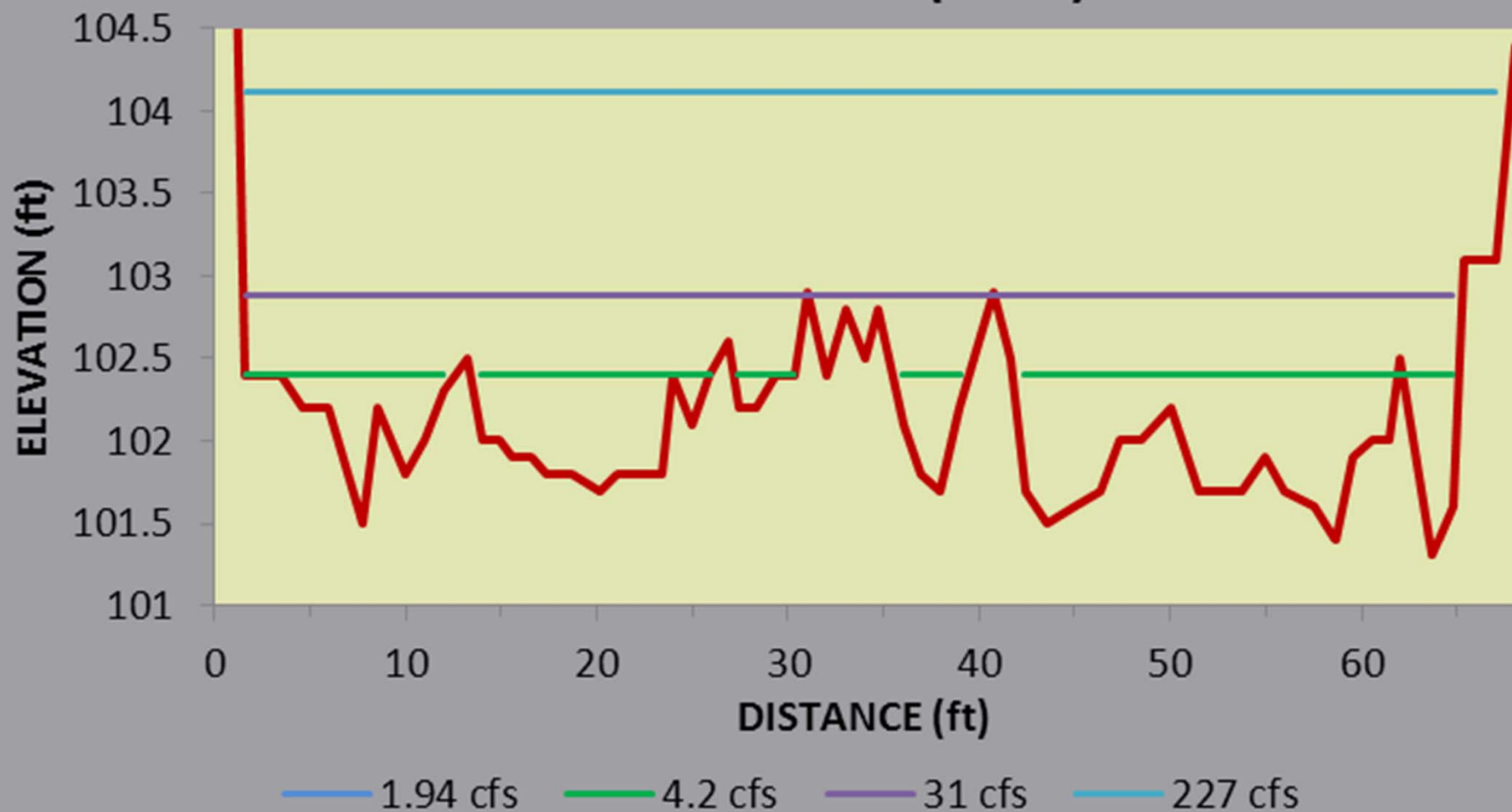


5 cfs



31 cfs

Transect #9 - run (3.5%)



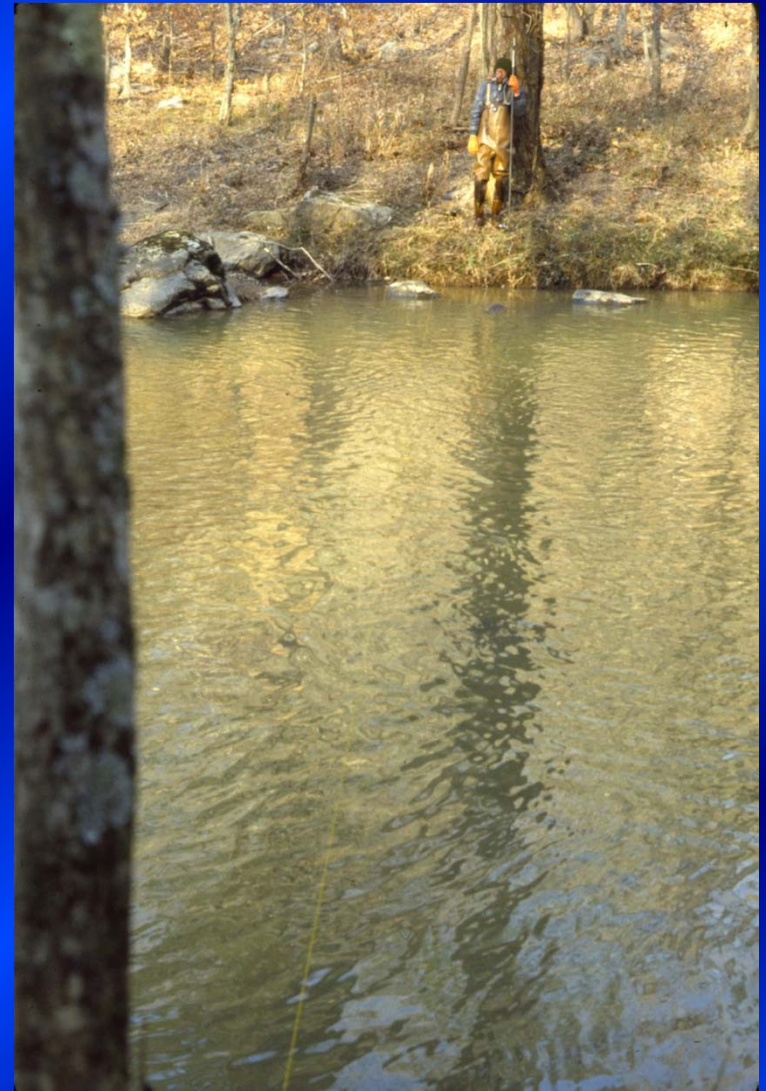
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Transect #10, Shallow Pool

2 cfs



31 cfs



Transect #10 - shallow pool (8.1%)



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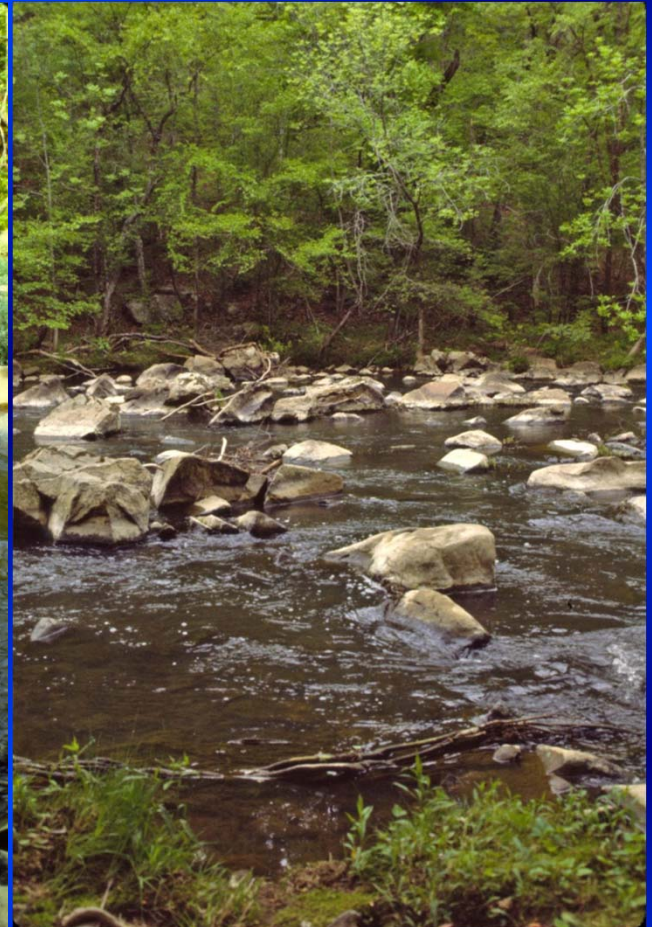
Transect #11, Boulder Riffle



2 cfs



5 cfs



25 cfs

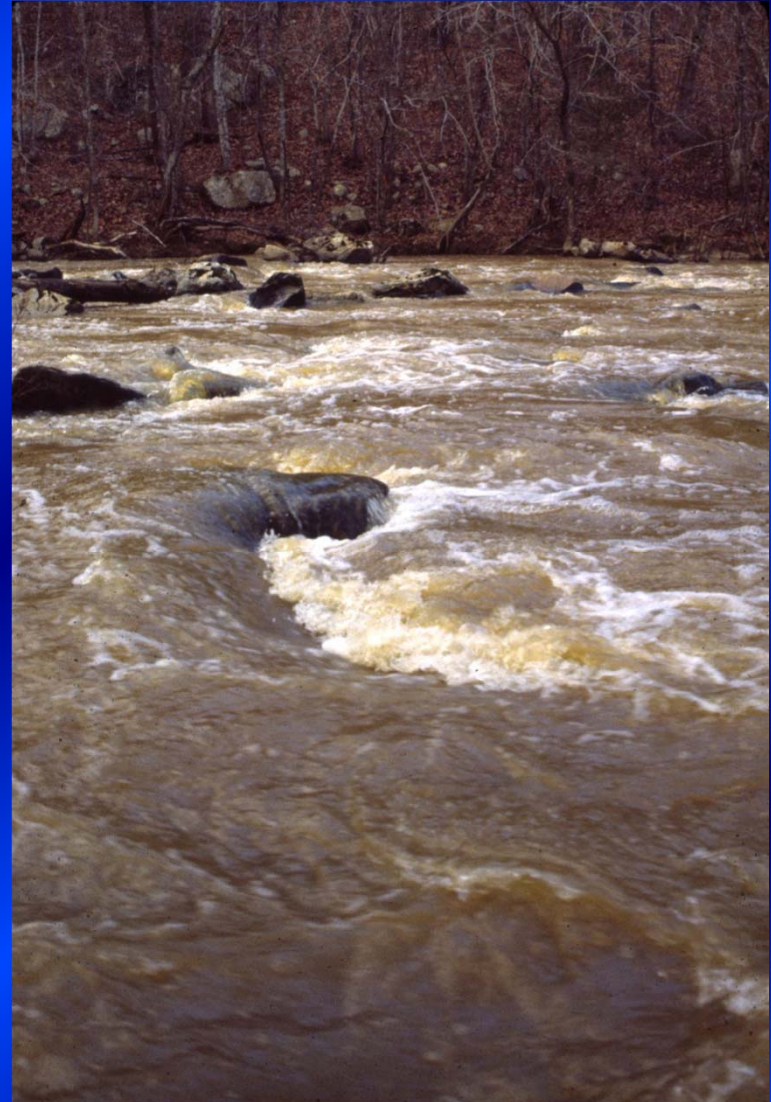
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Transect #11, Boulder Riffle cont'd

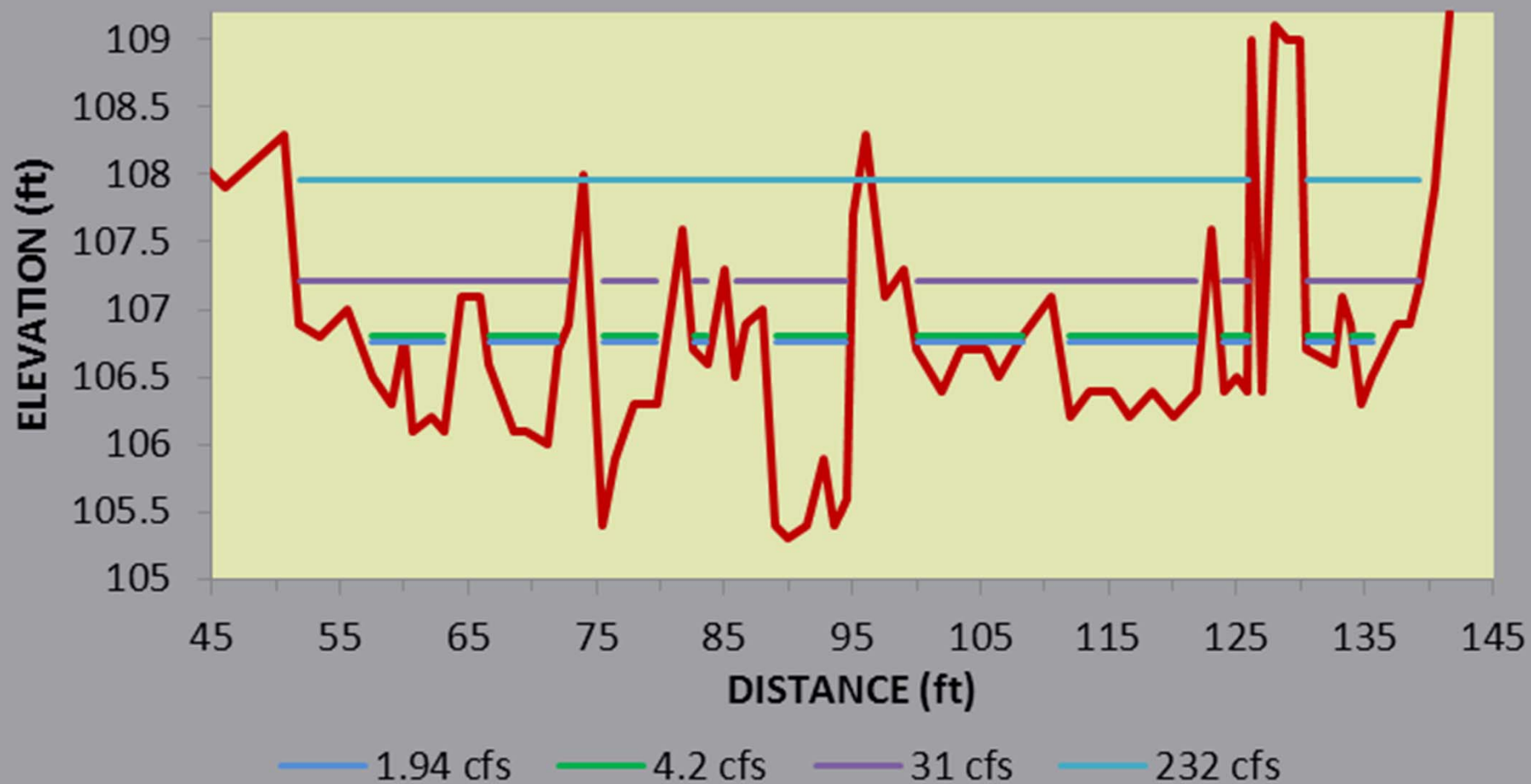
31 cfs



232 cfs



Transect #11 - boulder riffle (6.1%)



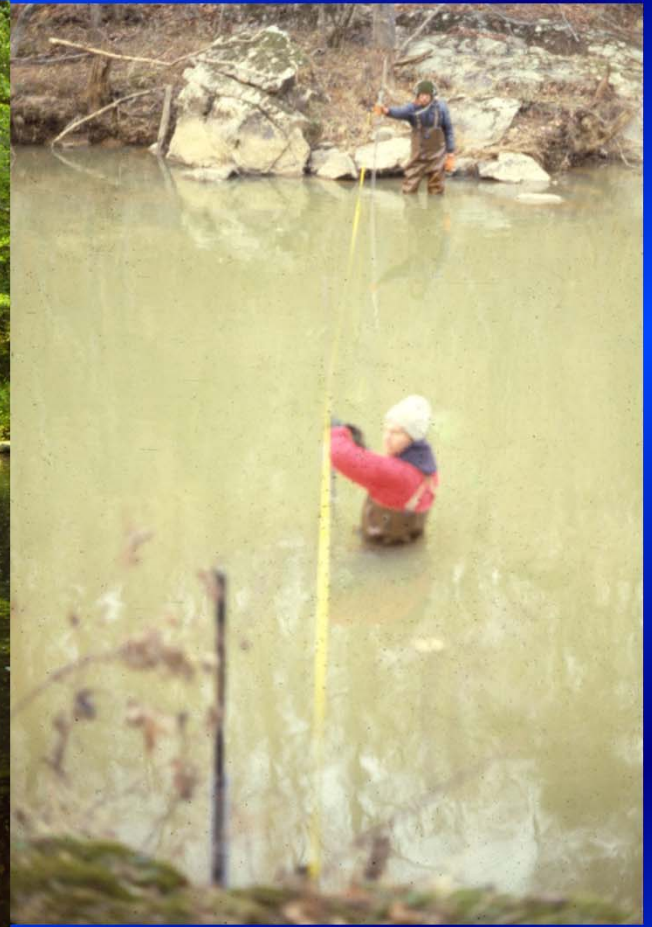
Eno River State Park Ecological Flow Study Transect #12, Deep Pool



2 cfs



5 cfs



31 cfs

Transect #12 - deep pool (7.3%)

