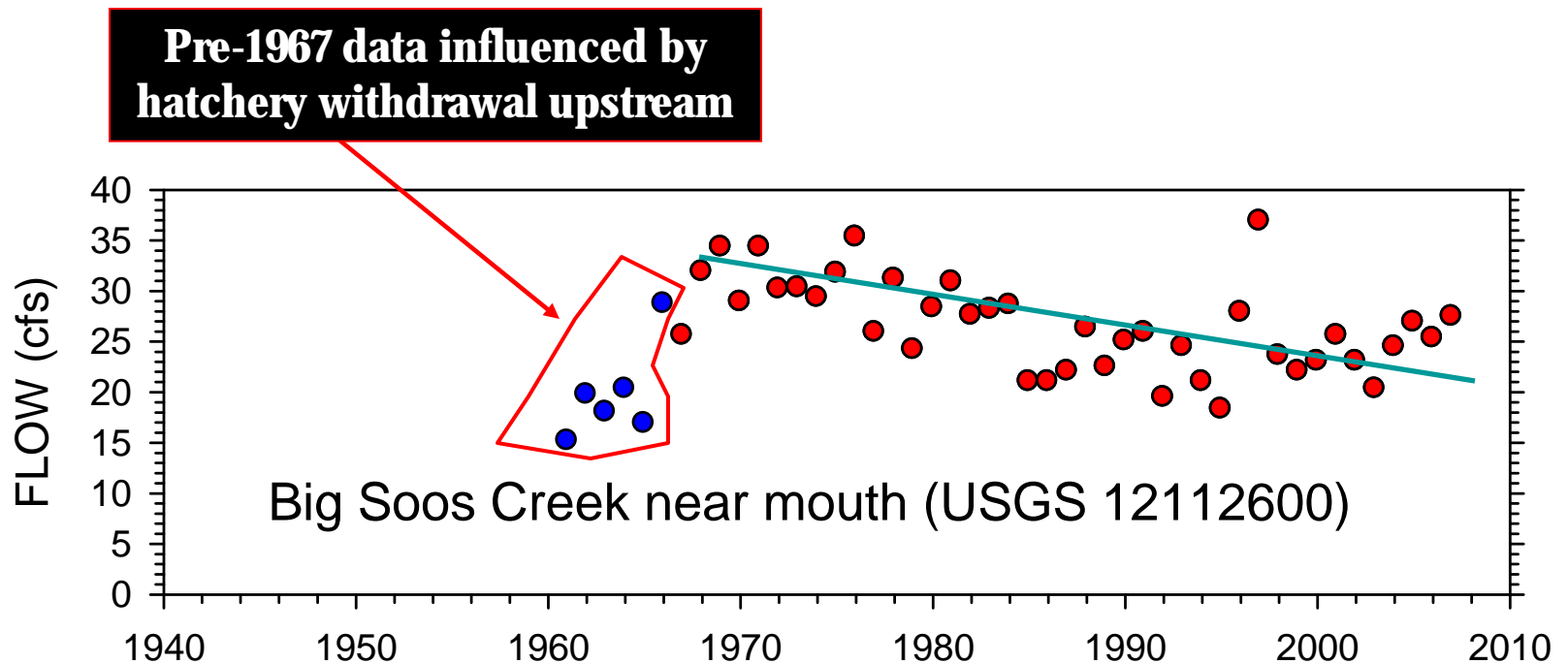


Follow-up on questions from  
E&P Subcommittee Meeting on  
November 5, 2008

# Confirmed previously identified low flow trends



# How did we draw that line?

- Why are we looking to see if summer low flows are changing over time?
- What was the message we were trying to convey?
- Are there multiple ways to look at the data?
  - Are flows really changing from year to year?
  - Are flows really different from what they used to be?
  - Are flows holding steady, or possibly even increasing, over time?

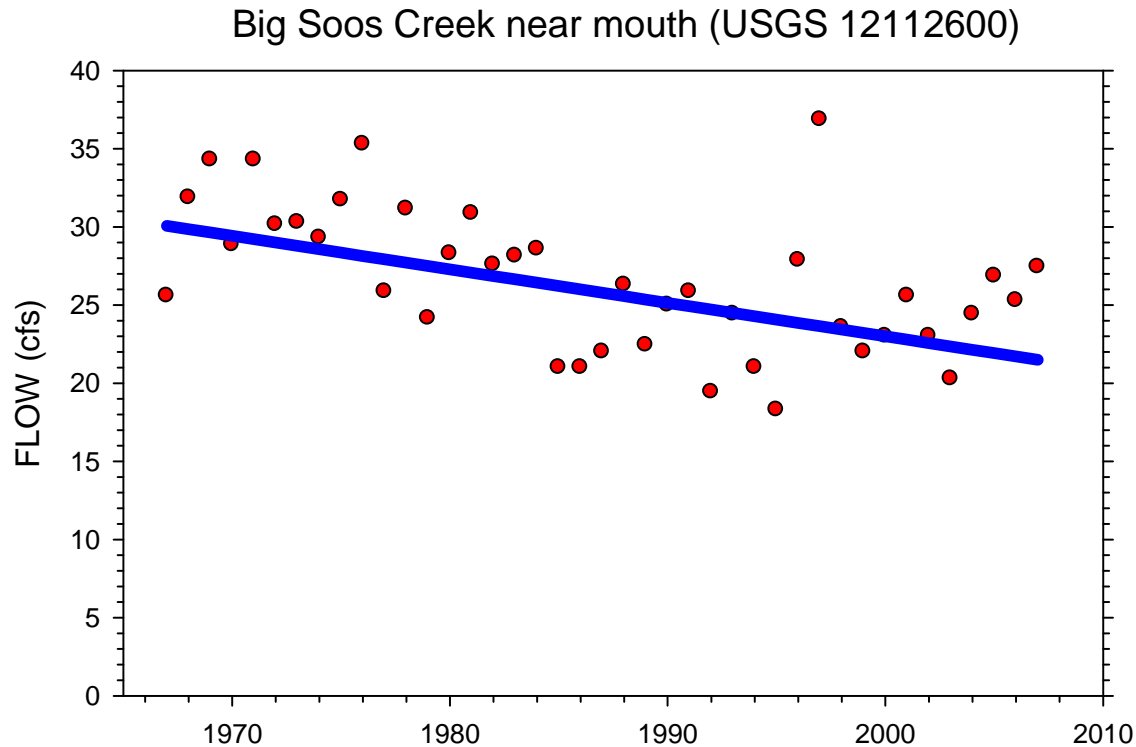
# Why look at summer low flows?

- Addresses how water balance within a basin has changed over time
  - Accounts for total amount of water exported from a basin
    - Withdrawals that are discharged into the sewer system
    - Withdrawals used for irrigation and lost to evapotranspiration
  - Accounts for total amount of water imported to a basin
    - Water imported from another basin and used for irrigation
  - Accounts for loss of infiltration due to increased development
  - Accounts for increased evapotranspiration associated with high temperatures projected due to climate change
- If summer low flows have decreased, not possible to explain which factor is causing the change without further investigation

# What Message Were We Trying to Convey?

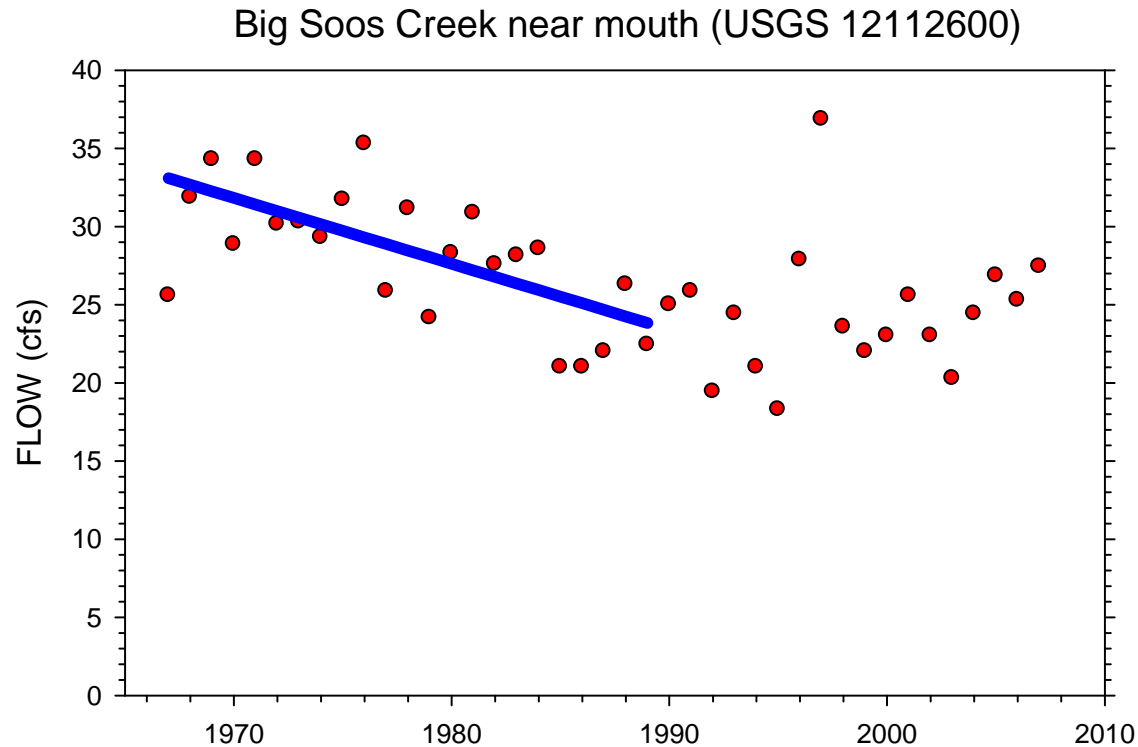
- That there are examples in King County where summer low flows are currently below what they used to be
- We were NOT trying to:
  - Predict how summer low flows might change in the future
  - Describe why the summer low flows had changed
  - Suggest that the summer low flows were changing an equal amount each year
  - Suggest that there isn't a great deal of year-to-year variability in summer low flows

# Confirmed previously identified low flow trends



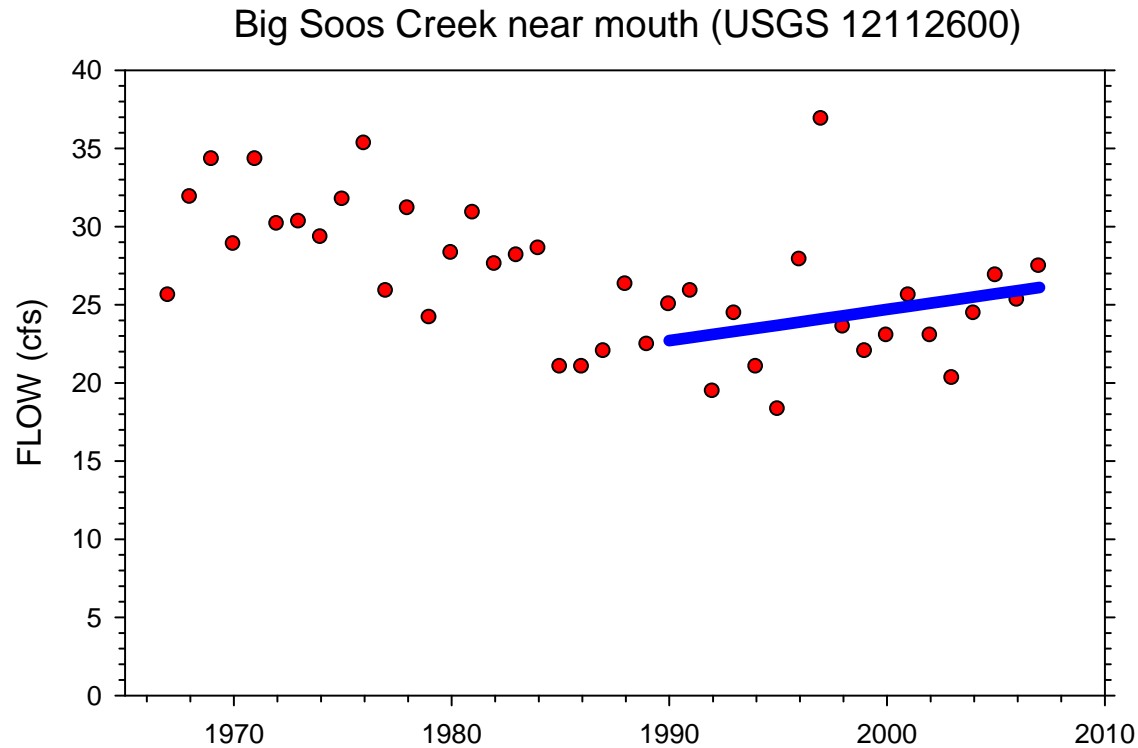
tau = -0.379  
 $p$  = 0.0005  
slope = -0.214 cfs per yr<sup>6</sup>

# Confirmed previously identified low flow trends



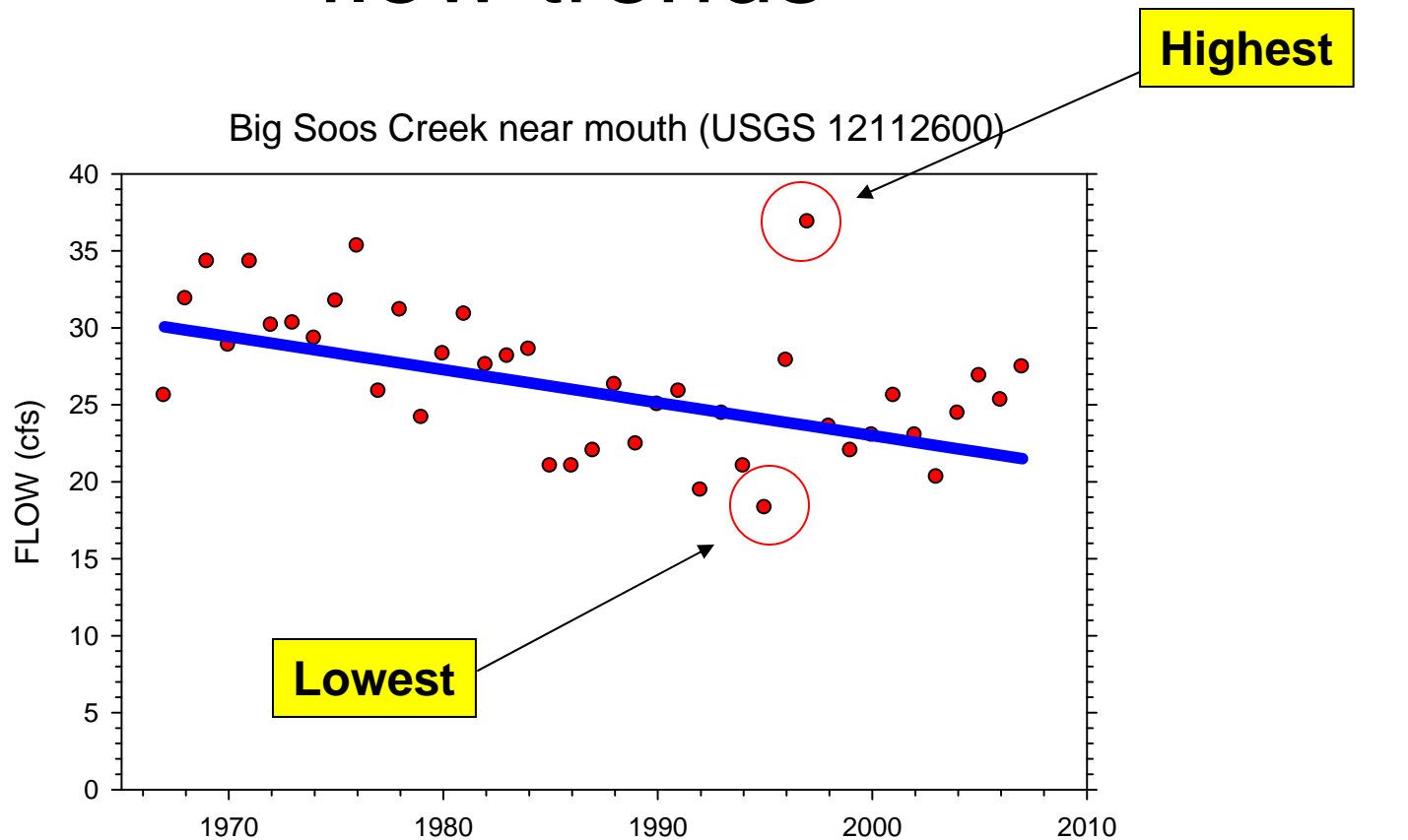
tau = -0.439  
 $p$  = 0.0039  
slope = -0.421 cfs per yr<sup>7</sup>

# Confirmed previously identified low flow trends



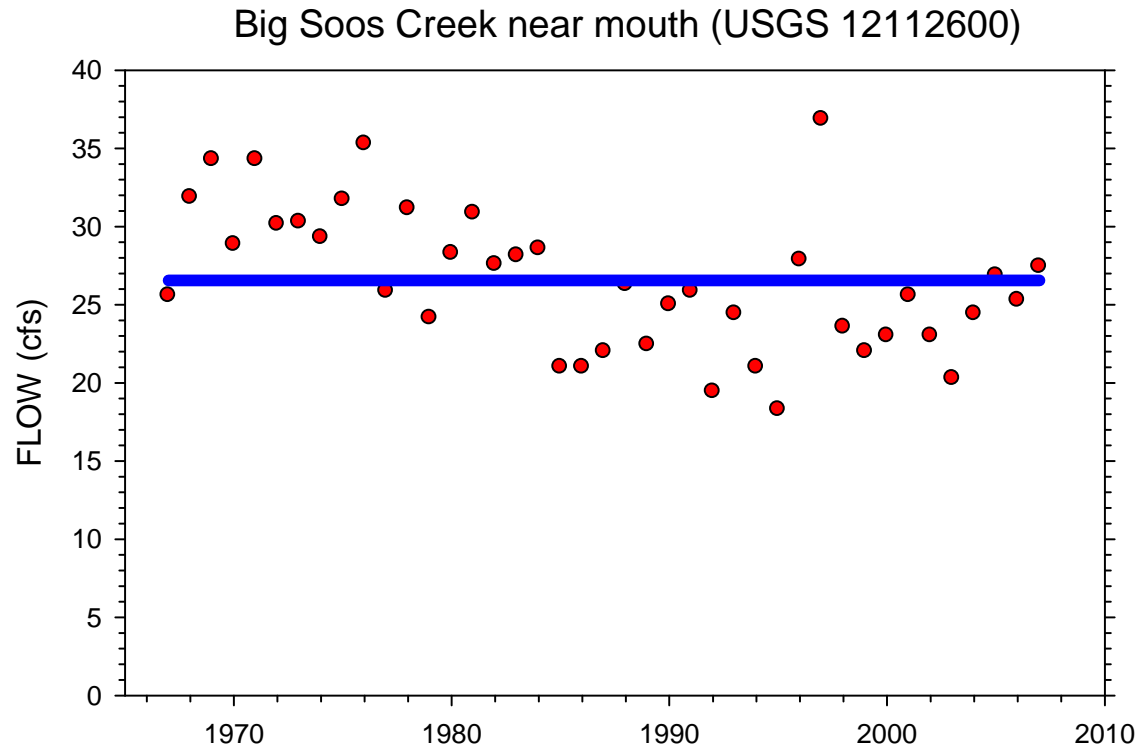
tau = 0.15  
 $\rho$  = 0.404  
slope = 0.2 cfs per yr 8

# Confirmed previously identified low flow trends



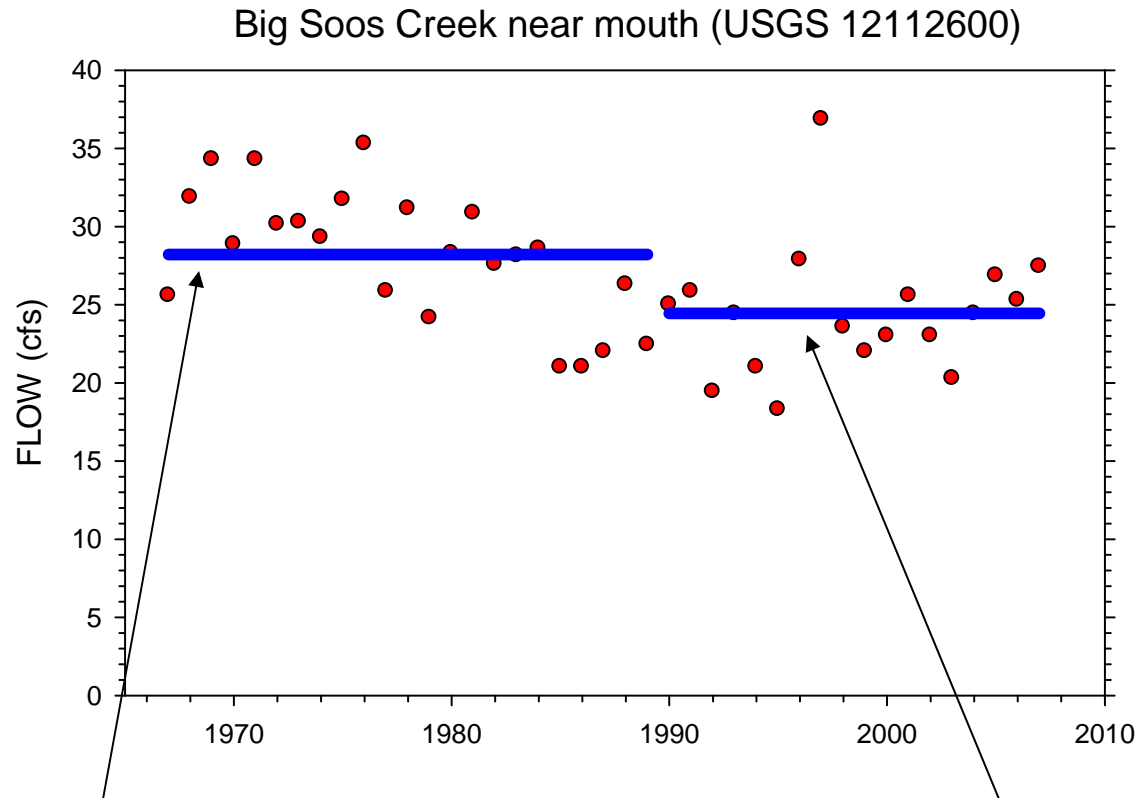
tau = -0.379  
 $p$  = 0.0005  
slope = -0.214 cfs per yr<sup>9</sup>

# Confirmed previously identified low flow trends



Mean 7-day low flow = 25.6 cfs

# Confirmed previously identified low flow trends



Mean 7-day low flow = 28.2 cfs

Mean 7-day low flow = 24.5 cfs

Questions?