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# Modeling Support for Little Brazos River Tributaries Bacteria Assessment (04/23/2009)

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Biological and Agricultural Engineering

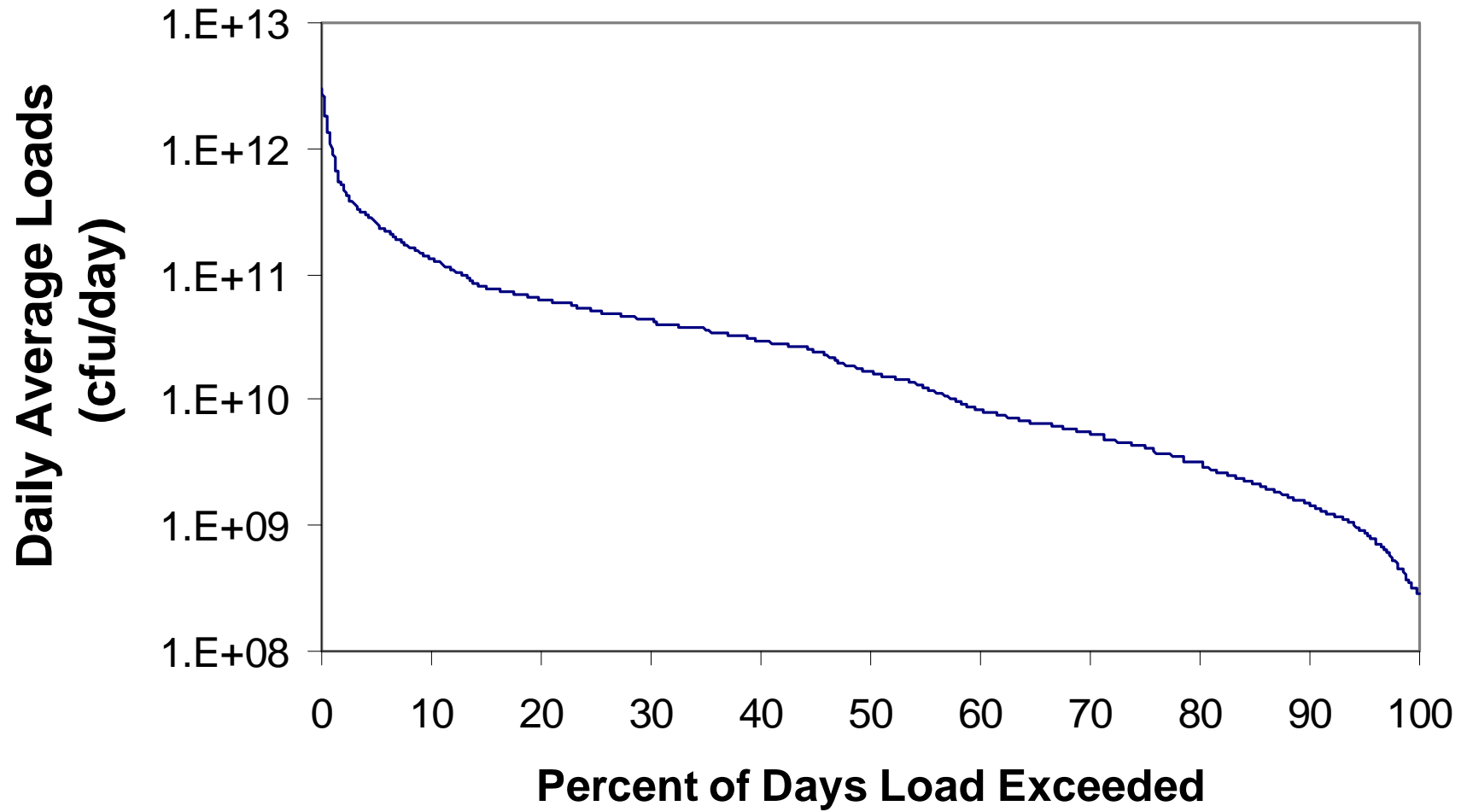
AgriLIFE Research

Texas A&M University

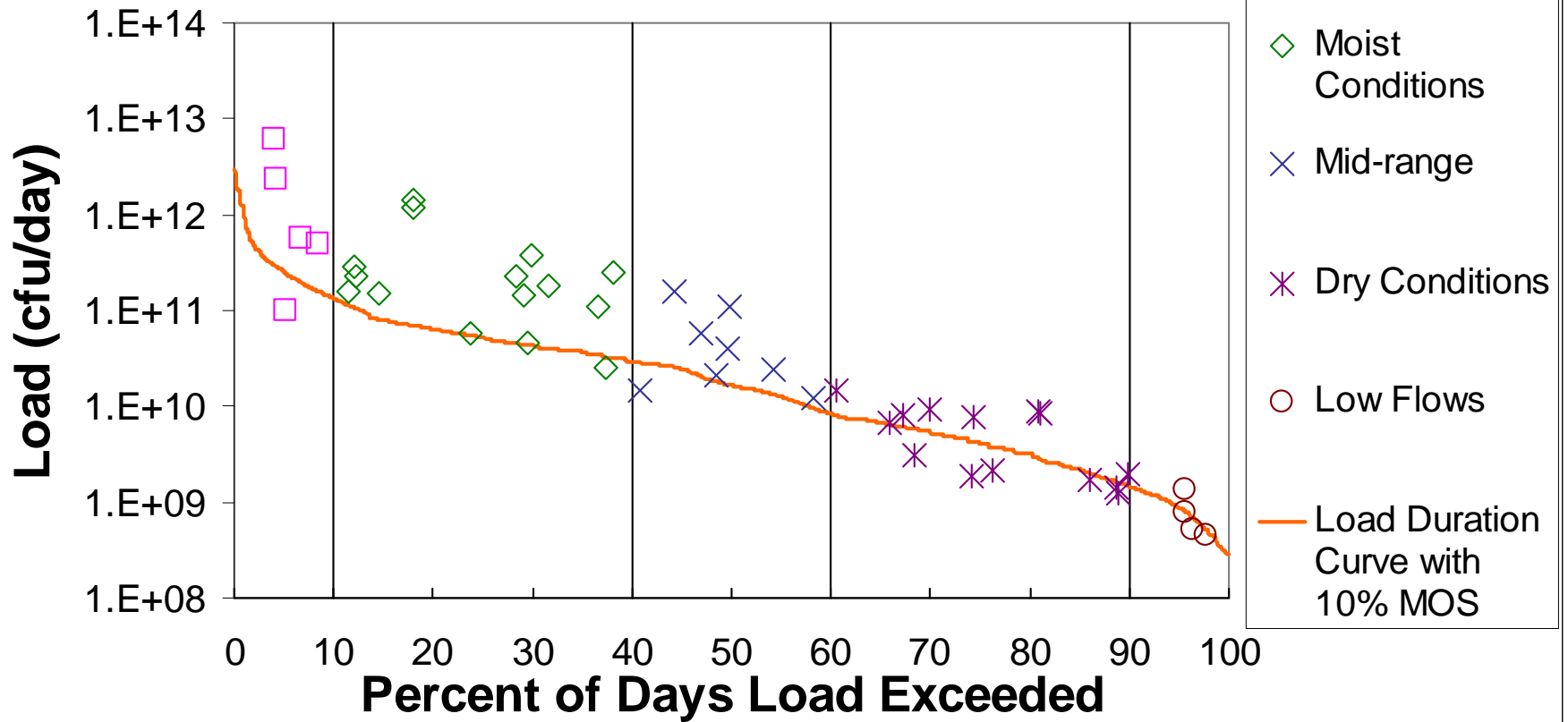
[karthi@tamu.edu](mailto:karthi@tamu.edu)

979.845.7951

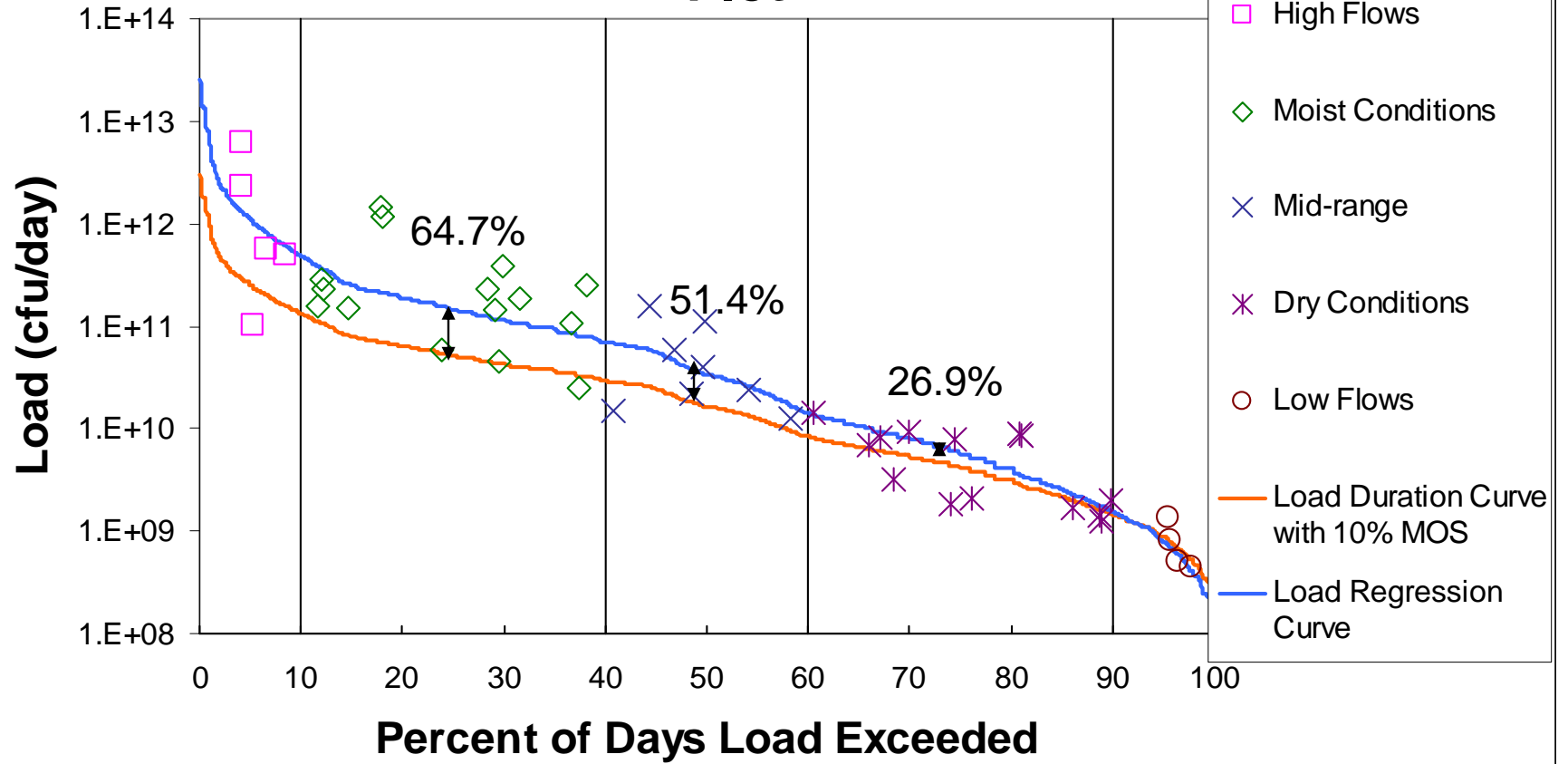
# Load Duration Curve



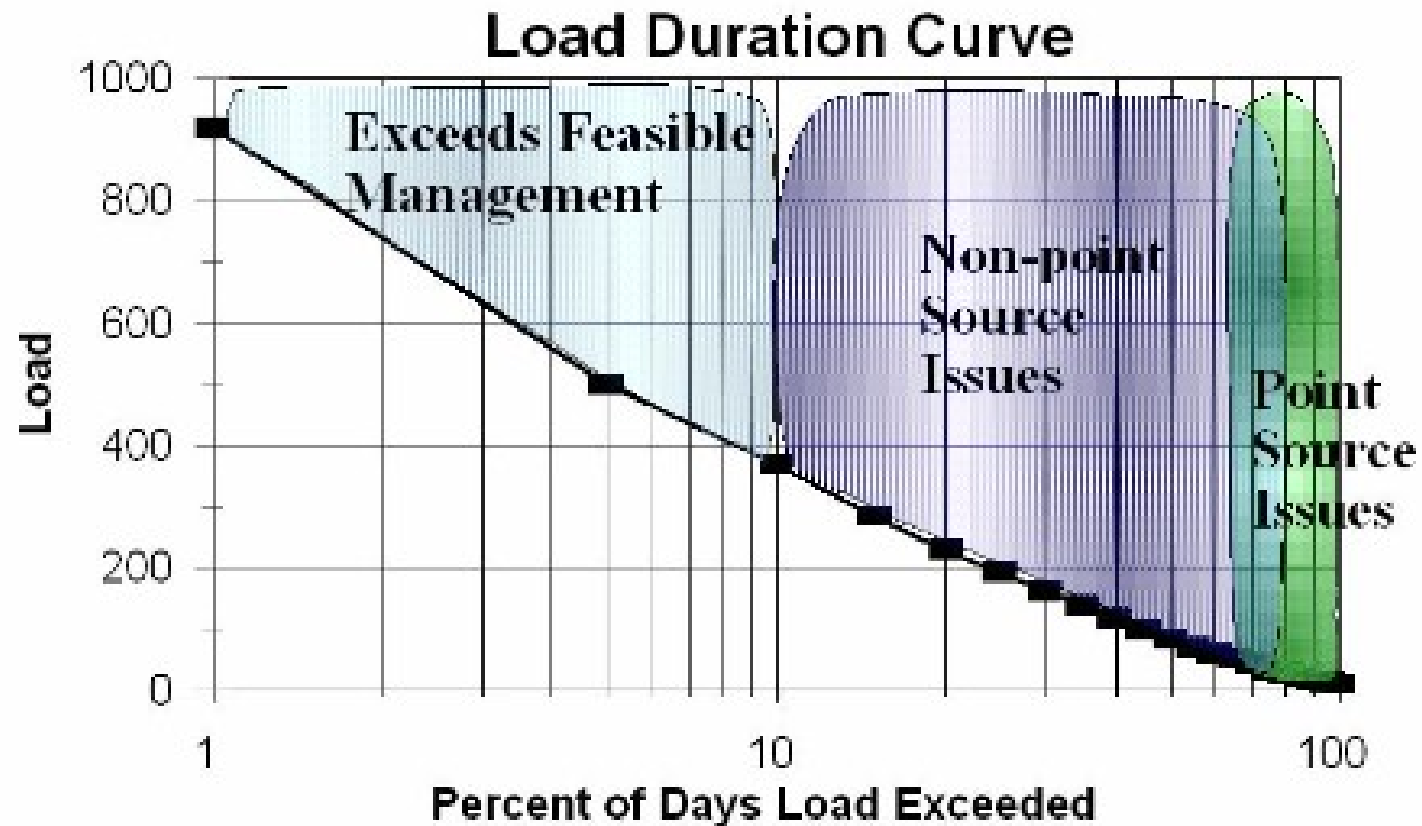
# Load Duration Curve With Observed Loads During Different Flow Conditions



# Load Regression Model on Load Duration Curve Plot



# LDC Usefulness (source ID based on LDC)





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# Load Duration Curve Analysis

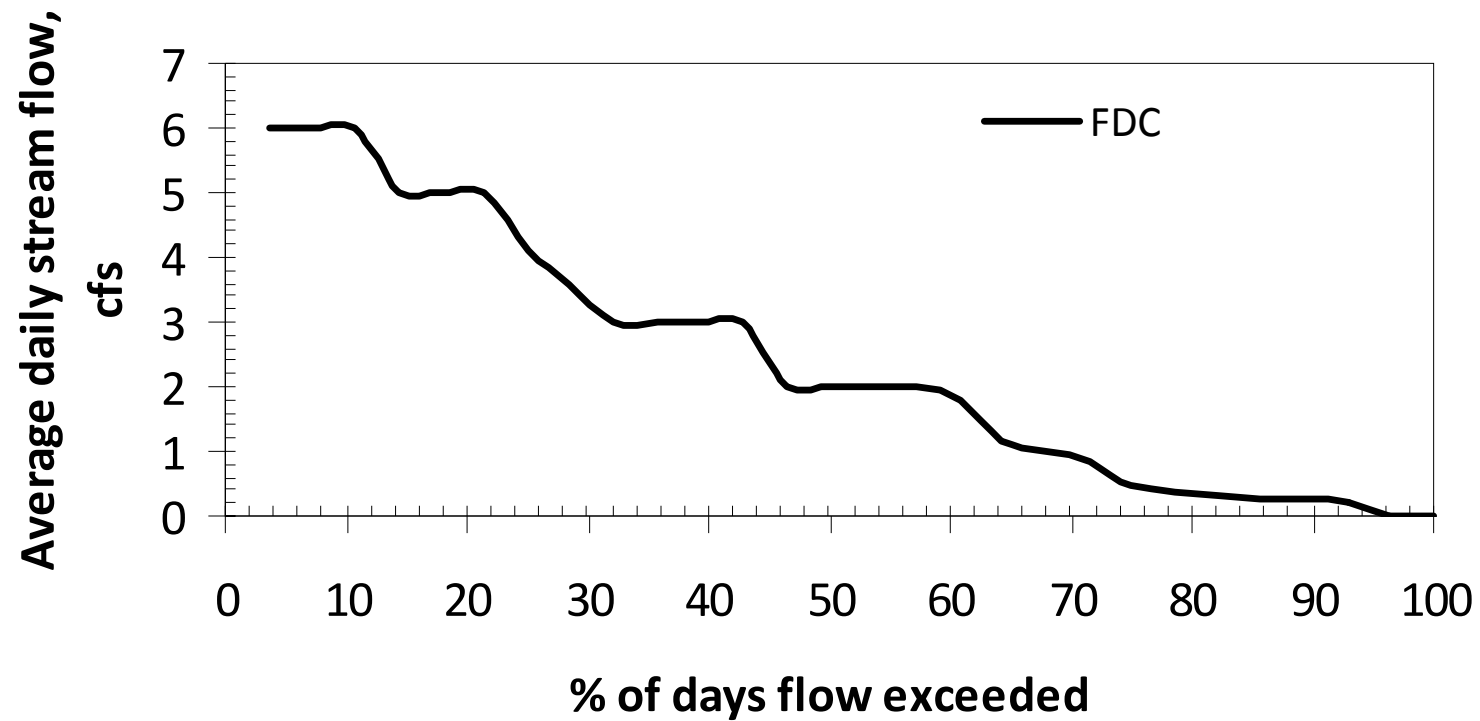
Five Watersheds in Little Brazos River



# Campbells Creek

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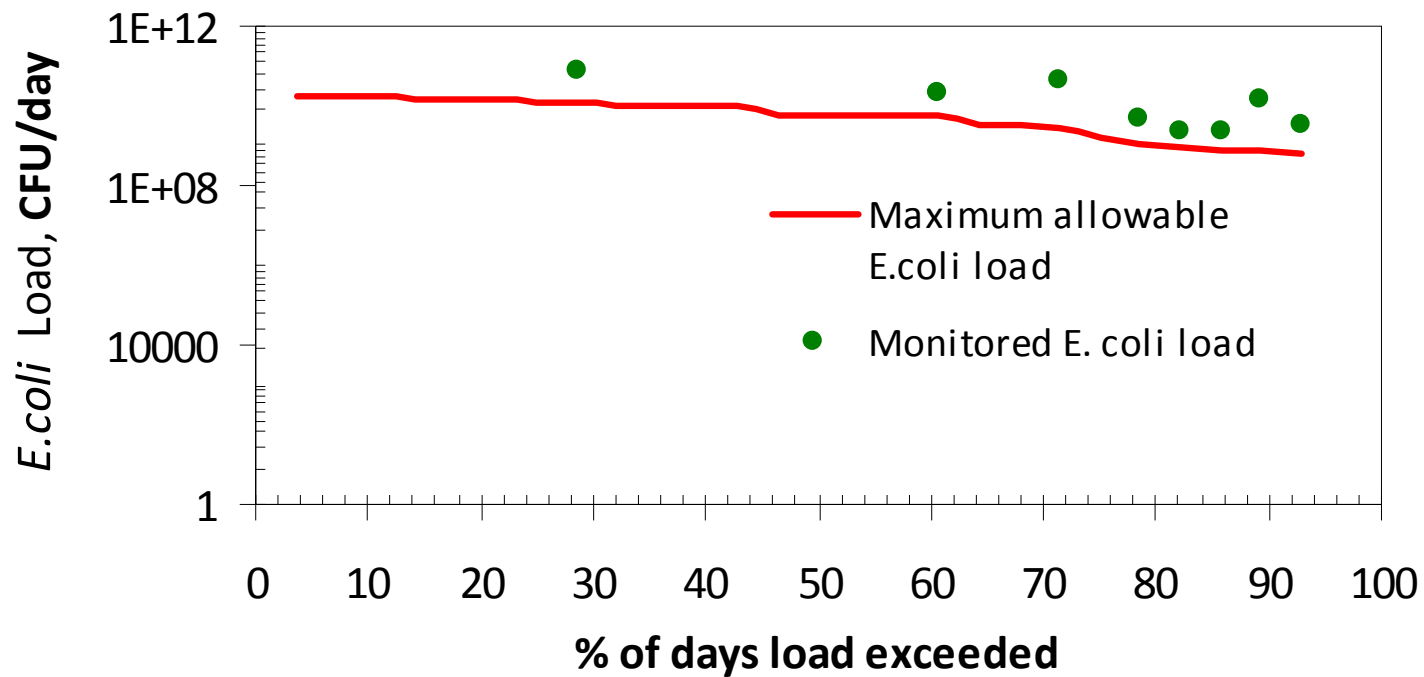
**Flow Duration Curve (Campbells Creek)**





# Campbells Creek

Load Duration Curve (Campbells Creek)

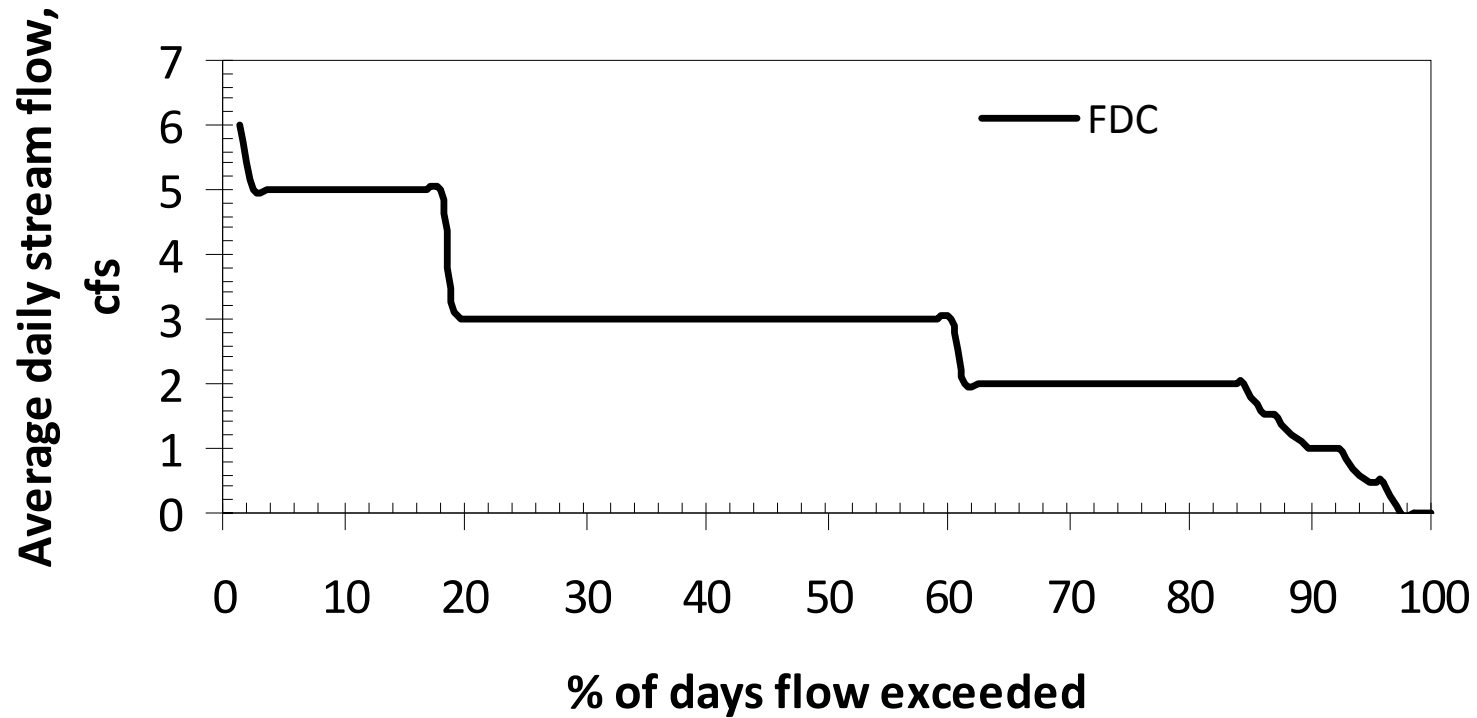






# Mud Creek

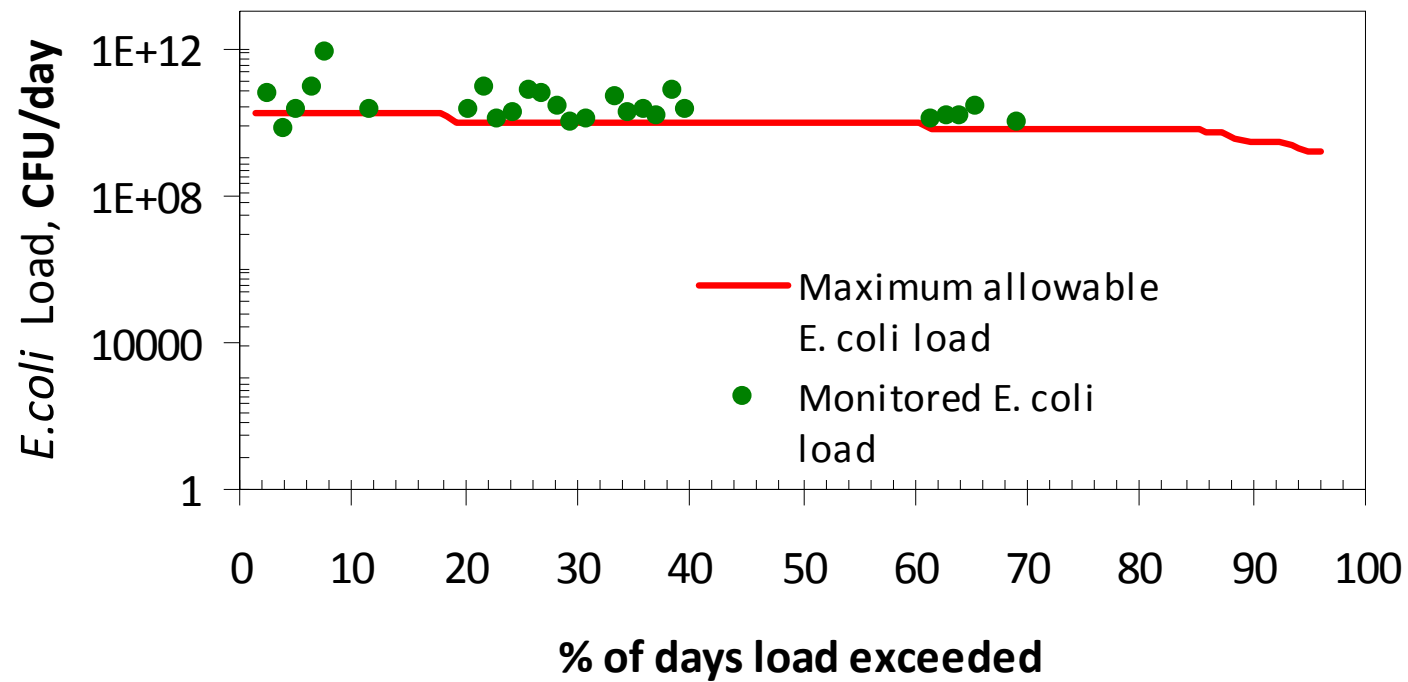
Flow Duration Curve (Mud Creek)





# Mud Creek

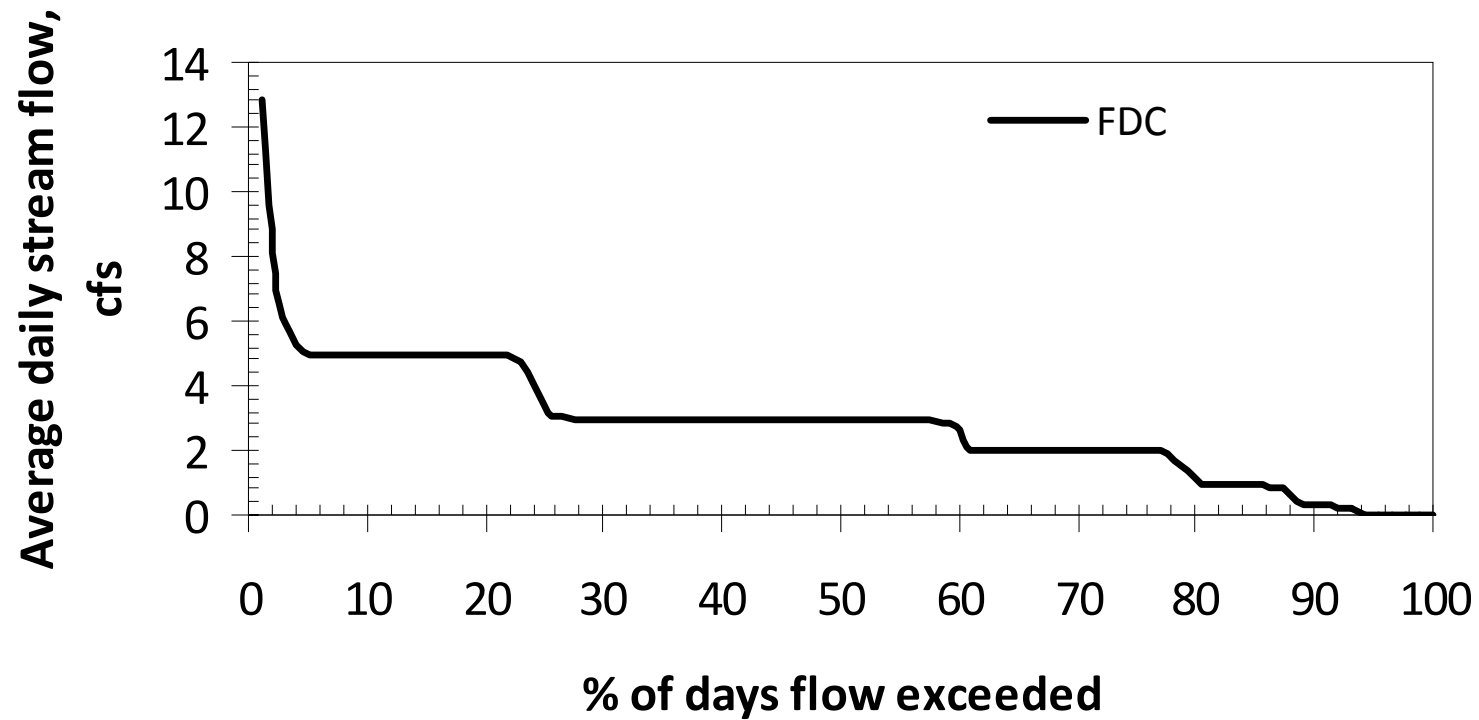
Load Duration Curve (Mud Creek)





# Pin Oak Creek

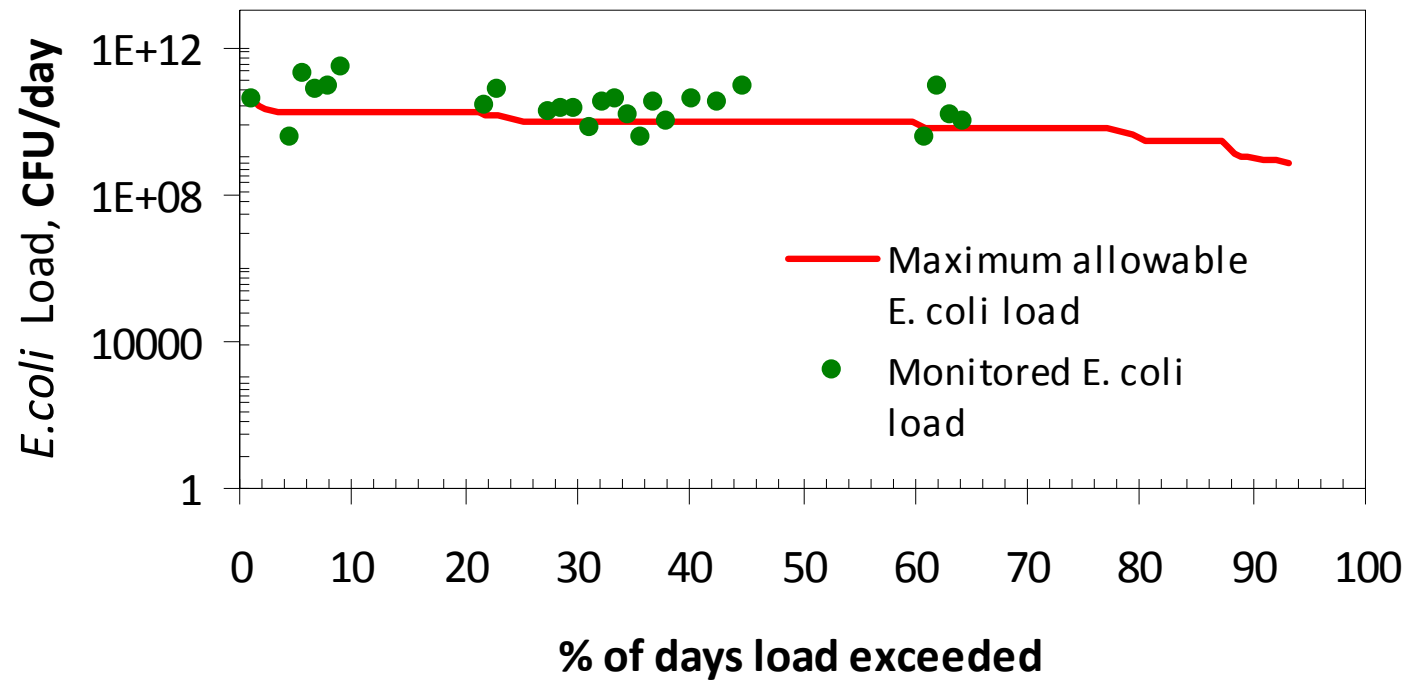
Flow Duration Curve (Pin Oak Creek)





# Pin Oak Creek

Load Duration Curve (Pin Oak Creek)

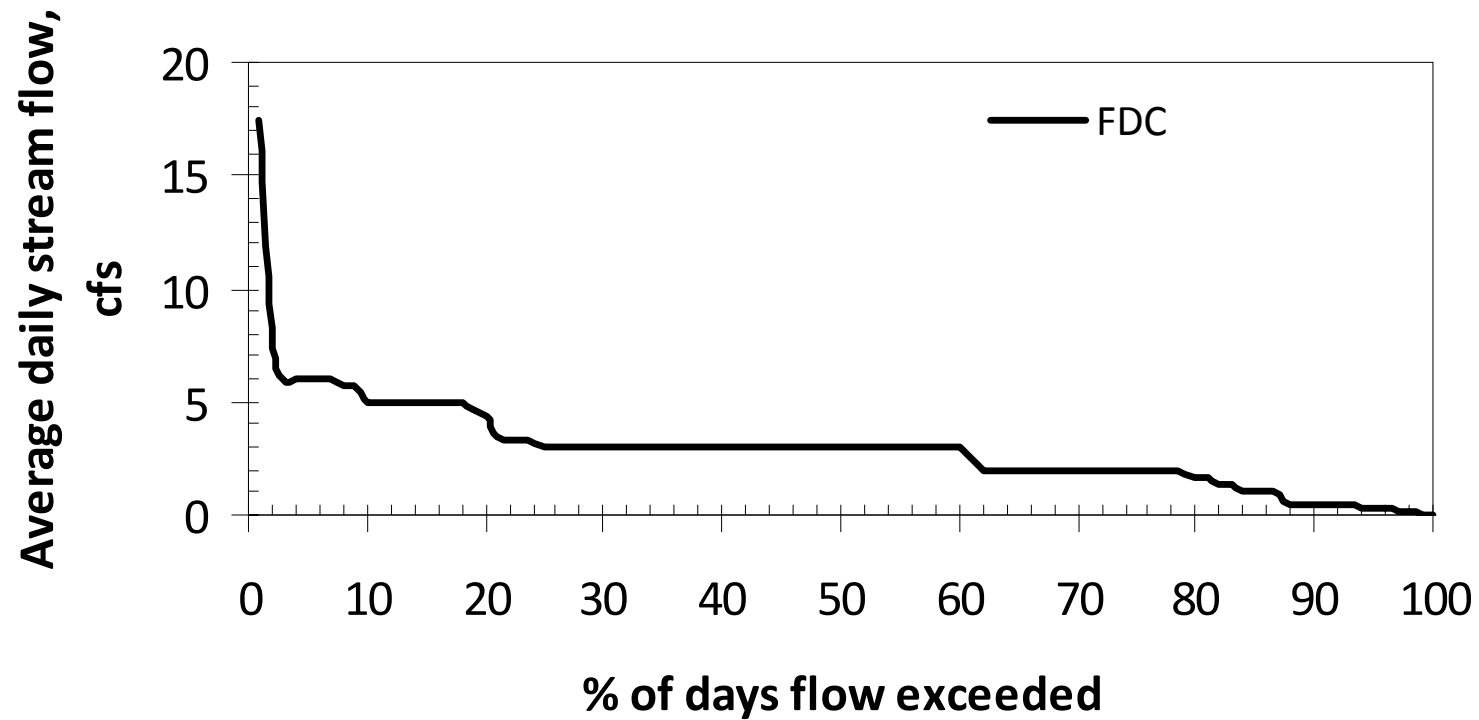




# Spring Creek

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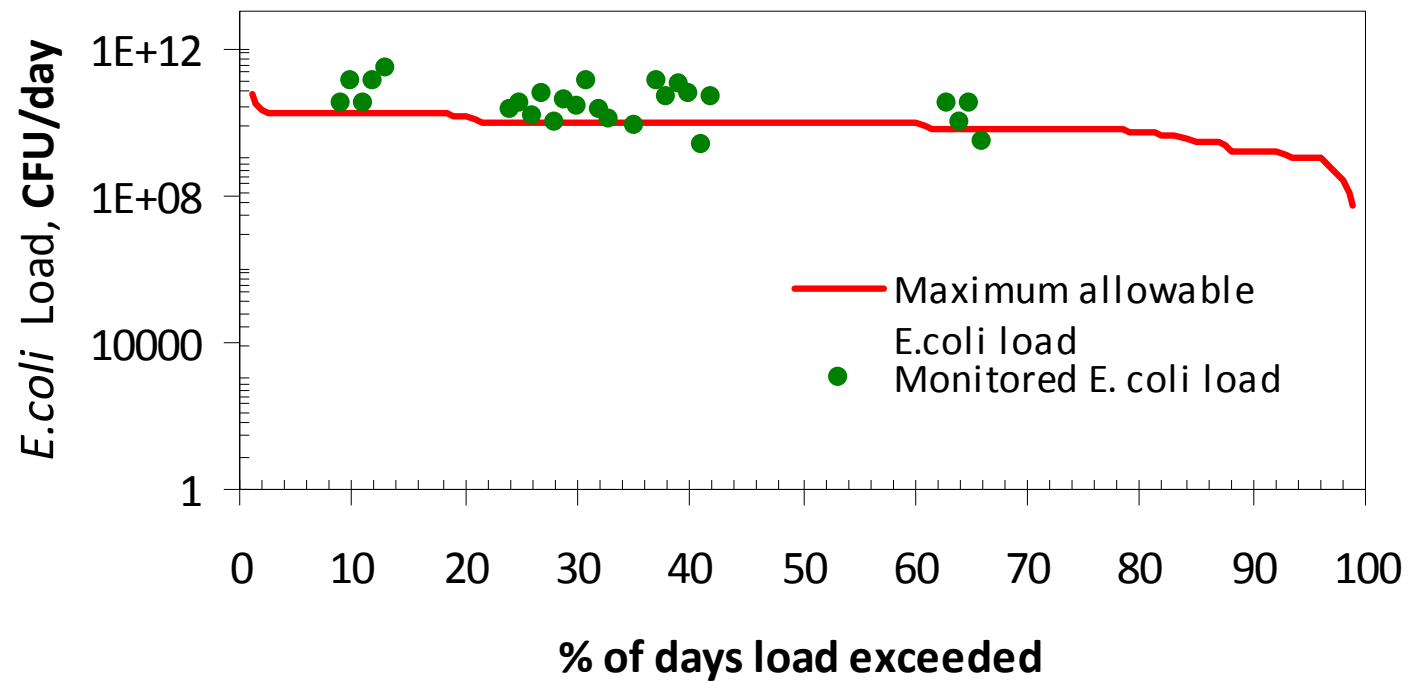
**Flow Duration Curve (Spring Creek)**





# Spring Creek

Load Duration Curve (Spring Creek)

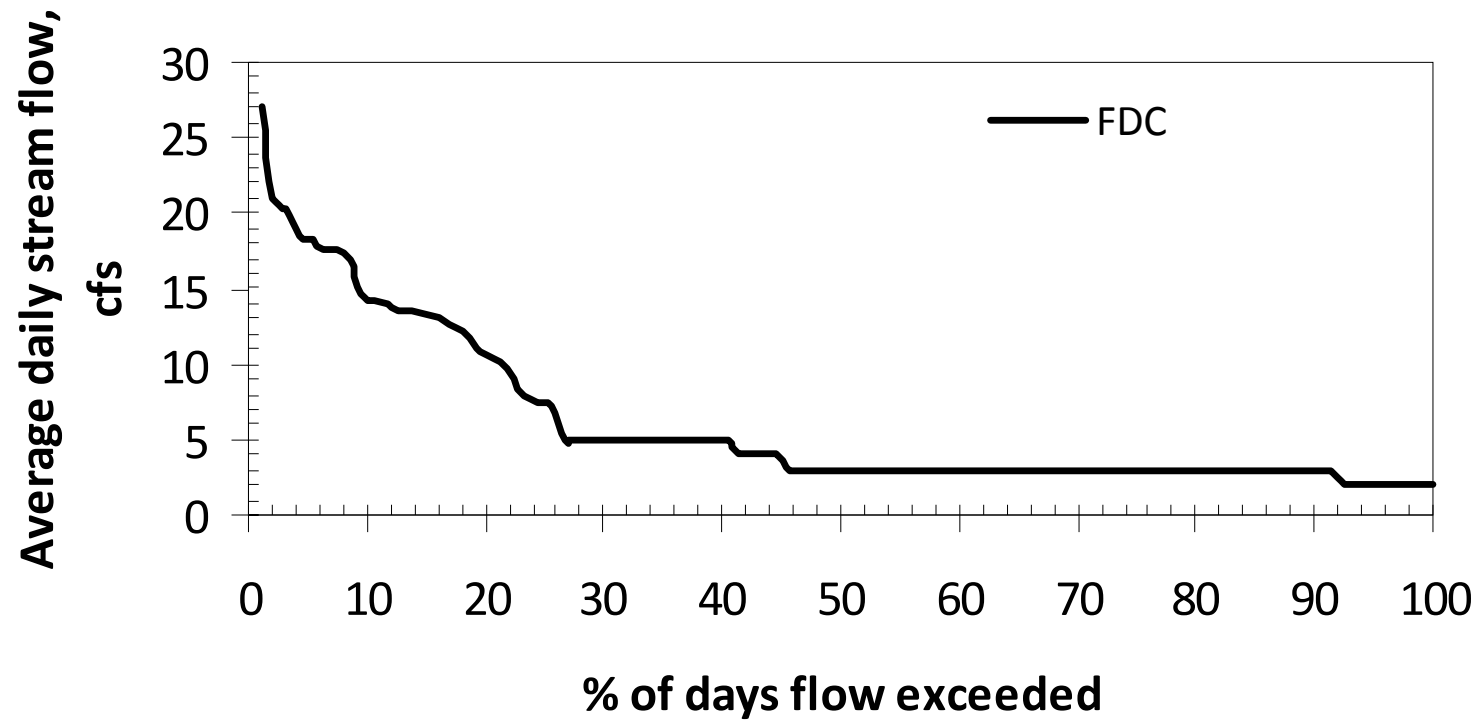




# Walnut Creek

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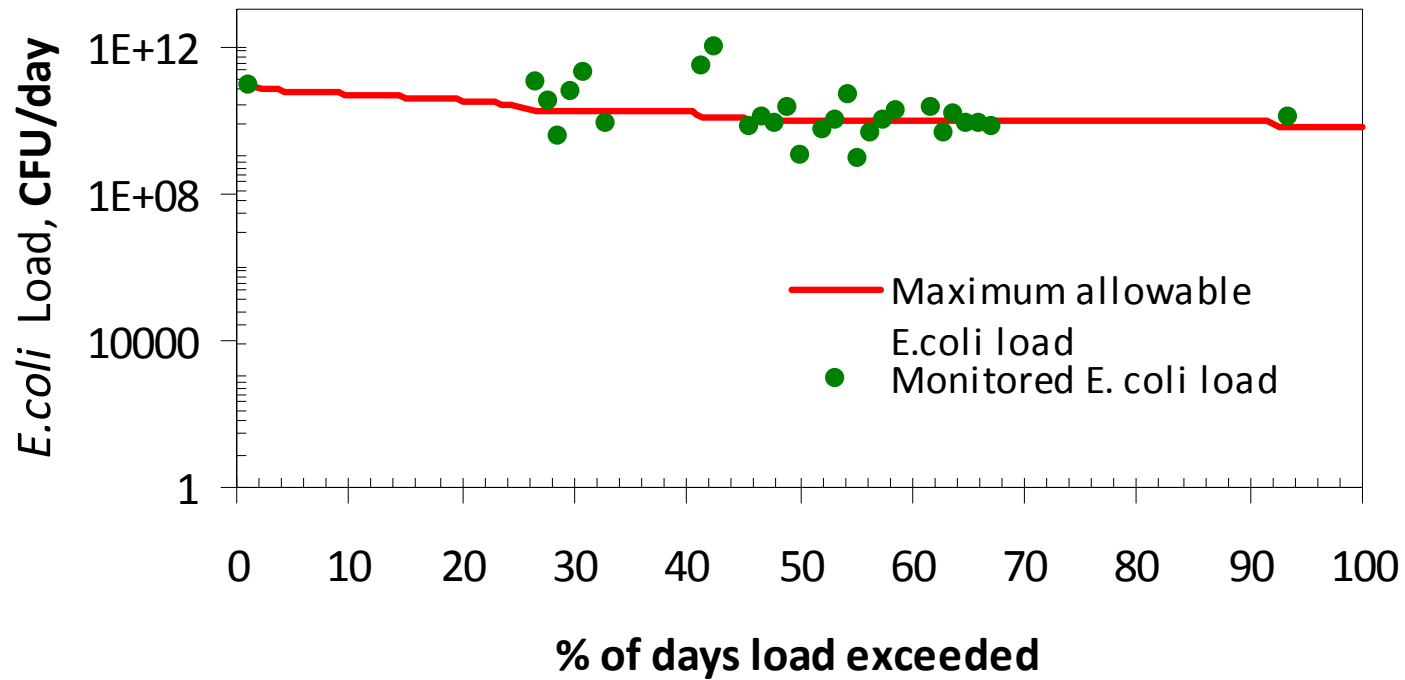
**Flow Duration Curve (Walnut Creek)**





# Walnut Creek

Load Duration Curve (Walnut Creek)







# Summary

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- ❑ *E. coli* loads exceeding maximum allowable loads
- ❑ Limited water quality data
- ❑ Data not well distributed across flow regimes



# SELECT

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- Land use/ land cover data updated
  
- Watersheds delineated
  
- Data layers needed for SELECT
  - Land use
  - Hydrography (stream network)
  - Urban areas
  - Watershed boundary
  - County boundary
  - Soils
  - Wastewater treatment plants
  - Census
  
  - Population density
    - Cattle
    - Wild life