Didymo on the Fryingpan:
Anglers, Dams, & Climate Change

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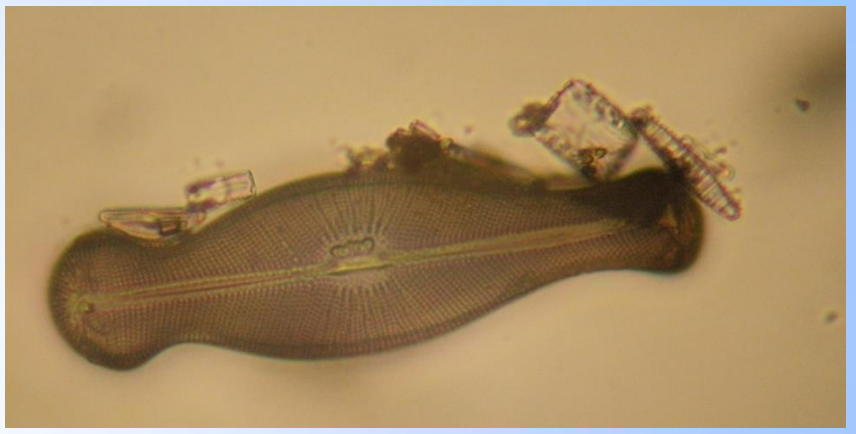
CONSERVANCY

WHAT IS DIDYMO?

- Freshwater Diatom
- Forms long stalks and mats
- Native to Colorado
- Nuisance Species



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WHY STUDY DIDYMO?

- Many Unknowns
- High Densities are Related to Decline in Macro Richness
- Clog Intake Pipes
- Concerns Over Effects on Fish Health
- Fishing Economy on the Fryingpan
- Could be Present in Over 20% of Colorado Streams
  - Model Study

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POTENTIAL CAUSES OF DIDYMO BLOOMS

- Climate Change
- Low Flows
- Low Nutrient Levels
  - Nitrogen/Phosphorus Ratio
- Heavy Angler Use
- High Iron Content
- Dams- Beaver and Manmade

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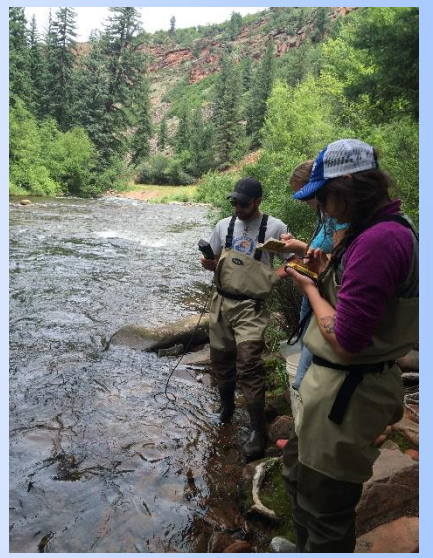
THE DIDYMO STUDY

- Video

STUDY DESIGN

- EPA Rapid Periphyton Survey Methodology
  - Rock Scrape and Foil Weights
- Viewing Bucket Identification
- Water Quality Parameters
- Microscopic Analysis of Didymo



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FIRST ROUND STUDY RESULTS

- Highest Quantity of Didymo was Present before High Water
- Quantity Decreased after Peak Flows
  - Scouring Effect
- Little to No Didymo found during Fall Sampling

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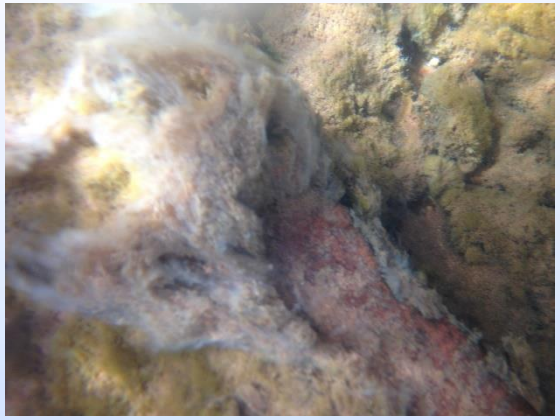
SECOND ROUND STUDY RESULTS

- Spring 2015 Data Were Unique
- High Flows from the Seven Castles Deposited Red Sediment Downstream, Outcompeting the Didymo
- Increases in Didymo in July
- Fall sampling hasn't occurred yet



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CONCLUSIONS

- Many Unknowns
- Characterize Flow Regimes that Keep the Blooms in Check
- Gain An Understanding of the Seasonality of Blooms
- Benefits of Best Management Practices
  - BOR and flows
  - Anglers and Other Users
  - No Biological or Chemical Control

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NEXT STEPS

- Continue Baseline Data Collection
- Nutrient Data
- Other Colorado Rivers

Thank you.

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