

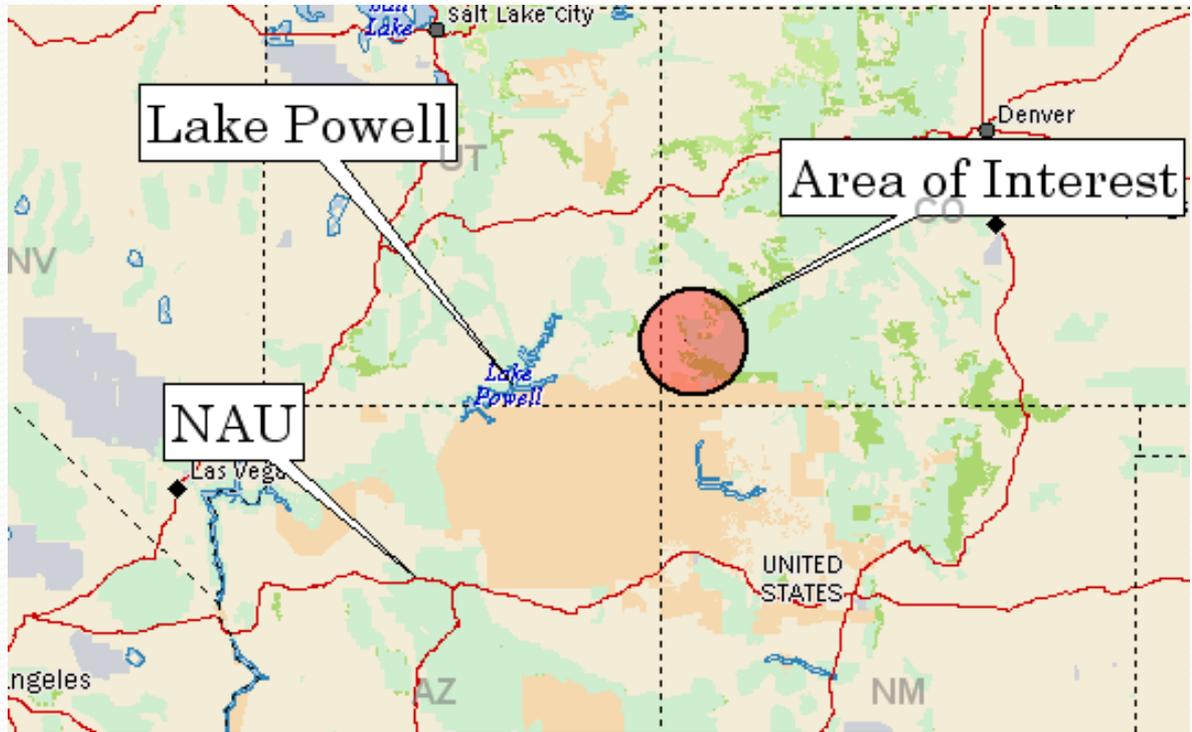


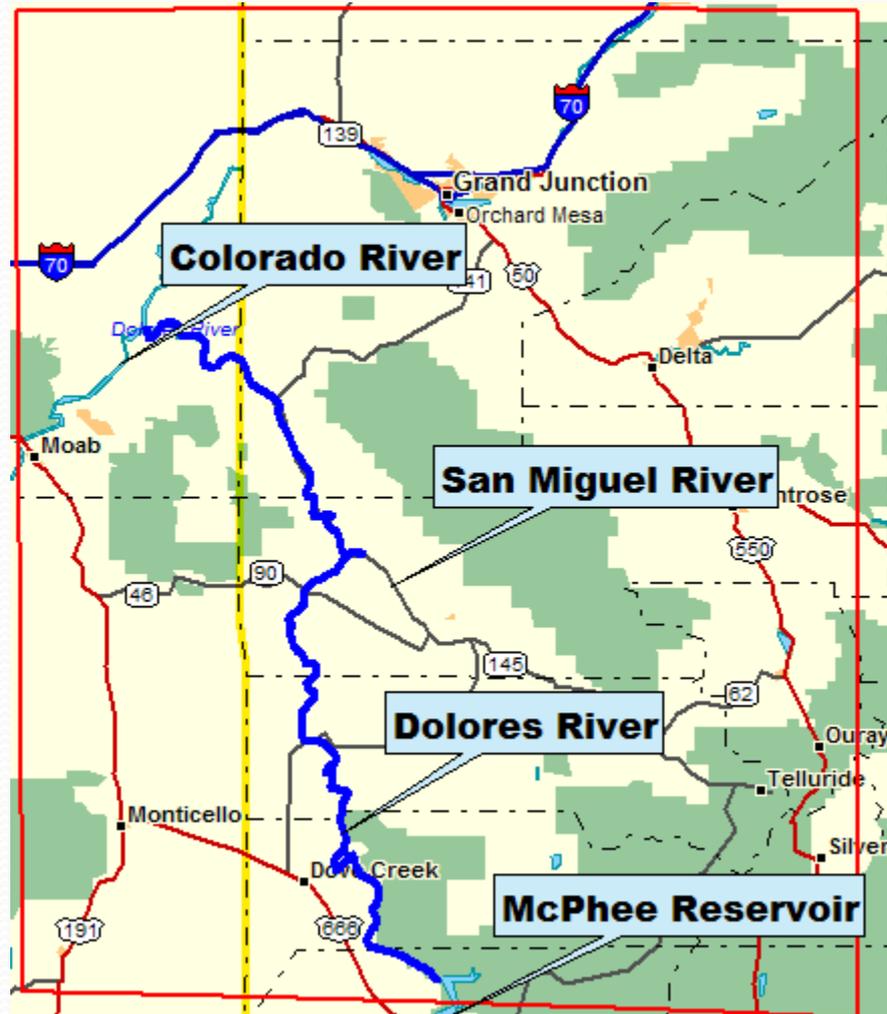
Dolores River Dialogue

10th Biennial Conference
Research on the Colorado Plateau

Agenda

- Introduction and Background
 - **Carolyn Dunmire** – Dolores River Action Group
- Formation of DRD and the Plan to Proceed
 - **Chuck Wanner** – Dolores River Coalition
 - **Mike Preston** – Manager, Dolores Water Conservancy District
- Science and the DRD
 - **Jim Siscoe** – Manager, Montezuma Valley Irrigation Company
 - **Ann Oliver** – DRD Technical Committee
 - **David Graf** – Regional Water Resource Specialist Colorado Division of Wildlife
- Integrating Science and Flow Constraints into Management Actions
 - **Mike Preston** – Lower Dolores River Working Group
 - **Chester Anderson** – Dolores River Watershed Plan
 - **Randy Carver** – President, Montezuma Valley Irrigation Company
- Questions, Comments, Audience Participation





The Dolores Project



- McPhee Dam
 - Active Capacity
 - 229,200 a-f
 - Max release 5000 cfs
 - Acres Irrigated 61,000
 - Drainage 809 sq-miles
 - Federal Project with private water rights.
 - Transbasin diversion

Dolores River Management

BEFORE DRD

Objectives

- Mitigation for white-water rafting
- Tail-water trout fishery
- Minimum in-stream flow

Management Tools

- Spill Committee
- Fish pool



Lower Dolores River



Lower Dolores River



DRD Acronyms

- DRD – Dolores River Dialogue
- DWCD – Dolores Water Conservancy District
- MVIC – Montezuma Valley Irrigation Company
- McPhee – McPhee Dam or Reservoir
- Bureau – Bureau of Reclamation
- DOW – Colorado Division of Wildlife
- DRIP – Dolores River Instream Flow Partnership
- WETPACK – Water for Everyone Tomorrow Package



DRD Formation

DRD Statement of Intent

It is the intent of the Dolores Water Conservancy District and the Dolores River Coalition, in collaboration with other interests, to discuss the management of the flows of the Dolores River to determine how the river might best be managed to serve the needs of the various human and natural communities of the Basin and the region. The parties will act will by a general consensus.

This collaborative effort is not intended to involuntarily diminish the quantity of water available for the current Dolores Project beneficiaries or the operational flexibility needed to meet the demands of Project beneficiaries.

DRD Participants

- Dolores Water Conservancy District
- Montezuma Valley Irrigation Company
- Colorado Water Conservation Board
- The Colorado Water Trust
- Colorado State Engineer
- Bureau of Reclamation
- Colorado Division of Wildlife
- Bureau of Land Management
- United States Forest Service
- Montezuma and Dolores Counties
- Dolores River Coalition
- The Nature Conservancy

Foundational Documents

- Milestones in the Flow of the Dolores River Dialogue
- Plan to Proceed
- Core Science Report
- Hydrology Report
- Correlation Report
- Matrix of Opportunities



DRD Science

DRD SCIENCE

- Keep the politics out of the science
- Define the questions that help policy makers
- Establish permanent study sites
- Use GIS to fullest extent possible
- Draw on existing research and motive new ideas

DRD Reaches



8 distinct Reaches were defined using distinct channel characteristics (i.e slope and gradient), as well as vegetation, etc.

Ecological Goals



Riparian Health

Goal	Flow Hypothesis
Floodplain scour/ deposition.	2000+ cfs for 10+days
Floodplain saturation (nutrient cycling)	800+ cfs
Cottonwood seedling establishment.	2000+cfs to build bars; ~100cfs/day ramp down to favor seedling establishment

Ecological Goals

Native Fishery



Goal	Flow Hypothesis
Spawning.	Moderate spring flows (~100 cfs to 1000 cfs) for ~60 days to keep pre-spill water temperature low.
Year class recruitment.	Avoid rapid drop at end of peak (stranding); (ramp-down rates <200 cfs/d)
Adult fish survival	Maintain adequate base flows
Reduce non-native fish populations.	High annual spring flows (~100 cfs to 1000 cfs). Avoid sustained (esp. multi-year) low flows.

Ecological Goals

Trout Fishery



Goal	Flow Hypothesis
Combined biomass >30lbs/ac (3yr avg)	Spill duration exceeding 70 days.
Stocking recruitment (+1 size class evident)	Maintain adequate baseflow (>78cfs minimum base flow during summer; >30 cfs winter)
Maintain 10 trout/ac over 14" (3 yr avg)	Spill duration exceeding 70 days.

Ecological Goals



River Mechanics

Goal	Flow Hypothesis
Scour fine sediment ("flushing flows")	>400cfs
Frequently mobilize channelbed surface.	2000 cfs for 10-14 days. Small-spill years: 1000 cfs for 1 week to continue 'downsizing' of alluvial channel.
Periodic channelbed scour/ coarse sediment flux.	>3000 cfs for 1 wk
Infrequent channel resetting flow.	20 yr flood frequency+ (~5000 cfs)

CDOW Management of Terrestrial and Aquatic Wildlife Resources for Recreational and Conservation Purposes

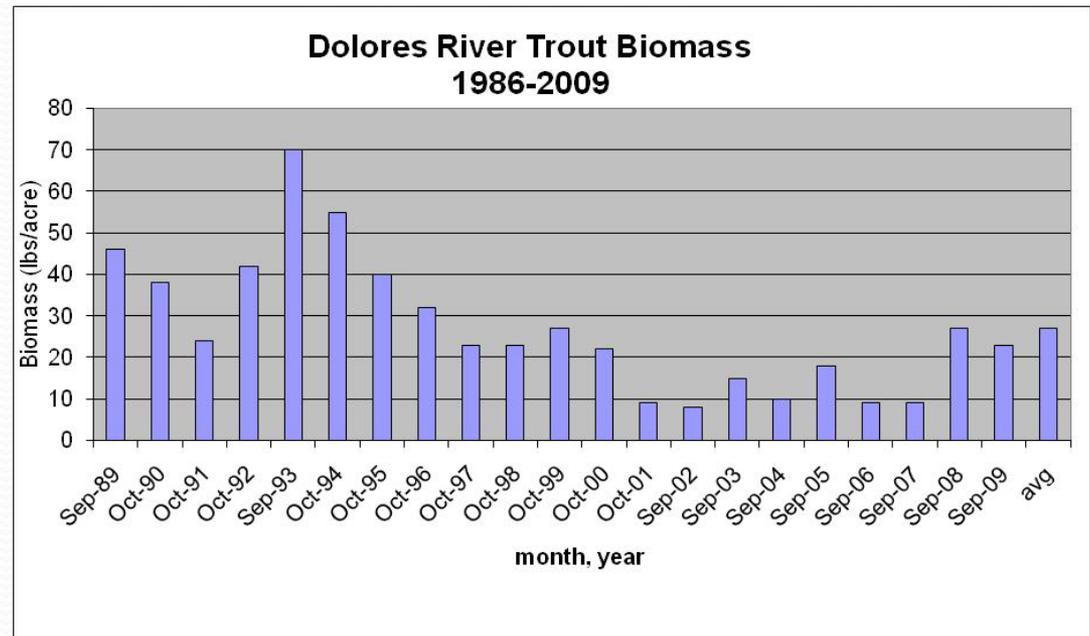
Brief History of Cooperative Management on Lower Dolores

- Cooperative Land Management of River Corridor (to 12-miles below dam) – State and Federal Agencies (pre-DRP)
- Dolores River Biology Team - Flow Management w/ Fed Partners, TU (1986 – present)
- Dolores River In-stream Flow Partnership (DRIP) w/ State, Fed, Water Districts, NGO Partners (1989 - ~ 2000)
- MOA signed in 1998 articulating goals, including seeking additional water supplies for in-stream use

Dolores River Dialogue (DRD) – 2004 through present

FISHERY MANAGEMENT AND DATA

- Coldwater Trout Management
- Stocking Rainbow, Cutthroat Trout
- Annual Electrofishing Surveys (four sites)
- Habitat Improvement Projects

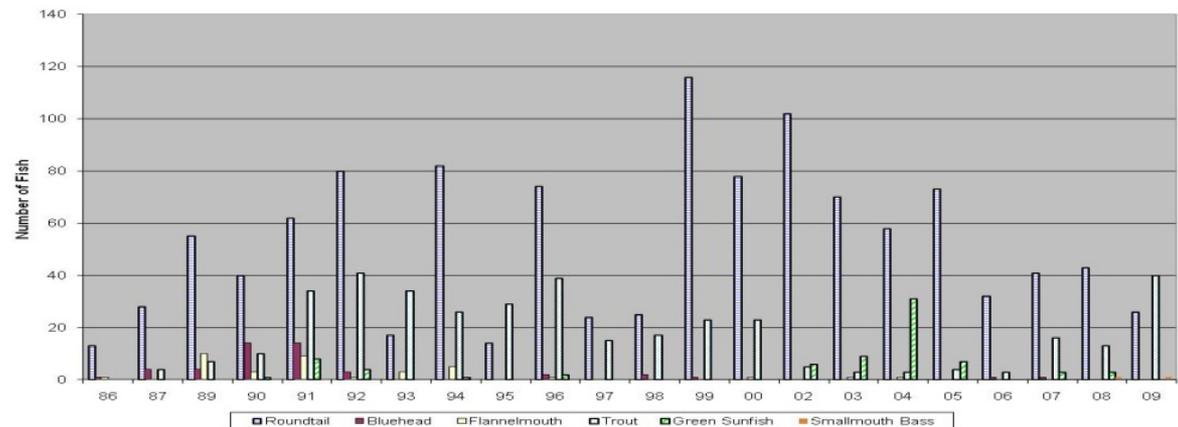


Dolores River Dialogue (DRD) – 2004 through present

Warmwater Native Species Conservation

- Roundtail Chub (warranted for ESA Protection in Lower CO River Basin)
- Flannelmouth and Bluehead Suckers
- Annual Electrofishing Surveys (one site)
- Infrequent, Flow-dependent longitudinal surveys

Sampling Summary - Dove Creek Pump Site
1986 - 2009



Habitat Investigations Below McPhee Dam at Lone Dome State Wildlife Area



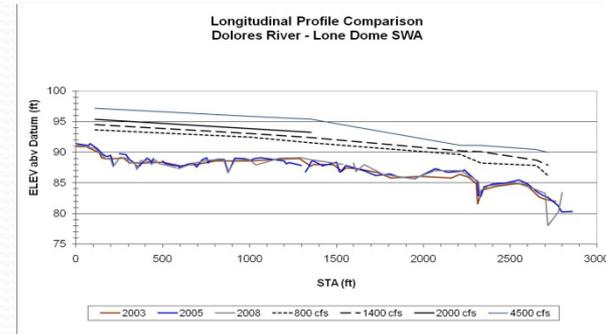
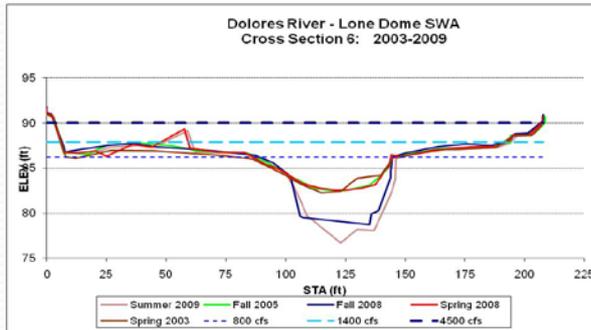
- Pre-Dam History of Land and Water Management Affecting Aquatic Habitat
 - Late- Summer Dewatering since 1886
 - Agriculture and Grazing

- Post-Dam Issues Affecting Aquatic Habitat
 - Reduced Peak Flows, No-Spill Years
 - Reduced Sediment Flux below Reservoir



Specific Inquiries

➤ Cross Section and Longitudinal Surveys



- Particle Size Analyses
- Sediment Dynamics



- Thresholds of Flow



	Mobility Threshold Exceeded at XS?					
	D50			D84		
	800	1400	4500	800	1400	4500
XS#0	YES	YES	YES	NO	NO	YES
XS#1	NO	NO	NO	NO	NO	NO
XS#2	NO	NO	NO	NO	NO	NO
XS#3	YES	YES	YES	NO	NO	YES
XS#4	YES	YES	YES	NO (~)	YES	YES
XS#5	YES	YES	YES	YES	YES	YES

- ADAPTIVE MANAGEMENT – FLOW EXPERIMENTS TO TEST HYPOTHESES

COLLABORATIVE PROCESSES

A State Agency Perspective

- History of ‘Collaborative Processes’ in general has been mixed (e.g., ‘DRIP’, ‘angler roundtables’, sage grouse ‘working groups’, big game management structures
 - Dangers of politicizing wildlife management
- Mandate to manage wildlife resources whether or not a ‘cooperative process’ exists
 - ‘FAD’ or a Meaningful, Long Term Management Strategy?

COLLABORATIVE PROCESSES

A State Agency Perspective

- Decision Making Authority
 - THE DRD HAS NONE
- Parochial Interests vs. Common Goal
 - PARTICIPANTS MUST MAKE A CHOICE

Conclusions – Personal Perspective

- Meaningful scientific information has been collected and collated that can help address significant resource concerns
 - COLLABORATIVE SCIENCE WORKS
- All key players are at the table
 - THE DRD CAN BECOME A FORCE FOR PROACTIVE DECISIONS THAT COULD AFFECT FEDERAL LISTINGS OF AQUATIC SPECIES



River Mile 74



River Mile 74

Integrating Science

- Lower Dolores River Working Group
- Dolores River Watershed Plan
- Private Water Rights

Lower Dolores Working Group

- Purpose
 - Organized by DRD to evaluate alternatives to WSR
 - Update 1990 BLM Dolores River Corridor Management Plan
- Process
 - Diverse Stakeholder Group (50 people)
 - Meetings on Outstandingly Remarkable Values, Management Issues, Opportunities & Concerns
 - Field Trips (3)
 - Brainstorming tools and strategies in small groups by Reach

Lower Dolores Working Group

- Topic Workshops 2010
 - Select Top 3 issues from previous meetings
 - In-depth Workshops on each topic
 - Bucket List: #1) We Prefer #2), If #1 doesn't work #3) If 1 and 2 have been exhausted
 - Recommendations for Preferred Alternative(s) for EA and Revised Corridor Management Plan to be Conducted by Dolores Public Lands Office.

Dolores Watershed Plan

- EPA Driven
- Non-point source pollution
- Watershed plan? Or communication tool?.

FOR MORE INFORMATION

**<http://ocs.fortlewis.edu/drd/>
www.doloreswater.org**