

AWSA: NM Unit Diversion Proposal and “Best Available Science”

Presented to Interim Water and Natural
Resources Committee,
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Flow Affects Everything









Diversion Impacts & Consequences

- Structure in the Floodplain
- Flow Change
- Habitat Alterations
- Isolation/Fragmentation
- Smaller Populations
- Increased Extinction Risk



*Diversion Mitigation Potential

- Return Flow
- Ecological Benefit Unknown
 - Basis (Science)
 - Experience



Environmental Issues

- Rich & Diverse Fauna, System Rarity
- Adapted to Variable System
- Sensitive to Habitat Alteration & Nonnatives
- Cliff-Gila Valley Protected species
 - 2 Fish (endangered)
 - 2 Snakes (threatened)
 - 1 Frog (threatened)
 - 2 Birds (threatened)

Narrow headed garter snake



Spikedace

Loach minnow



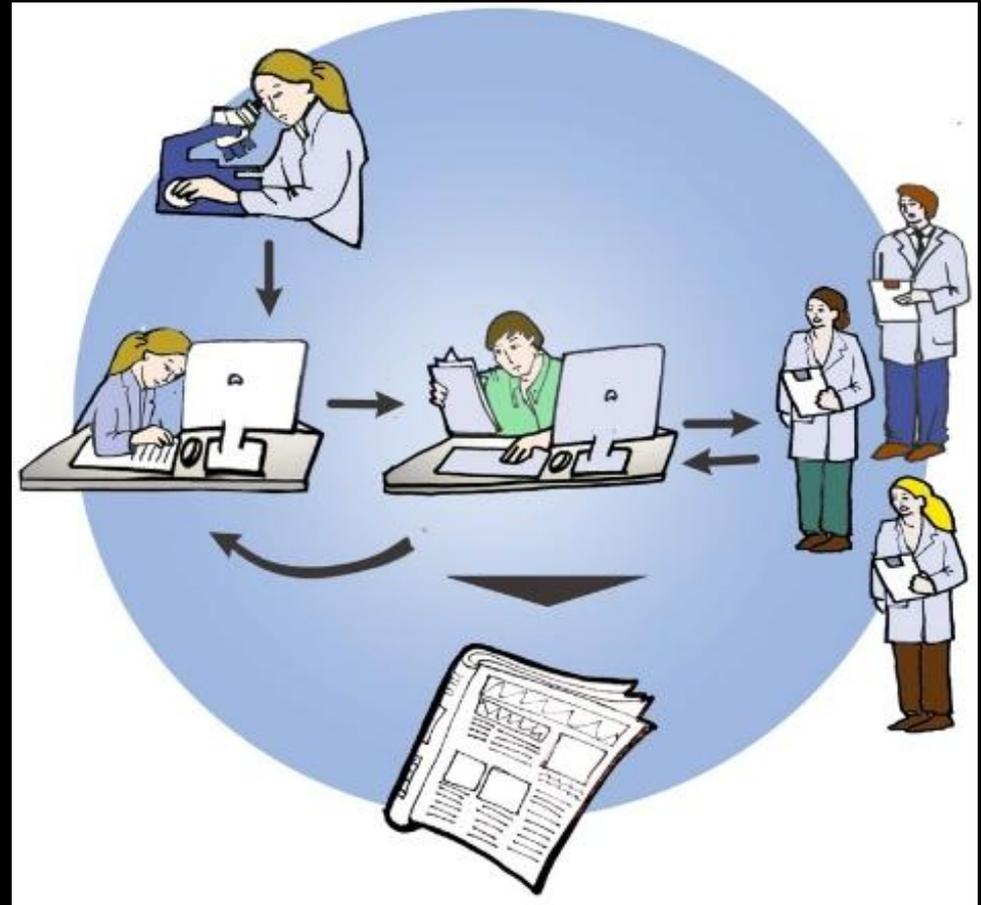
Southwest willow flycatcher

Technical Basis for NM Unit Diversion Proposal

- Diversion Design?
- NMISC-Funded Study Concerns
 - Sources of information
 - Analytical procedures
 - Counter-Intuitive Results: “No or even beneficial effects”
 - No evidence of Peer Review

What Is Peer Review?

- Independent
- Unbiased
- Expert Knowledge
- No Consensus Is Required
- Debate And Disagreement
- Reduce Uncertainty



“Best Available Science” and Scientific Integrity Upfront: Federal Law Compliance

Compliance Law

- National Environmental Policy Act (NEPA)
 - First Step
- Endangered Species Act (ESA)
- USFS, COE
- Various Permitting
- Completion Required Before Project Build

Best Available Science

- Scientific Process
 - *Clear Objective(s)*
 - *Conceptual Model*
 - *Methods*
 - *Statistical Rigor*
 - *Clear documentation*
 - *Peer Review*
- Science and non-science
 - Integration

Peer Review of ISC Studies?

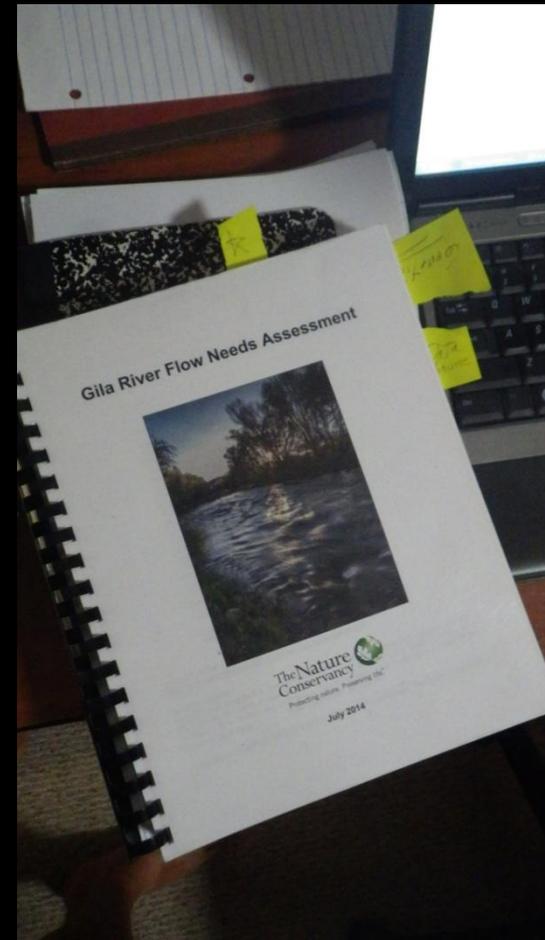
- Public Comments to NMISC at Silver City Meeting, 14 November 2014
 - Internal Staff Review ≠ Peer Review
- Letter to DOI Secretary, 12 February 2015
- Response from Reclamation, 3 April 2015
 - Peer Review and Scientific Integrity Policies
- ISC Response
 - Public Meetings ≠ Peer Review

Science Available to AWSA Diversion Proposal

Source	Negative Impacts?	Peer Review
ISC-Funded Studies	No (beneficial)	No (?)
Published Peer Review Literature	Yes	Yes
TNC Flow Needs Assessment	Yes	Yes

TNC Flow Needs Assessment Report, July 2014

- Inclusive
- Regional Expertise
- Ecological Integration
- Workshop
 - ISC Participation
 - Draft Report Preparation
- Review
 - Internal and External
- ***Findings: High Potential For Environmental Impacts***



What's Next?

- NEPA by Bureau of Reclamation
 - Co-lead with NMISC
 - Best Available Science
 - Peer Review
- ESA by Fish And Wildlife Service
 - Based upon NEPA Decision
 - No co-lead
 - Best Available Scientific and Commercial Information
 - Decision (Biological Opinion)
- Compliance and Permitting (Value Engineering Report)

If the Diversion is built?

- Environmental Change Will Occur
- Uncertainty For Amount Of Change
- Additional Species Conservation Efforts Will Be Required
 - Long-term, Expensive
 - Results Mixed
- **Scientific Integrity Upfront Is Critical**

NM Unit Proposal?

Best Available Science Is
Critical