Razorback Conservation without Predator Control: An Obituary
Minckley’s 1990: Native Fish of the Grand Canyon Area: An Obituary?

- Spawned of the concept of using Dam Releases to manipulate habitat in favor of natives
- Biological benefits remain illusive
- Native Fishes are being actively managed in some locations to the actual detriment of sport fisheries
Native Fish Management Corridors

Mainstem River reaches managed exclusively for Native Fish.

- Downstream Lee’s Ferry
- Lower San Juan River
Mainstem Predation is Accepted in the Lower Basin

- Mechanical predator removal is not a viable alternative
  - Technically impossible
  - Economically impossible
  - Water quality issues
  - Failed in Upper Basin
  - Sport fisher conflicts
Unique Situation between Davis Dam and Lake Havasu

- Largest river spawning group of razorbacks
- Reach supports flannelmouth suckers
- Present range of river and reservoir operations are exercised
  - Significantly low winter flows (<1,000 cfs)
  - Annual reservoir drop of 10 ft. for maintenance
- BUT never together which minimizes impacts!
What is Allowing Flannelmouth Recruitment?

- Flannelmouth are in the river channel
- Predators=less abundant in the channel
- Flannelmouths don’t need backwaters
- Winter low and fluctuating hydropower limits resident predator communities
- Excalante River Example
What is Preventing Razorback Recruitment?

- **PREDATION!!!**
- In Winter, predators concentrate in deep backwaters and Havasu’s Delta area.
- Razorback spawn much lower and unlike flannelmouths, They do use backwaters.
- However, these areas are filled with resident and seasonally inflated predator communities.
“Backwater Reset” Concept

- Nurseries were ‘temporary’
  - During low flows they drained
  - Refilled during spring runoff
- NO Resident predator communities
- Razorback larvae benefited from predator ‘free’ nurseries
- Those conditions NO LONGER exist!
WHAT IF WE??

- Drew down the river and reservoir at the same time in December?
  - Would it displace predators from backwaters into the channel?
- Follow with spike flush
  - Would it displace them downstream?
- Would we reduce predator pressure?
- Could we detect Razorback recruitment?
Conditions Necessary to Work

✓ Spawning Population
✓ Operational Flexibility
✓ Simultaneous draw downs
✓ Flushing Spike Flow
✓ Resource Agency Buy-in

What Options do We Have?

STATUS QUO!
Thanks for considering one more crazy idea!