

Sanctuary Communities: An Adaptive Management TOOL



Bonytail

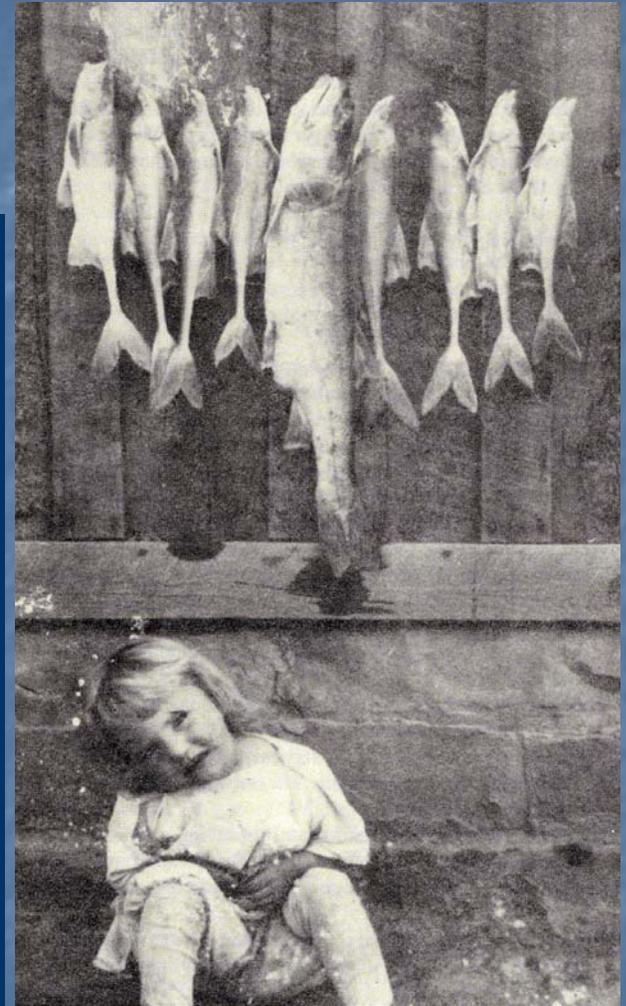


Razorback Sucker

Humpback Chub????

Brief History

- Bonytail and razorback sucker were:
 - Historically abundant
 - Decline linked to predation and habitat degradation.
- Federally Endangered
 - Bonytail 23 April 1980
 - Razorback 23 October 1991



Conservation Efforts



- **1976 - Colorado River Fisheries Project**
 - USFWS offices in Grand Junction, CO & Vernal, Utah.
- **1987 – Recovery Implementation Program (RIP) for Endangered Fishes in the Upper Colorado River Basin (15 yr)**
- **1997 - Multispecies Conservation Program**
- **2002 - the RIP was extended 10 years**

Stocking Programs

■ Lower Basin

- 15 million small fish stocked
- 110K Large (>20 cm) RZB stocked
 - Survival < 5%,
- BT To few # to determine (<1%?)

■ Upper Basin

- Survival for both low

■ Losses

- Predation
- Passage
- Stress



The Results of RECOVERY

18 years of effort, \$100,000,000+
Wild populations are gone (<.001%)
Survival of stocked fish is extremely
low (<5%).

Predation is preventing sustainable
natural recruitment.

And..*all* attempts to control predators
in the mainstem river have YET to
be shown to benefited natives.



What have we learned?

Minckley et al. 2003. *A Conservation Plan for Native Fishes of the Lower Colorado River.*
BioScience Vol. 53:219-234.

It's an economically and scientifically viable approach to benefit the fish, resource managers, and hopefully recovery efforts. *We want to build a program on success.*

Cibola High Levee Pond

Cibola National Wildlife Refuge

Cibola, Arizona-California



Chronology of Cibola HLP

- It was a grow-out pond
- 1993 chemically renovated
- 1993-1995 stocked
- Larger fish harvested each fall
- 1998 Recruitment is documented
- 2001 USGS/FWS/ASU study

What We Learned Thus Far

Bonytail (*Gila elegans*)

- Natural Recruitment
- Large annual spawns
- Spawn 1st year
- 6,000+ 'wild' adults



Razorback Sucker (*Xyrauchen texanus*)



- Natural Recruitment
- Intermittent years
- 1,000 large suckers.



What We've Learned

- Unparalleled Access
 - Access to the complete life stages of both,
 - We have a better understand of the role of *isolated oxbow* communities.



This Has Become My Crusade!



03/04/2003
4 scenes

■ Sanctuary System  **USGS**
science for a changing world

The Benefits

- Maintain genetic diversity,
- We're going to learn management skills,
 - Is the Recovery Plan Feasible?
- Establish population with
 - NATURAL RECRUITMENT.
 - All life stages,
 - Easy access,
- Produce large fish for augmentation



“This Is A Tool”

**A small step toward Recovery,
A huge step toward Conservation**

**Sanctuaries provide opportunities
for researchers and managers that
currently can not be learned or
tested in the river.**

What Do Sanctuaries Have to Do With Humpback Chub!

- Is the species secure?
- Can you control predators?
- Can you guarantee against catastrophic loss?
- Do you understand its complete life cycle?
- Do you have sufficient data?
- Do you sure Recovery is going to work?

IF NOT;

Consider what a pond of naturally reproducing humpback chub would mean to the:

**Security of the species,
To your management goals,
To political and public support,
And to recovery.**