

Lower Colorado River Multi-Species Conservation Program



Balancing Resource Use and Conservation

2007 Fishery Program Overview and Status of Razorback Sucker and Bonytail Downstream of Grand Canyon



Fish Program Activities in 5 of the 7 River Reaches

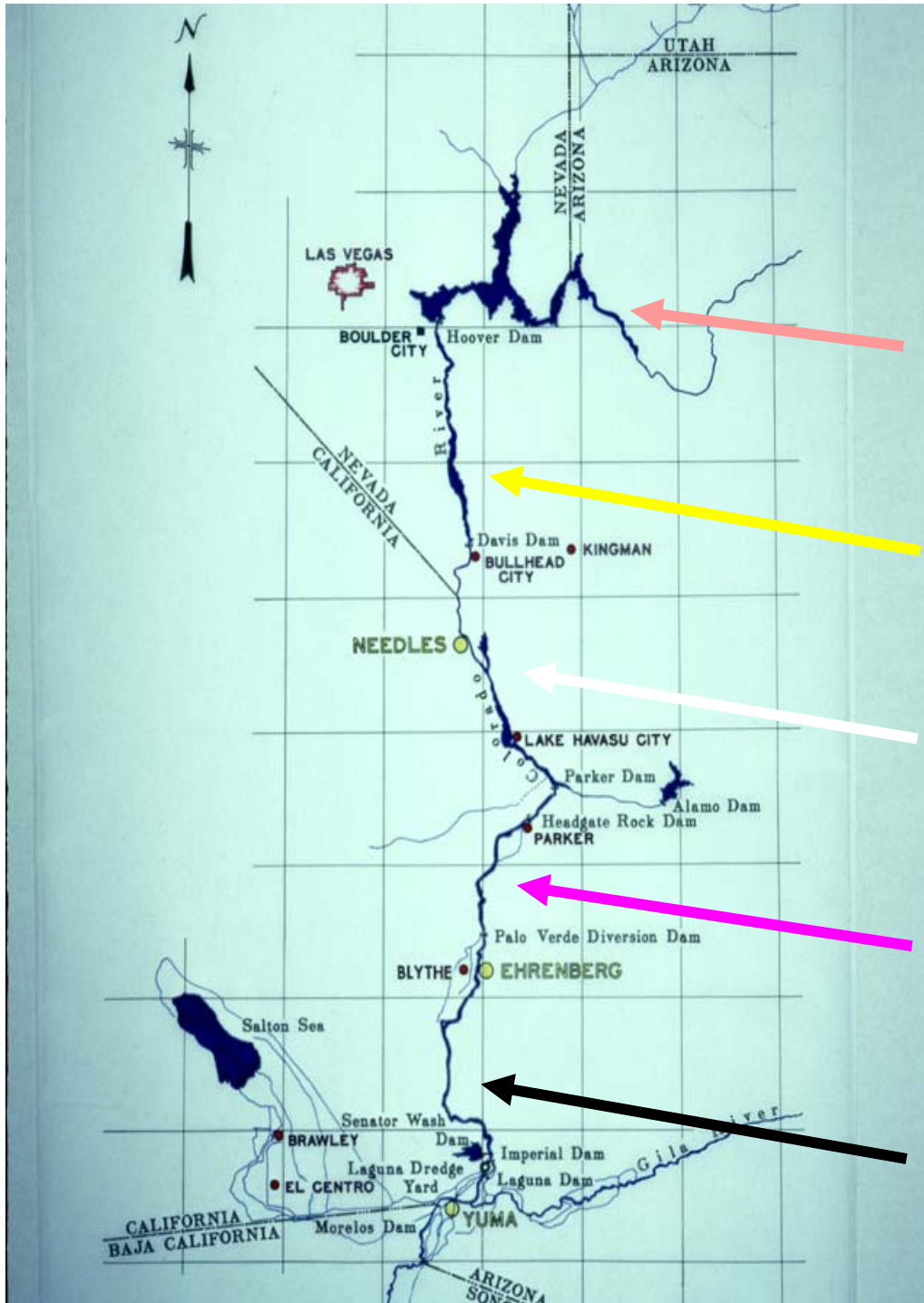
Reach 1 – Lake Mead

Reach 2 – Lake Mohave

Reach 3 – Lake Havasu

Reach 4 – Parker/Cibola

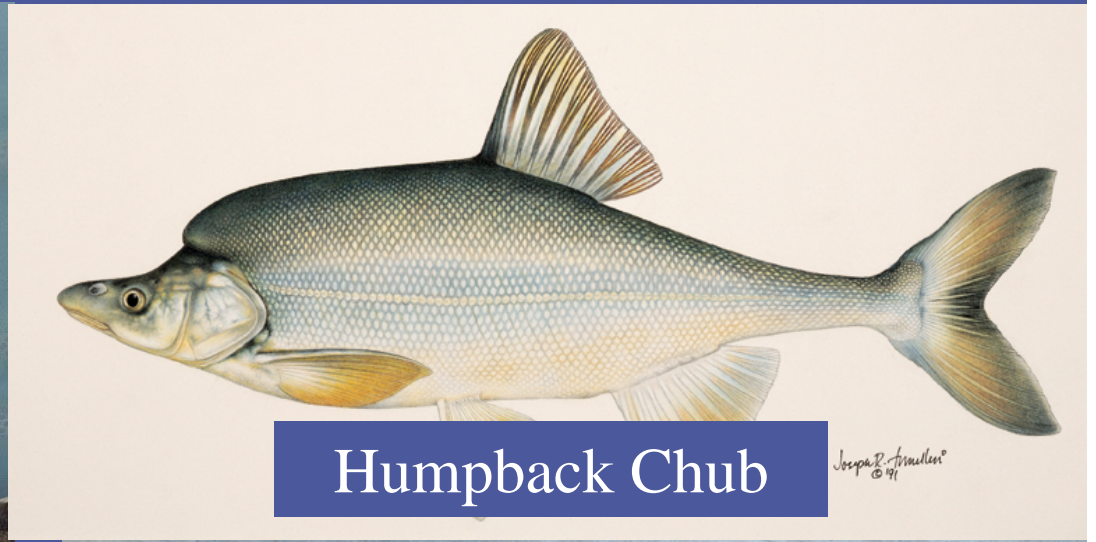
Reach 5 – Imperial



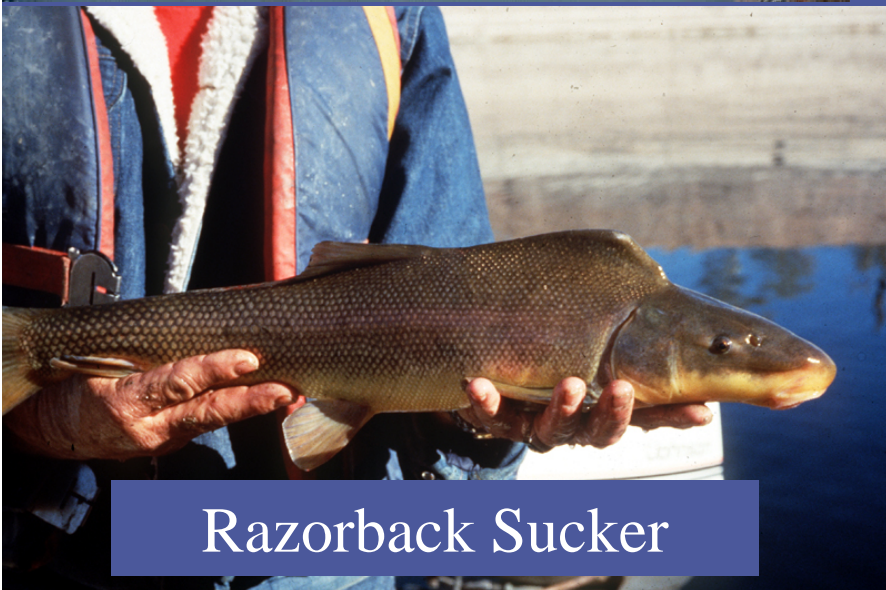
Conservation Measures for Four Native Fishes



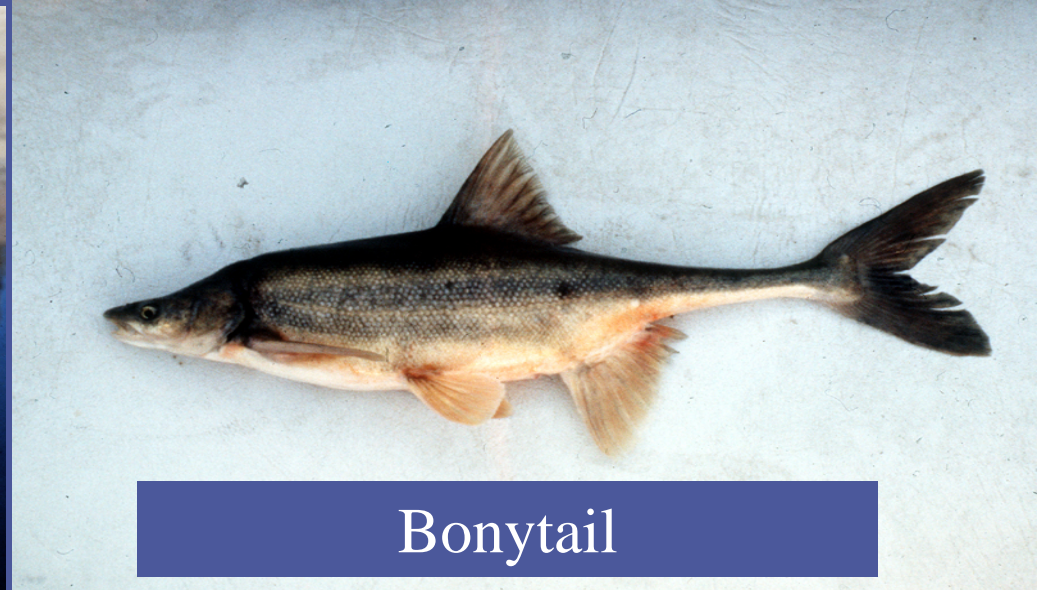
Flannelmouth Sucker



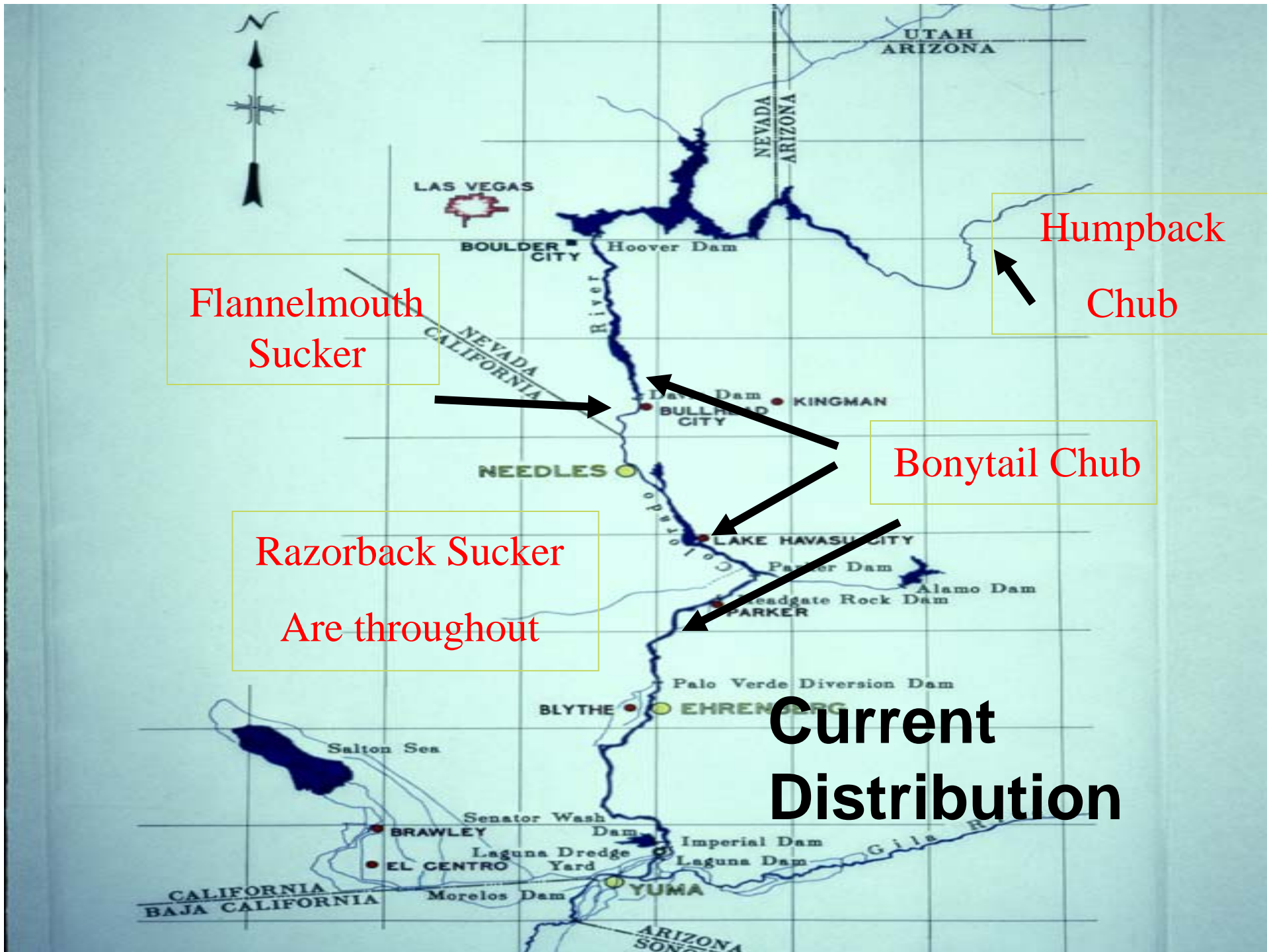
Humpback Chub



Razorback Sucker



Bonytail



Flannelmouth
Sucker

Humpback
Chub

Bonytail Chub

Razorback Sucker
Are throughout

**Current
Distribution**

Limited Activities for Humpback Chub



Currently providing \$10,000 to Willow Beach Hatchery to support captive management of adult humpback chub

CONSERVATION STRATEGIES FOR NATIVE FISH SPECIES

- **FISH AUGMENTATION**
- **SPECIES RESEARCH**
- **SYSTEM MONITORING**
- **HABITAT DEVELOPMENT**
- **DATA MANAGEMENT**
- **ADAPTIVE MANAGEMENT**
- **COORDINATE WITH RECOVERY PROGRAMS**

FISH AUGMENTATION

Rear and stock:

- 660,000 razorback sucker (12 “)
- 620,000 bonytail (12”)

10% to be released over 5 yr period for species research

- Ten active work tasks funded in 2007

Current Native Fish Rearing Partners

- Willow Beach NFH – razorback & bonytail
- Achii Hanyo FRS – razorback & bonytail
- Lake Mead SFH – razorback sucker
- Dexter Fish NFH – razorback & bonytail
- Bubbling Ponds SFH – razorback sucker
- Lakeside Ponds – razorback & bonytail
- Uvalde Hatchery NFH – bonytail

STOCKING SUMMARY

REACH	RAZORBACK	BONYTAIL
2	1,283	N/A
3	7,080	5,118
4/5	12,750	4,019
2007 Total	21,113	9,137
MSCP TOTAL (2005-2007)	65,663	23,973

SPECIES RESEARCH

Twelve Work Tasks for fish during 2007

Within four main areas:

- Fish Production
- Handling and Distribution
- Monitoring Techniques
- Pond Management

SYSTEM MONITORING

GOAL: Gather enough information for each reach to understand population strength and trends.

- Glean information from ongoing research.
- Participate in interagency surveys.
- Conduct electro-fishing and netting surveys where coverage gaps exist.

(Results summarized in part 2)

DATABASE MANAGEMENT

- **Raw field data**, and stocking records kept in **protected** files in Boulder City.
- **Electronic** data records provided to Colorado River Fishes **Database**.
- Database allows **interactive** search of tag history.

ADAPTIVE MANAGEMENT

Simply put, the AMP is an assurance that the conservation will be accomplished.

- a) Gauge effectiveness of conservation measures.
- b) Propose alternative measures or modifications.
- c) Address changed and unforeseen circumstances.

Current AMP Focus: Develop Tools for Future

Developing evaluation techniques not harmful to fish such as remote tag reading and listening stations.

Establish boundary parameters such as salinity, temperature and oxygen levels for early warning keys (i.e., tell us when to take compensation actions such as adding fresh water to ponds).

Remote PIT tag readers

- Now using 134 khz PIT tags which have a stronger signal and allow use of listening antennae
- Provides data without having to net, shock or otherwise handle the fish post-release.

This is a flannelmouth sucker spawning site below Davis Dam. This is the first unit we built, and we contacted both razorback and flannelmouth suckers in the river.



During February and March we contacted 121 fish in Lake Mohave. Units are deployed while crews are out catching larvae



At Imperial Ponds we were able to record more than 200 of the fish we stocked during last November's Dedication.



COORDINATE WITH OTHER CONSERVATION/RECOVERY PROGRAMS

- UCRRIP
- SJRRIP
- GCAMP
- CRAB
- CAP
- Lake Havasu Fishery Improvement Program

COLORADO RIVER BASIN



WYOMING

NEVADA

UTAH

COLORADO

CALIFORNIA

ARIZONA

NEW MEXICO

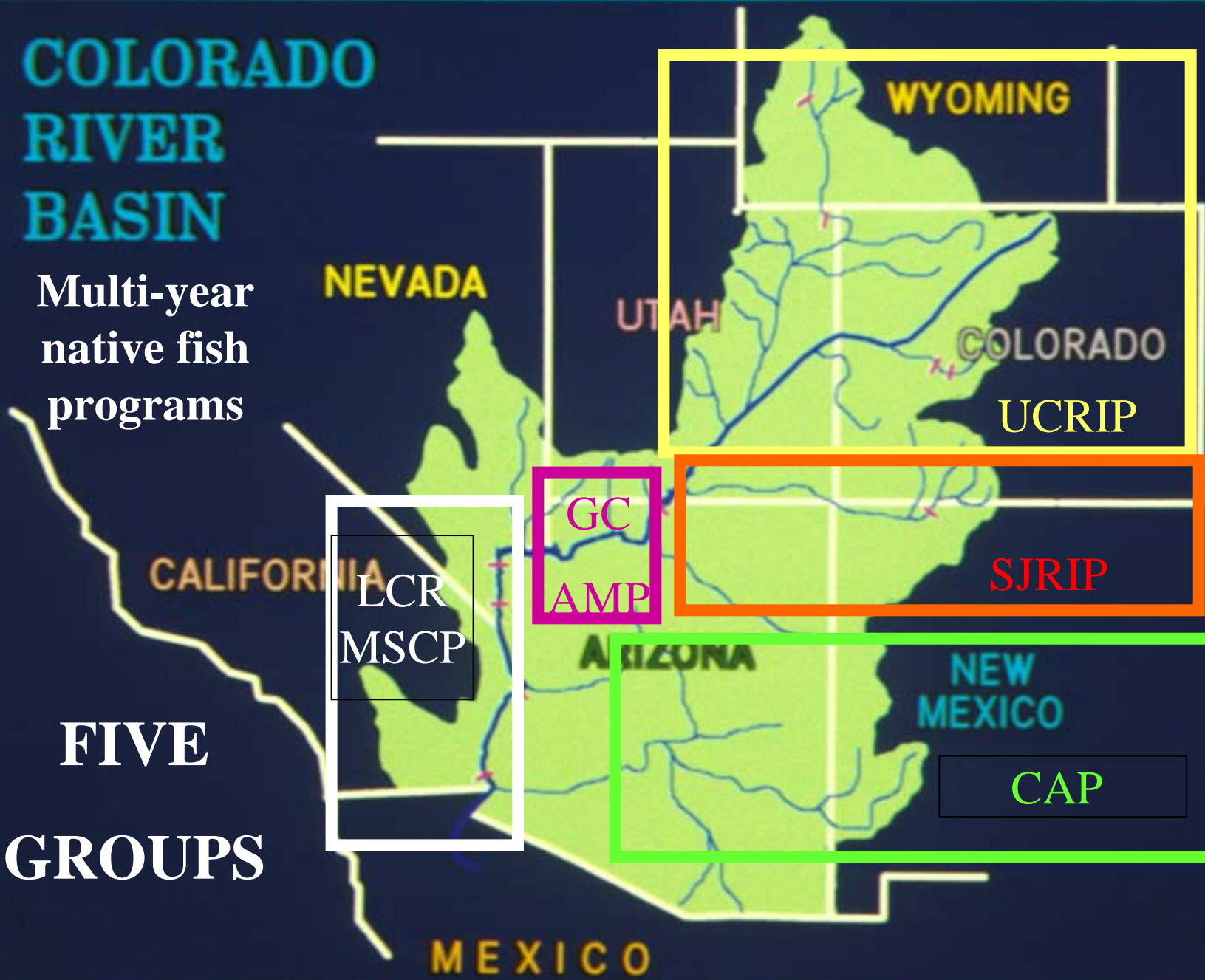
ONE
BASIN

MEXICO

COLORADO RIVER BASIN

Multi-year native fish programs

FIVE GROUPS



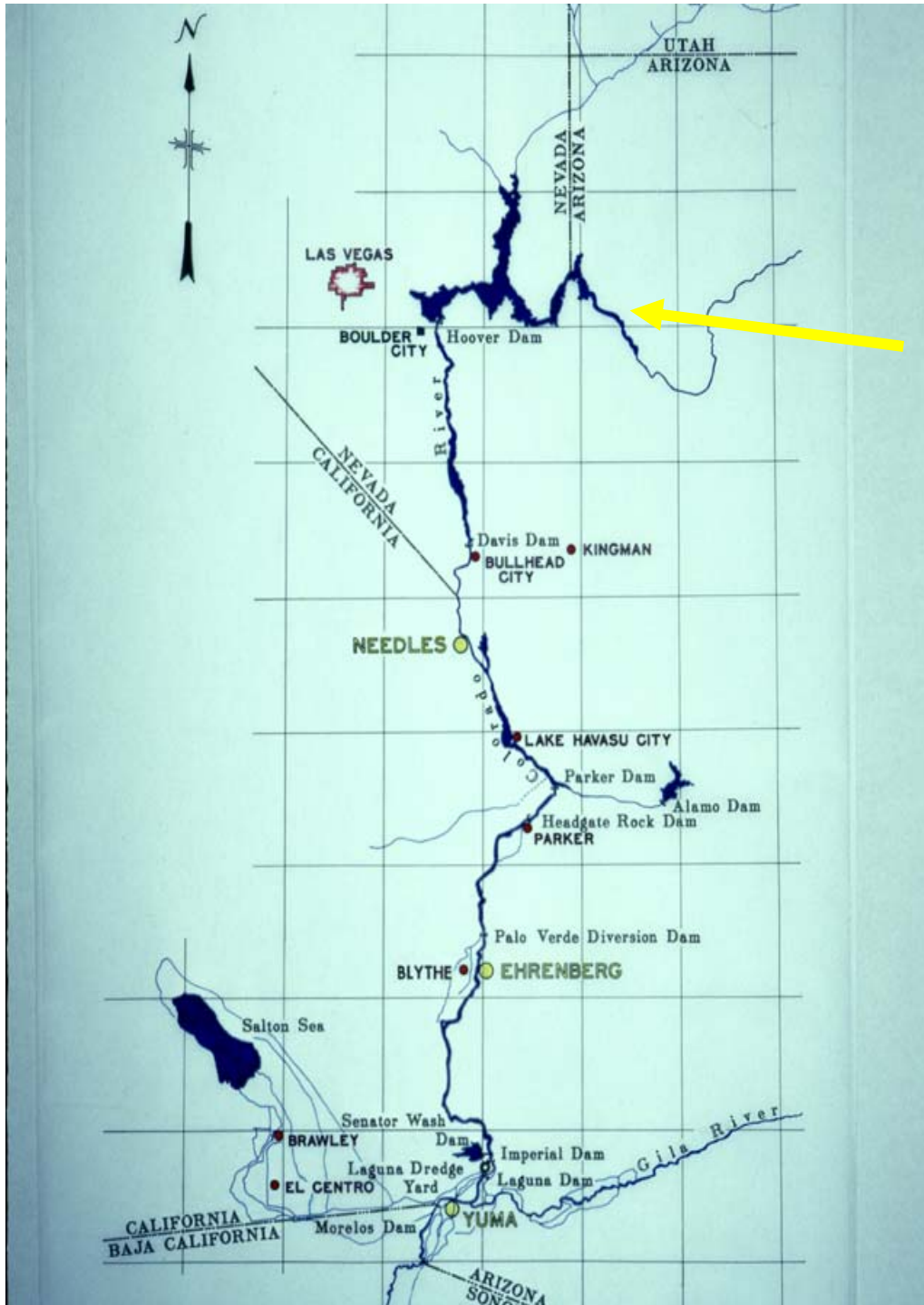
Lower Colorado River Multi-Species Conservation Program



Balancing Resource Use and Conservation

Status of Razorback Sucker and Bonytail Downstream of Grand Canyon (Information not limited to MSCP)

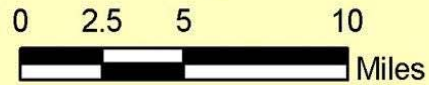




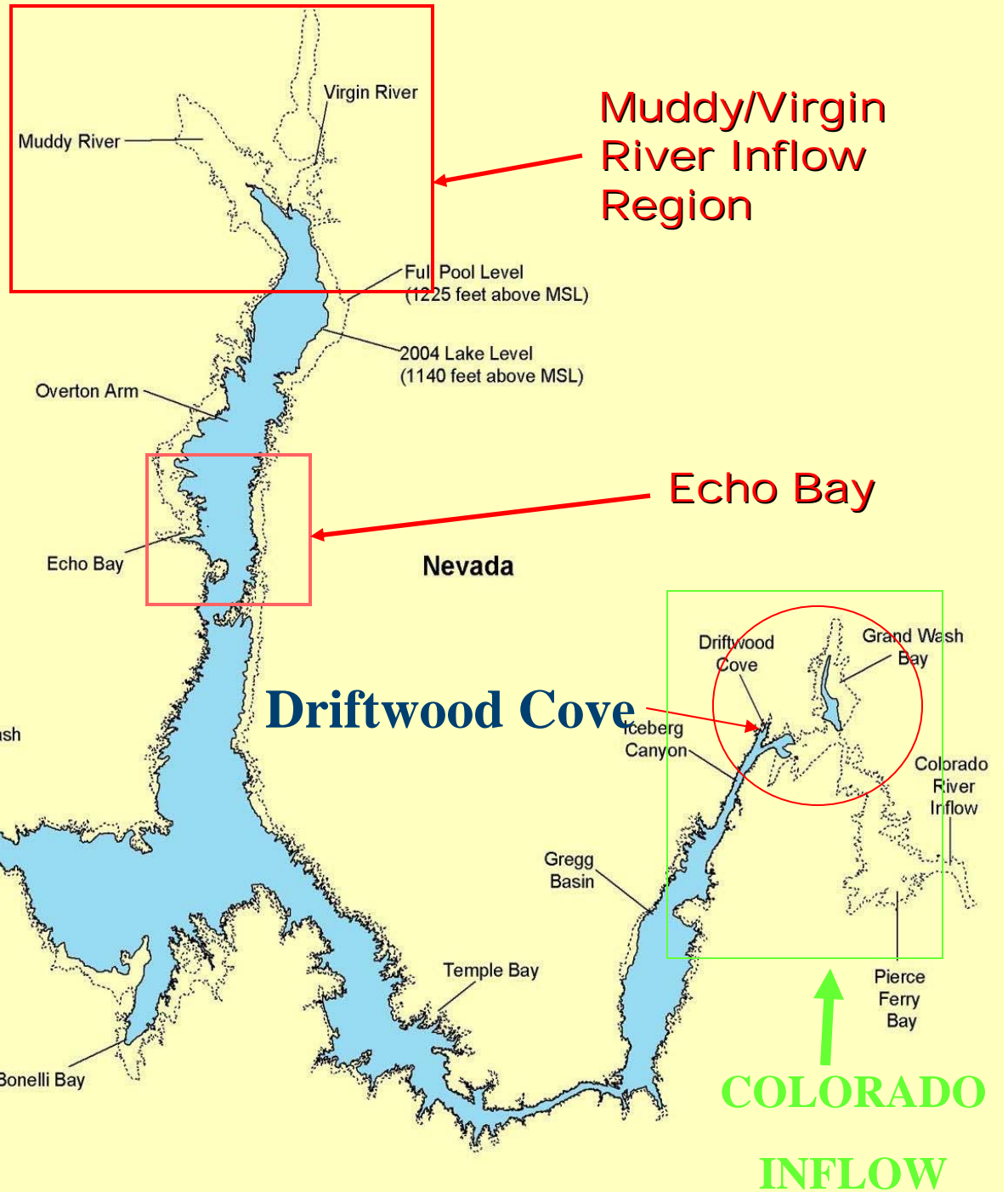
Reach 1 – Lake Mead

REACH 1 – Lake Mead

- 300-500 adult razorback sucker; no bonytail.
- Active monitoring conducted by Bio/West, Inc.
- Three active spawning areas.
- Documented recruitment every year between 1978 and 2004.
- 10-year data summary posted to website.
- Some larvae brought into Lake Mead Hatchery and fingerlings transferred to grow out ponds at Overton WMA



Primary Study Locations



Muddy/Virgin River Inflow Region

Echo Bay

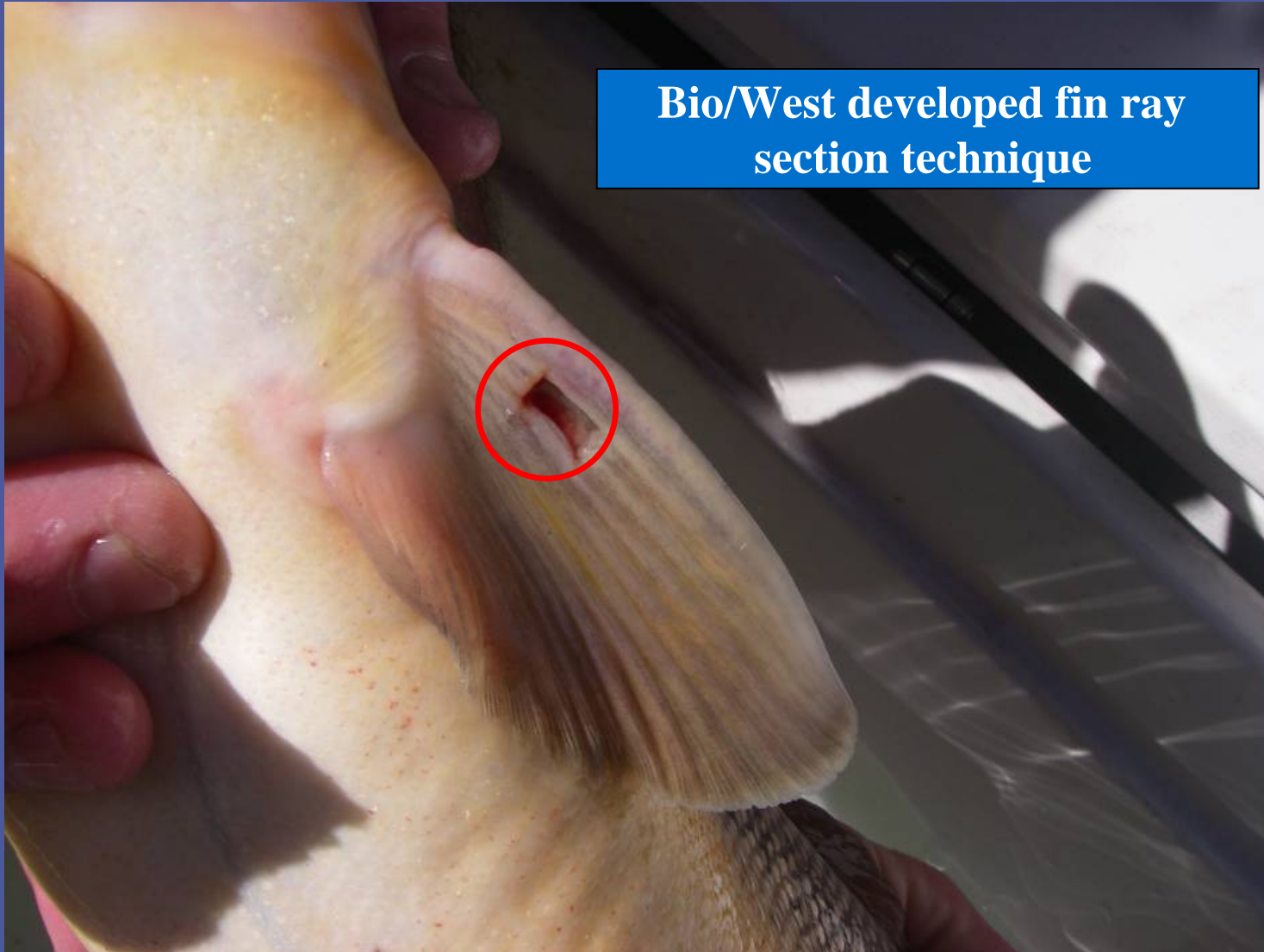
Las Vegas Bay

Driftwood Cove

COLORADO INFLOW

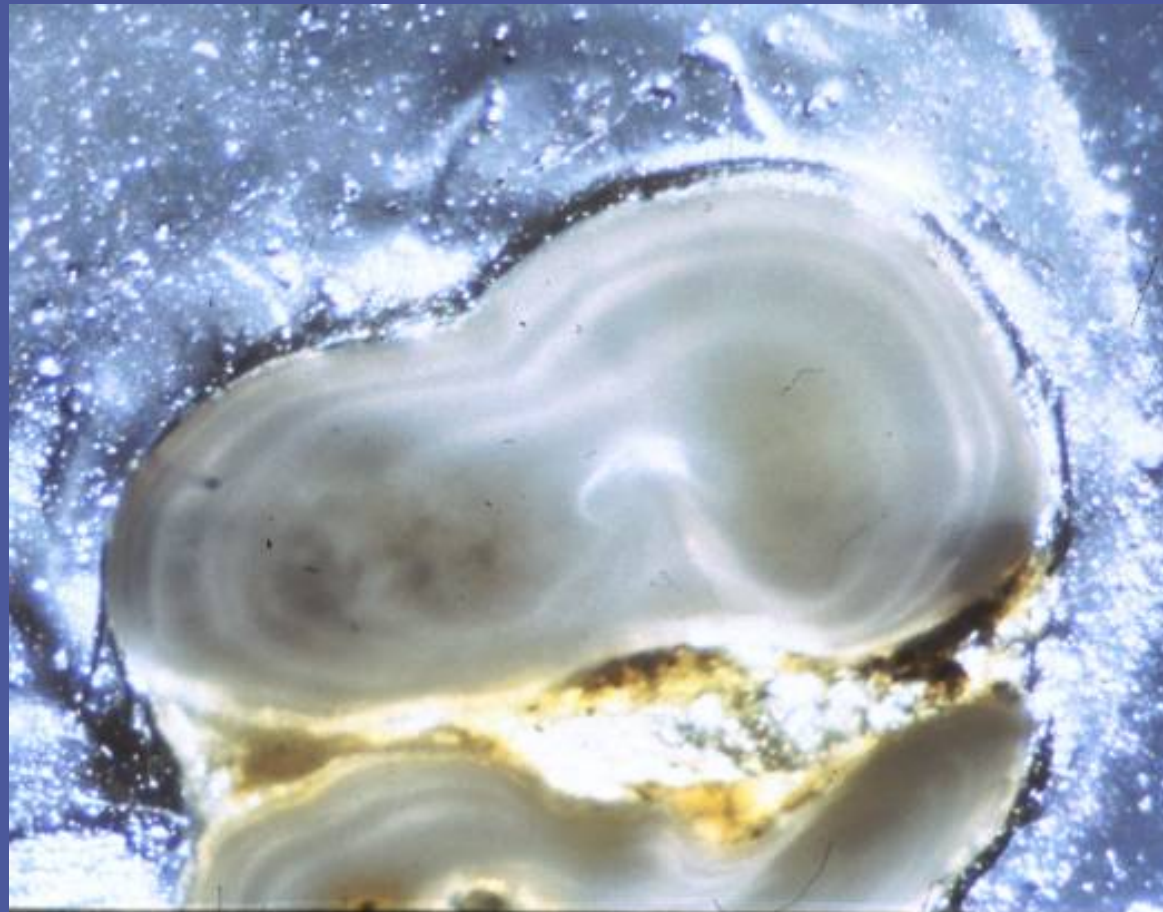
Lake Mead Razorback Sucker Aging :

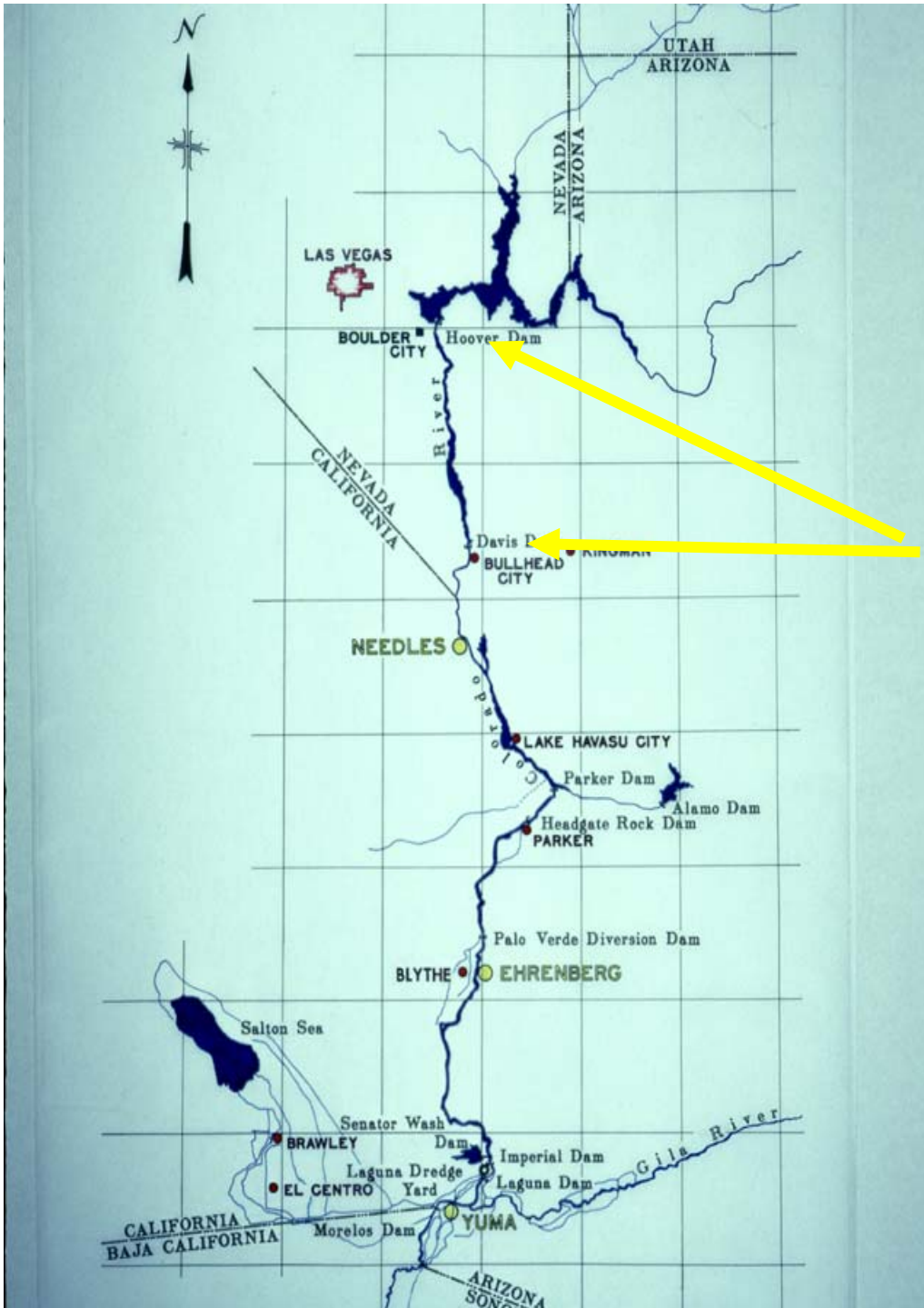
1998-2007 - 132 razorback suckers aged by fin ray section



Lake Mead Razorback Sucker Aging

- 41 razorback suckers aged last season
- 21 fish (51%) aged at 7 years or less





Reach 2 – Hoover Dam to Davis Dam (includes Lake Mohave)

REACH 2 - Razorback Sucker

- 600,000 wild larvae brought in since 1994.
- 2000 repatriated adults now spawning
- Research shows fish need to be 50 cm
- 250-400 adults on shoals below Hoover Dam.
- Davis Cove set aside as Sanctuary
- Razorback sucker spawned in 5 lakeside ponds

REACH 2 – Bonytail

- Bonytail roundup held each May.
- No wild fish captured for last 5 years.
- Extremely poor survival of stocked fish.
- **Bonytail functionally extirpated (i.e., no wild fish).**
- Successful spawning in Davis Cove Sanctuary



**Reach 3 – Davis
Dam to Parker
Dam
(includes
Lake Havasu)**

REACH 3 – Davis Dam to Parker Dam, includes Lake Havasu

FLANNELMOUTH SUCKER – Estimated 2500 adults in spawning population located within first 10 miles below Davis Dam. Larvae, juveniles, and adults captured annually.

RAZORBACK SUCKER – Estimated 1500 adults in spawning population in river, centered just above Needles, California. Adults and larvae captured each spring; no juveniles captured.

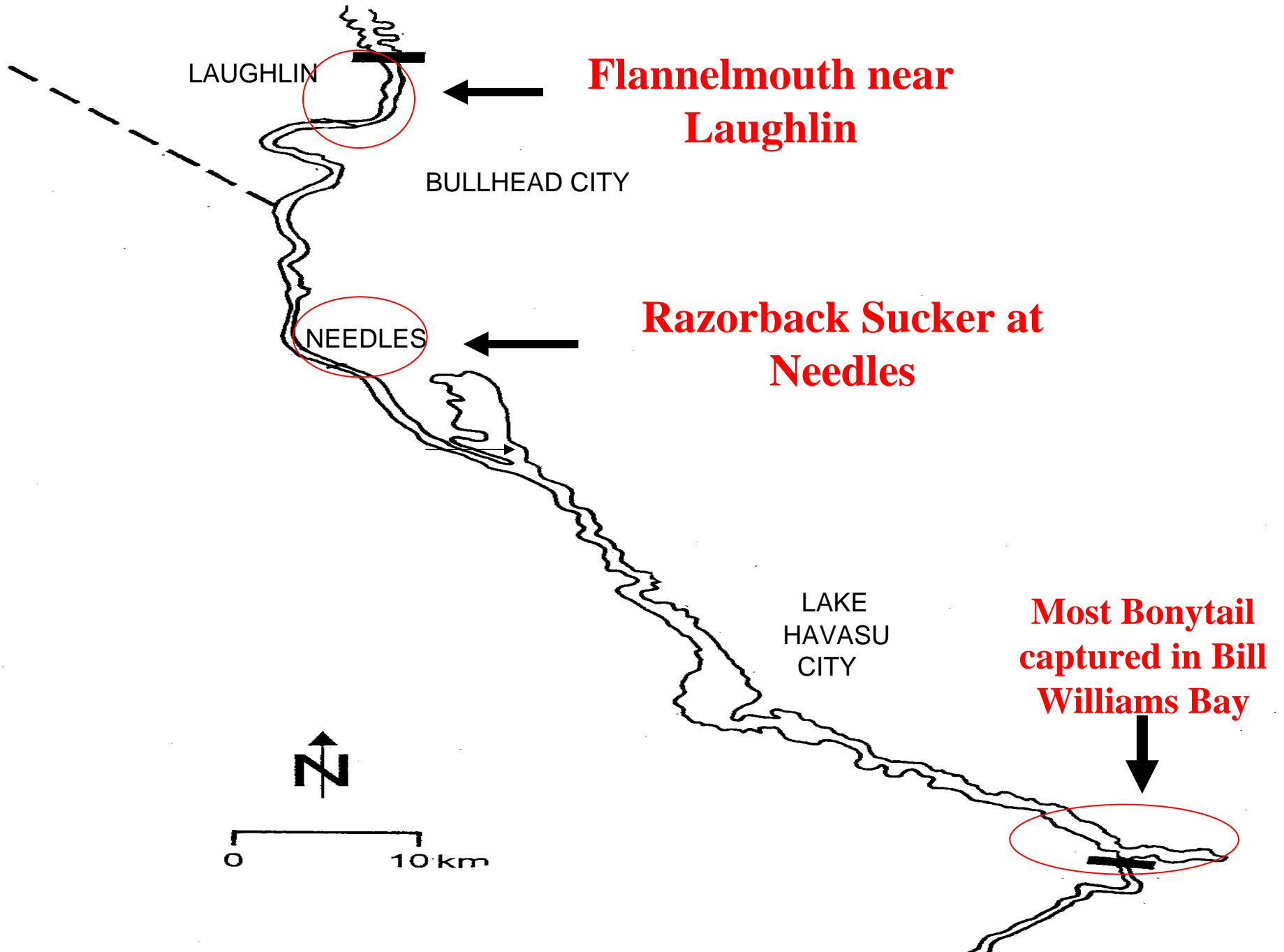
BONYTAIL – Fish are contacted each year; mostly stocked fish at large for less than 1 year and most found in the lower part of the lake.

REACH 3 – Davis Dam to Parker Dam, includes Lake Havasu

FLOOD PLAIN PONDS:

- **BEAL LAKE** – On Havasu Refuge; stocked with razorback and bonytail for growout; contains non-natives.
- **NEEDLES GOLF COURSE** – two ponds being developed as sanctuaries; bonytail stocked in December; razorback sucker to be stocked this month.
- **OFFICE COVE** – On Bill Williams Refuge; contains razorback sucker.

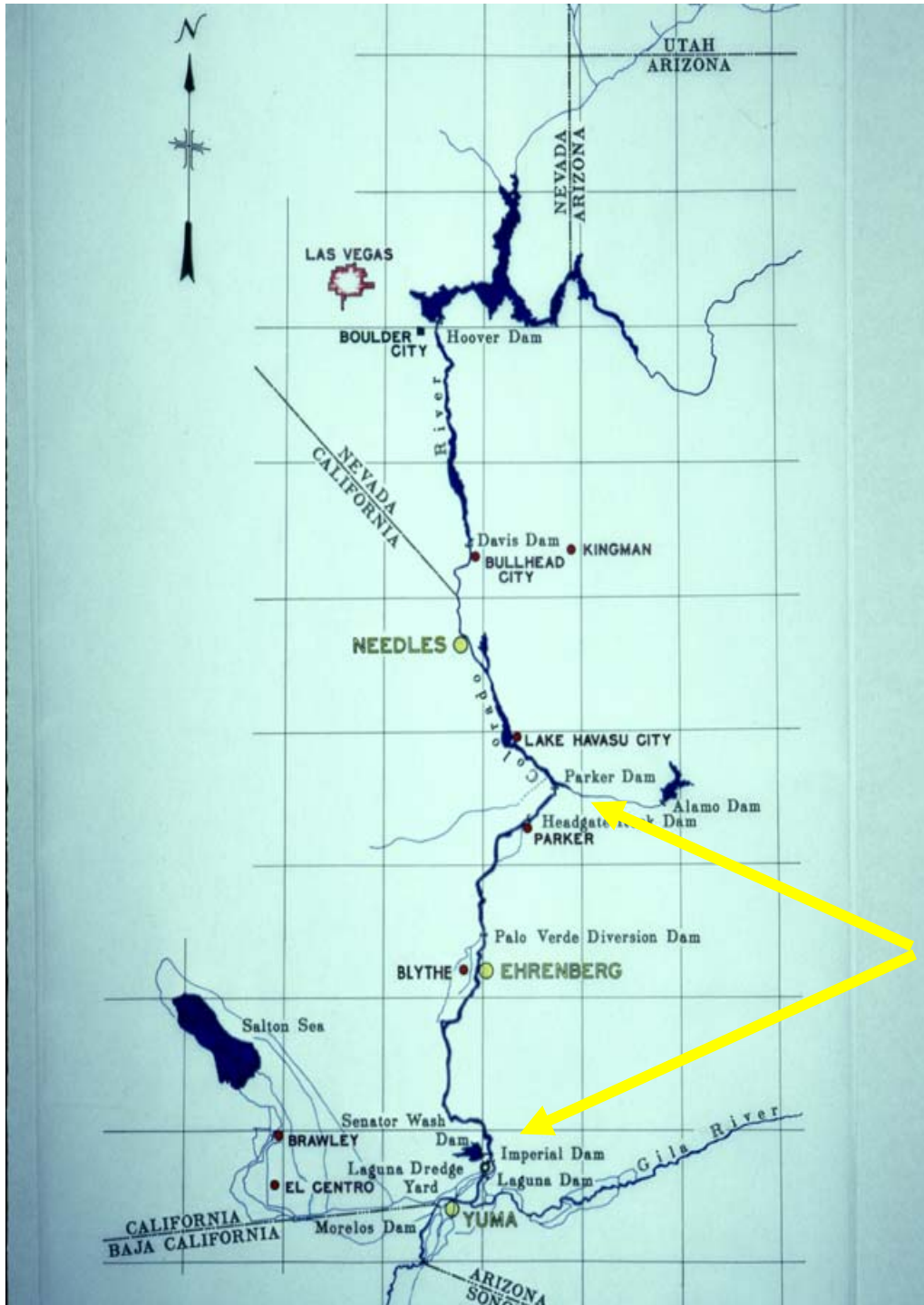
SPECIES USING DIFFERENT AREAS OF REACH 3



RAZORBACK SPAWNING
REACH ABOVE NEEDLES

NEEDLES BRIDGE





**Reach 4 – 5
Parker Dam to
Imperial Dam**

REACH 4/5 – Parker Dam to Imperial Dam

RAZORBACK SUCKER –

- 70,000 stocked since 1998
- Estimated first-year survival <10%
- Mammals, birds, and fish predators on stocked fish

BONYTAIL – 8000 stocked since December 2006.

Reached agreement with CRIT Tribe to conduct surveys on their lands. This is about 30 river miles which has not been adequately surveyed for almost 20 years.

REACH 4/5 – Parker Dam to Imperial Dam

IMPERIAL PONDS – 80 acres of newly constructed floodplain ponds on Imperial Refuge. Will be a **major research area for next 10 years.**

CIBOLA HIGH LEVEE POND – Native fish salvaged, but pond not yet reclaimed.

PARKER DAM POND – Stocked bonytail spawned and surviving

12 MILE SLOUGH – FWS contacted two adult razorback sucker which had been stocked there nine years ago. Fish appeared in good health.

3-FINGERS LAKE – Recaptured two adults stocked in 2006.

EMERALD CANYON GOLF COURSE – FWS rearing both species at this location.

Imperial Ponds – Stocked w/ razorback sucker (1 &4) and bonytail (2&3) during Nov/Dec 2007.

Excavated material from ponds to raise fields.

1
1

2

3

4

5

6

6 Ponds total 80 acres





Flying Razorbacks of the Colorado

Please visit our website: www.lcrmscp.gov

**Topock Marsh,
Havasu Refuge**

