Lower Colorado River Multi-Species Conservation Program

Balancing Resource Use and Conservation

Status of LCR MSCP fish augmentation and habitat creation goals after 10 years of implementation

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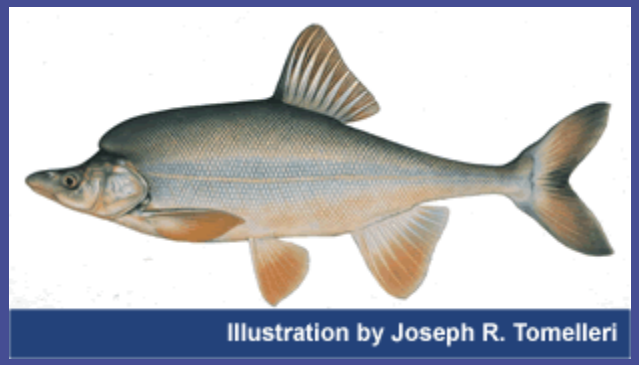
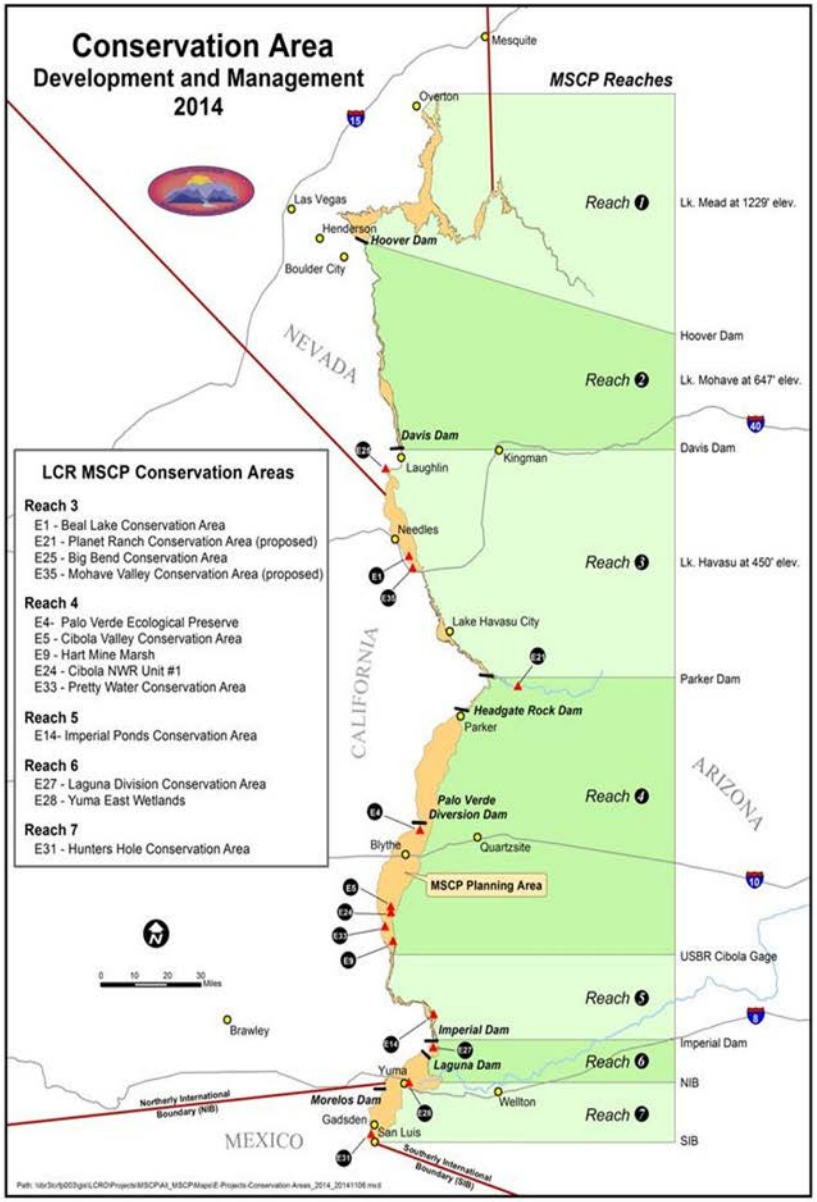
LCR MSCP Fisheries

17 Conservation Measures for 4 of the “Big-River” fishes

3 Major Components:

- Habitat Creation
- Augmentation
- Research and Monitoring





7 Reaches in the LCR MSCP planning/program area:

1 = Full pool of Lake Mead to Hoover Dam

2 = Hoover Dam to Davis Dam (Lake Mohave)

3 = Davis Dam to Parker Dam (Lake Havasu)

4 = Parker Dam to Cibola Gage

5 = Cibola Gage to Imperial Dam

6 = Imperial Dam to Northerly International Boundary (NIB)

7 = NIB to Southerly International Boundary (SIB)

Habitat Creation = Reaches 3 – 7

Augmentation = Reaches 2 - 5

LCR MSCP Fisheries: habitat creation and fish augmentation

- Habitat Creation = 360 acres of backwater habitats for razorback sucker, bonytail, and flannelmouth sucker (Reach 3)
- Augmentation = effort to stock 660,000 razorback sucker and 620,000 bonytail into the lower Colorado River

Fisheries - Habitat Creation

Create or protect and manage 360 acres backwater habitat

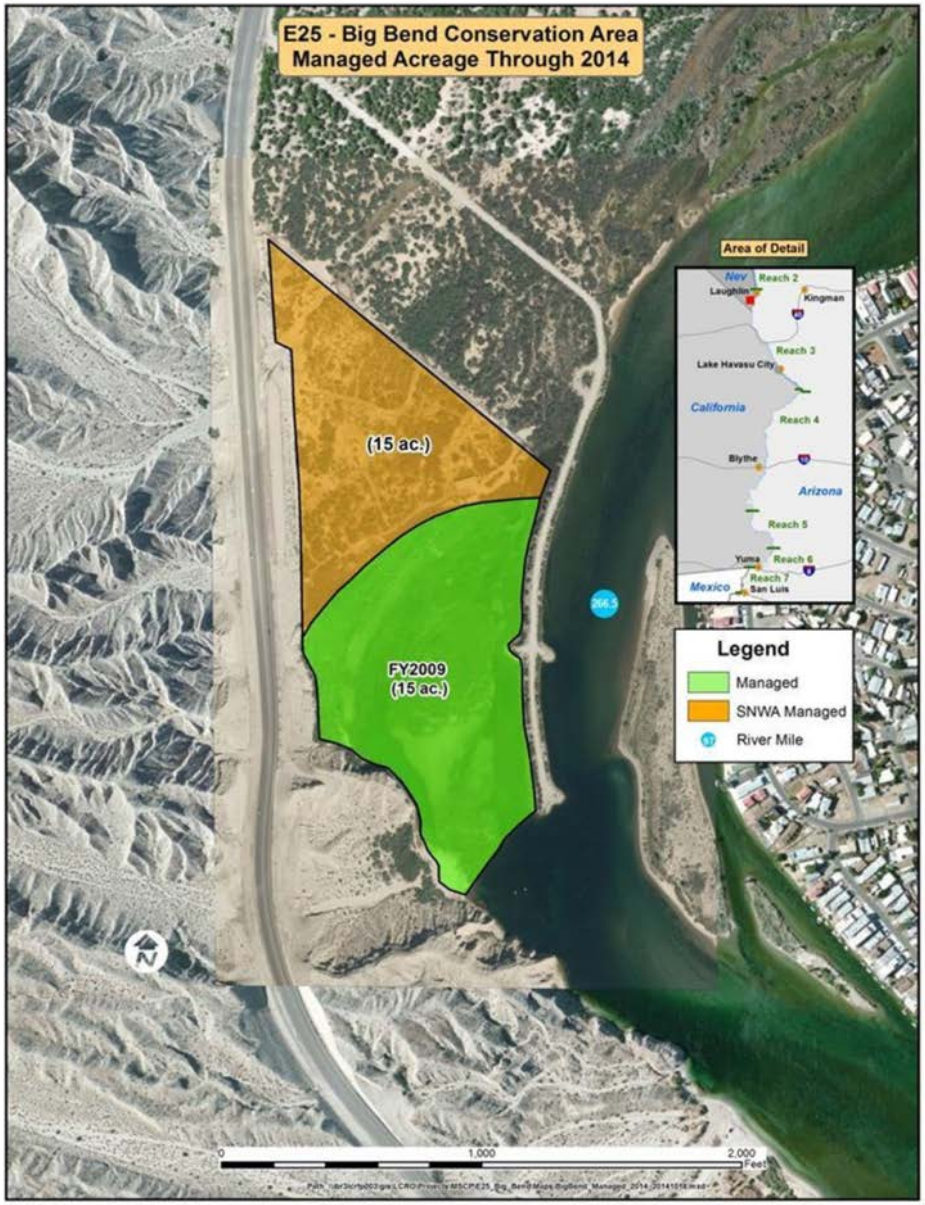
- Refuges for razorback sucker and bonytail (and flannelmouth sucker, reach 3)
- Species research
- Future augmentation

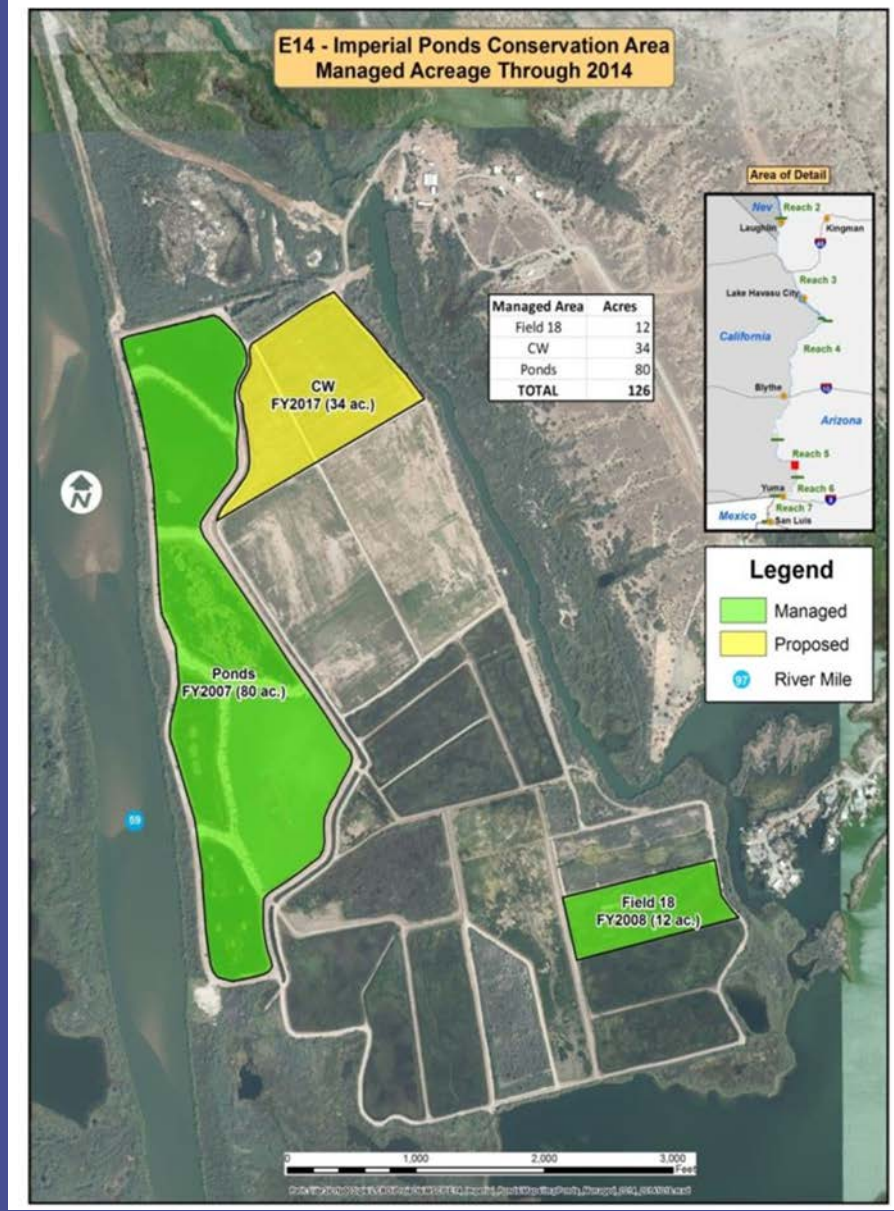
- Current Program Backwaters (conservation areas) total 95 acres of the 360
  - Big Bend = 15 acres (protected)
  - Imperial Ponds = 80 acres
  - Beal Lake = 225 acres (credited under previous BO)

- Future Backwaters
  - Mohave Valley ~ 50 acres

  - Three Fingers Lake ~ 50 acres
  - Planet Ranch ~ 40 – 70 acres

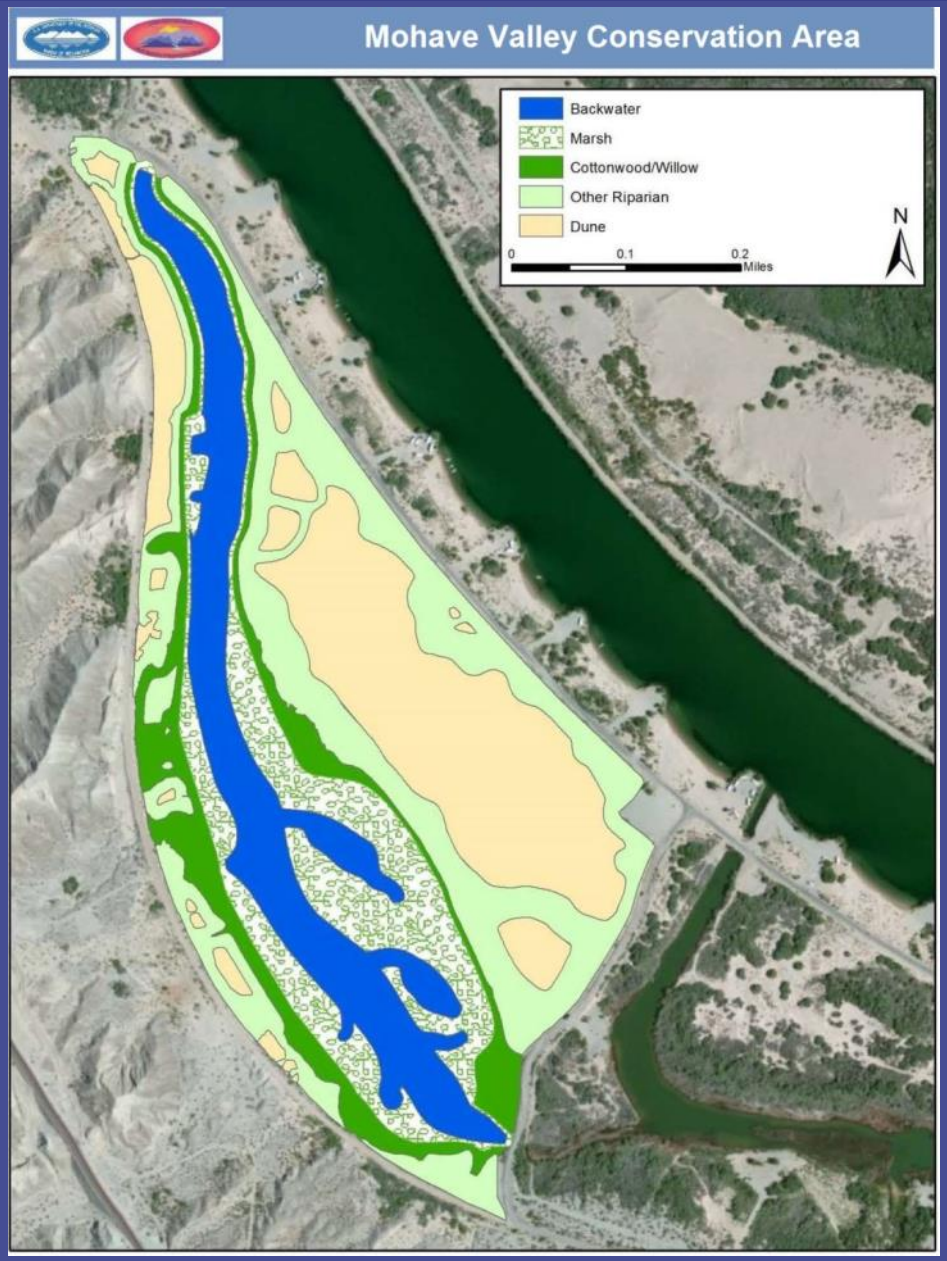
Lower Colorado River
Multi-Species Conservation Program





Big Bend (reach 3) 15 acres

Imperial Ponds (reach 5) 80 acres



Mohave Valley Conservation Area:

- Located in Reach 3
- Approximately 50 acres
- Construction to start in Summer 2016

Summary:

Currently 95 acres out 360 =

about 25% complete at year 10

(LCR MSCP is about 20% complete)

+15 acres from Big Bend

+80 acres from Imperial Ponds

+50 acres from Mohave Valley

By 2018 we'll be approximately 40% complete with the program life at 26% complete

Fisheries - Augmentation

- 660,000 razorback sucker and
- 620,000 bonytail to be stocked
- At least 300 mm Reaches 2 and 3
- At least 305 mm Reaches 4 and 5

Conserving populations
Conserving genetic integrity

Native Fish Augmentation Plan 2015 – 2020
LCR MSCP website: under “augmentation”

Overall Augmentation Status – all reaches

Goal		Status through FY2014
660,000		= 141,967
620,000		= 66,708

Overall Augmentation Status – all reaches

Reach	Augmentation type	RASU			% complete		BONY			% complete
		HCP goal	current status	number remaining			HCP goal	current status	number remaining	
all reaches										
total		**660,000**	**141,967**	**518,033**	**22**		**620,000**	**66,708**	**553,292**	**11**

- LCR MSCP is 10 years into the 50-year program - approximately 20% complete
  (augmentation numbers are through FY2014 – program at ~18% complete)
- Based on the overall stocking number goal for RASU (660K), we are about 22% complete
- Based on the overall stocking number goal for BONY (620K), we are about 11% complete

RASU Augmentation Status by Reach

Reach	Augmentation type	RASU			% complete
		HCP goal	Current status	Number remaining	
1	ISC/SIA (Type III)	N/A	N/A	N/A	N/A
2	Population augmentation (Type I)	N/A: Maintenance of genetic broodstock	97,733	N/A	N/A
3	Population augmentation (Type I)	270,000	66,670	203,330	25
3	Experimental augmentation (Type II)	60,000	0	60,000	0
4/5	Population augmentation (Type I)	270,000	75,297	194,703	28
4/5	Experimental augmentation (Type II)	60,000	0	60,000	0
	Total	**660,000**	**141,967**	**518,033**	**22**

BONY Augmentation Status by Reach

Reach	Augmentation type	BONY			% complete
		HCP goal	Current status	Number remaining	
1	ISC/SIA (Type III)	N/A	N/A	N/A	N/A
2	Population augmentation (Type I)	200,000	0	200,000	0
3	Population augmentation (Type I)	200,000	46,742	153,258	23
3	Experimental augmentation (Type II)	N/A	N/A	N/A	N/A
4/5	Population augmentation (Type I)	180,000	19,966	160,034	11
4/5	Experimental augmentation (Type II)	40,000	0	40,000	0
	Total	**620,000**	**66,708**	**553,292**	**11**

Future Directions for all Reaches

Reach 1

No augmentation requirements for Reach 1

Lake Mead RASU recruitment – greatest conservation/recovery potential

LCR MSCP will continue to assist with other research/conservation/recovery programs. This may include some augmentation (small numbers), but no RASU credit for the program

Reach 2 (Lake Mohave): Goals, Status, and Future Direction

RASU

No specific number goals: Maintain a genetic refuge and broodstock for razorback sucker

Genetic diversity is being maintained

Population estimates have grown over the last decade, however, total population size is still a concern - random effects.

Mortality thought to be high based on re-contact rates.

Reach 2 (Lake Mohave): Goals, Status, and Future Direction (RASU cont.)

RASU:

New strategy: reasonable number of 400 mm fish/year – slow ramp up to keep total fish stocked over 8,000/yr.

400 mm fish doable, more likely to contribute to genetics (larvae) the first year of stocking

BONY:

No known BONY left in Lake Mohave – can we do meaningful conservation in this reach?

Pilot Stocking FY15 - smaller numbers (< 1000, not 5,000) = Movement, dispersal, survival.

Reach 3 (Davis to Parker Dam): Goals, Status, and Future Direction (cont.)

RASU

Stable and potentially growing population (largest on the Lower Colorado River)

Look to the future and more holistically at the LCR in terms of RASU; strategy - stock more Lake Mohave genetics brood stock in Reach 3

BONY

BONY also do best in Reach 3, however this is not comparable to RASU in this reach

Generally, not contacted more than a year after stocking – a few left over two years BWR

Habitat diversity, cover (including turbidity) are thought to be reasons for more success in this reach

Reaches 4/5 (Parker to Imperial Dam): Goals, Status, and Future Direction

Challenges in production capacity and poor survival estimates have postponed the experimental stocking for both species in these reaches.

We project that adequate numbers of hatchery fish and monitoring networks will be available and in place by FY17 to begin concurrent augmentation and experimental stocking making it more efficient to do both species at once in these reaches.

LCR MSCP Fisheries Research

Three general categories

- Stocking locations

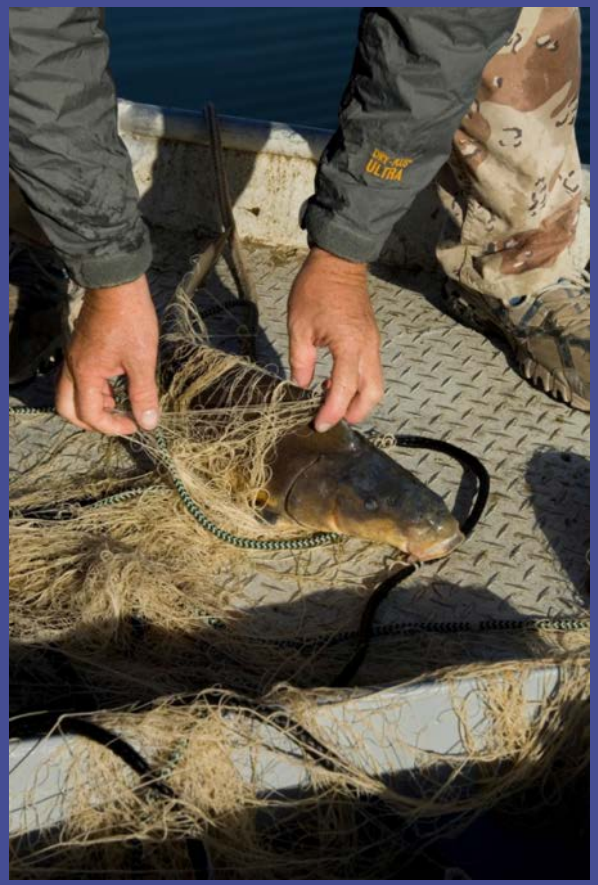
Finding areas where stocked native fish can persist

  - Capitalize on these areas for future stocking and monitoring
  - Attempt to suggest why these locations support longer persistence

- Stocking treatments

Finding ways to improve post-stocking survival

  - Reducing handling stress
  - Day/night stocking, batch size, stocking locations (cover)
  - Better defining predation pressures
  - Increasing "fitness" for hatchery-reared fish
    - Flow conditioning
    - Predator avoidance conditioning



- Habitat Requirements

Finding what native fish need, in particular to help guide development and management of created backwaters

Questions?

LCR MSCP website:

http://www.lcrmscp.gov/