

Lower Colorado River Multi-Species Conservation Program



Balancing Resource Use and Conservation

FY2009 ACCOMPLISHMENTS





Lower Colorado River Multi-Species Conservation Program

Balancing Resource Use and Conservation

LCR MSCP FY2009 Funding Summary

Total Required Funding	FY2009 Approved Estimate	FY2009 Accomplishment	Cumulative Program Accomplishment
\$14,510,916	\$18,822,780	\$18,000,800	\$73,158,920





Lower Colorado River Multi-Species Conservation Program

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FY2009 Program Element Accomplishment

Program Administration	\$ 1,065,356.20 (6%)
Fish Augmentation	\$ 1,867,938.65 (10%)
Species Research	\$ 2,628,714.50 (15%)
System Monitoring	\$ 3,244,554.89 (18%)
Conservation Area D&M	\$ 6,967,450.48 (39%)
Post Development Monitoring	\$ 845,449.12 (5%)
AMP	\$ 759,906.57 (4%)
Habitat Maintenance Fund	\$ 605,000.00 (3%)
Public Involvement	\$ 16,429.75 (*%)
TOTAL	\$18,000,800.16





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FY2009 FUNDING CREDIT

RECLAMATION: \$1,170,697



Lower Colorado River Multi-Species Conservation Program



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RESTORATION GROUP FY09 ACCOMPLISHMENTS



Lower Colorado River Multi-Species Conservation Program



Balancing Resource Use and Conservation

Site Selection

Restoration Research

Habitat Creation





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Site Selection FY09

- Desert Tortoise (Chuckwalla Bench ACEC)
 - 260 acres appraised with 3 landowners
 - Written confirmation to sell from all 3
- Flat-Tailed Horned Lizard
 - Evaluated two potential areas
 - Recommended Dos Palmas ACEC
 - Resolution passed Oct 2009





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Restoration Research FY09

- Beal Lake Riparian
Irrigated & Managed 107 of cottonwood-willow
FY10 decision document
- 'Ahakhav Tribal Preserve
Irrigated & Managed 154 of cottonwood-willow
FY10 decision document
- Seed Feasibility Study
Small scale willow plot
Closed in FY10





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Habitat Creation FY09

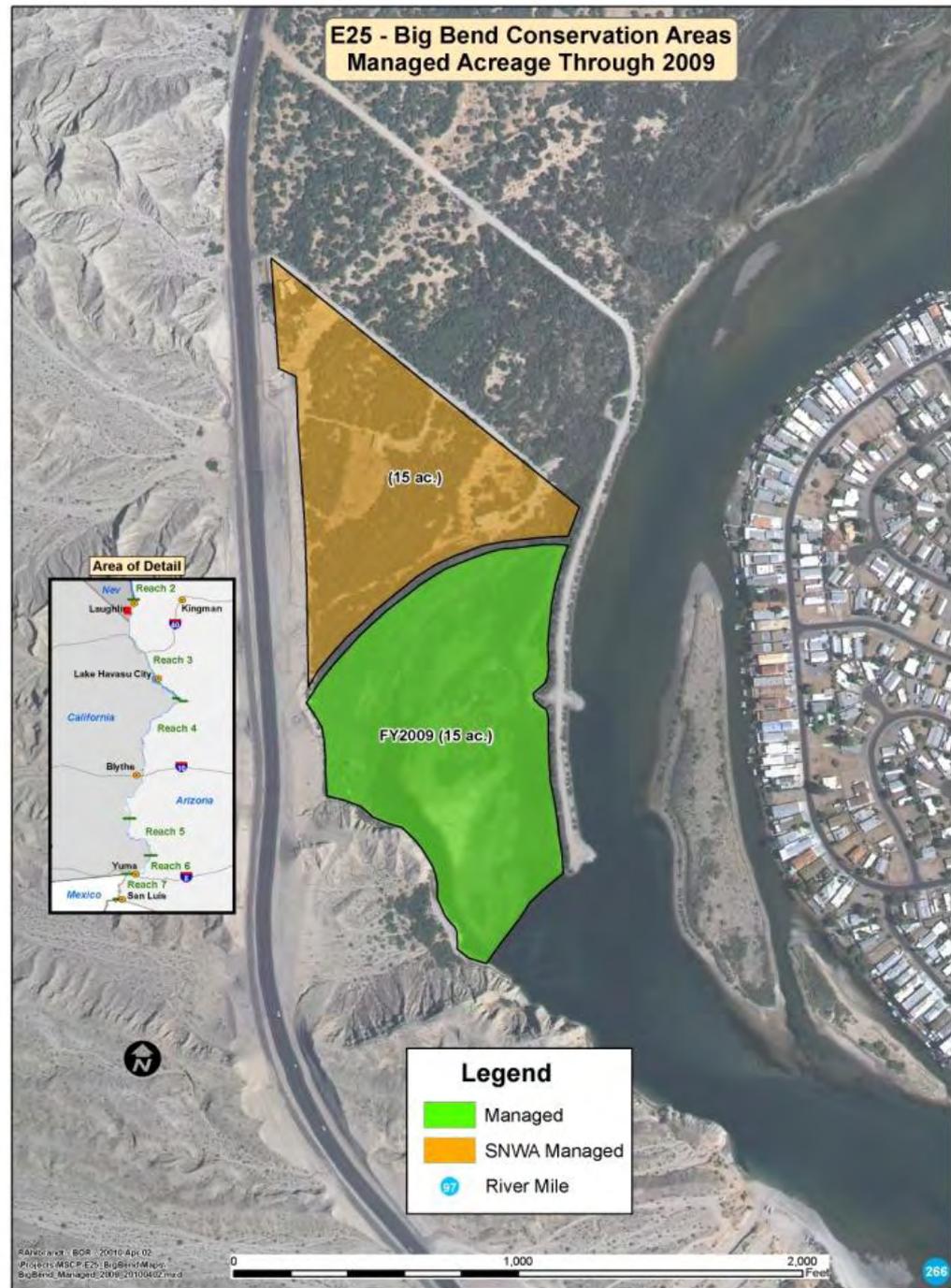
- Palo Verde Ecological Reserve, Phase 4
- Cibola Valley Conservation Area, Phase 4
- Cibola NWR Unit 1, Crane Roost Area
- Hart Mine Marsh, cell 2 (south portion)
- Big Bend Conservation Area



Big Bend Conservation Area

30 Total Acres

FY09 15 acres

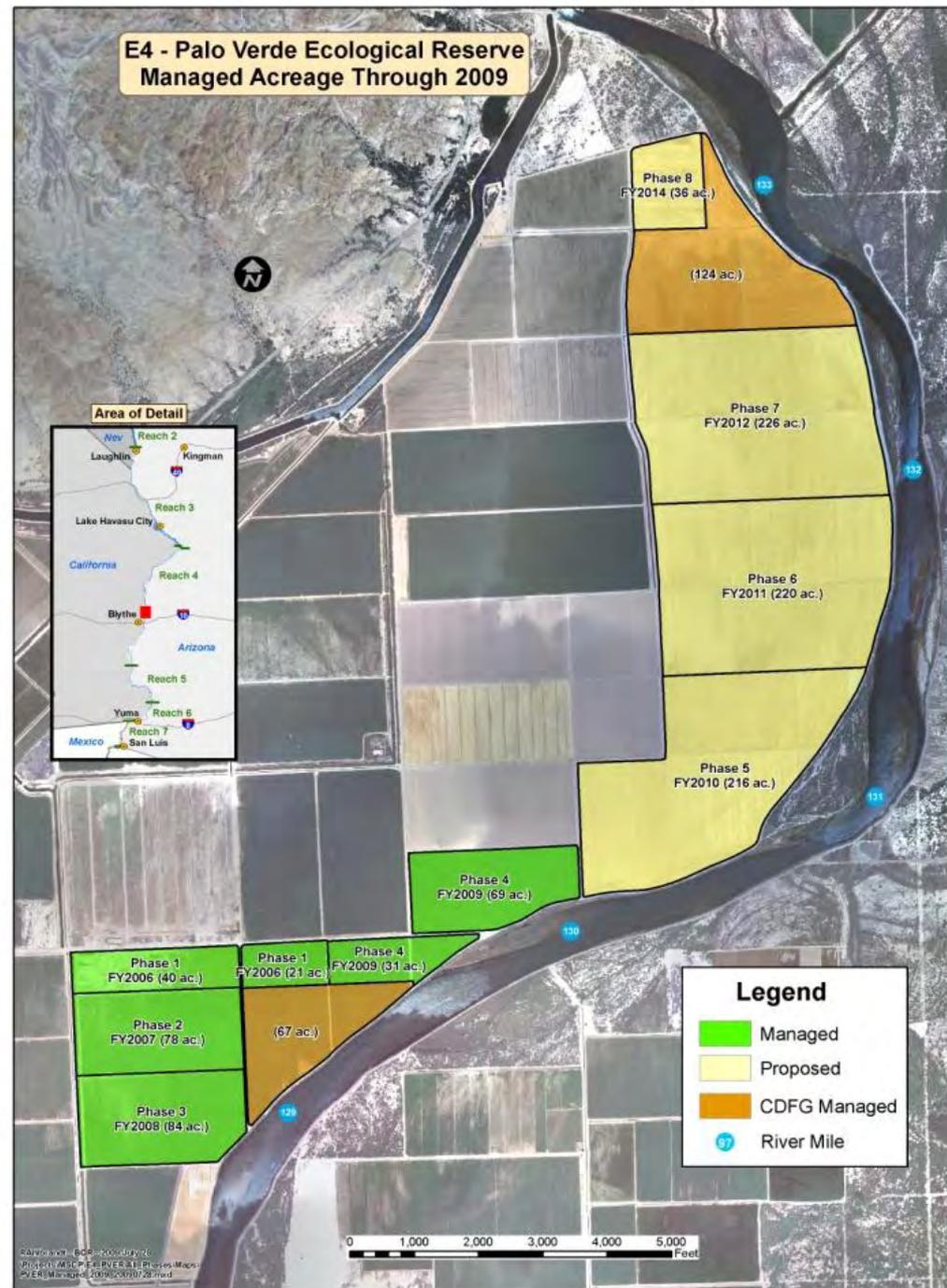


Palo Verde Ecological Reserve

1,352 Total Acres

Phase 1-3 223 acres

Phase 4 100 acres



Cibola Valley Conservation Area

1,309 Total Acres

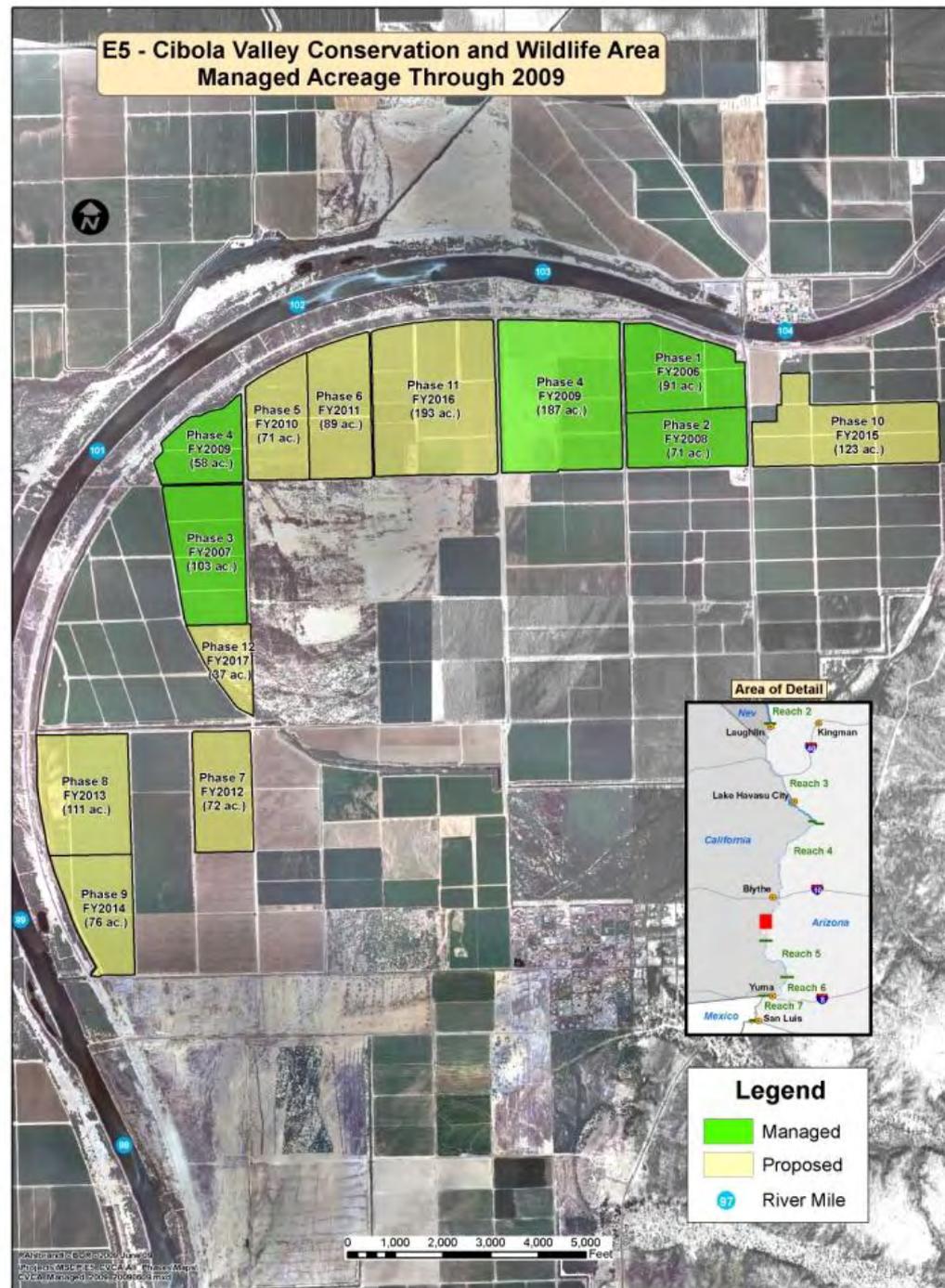
Phase 1-3 265 acres

Phase 4 58 acres

Cibola NWR Unit 1

950 Total Acres

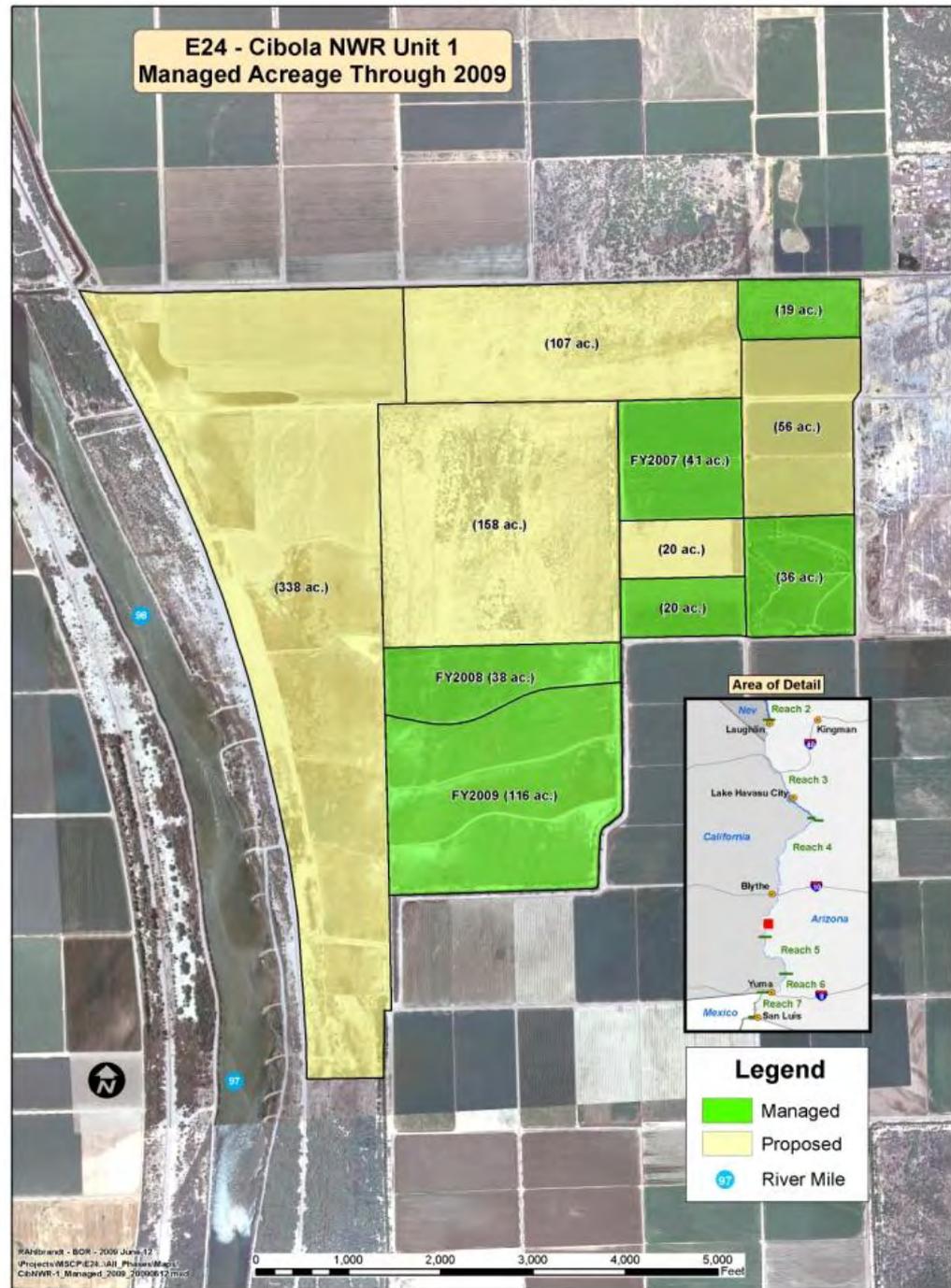
Crane Roost 154 acres



Cibola NWR Unit 1

950 Total Acres

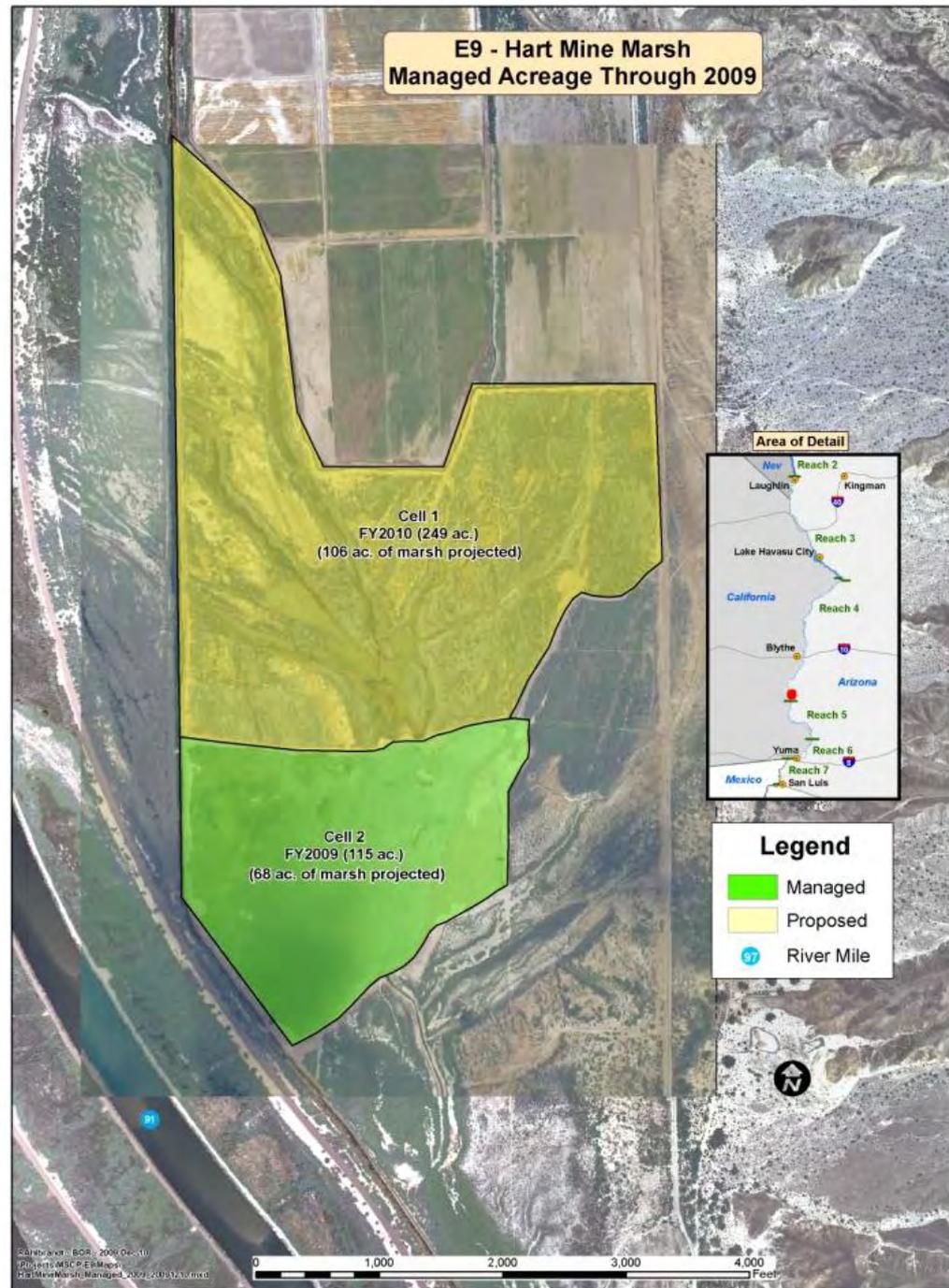
Crane Roost 154 acres



Hart Mine Marsh

174 Total Acres

Cell 2 68 acres



Hart Mine Marsh "Before"



Hart Mine Marsh "After"



HART MINE MARSH

Wetland Restoration Project



Multi-Species Conservation Program

Cooperators



U.S. Fish and
Wildlife Service



Bureau of
Reclamation

*For the Benefit of
our Natural Resources*



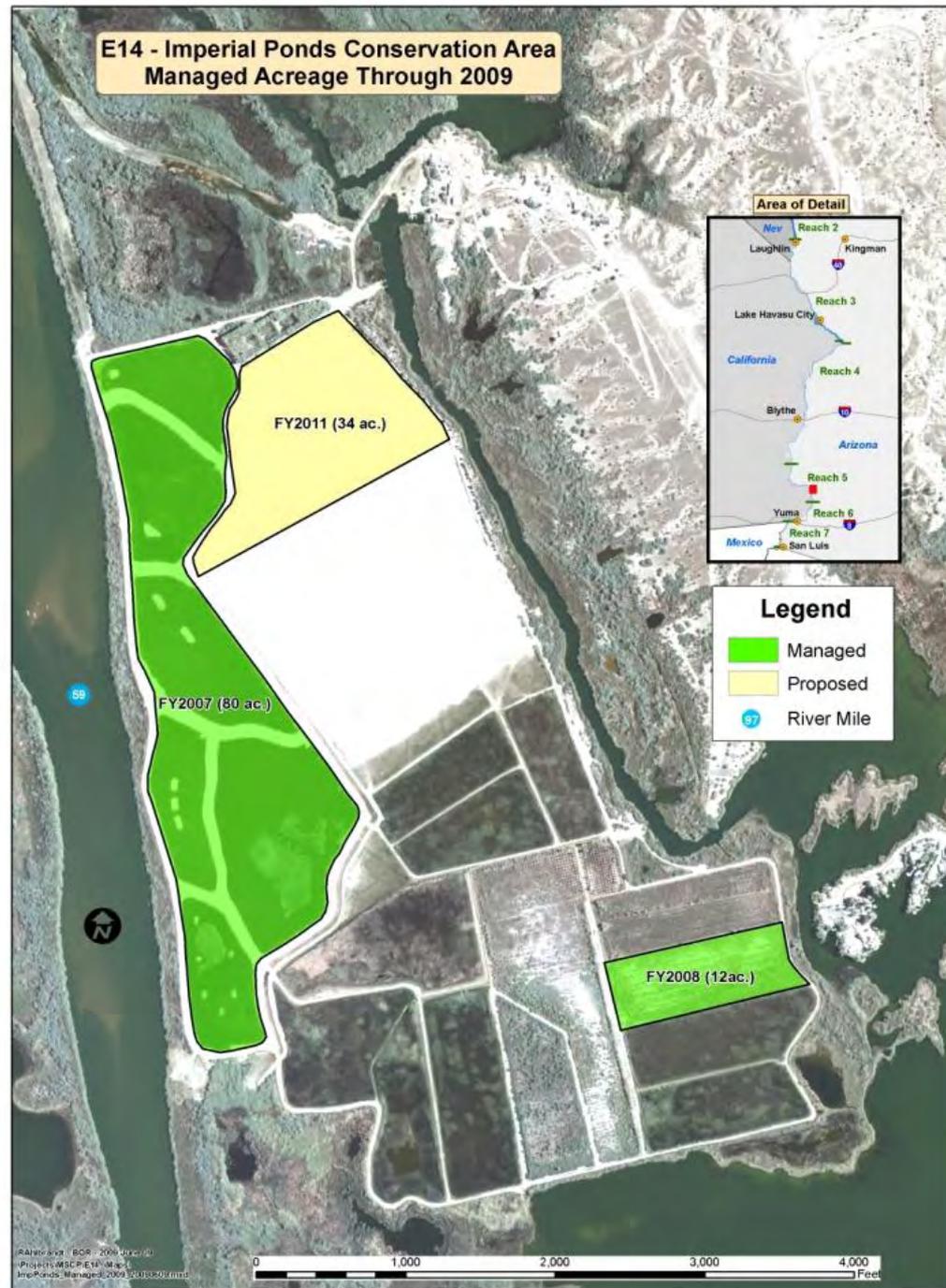
Imperial Ponds Conservation Area

126 Total Acres

Ponds 80 acres

Marsh 12 acres

92 managed acres





Lower Colorado River Multi-Species Conservation Program

Balancing Resource Use and Conservation

1,269 Managed Acres Thru FY09

	<u>CW</u>	HM	Ma	Bkwtr	<u>Other</u>
Arizona	526	58	80	80	187
California	283	0	0	0	40
Nevada	<u>0</u>	0	0	15	<u>0</u>
	809	58	80	95	227





Lower Colorado River Multi-Species Conservation Program

Balancing Resource Use and Conservation

1,662 Managed Acres Thru FY10

	<u>CW</u>	HM	Ma	Bkwtr	<u>Other</u>
Arizona	526	129	186	80	187
California	499	0	0	0	40
Nevada	0	0	0	15	0
	1,025	129	186	95	227





Lower Colorado River Multi-Species Conservation Program

Balancing Resource Use and Conservation

Monitoring and Research for Terrestrial,
Riparian, and Marsh Habitats and
Associated Covered Species





Lower Colorado River Multi-Species Conservation Program

Balancing Resource Use and Conservation

- **Species Research:** Provide necessary information required to create and manage covered species habitats and populations
- **System Monitoring:** Determine status of covered species and their habitats throughout the LCR planning area
- **Post Development Monitoring:** Evaluate implementation of and response to habitat creation projects
- **Adaptive Management Program:** Address uncertainties, propose new or modified conservation measures, or address changed or unforeseen circumstances





Lower Colorado River Multi-Species Conservation Program

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Habitat Monitoring

- Vegetation surveys conducted at Beal Lake, 'Ahakhav Tribal Preserve, PVER, CVCA, and Cibola Unit #1
- 167 survey plots established, monitoring height, DBH, canopy closure, density, vegetation volume, temperature, relative humidity, soil moisture, etc.
- Trees in all plots have grown considerably, many trees over 30 feet in height with canopy closure over 80% at PVER Phase 2 and CVCA Phase 1







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Sootywing Skipper

- Host plants (*Atriplex lentiformis*) were surveyed for eggs, larvae, and adults of MacNeill's sootywing skipper at PVER and CVCA habitat restoration sites
- Sootywings were most abundant in a 58-acre plot at CVCA Phase 4 planted in March 2009, with > 200 adults
- Sootywings were also located at CVCA Phase 2 and PVER Phase 3







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Marsh Bird Surveys and Studies

- Black rail habitat study being conducted at Imperial NWR
- In Topock Gorge, Yuma clapper rail, least bittern, black rail, and Virginia rail were detected
- In Big Bend Conservation Area, a least bittern was detected
- Surveys were not conducted at Hart Mine Marsh due to construction





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2009/05/06



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Southwestern Willow Flycatcher

- Presence/absence surveys and site descriptions were completed at 69 sites in 15 study areas
- Willow flycatchers were detected on at least one occasion at 41 of these sites.
- 150 resident, breeding flycatchers were detected at 7 sites
- 76 territories were recorded at all monitored sites
- 72 willow flycatcher nesting attempts were documented
- 56 young fledged







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Yellow-billed Cuckoo

- Five surveys each were conducted at 58 sites between southern Nevada and the US-Mexico border
- **Cuckoos nested at CVCA Phase 1 and PVER Phase 2**
- Cuckoos were detected 178 times during surveys
- Habitat, vegetation, and insect (prey) data was also collected







Lower Colorado River Multi-Species Conservation Program

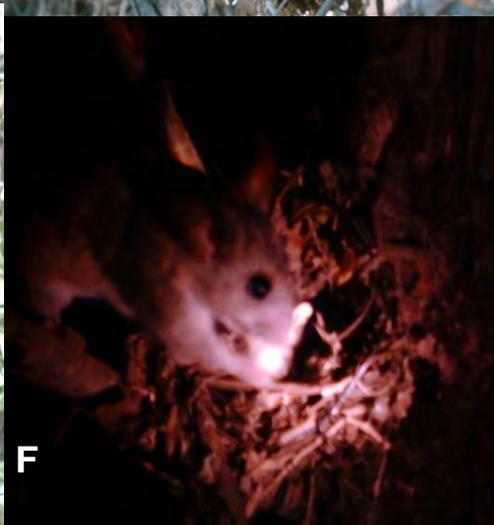
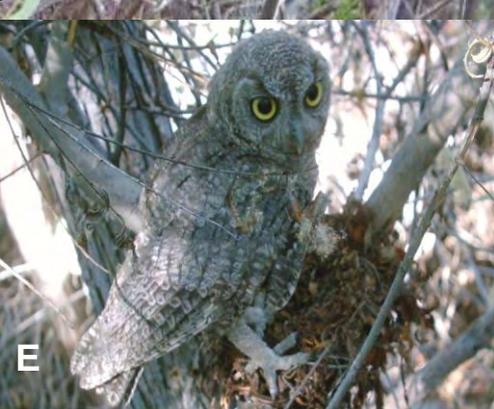
Balancing Resource Use and Conservation

General Bird Surveys and Study

- MAPS and winter banding – 2 MAPS Sites, one at Havasu NWR and one at Cibola NWR
- System-wide surveys conducted from Lake Mead to SIB – 80 rapid surveys completed and 9 intensives completed – 172 bird species detected; five of the six covered species detected.
- Post-development bird surveys conducted at 5 sites; four covered species detected (presumed or confirmed breeders)
- Elf owl surveys conducted, one elf owl detected
- Nest predator study conducted







Potential nest predators photographed at artificial nests in 2009:

- A) Yellow-breasted Chat
- B) Bewick's Wren
- C) Bullock's Oriole
- D) Brown-headed Cowbird
- E) Western Screech Owl
- F) Woodrat



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Bats

- System-wide surveys conducted at 72 sampling locations. Four permanent acoustic detector stations deployed; all 4 MSCP species detected.
- Mine surveys conducted at 14 mines
- Post-development surveys conducted at 8 sites; all 4 species have been detected acoustically at sites
- Yellow bats and California leaf-nosed bat captured at 'Ahakhav Tribal Preserve, CVCA, Cibola Nature Trail, and Pratt Restoration; red bats captured at 'Ahakhav and CVCA







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Balancing Resource Use and Conservation

Small Mammals

- Genetic and Distribution Study – 15 sampling sites, *Sigmodon* spp. captured at 7 sites with genetic samples taken. Yuma hispid cotton rat found at 3 sites and Colorado River cotton rat found at 4 sites
- Colorado River cotton rat detected at Cibola Unit #1, site near PVER, and Pintail Slough in Havasu NWR
- Post-development monitoring occurred at Beal Lake, PVER, CVCA, and Cibola Unit #1; habitat studies are being conducted at Cibola Unit #1 and site below PVER





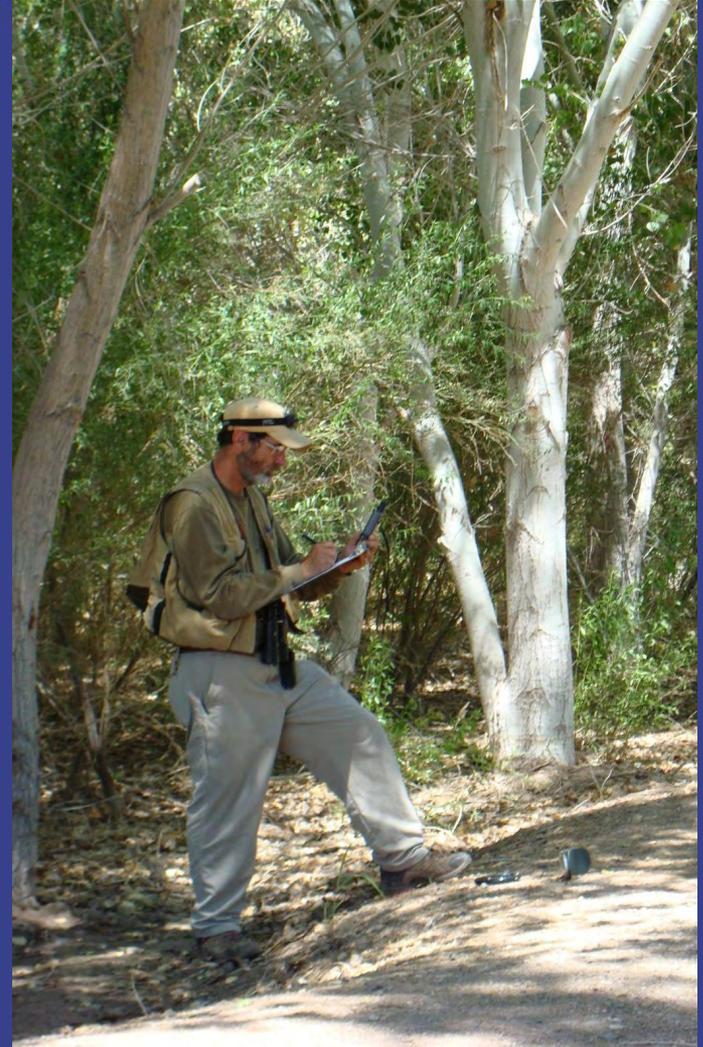


Lower Colorado River Multi-Species Conservation Program



Balancing Resource Use and Conservation

Any Questions?



Lower Colorado River Multi-Species Conservation Program



Balancing Resource Use and Conservation

Fish Augmentation Plan Overview





Lower Colorado River Multi-Species Conservation Program

Balancing Resource Use and Conservation

FISH AUGMENTATION

Program Goal: Over the life of program, rear and stock 1.28 million native fish:

- 660,000 RASU
- 620,000 BONY

- Average 25,000 fish per year

- Minimum size of 12 inches (300 mm)

- 10% dedicated for species research





Lower Colorado River Multi-Species Conservation Program

Balancing Resource Use and Conservation

HCP DESCRIBES THREE TYPES OF STOCKING

TYPE I : ROUTINE ANNUAL STOCKING

TYPE II : FOCUSED RESEARCH

TYPE III : COMPLETION OF BO ACTIONS





Lower Colorado River Multi-Species Conservation Program

Balancing Resource Use and Conservation

FISH AUGMENTATION PROGRAM SUMMARY (THRU END 2009)

TYPE I : STOCKED 146,882 NATIVE FISHES
(110,925 RASU AND 35,957 BONY)

TYPE II : NONE TO DATE, PROPOSED 2016 START

TYPE III : COMPLETED ALL BO-RELATED ACTIONS





Lower Colorado River Multi-Species Conservation Program

Balancing Resource Use and Conservation

2009 Lake Mohave Larval Collection

	January	February	March	April	TOTAL
Nine Mile	183	2,912	2,930	0	6,025
Tequila	0	2,205	5,000	1,285	8,490
Yuma	217	3,000	4,133	1,635	8,985
AOP	0	0	570	3,442	4,012
TOTAL	400	8,117	12,633	6,362	27,512





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2009 STOCKING

Reach	RASU	BONY
2	12,496	0
3	5,848	4,073
4/5	5,955	2,506
Sub-total	24,299	6,579
TOTAL (Both Species)		30,878





Lower Colorado River Multi-Species Conservation Program

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STOCKING SUMMARY (2005 – 2009)

Reach	RASU	BONY
2	38,097	6,998
3	28,728	17,892
4/5	44,100	11,067
Sub-total	110,925	35,957
TOTAL (Both Species)		146,882





Lower Colorado River Multi-Species Conservation Program

Balancing Resource Use and Conservation

Population and Research Status for Razorback
Sucker, Bonytail, and Flannelmouth Sucker
Downstream of Grand Canyon





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SPECIES RESEARCH

Focus Areas:

- Fish Production (C11)
- Monitoring Tools (C23)
- Handling/Distribution (C30)
- Boundary Parameters (C32)
- Population Ecology (C39)



Limited Activities for Humpback Chub



Providing funds to Dexter NFH to develop and maintain a refuge population (C14)

Photo by Randal Babb



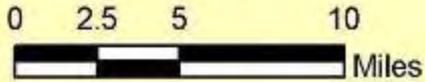
Lower Colorado River Multi-Species Conservation Program

Balancing Resource Use and Conservation

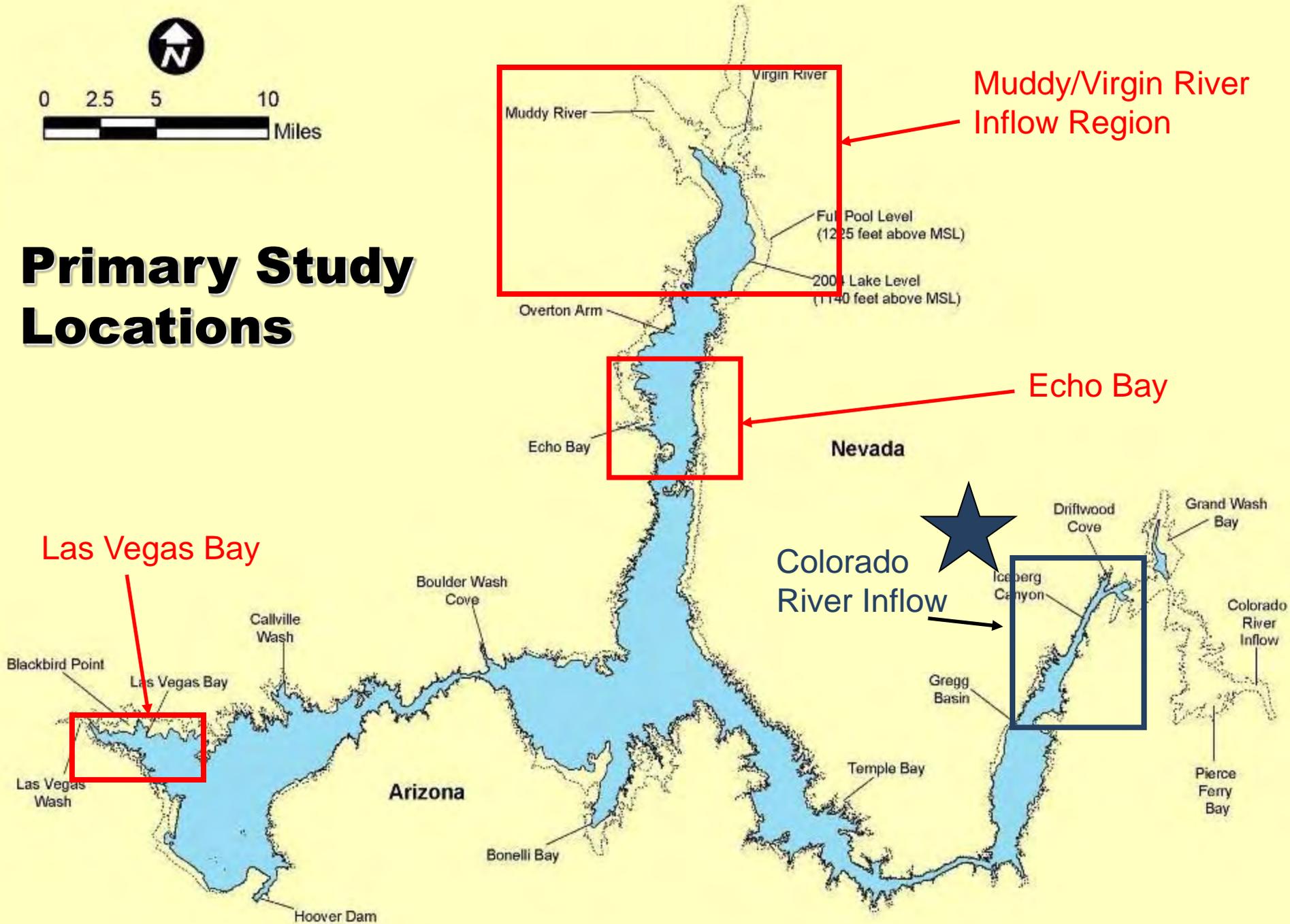


Reach 1 Lake Mead (C13)

- 300-500 adult razorback sucker; no bonytail
- Documented recruitment for last 30+ years!
- 10-year data summary report available on MSCP website
- Initiated new study



Primary Study Locations





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Reach 2
Hoover Dam to Davis Dam

BONYTAIL

- Functionally extirpated from wild
- Extremely poor survival of stocked fish

RAZORBACK SUCKER

- 1500 repatriated adults now spawning in main lake
- Capture wild larvae for Fish Augmentation Program (B1)

SPAWNING RAZORBACK SUCKER AS VIEWED FROM HELICOPTER

Tequila Cove



Yuma Cove



Red Tail Cove



Larval Suckers



Halfway Wash

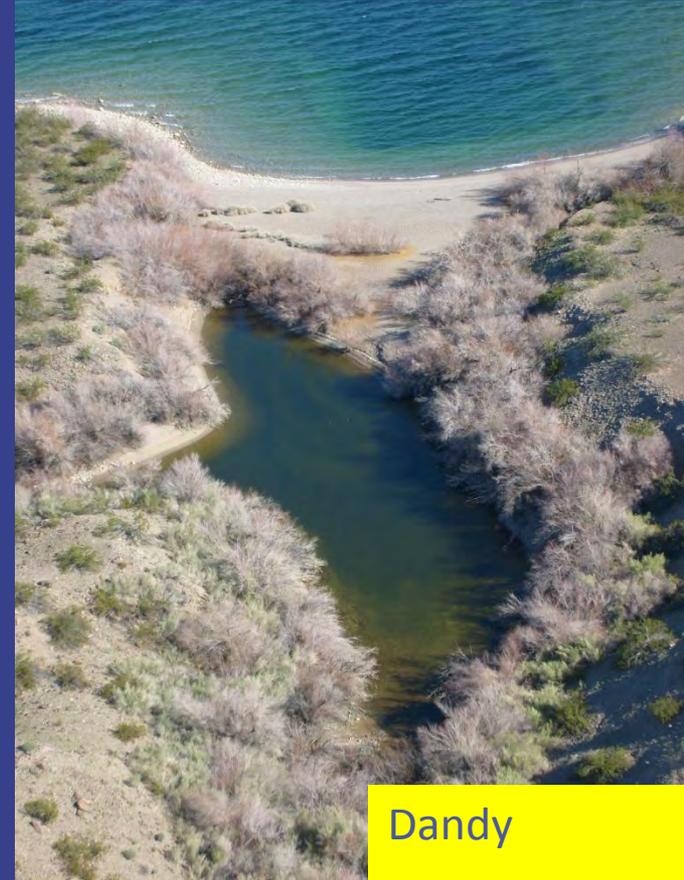
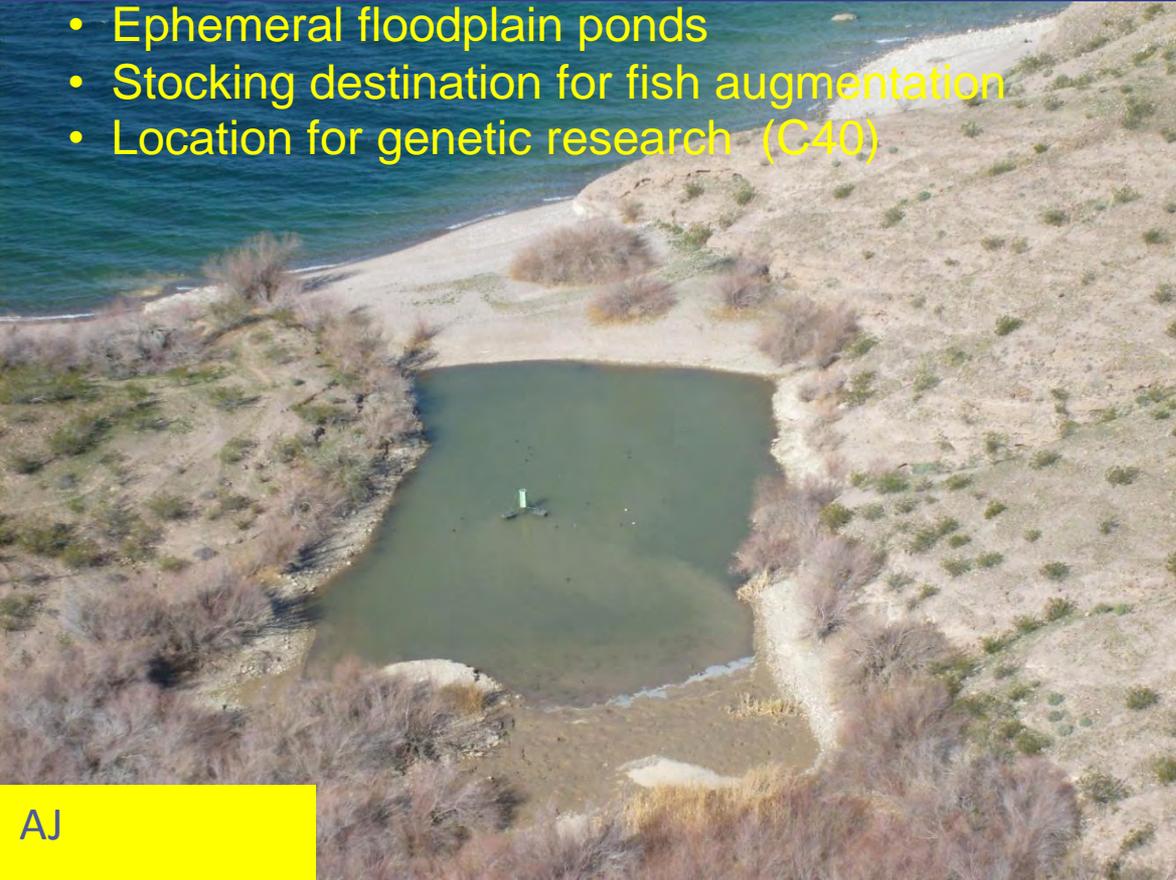


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Lake Mohave Backwaters

- Ephemeral floodplain ponds
- Stocking destination for fish augmentation
- Location for genetic research (C40)





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Reach 3

Davis Dam to Parker Dam

FLANNELMOUTH SUCKER (C15)

- Estimated 2500 adults
- Self-sustaining
- Final Report in 2011

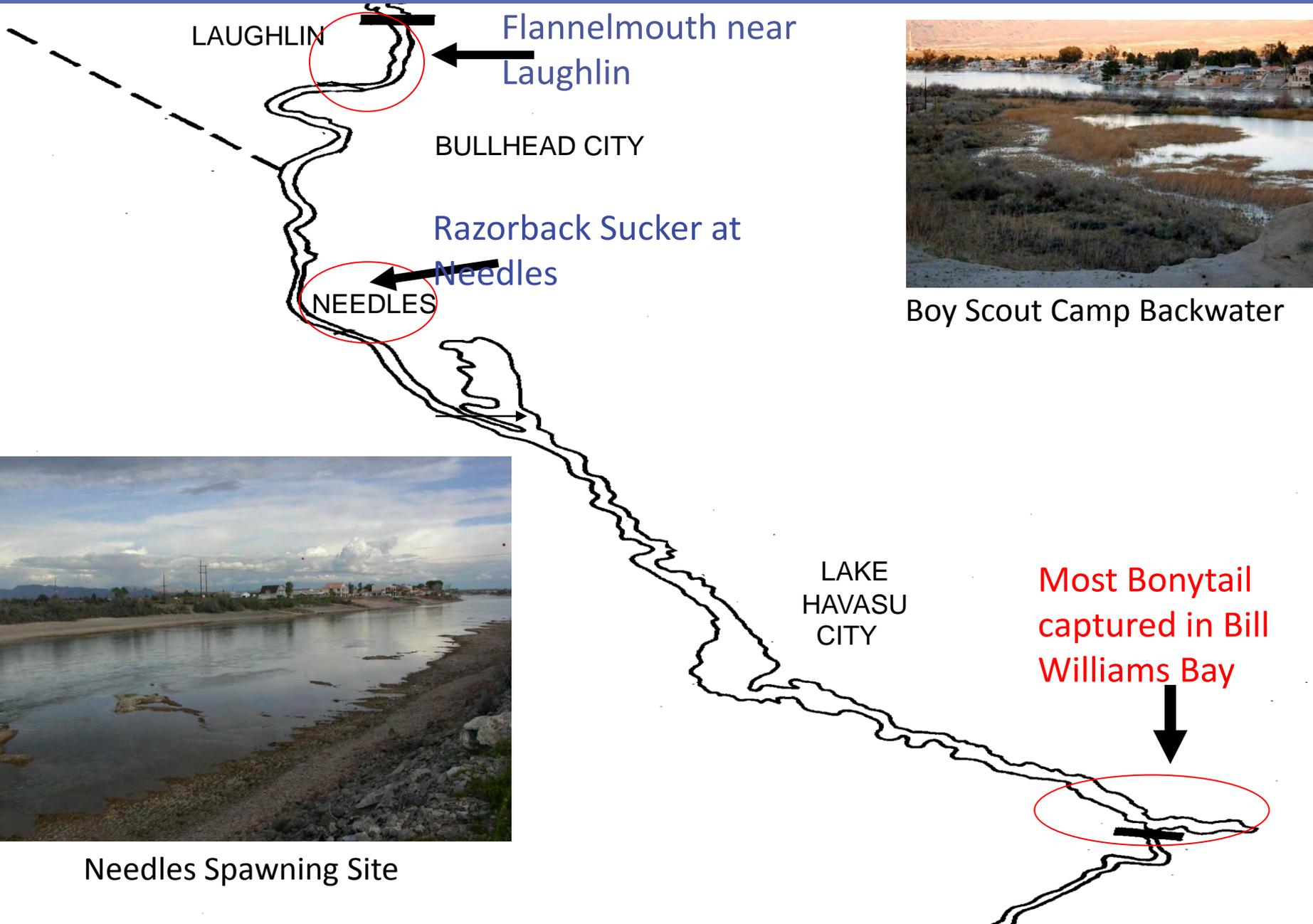
RAZORBACK SUCKER (C29)

- Estimated 1500 spawning adults

BONYTAIL

- Fish are contacted each year
- Initiating survival study in 2010 (C39)

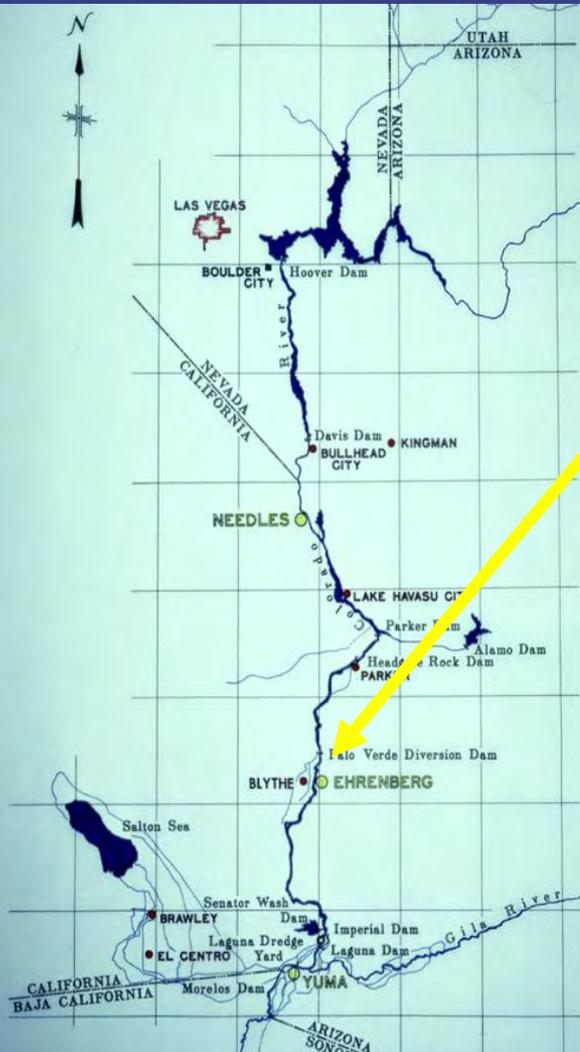
Distribution of Species in Reach 3





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Reach 4 – 5

Parker Dam to Imperial Dam

RAZORBACK SUCKER

- 70,000 stocked since 1998
- First-year survival <10% (C8)
- Variety of predators

BONYTAIL

- 11,000 stocked since December 2006

IMPERIAL PONDS (C25)

- 80 acres of floodplain ponds
- Currently used as research site



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POPULATION ESTIMATE

(Hope to fill out over next 10 years)

Reach	RASU	BONY	FLSU
1	300-500	0	0
2	1,500	?	0
3	1,500	?	2,500
4	?	?	0
5	?	?	0



Flying Razorbacks of the Colorado





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FY2010 PROGRAM AND FINANCIAL STATUS

- FY10 Contributions:
 - All up to date
 - SNWA In-Kind Credit
 - SDCWA Funding Credit
- Work Task Financial Status
 - Topock Marsh AMM 2 Construction (Passed in Oct)
 - Laguna (Passed in Oct)



Lower Colorado River Multi-Species Conservation Program



Balancing Resource Use and Conservation

FY2011 Work Plan and Budget





Lower Colorado River Multi-Species Conservation Program

Balancing Resource Use and Conservation

FY2011 Funding Requirements*

(Preliminary Inflation Rate = 1.190%)

Funding Entity	FY2011 Contributions	FY2011 Adjusted Contributions
Federal	\$16,386,300	\$16,386,300
Non-Federal	\$16,386,300	\$16,386,300
<i>California</i>	<i>\$ 8,193,150</i>	<i>\$ 9,012,465</i>
<i>Arizona</i>	<i>\$ 4,096,575</i>	<i>\$ 2,457,945</i>
<i>Nevada</i>	<i>\$ 4,096,575</i>	<i>\$ 4,915,890</i>
TOTAL	\$32,772,600	\$32,772,600





Lower Colorado River Multi-Species Conservation Program

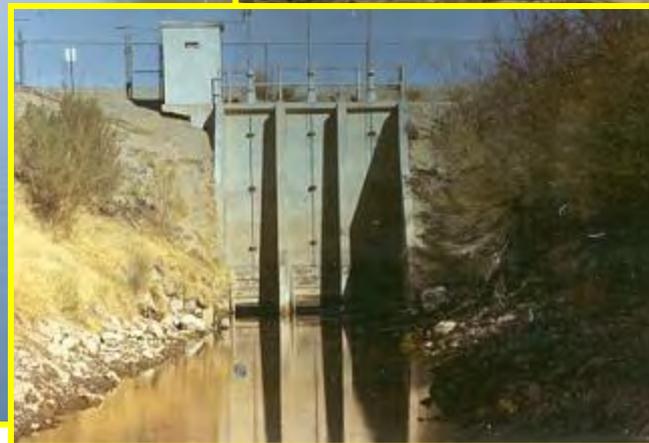
Balancing Resource Use and Conservation

FY2011 Proposed Work Plans

Program Administration	\$ 1,211,420
Fish Augmentation	\$ 1,465,000
Species Research	\$ 3,422,000
System Monitoring	\$ 2,735,000
Conservation Area D&M	\$17,301,000
Post Development Monitoring	\$ 965,000
AMP	\$ 1,125,000
Habitat Maintenance Fund	\$ 5,355,000
Public Involvement	\$ 70,000
TOTAL	\$33,649,420

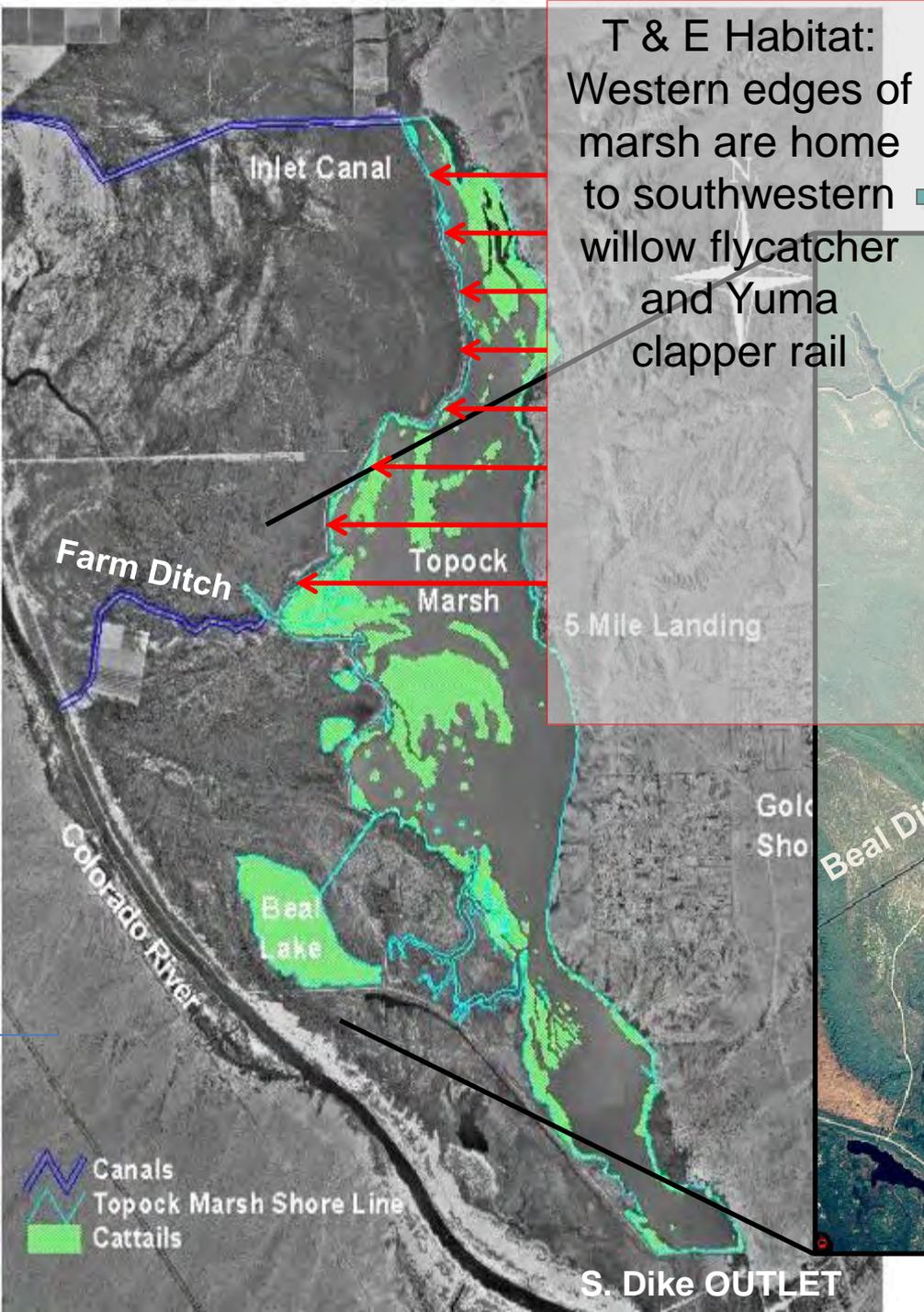


TOPOCK MARSH WATER INFRASTRUCTURE IMPROVEMENT PROJECT:



**LCR-MSCP
Steering Committee
04/28/10 Mtg.**

Topock Marsh Aerial Photos

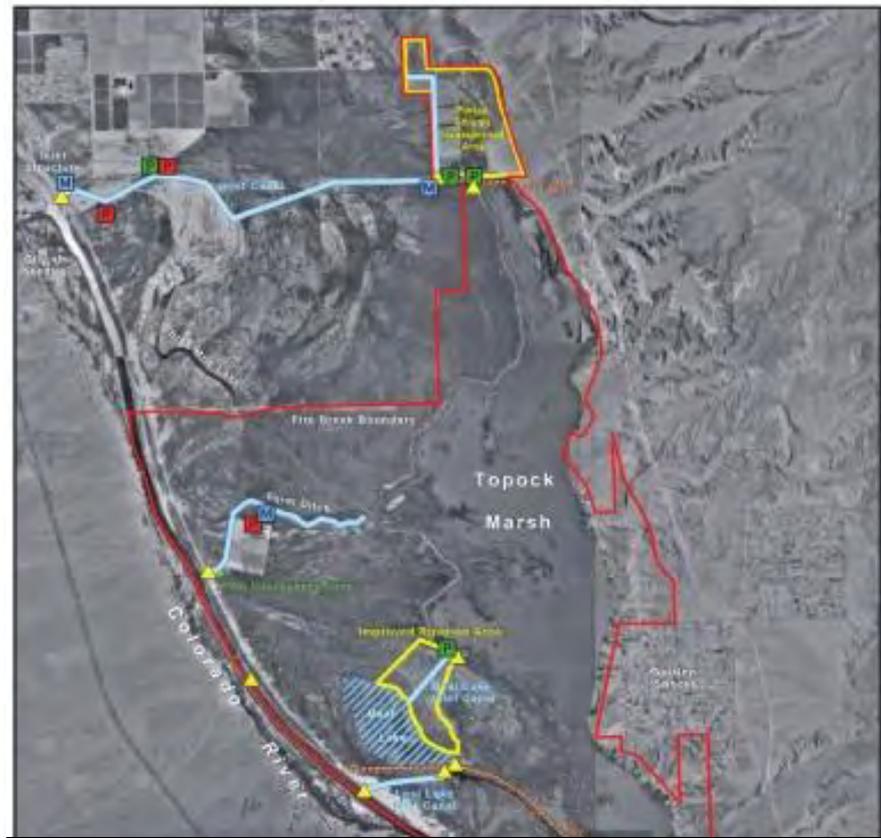


TOPOCK MARSH: Existing Facilities

GRAVITY-FED CANALS:

- 1) INLET CANAL (4-mi. long)
- 2) FARM DITCH (2-mi. long)

- SOUTH DIKE OUTLET
- BEAL LAKE
- PINTAIL SLOUGH
- BERMUDA GRASS PASTURE



**DILAPIDATED INLET CANAL DIVERSION
STRUCTURE**

Stimulus Project: (\$1.95 M)

- Fire Break Canal
- 3 – Turnouts & one structure @ E. end & Inlet Canal Structure

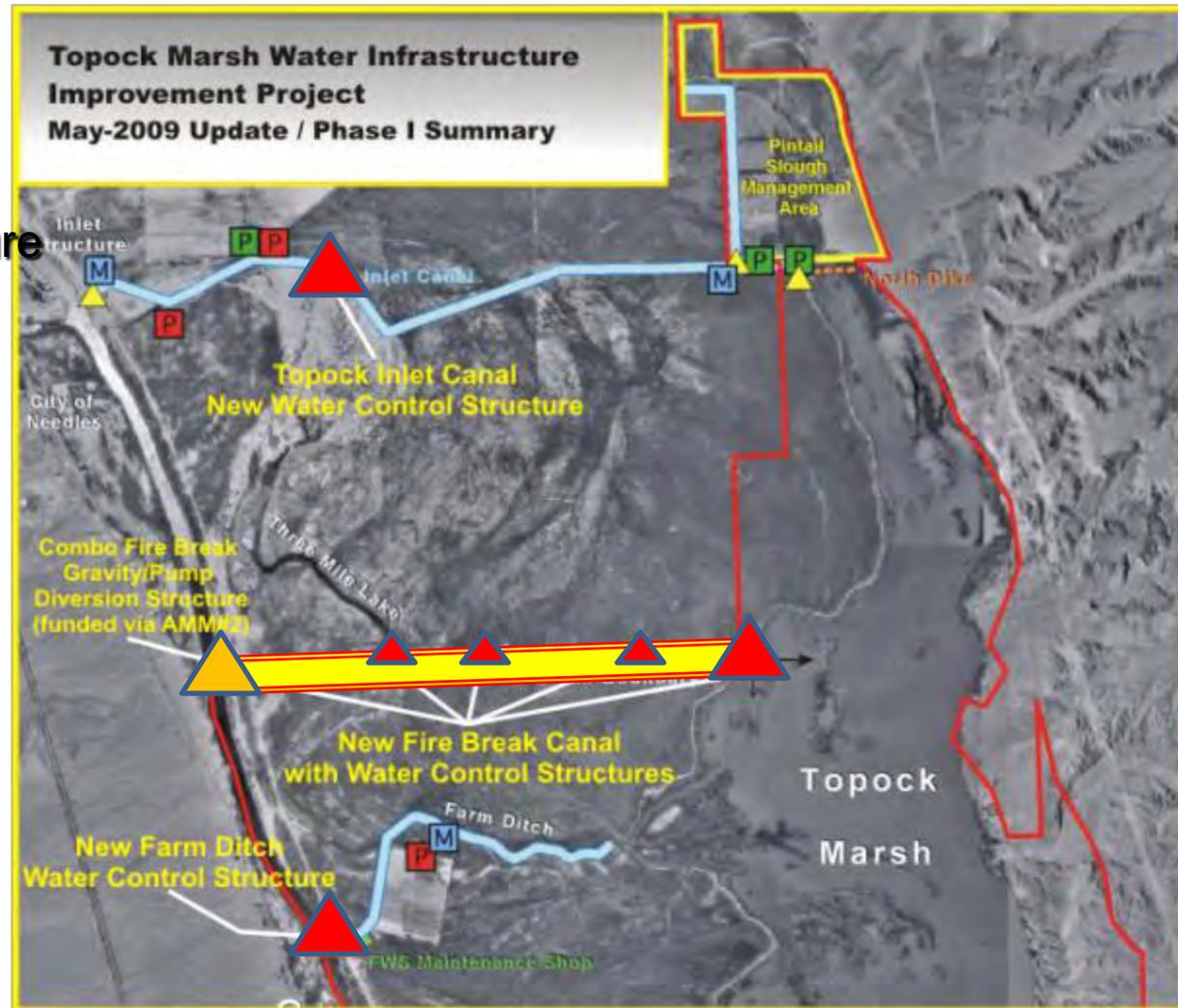
DFM Project: (\$280,000)

- Farm Ditch Water Control Structure

MSCP-AMM#2 Project:

(\$700k-\$800k available)

- Fire Break Canal Diversion Structure



TOPOCK PROJECT--CURRENT STATUS:

❖ FULL PROJECT:

- 100% Engineering Design Cost Estimate (received 2/19/2010)
- FULL CONSTRUCTION COST (estimated): \$5.5 MILLION
- CURRENT FUNDS: \$3.2 MILLION (obligated 3/29/2010)

❖ PHASE ONE: (FY10/11) (Contract Awarded March 29, 2010)

- LINED CANAL & GRAVITY DIVERSION STRUCTURE (+small control structure on (old) Topock Inlet Canal)
 - Fully functional delivery system
- AVOIDANCE & MINIMIZATION MEASURE #2 :
 - Address AMM#2 PART-ONE : MSCP's construction component" obligation

TOPOCK PROJECT--CURRENT STATUS:

❖ PHASE ONE:

- **LINED CANAL, GRAVITY DIVERSION STRUCTURE, and new small structure on (old) Topock Inlet Canal**
- **Partially Address AMM#2 (PART-ONE for MSCP's "construction component" obligation)**

❖ PHASE TWO: (contingent on available funds in FY12)

- **PUMP STATION**
- **Fully Address AAM #2:**
 - **PART-TWO : MSCP's 50-year operation and maintenance obligation**

TOPOCK PROJECT--MSCP INTERESTS:

- ❖ Removes uncertainty for full 50-year (45) MSCP coverage period
- ❖ LCR MSCP Vol. II HCP, (pdf pages)
 - ❖ TABLE 7-1 Summary of Implementation Costs (\$2.7 Million 50-year outlay)(page 383);
 - ❖ Section 7.1.11: Topock Marsh Pumping (page 383)...” It is assumed that pumps would be purchased to deliver water to Topock Marsh and that the cost of pumping throughout the 50-year LCR MSCP would be covered. For additional assumptions about the Topock Marsh pumping, see Section N.10 in Appendix N
- ❖ Adjusting \$48,000 annual O & M estimate by 1.229% = \$2.56 Million ;
- ❖ Key partnership allowing construction of full upgrade of water delivery system for Topock Marsh, the largest body of water in the LCR managed primarily for environmental concerns:

Current Status:



Topock Marsh Water Infrastructure Improvement Project:

- ARRA policy: Construction contract by May 30, 2010 (Awarded March 29, 2010);
 - Phase One expected to be completed by 12/31/2011;
- Phase Two anticipated to be funded and completed in FY12

**HAVASU
NWR**



(end of overview)



Lower Colorado River Multi-Species Conservation Program



Balancing Resource Use and Conservation

PROJECT UPDATES - OVERVIEW





Lower Colorado River Multi-Species Conservation Program

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HABITAT OBJECTIVES BY REACH AND STATE

REACH	STATE	CW	HM	M	BW	TOTAL
3	AZ/NV	1,450	50	50	35	1,585
	CA	100	100	10	50	260
	TOTAL	1,550	150	60	85	1,845
4	AZ	1,850	200	150	34	2,234
	CA	1,800	450	150	71	2,471
	TOTAL	3,650	650	300	105	4,705





Lower Colorado River Multi-Species Conservation Program

Balancing Resource Use and Conservation

HABITAT OBJECTIVES BY REACH AND STATE

REACH	STATE	CW	HM	M	BW	TOTAL
5	AZ	200	50	20	80	350
	CA	200	100	20	40	360
	TOTAL	400	150	40	120	710
6	AZ	400	150	100	20	670
	CA	250	400	50	30	730
	TOTAL	650	550	150	50	1,400
7	TOTAL (AZ)	150	100	20	0	270





Lower Colorado River Multi-Species Conservation Program

Balancing Resource Use and Conservation

PROCESS TO SECURE SITES

- FEE TITLE ACQUISITION
 - Government appraisal determines cost
 - Requires SC approval
- LEASE
 - Negotiated cost
 - Requires SC approval
- LAND USE AGREEMENT
 - No cost for land and water
 - SC approval during the Work Plan process





Lower Colorado River Multi-Species Conservation Program

Balancing Resource Use and Conservation

MODIFICATION AND TERMINATION PROCESS

Big Bend Lease (SNWA): “This Lease may be amended, modified, extended, or terminated at any time by mutual written consent of both Parties.”

PVER LUA (CDFG): “This Agreement may be amended, extended, or terminated at any time by mutual written consent of both Parties”

Imperial Ponds LUA (FWS): “This Agreement may be amended, extended, or terminated at any time by mutual consent of both Parties”





Lower Colorado River Multi-Species Conservation Program

Balancing Resource Use and Conservation

LONG-TERM OPERATIONS & MAINTENANCE COST PROJECTIONS

- ESTIMATED ANNUAL O&M COSTS FROM TABLE 7.1 (FY10\$) = \$4,109,744
- ESTIMATED ANNUAL O&M COSTS FOR EXISTING CON. AREAS (FY10\$) = \$2,403,000
- PERCENT PROJECTED O&M FUNDS ALLOCATED TO EXISTING CON. AREAS = 58%
- PERCENT PROJECTED CON. MEASURE ACREAGE MANAGED BY PROGRAM = 66%





Lower Colorado River Multi-Species Conservation Program

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TOTAL PROJECTED DEVELOPMENT AND O&M COST PROJECTIONS

- CON. AREA DEVELOPMENT (YEARS 1-20 IN FY10\$) = \$306,509,780
- LONG-TERM O&M (YEARS 21-50 IN FY10\$) = \$123,292,320
- TOTAL COST FOR DEVELOPMENT, OPERATIONS AND MAINTENANCE = \$429,802,100
- PERCENT TOTAL COSTS FOR DEVELOPING AND MANAGING EXISTING CON. AREAS = 42%
- PERCENT PROJECTED CON. MEASURE ACREAGE MANAGED BY PROGRAM = 66%





Lower Colorado River Multi-Species Conservation Program

Balancing Resource Use and Conservation

HABITAT CREDIT PROCESS

- DRAFT COMPLETED BY RECLAMATION
- MEET WITH THE FWS TO GET INPUT ON DOCUMENT
- CONDUCT PEER REVIEW WITH SPECIES EXPERTS
- MEET WITH TWG TO GET STEERING COMMITTEE INPUT
- FINALIZE AT OCTOBER SC MEETING





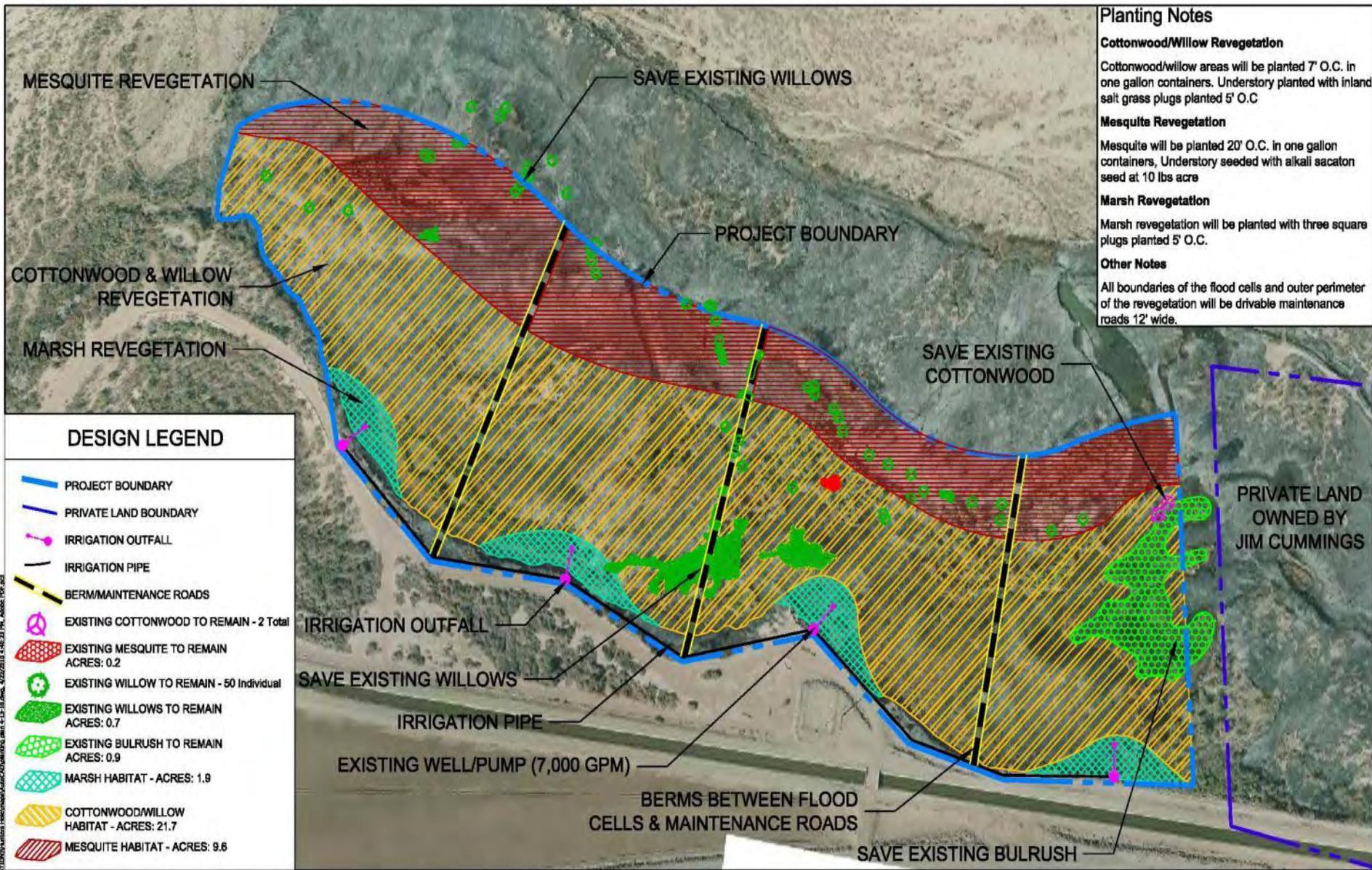
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Balancing Resource Use and Conservation

Hunter's Hole

- 35 acres, CW land cover type
- 4 individual cells
- Construction Budget is approx \$900,000
- Annual O&M estimate \$20-30,000, 20-year min.
- Compliment to Colonial Miguel Aleman
- Reach 7, Arizona





Planting Notes

Cottonwood/Willow Revegetation
 Cottonwood/willow areas will be planted 7' O.C. in one gallon containers. Understory planted with inland salt grass plugs planted 5' O.C

Mesquite Revegetation
 Mesquite will be planted 20' O.C. in one gallon containers, Understory seeded with alkali sacaton seed at 10 lbs acre

Marsh Revegetation
 Marsh revegetation will be planted with three square plugs planted 5' O.C.

Other Notes
 All boundaries of the flood cells and outer perimeter of the revegetation will be drivable maintenance roads 12' wide.

DESIGN LEGEND

- PROJECT BOUNDARY
- PRIVATE LAND BOUNDARY
- IRRIGATION OUTFALL
- IRRIGATION PIPE
- BERM/MAINTENANCE ROADS
- EXISTING COTTONWOOD TO REMAIN - 2 Total
- EXISTING MESQUITE TO REMAIN ACRES: 0.2
- EXISTING WILLOW TO REMAIN - 50 Individual
- EXISTING WILLOWS TO REMAIN ACRES: 0.7
- EXISTING BULRUSH TO REMAIN ACRES: 0.9
- MARSH HABITAT - ACRES: 1.9
- COTTONWOOD/WILLOW HABITAT - ACRES: 21.7
- MESQUITE HABITAT - ACRES: 9.6

PRIVATE LAND OWNED BY JIM CUMMINGS

Fred Phillips Consulting, LLC
 401 SOUTH LEROUX STREET
 FLAGSTAFF, AZ 86001
 TEL 928 773 1530
 FAX 928 774 4166
 Ecosystem Restoration Land Planning

PREPARED FOR:
 YUMA CROSSING NATIONAL HERITAGE AREA IN PARTNERSHIP WITH THE BUREAU OF RECLAMATION

HUNTER'S HOLE
 RIPARIAN AND WETLAND RESTORATION
 CITY OF YUMA YUMA, ARIZONA

SHEET TITLE :
 REVISED PLANTING PLAN
 Scale: 1" = 200'

DATE: APRIL 21, 2010
 JOB NO.:
 DRAWN BY: JF
 DESIGNED BY: FOP/DB
 CHECKED BY: FOP
 SHEET NO.:
 FIGURE 1

Lower Colorado River Multi-Species Conservation Program



Balancing Resource Use and Conservation

BEAL LAKE RIPARIAN (E1)





Lower Colorado River Multi-Species Conservation Program

Balancing Resource Use and Conservation

BACKGROUND AND DEVELOPMENT HISTORY

- RESTORATION DEMONSTRATION SITE ADJACENT TO BEAL LAKE ON DREDGE SPOIL
- DEVELOPED IN 3 PHASES
 - PHASE 1: 59 ACRES OF COTTONWOOD, WILLOW, AND MESQUITE
 - PHASE 2: 48 ACRES OF COTTONWOOD, WILLOW, AND MESQUITE
 - PHASE 3: SEEDED WITH HONEY MESQUITE





Lower Colorado River Multi-Species Conservation Program

Balancing Resource Use and Conservation

CURRENT STATUS

- 107 ACRES CLASSIFIED AS CW I
- COVERED SPECIES DETECTED:
 - SUMMER TANAGER
 - YELLOW WARBLER
 - ARIZONA BELL'S VIREO
 - YELLOW-BILLED CUCKOO
 - WILLOW FLYCATCHER
 - RED BAT
 - YELLOW BAT
 - TOWNSEND'S BIG-EARED BAT
 - CALIFORNIA LEAF-NOSED BAT



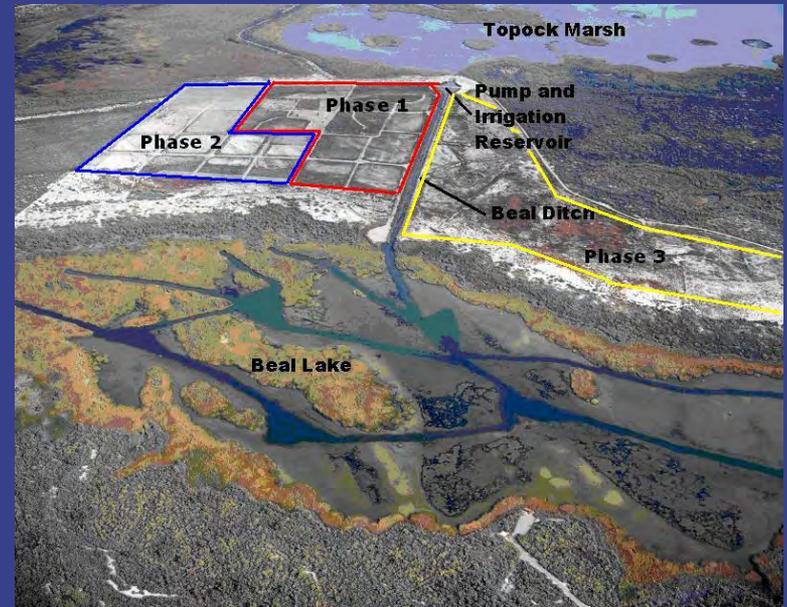


Lower Colorado River Multi-Species Conservation Program

Balancing Resource Use and Conservation



BEAL LAKE RIPARIAN IN 2003



BEAL LAKE RIPARIAN IN 2006





Lower Colorado River Multi-Species Conservation Program

Balancing Resource Use and Conservation

ADAPTIVE MANAGEMENT

- MANAGE FOR EXISTING SPECIES
- CONDUCT AM FOR :
 - YELLOW-BILLED CUCKOO
 - SOUTHWESTERN WILLOW FLYCATCHER
 - ELF OWL
 - GILDED FLICKER
 - GILA WOODPECKER
 - VERMILION FLYCATCHER





Lower Colorado River Multi-Species Conservation Program

Balancing Resource Use and Conservation

LCR MSCP EXPENDITURES

- **FY11 PROPOSED ESTIMATE = \$200,000**
- **O & M COSTS INCLUDE:**
 - **IRRIGATION SERVICES**
 - **PUMP AND IRRIGATION SYSTEM MAINTENANCE**
 - **PUMP FUEL**
 - **ROAD MAINTENANCE**
 - **FERTILIZER**
 - **GENERAL SITE MAINTENANCE**
 - **ADMINISTRATIVE COSTS**





Lower Colorado River Multi-Species Conservation Program

Balancing Resource Use and Conservation

OTHER FACTORS

- COSTS PER ACRE SLIGHTLY HIGHER DUE TO SIZE AND PROXIMITY TO OTHER CONSERVATION AREAS
- SITE WITHIN 1 MILE OF EXISTING SWFL BREEDING HABITAT
- NO LAND AND WATER ACQUISITION COSTS
- LCR MSCP HAS SPENT \$2.5 MILLION FOR RESEARCH AT THIS SITE



Lower Colorado River Multi-Species Conservation Program



Balancing Resource Use and Conservation

YUMA EAST WETLANDS (E28)





Lower Colorado River Multi-Species Conservation Program

Balancing Resource Use and Conservation

BACKGROUND AND DEVELOPMENT HISTORY

- PARTNERSHIP BETWEEN YCNHA, CITY OF YUMA, QUECHAN TRIBE, AND AZGFD
- DEVELOPED IN CELLS RANGING FROM 1 – 68 ACRES BEGINNING IN 2004
- PLANTED IN A MOSAIC OF COTTONWOOD, WILLOW, MESQUITE, QUAILBUSH, BULRUSH
- MOSAIC OF MARSH AND UPLAND SPECIES





Lower Colorado River Multi-Species Conservation Program

Balancing Resource Use and Conservation

CURRENT STATUS

- 350 TOTAL ACRES
 - 167 ACRES OF MARSH
 - 130 ACRES OF HONEY MESQUITE
 - 53 ACRES OF CW I

- COVERED SPECIES DETECTED:
 - GILA WOODPECKER
 - YELLOW WARBLER
 - ARIZONA BELL'S VIREO
 - YELLOW-BILLED CUCKOO
 - WILLOW FLYCATCHER
 - YUMA CLAPPER RAIL
 - LEAST BITTERN
 - YELLOW BAT
 - YUMA HISPID COTTON RAT





Lower Colorado River Multi-Species Conservation Program

Balancing Resource Use and Conservation



AERIAL VIEW OF YEW (FEB 2009)



NORTH CHANNEL (JUNE 2009)





Lower Colorado River Multi-Species Conservation Program

Balancing Resource Use and Conservation

ADAPTIVE MANAGEMENT

- MANAGE FOR EXISTING SPECIES
- CONDUCT AM FOR:
 - YELLOW-BILLED CUCKOO
 - ELF OWL
 - GILA WOODPECKER
 - VERMILION FLYCATCHER





Lower Colorado River Multi-Species Conservation Program

Balancing Resource Use and Conservation

LCR MSCP EXPENDITURES

- **FY11 PROPOSED ESTIMATE = \$450,000 (\$350,000 O & M)**
- **O & M COSTS INCLUDE:**
 - **IRRIGATION SERVICES**
 - **PUMP AND IRRIGATION SYSTEM MAINTENANCE**
 - **PUMP FUEL**
 - **ROAD MAINTENANCE**
 - **FERTILIZER**
 - **GENERAL SITE MAINTENANCE**
 - **ADMINISTRATIVE COSTS**





Lower Colorado River Multi-Species Conservation Program

Balancing Resource Use and Conservation

OTHER FACTORS

- EXISTING REVEGETATION WILL NEED AM TO OCCUR SOONER THAN OTHER SITES
- COSTS PER ACRE HIGHER DUE TO SIZE AND PROXIMITY TO YUMA
- LAND OWNED BY CITY OF YUMA, QUECHAN TRIBE, AND AZGFD
- NO LAND AND WATER ACQUISITION COSTS
- YCNHA HAS SPENT \$10 MILLION DOLLARS ON SITE PREP, INFRASTRUCTURE, PLANTING, AND SITE MAINTENANCE

