

RECLAMATION

Managing Water in the West

MSCP: Restoration and Maintenance



U.S. Department of the Interior
Bureau of Reclamation

LCR-MSCP HABITAT GOALS



5,940 ac Cottonwood & Willow



1,320 ac Honey Mesquite



512 ac Marsh



360 ac Backwaters

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Habitat Quality

- Based on Ohmart & Anderson (1976, 1984) Vegetation Classifications
- Will exceed the 10% density of CW defined in Ohmart & Anderson
- Defines habitat by O&A Structure Classes

Cottonwood & Willow (5,940ac)

- Large blocks interspersed with mesquite
- Water/moist soil within habitat
- Manage to maintain seral stages
- Limit non-natives
- H2O to prevent salt buildup in soils

CW-W Associated, Covered Species

- Flashy T&E Riparian Species PLUS:
- Y. Hispid Cotton Rat
- W. Red Bat, W. Yellow Bat
- Summer Tanager
- Bell's Vireo

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**Spp. Not Covered,
but Will Benefit:**

**Blue Grosbeak
Abert's Towhee
Brown-crested FC
Cooper's Hawk
Yellow-brst Chat**



Honey Mesquite (1,320ac)

- **Small areas of HM + CW + Backwaters = Mosaic**
- **+ 50ac blocks adjoining existing HM**
- **HM + Quailbush = McN. Skipper habitat**
- **Provide abundance/diversity of insects**

Mesquite

Associated Spp:

- Vermilion Flycatcher
- Elf Owl
- W. Red, W. Yellow Bats
- McN Sootywing Sk.
- Desert Pocket Mouse

Not Covered, but will Benefit:

- Phainopepla
- Crissal Thrasher



Marsh (512ac)

- **Moist soil + bulrush, etc. + managed H₂O = Black Rails**
- **Dredging + Replanting Emergents+ H₂O mgmt. = Marsh Habitat**
- **Degraded Marsh + Improved Hydrologic Conditions = High Quality Marsh**

Marsh Associated

Species:

Least Bittern

Black Rail

Colorado River
Cotton Rat

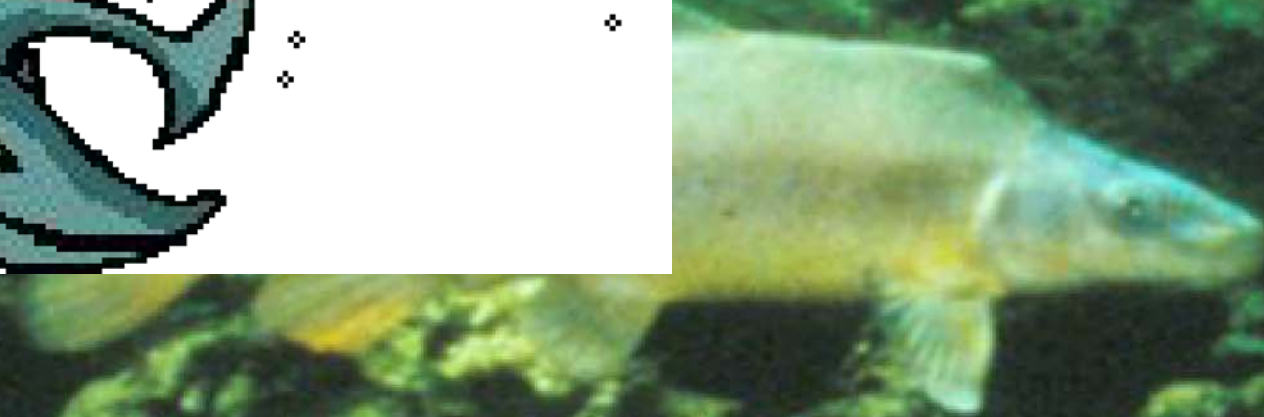


Backwaters (360ac)

- **Disconnected Backwaters: Predator-free—
Stocking of Razorbacks & Bonytails**
- **Connected Backwaters- designed to provide
environmental conditions to support adult
native fish**
- **Backwater Habitat Combined with Riparian
and Marsh, when possible**

Imperial NWR, DU Ponds





Mosaic of Habitat Types



Projects in Progress

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Beal Lake Re-vegetation, Phase 1

55 acres in '03 & '04



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Irrigation Installation



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Planting Materials

- 146 lbs CW/W Seed on 16 acres (9 lbs/ac)
- 21,000 - Nursery Grown 1-gallon container plants
 - Fremont Cottonwood (*Populus fremontii*)
 - Goodings Willow (*Salix gooddingii*)
 - Coyote Willow (*Salix exigua*)

Seed Collecting



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Planting Methods- CW/W @ 5' centers



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Hydroseeding Salt-tolerant Shrubs & CW-W



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Hand Seeding

CW-W Branches &
Loose Seed → Wet Soils



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Seedlings 2003



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Beal Lake August 2004



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Results - Phase 1

- **Soils: Sandy, inner fields- low salts, outer fields high salts, water table 5-6'**
- **CW-W Habitat: 10+ of 16 acres seeded in '03 & '04; 32+ acres planted with container plants**
- **Salt-tolerant Shrub Habitat: 11+ acres seeded in '03 & '04**

Beal Lake Sept 2004



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Beal Lake, Phases 2 & 3

➤ Phase 2 – 48.8 acres

Summer 2004

- cleared, irrigation installed, cover crop (Re-green©)

Spring 2005 & Beyond

- CW-W perimeter, seed center of fields
- Salt-tolerant shrubs
- Wetland/Marsh

➤ Phase 3 - 100 acres

2005 and Beyond

- Mostly Mesquite, some CW-W and Marsh

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CRIT's 'Ahakhav Tribal Preserve

Partnership to:

- **Demonstrate and Improve Irrigation Methods**
- **Explore Planting Techniques: seeding, mass planting of propagules, cuttings, etc.**
- **Improve/Minimized Maintenance**
- **Determine Best Management Practices of Existing Habitat for MSCP Species**



120 ac New Re-vegetation, Maintenance/Management of previously existing 135 ac for MSCP Spp., Additional Data and Improved Methods for Future Projects

Pratt Restoration Area 1999

- **Partnership with BLM**
- **Seeded Areas, Poles, Container Plants**
- **Managing for Structural Diversity-
Random Patch Cutting Annually +
Monitoring Effects on Wildlife**

Pole Planting in Rows



Seeding with CW/W



Naturally Seeded Baccharis Understory, CW Canopy





JUL 20 2004

Structurally Diverse Riparian Habitat

