



# Lower Colorado River Multi-Species Conservation Program

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*Balancing Resource Use and Conservation*

## Riparian Restoration Update 2011

CRITER MEETING  
January 26, 2011

Gail Iglitz  
Project Manager  
Bureau of Reclamation  
Boulder City, NV





# Lower Colorado River Multi-Species Conservation Program

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- Palo Verde Ecological Reserve – Blythe, California
- Cibola Valley Conservation Area – Cibola, Arizona
- Cibola National Wildlife Refuge- Cibola, Arizona





# Lower Colorado River Multi-Species Conservation Program

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## PALO VERDE ECOLOGICAL RESERVE BACKGROUND

- Project started in 2006
- Partner: California Department of Game and Fish
- Estimated completion date 2013
- Over 1100 acres of cottonwood/willow land cover type





# Lower Colorado River Multi-Species Conservation Program

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## PALO VERDE ECOLOGICAL RESERVE TIMELINE

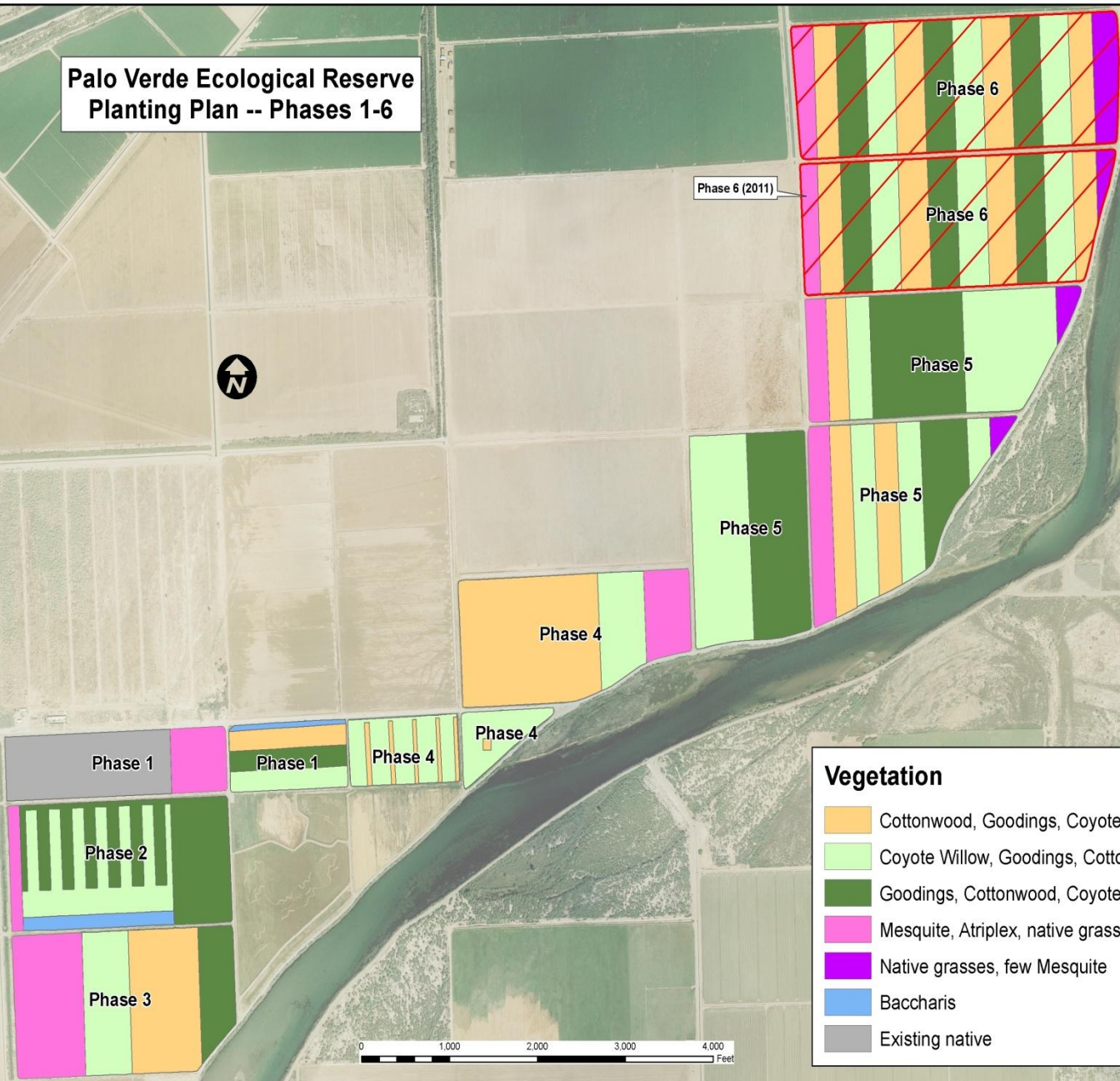
- 2006 Phase 1 (Native Nursery), 31 acres
- 2007 Phase 2 , 78 acres
- 2008 Phase 3, 84 acres
- 2009 Phase 4, 100 acres
- 2010 Phase 5, 216 acres
- 2011 Phase 6, 220 acres
- 2012 Phase 7, 226 acres
- 2013 Phase 8, 36 acres










**Palo Verde Ecological Reserve  
Planting Plan -- Phases 1-6**



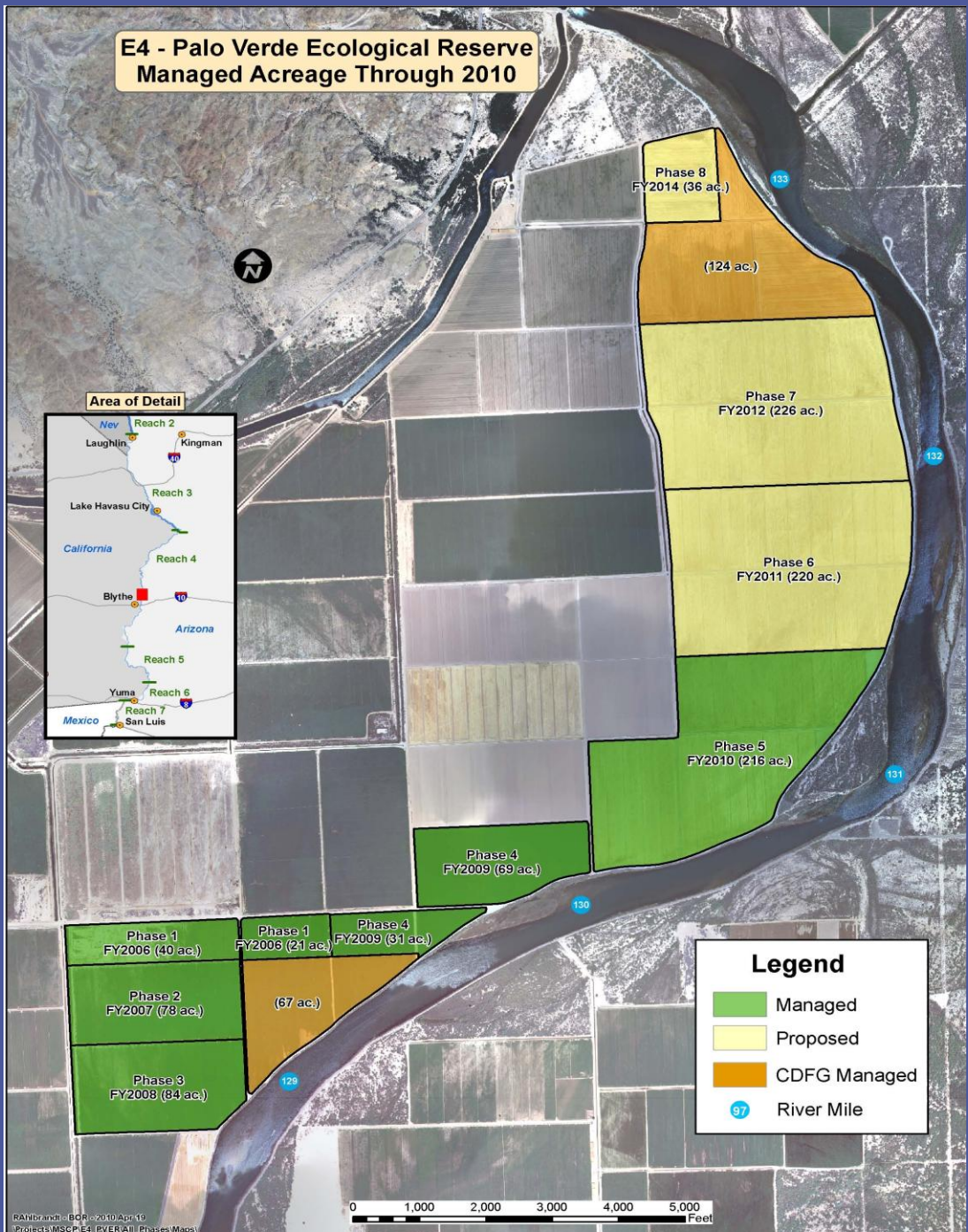
Phase 6 (2011)



Vegetation	
	Cottonwood, Goodings, Coyote Willow, Baccharis
	Coyote Willow, Goodings, Cottonwood
	Goodings, Cottonwood, Coyote Willow, Baccharis
	Mesquite, Atriplex, native grasses
	Native grasses, few Mesquite
	Baccharis
	Existing native



# E4 - Palo Verde Ecological Reserve Managed Acreage Through 2010



# Cottonwood with Mesquite Interface





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## Cibola Valley Conservation and Wildlife Area Background

- Project initiated in 2006
- Partnered with Arizona Game and Fish Department
- Estimated completion date 2018
- Approximately 1300 acres of a combination of mesquite and cottonwood/willow land cover type when completed







# Lower Colorado River Multi-Species Conservation Program

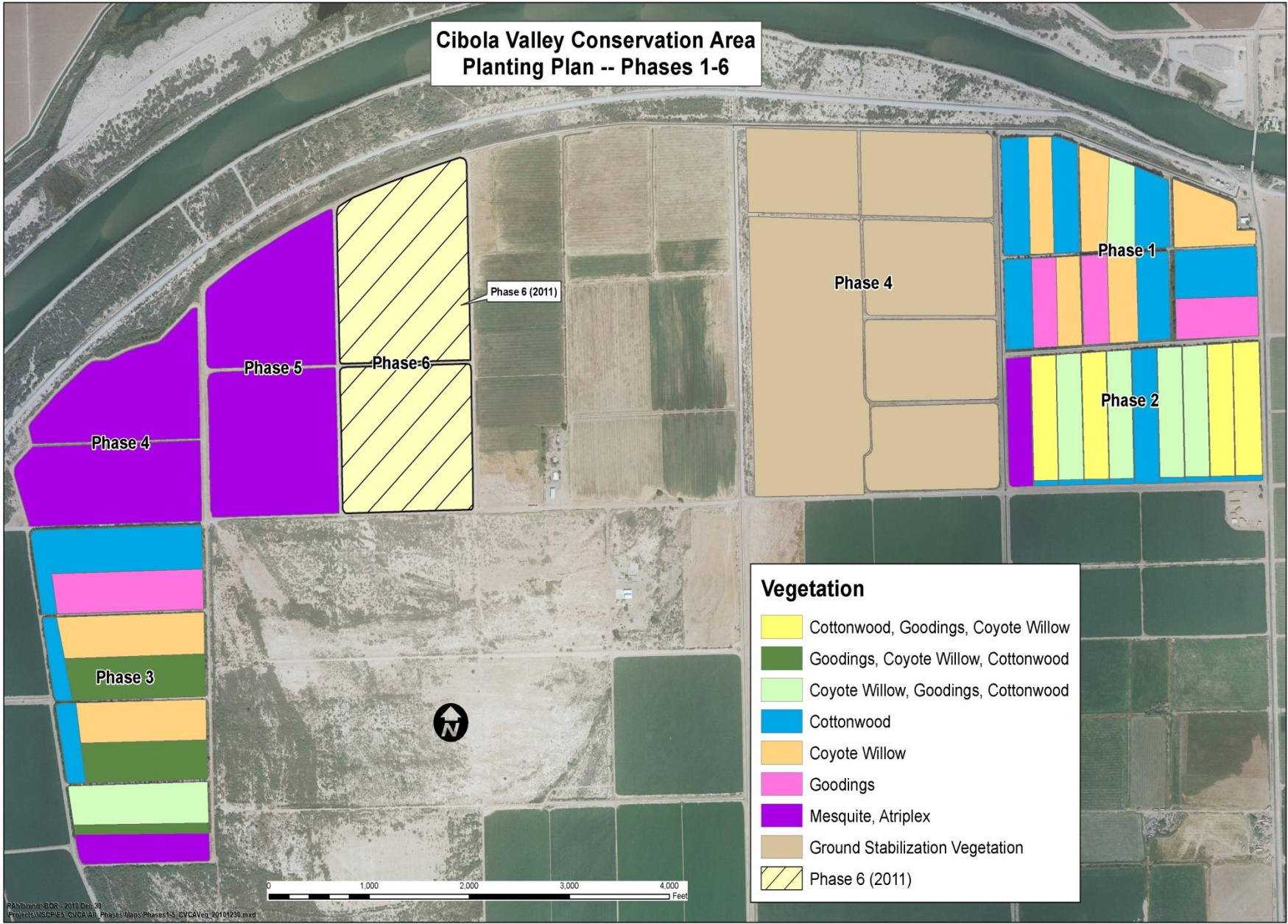
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## Cibola Valley Conservation and Wildlife Timeline

2006	Phase 1, 91 acres	2015	Phase 9, 76 acres
2007	Phase 3, 103 acres	2016	Phase 10, 123 acres
2008	Phase 2, 71 acres	2017	Phase 11, 193 acres
2009	Phase 4, 245 acres	2018	Phase 12, 72 acres
2010	Phase 5, 71 acres		
2011	Phase 6, 89 acres		
2013	Phase 7, 72 acres		
2014	Phase 8, 111 acres		



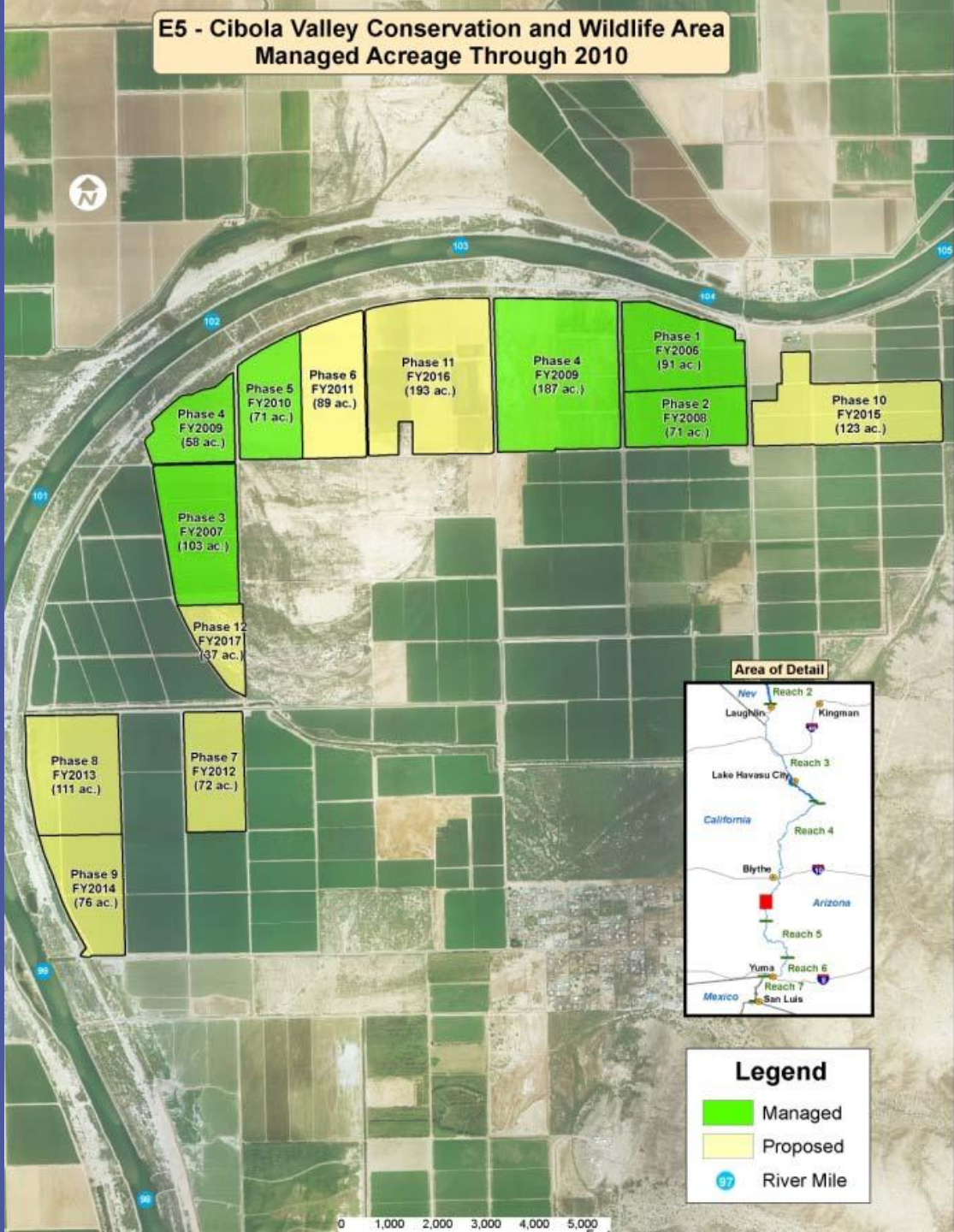
# Cibola Valley Conservation Area Planting Plan -- Phases 1-6



## Vegetation

- Cottonwood, Goodings, Coyote Willow
- Goodings, Coyote Willow, Cottonwood
- Coyote Willow, Goodings, Cottonwood
- Cottonwood
- Coyote Willow
- Goodings
- Mesquite, Atriplex
- Ground Stabilization Vegetation
- Phase 6 (2011)

# E5 - Cibola Valley Conservation and Wildlife Area Managed Acreage Through 2010



Area of Detail



## Legend

- Managed
- Proposed
- River Mile

0 1,000 2,000 3,000 4,000 5,000





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## CIBOLA NATIONAL WILDLIFE REFUGE BACKGROUND

- Project started in 1998 –Nature Trail
- Partner: U.S. Fish and Wildlife Service
- Estimated completion date 2018
- Over 900 acres of cottonwood/willow land cover type





# Lower Colorado River Multi-Species Conservation Program

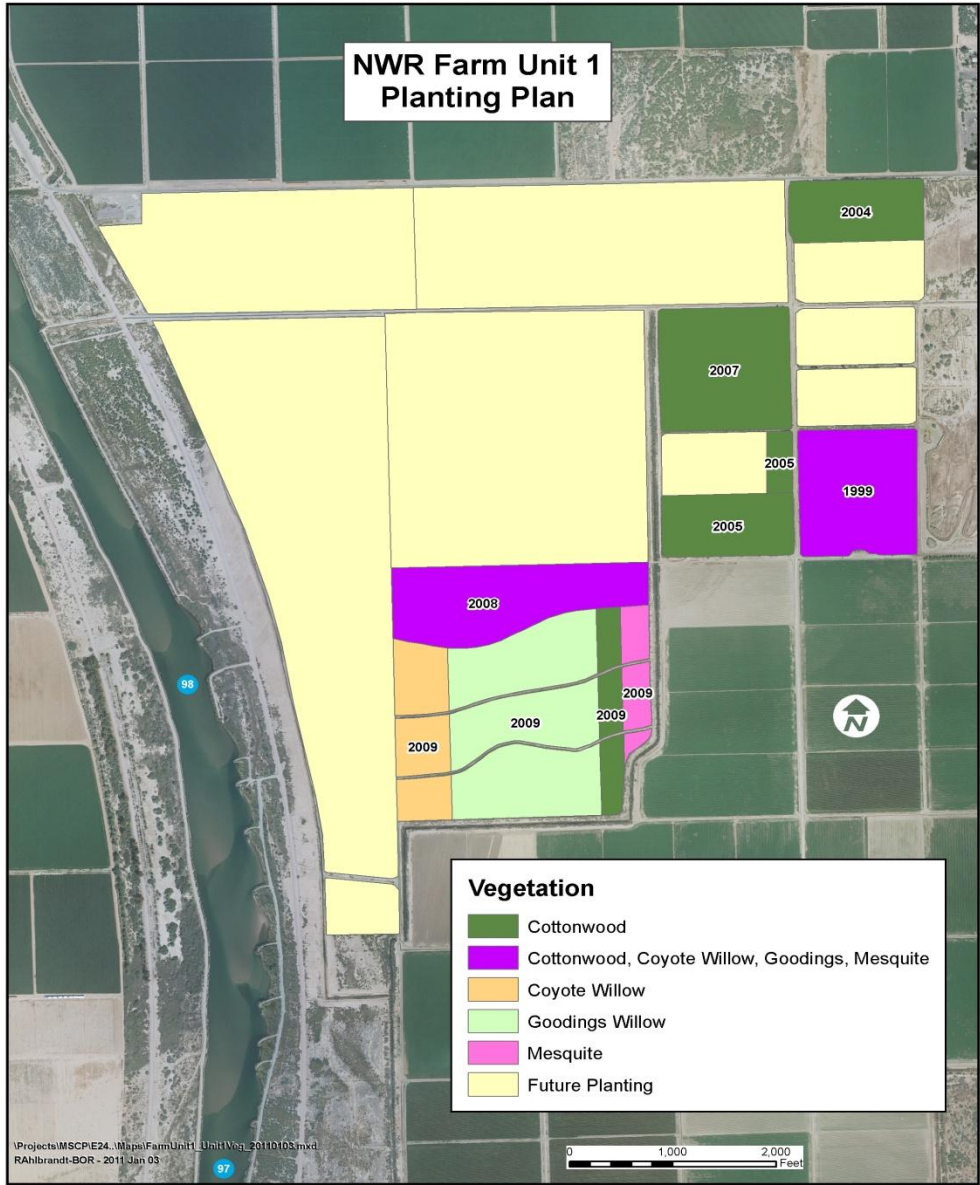
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## Cibola National Wildlife Refuge Timeline

1999	Nature Trail	2016	NE Ag 40
2005	Mass Transplanting Demo	2017	SE Ag 20
2007	Cottonwood Genetics	2017	SW Ag 20
2009	Crane Roost	2018	Baseline 90
2010	North 160 cleared/leveled		
2011	Maintenance		
2013	Upper Hippie		
2014	Hippie Burn		
2015	Hippie Burn		

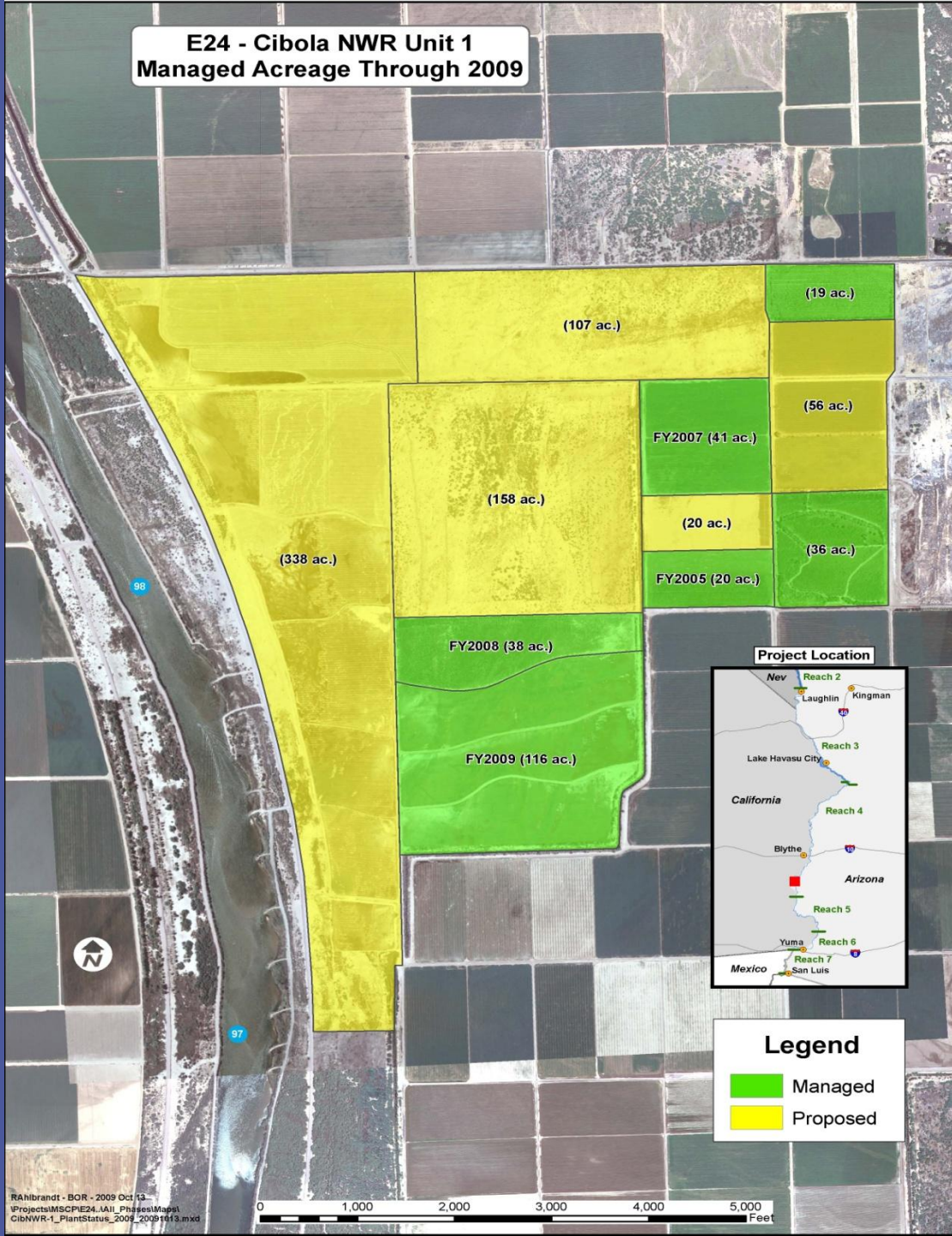


# NWR Farm Unit 1 Planting Plan



Vegetation	
	Cottonwood
	Cottonwood, Coyote Willow, Goodings, Mesquite
	Coyote Willow
	Goodings Willow
	Mesquite
	Future Planting

**E24 - Cibola NWR Unit 1  
Managed Acreage Through 2009**





# Dense Coyote Willow- 1 year post planting – Crane Roost



BOR Photo # 1878-300-24477

# Mass Transplanting



BOR Photo # 1878-300-20253

# Hand Planting



# Hand Planting – Marsh Plants





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<http://lcrmscp.gov/>

