

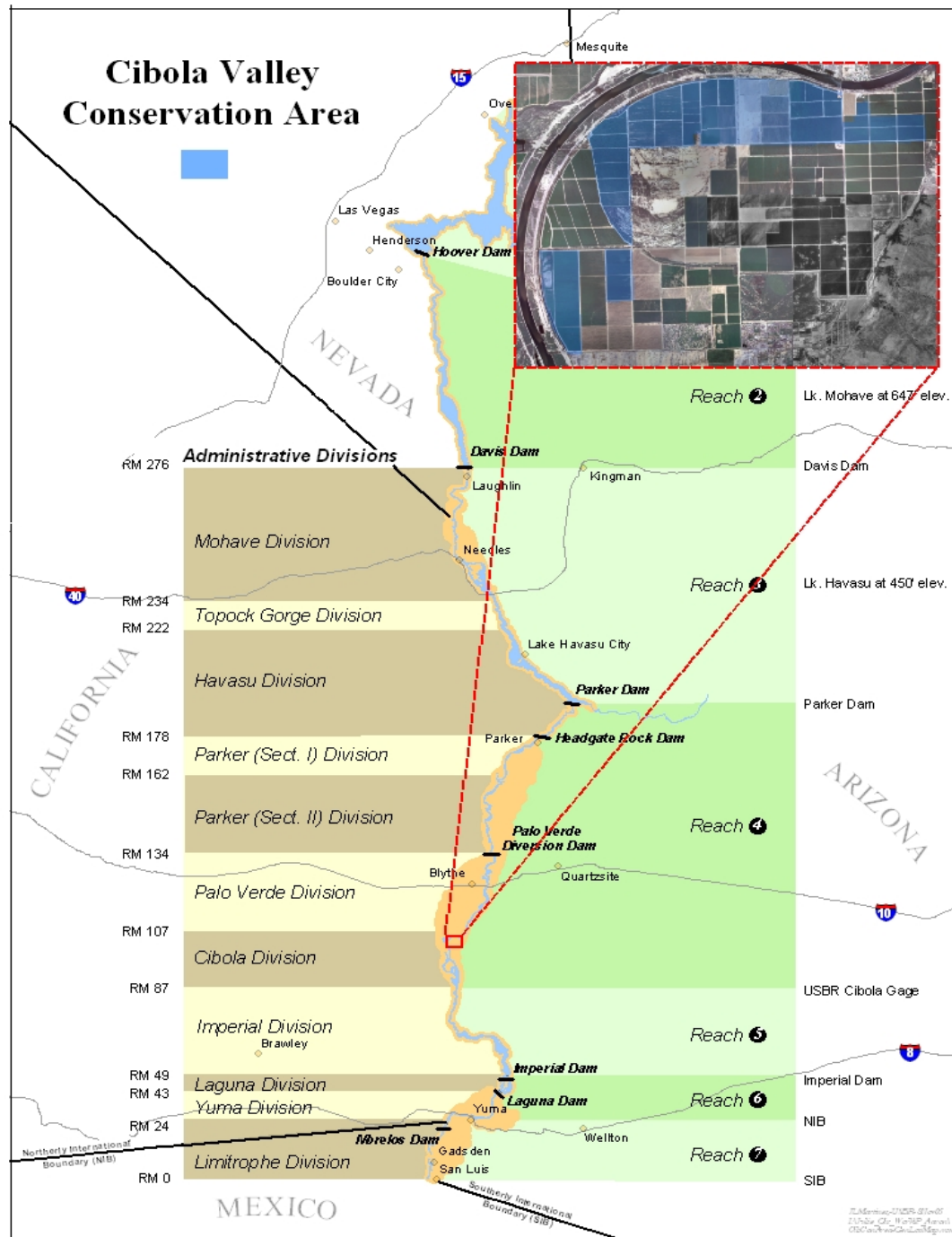
Cibola Valley Conservation Area

Terrestrial and Vegetation Pre- and
Post Restoration Monitoring

Overview

- 1,019 Acres Total
- Partnership with Mohave County Water Authority (MCWA); and Arizona Game and Fish Department (AGFD).
- Planted in phases
- Phase I Planted in March 2006 – 22 acre Nursery 64 acre Native Vegetation for SWFL

Cibola Valley Conservation Area



California State Water Project
 2015-2016 Water Year
 05/01/2015 09:00 AM

Resources Monitored

- Soil
- Vegetation
- Small Mammals
- Bats
- Birds utilizing Point Counts
- Groundwater and Irrigation
- Weather Station

Soil

- Parameters included nutrients, soil salinity and other salts
- Samples at surface, 1' and 3'
- All parameters within normal range with potassium decreasing over the summer.

Vegetation

- Approximately 116,280 plants were living two weeks after planting in April 2006. Of these, approximately 58,620 were cottonwoods, 26,740 were Goodings willow, 29,810 were coyote willow, and 1,100 were Baccharis sp.

Estimated Number of Survival After 1st Year's Growth for Phase 1 and by Species

	After Planting	1st Fall Survivorship	% survival
Total Estimated number of plants for Phase 1	116276	41931	36%
Total Estimated <i>Baccharis sp,</i>	1106	250	23%
Total Estimated <i>Populus fremontii</i>	58619	17595	30%
Total Estimated <i>Salix gooddingii</i>	26742	10778	40%
Total Estimated <i>Salix exigua</i>	29809	13308	45%

Morning Glory



Small Mammals

- Presence/absence surveys
- Two areas in Phase I
- Control
- Conducted March 2006 and November 2006
- Results – from all surveys found 4 *Peromyscus maniculatus*

BATS

- Quarterly Anabat Surveys
- Pilot Surveys in April 2006
- First official survey in October 2006
- Approx. 6 survey sites on Phase 1, Phase 3, and Control Site
- Surveys conducted two consecutive nights quarterly

Bat Pilot

Common Name	Scientific Name	Species Code
Pallid bat	<i>Antrozous pallidus</i>	ANTPAL
Big brown bat	<i>Eptesicus fuscus</i>	EPTFUS
EPTFUS/TADBRA	Species Group	EPTFUS/TADBRA
Hoary Bat	<i>Lasiurus cinereus</i>	LASCIN
40 Khz Myotis	Species Group	40 Khz Myotis
Yuma Myotis	<i>Myotis yumanensis</i>	MYOYUM
Pocketed Free-tailed Bat	<i>Nyctinomops femorosacus</i>	NYCFEM
Western Pipistrelle	<i>Pipistrelleus hesperus</i>	PIPHES
PIPHES/MYOCAL/MYOYUM	Species Group	PIPHES/MYOCAL/MYOYUM
Mexican Free-tailed Bat	<i>Tadarida brasiliensis</i>	TADBRA

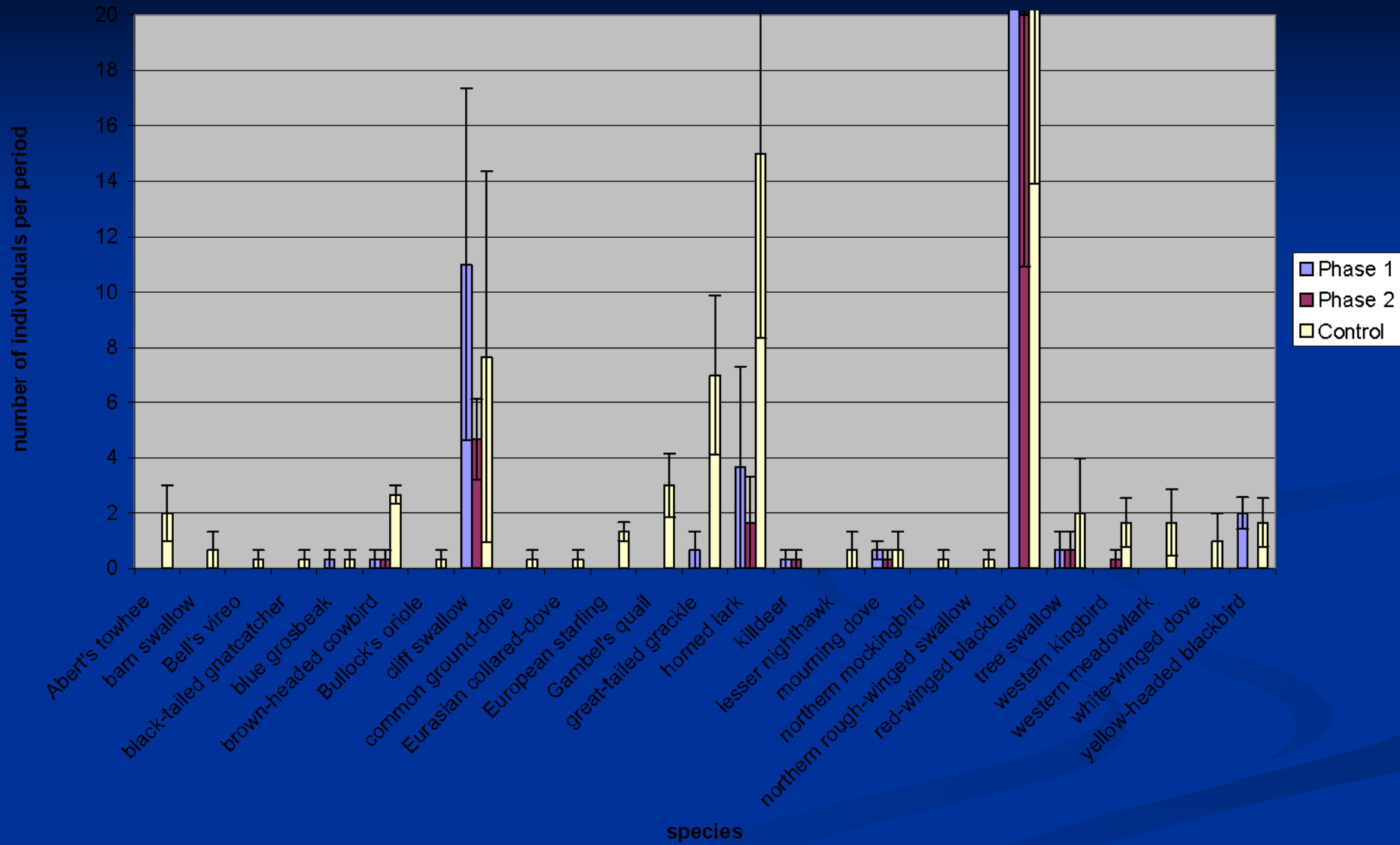
Data Summary for Pilot Acoustic Bat Surveys

Area	# Bat Passes/Night	# Bat Passes/Hr.	# Spp. Or Spp Groups
Cibola Valley Conservation Area			
#1 Field A	10	0.91	5
#2 Field B	3	0.27	3
#3 Nature Trail	9	0.82	4
#4 Saltcedar	17	1.55	4
#5 Watkins Field (CVCA Control)	9	0.82	5
#6 Watkins House	17	1.55	6

Birds

- Standardized Point Count Protocol set up by GBBO
- Completed at Phase 1 & 2 and Control site
- 10 points 250 M apart one transect for Phase 1 and 2 combined and one transect for Control site.

Average relative abundance of individuals detected during 2006 at CVCA



Species Richness and Diversity by Phase and Control

Project phase	Average number of individuals/period	Cumulative Species Richness (S)	Ecological Species Diversity (N_1)	Evenness (E)
Total Phase 1	102.33	10	2.14	0.33
Total Phase 2	28.33	8	2.73	0.48
Total Control	129.67	24	5.10	0.51