

# Native Riparian Revegetation Success in Controlled Tamarisk and Non-Tamarisk Sites in the Mojave River Watershed

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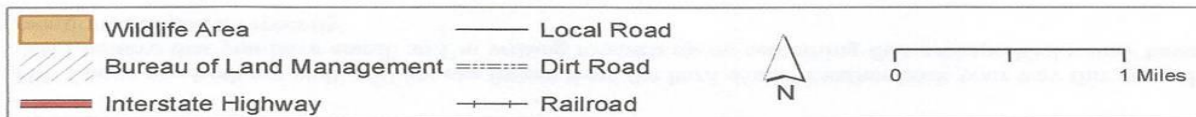
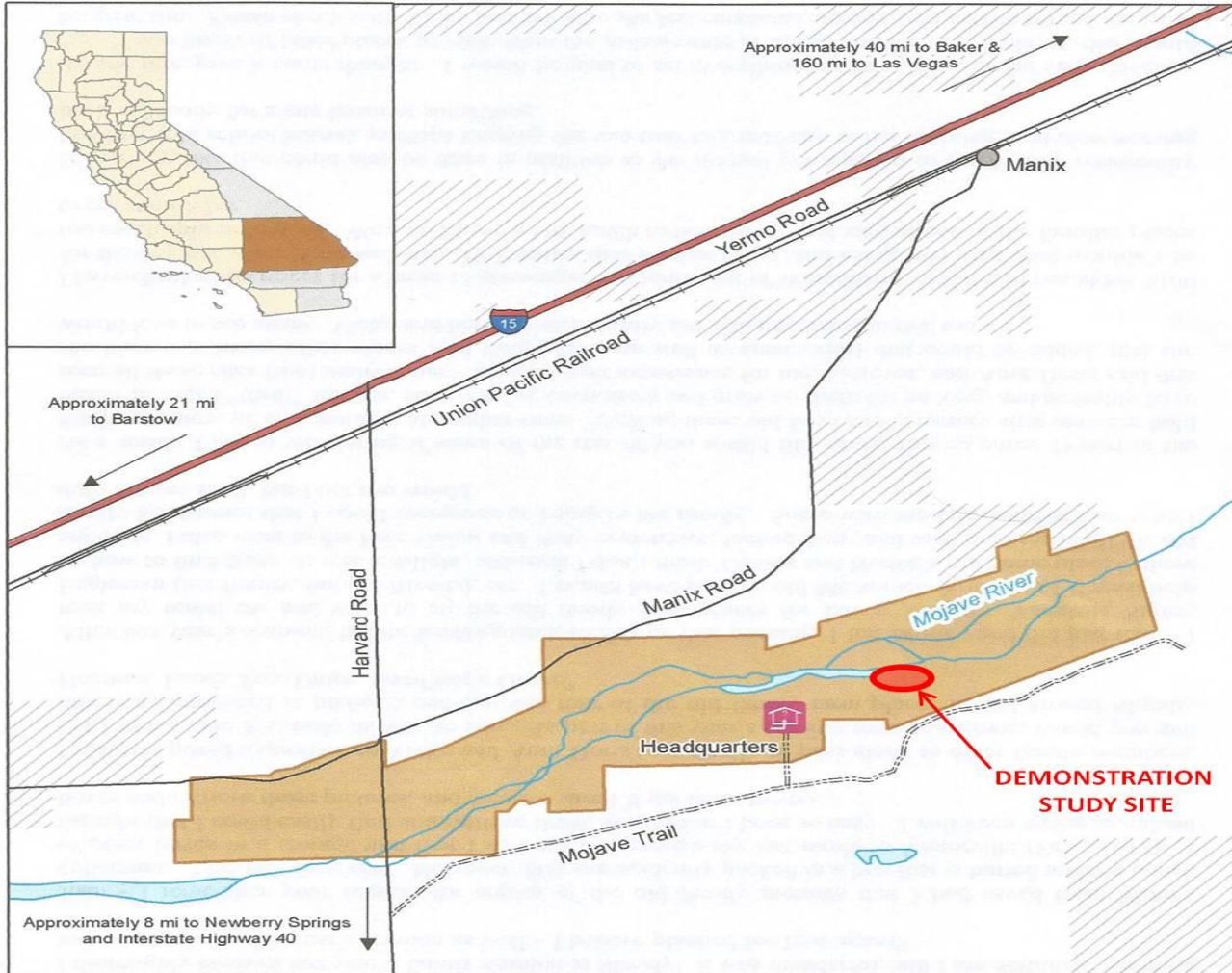
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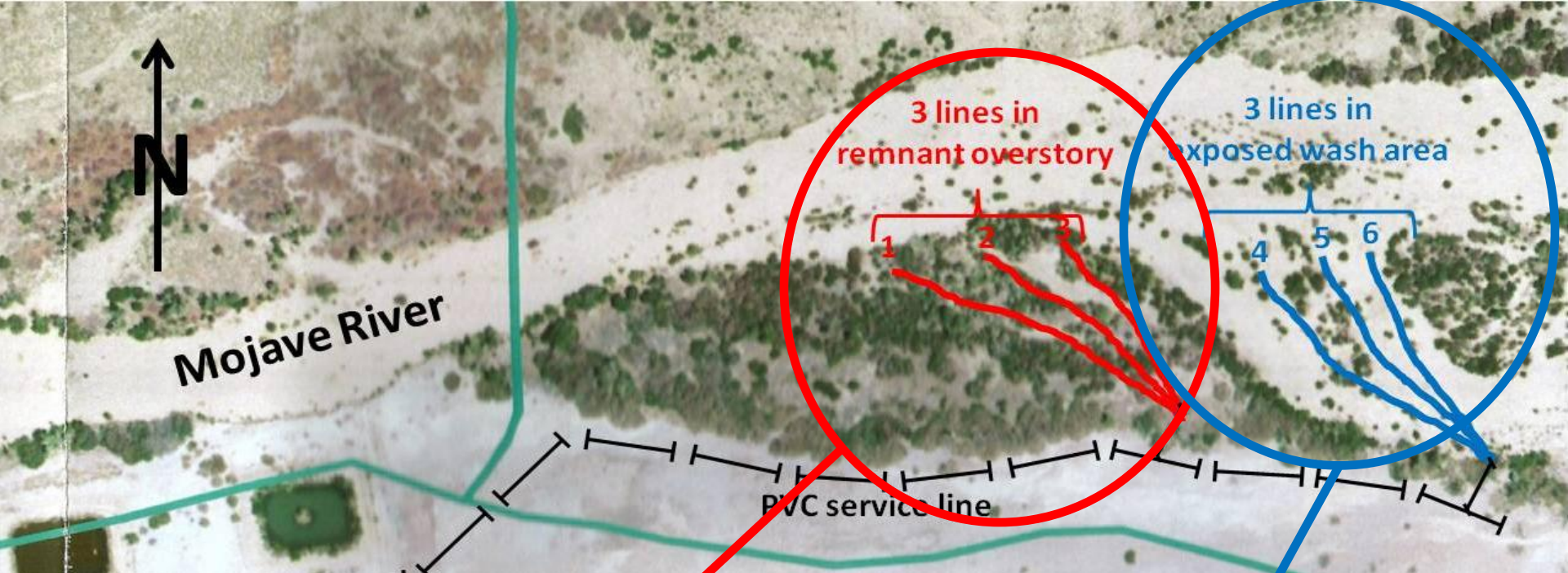
# California Department of Fish and Game Inland Deserts Region CAMP CADY WILDLIFE AREA San Bernardino County

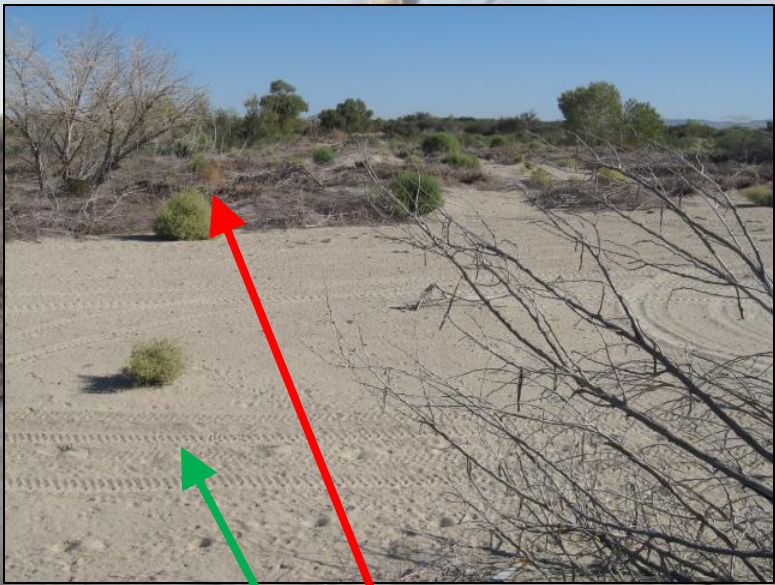


July 2008 - Stacey Lee, DFG - WB / BDB  
Prepared by BDB for WB

# Camp Cady Saltcedar Infestation Area Mojave River







No.	Description	%	units	dS/m	meq/l	meq/l	meq/l	meq/l	%	T/ac-6"	+/-	lbs/ac-6"	mg/l	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg
		SP	pH	EC	Ca	Mg	Na	Cl	ESP	GR	Lime	Lime	B	NO <sub>3</sub> -N	PO <sub>4</sub> -P	K	Acid K	Zn	Mn	Fe	Cu
	RL-->	0.50	1.0	0.01	0.1	0.1	0.1	0.1	0.1	0.1		500	0.1	10	2.0	2.0	40.0	0.1	0.1	0.1	0.1
	NAPT Methods-->	S100	S10	S120	S160	S160	S160	S140	Calc.			S2.50	S1.50	S3.10	S4.10	S5.10		S6.10	S6.10	S6.10	S6.10
	Handbook 60-->									Hndbk 60-22d	Hndbk 60-23a						SSSA,p 561 mod				
1	CC Lines 1-3 0-6"	35	7.4	7.79	25.3	8.2	44.8		13.0	<0.1	-	3.6	21	11	273		0.6	3.0	4.5	0.1	
2	CC Lines 1-3 6-12"	39	7.6	5.78	21.6	6.7	32.4		10.3	<0.1	-	2.5	8	5	73		0.4	1.3	5.5	0.1	
3	CC Lines 4-6 0-6"	27	8.4	0.43	1.1	0.3	2.8		3.6		+	0.3	<1	2	38		0.1	0.7	3.7	<0.1	
4	CC Lines 4-6 6-12"	27	8.8	0.24	0.7	0.2	1.6		2.3		-	0.1	<1	3	17		0.3	0.5	3.5	<0.1	



## Species Tested

The demonstration study evaluated 13 native species (@ approximately 24 plants per species = 312 total plants), transplanted from 1-gallon standard commercial nursery stock, as follows <sup>[1]</sup>:

1. Fremont cottonwood (*Populus fremontii* S. Watson) (POFR)
2. Goodding's willow (*Salix gooddingii* C.R. Ball) (SAGO)
3. Narrowleaf willow (*Salix exigua* Nutt.) (SAEX)
4. Desert willow (*Chilopsis linearis* (Cav.) Sweet) (CHLI)
5. Honey mesquite (*Prosopis glandulosa* Torr.) (PRGL)
6. Screwbean mesquite (*Prosopis pubescens* Benth.) (PRPU)
7. Fourwing saltbush (*Atriplex canescens* (Pursh) Nutt.) (ATCA)
8. Cattle (desert) saltbush (*Atriplex polycarpa* (Torr. S. Watson) (ATPO)
9. Big saltbush (quailbush) (*Atriplex lentiformis* (Torr. S. Watson) (ATLE)
10. Water jacket (Anderson wolfberry) (*Lycium andersonii* A. Gray) (LYAN)
11. Yellow paloverde (*Parkinsonia microphylla* Torr.) (PAMI)
12. Nevada jointfir (Mormon tea) (*Ephedra nevadensis* S. Watson) (EPNE)
13. Desertbroom (*Baccharis sarothroides* A. Gray) (BASA)

<sup>[1]</sup> Plant nomenclature taken from: USDA, NRCS. 2014. The PLANTS Database (<http://plants.usda.gov>, 20 August 2014). National Plant Data Team, Greensboro, NC 27401-4901 USA.





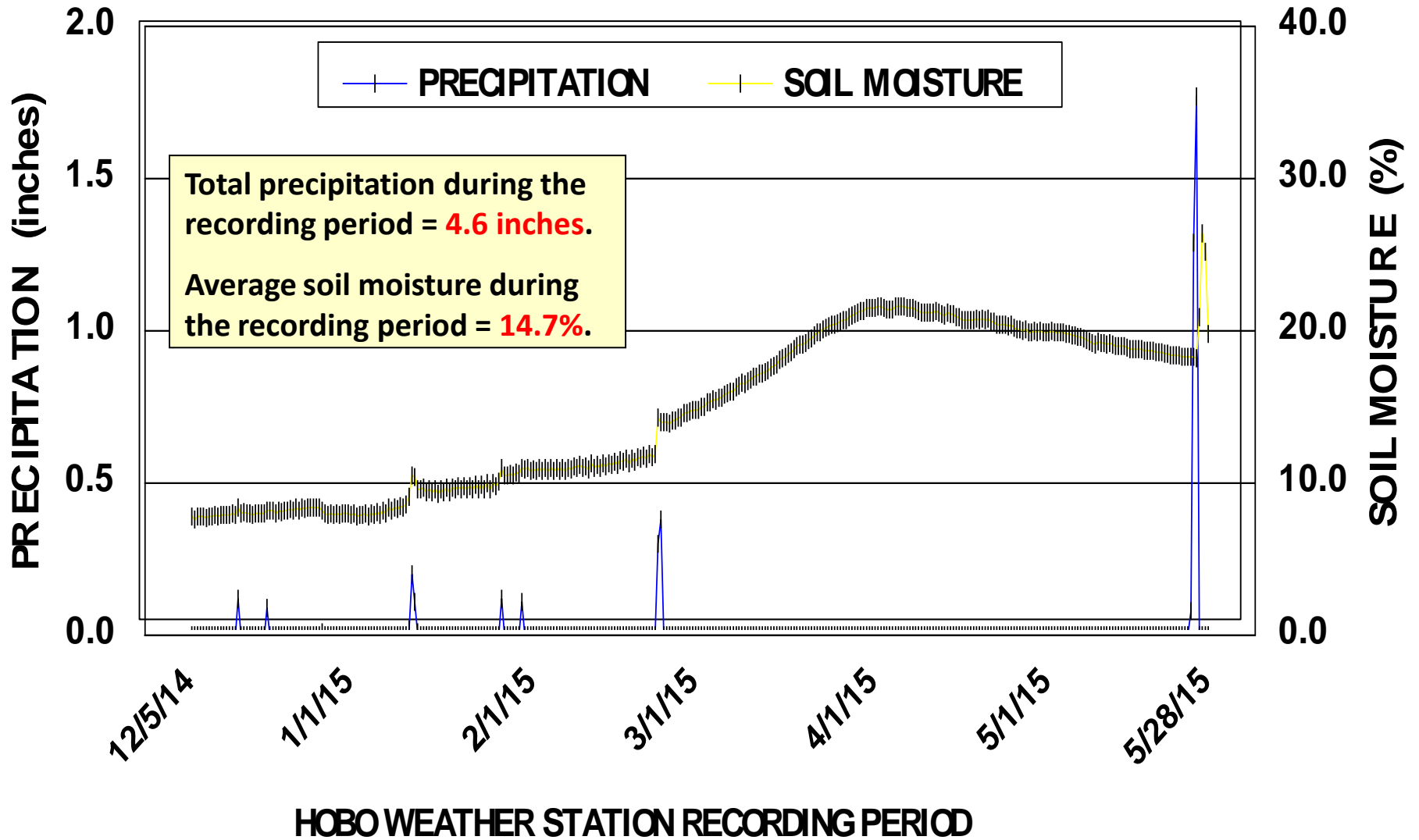




<http://www.ebay.com>



# CAMP CADY STUDY SITE PRECIPITATION AND SOIL MOISTURE

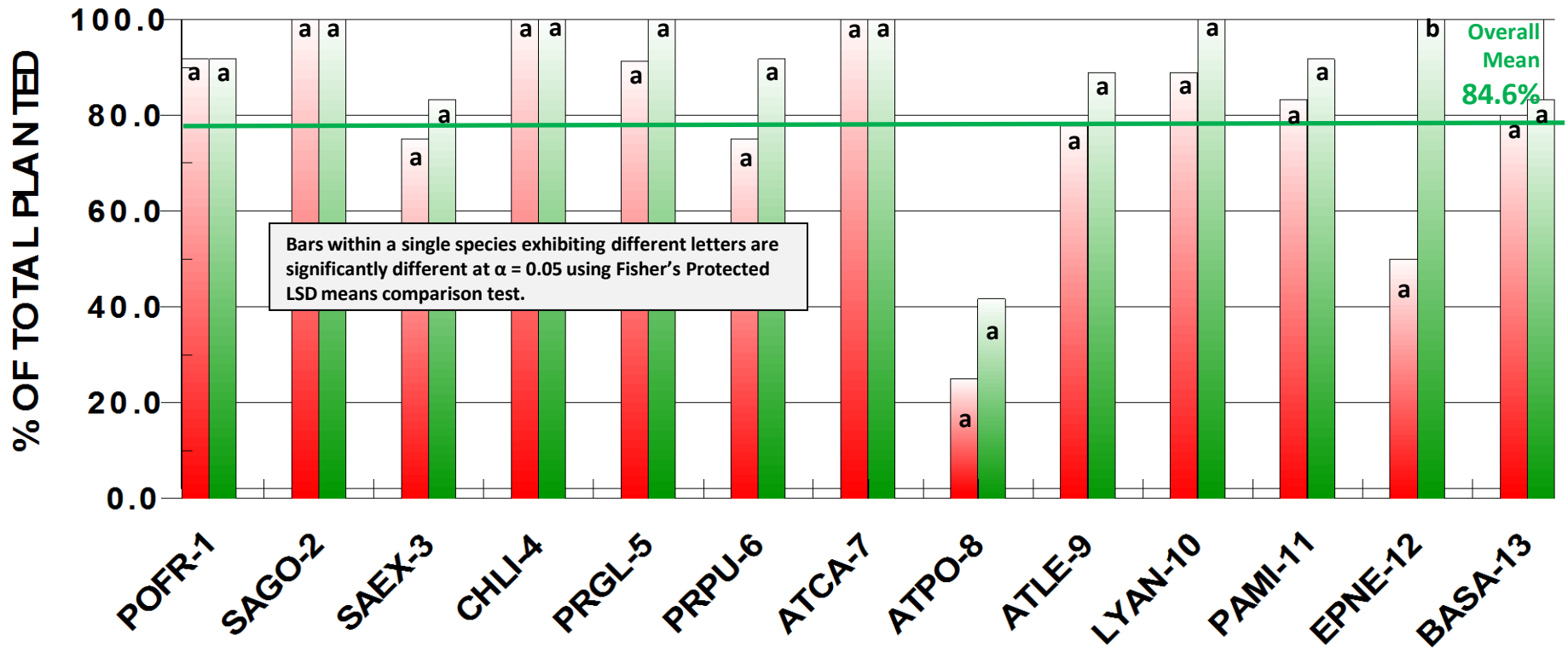


# MEAN PLANT SURVIVAL

## (BY PLANTING SITE / SUBSTRATE)

(AUGUST 10, 2015)

■ SALT CEDAR (SANDY LOAM) 
 ■ OPEN (SAND)



	POFR 1	SAGO 2	SAEX 3	CHLI 4	PRGL 5	PRPU 6	ATCA 7	ATPO 8	ATLE 9	LYAN 10	PAMI 11	EPNE 12	BASA 13
SALT	91.7	100.0	75.0	100.0	91.3	75.0	100.0	25.0	77.8	88.9	83.3	50.0	79.6
OPEN	70.8	100.0	83.3	100.0	100.0	91.7	100.0	41.7	88.9	100.0	91.7	100.0	83.3

**SURVIVAL – SALT = 79.8%**

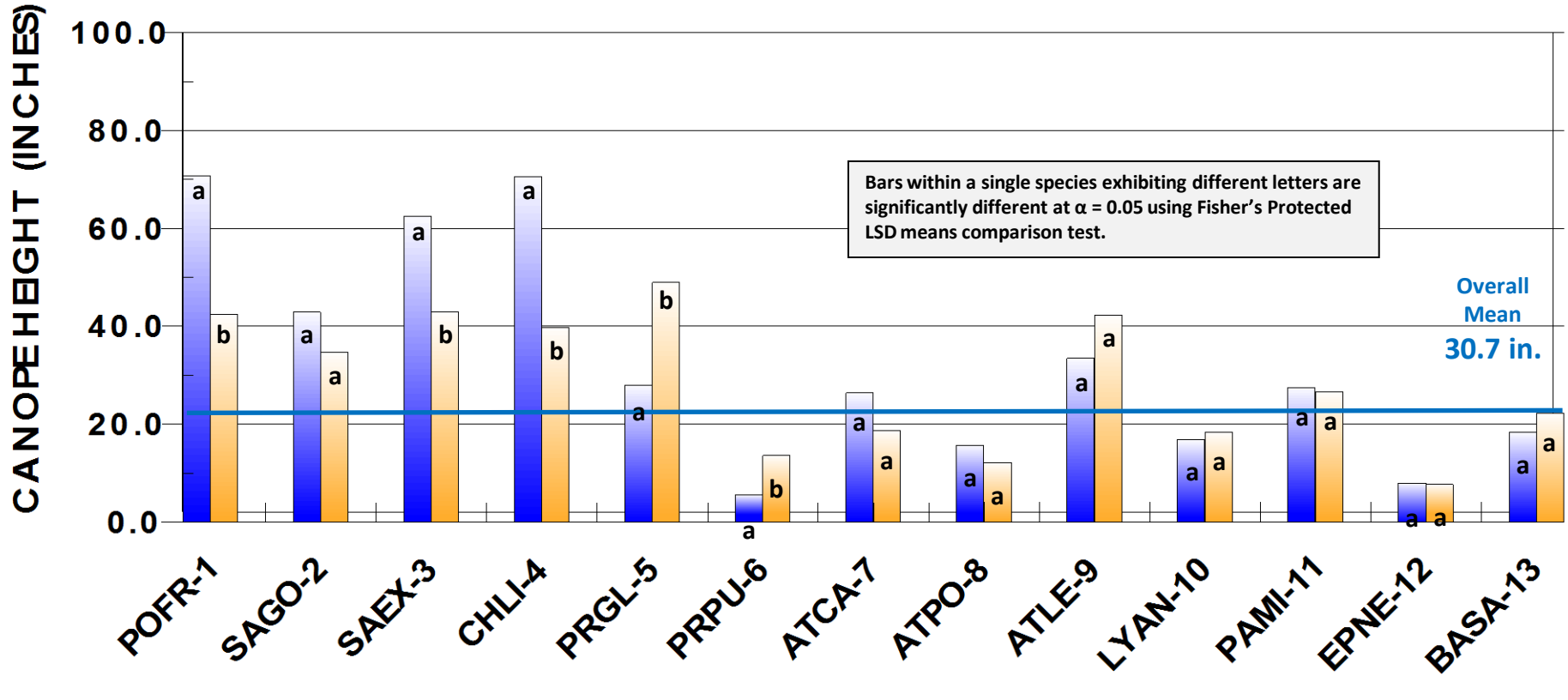
**SURVIVAL – OPEN = 88.6%**

# MEAN PLANT CANOPY HEIGHT

(BY PLANTING SITE / SUBSTRATE)

(AUGUST 10, 2015)

■ SALT CEDAR (SANDY LOAM) ■ OPEN (SAND)



	POFR 1	SAGO 2	SAEX 3	CHLI 4	PRGL 5	PRPU 6	ATCA 7	ATPO 8	ATLE 9	LYAN 10	PAMI 11	EPNE 12	BASA 13
SALT	70.8	42.9	62.5	70.5	28.0	5.5	26.4	15.7	33.5	16.8	27.5	8.0	18.4
OPEN	42.5	34.7	42.9	39.7	49.0	13.6	18.8	12.2	42.3	18.4	26.7	7.7	22.3

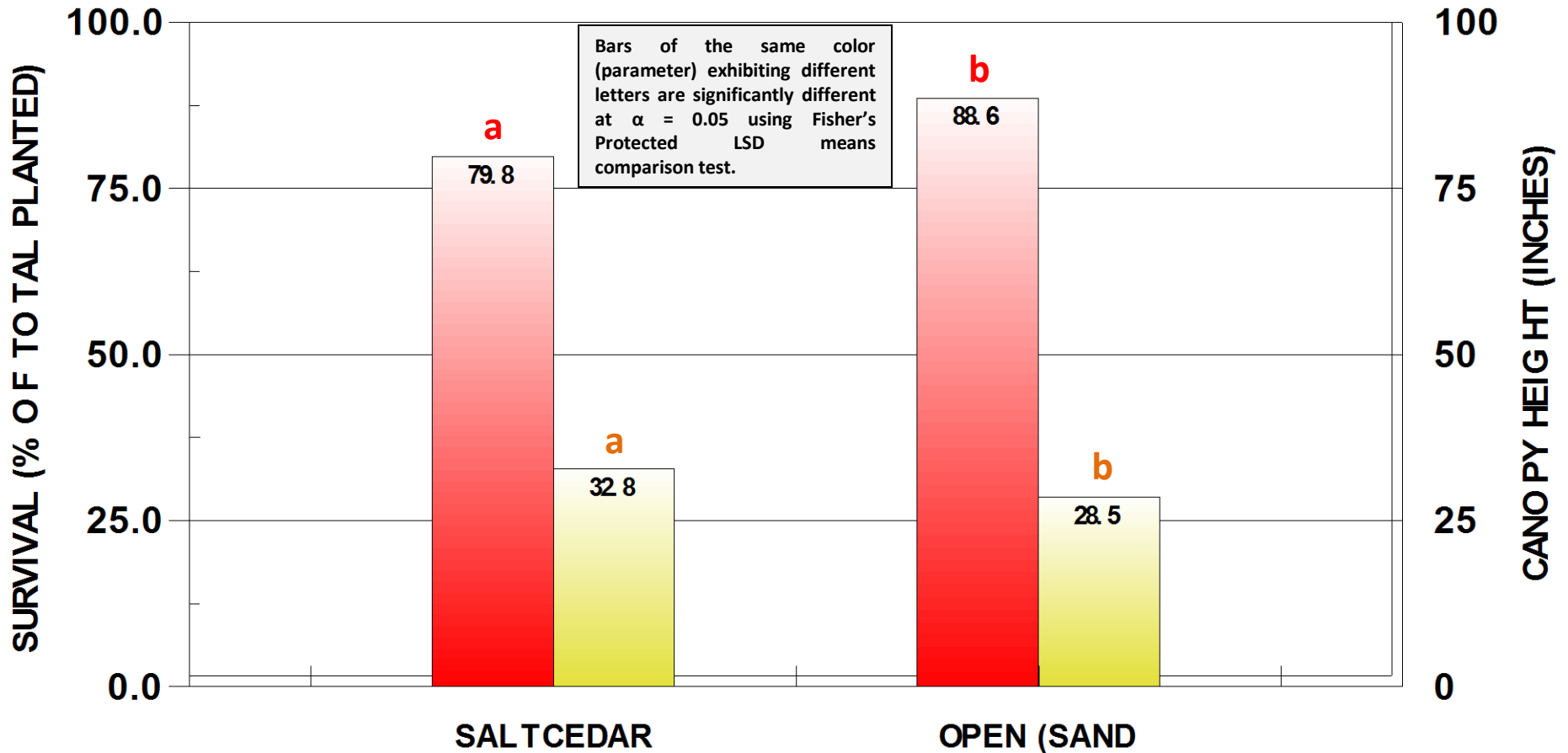
CANOPY HEIGHT – SALT = 32.8 in

CANOPY HEIGHT – OPEN = 28.5 in

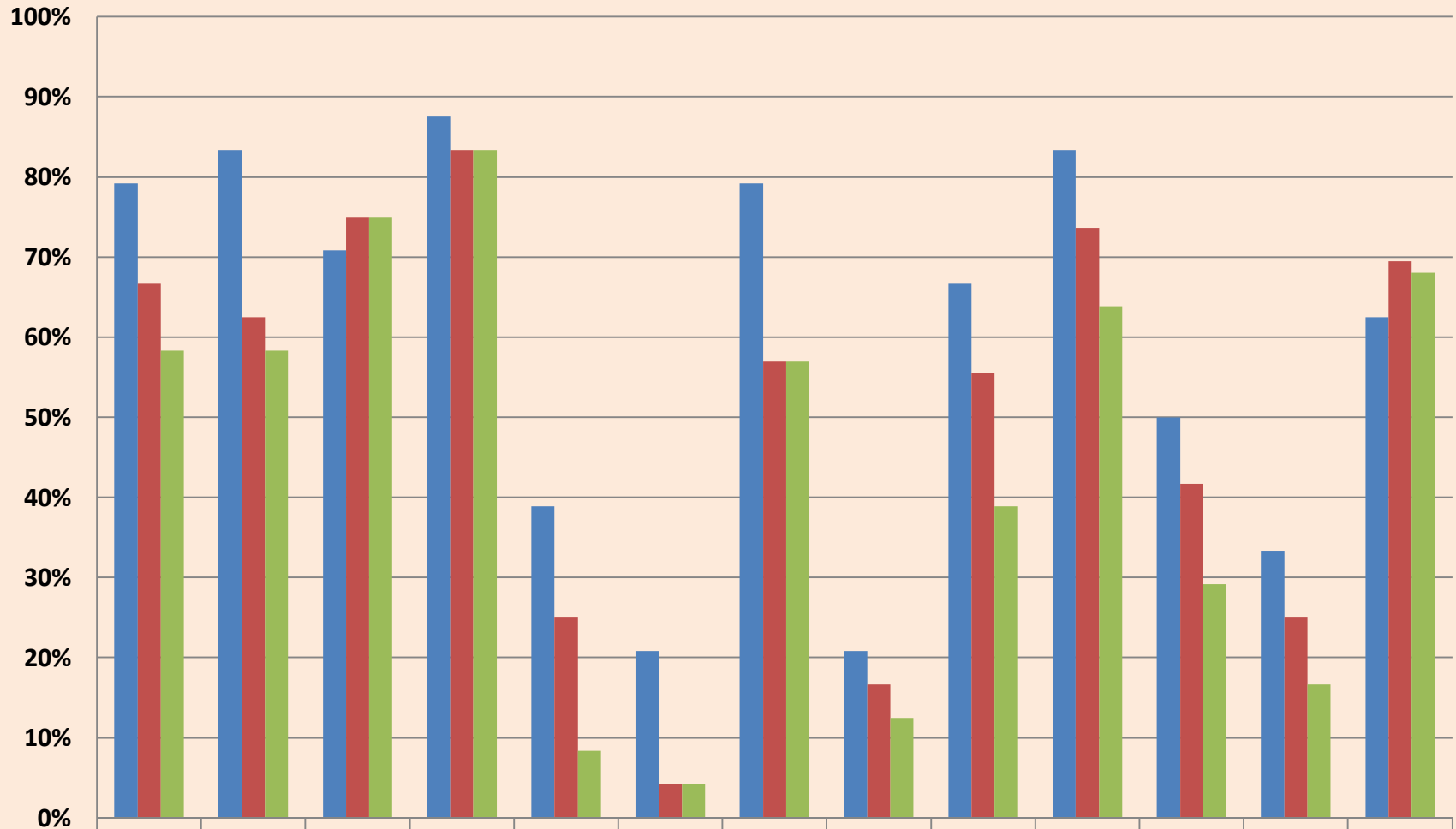
# ALL SPECIES POOLED

(AUGUST 10, 2015)

 SURVIVAL  CANOPY HEIGHT



## Seasonal Species Survival (Mean survival from spring 2016 to spring 2017)



Spring 2016	79.17	83.33	70.83	87.5%	38.89	20.83	79.17	20.83	66.67	83.33	50%	33.33	62.5%
Fall 2016	66.67	62.5%	75%	83.33	25%	4.17%	56.94	16.67	55.56	73.61	41.67	25%	69.44
Spring 2017	58.33	58.33	75%	83.33	8.33%	4.17%	56.94	12.5%	38.89	63.89	29.17	16.67	68.06





***Baccharis sarothroides***

**May 21, 2015**

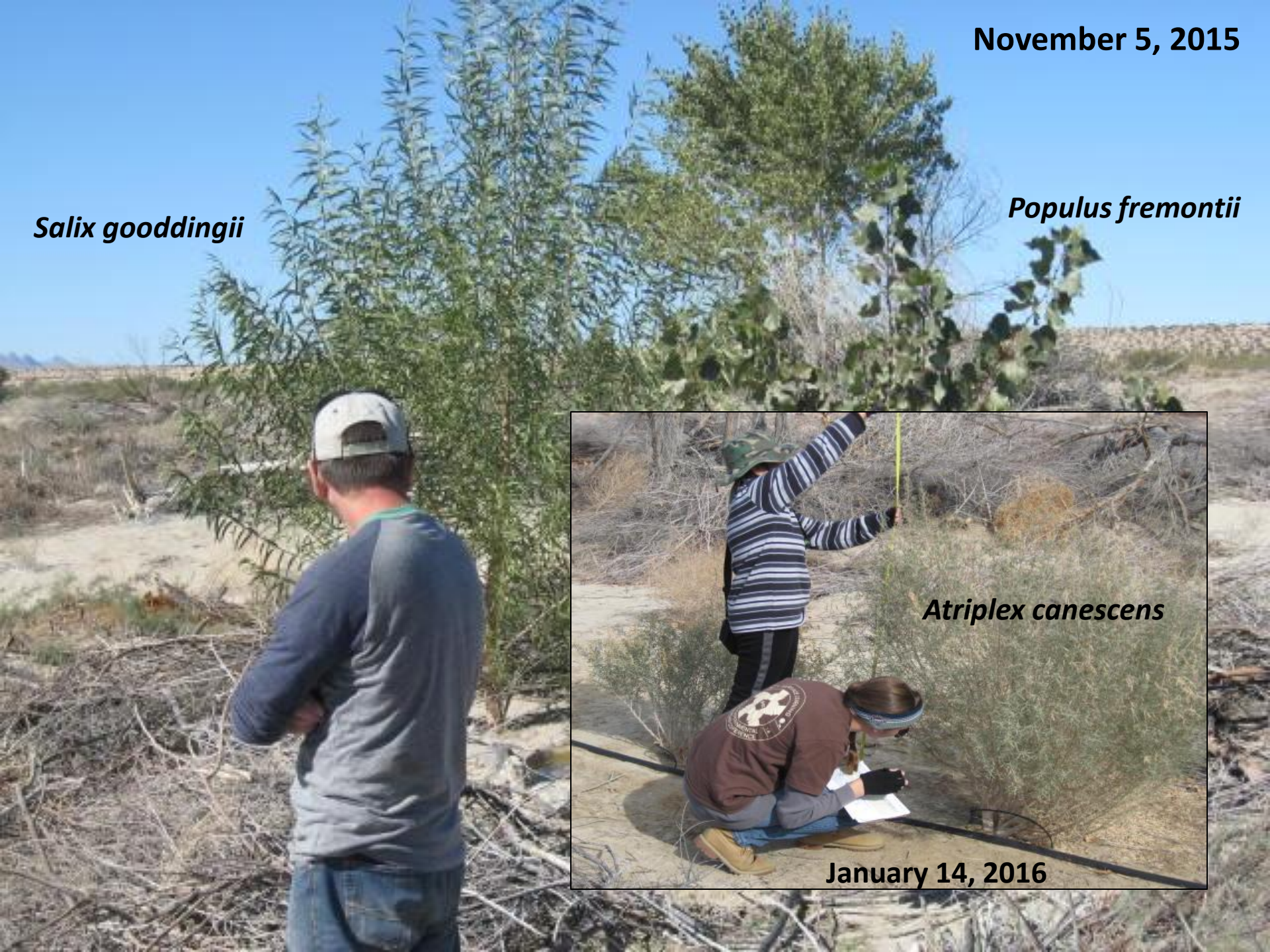
***Salix exigua***

**May 21, 2015**

November 5, 2015

*Salix gooddingii*

*Populus fremontii*



*Atriplex canescens*

January 14, 2016



*Baccharis sarothroides* and *Atriplex lentiformis*  
May 2017