

National Park Service
U.S. Department of the Interior

Lake Mead Exotic Plant Management Team



Boulder City Conservation Easement Weed Sentry Project Update Project 2007-NPS-714K

Presented by: Tim Federal, Data Manager,
National Park Service

August 13, 2015 MSHCP Annual Project
Progress Report Symposium

Project Overview

- Inter-local Agreement between Clark County and NPS (approved January 2014)
- Conduct surveys of routes within the BCCE to detect non-native (exotic) vegetation/weeds
- Conduct targeted weed treatments
- Note native plants observed
- Up to 95 miles of roads, 10 meters on either side of road edge
- Winter and Summer surveys
- Control incipient weeds/early detection rapid response

Project Goal

Support vegetation management and maintenance activities in the BCCE to maintain and improve desert tortoise



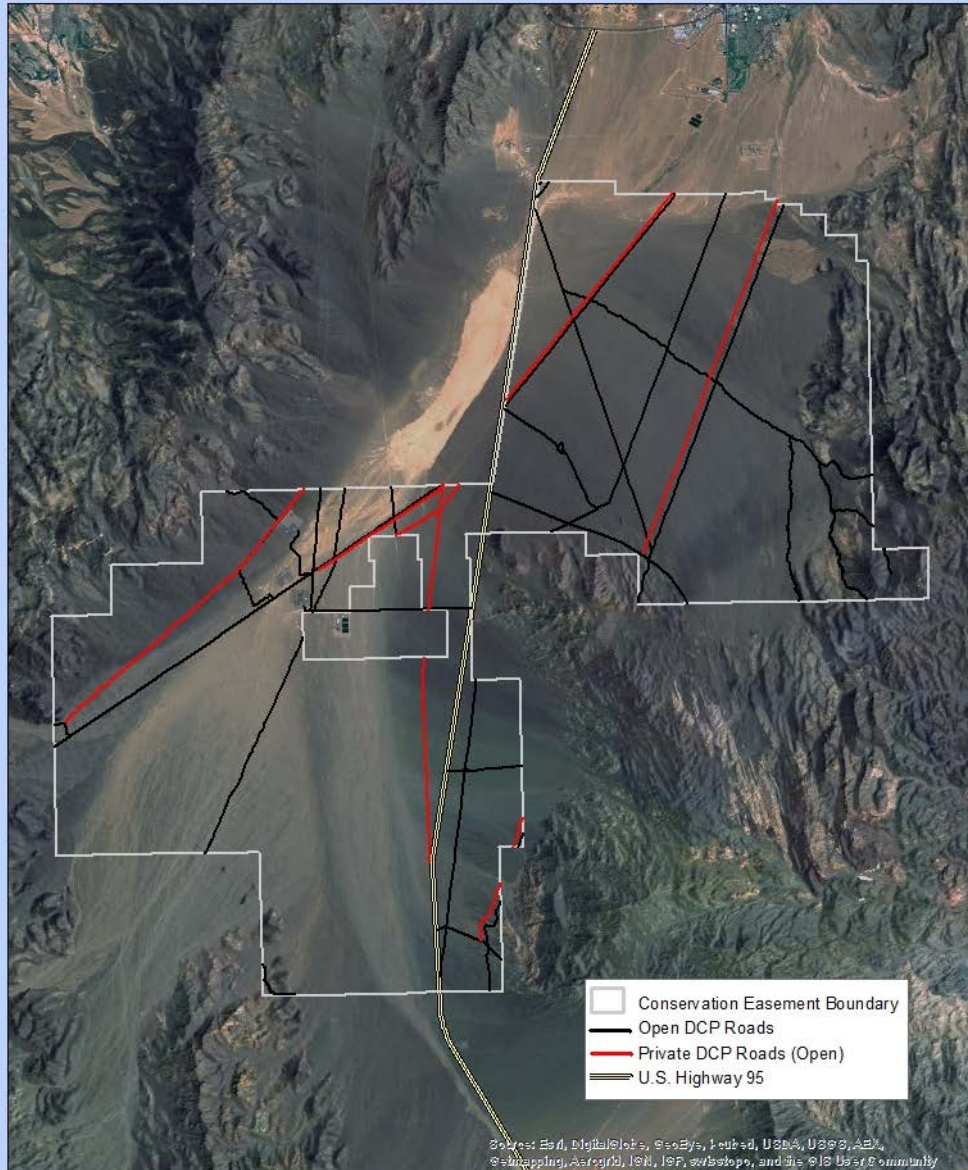
Tortoise photo courtesy of National Park Service



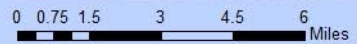
Summary of Accomplishments FY15

- Annual Work Plan completed
- Completed winter weed survey and treatments
 - Sahara mustard and Salt cedar
- Summer survey/treatments in final stages
- Updated species list
- Data processing in progress
- Planning future treatments

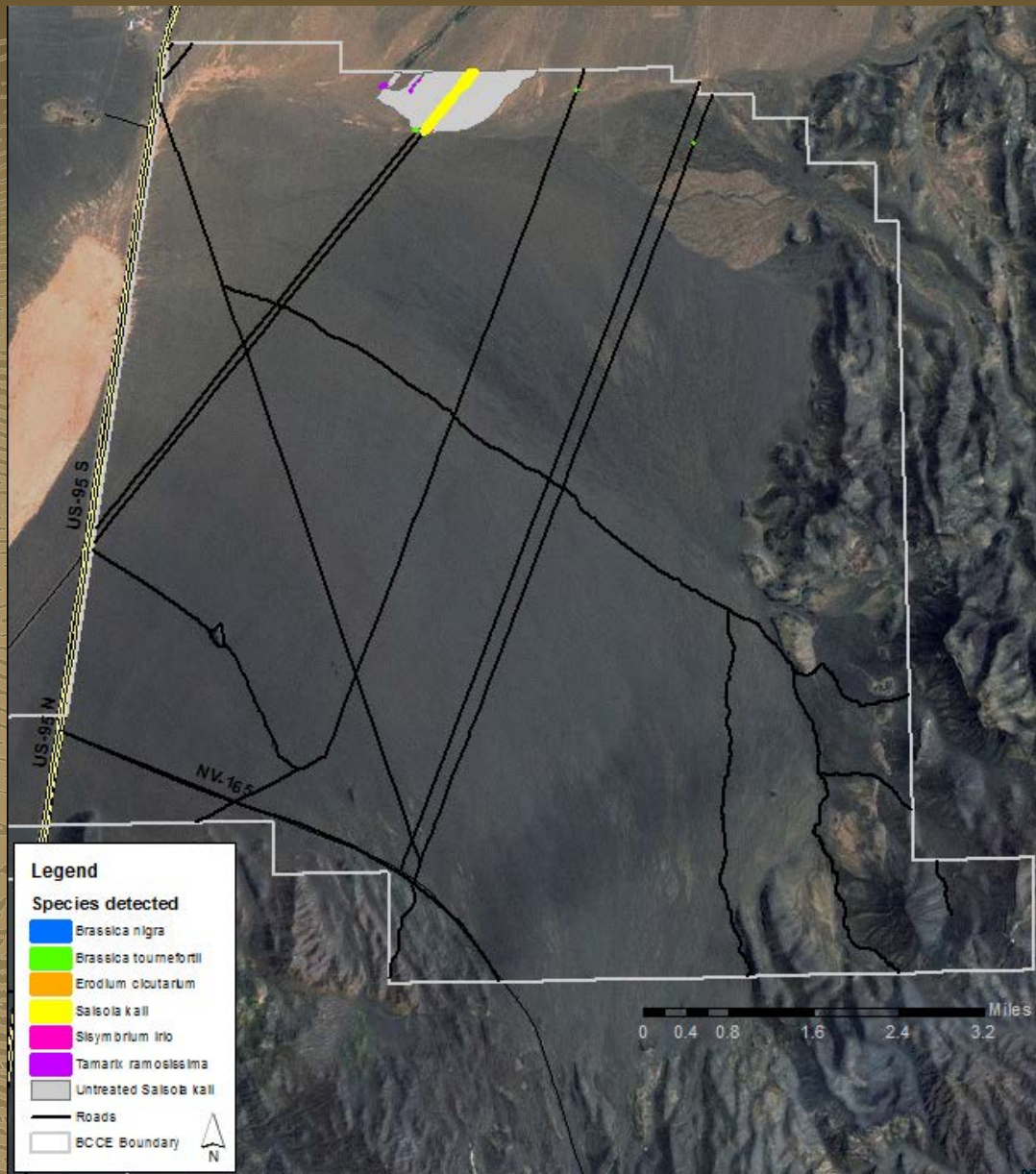
Boulder City Conservation Easement



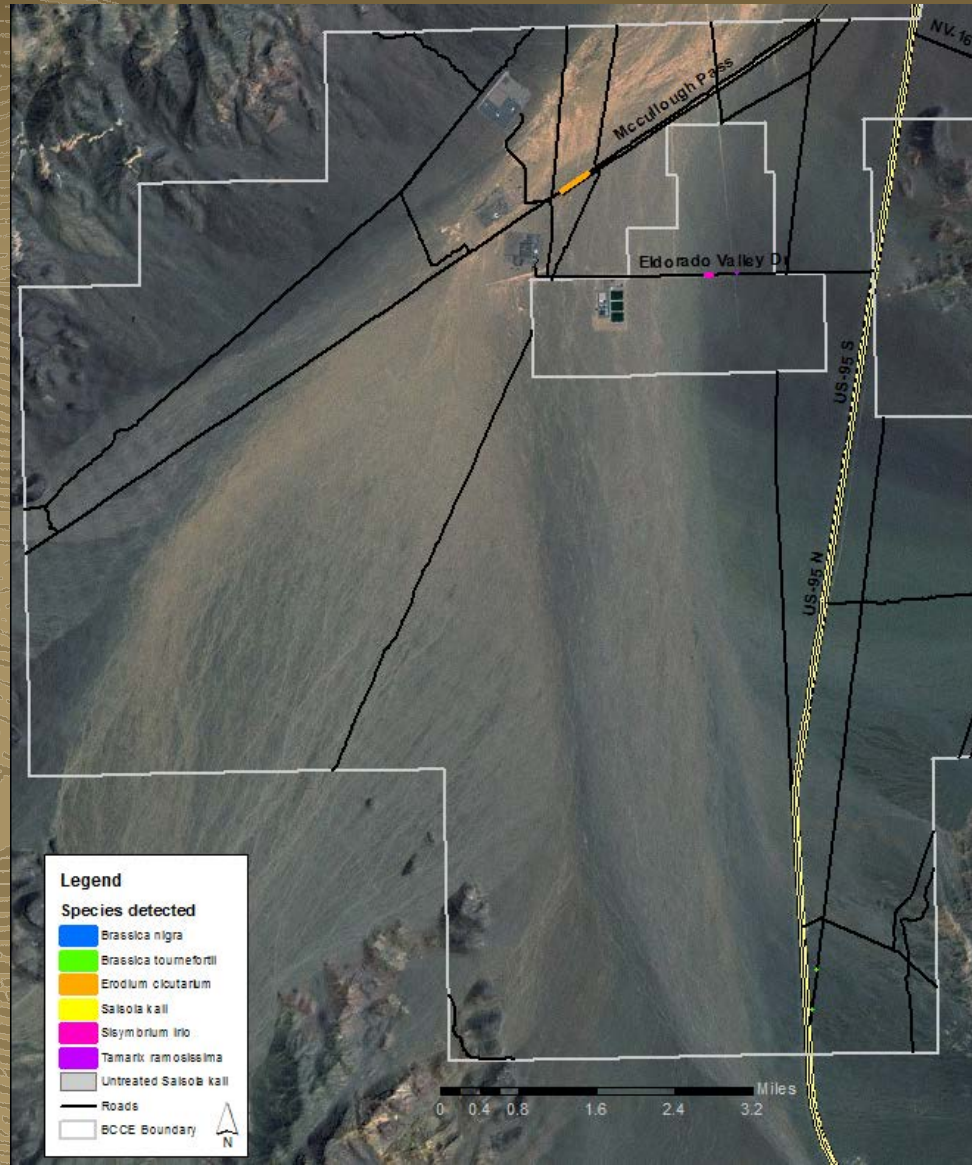
Source: Esri, DigitalGlobe, GeoEye, United States, USDA, USGS, Aero
Switzerland, AeroGRID, IGN, ICG, swisstopo, and the GIS User Community



FY14 NE Unit

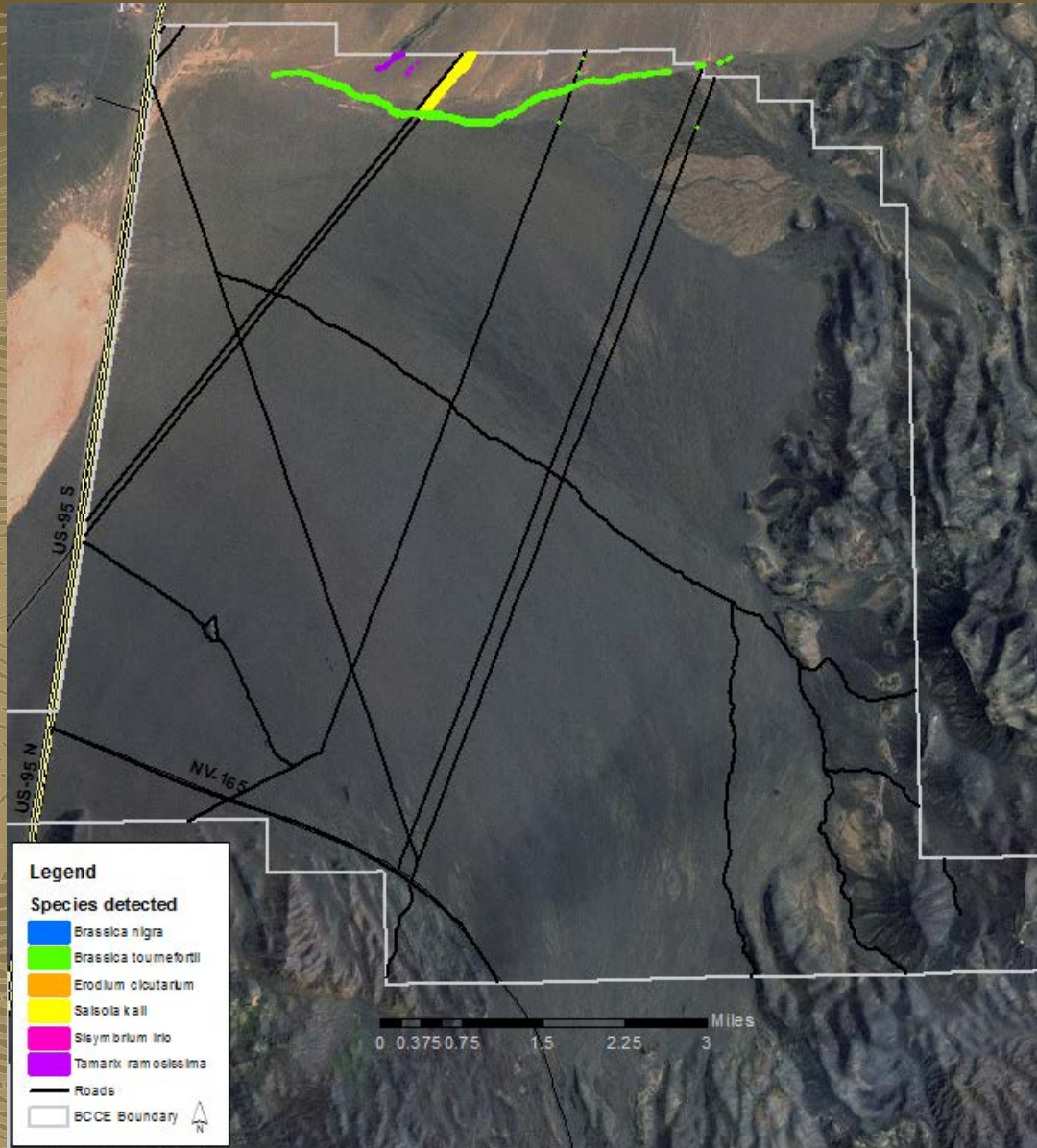


FY14 SW Unit

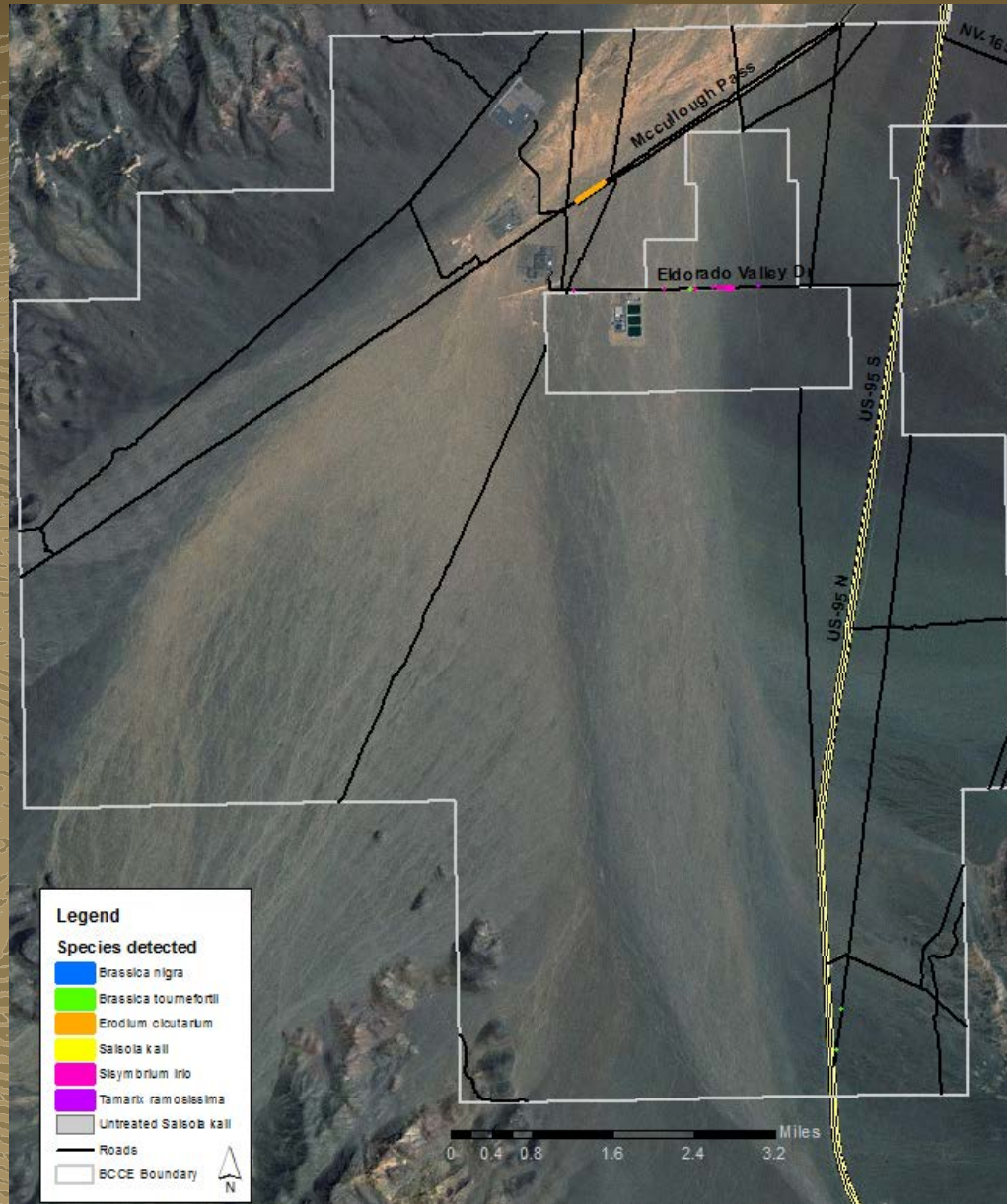


EXPERIENCE YOUR AMERICA

FY15 NE Unit



FY15 SW Unit



EXPERIENCE YOUR AMERICA

FY14 Numbers



Lake Mead Exotic Plant Management Team Treatments

Partner: Clark County Desert Conservation Program

Location: Boulder City Conservation Easement

Miles of road surveyed: approx. 92

Accomplishments				
Species	Total Inventoried Acres	Infested Acres	Gross Infested Acres	Treated Acres
<i>Salsola kali</i> Russian thistle	1903	17.63	351.84	1.31
<i>Arundo donax</i> Giant reed	1903	0 (dead stand)	0.02	0
<i>Bromus tinnii</i> Chilian brome	1903	0.001	0.001	0 (species not confirmed)
<i>Erodium cicutarium</i> Redstem filaree	1903	0.001	0.02	0.001
<i>Malva sp.</i> Big-leaf mallow	1903	0.001	0.001	0
<i>Tamarix ramosissima</i> Salt cedar	1903	0.2	9.14	0.03
<i>Brassica tournefortii</i> Sahara mustard	1903	0.002	2.11	0.002
<i>Brassica nigra</i> Black mustard	1903	0.005	0.05	0.005
<i>Sisymbrium irio</i> London rocket	1903	0.01	0.38	0.01

**Tribulus terrestris (puncturevine)* was found outside the BCCE boundary along the shoulder of U.S. 95 near the Eldorado dry lakebed, should be monitored in the future to ensure it does not spread into easement.

FY15 Cumulative Numbers

Accomplishments

Species	Total Inventoried Acres	Infested Acres	Gross Infested Acres Treated	Treated Acres
<u><i>Arundo donax</i></u> Giant reed	1903	0 (dead stand)	0.02	0
<u><i>Brassica tournefortii</i></u> Sahara mustard	1903	0.21	44.48	0.21
<u><i>Brassica nigra</i></u> Black mustard	1903	0.005	0.05	0.005
<u><i>Bromus trinitii</i></u> Chilian brome	1903	0.001	0.001	0 (species not confirmed)
<u><i>Erodium cicutarium</i></u> Redstem filaree	1903	0.001	0.02	0.001
<u><i>Malva sp.</i></u> Bigleaf mallow	1903	0.001	0.001	0
<u><i>Salsola kali</i></u> * Russian thistle	1903	17.63	351.84	1.31
<u><i>Sisymbrium irio</i></u> London rocket	1903	0.02	3.32	0.02
<u><i>Tamarix ramosissima</i></u> Salt cedar	1903	0.72	11.02	0.72

Sahara Mustard

Brassica tournefortii



Tamarisk removal



Acknowledgements

- *This work was supported by the Clark County Desert Conservation Program and funded by Section 10, as project #2007-NPS-714K, to further implement or develop the Clark County Multiple Species Habitat Conservation Plan*
- John Brekke, Clark County Desert Conservation Program
- Curt Deuser, NPS EPMT Liaison
- Tim Federal, NPS Project Leader and Data Manager
- Daniel Townsend, NPS Biological Technician
- Tarl Norman, Kelly Mathis, Joe Castello, Schylar Gholson, Travis Fulton; NPS Field Staff



Muddy River Reserve Weed Management (2011-NPS-915A)

2015 MSHCP Annual Project Progress Report
Symposium

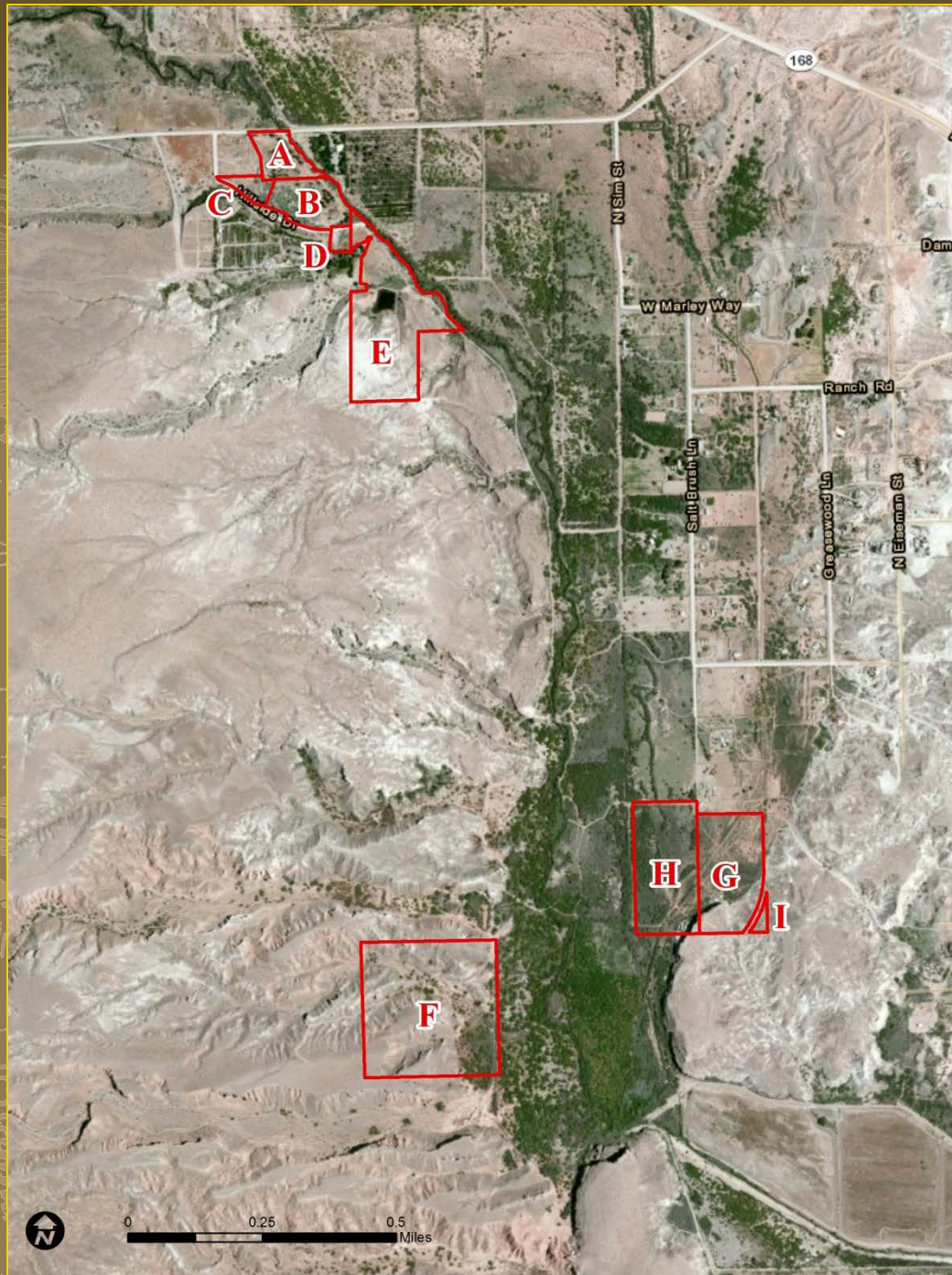
Presenter: Tim Federal, National Park Service
Lake Mead Exotic Plant Management Team

Project Overview

- Three year project interlocal agreement approved in late February 2013
- Conduct inventories of non-native vegetation and implement weed treatments
- Goal and Objective: Support vegetation mgt and maintenance activities along the Muddy River for enhancement of native riparian species of concern within the MSHCP

Project Activities

- Conducted winter weed surveys and weed treatments in 2013, 2014, 2015
- Conducted spring/summer weed surveys and treatments in 2013, 2014, 2015
- Mapping plant populations with GPS and processing into GIS (NAWMA Standards)
- Entering Data
- Labeling Photos



Clark County Muddy River Reserve Properties

Muddy River Reserve Weed Species List

Accomplishments

Species	Total Surveyed Acres	Infested Acres	Gross Infested Acres Treated	Treated Acres
<i>Acroptilon repens</i> Russian knapweed	117.25	0.001	1.32	0.001
<i>Atriplex semibaccata</i> Australian Saltbush	117.25	0.7	30.6	0.7
<i>Brassica tournefortii</i> Sahara mustard	117.25	0.02	0.6	0.02
<i>Centaurea melitensis</i> Malta starthistle	117.25	0.36	24.41	0.36
<i>Chorispora tenella</i> Blue mustard	117.25	0.04	5.0	0.04
<i>Convolvulus arvensis</i> Field bindweed	117.25	0.31	15.56	0.31
<i>Malcomia Africana</i> African mustard	117.25	0.16	15.0	0.16
<i>Salsola kali</i> Russian thistle	117.25	0.75	63.1	0.75
<i>Sisymbrium irio</i> London rocket	117.25	4.1	23.4	21.2
<i>Sonchus arvensis</i> Field sowthistle	117.25	0.05	7.9	0.05
<i>Sorghum halepense</i> Johnsongrass	117.25	0.03	0.13	0.03
<i>Tamarix ramosissima</i> Salt cedar	117.25	0.001	0.05	0.01
<i>Tribulus terrestris</i> Puncturevine	117.25	0.003	0.1	0.003

Australian saltbush (*Atriplex semibaccata*)



Australian saltbush controlled by >90% from original population*



Before treatment



After treatment

Russian Knapweed controlled



Reduction of other weed species

- Johnson grass
- Russian thistle
- Field bindweed

Challenging species include African mustard (uplands) and Malta starthistle (adjacent properties)

Overall much less weeds on site



Native Plant Recovery

- Recent 2014, observed many native species naturally recolonizing the areas
- Many creosote and mesquite seedlings establishing in Unit A



Future

- BLM initiated control (with NPS EPMT) of russian knapweed and tamarisk (including restoration) in the old Perkins ranch adjacent to County properties
- Possible future tamarisk control and revegetation in County Muddy River Units G,H, & F.
- Need for continued treatment and maintenance of weeds within the MRR properties

Acknowledgements

- *This work was supported by the Clark County Desert Conservation Program and funded by Section 10, as project #2011-NPS-915A, to further implement or develop the Clark County Multiple Species Habitat Conservation Plan*
- Liz Bickmore, Clark County DCP
- NPS EPMT Staff: Daniel Townsend, Joe Castello, Dwayne Coleman, Tim Federal