

Vegetation Management on Clark County MSHCP Properties



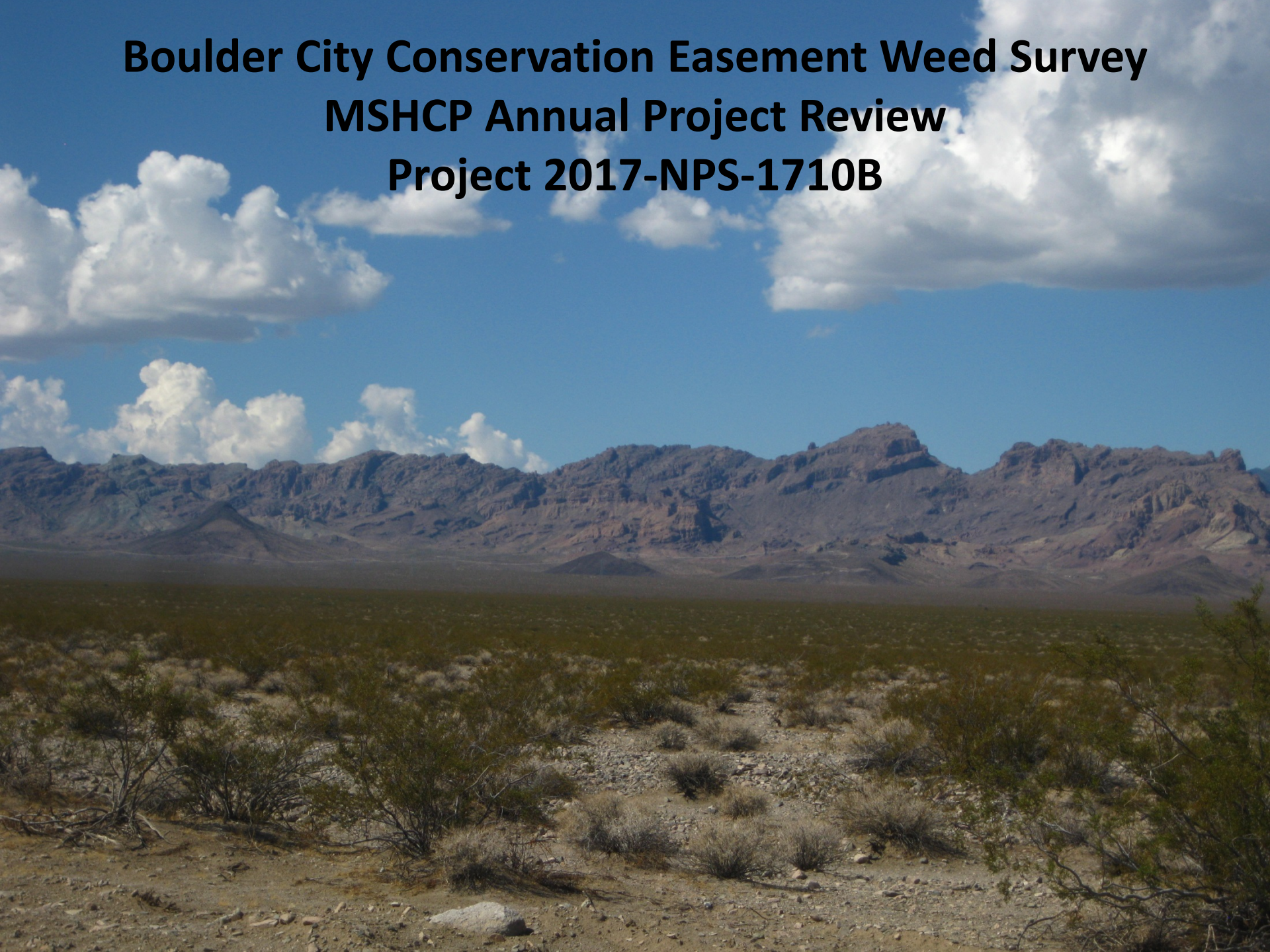
Curt Deuser

Supervisory Ecologist

National Park Service

Lake Mead Inter-Regional Exotic Plant Management Team

**Boulder City Conservation Easement Weed Survey
MSHCP Annual Project Review
Project 2017-NPS-1710B**



Project Overview

- Inter-local Agreement between Clark County and NPS (awarded January 16, 2018)
- 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 habitat.



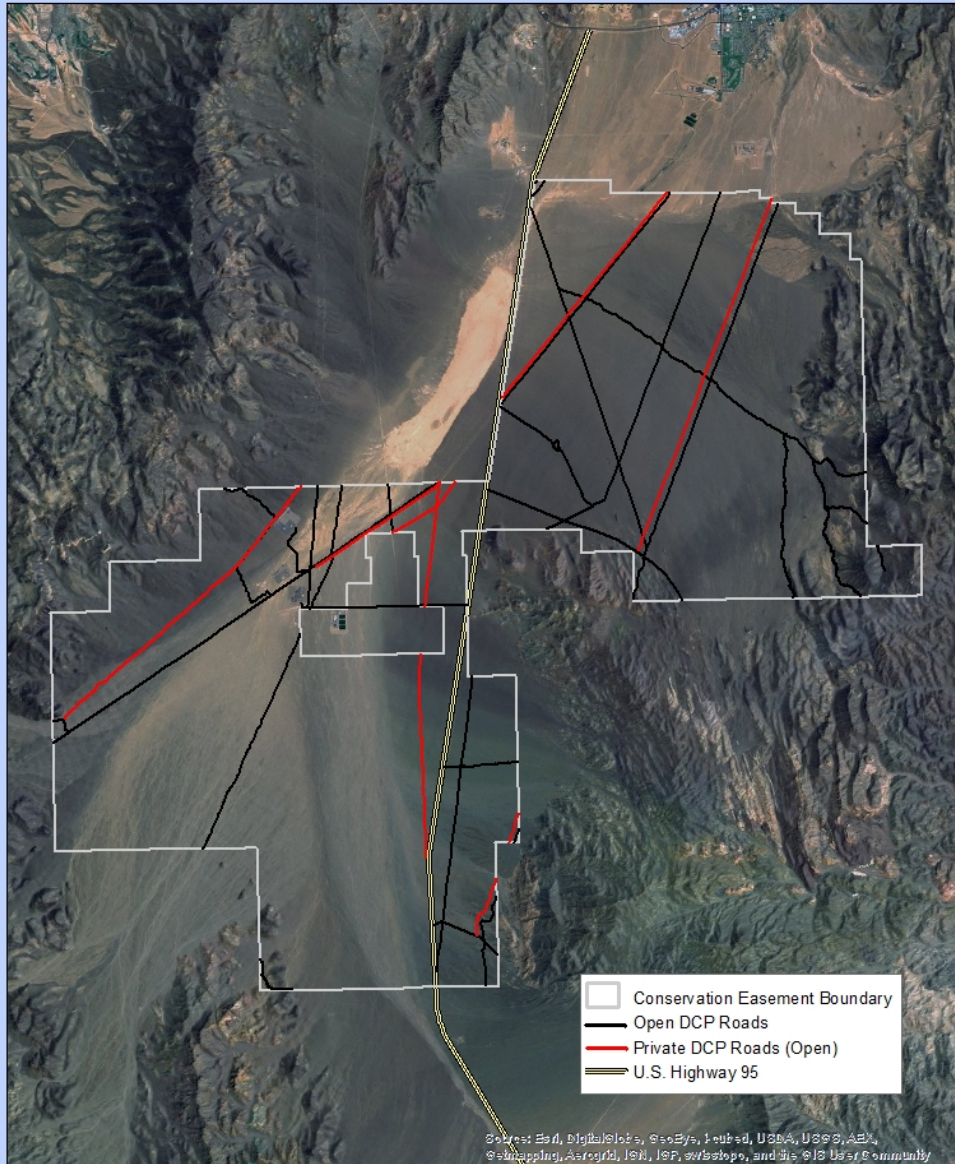
Tortoise photo courtesy of National Park Service



Summary of Accomplishments

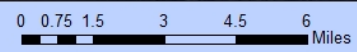
- Annual Work Plan completed
- Data Management Plan completed
- Completed initial winter weed survey and treatments
- Spring/Summer weed survey and control in progress

Boulder City Conservation Easement



Source: Esri, DigitalGlobe, GeoEye, Earthstar, USDA, USGS, Aero, Swire, Bing, Mapbox, iSat, IGN, IP, Swire, and the GIS User Community

Lake Mead Exotic Plant Management Team, Feb. 2014



GPS Mapping



Roadside Weed Control

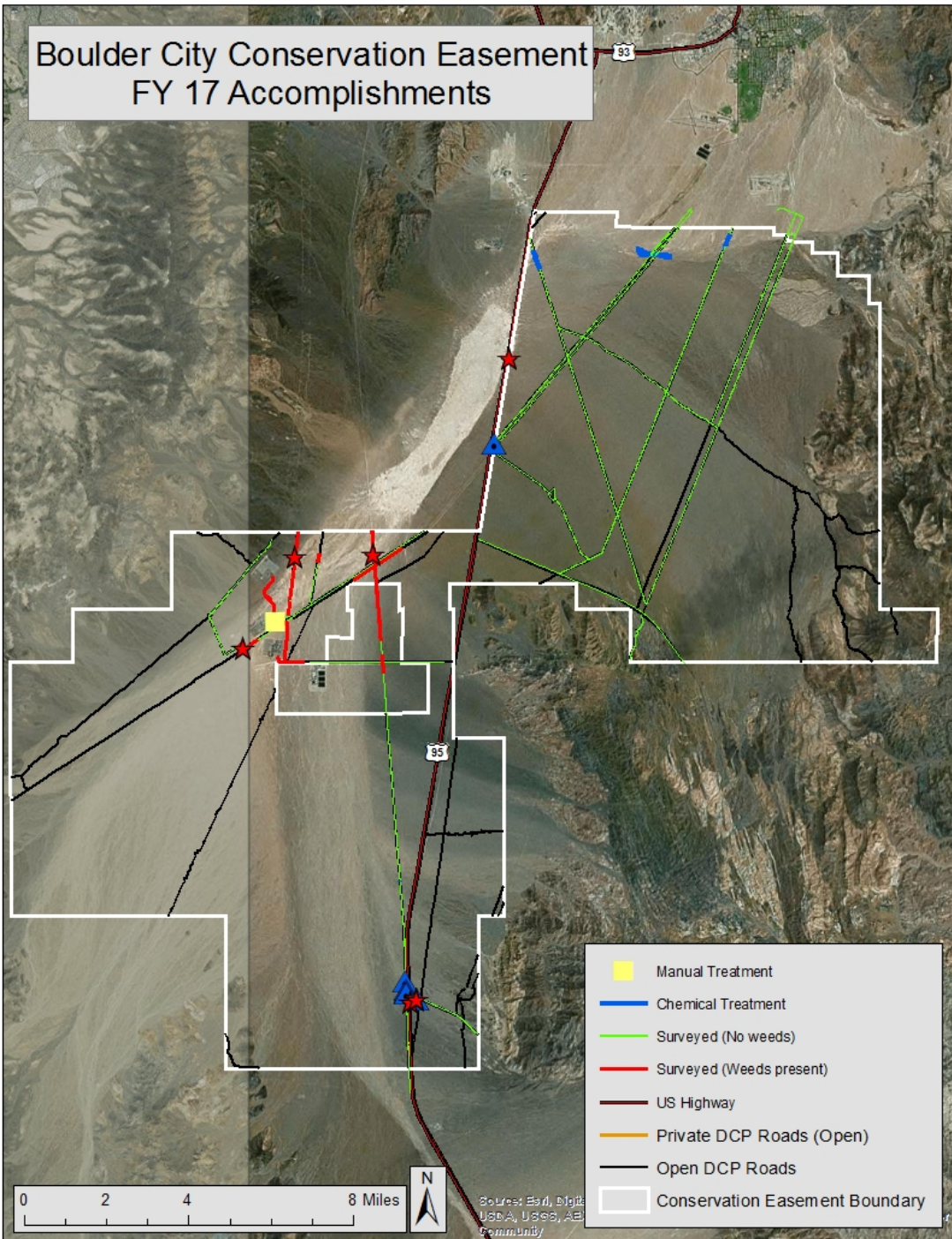


Sahara Mustard

Brassica tournefortii



Boulder City Conservation Easement FY 17 Accomplishments



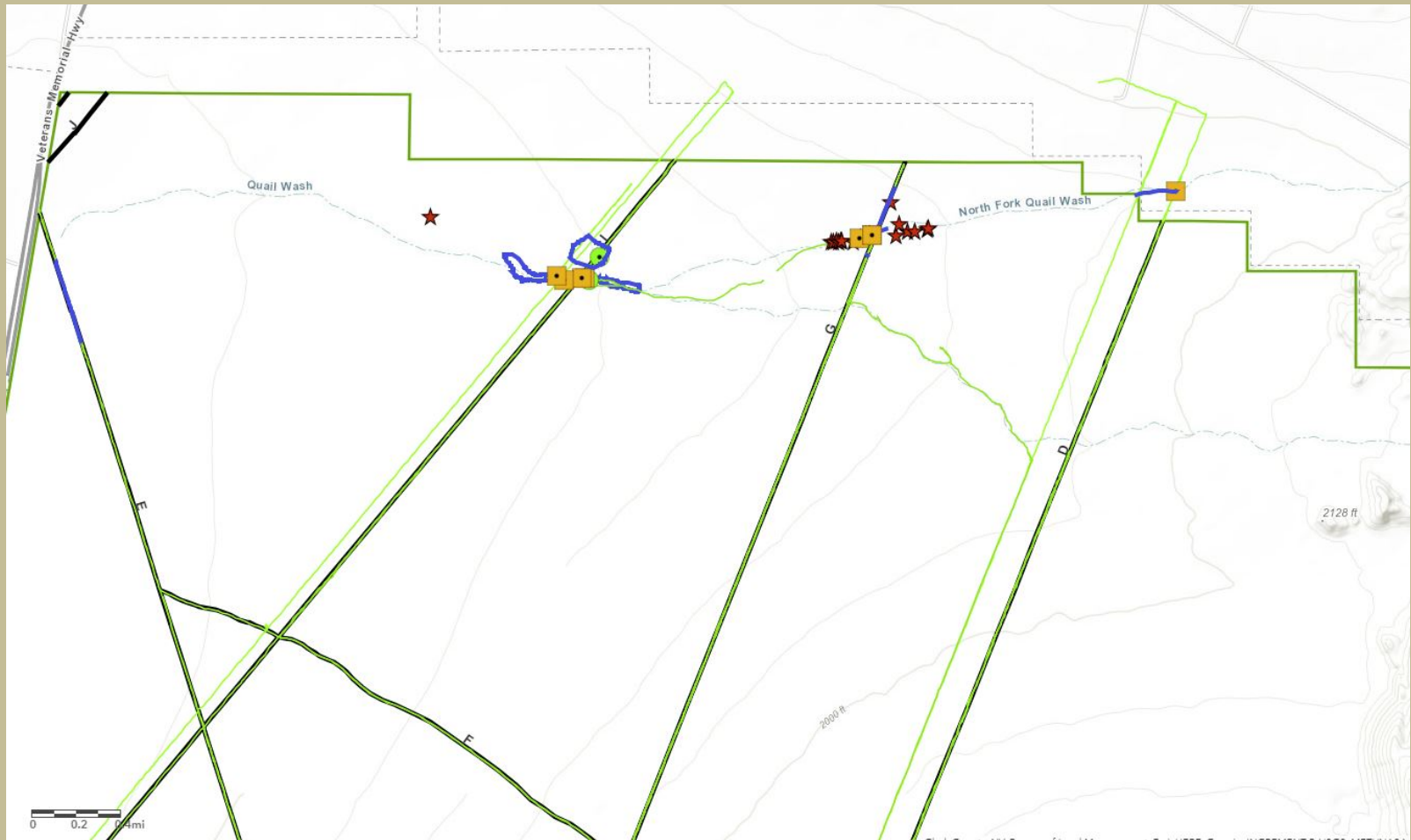
- Manual Treatment
- Chemical Treatment
- Surveyed (No weeds)
- Surveyed (Weeds present)
- US Highway
- Private DCP Roads (Open)
- Open DCP Roads
- Conservation Easement Boundary

0 2 4 8 Miles



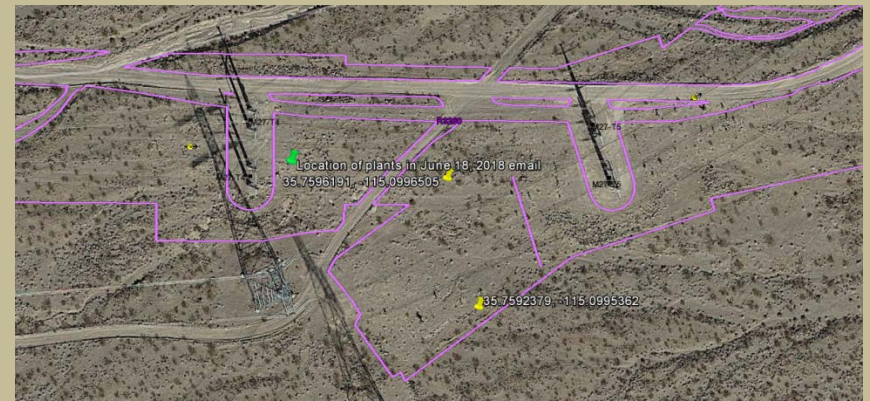
Source: Esri, DigitalGlobe, GeoEye, IGN, GeoEye, USDA, USGS, AeroGRID, IGN, Esri, Airphoto, USDA, etc.

Northern Unit Quail Wash Weeds





Buffel Grass Detection Near BCCE



Green Buffel Grass



Big Galleta Grass

Pleuraphis rigida



Dune primrose

Oenothera deltooides var. *deltooides*



Muddy River Reserve Weed
Management
**2018 MSHCP Annual Project
Progress Symposium**

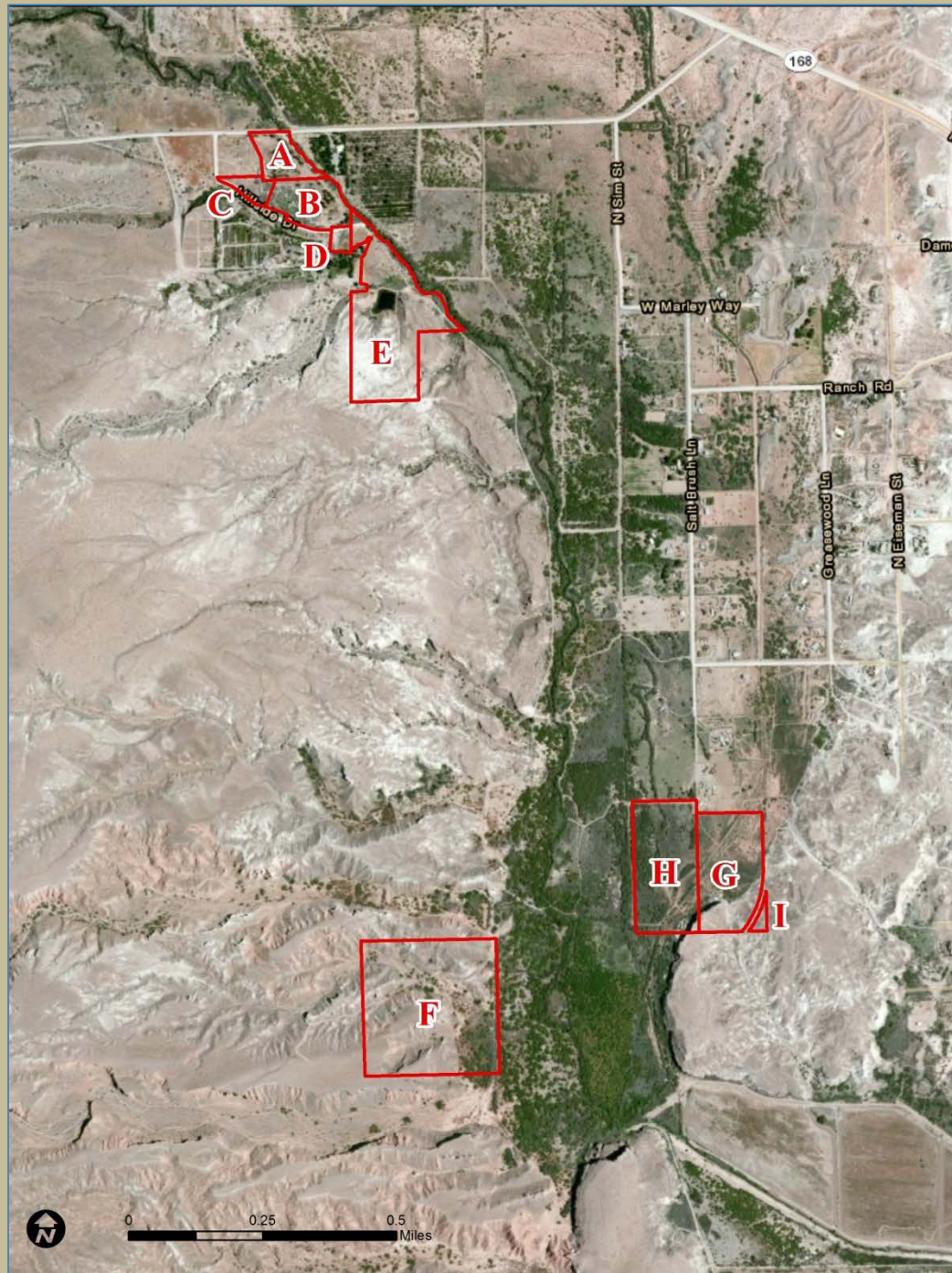
(2015-NPS-1520B)

Project Overview

- Three year project interlocal agreement approved in November 2015 –Dec 2018
- Conduct inventories of non-native vegetation and implement weed treatments
- Goal and Objective: Support vegetation management 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 2016, 2017 and 2018
- Conducted spring/summer weed surveys and treatments in 2016, 2017 on going in 2018
- Mapping plant populations with GPS and processing into GIS (NAISMA Standards)
- Entering Data



Clark County Muddy River Reserve Properties

Some Targeted Weed Priorities

- Malta Starthistle
(*Centaurea melitensis*)
- Australian Saltbush
(*Atriplex semibaccata*)
- Chaste Tree (*Vitex agnus-castus*)
- Russian Knapweed
(*Acroptilon repens*)
- Blue Mustard
(*Chorispora tenella*)



Puncturevine (*Tribulus terrestris*)



April 2016 Revegetation



Revegetation Unit A



Initiated Tamarisk Control in Unit F



Virgin River Weed Management
2018 MSHCP **Annual Project**
Progress Symposium

(2017-NPS-1720A)

Project Information

- Awarded late February 2018-March 2021
- Purpose: Conduct inventory and weed treatments of non-native vegetation
- Work Plan and Data Plan Submitted
- Initial weed survey and treatments conducted
- Recon and size up of vegetation used to develop recommendations

Virgin River Reserve Unit



Virgin River County Parcels



Priority Weeds of Concern

- Tall Whitetop (*Lepidium latifolium*)
- Camelthorn (*Alhagi maurorum*)
- *Tamarix species* (*Aphylla* reproducing)
- Malta Starthistle (*Centaura melitensis*)
- Russian Olive (*Elaeagnus angustifolia*)

Tall Whitetop/Perennial Pepperweed Mormon Mesa Unit



Malta Starthistle



Future Work

- Floodplain treatments (tamarisk)
- Re-treat maintain previous treatment areas
- Additional revegetation
- Camelthorn reduction

Acknowledgements

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- NPS EPMT Staff: Tarl Norman, Darrin Gobble, Andy Pigg, Brandon Blackburn, Anna Wheeler, Tim Federal and Rachel Skoza
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