

Multi-Benefit Floodplain Vegetation Management for the El Rio Reach of the Gila River, Maricopa County, AZ



Society for Ecological Restoration -
Southwest Chapter
2015 Annual Conference
Tucson, Arizona



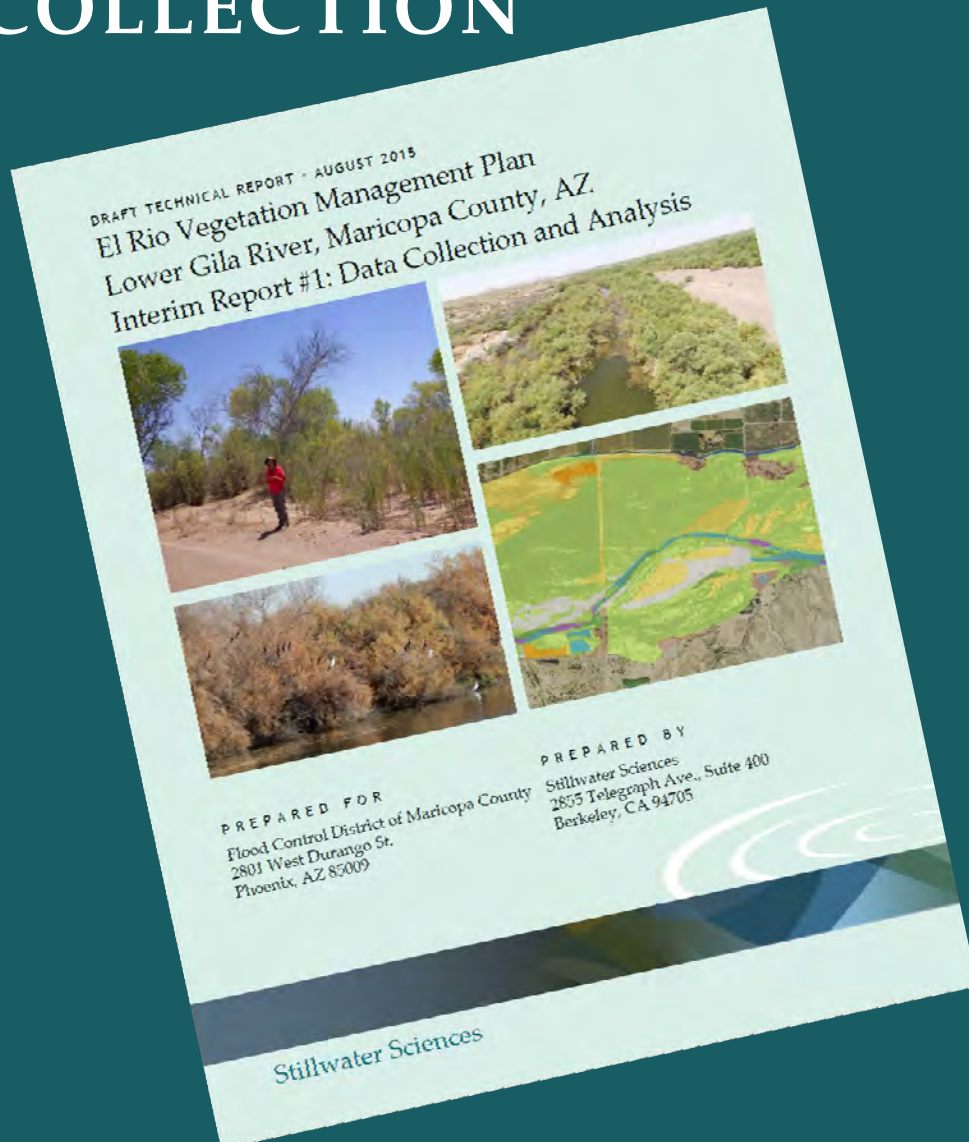

Stillwater Sciences

PROJECT PURPOSE AND GOALS

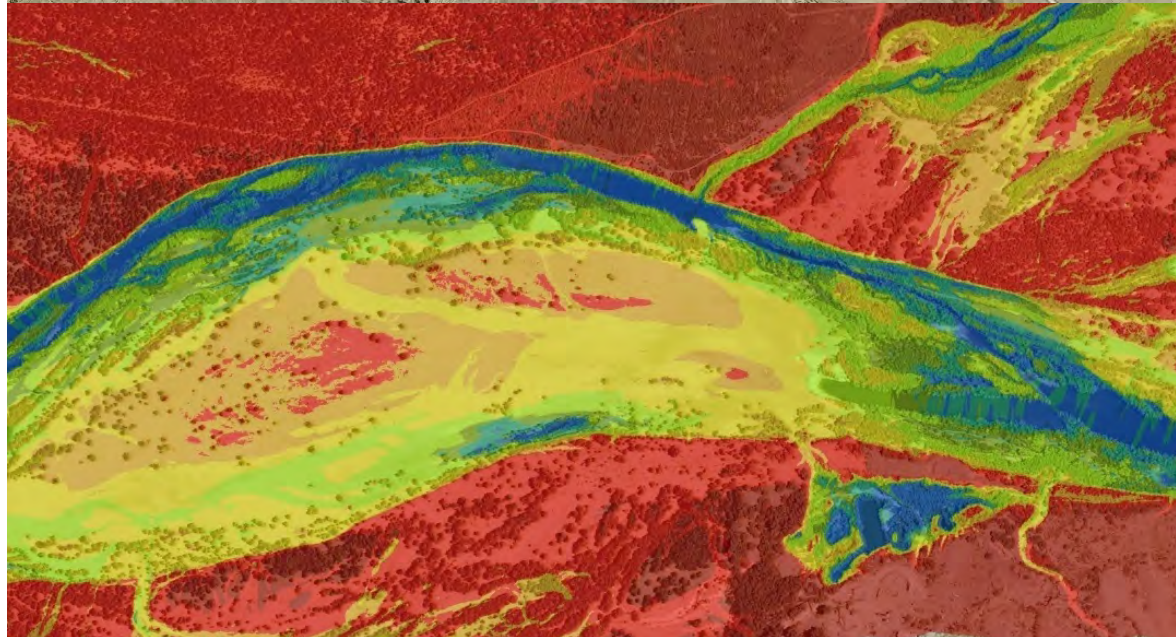
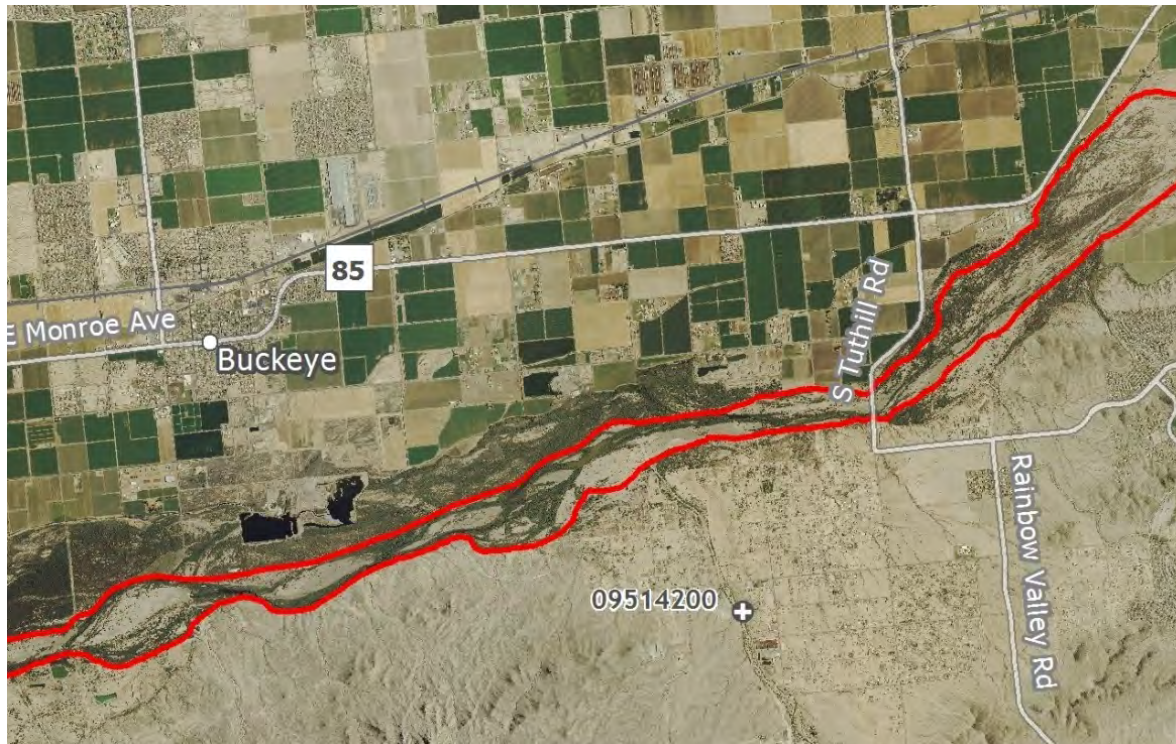


- Reduce flood risk through saltcedar removal (and achieve other benefits)
- Maintain/enhance native habitats and wetland resources
- Account for future changes
- Be sustainable and as low-maintenance as possible
- Facilitate implementation

BIOPHYSICAL DATA COMPILATION AND COLLECTION

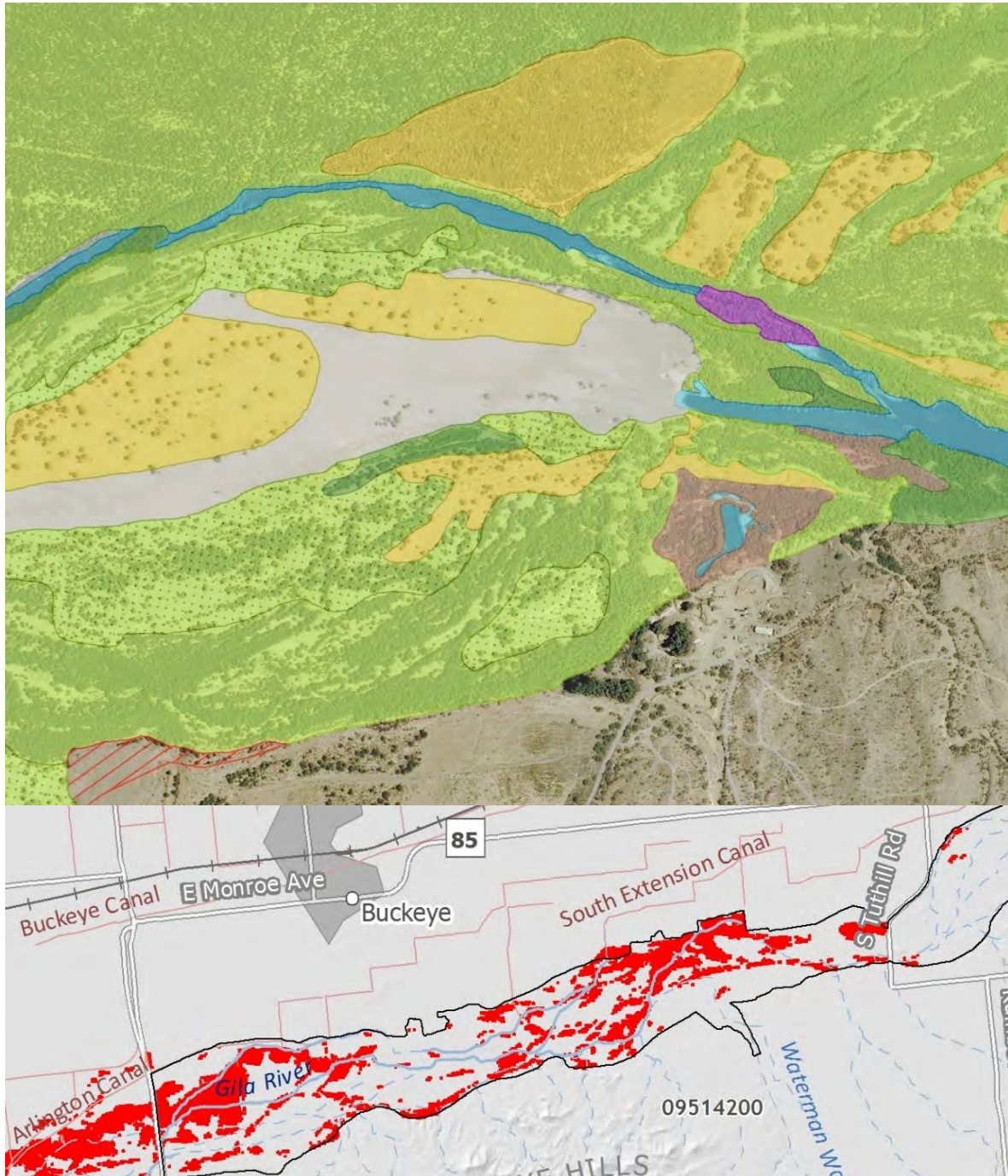


- LiDAR-derived topography and canopy height
- Climate
- Hydro-geomorphology
- Soils
- Groundwater
- Vegetation
- Wildlife habitat
- Land use



IMPLICATIONS

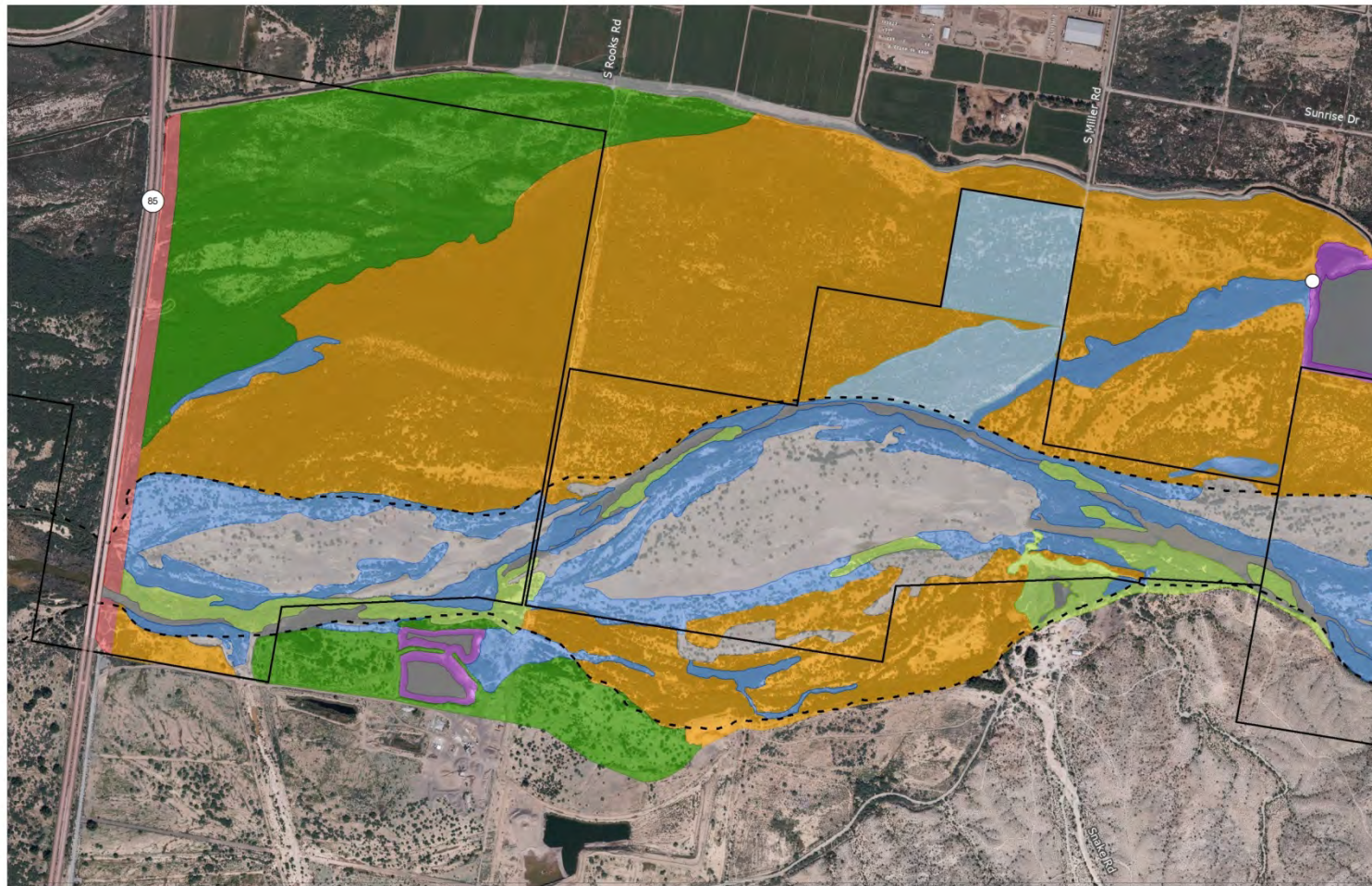
- River dynamics and risks from flood scour
- Soils mostly good for native plants
- Relative elevation as proxy for depth to groundwater



MORE IMPLICATIONS

- Little natural recruitment
- Native plant assemblages persist
- Relationships between relative elevation and native plants
- Important avian habitat

PRELIMINARY VEGETATION MANAGEMENT UNITS



GILA RIVER, MARICOPA COUNTY, AZ
VEGETATION MANAGEMENT UNITS Page 1 of 6

Prepared for:

DATA SOURCES
Vegetation management units:
Silverstar 2013
Flood reset zone:
JF Fuller 2002
Imagery: Maricopa Co 2014
Roads & courtes: ESRI 2012

Prepared by:



SCALE & NORTH ARROW



LEGEND

Vegetation Management Units

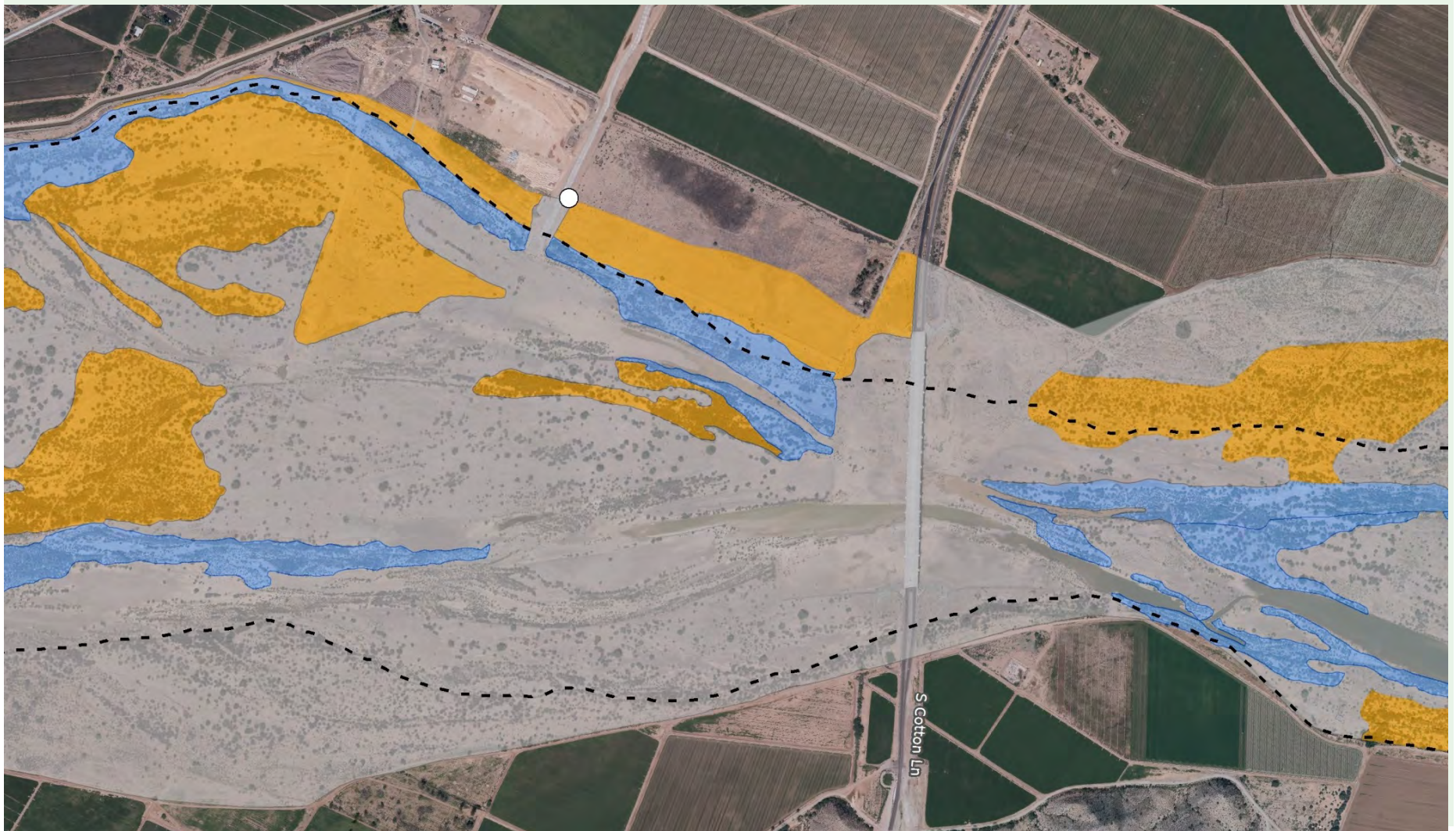
- No Action
- Saltcedar Treatment Only
- Saltcedar Treatment and Riparian Enhancement
- Saltcedar Treatment and Desert Shrub Enhancement
- Saltcedar Treatment and Mesquite Bosque Enhancement
- Saltcedar Treatment and Marsh Enhancement
- Bridge Clearance
- Restoration Unit
- Flood Reset Zone
- Agriculture, Stormwater, or Wastewater Discharge
- In-Lieu Fee Areas

REVIEW DRAFT

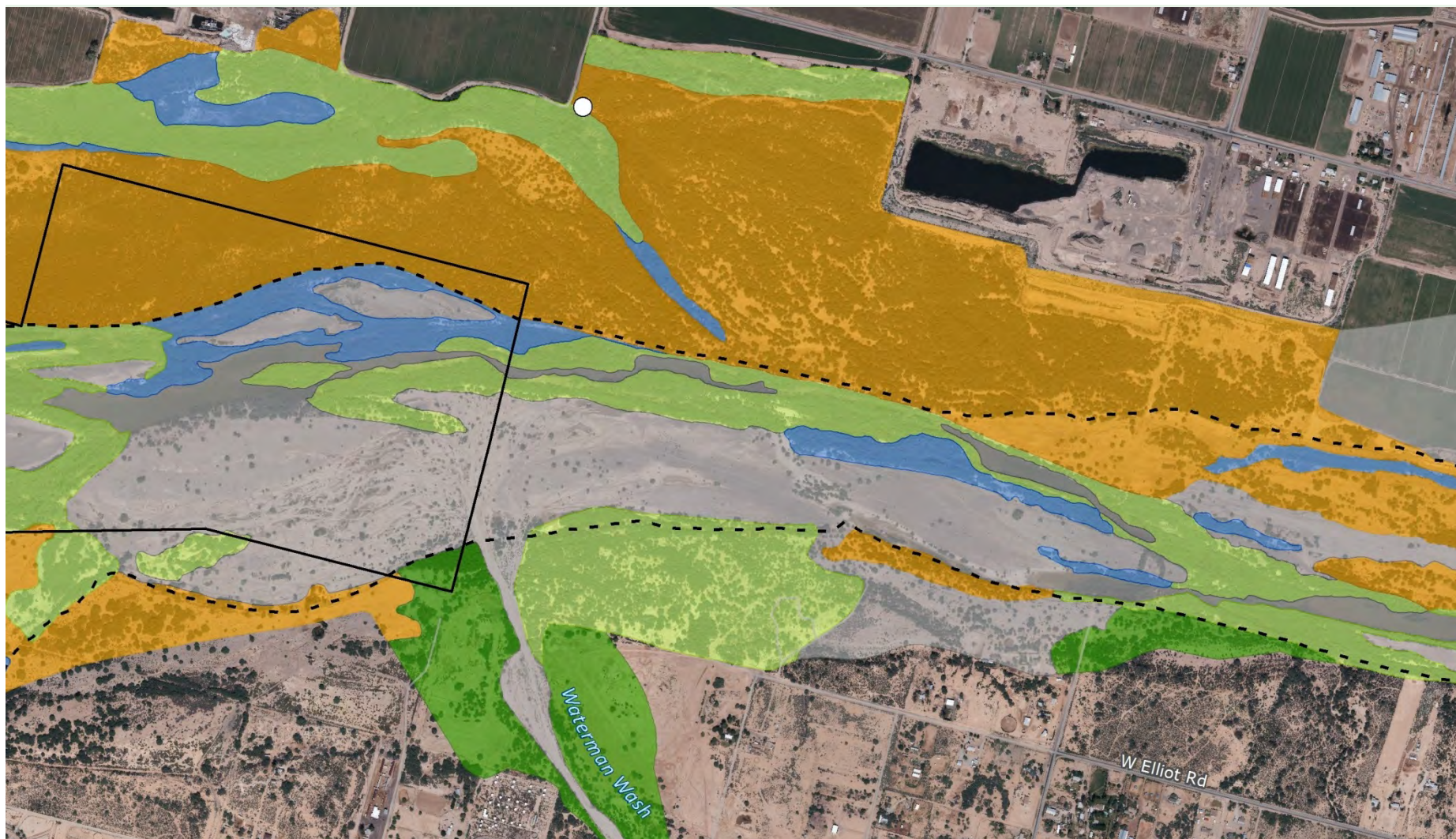
MAP LOCATION



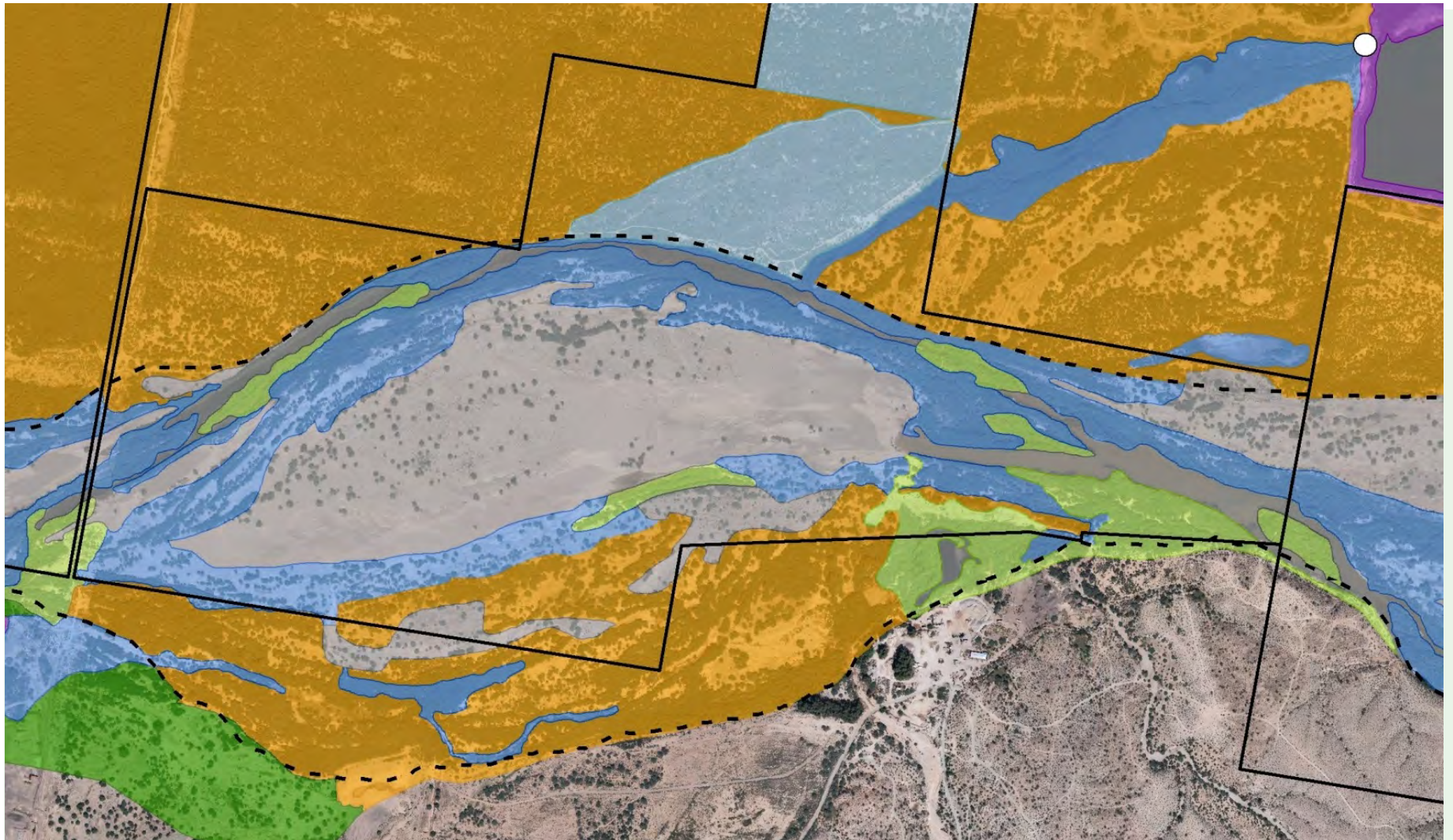
1. NO ACTION UNITS



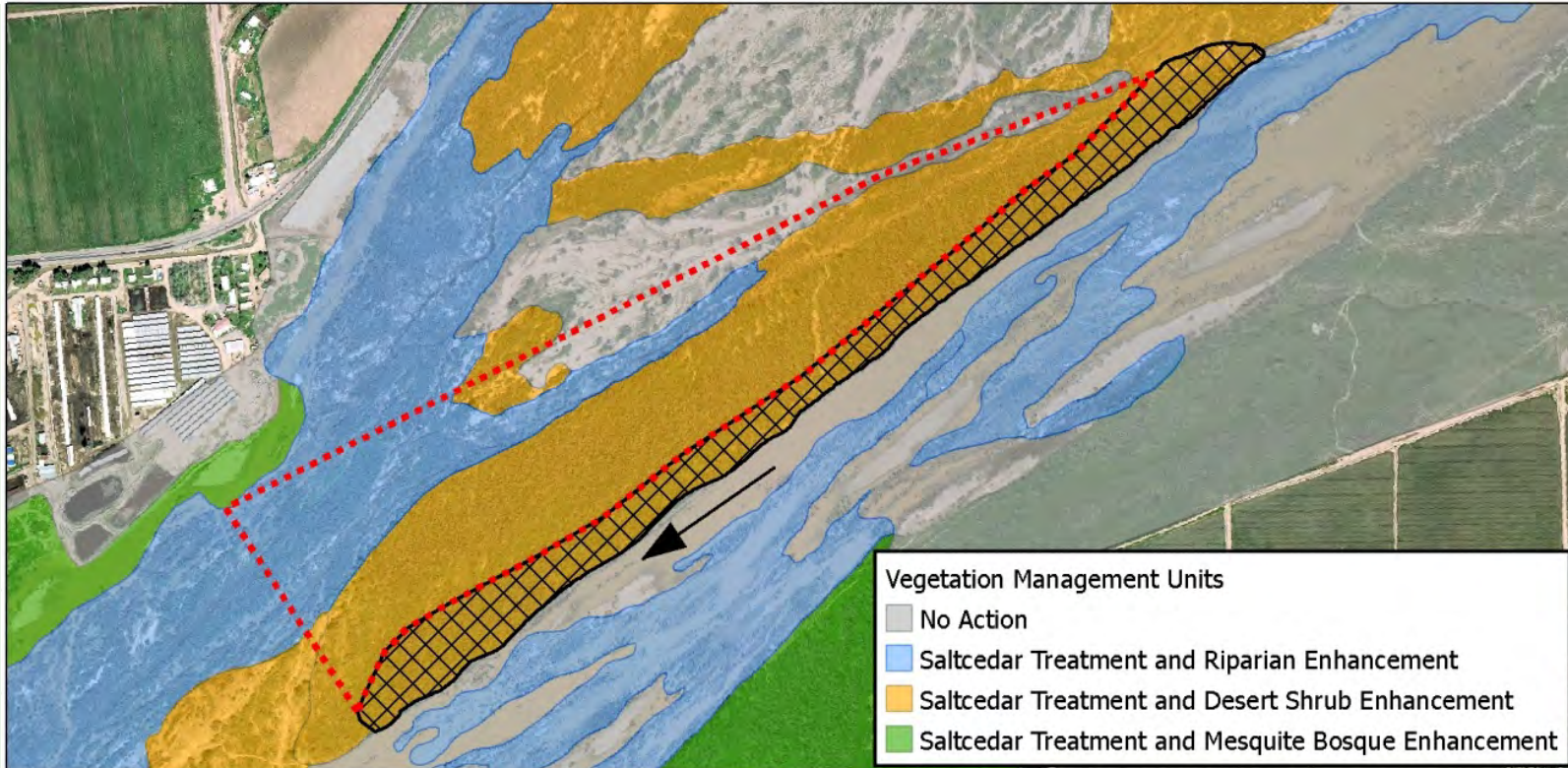
2. SALT CEDAR TREATMENT ONLY UNITS



3. SALT CEDAR TREATMENT & RIPARIAN ENHANCEMENT UNITS

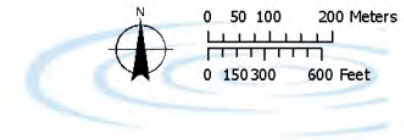


3. SALT CEDAR TREATMENT & RIPARIAN ENHANCEMENT UNITS

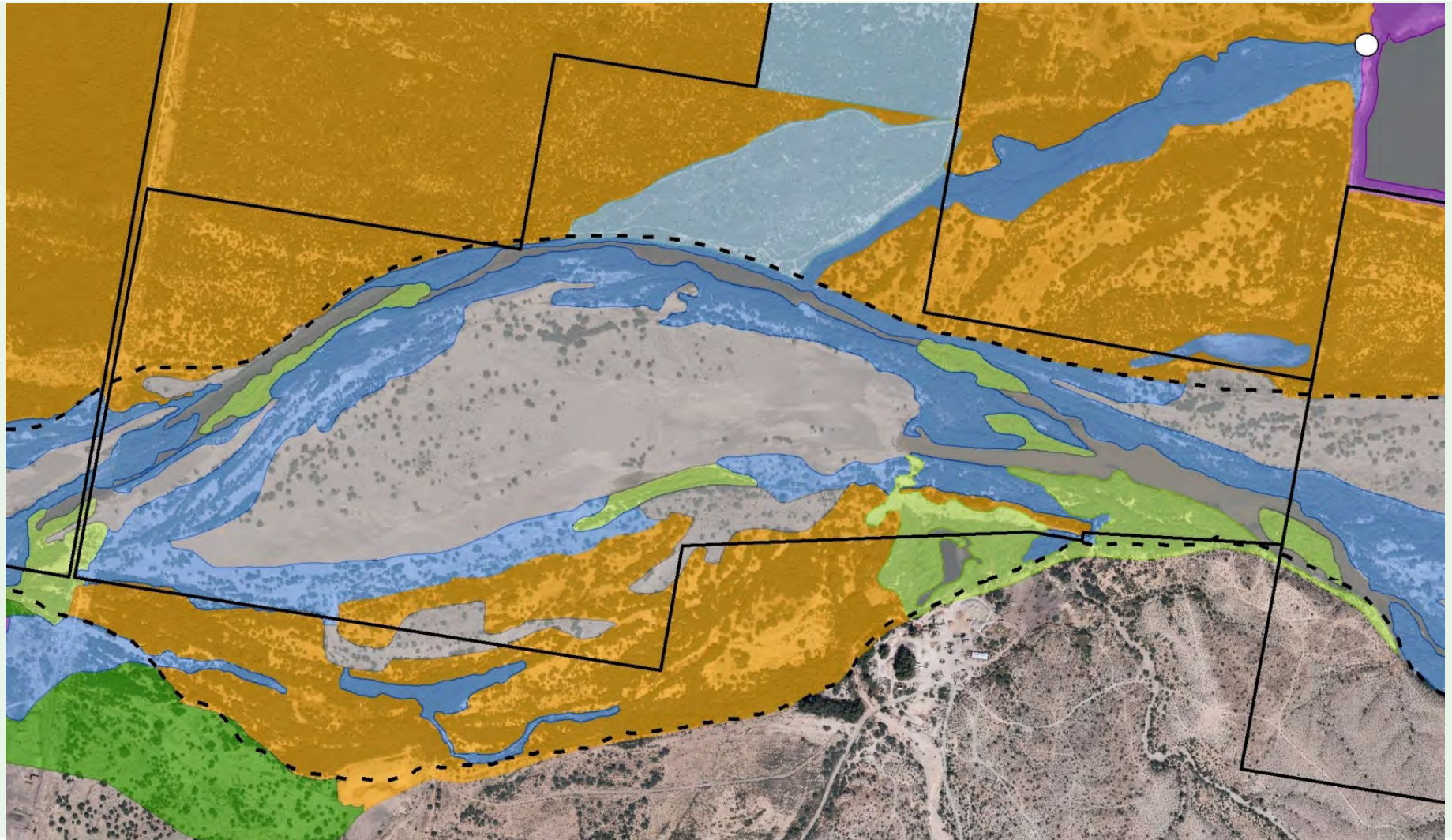


Hydraulic Shield Example

- Conserved saltcedar as hydraulic shield
- Saltcedar removal and habitat enhancement protected by saltcedar hydraulic shield
- Flood flow direction (approx.) in primary channel



4. SALT CEDAR TREATMENT & DESERT SHRUB ENHANCEMENT UNITS



5. SALT CEDAR TREATMENT & MESQUITE BOSQUE ENHANCEMENT UNITS



IMPLEMENTATION

1. Work with landowners to acquire permission to manage vegetation on their property



2. Conduct site-specific field evaluations and designs



3. Apply for and acquire funding for units with landowner permission and high priority



4. Apply for and acquire permits for units with landowner permission and high priority



5. Implement and conduct monitoring and maintenance



Repeat steps 2 through 5 as additional landowners and funding is secured



IMPLEMENTATION

- Site assessment and design
- Funding sources and cost estimates
- Permitting and regulatory compliance
- Site preparation activities
- Saltcedar removal and treatment methods
- Native plant propagation and planting
- Maintenance and monitoring



NEXT STEPS

- Incorporate Technical Advisory Committee (TAC) input
- Hydraulically model post-plan conditions
- Finalize plan
- Outreach to landowners...

CONTACT

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