



RIVRLAB

RIPARIAN INVASION RESEARCH LABORATORY

PAST, PRESENT, AND FUTURE: SALT CEDAR (*TAMARIX* SPP.) AND BIOLOGICAL CONTROL IN CALIFORNIA

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Tamarisk or Saltcedar (*Tamarix* spp.)

Tamarix ramosissima/chinensis



Tamarix parviflora



Tamarisk Impacts in California



5 mm



D. carinulata

(China/Kazakhstan)



T. ramosissima/chinensis



D. elongata

(Greece)

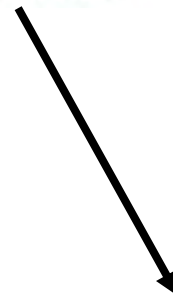


T. parviflora



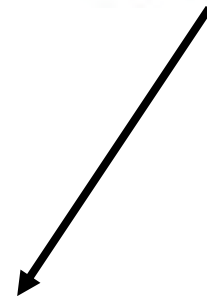
D. carinata

(Uzbekistan)



D. sublineata

(Tunisia)



No apparent preference

Managing BioControl Conflicts

Southwestern Willow Flycatcher (SWFL)

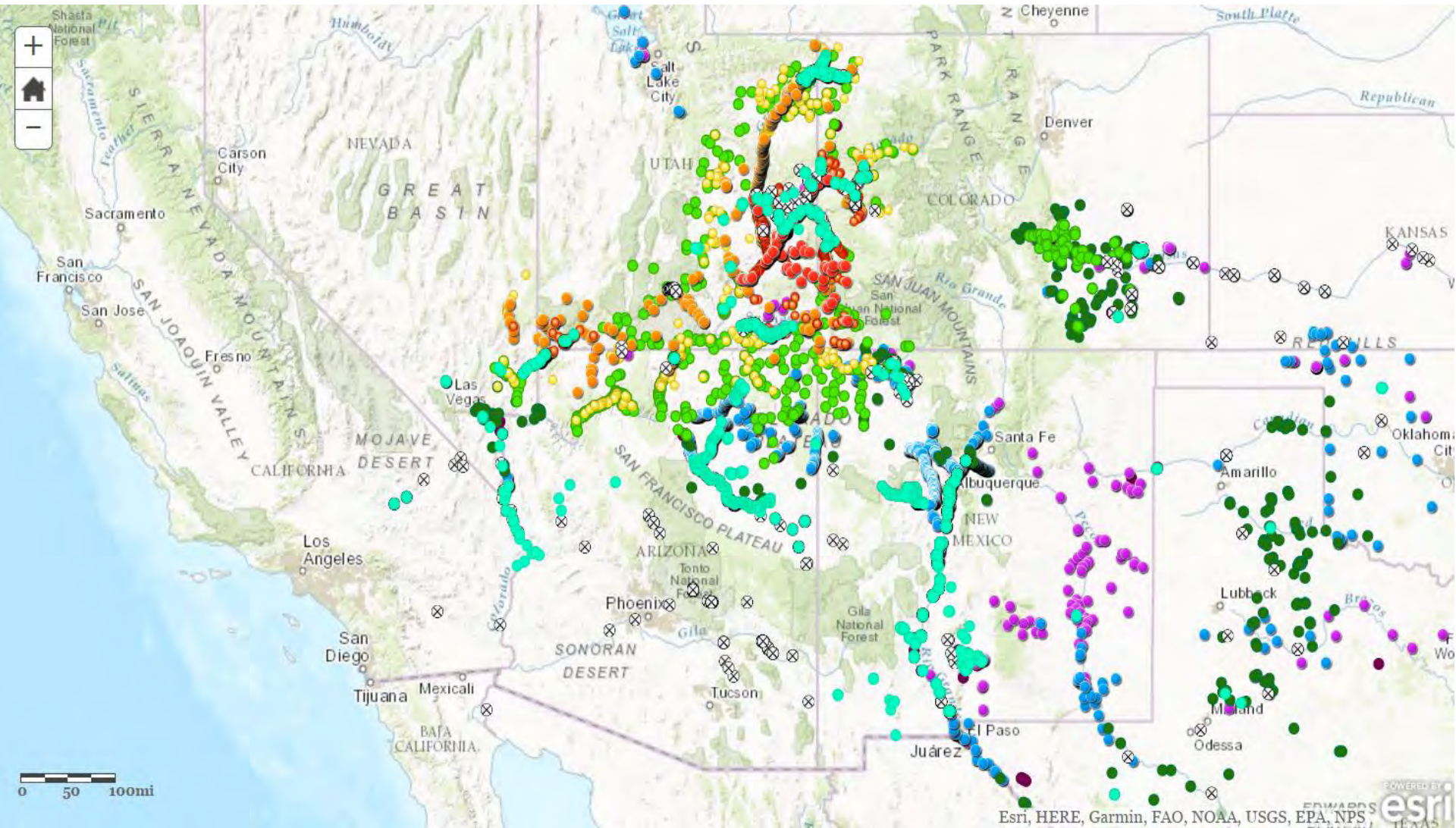
Listed as Endangered in 1995

Due to loss of native habitat, SWFL displayed limited nesting in tamarisk and defoliation of the trees can potentially expose sensitive nests.

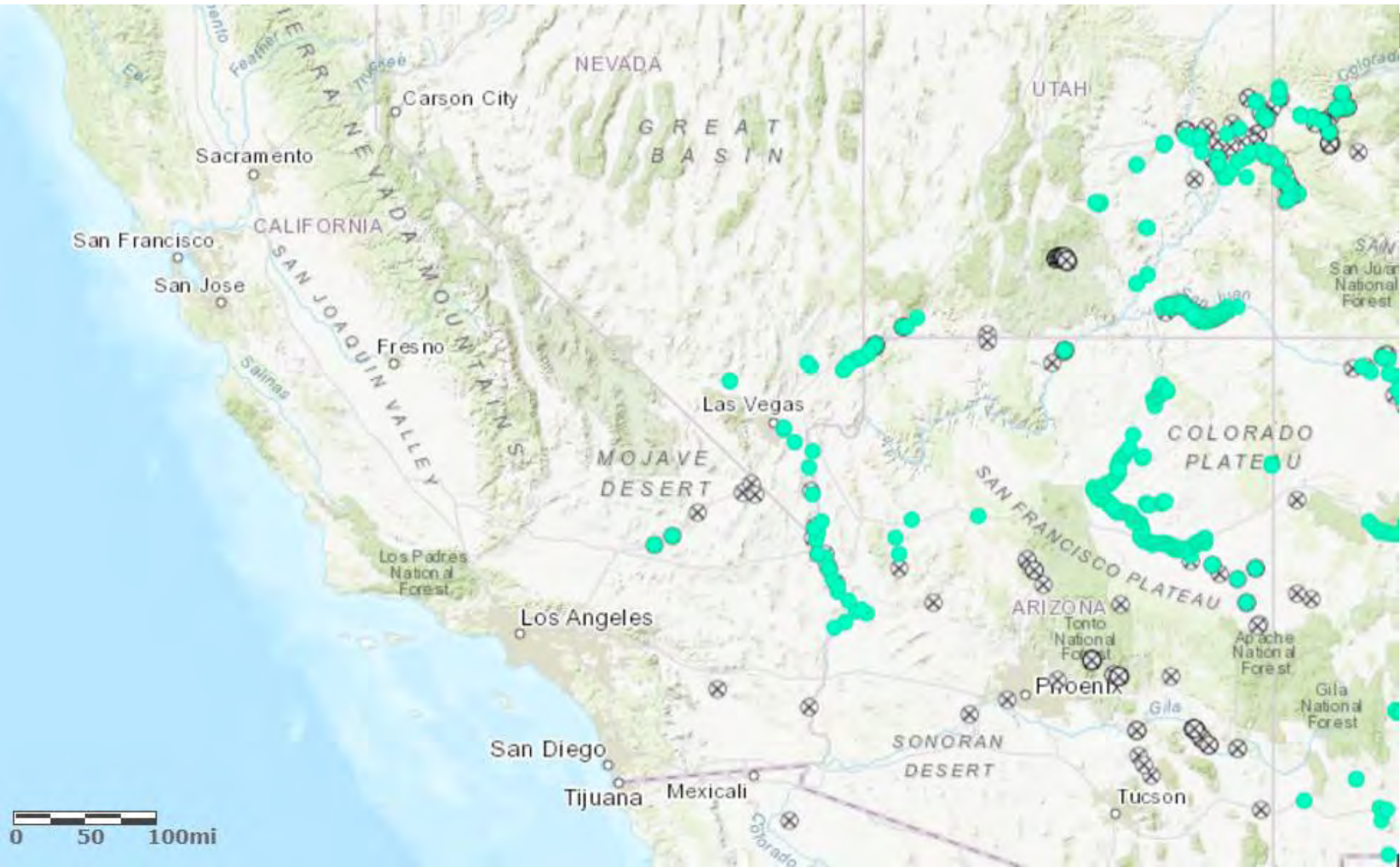
2009 – Release in Utah overlaps with SWFL territory. Complete halt of biocontrol program



Tamarisk Beetle Expansion



Tamarisk Biocontrol in California



California Alliance for Tamarisk Biocontrol

- Public Education and Resources
- Beetle releases
- Monitor natural movements of *Diorhabda spp.* and ecosystem response



2016-2017 Project Timeline

- Build Alliance network
- Develop informational materials (online and print)
- Communicate with stakeholders to build regional support
- Assist NEPA documentation for Federal lands
- Identify tamarisk sites in California and conduct field surveys
- Create statewide monitoring protocol
- Participate in implementation releases in appropriate locations



Stony Creek

- Pre-existing stigma against biocontrol programs
- High populations of Leafhoppers (*Opsius stactogalus*)
- Invertebrate predation
- Poorly executed IPM







Biocontrol Sites

2017 Sites

Camp Cady – Monitoring Only

Afton Canyon – Monitoring Only

Wind Wolves Preserve

Tejon Ranch – Comanche Creek
and Tejon Creek

Butte Co. - Mud Creek at Richardson
Springs

2018 Sites

Stony Creek

Putah Creek

San Diego Co. – Otay Reservoir, El Capitan Reservoir, Marron Valley

Santa Clara River – pending approval from local stakeholders. The RIVRlab will be conducting research grade monitoring on this site.

San Gabriel River – pending stakeholder and regulatory agency approval.

Hansen Dam Basin - pending stakeholder and regulatory agency approval.



Future:

- Review and make available data from 2017 sites
- Update monitoring protocol
- Identify 2018 sites and begin preparation
- Continue updating informational materials and providing public talks, workshops, and resources to interested stakeholders

The initial grant project will conclude in Spring 2019 but the Alliance will work to develop and build financial support for program continuation beyond project period



Camp Cady