Tamarisk Coalition

Restore. Connect. Innovate.

Basin-wide riparian restoration opportunities

Stacy Beaugh,
Executive Director

Colorado River Water Users Association Conference

December 11, 2014

Outline

- Tamarisk Coalition overview
- Summary of invasive plant impacts
- Potential water savings and other benefits from tamarisk and Russian olive management
- Management approaches including tamarisk beetle background, movement, and impacts
- Grassroots collaboration riparian restoration

TAMARISK COALITION

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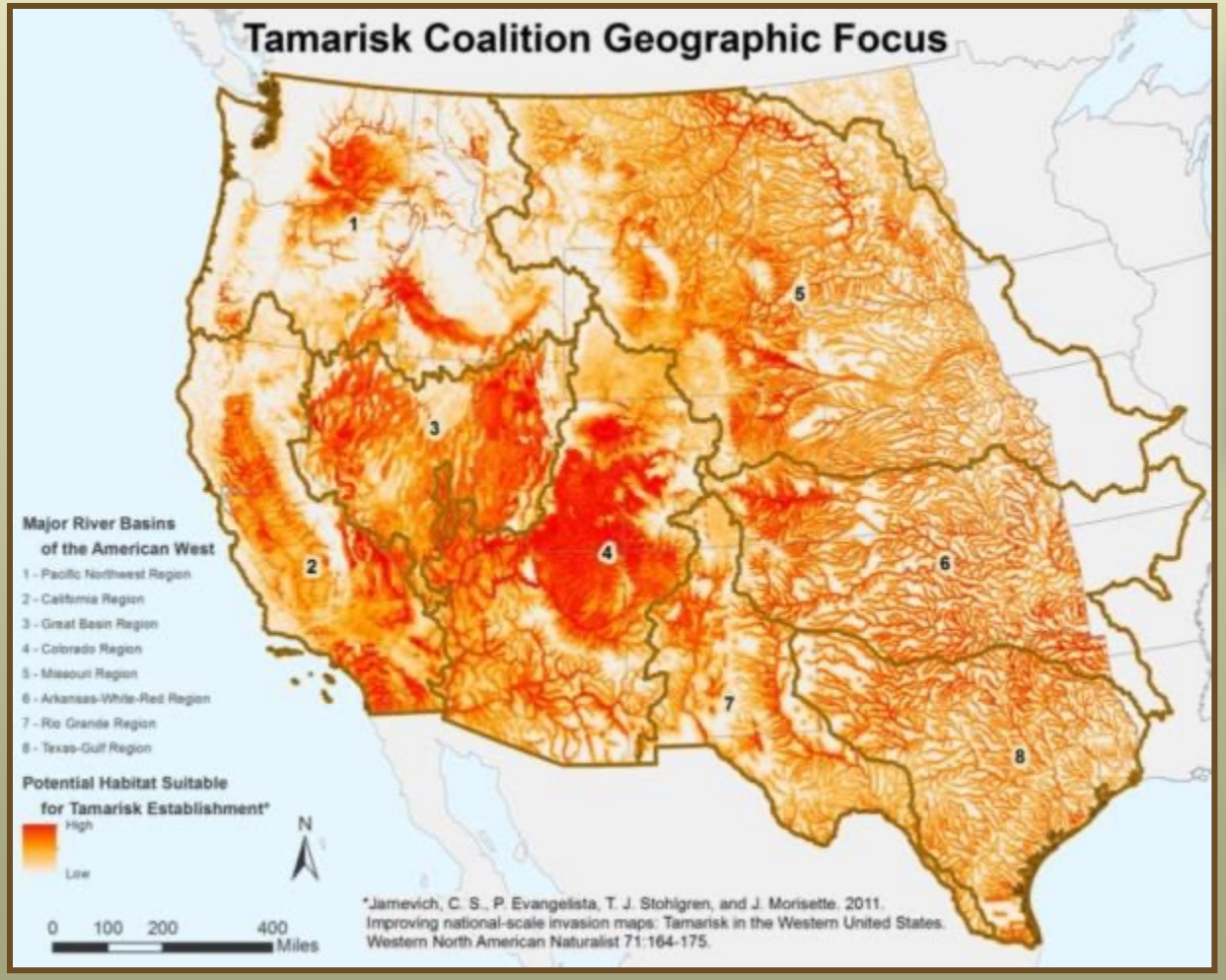
Our Mission

Advancing the restoration of riparian lands through collaboration, education, and technical assistance.

Our Vision

We envision healthy and self-sustaining riparian ecosystems throughout the American West resilient to invasive plant species and supported by enduring communities of stewards.



We promote cross-boundary, ecosystem-wide restoration approaches that employ a landscape-scale perspective

Our Partners

Individuals, agencies and organizations such as local, state, federal and tribal government, land managers, private citizens, watershed groups, universities, nonprofit organizations, and foundations

Our Programs

Act as an Information Clearinghouse

- Web accessible information and resources
- Riparian Restoration Connection for links to training and funding opportunities
- Monitoring of the distribution and extent of the tamarisk leaf beetle

riparian restoration connection
Powered by Tamarisk Coalition

Enhance Frameworks for Restoration

- Improve access to funding opportunities
- Support development of a cross-watershed collaborative network
- Education and outreach

Empower Practitioners

- Host annual conferences and symposia
- Conduct and coordinate training and workshops
- Coordinate and support landscape-scale restoration partnerships

Condition of Western Rivers

- 80-90% loss of riparian areas since pre-settlement conditions
- Approximately 1% of western lands are riparian
  - 80% of vertebrate wildlife use riparian areas
- Loss attributed to:
  - Agriculture
  - Development
  - Gravel mining
  - Reservoir creation
  - Water diversions
  - **Invasive plant infestation**

Western Invasive Riparian Species

- **Tamarisk**
- **Russian olive**
- Phragmites
- Giant reed
- Russian knapweed
- Hoary cress
- Perennial pepperweed
- Tree of heaven







Invasive Species Impacts

- Extirpate native plant species
- Can increase wildfire risk and severity
- Impede agricultural and recreational uses of river systems
- Collective reduce the ecologic and economic benefits rivers provide
- Phreatophytes have high water usage

Gila River tamarisk wildfire
June, 2008
photo credit David Kadlubowski, Arizona Republic

Opportunity to Save Water?

- 2 Studies
- **Colorado River Basin Tamarisk & Russian Olive Assessment**
  - December 2009
  - Basin states funded
  - Focus on Colorado River Basin
  - Prepared by the Tamarisk Coalition
- **USGS Scientific Assessment**
  - May 2010
  - Assessment per PL 109-320
  - In cooperation with USFS & USBR

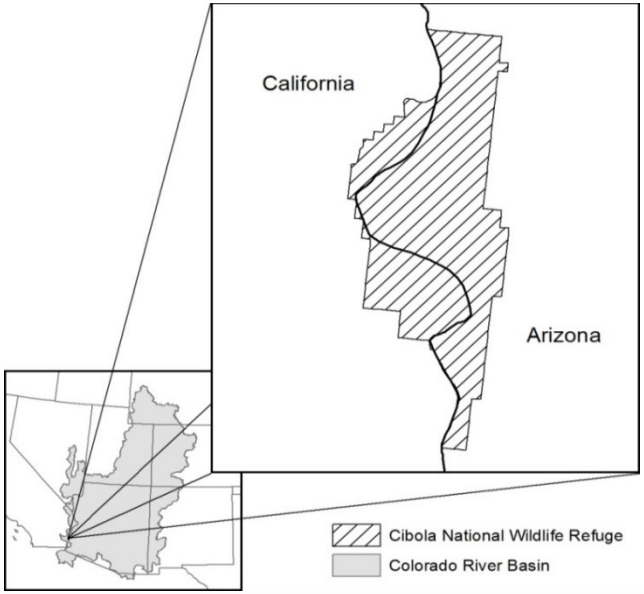
Purpose: Colorado River Basin Assessment

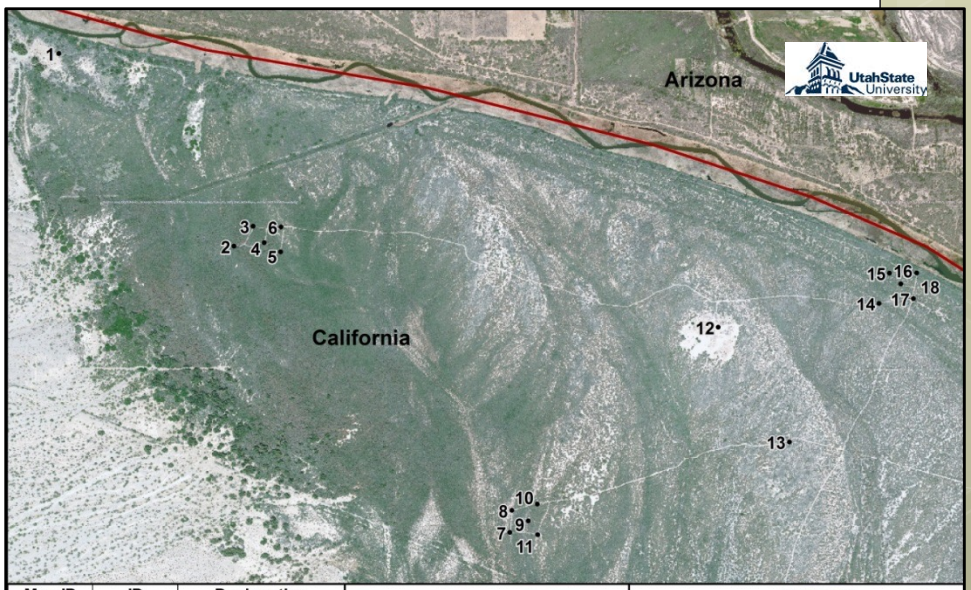
- Use Existing Data and Information to Assess:
  - State-of-the-science
  - Tamarisk & Russian Olive distribution
  - Full range of impacts and benefits to management
  - Can water be saved through invasives management?
- Programmatic Issues
  - Costs and permitting
  - Management approaches
- Identify Demonstration Projects

Major Findings

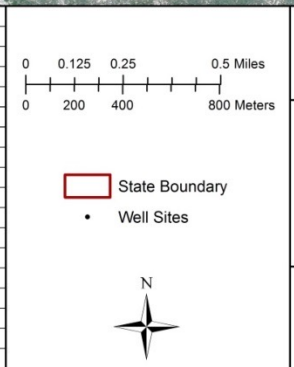
- 250,000 acres of tamarisk cover in Colorado River Basin
- Potential exists for saving water
  - Depends on the appropriate replacement vegetation (xeric vs. cottonwood-willow)
- Revegetation is critical component of restoration
- Long-term maintenance is required
- Savings are difficult to measure, but could be modeled

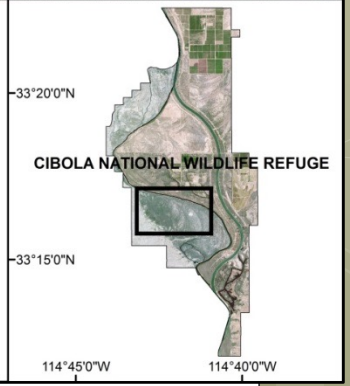
Cibola National Wildlife Refuge





Map ID	ID	Designation
1	DH 08-03	Drain
2	DH 06-07	Slithern SW
3	DH 06-09	Slithern NW
4	DH 06-08	Slithern TOWER
5	DH 06-06	Slithern SE
6	DH 06-10	Slithern NE
7	DH 06-16	Diablo SW
8	DH 06-19	Diablo NW
9	DH 06-18	Diablo TOWER
10	DH 06-20	Diablo NE
11	DH 06-17	Diablo SE
12	DH 08-01	Agua Caliente
13	DH 08-02	Naglerville
14	DH 06-11	Swamp SW
15	DH 06-12	Swamp NW
16	DH 06-14	Swamp TOWER
17	DH 06-15	Swamp SE
18	DH 06-13	Swamp NE





Cibola Demonstration Project

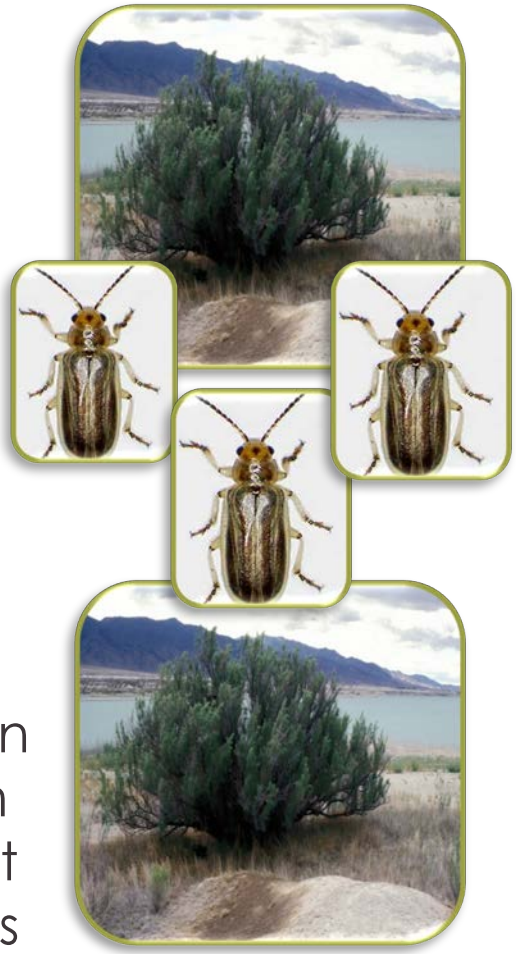
- Coordinated by Met; Utah State & USBR
- ET study on pre/post fire affected tamarisk
- Promising results on groundwater increase as ET decreased
- Remote sensing of ET with ground truthing can work for large areas
- Sets the stage for future water balance work that would quantify the amount made available to system

Tamarisk Control Options

- Mechanical
- Chemical
- Prescribed fire
- **Biological control**

Biological Control

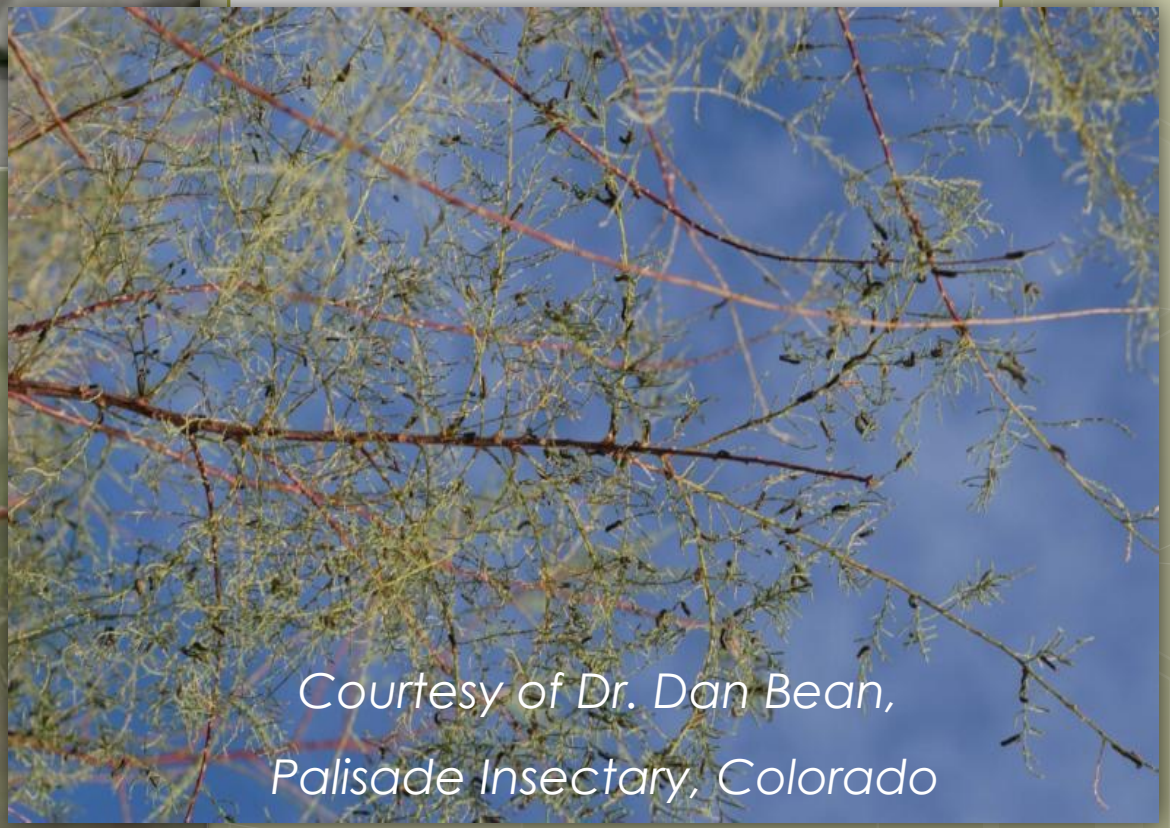
herbivore added



Biological control results in an equilibrium between plant and herbivores

Tamarisk (*Diorhabda* spp.) Beetle

Beetles and Larvae Defoliating Tamarisk



Courtesy of Dr. Dan Bean, Palisade Insectary, Colorado

East Salt Creek, Mesa County, CO

2007 pre-beetle

2010 post-beetle

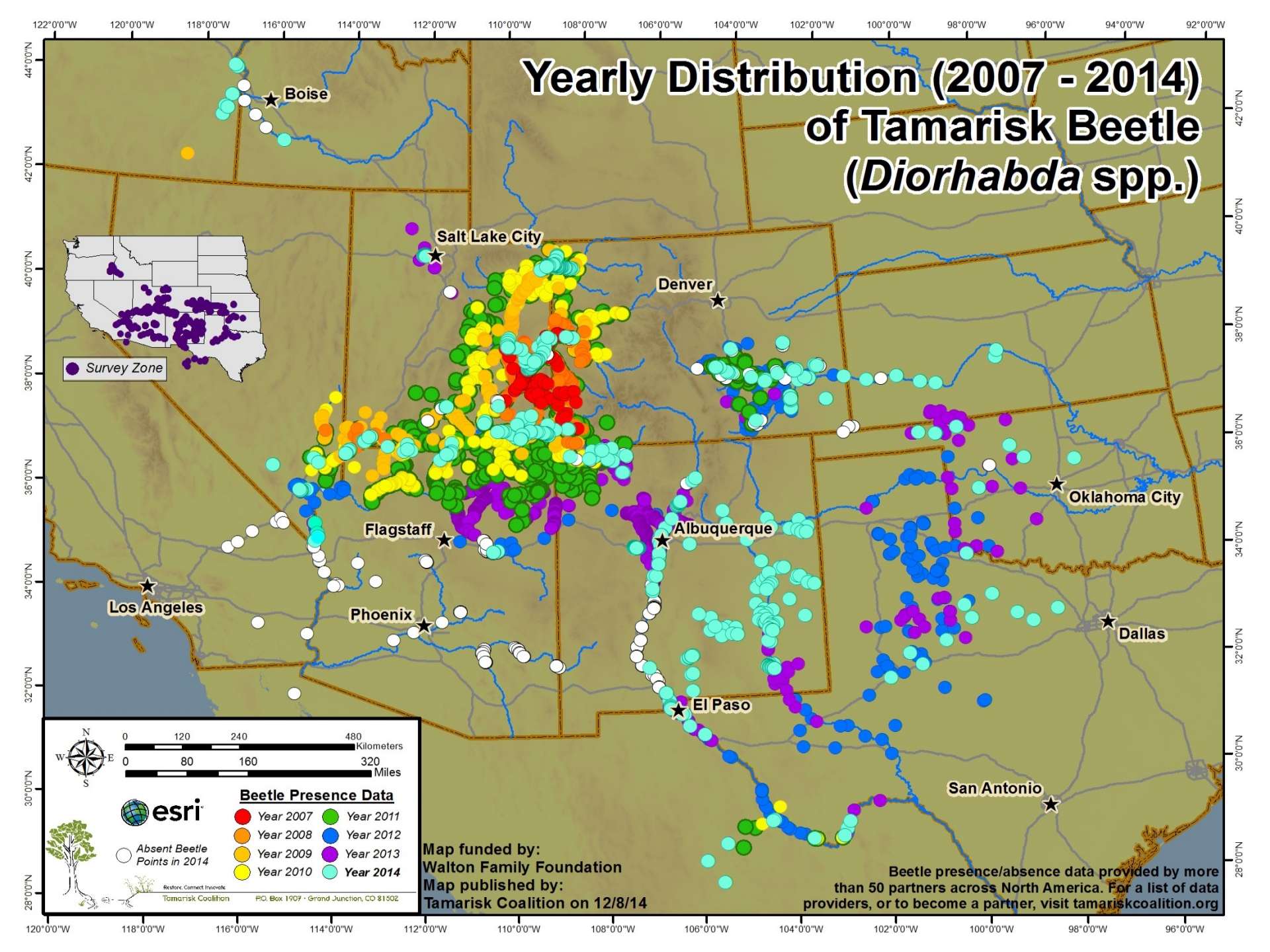
Colorado River, Moab, UT

Virgin River, Nevada
Tamarisk Pre-Beetle; June 1st, 2010

Virgin River – Nevada
Tamarisk Post-Beetle; June 20th, 2010

Tamarisk Beetle Monitoring Program

- TC provides
  - Training and awareness
  - Funding assistance
  - Database management
  - Tracking beetle expansion
  - Promotes research


Yearly Distribution (2007 - 2014)
of Tamarisk Beetle
(Diorhabda spp.)
Boise
Salt Lake City
Denver
Oklahoma City
Flagstaff
Albuquerque
Los Angeles
Phoenix
Dallas
El Paso
San Antonio
Survey Zone
Beetle Presence Data
Year 2007
Year 2008
Year 2009
Year 2010
Year 2011
Year 2012
Year 2013
Year 2014
Absent Beetle Points in 2014
0 120 240 480 Kilometers
0 80 160 320 Miles
esri
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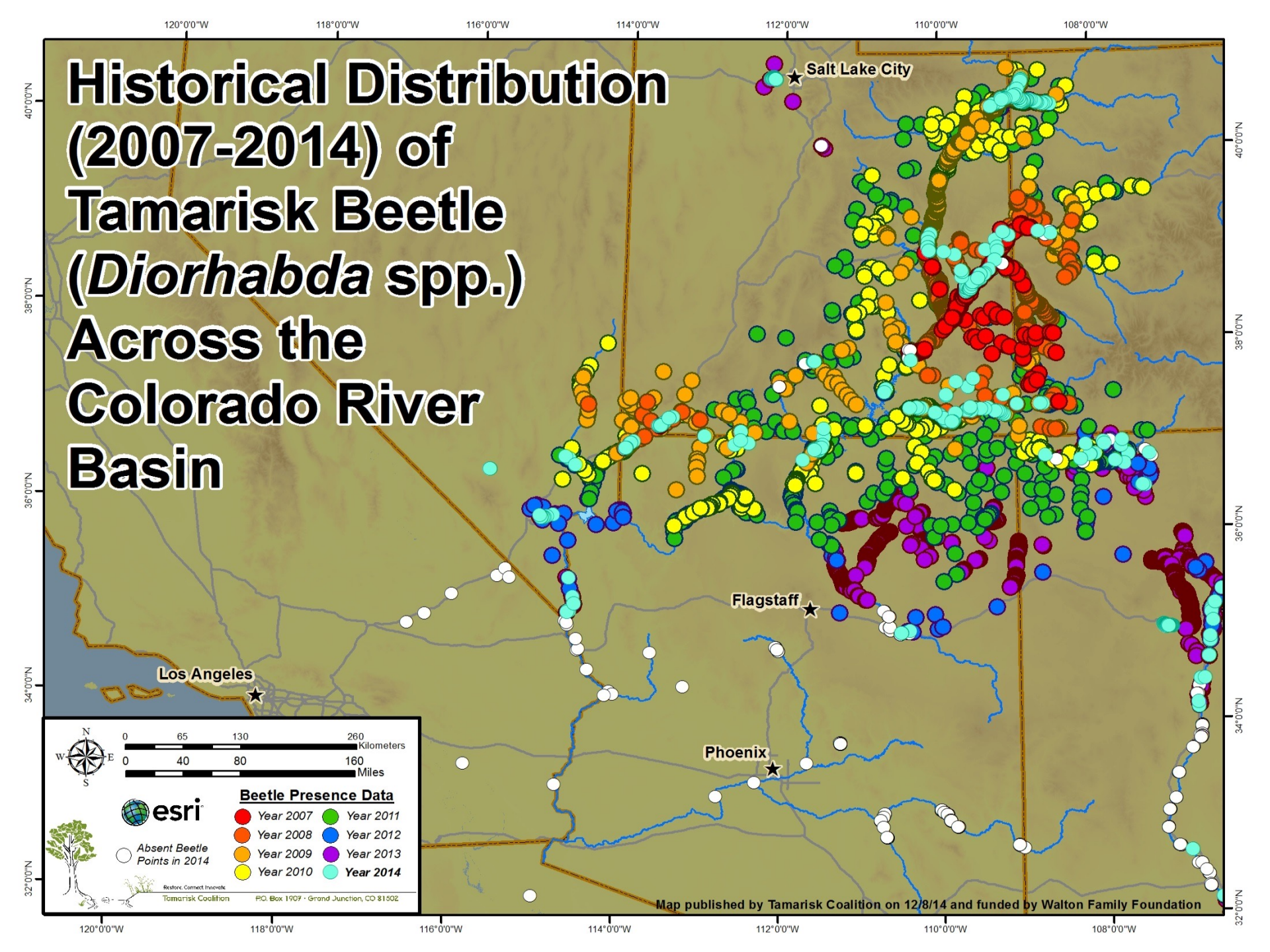
PO. Box 1907 · Grand Junction, CO 81502
Map funded by:
Walton Family Foundation
Map published by:
Tamarisk Coalition on 12/8/14
Beetle presence/absence data provided by more than 50 partners across North America. For a list of data providers, or to become a partner, visit tamariskcoalition.org


Historical Distribution (2007-2014) of Tamarisk Beetle (Diorhabda spp.) Across the Colorado River Basin
Salt Lake City
Flagstaff
Los Angeles
Phoenix
120°0'0"W
118°0'0"W
116°0'0"W
114°0'0"W
112°0'0"W
110°0'0"W
108°0'0"W
40°0'0"N
38°0'0"N
36°0'0"N
34°0'0"N
32°0'0"N
N
W
E
S
0 65 130 260 Kilometers
0 40 80 160 Miles
esri
Beetle Presence Data
Year 2007
Year 2008
Year 2009
Year 2010
Year 2011
Year 2012
Year 2013
Year 2014
Absent Beetle Points in 2014
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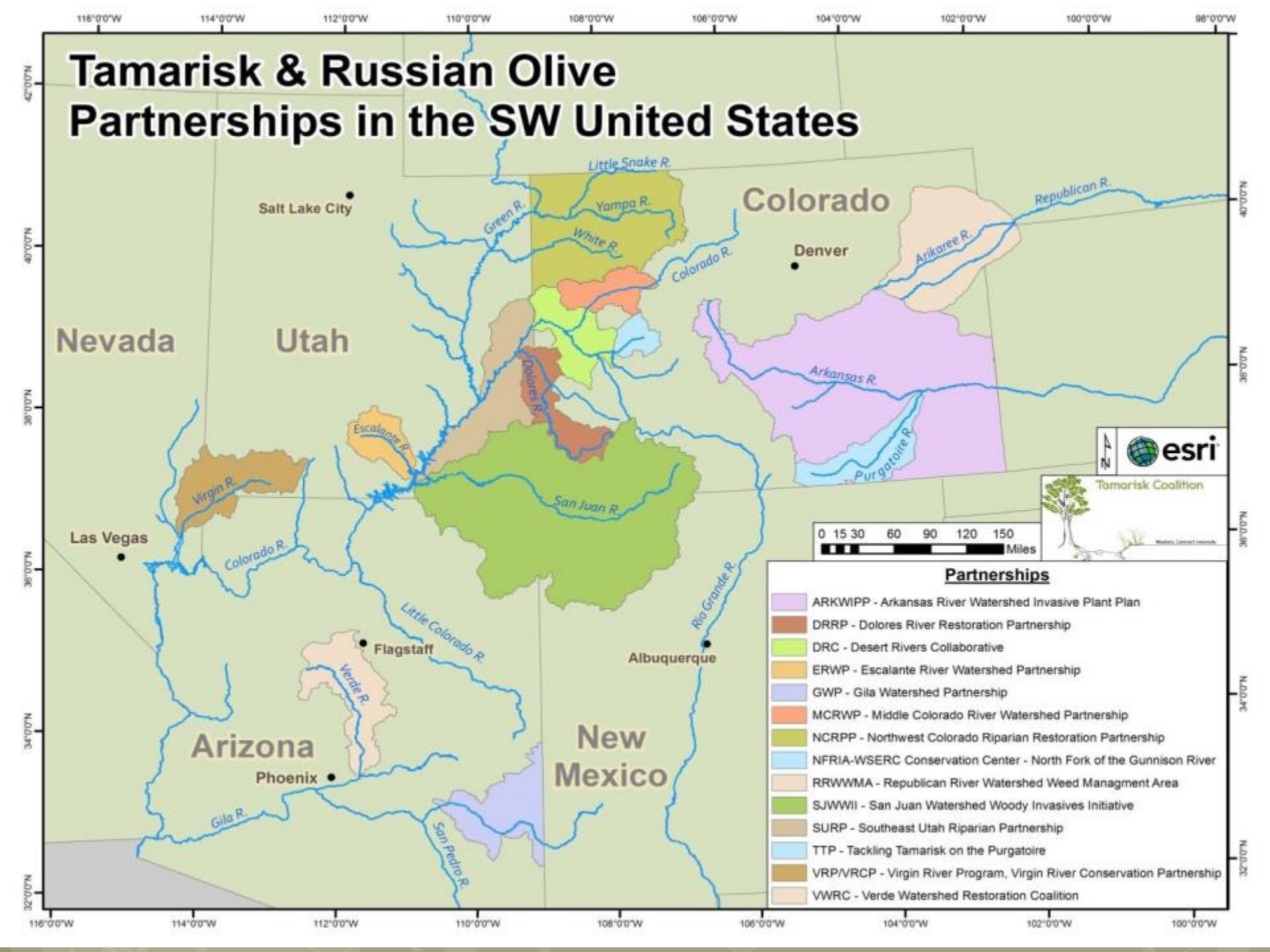
PO. Box 1909 · Grand Junction, CO 81502
Map published by Tamarisk Coalition on 12/8/14 and funded by Walton Family Foundation

Projections

- Models suggest that the tamarisk beetle will further disperse into middle NM and lower AZ in 2015 and 2016.
- Dispersal rates are highly dependent on contiguous or scattered tamarisk stands, topography and other factors.
- Convening an expert panel to identify short and long-term ecosystem impacts
- Active management is needed to mitigate impacts
- Beetle can be a tamarisk management option/tool but is not a silver bullet

Restoring Riparian Lands

- Many challenges and opportunities to restore riparian lands
- Diverse groups
  - private landowners, public land managers, nonprofits, and government agencies
- Tamarisk Coalition supports these people, groups, and organizations to achieve their goals by connecting people to tools and resources
- Comprehensive approach

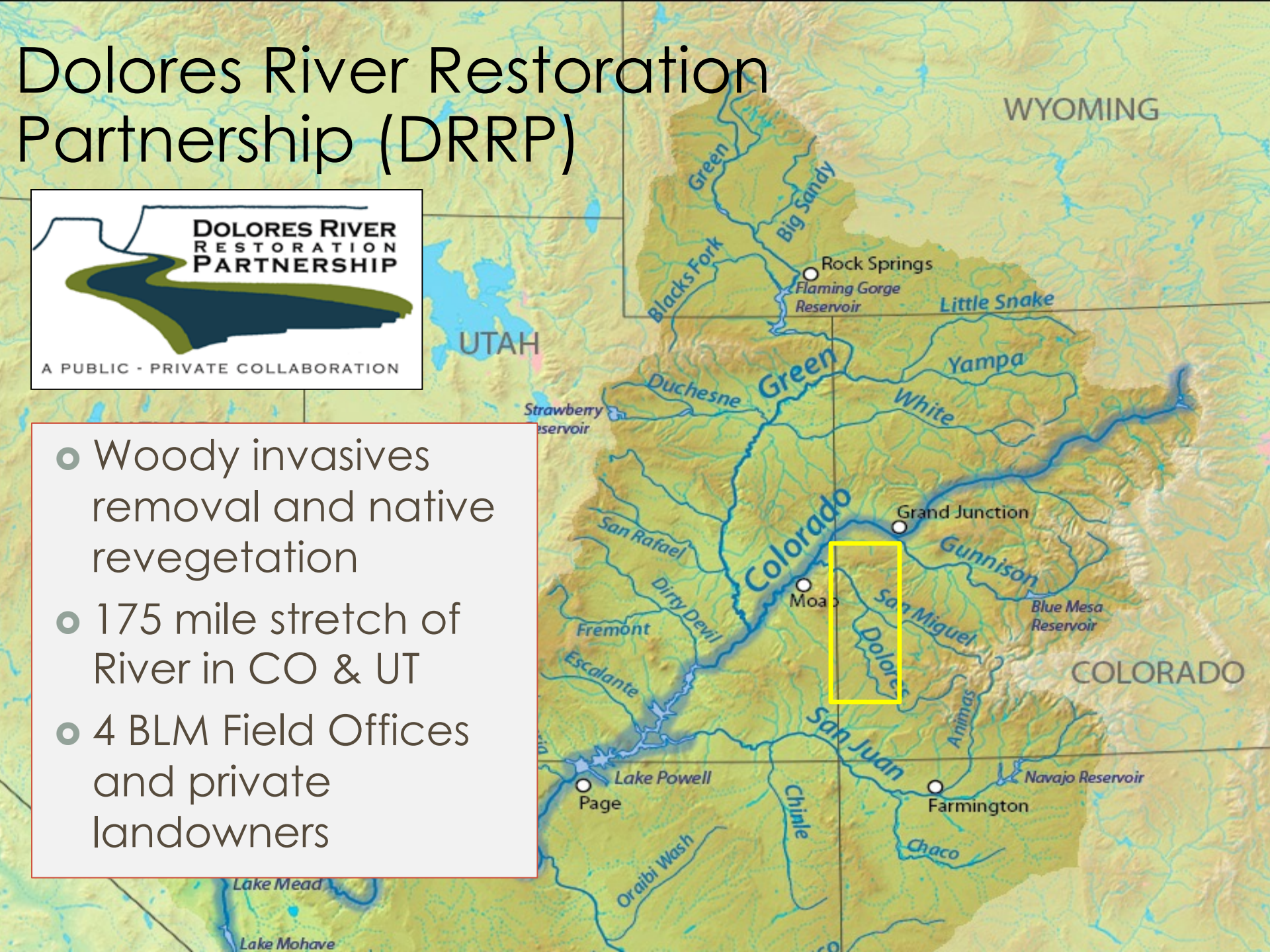

Tamarisk & Russian Olive
Partnerships in the SW United States
Salt Lake City
Denver
Las Vegas
Flagstaff
Albuquerque
Phoenix
Nevada
Utah
Colorado
Arizona
New Mexico
Little Snake R.
Yampa R.
Green R.
White R.
Colorado R.
Republican R.
Arikaree R.
Arkansas R.
Purgatoire R.
Dolores R.
Escalante R.
San Juan R.
Virgin R.
Colorado R.
Little Colorado R.
Rio Grande R.
Verde R.
Gila R.
San Pedro R.
esri
Tamarisk Coalition
0 15 30 60 90 120 150
Miles
Partnerships
ARKWIPP - Arkansas River Watershed Invasive Plant Plan
DRRP - Dolores River Restoration Partnership
DRC - Desert Rivers Collaborative
ERWP - Escalante River Watershed Partnership
GWP - Gila Watershed Partnership
MCRWP - Middle Colorado River Watershed Partnership
NCRPP - Northwest Colorado Riparian Restoration Partnership
NFRIA-WSERC Conservation Center - North Fork of the Gunnison River
RRWWMA - Republican River Watershed Weed Managment Area
SJWWII - San Juan Watershed Woody Invasives Initiative
SURP - Southeast Utah Riparian Partnership
TTP - Tackling Tamarisk on the Purgatoire
VRP/VRCP - Virgin River Program, Virgin River Conservation Partnership
VWRC - Verde Watershed Restoration Coalition

Dolores River Restoration Partnership (DRRP)

DOLORES RIVER RESTORATION PARTNERSHIP

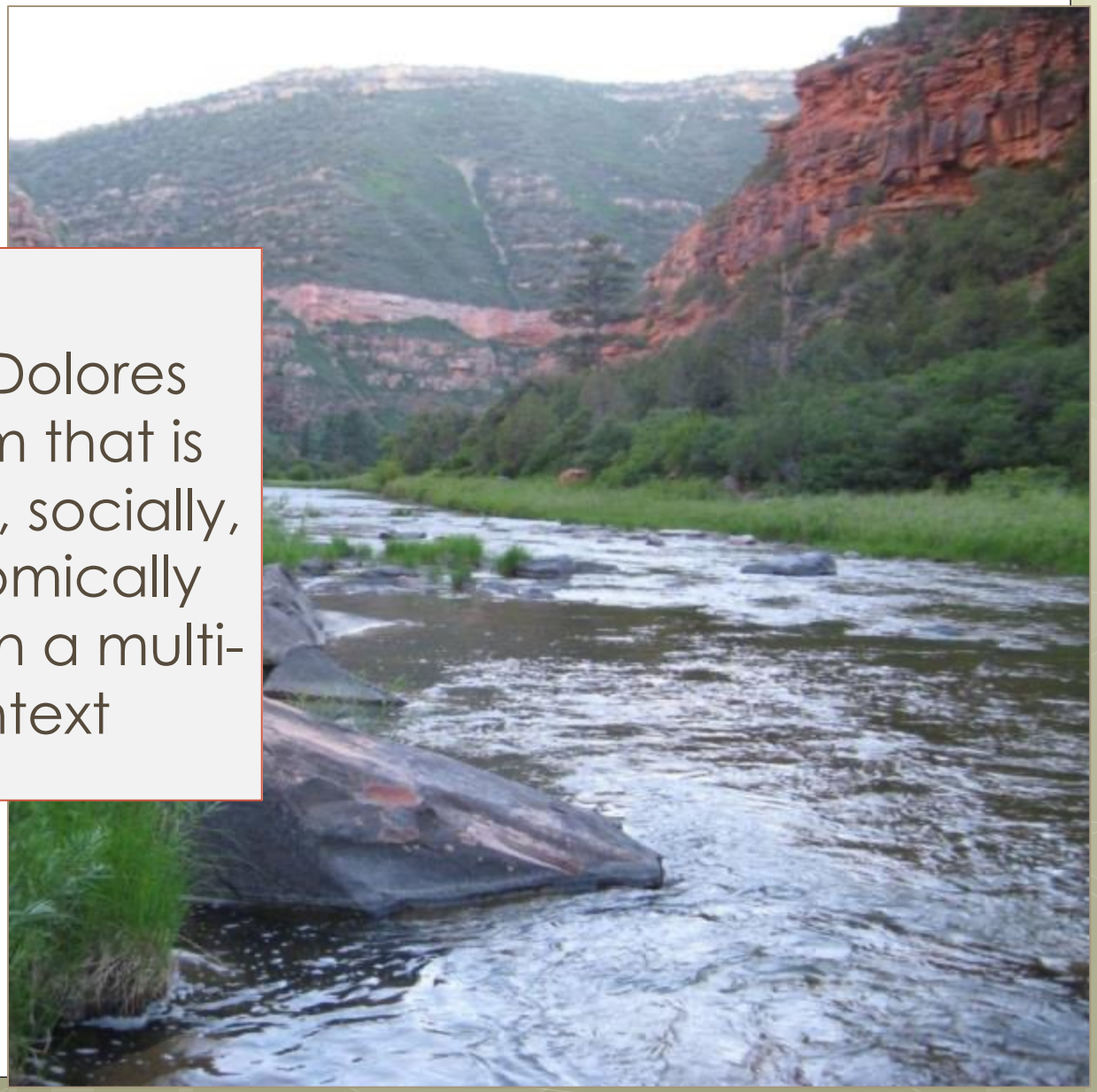
A PUBLIC - PRIVATE COLLABORATION

- Woody invasives removal and native revegetation
- 175 mile stretch of River in CO & UT
- 4 BLM Field Offices and private landowners



DRRP Mission

A thriving Dolores River system that is ecologically, socially, and economically sustainable in a multi-use context

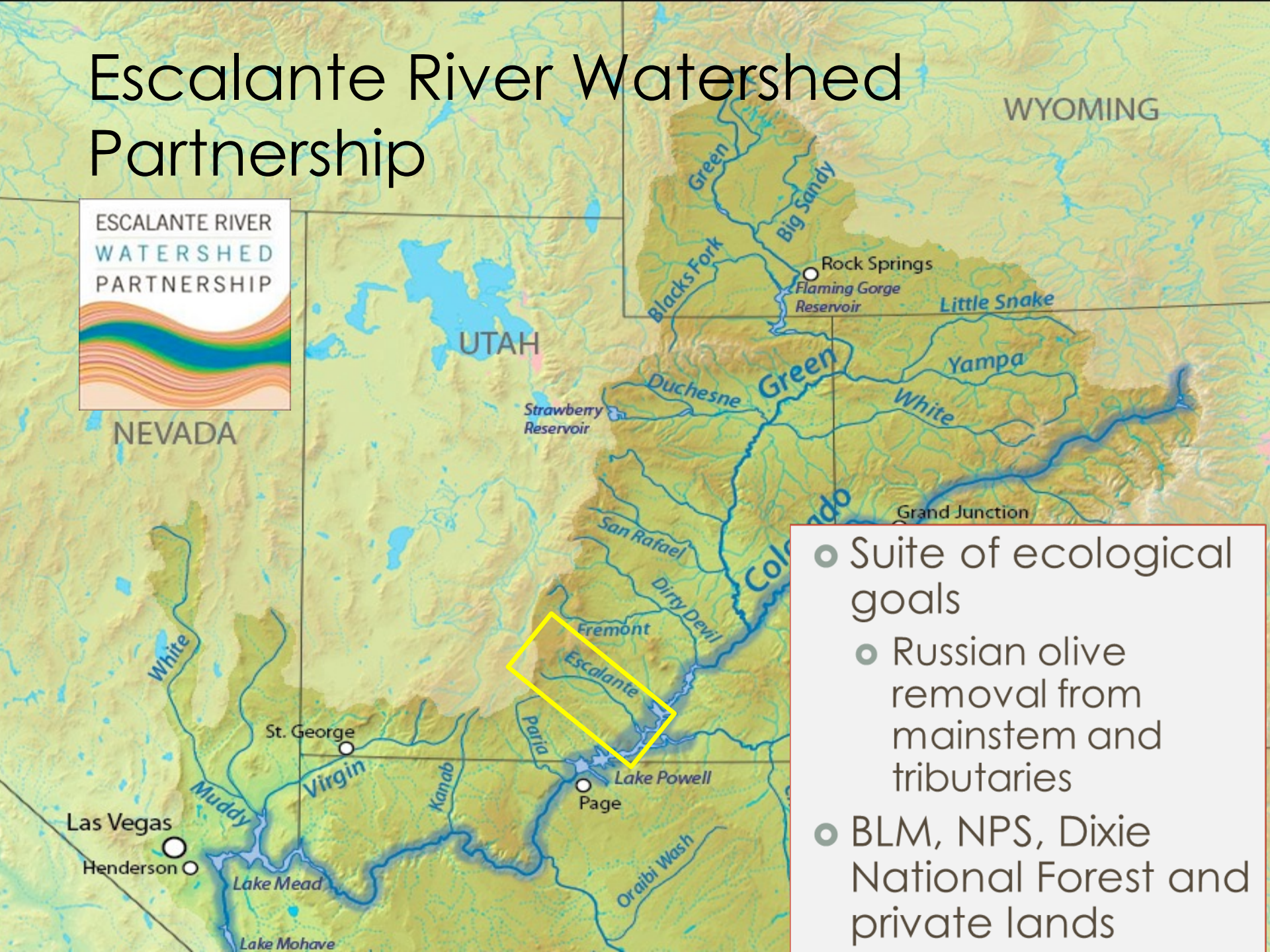


Conducted treatments on over 900 of 1700 acres prioritized for active treatment

Before -
Outside of Gateway, CO

After –
Outside of Gateway, CO

Escalante River Watershed Partnership



- Suite of ecological goals
  - Russian olive removal from mainstem and tributaries
- BLM, NPS, Dixie National Forest and private lands

ERWP Mission

Restore and maintain the natural ecological conditions of the Escalante River and its watershed and involve local communities in promoting and implementing sustainable land and water use practices.

Treated 750 acres of Russian olive since 2010

Before – Neon Canyon: 9.5.2008

Photo: Bill Wolverton

After – Neon Canyon: 7.6.2010

Photo: Bill Wolverton

Tools for Success

- Trust and continuous communication
- Locally, stakeholder driven
- Strong diversity of participants
- Science foundation
- Shared goals/vision
- Comprehensive plan
- Evaluation and adaptive management
- Responsive governance
- Leveraged adequate financial resources
  - Capacity and project implementation
- Transparency
- Part of bigger picture

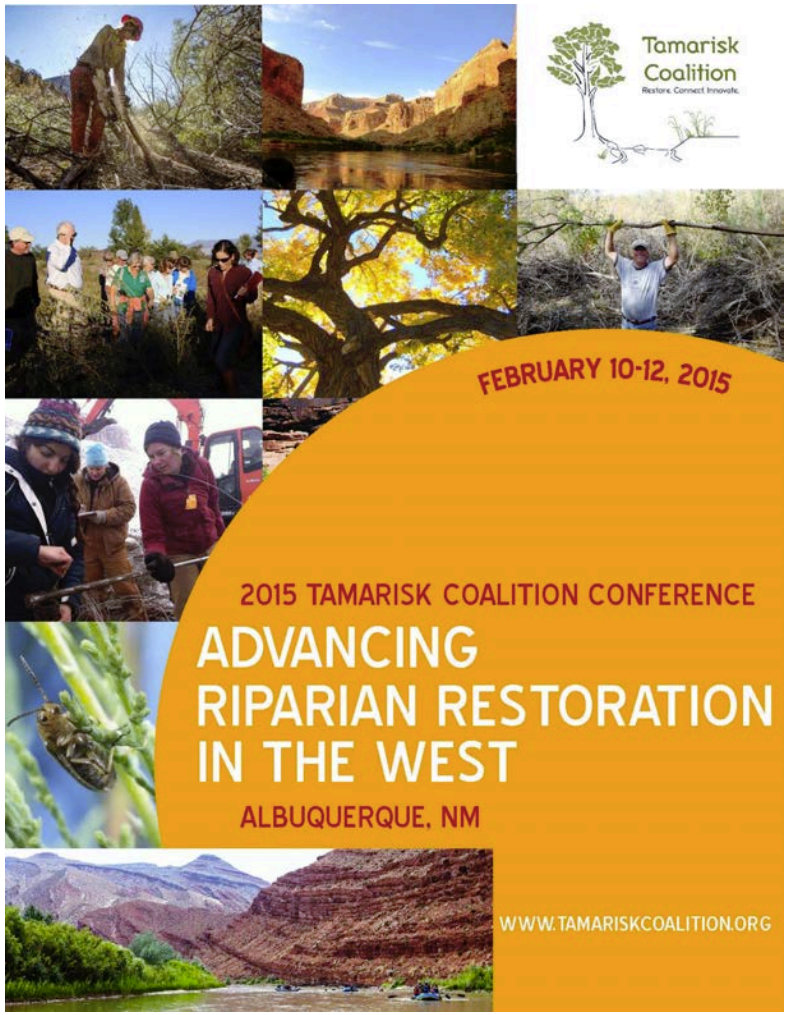
Opportunities for the Basin

- Est. 30,000 af/y in potential system water savings
- Benefits (economic, cultural, ecologic) to improving riparian corridors as a whole
- Scale-up of watershed-level work
- Community buy-in and long-term stewardship
- Trust built through these projects can provide a foundation for more collaboration

What Can You Do?

- Invest
- Partner with us
- Volunteer
- Stay informed
- Learn
- Inspire others

12th Annual Conference



- February 10-12, 2015
- At Hotel Albuquerque in Old Town
- *Early bird registration ends January 9, 2015*
- tamariskcoalition.org

Thank you!

Like

www.tamariskcoalition.org

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