

Colorado River Basin States Tamarisk Management Update

Tamarisk and Russian Olive Assessment

Six Agency Committee Meeting

March 14, 2012

Tom Ryan, Metropolitan

TRO Assessment Presentation Outline

- **Purposes and definitions**
- **Questions and approach**
- **Review of tasks**
- **Findings & research needs**
- **Alternative approaches**
- **Potential next steps**

TRO Assessment

Basin States Purposes

- **Assess with existing data the state of the science of:**
 - **distribution, water savings**
 - **control methods, biomass**
 - **restoration, research needs**
- **Programmatic issues: costs, permitting**
- **Management approach**
- **Identify Demonstration Projects**

TRO Assessment - Definitions

■ Management:

- Includes control or removal, biomass reduction, revegetation, monitoring, and long-term maintenance

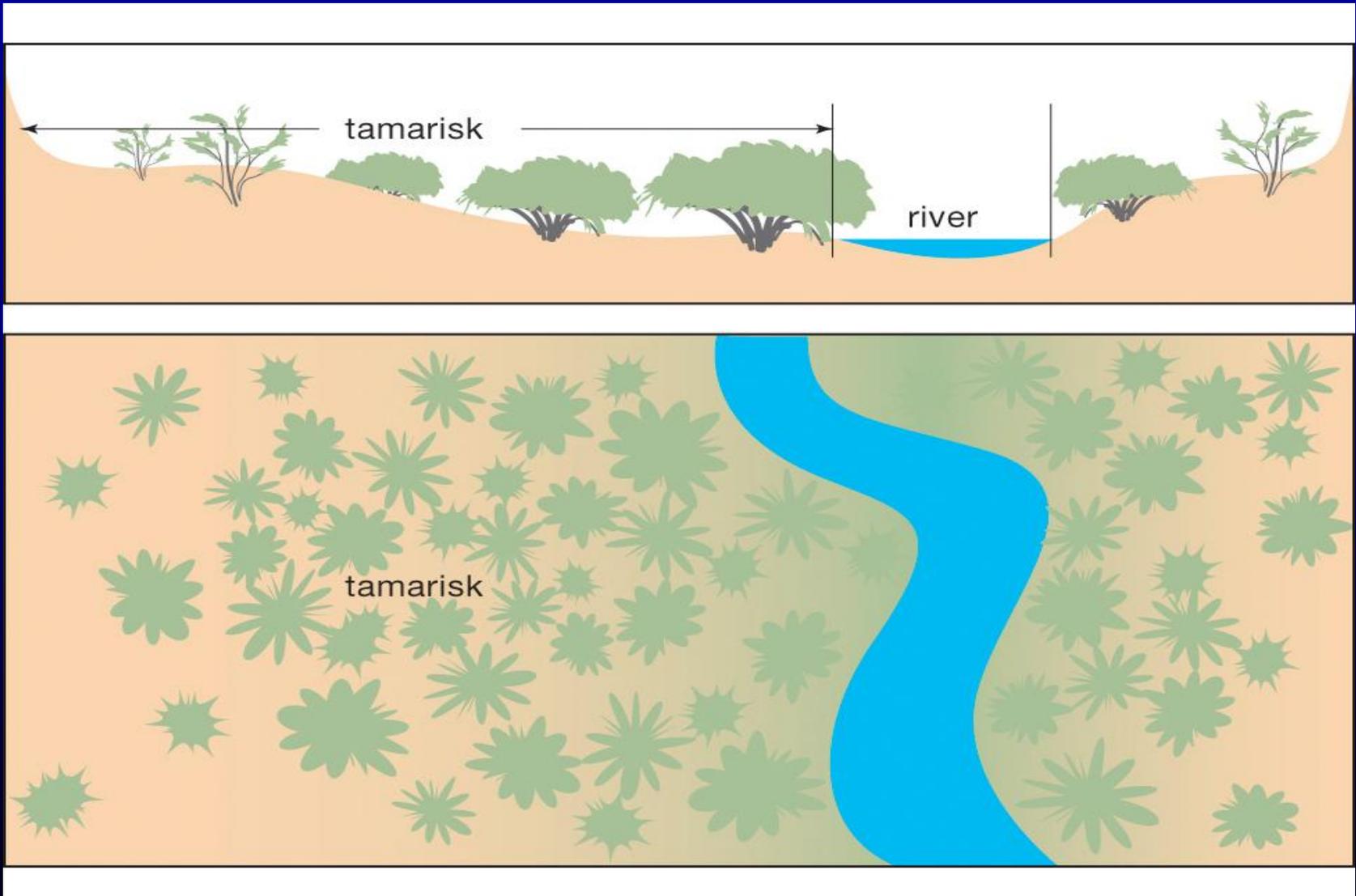
■ Water Savings:

- After management, the net amount of water not used by TRO through evapotranspiration

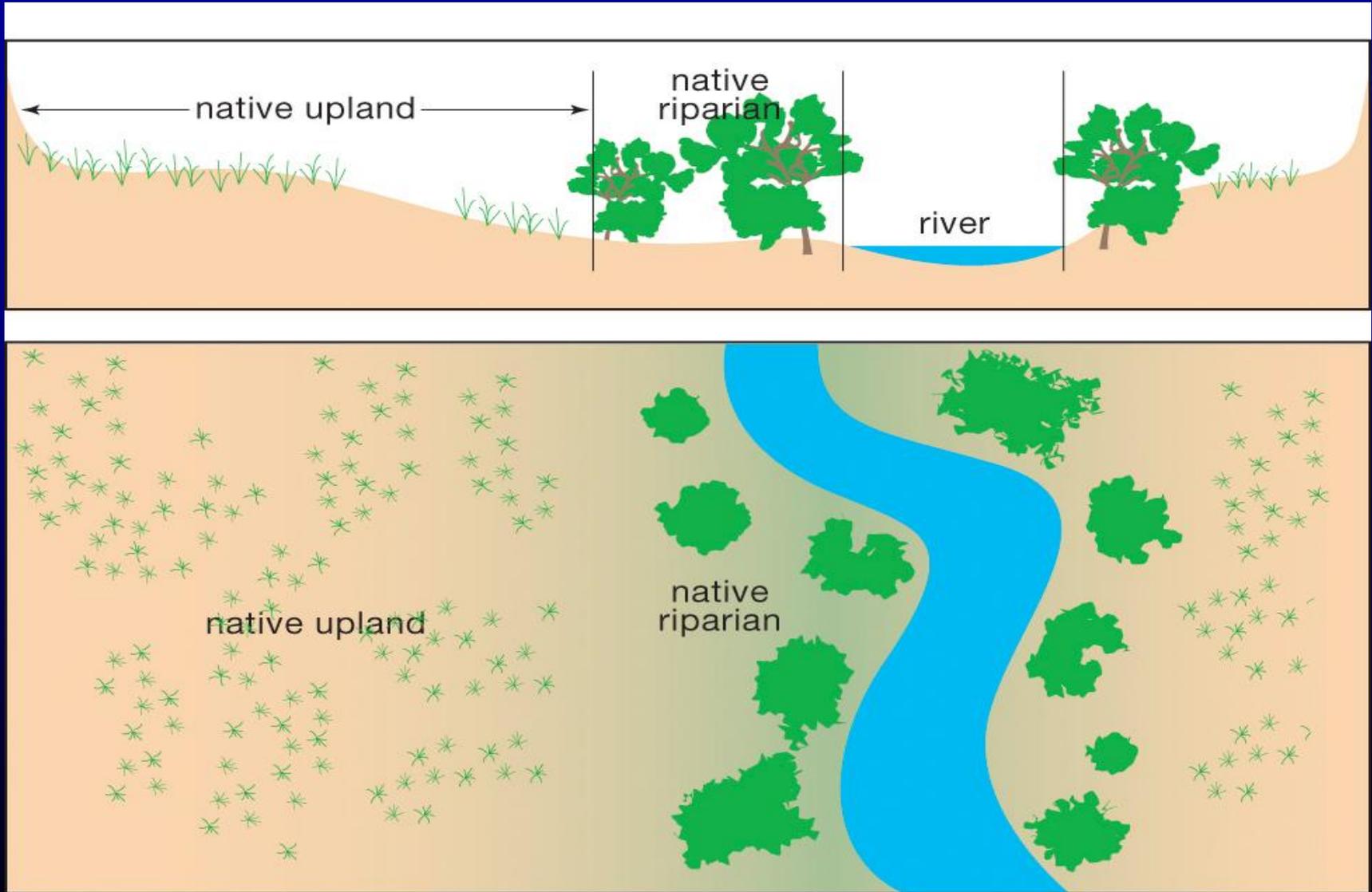
Questions

- Can water be saved by managing TRO?
- Is controlling TRO to save water cost-effective?
- Can saved water be recovered, i.e. will it appear in the river?

Water Savings Approach (before)



Water Savings Approach (after)



Task 1 - Independent Peer Review

- 10 members, 10 questions, 2 days
 - Agricultural, civil and environmental engineers, hydrologists, entomologist, botanist, ecologist, remote sensing and modeling experts
- Objectives
 - Narrower range of ET
 - Range of net water savings
 - Identify next research questions

Independent Peer Review

■ Results

- Normalized across climate/latitude/elev.
- TRO canopy cover 60%
- ET of 2.3-4.6 AF/ac.
- Revegetate 75% xeric, 25% riparian
- Difference in ET between TRO and replacement vegetation is 1.2 AF
- $(1.2)(.75)(.6) = .54$ AF/ac. saved
- Saving 1 AF per 1.85 ac. managed

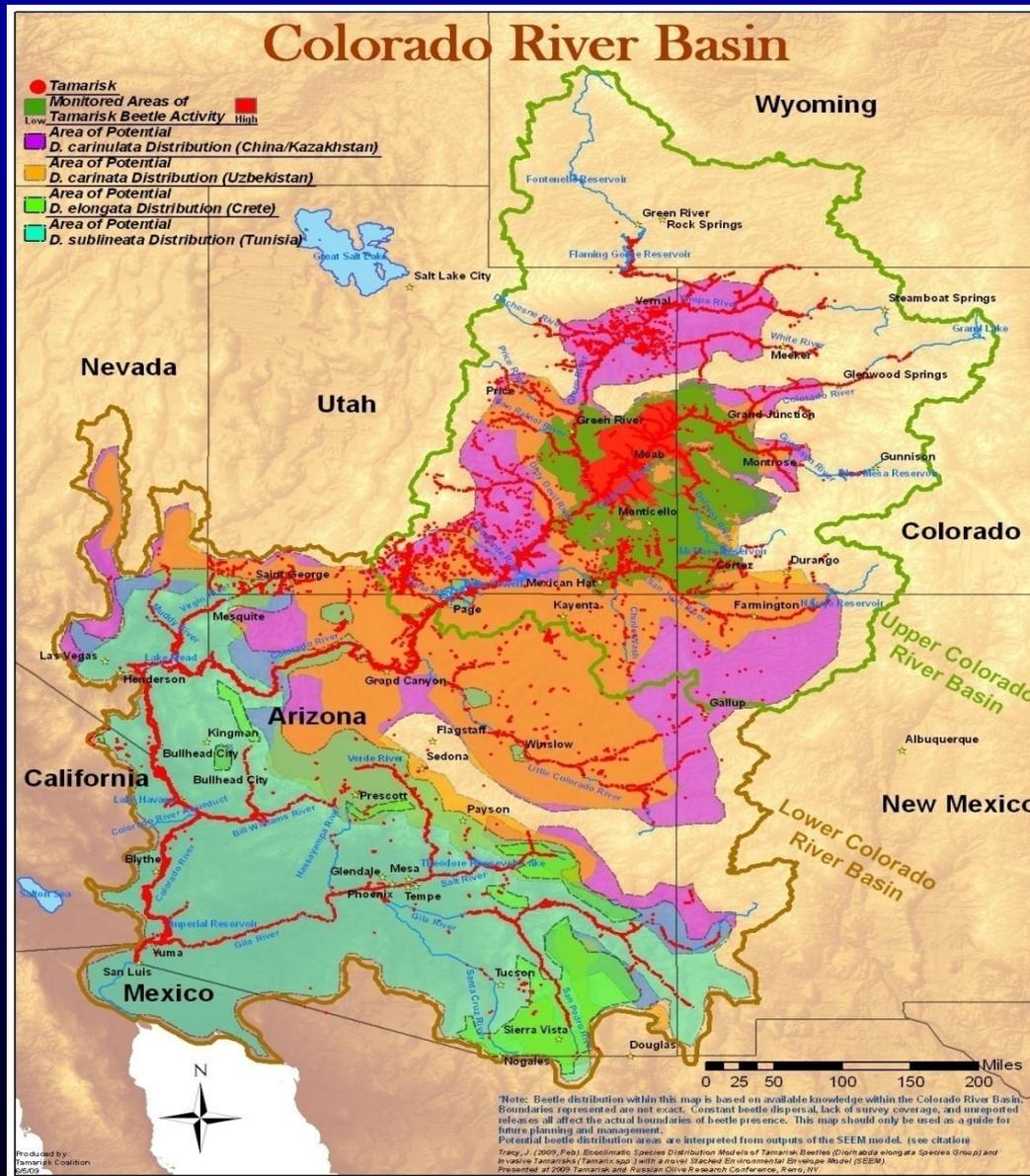
Tasks 2-4

- 2. State of the science
 - SWFL, *Diorhabda* spp.
- 3. Programmatic
 - LCRMSCP, cost per AF
- 4. Demonstration sites
 - 9 sites: 4 in UB; 5 in LB
 - geology, surface and subsurface flows
 - wide gaining reaches, high density
 - access, baseline data

Diorhabda spp.



Distribution of *Diorhabda* spp.



Demonstration Sites



Research Needs

■ Evapotranspiration

- Xeric vegetation, bare soil, Russian olive
- Extrapolating ETo to riparian areas

■ Hydrologic response

- Convert ET to g-water or flow

■ Maintenance / monitoring

- Climate change, fire, floods, funding

■ Erosion and sedimentation

- Methods, phased approach

Findings

- Basis for further expenditures to begin demonstration, pilot, management
- Savings from ET reduction
 - 1 AF per 1.85 ac. managed (.54 AF/ac.)
- Cost per AF
 - 6 of 7 methods <\$400/AF; (\$260-1,050)
- Water will be saved, amount which might appear in river cannot be predicted

Upper Colorado near De Beque, CO
25% cover, 39 acres = 8.8 AF



Lower Colorado near Blythe, CA
85% cover, 206 acres = 157 AF



Alternatives Considered

- Begin management with others
- Work with LCRMSCP
- Continue mapping

- Colorado River Basin Study
 - Input to process
- Demonstration project at Cibola NWR
 - Hydrologic response study

Proposed Study Area Cibola NWR

