

BLM-Uncompahgre Field Office

Active Revegetation on Tamarisk Sites



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Once the tamarisk and secondary weeds are reduced, How do we get native riparian vegetation back?



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Where remaining community insufficient:

- **Active Revegetation**
Seeding
Planting

Questions:

- **How much native vegetation is sufficient?**
- **How to get seed to germinate and establish?**
- **What are most effective planting approaches?**

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Past experience shows planting often not successful....

- Willow planting 2008: less than 5% survival
- Cottonwood pole planting 2008: 0% survival
- Cottonwood pole planting 2009: 0-6% survival (2nd year)
- Cottonwood 3-whip planting 2009: 35-40% 2nd year
- Cottonwood containerized 2009: 65-80% 2nd year
- Cottonwood tube planting 2010: 27% 2nd year



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Pilot Plots – 12 plots across 4 areas

- 3 different tamarisk treatment types
- Trial plantings of 7 native riparian shrub and tree species
- Fall and spring plantings
- 4 planting types
- Soil salinity sampling
- With and without active tamarisk resprout treatment



Pilot Plot Plantings-Survival

There is evidence that planting survival affected by:

- Planting time (**spring**, fall)
- Planting type (**containerized qt-gal**, small tube, long stem, cuttings)
- Planted species (rose, **skunkbush sumac**, **privet**, cottonwood, willow, box elder, seep willow)
- Salinity level (**<1**, 1-2, 3-4, >4 mmhos/cm 1:2 dilution test)

Pilot Plot Plantings-Survival

There is evidence that tamarisk treatment type (hydroaxe, hand cut, **beetles only**) affects planting survival

Hydroaxe: best survival rate 23% Hand cut: best survival rate 56% Beetles: best survival rate 95%



Pilot Plot Plantings-Survival

No evidence that planting survival affected by:

- **Site (Boat Ramp, River Road, Bridge, Highway 141)**
- **Carefully applied tamarisk resprout treatment**

Pilot Plot Plantings-Survival

Cottonwood Establishment

- Survival rate in tamarisk or tamarisk/willow zone: 10%
- Survival rate in willow zone: 51%
- Best survival conditions-spring planting of containerized cottonwood in willow zone for 59% survival



Pilot Plot Plantings-Survival

Adaptive Management Response for UFO

- Plantings do best under microclimates with partial shade/filtered sunlight, retain this environment whenever possible
- Remove tamarisk only as much as needed to allow access for spraying understory weeds, and planting if necessary. Anticipate that beetle will slowly kill most of the existing tamarisk overstory.
- Continue to completely remove tamarisk where fuel loading threatens important resource values
- Focus on sumac, privet for revegetating tamarisk dominated areas-only plant where existing native shrub/tree cover is less than 5%(?) of stand
- High and moderate salinity levels appear to be a concern on <20% of the river, identify and avoid revegetation efforts in high salinity zones
- Cottonwood planting will work best in willow zone, if cottonwoods are a desired part of the community
- Benefits of this approach: less expensive, more gradual change, higher revegetation success of woody species, fewer biomass disposal issues, and structure for wildlife retained

BOR Restoration Work

Scaling up lessons learned to restoration on BOR land:

- **Approximately 40 acres of riparian area, along 3 river miles**
- **Tamarisk treatment: reduce biomass by 50%, canopy cover by 25%**
- **Secondary weed treatments #1, #2, #3**
- **Seeding**
- **Cottonwood and other native tree and shrub plantings**

BOR Restoration Work

