Biological Control of Saltcedar
Carlsbad New Mexico

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Project Overview

- Releases initiated in 2004
- Posidi ecotype of saltcedar leaf beetle (*Diorhabda elongata*)
- Beetles released in cages and sleeve-bags
2004 site was in a basin just outside of levy road

Flooding occurred mid April and during over-wintering period

Predation

Yellowing from leafhopper damage
2005 site in lake bed
Before grasshopper invasion

After grasshopper invasion
2006 Site

- Low risk of flooding
- Distanced from kochia/grasshoppers
- Mixed understory
  - Alkalai sacaton
  - Golden crownbeard
  - Mountain peppergrass
  - Desert verbena
  - Others

Plants cut back to encourage regrowth

12’ x 12’ tent
• Populations of the Posidi beetle crashed at many sites early 2006

• Beetle stock was not available until mid July

• ~200 eggs were put in sleeve bags in the tent on July 18

• Eggs hatched, but NO beetles were found at 1 or 2 weeks after release
• 2006 – 2\textsuperscript{nd} beetle release
  – 50 adult beetles released at the 2006 site on September 12
  – Early reproductive success after release
  – High larval mortality, few adult beetles emerged through November
2007

- 5 beetles from 2006 successfully overwintered
- Saltcedar at site slow to foliate in spring
- Down to 1 adult beetle by late May, little evidence of reproduction
2007 - Site B

- New release site ~half mile south of original site.
  - Older, larger trees
  - More foliage
  - Trees foliated earlier
2007 Releases

• Received 300 beetles from Palisade insectary in May
  – 100 released @ site A
  – 200 released @ site B
• 2 weeks after release:
  – No adult beetles or egg masses found at either site
  – Single larva found at site B
  – Little if any defoliation
    • Preadation
    • Leafhopper damage
    • Tent effects
2008 Plans

• Fukang beetles?
  – Still waiting on finalization of permit from APHIS
  – Pueblo Fukang population on a downswing in 2007

• Sleeve bags?
  – High maintenance, need a local technician