Invasive Species Management in the Southwestern U.S.

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August 2, 2011

Some Species of Concern…

Zebra mussel

Perennial pepperweed

Hydrilla

Salt cedar

Arundo

Yellow star thistle

Why are invasive species problematic?

- Most of the woody species are phreatophytes – root systems into water table – *may* use more water than native species
- Outcompete native species (habitat value)
- Change soil characteristics
- Weeds take over (either under woody species or when woody species are removed) – little to no food or habitat value
- Affects on T&E species
- Affects on Corps and Reclamation missions at Projects (reservoirs) – affects relationship with tribes, negative input form public, economic loss at Lakes – loss of public use and/or can create maintenance issues

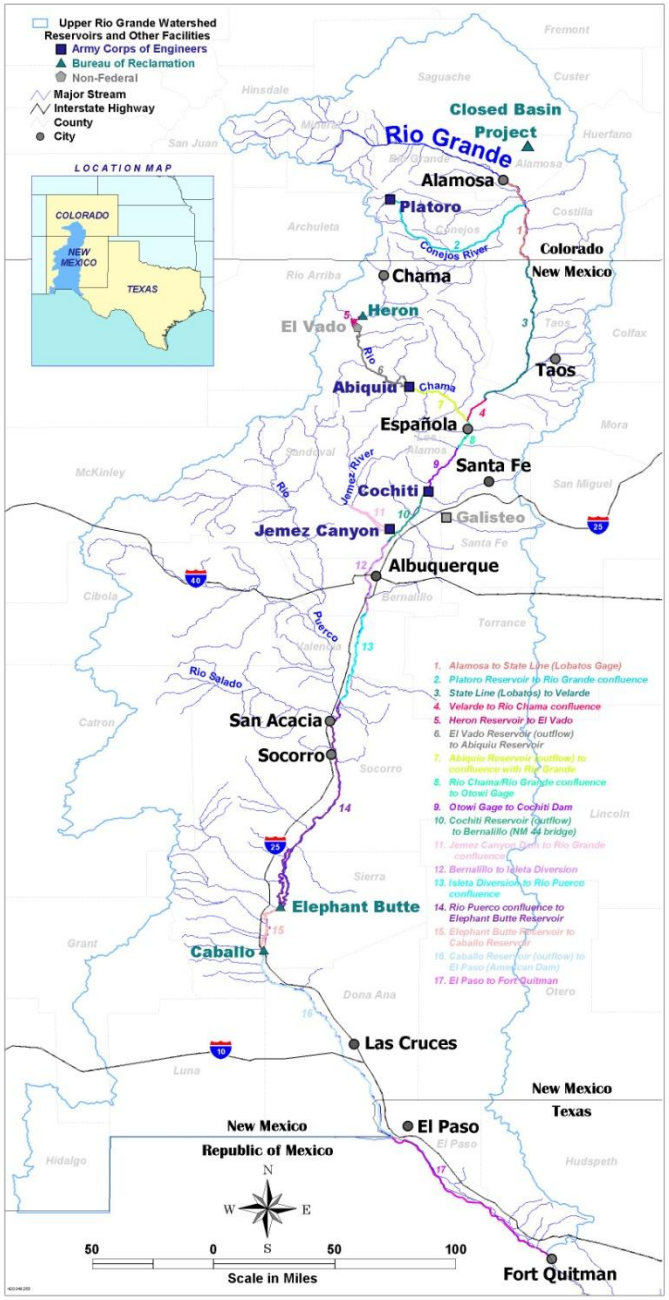
Salt cedar roots in adits at Abiquiu Dam

US Army Corps of Engineers
Albuquerque District


South Pacific Division
San Francisco District
Sacramento District
Albuquerque District
Los Angeles District

- *Arundo donax*, Giant Cane
  - (CA, Los Angeles) Dry Dams and River Channels
- *Arundo* can displace native plants and associated wildlife species, alter hydrological regimes, alter channel morphology, create fire danger, and become a dominant component of the riparian ecosystem. Several special status species are associated with California's semi-arid riparian zones, including Least tern, Bell's vireo, Southwestern willow flycatcher and Yellow-billed cuckoo.
- Beginning in 2000, removal of *Arundo* from dry dams and channels in the LA area. Ongoing treatment and maintenance. Limited funding.

- SPA – Albuquerque District
  - NM, southeastern CO, western TX
  - 6 reservoirs in NM
  - 2 reservoirs in CO
  - Civil Works projects
  - Military projects



Upper Rio Grande Basin
Water Operations Review and EIS

Salt Cedar (*Tamarix* spp.)

- Similar to *Arundo* in terms of effects on the ecosystem
  - Rio Grande:
    - Cochiti Dam - ~300 acres of mixed non-native with willow in flood pool; upstream (non-Corps managed land) – 15 miles of salt cedar
    - Jemez Dam - ~2000 acres of salt cedar in pool that was evacuated in 2001; working on Management Plan with Santa Ana Pueblo – no physical disturbance due to archaeological sites

Salt Cedar

- Colorado:
  - John Martin Dam – Arkansas River – 12,000 acres of salt cedar; 10,000 acres of cocklebur and Russian thistle
  - Trinidad – Purgatoire River
- Pecos River:
  - Santa Rosa Dam – 80 miles of salt cedar shoreline
  - Two Rivers – Rio Hondo ~100 acres of salt cedar

- Total Acres of salt cedar at SPA Reservoirs = ~25,000 acres and 80 miles of shoreline

Galisteo Dam Salt Cedar Eradication Project

- Tributary to the Rio Grande
- 300 acres of salt cedar upstream of Dam with some Russian olive
- Began treatment in September 2006
- Phases of extraction, retreatment, revegetation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- Middle Rio Grande Bosque Restoration Projects – have treated 700 acres in Albuquerque Reach of Middle Rio Grande (MRG); all 4 woody species (Salt cedar, Russian olive *(Elaeagnus angustifolia),* Tree of Heaven *(Ailanthus altissima*), Siberian elm) (*Ulmus pumila*); weeds now coming in to *some* areas


Bosque prior to thinning in Corrales, NM

- Coordination with other agencies (i.e.: NISC, USBR, etc.)
- Coordination within ISLT; dissemination to Divisions and Districts
- Sharing of information and lessons learned

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