Exotic Plants of the Colorado River

Curt Deuser

Supervisory Restoration Ecologist

National Park Service

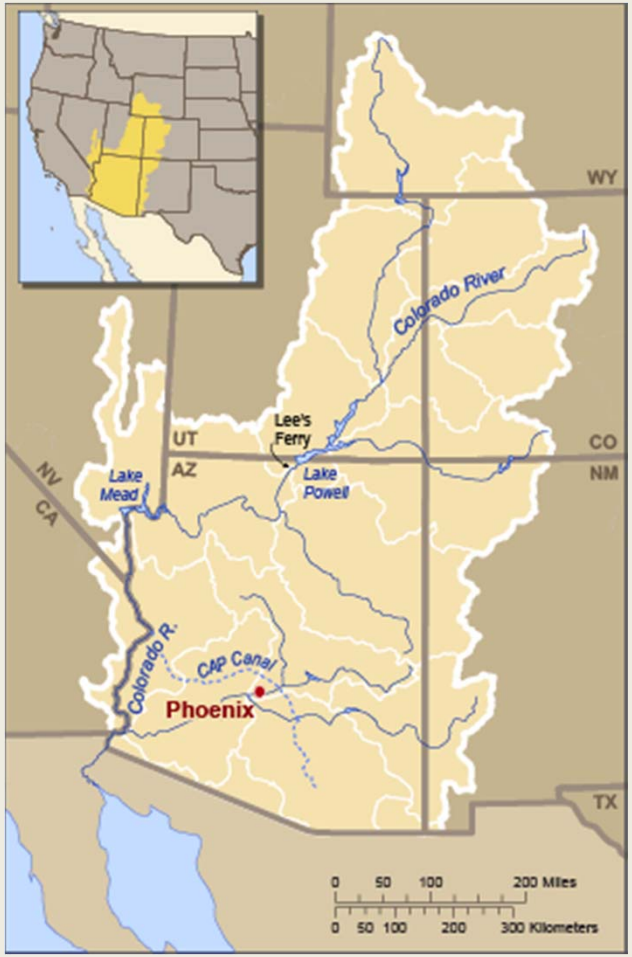
NPS Exotic Plant Management Team

- Regional travelling crew
- Multiple parks
- Interagency partnerships
- USFWS, BLM, BOR
- USFS
- SNWA
- Clark County, NV

Lake Mead EPMT

Update LCR Watershed Projects

- Riparian Effectiveness Monitoring with USGS/UCSB
- Virgin River Zion/BLM
- USFWS Refuges: Havasu and Bill Williams
- USFS Verde River
- BOR
- Fish Habitats



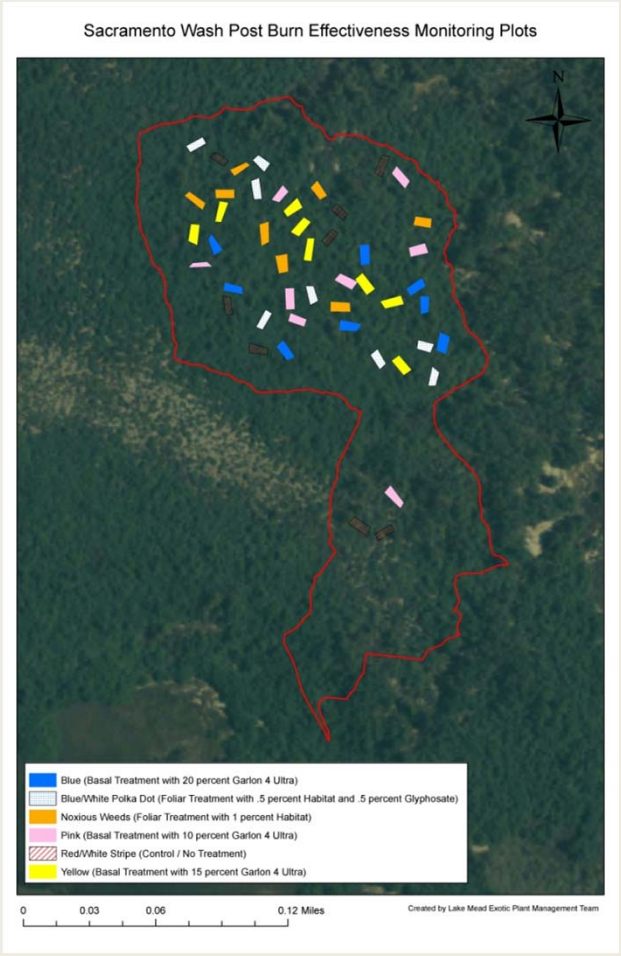
Sacramento Wash Post Fire Rehab

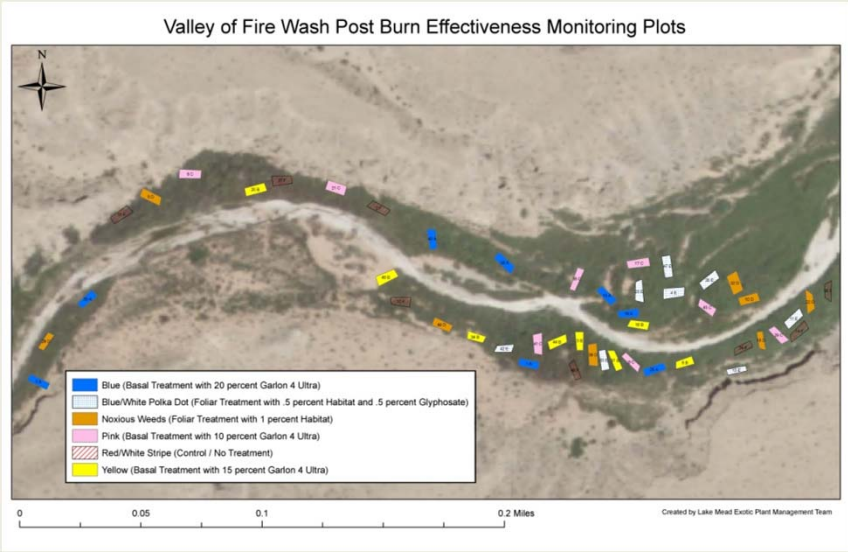
Willow Island Post Fire

Recent Projects

Post Fire Site Restoration Research

NPS/USGS/USFWS



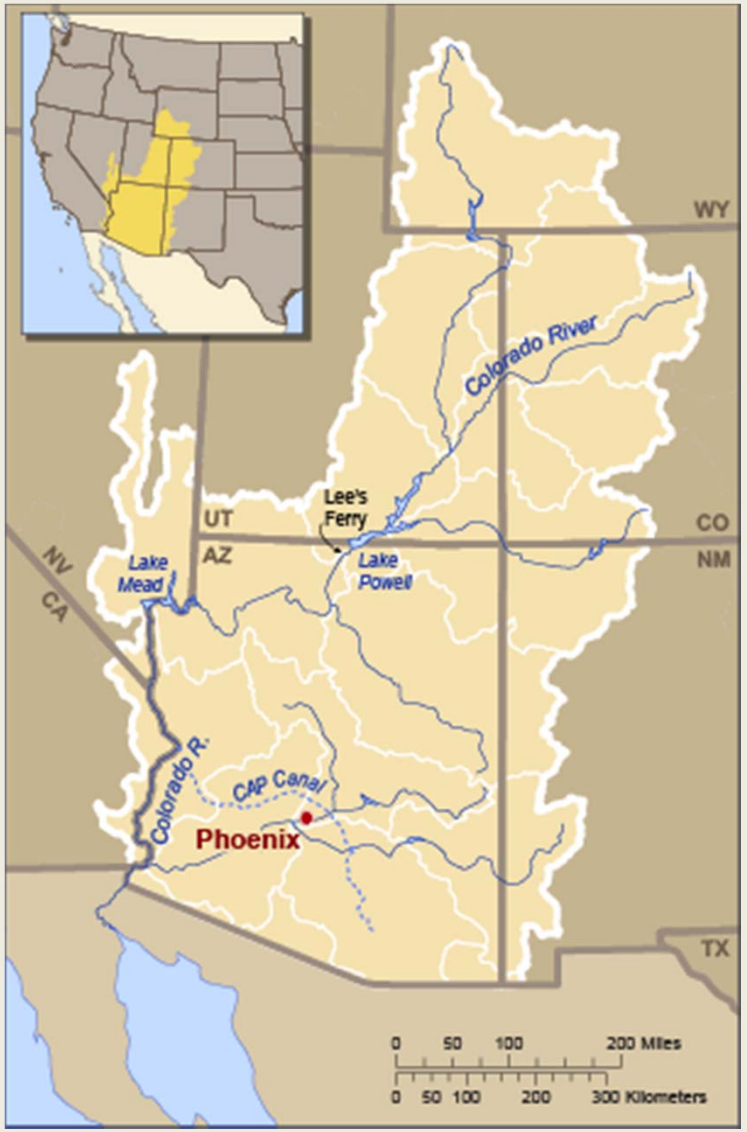


Entire River System

- Upper Common Species of concern
- Lower Common Species of concern
- Priority species: ecosystem disrupters, perennials, riparian, not aquatics
- Basic Biology, mechanisms of dispersal
- Tamarix leaf beetle bio-control management response recommendations
- EDRR= Early Detection Rapid Response
- Proposal: Cooperative Weed Management Area

Watershed Exotic Invasive Species

- Tamarisk
- Russian Olive
- Russian Knapweed
- Perennial Pepperweed
- Camelthorn
- Arundo
- Fountain Grass
- Ravenna Grass
- Athel tamarix
- Tree tobacco
- Palm Trees

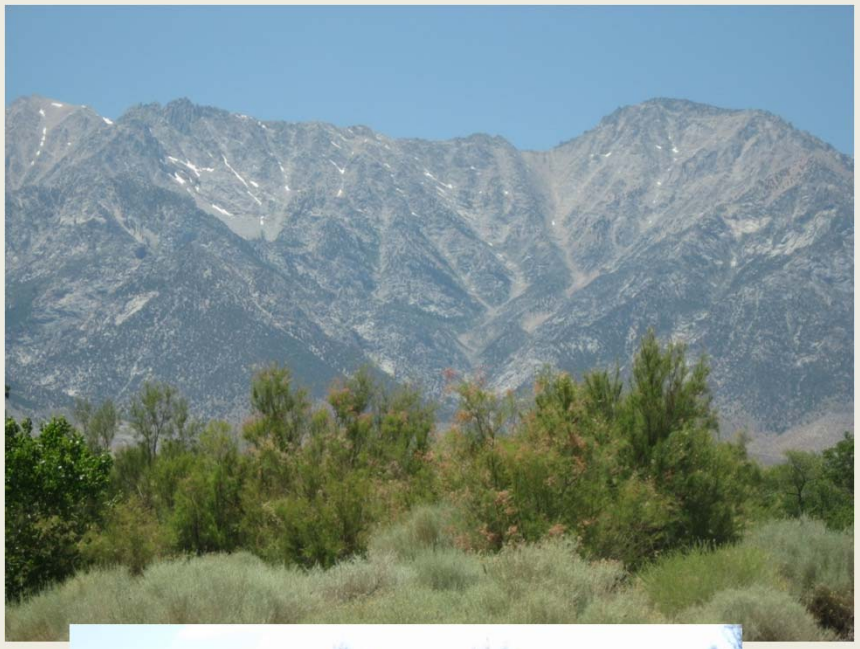


Terminology

- Weeds = “any plant out of place”
- Invasive= “aggressive”
- Noxious= “legislative”
- Exotic , Alien or Non-native= “usually human introduced”
- *Exotic/Non-native Invasive=* priority
- Prioritization (persistent, increasing, monotypic, ecosystem disrupters, secondary impacts)

Tamarisk: *Tamarix ramosissima*

- Salt cedar
- Deciduous tamarix
- From Glenwood Springs, CO to the Gulf of Mexico
- Main stem and all tributaries
- Site Control
- Wind dispersed seeds
- Fire, flood, drought and salt tolerant



Russian Olive: *Elaeagnus angustifolia*

- Tributaries of the Colorado Plateau
- Expanding on the main stem
- Seeds : round small marbles
- Slower spread
- Upper River, Colorado Plateau
- Upper Virgin River

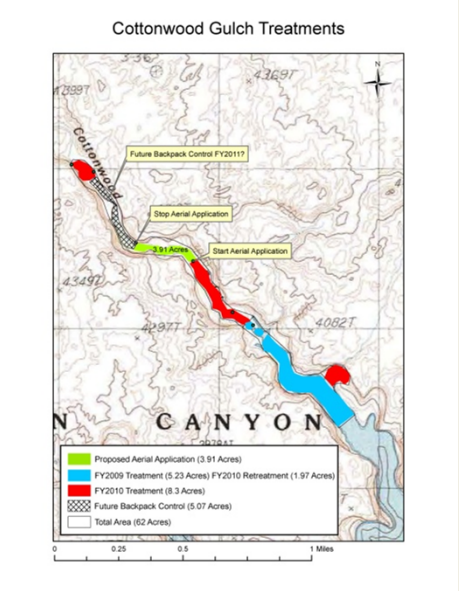
Russian Knapweed: *Acroptilon repens*

- Primarily spreads vegetatively
- Rhizomes
- Persistent

Ravenna Grass: *Saccharum ravennae*

- Perennial bunchgrass
- Not widespread
- Isolated patches
- Lake Powell, Lees Ferry, Upper Grand Canyon
- Moapa NWR, NV
- Littlefield/I-15, AZ
- EDRR

Glen Canyon Ravenna Grass



Camelthorn: *Alhagi pseudalhagi or maurorum*

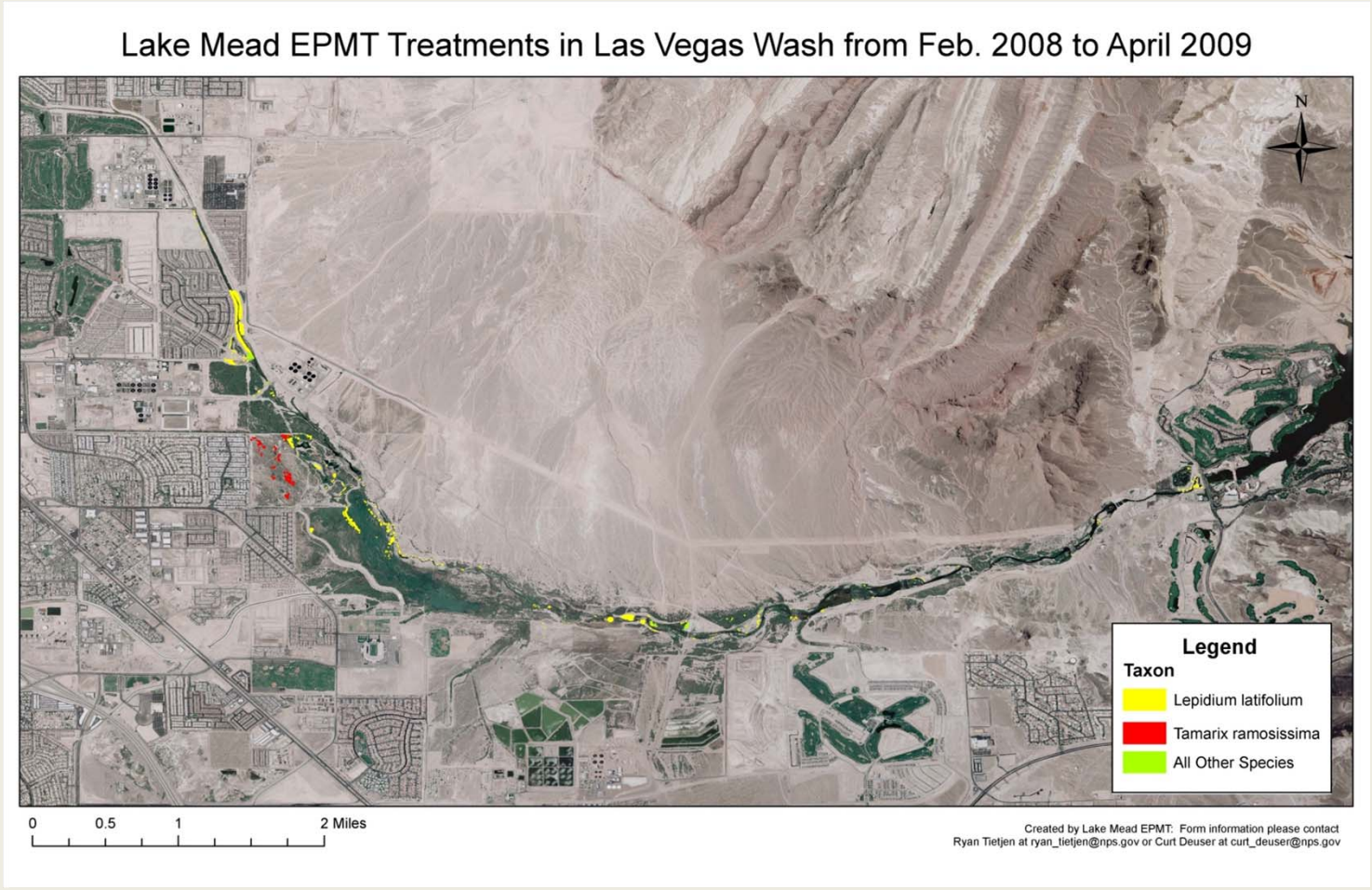
- Legume
- Primarily spreads vegetatively
- Deep Rhizomes, underground shoots
- Floods
- Little Colorado River
- Lower Virgin River

Camelthorn at Grand Wash Lake Mead

Perennial Pepperweed: *Lepidium latifolium*

- Tall Whitetop
- Primarily spreads vegetatively
- Rhizomes
- Persistent
- Truckee
- Upper Colorado
- Las Vegas Wash

Las Vegas Wash Clark County, NV



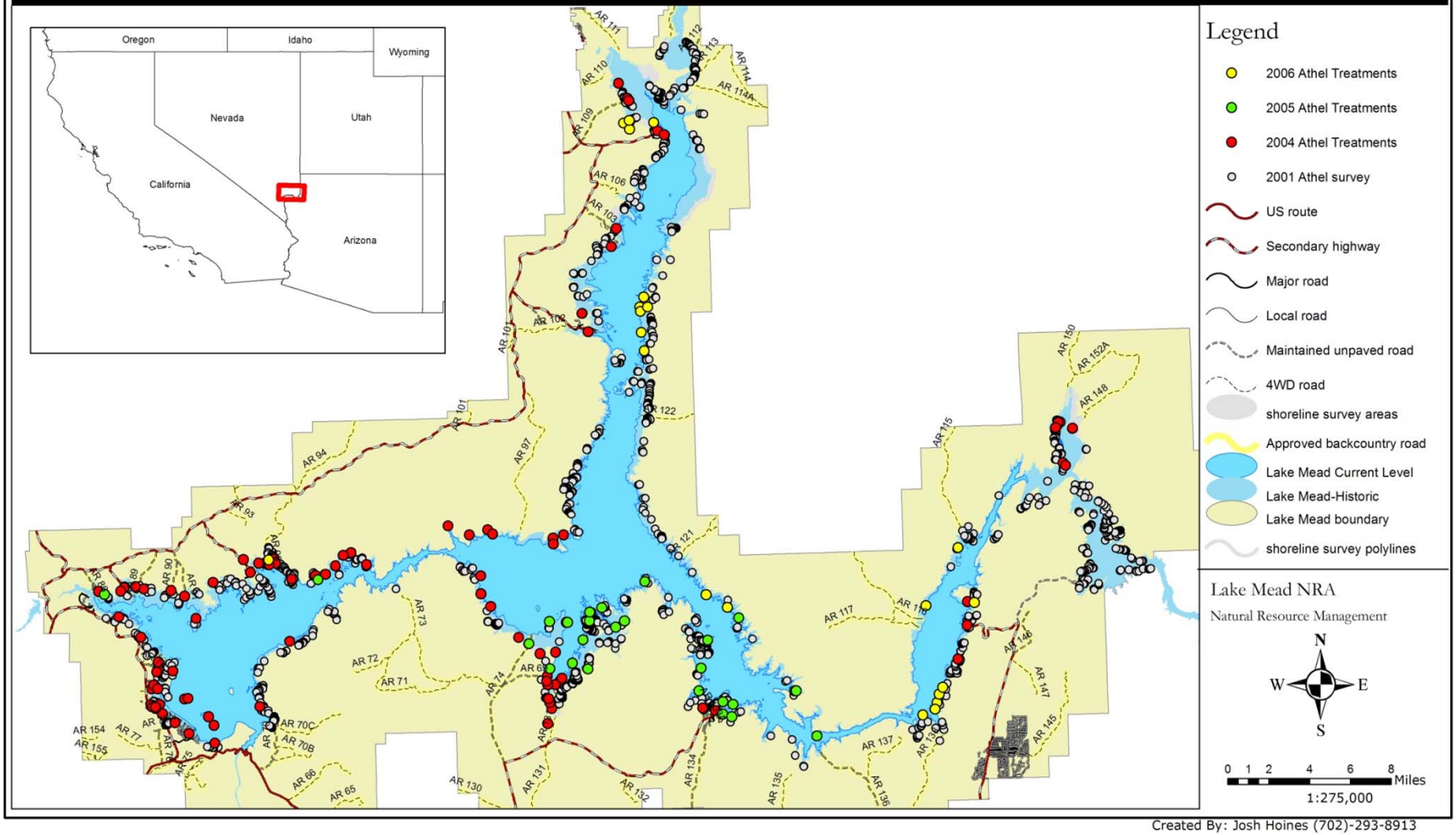
Athel: *Tamarix aphylla*

- Large evergreen tree
- Ornamental
- Starting to spread from seed
- Lake Mead (1984)
- Havasu NWR, AZ Sacramento Wash
- Hybridizing w/ salt cedar
- Important EDRR

Lake Mead NRA Athel Eradication Program

Survey and Treatments: 2001-2006

National Park Service
U.S. Department of the Interior

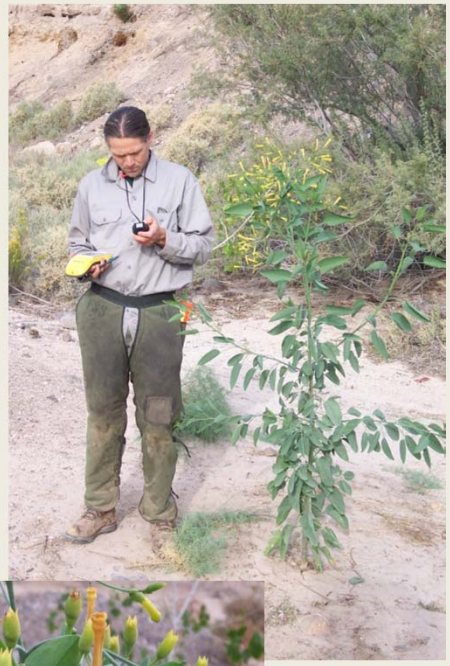


Created By: Josh Hoines (702)-293-8913

Athel Recruitment

Tree Tobacco: *Nicotiana glauca*

- Small tree, clonal suckers
- Isolated small patches
- Las Vegas Wash, Lake Mead, Havasu NWR Sacramento Wash
- Southern latitude
- Santa Cruz River
- LCR

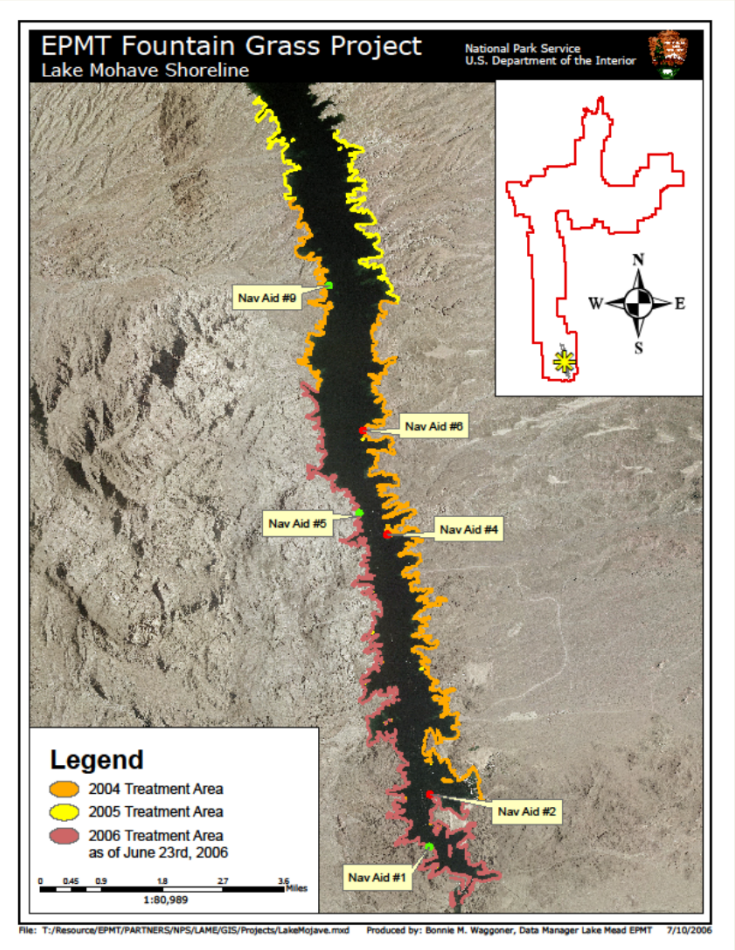


Tree Tobacco

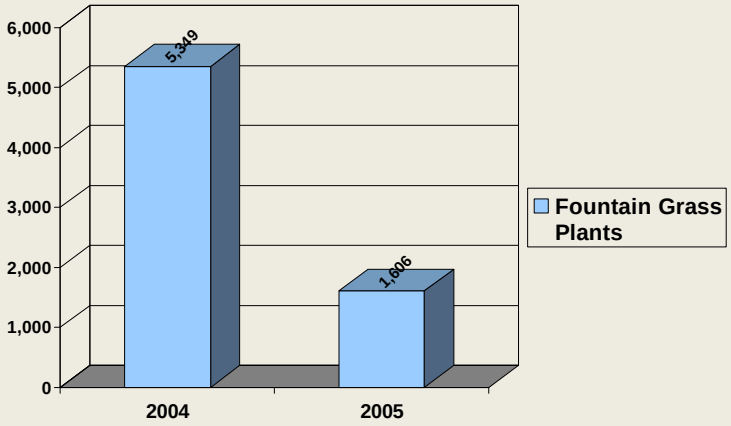
Fountain Grass: *Pennisetum setaceum*

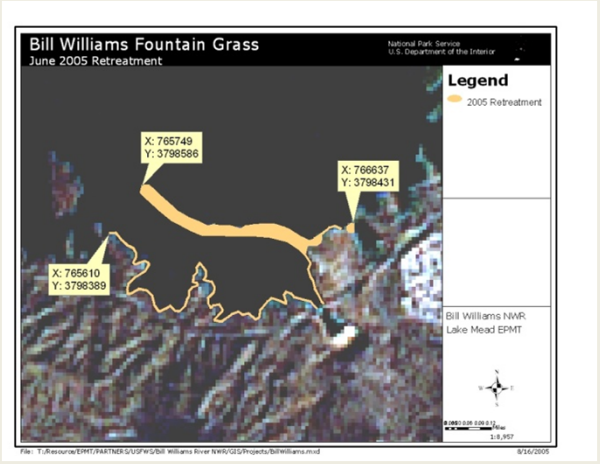
- Perennial bunch grass
- Ornamental
- Wind dispersed seed spreads similar to tamarisk
- Laughlin, NV, Lake Mohave, Bill Williams NWR, Big Bend, NV
- NV Noxious Weed

Lake Mohave Fountain Grass



Fountain Grass Bill Williams Confluence





Invasive Plant Management

Lake Mead Exotic Plant Management Team

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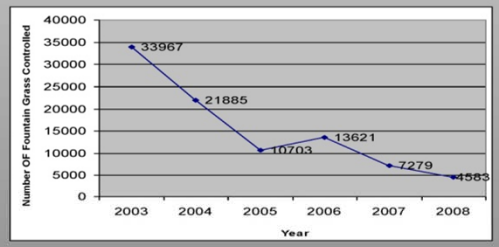
U.S. Department of the Interior

Keeping Fountain Grass out of the Mojave Desert

Fountain Grass (Pennisetum setaceum) is an escaped ornamental perennial bunchgrass from Africa that has invaded parts of Hawaii and the Sonoran Desert. It is adapted to fire and increases hazardous fuels causing wildfires in areas that may not have historically occurred. It was detected in the late 1990's within the Mojave Desert at Joshua Tree NP and along the Colorado River corridor on the shores of Lake Mohave. The extent of these populations was limited and a rapid response was necessary to keep it from spreading out of control. If no action is taken then fountain grass would spread by windblown seed similar to the way tamarisk has infested the region. The National Park Service began controlling these recently detected populations in 2001. Control is also occurring on adjacent US Fish and Wildlife Refuges by the NPS Lake Mead EPMT through partnerships agreements. Nevada designated fountain grass on the State Noxious Weed List in 2002 and one the largest commercial nurseries in the state voluntarily withdrew it from sales prior to listing. Populations of this weedy grass have dramatically declined due to successful control actions.

Escaped Ornamentals: What you can do

- *Assess the invasive potential of a plant prior to planting.*
- *Remove plants that are establishing outside of intended area.*
- *Do not share plants that are overrunning your yard.*
- *Never dispose of aquatic plants in waterways.*
- *Follow prohibited plant laws in your area.*
- *Be aware of what you plant.*



Further Information
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www.nature.nps.gov/biology/invasivespecies/

2008 Lake Mead Exotic Plant Management Team at Manzanar National Historic Site.

Tarl Norman Cutting Tamarisk at Moapa Valley National Wildlife Refuge.

Katie Walsh and Steven Rerricha treating a Fan Palm in Ash Meadows National Wildlife Refuge.

2003 Lake Mead Exotic Plan Management Team spraying Camel Thorn along the Virgin River in Nevada.

Giant Reed: *Arundo donax*

- Perennial grass
- *Phragmites* on steroids
- Large rhizomes
- Patches that converge
- Monotypic
- LCR, Virgin River, LV Wash
- S Cal Coastal Rivers, Rio Grande

Topock Arundo

Palm Trees: *Washingtonia sp., Phoenix sp.*

- Fan Palms
- Date Palms
- Isolated trees along LCR
- Moapa NWR, Warm Springs, NV, Death Valley

Control and Restoration Opportunities

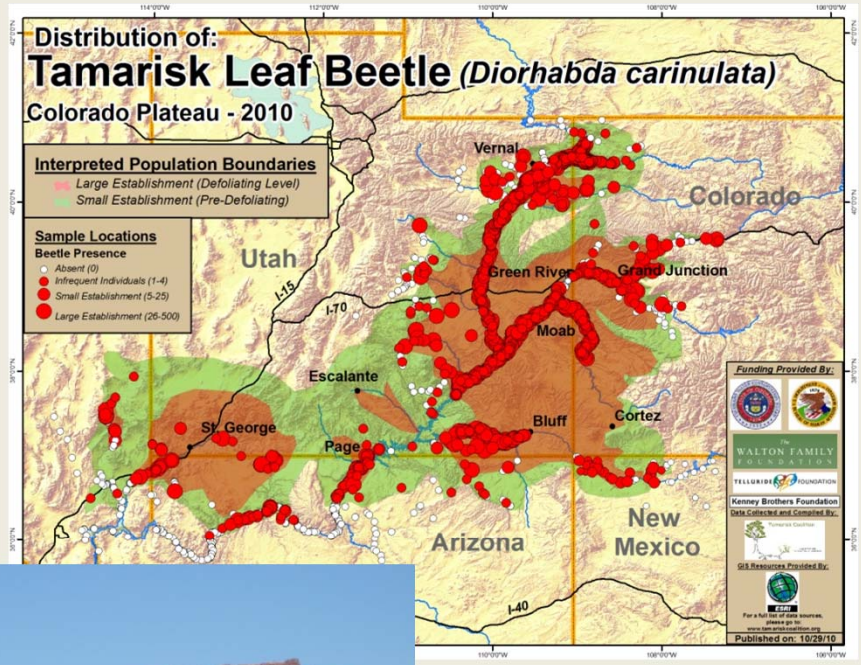
- Post Fire
- Post Flood
- MSCP
- Habitat Creation Sites
- Mitigation
- Restoration Sites
- Tamarisk Bio-control
- Grants

Revegetation

- Active
- Monotypic
- Lack of on site propagules
- Cuttings (cottonwood, willow)
- Rooted (mesquite)
- Seeding (sacatone)
- Passive

Tamarisk Biological Control Strategic Response

- Secondary invaders, on site or adjacent, survey, monitor and treat
- Multiple defoliations for multiple years
- Site restoration:
  - soil type
  - hydrology
  - objectives



EDRR

Early Detection Rapid Response

- Survey, Inventory, mapping
- Opportunistic observations (gps point)
- i-phone app, photo w/ coord
- Education awareness
- Report
- Treatment

We Need a CWMA

- Proposed
- Lower Colorado River Cooperative Weed Management Area
- NV, AZ and CA
- Local, State, Fed, Private, Organizations
- Increases funding eligibility
- Awareness, priorities, work together

Acknowledgements

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National Park Service

Lake Mead Exotic Plant Management Team

THANK YOU:

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