

National Park Service  
U.S. Department of the Interior



# National Park Service – Restoration & Native Plants on the Colorado Plateau

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Canyonlands and Arches National Parks  
Hovenweep and Natural Bridges National Monuments

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# Overview

- NPS restoration needs on the Colorado Plateau
- Genetic resource policies
- Plant material programs



# Restoration needs

- Facility maintenance projects – developed areas
  - Parking lots
  - Visitor centers
  - Campgrounds
  - Roads
  - Trails
  - Pipeline





RV fire in the Arches campground - 2010



Needles dump revegetation, 2010



Williams pipeline corridor, Arches National Park

# Restoration needs

- Wildland restoration
  - Burned areas (Zion)
  - Degraded grasslands
  - Colorado & Green River corridors
  - Other riparian corridors



NPS photo

## 2006 Kolob Fire, Zion National Park

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# 9000-ac aerial application of Plateau herbicide

*Spray zone*

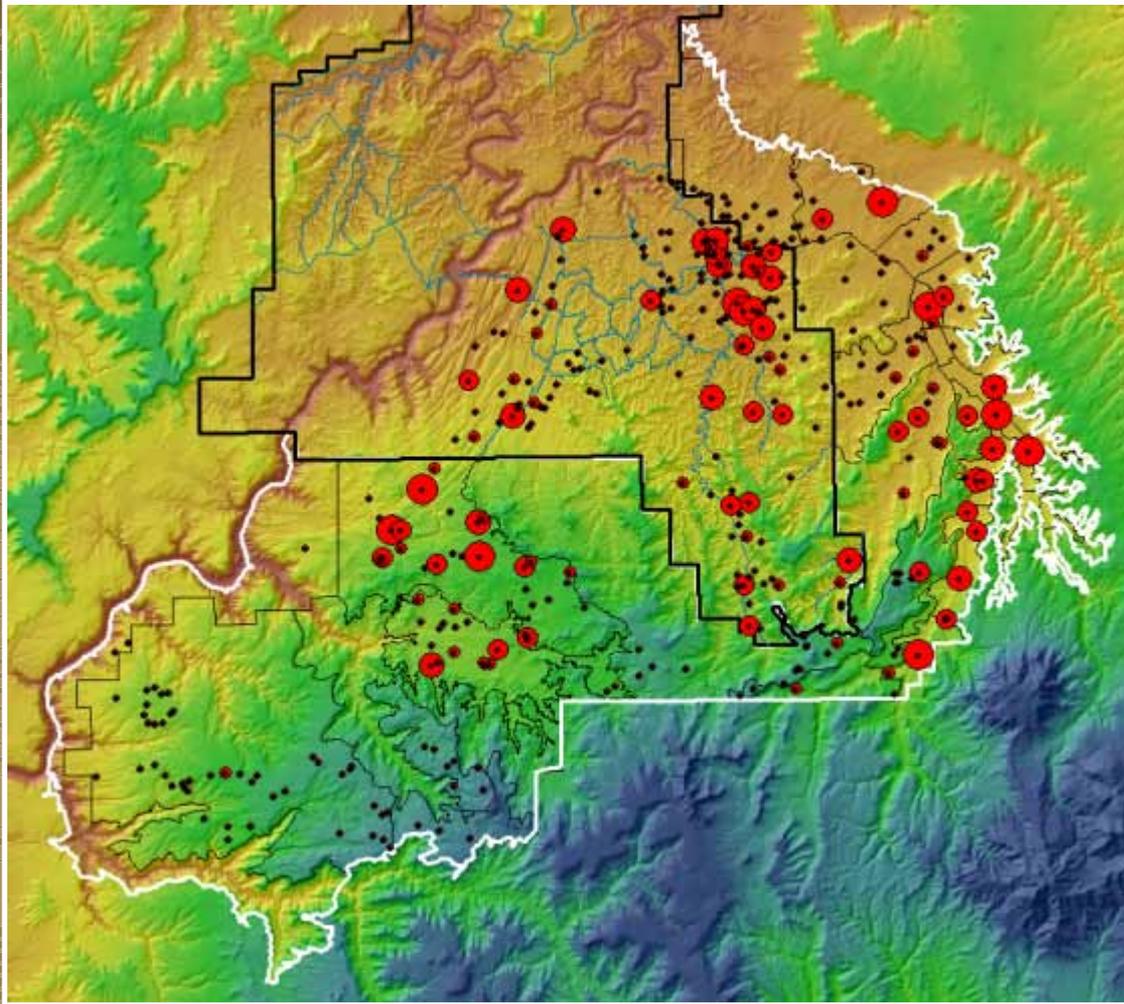
*No-spray  
buffer*



Cheryl Decker and 8000 lbs of *Sporobolus* seed



Degraded *Salsola*-dominated grassland, Canyonlands



Relative dominance by exotic annual plants, Canyonlands & adjacent BLM

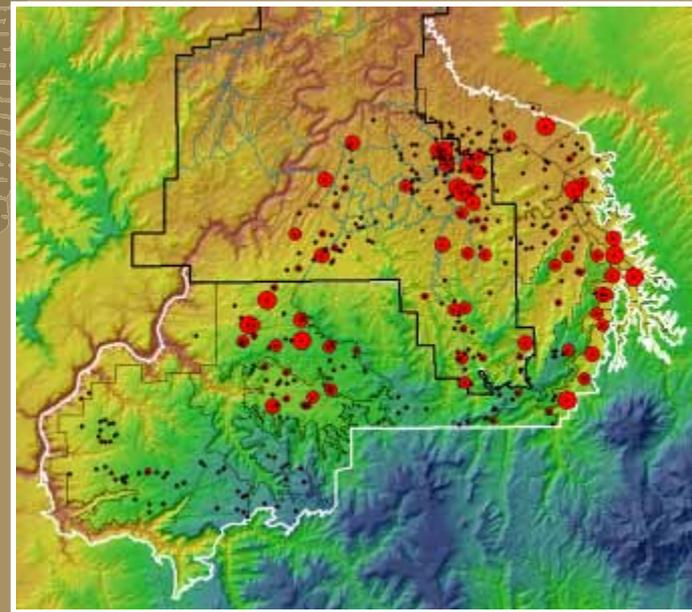
# NPS genetic resource policies

- Plant materials will be derived from populations as closely related genetically and ecologically as possible to park populations – preferably from similar habitats in adjacent or local areas.



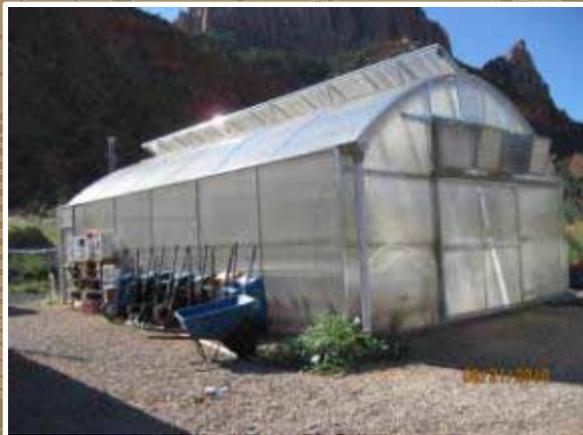
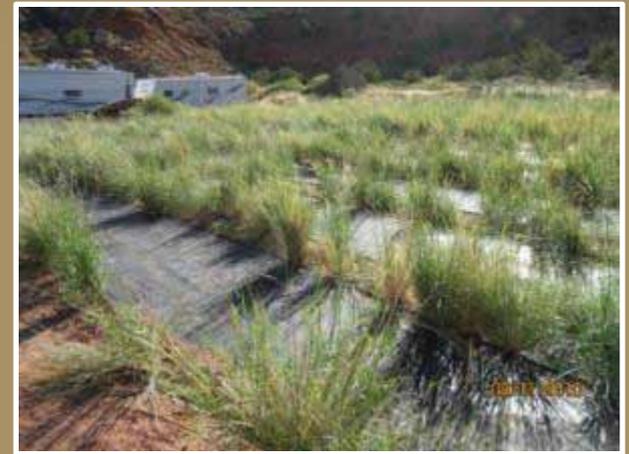
# NPS genetic resource policies

- Exceptions are allowed where the goal is to increase variability of the park gene pool to mitigate past human-induced loss of genetic variability.



# In-house plant materials programs

- Zion National Park – mature program
  - Seed transfer zones
  - In-park propagation program
  - New seed-increase field
  - NRCS seed-increase projects



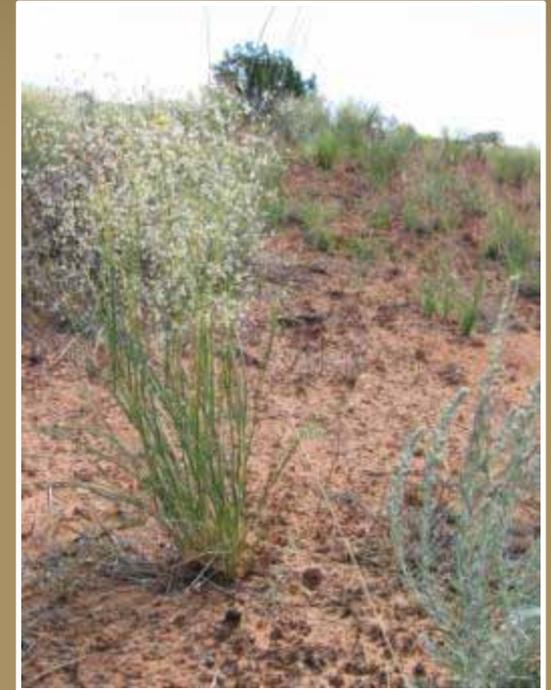
# In-house plant materials programs

- Southeast Utah Group – new program
  - Georeferenced seed collections
  - Salvaged plant materials
  - Partnerships with local growers
  - NRCS seed-increase project



# Research – landscape genetics

- *How local is local* – spatial scale of genetic variability?
- *Climate adaptation* – are patterns of genetic variation correlated with elevation – as a proxy for climate? (750 m / 2500 ft elevation gradient)



# Opportunities for collaboration

## ■ Research

- Population genetics
- Low-cost propagation methods
- Low-intensity restoration methods
- Long-term monitoring of population persistence in response to climate

# Questions?



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