

Plant succession and native plant species reestablishment along the newly exposed shoreline of Lake Mead

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Outline

- **Background**
- **Methods**
- **Results**
- **Experimental
Revegetation**
- **Conclusion**
- **Management**

Background & Objective

♦ The receding level at Lake Mead has exposed land resulting in:

1. Changes in desert soil properties
2. Primary succession
3. Invasive species problems
4. Barren land

♦ Objective: To assess how drawdown in the lake has been effecting vegetative succession and soil properties.



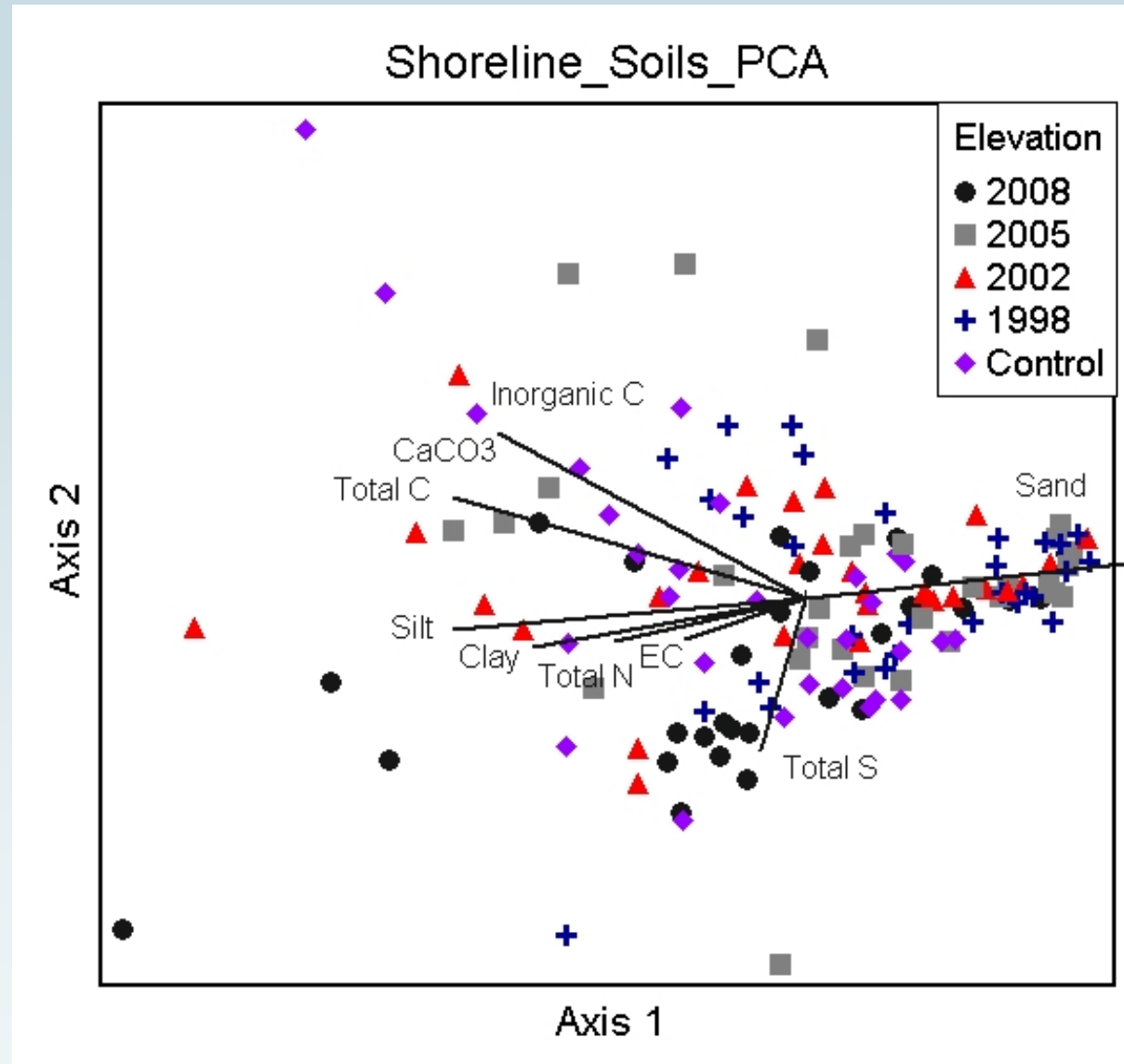
Methods

- Ten transects were established at Boulder Beach, Stewart's Point, and Overton
- Five plots sampled from transect representative of five elevations
- Plant species data Collected
- Tamarisk counted
- Soil samples collected

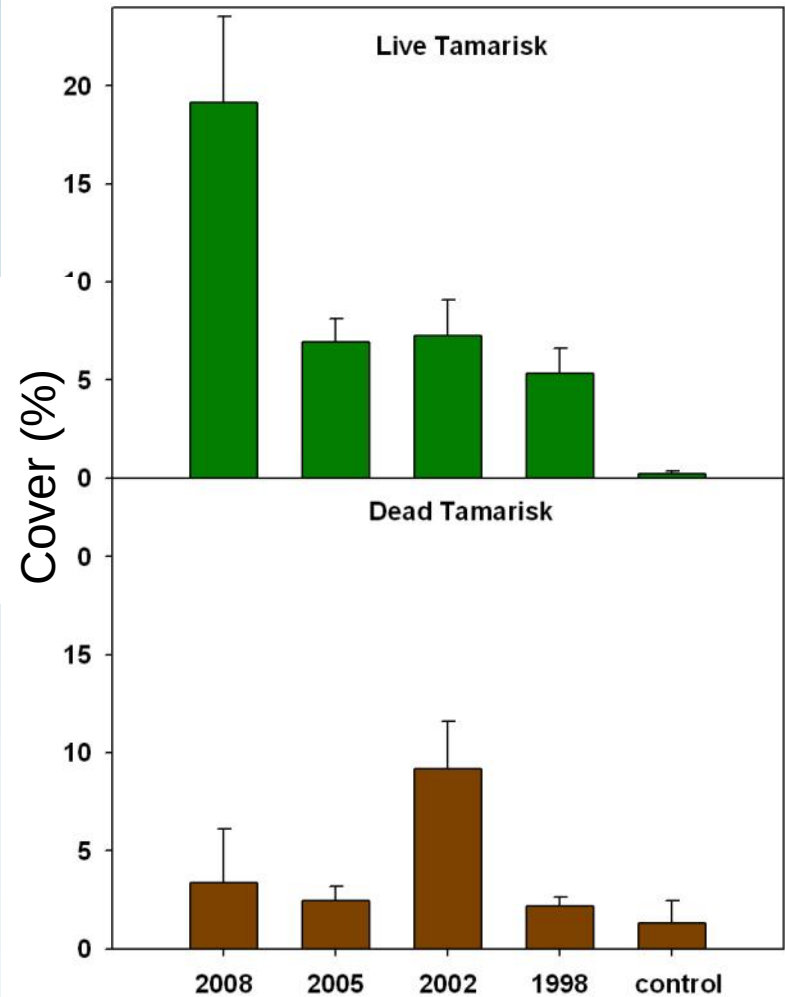
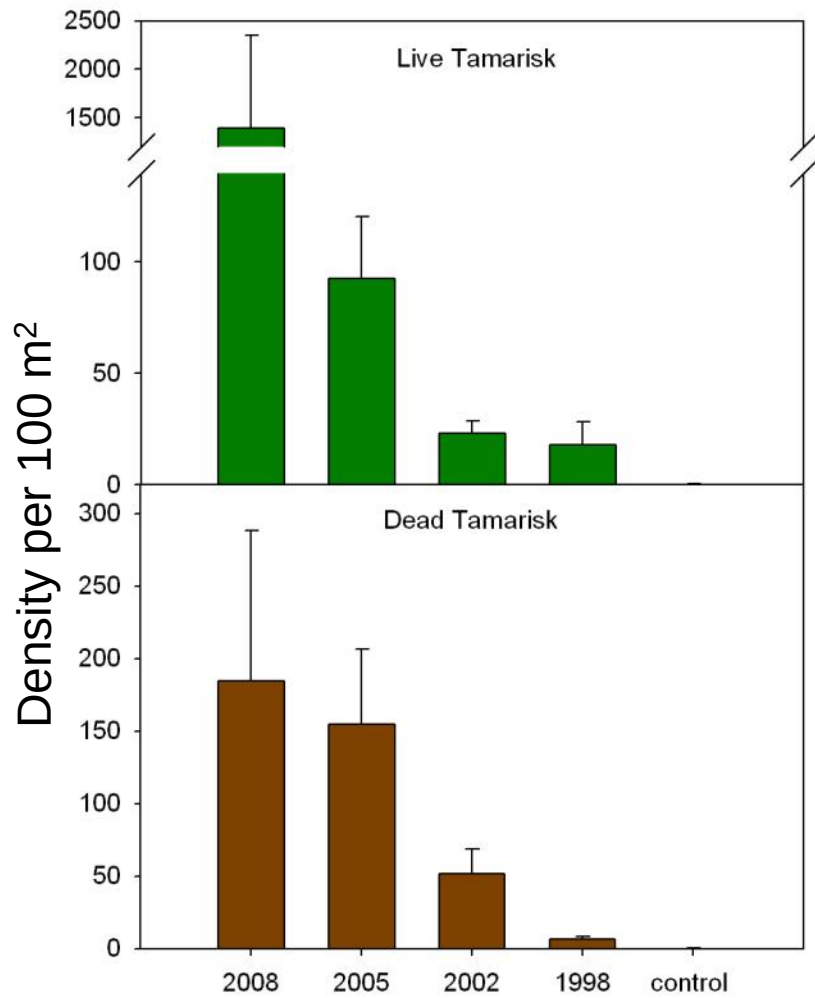


Soil Properties

- Boulder Beach and Overton had similar sandy texture
- No pattern shown by year



Tamarisk Populations

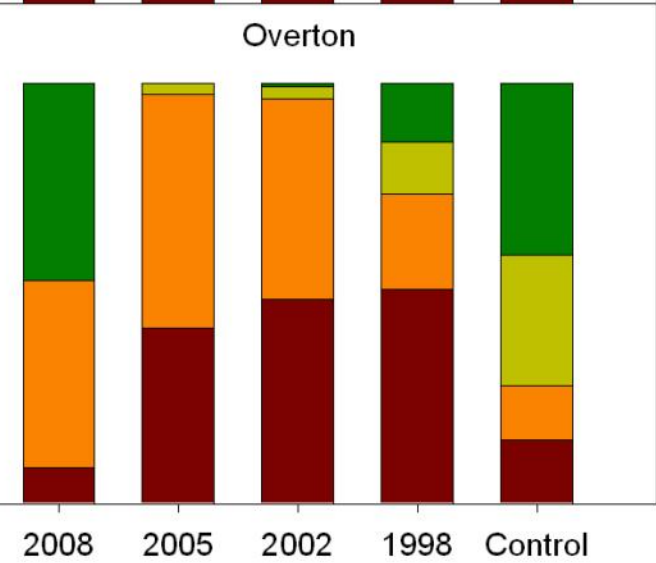
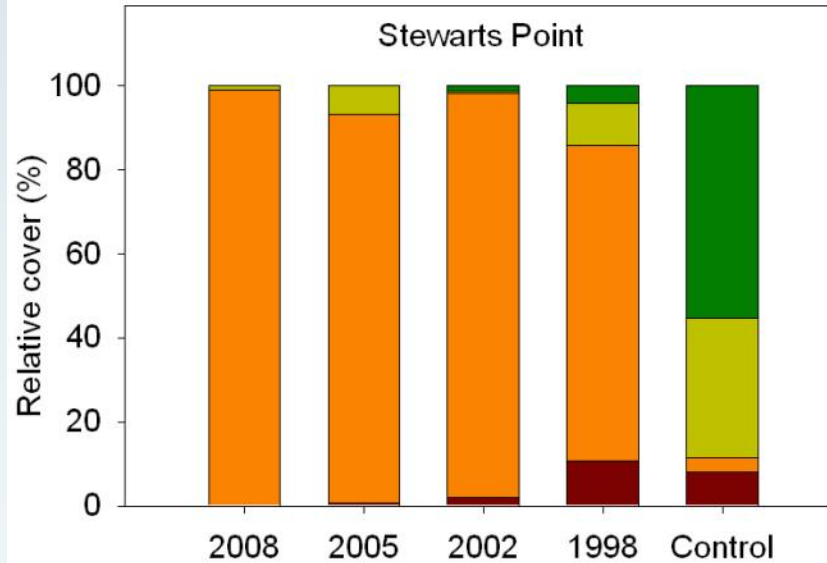
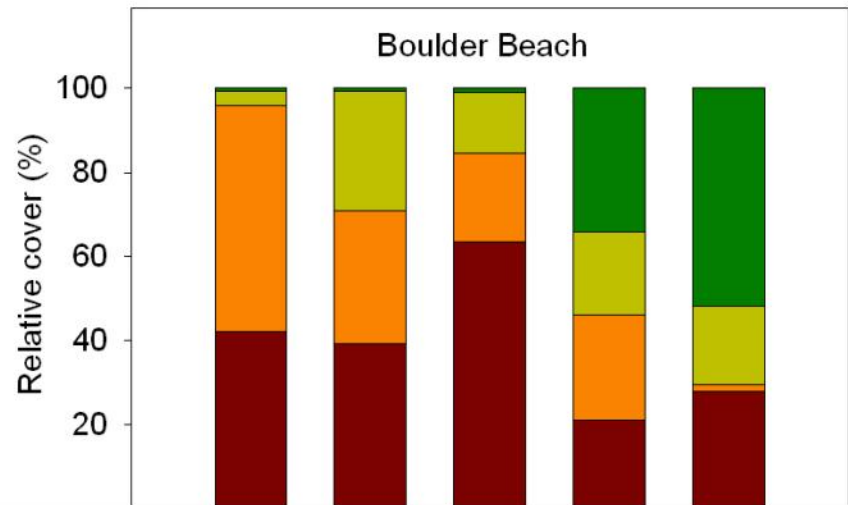
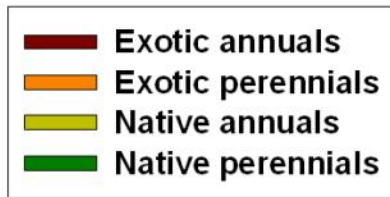


Tamarisk Progression Pictures



Relative Percent Cover

**Proportion of native
perennials is increasing
over time**



Perennial Species Comparison

Control Plots

- *Larrea tridentata*
- *Ambrosia dumosa*
- *Psoralea argemonea*
- *Encelia farinosa*



1998 Plots

- *Encelia farinosa*
- *Stephanomeria pauciflora*
- *Hymenoclea salsola*
- *Bebbia juncea*



Annual Species Comparison

Control Plots

- *Schismus arabicus*
- *Plantago ovata*
- *Pectocarya platycarpa*
- *Bromus rubens*



1998 Plots

- *Schismus arabicus*
- *Bromus rubens*
- *Pectocarya platycarpa*
- *Erodium cicutarium*



Experimental Outplanting



- *Larrea tridentata* (creostoe bush)
- *Ambrosia dumosa* (white bursage)



- *Hymenoclea salsola* (cheese bush)
- *Encelia farinosa* (brittle bush)

Conclusions

- Tamarisk population density is shown to decline since time submerged
- Soil communities do not show any clear patterns through time
- Plant species composition is showing patterns of increasing natives species through time



Management

- **Fluctuating lake levels will make revegetation efforts more difficult**
- **Focus on revegetation of early successional species instead of late successional species**
- **Selective tamarisk removal**



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Alice Newton (Lake Mead National Recreation Area [LMNRA]), and the Southern Nevada Public Land Management Act for funding the study executed through a cooperative agreement between LMNRA and UNLV, UNLV undergraduate students for assisting with fieldwork, and UNLV Environmental Soil Analysis Laboratory for soils analysis



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