

# Implementing EBIPM to direct establishment of desired species

---

Jeremy James











# Vegetation management: \$100s of millions a year

---



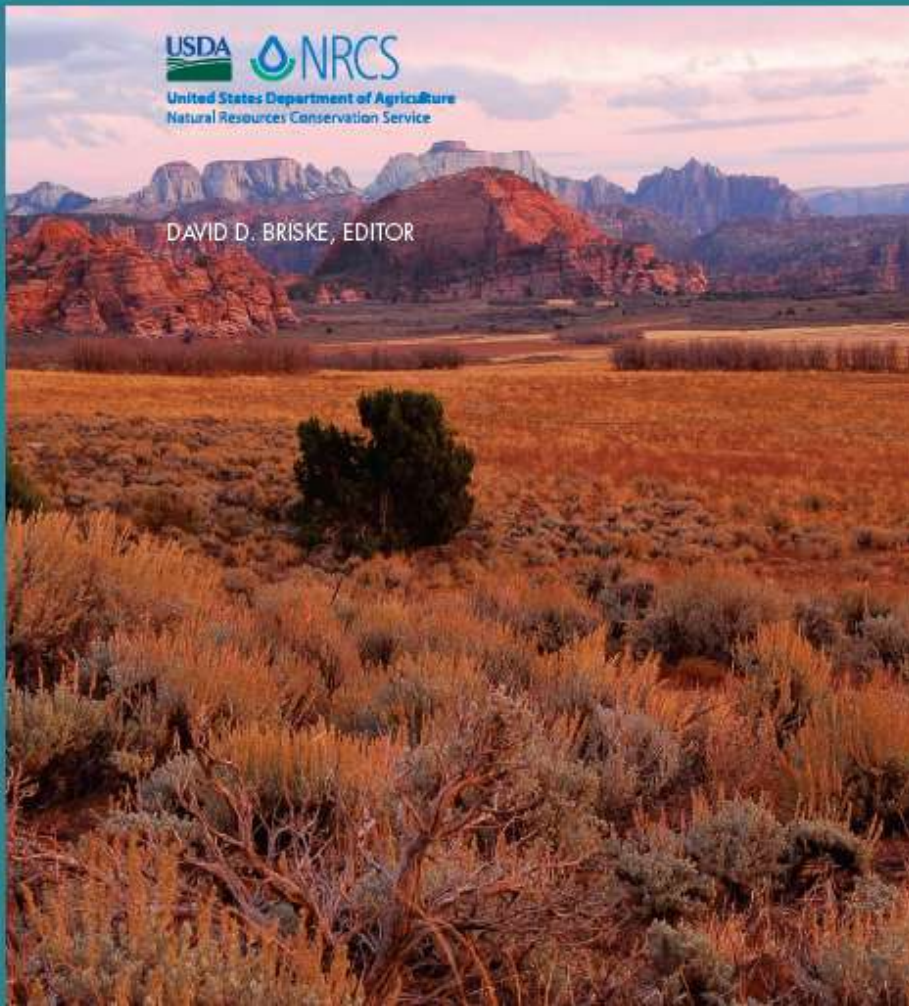


# Conservation Benefits of Rangeland Practices

Assessment, Recommendations, and Knowledge Gaps



DAVID D. BRISKE, EDITOR



CHAPTER

7

## Invasive Plant Management on Anticipated Conservation Benefits: A Scientific Assessment

Roger L. Sholey,<sup>1</sup> Jeremy J. James,<sup>2</sup> Mathew J. Rinella,<sup>3</sup>  
Dana Blumenthal,<sup>4</sup> and Joseph M. DiTomaso<sup>5</sup>

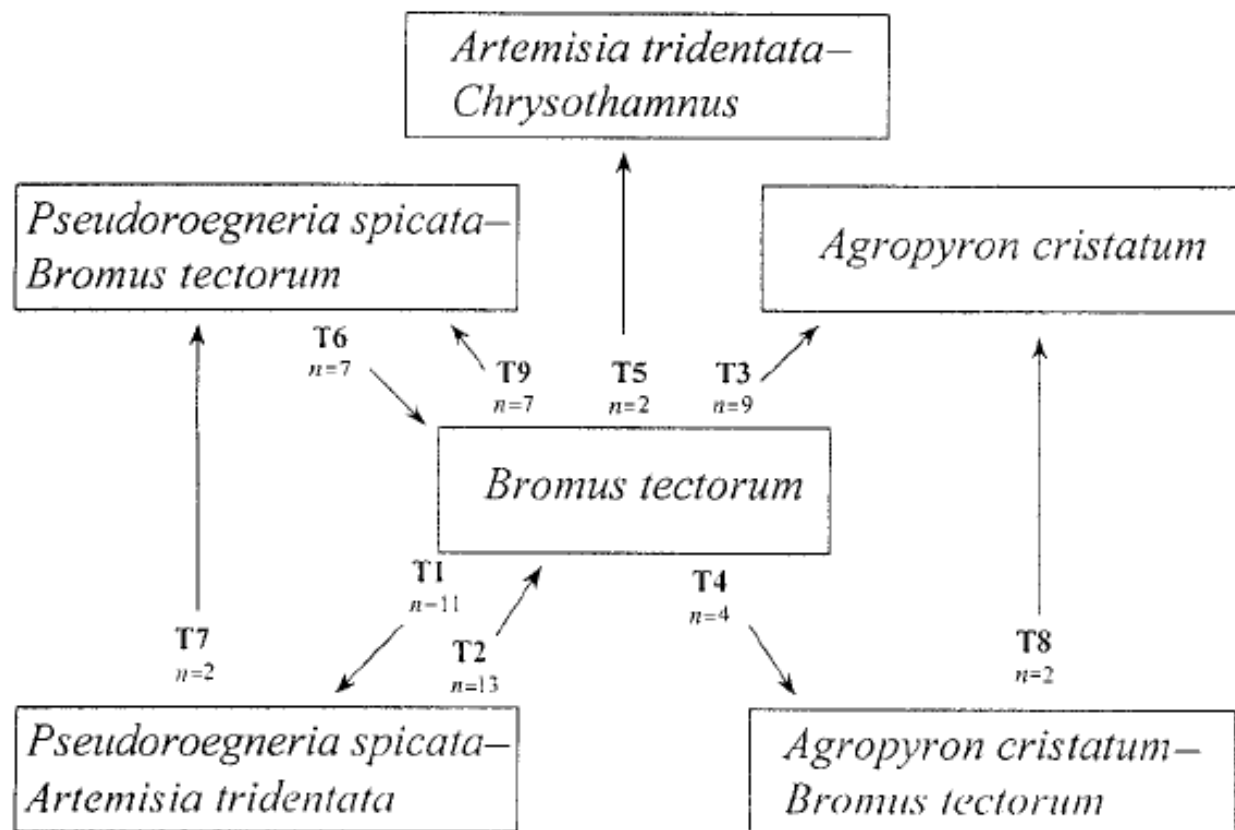
Authors are <sup>1</sup>Ecologist and <sup>2</sup>Plant Physiologist, US Department of Agriculture–Agricultural Research Service, Burns, OR 97720, USA; <sup>3</sup>Rangeland Management Specialist, US Department of Agriculture–Agricultural Research Service, Miles City, MT 59301, USA; <sup>4</sup>Ecologist, US Department of Agriculture–Agricultural Research Service, Fort Collins, CO 80526, USA; and <sup>5</sup>Wood Specialist, University of California-Davis, Davis, CA 95616, USA.

Correspondence: Roger L. Sholey 67826-A Hwy 205, Burns, OR 97720;  
roger.sholey@oregonstate.edu

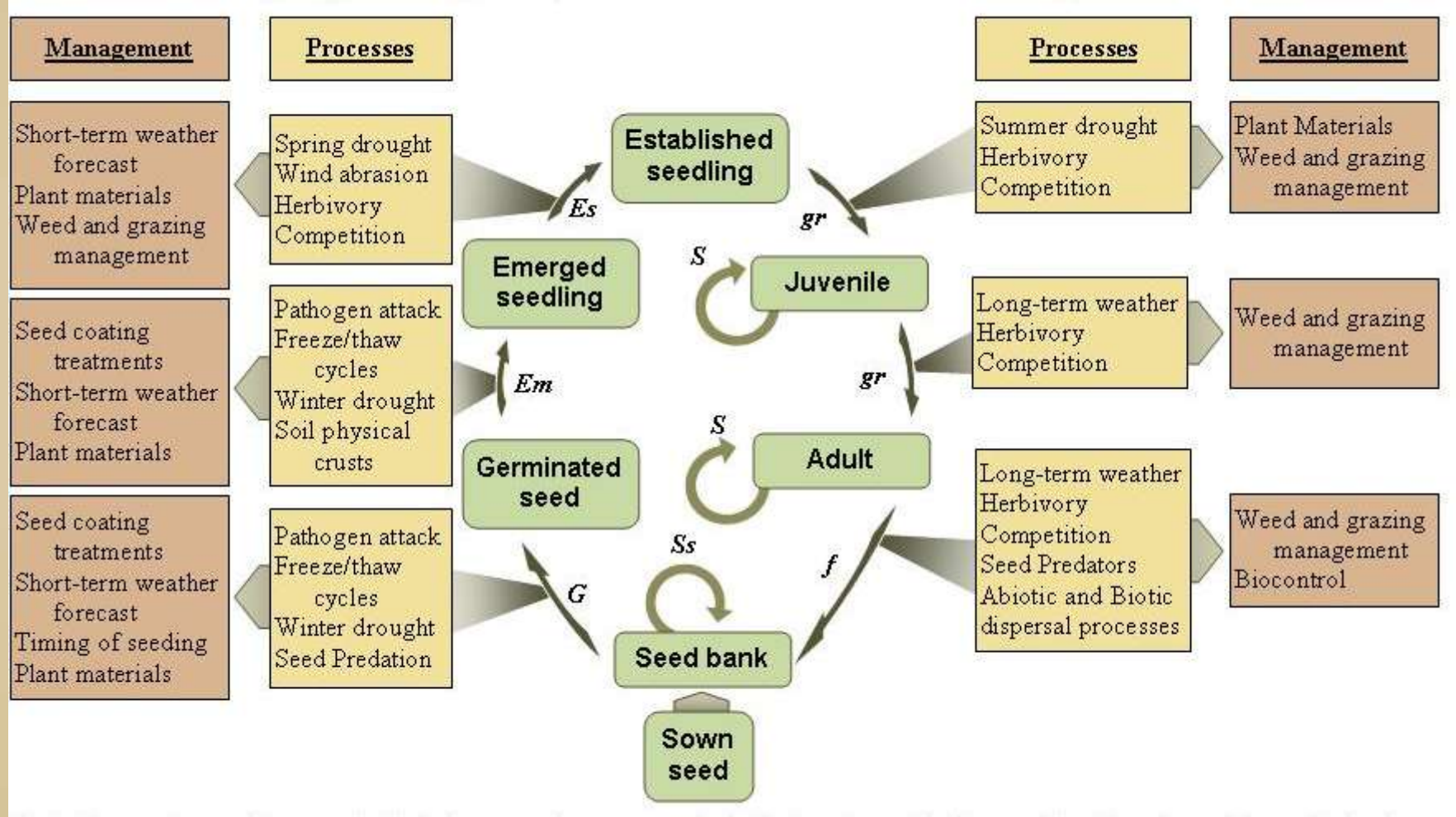
Reference to any commercial product or service is made with the understanding that no discrimination is intended and no endorsement by USDA is implied.

## SAGEBRUSH-GRASS VEGETATION DYNAMICS: COMPARING CLASSICAL AND STATE-TRANSITION MODELS

BARBARA ALLEN-DIAZ AND JAMES W. BARTOLOME



# A systems approach to restoration



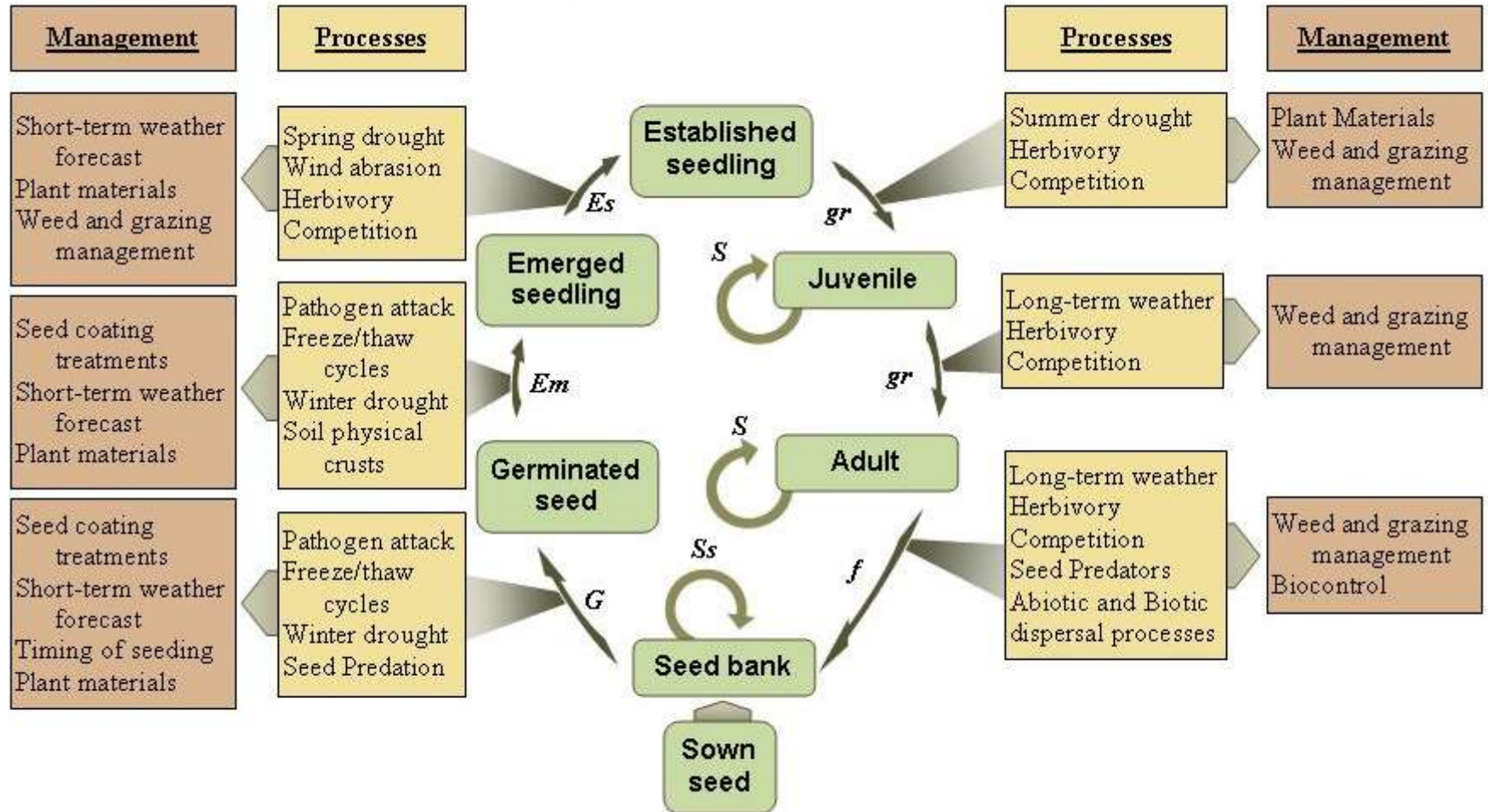




# EBIPM 2.0

- Moving from conceptual understanding to quantitative modeling of management
  - Relative importance of various processes
  - New tools and strategies
  - Predictable and repeatable outcomes

# A systems approach to restoration





# Demographic stages limiting recruitment

---



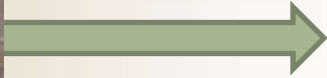
## Perennial grasses

- Introduced crested wheatgrass (*Agropyron desertorum*)
- Native bluebunch wheatgrass (*Pseudoroegenaria spicata*)
- Native squirreltail (*Elymus elymoides*)

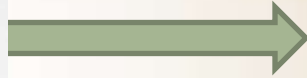
# Seedling demography



Germination



Emergence



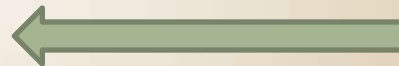
Establishment

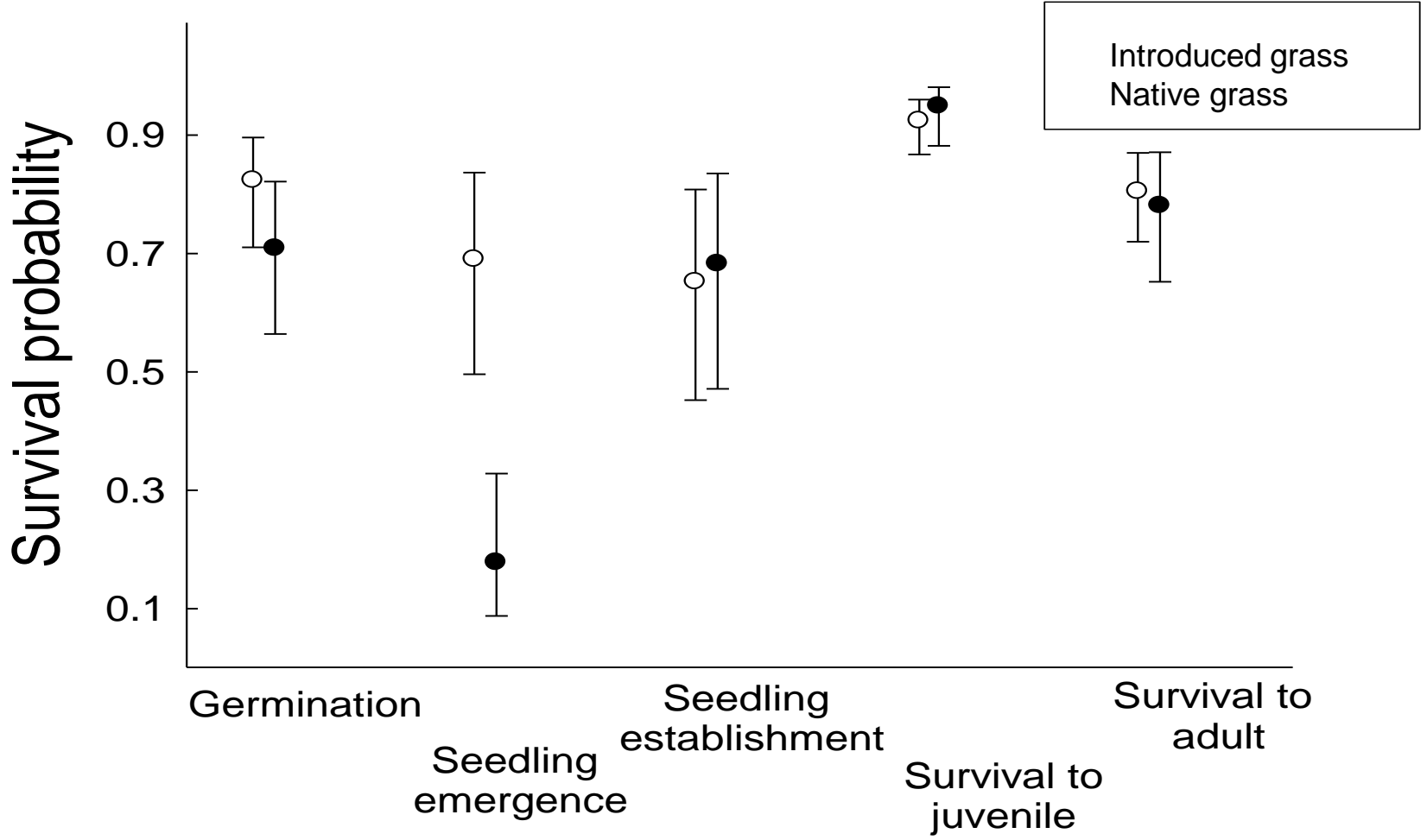


Adult survival

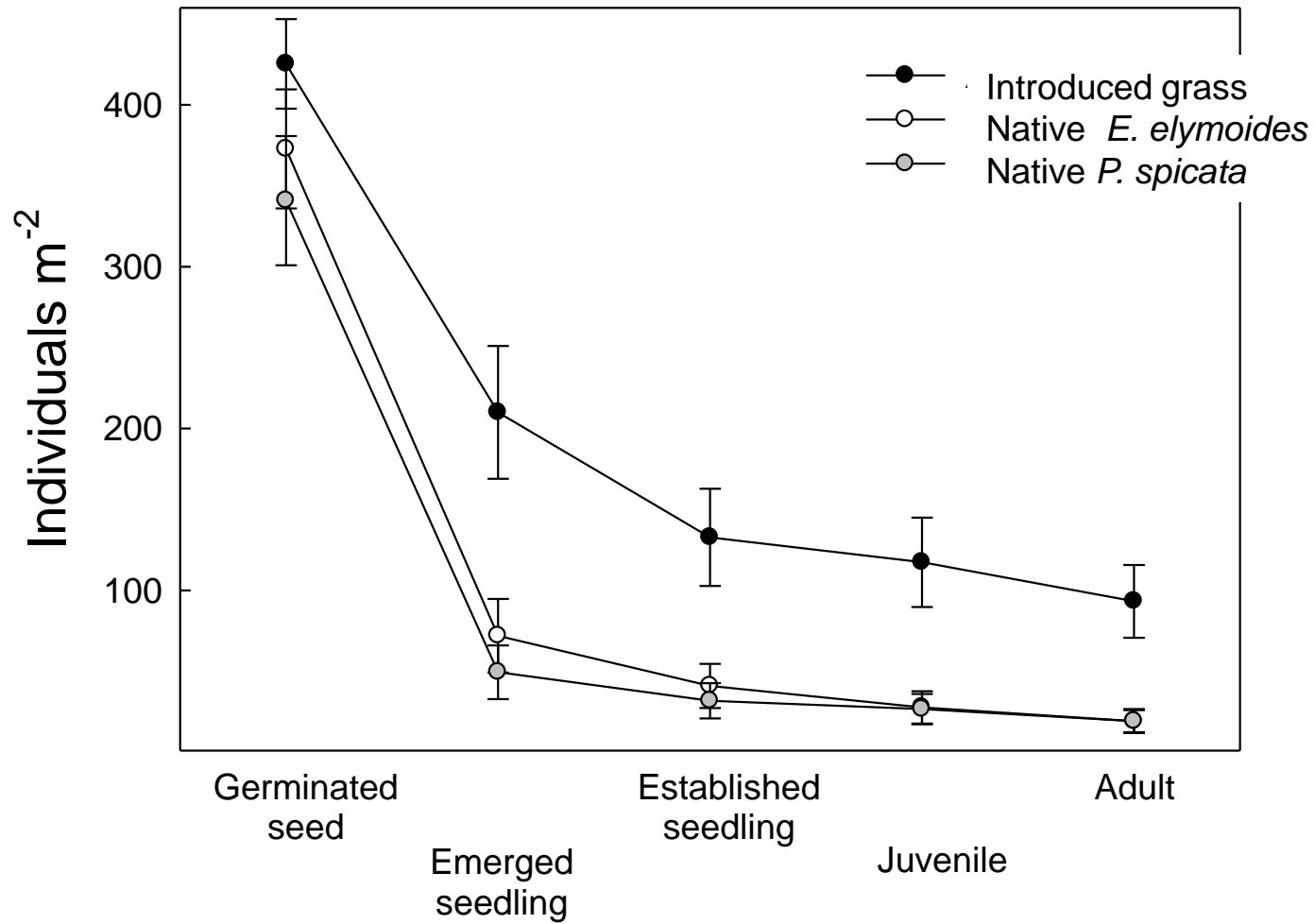


Juvenile survival

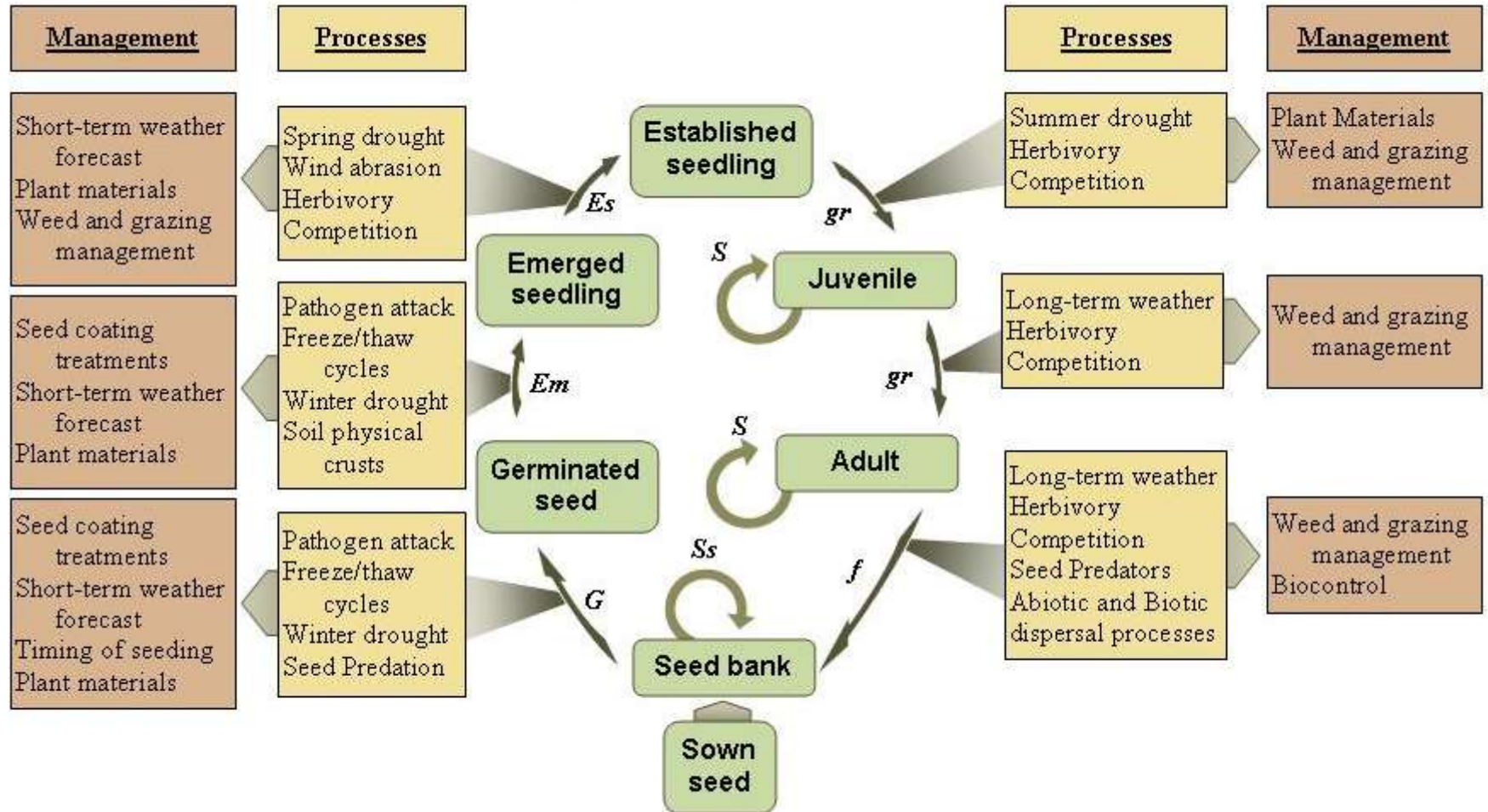


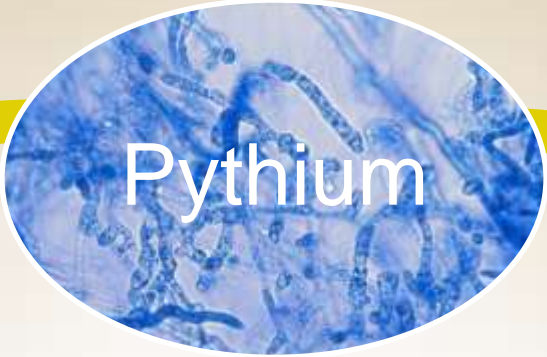
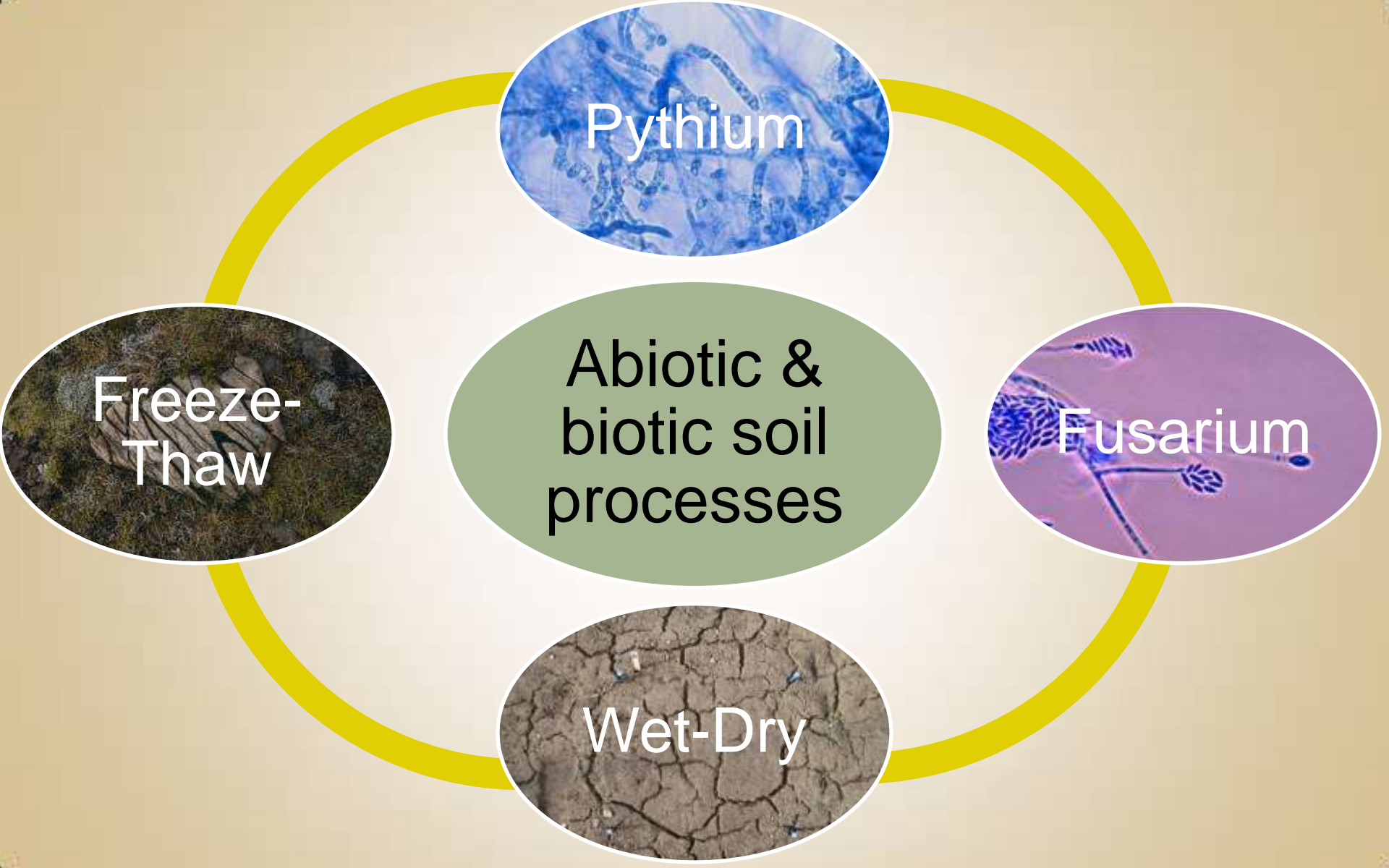






# A systems approach to restoration





Abiotic & biotic soil processes





# Experimental approach

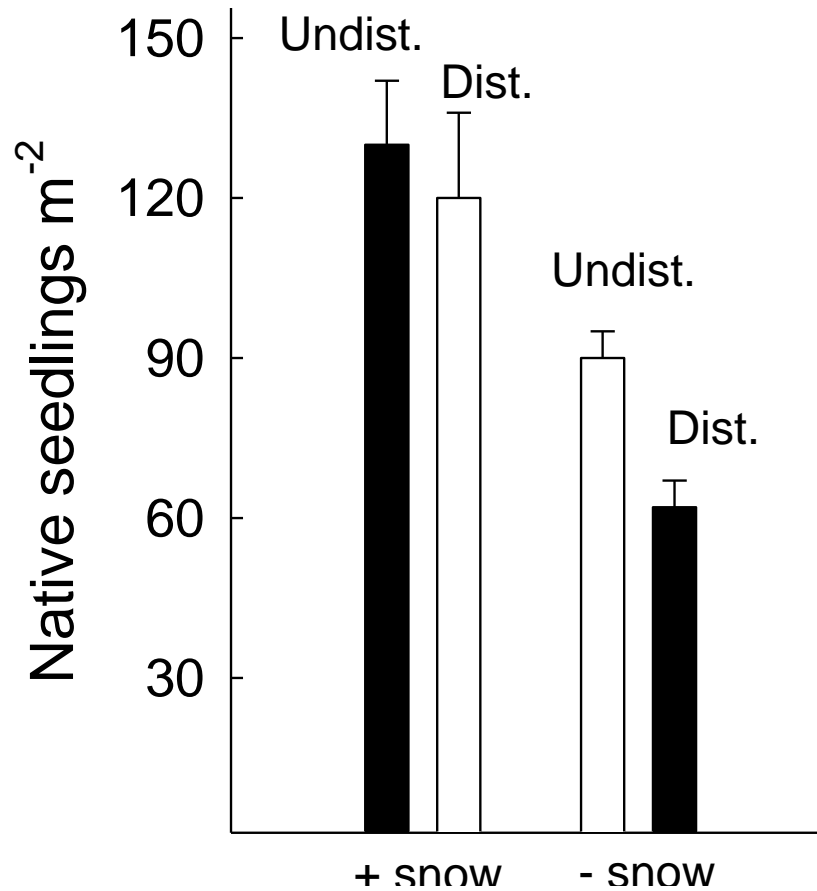
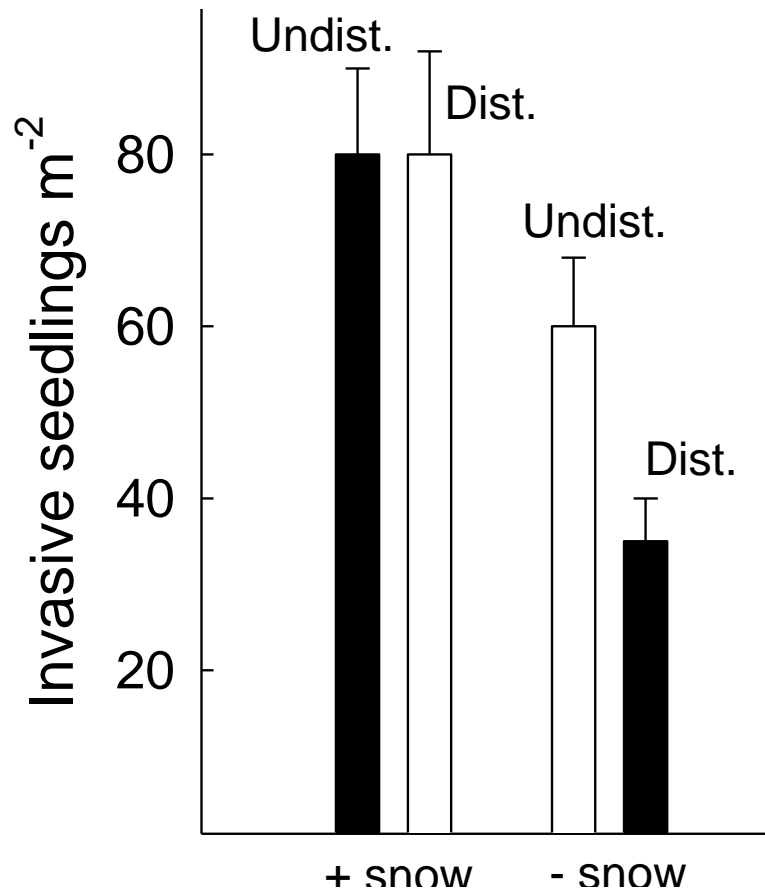
## Treatments:

- Disturbance
- Snow
- Fungicide



Response:  
Native and  
invasive plant  
establishment





# A systems approach to restoration

