

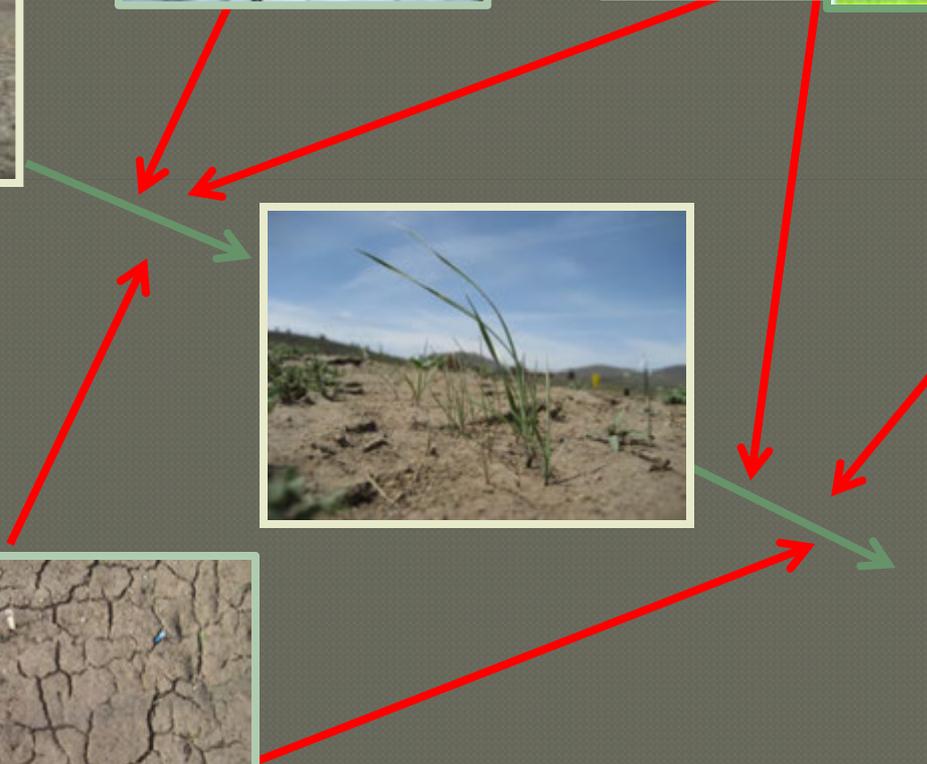
# Grass seedling demography

Jeremy James  
Tony Svejcar  
Matt Rinella





# Drivers of restoration outcomes



# Seedling demography

Sowing



Germination



Emergence



Establishment



Juvenile Survival



Adult Survival



# Quantifying demography

3 years at NGBER



- Crested
- Bluebunch
- Squirreltail

Egley



Butte



Bartlett

Roundtop

# Seedling demography

Sowing



Germination



Emergence



Establishment



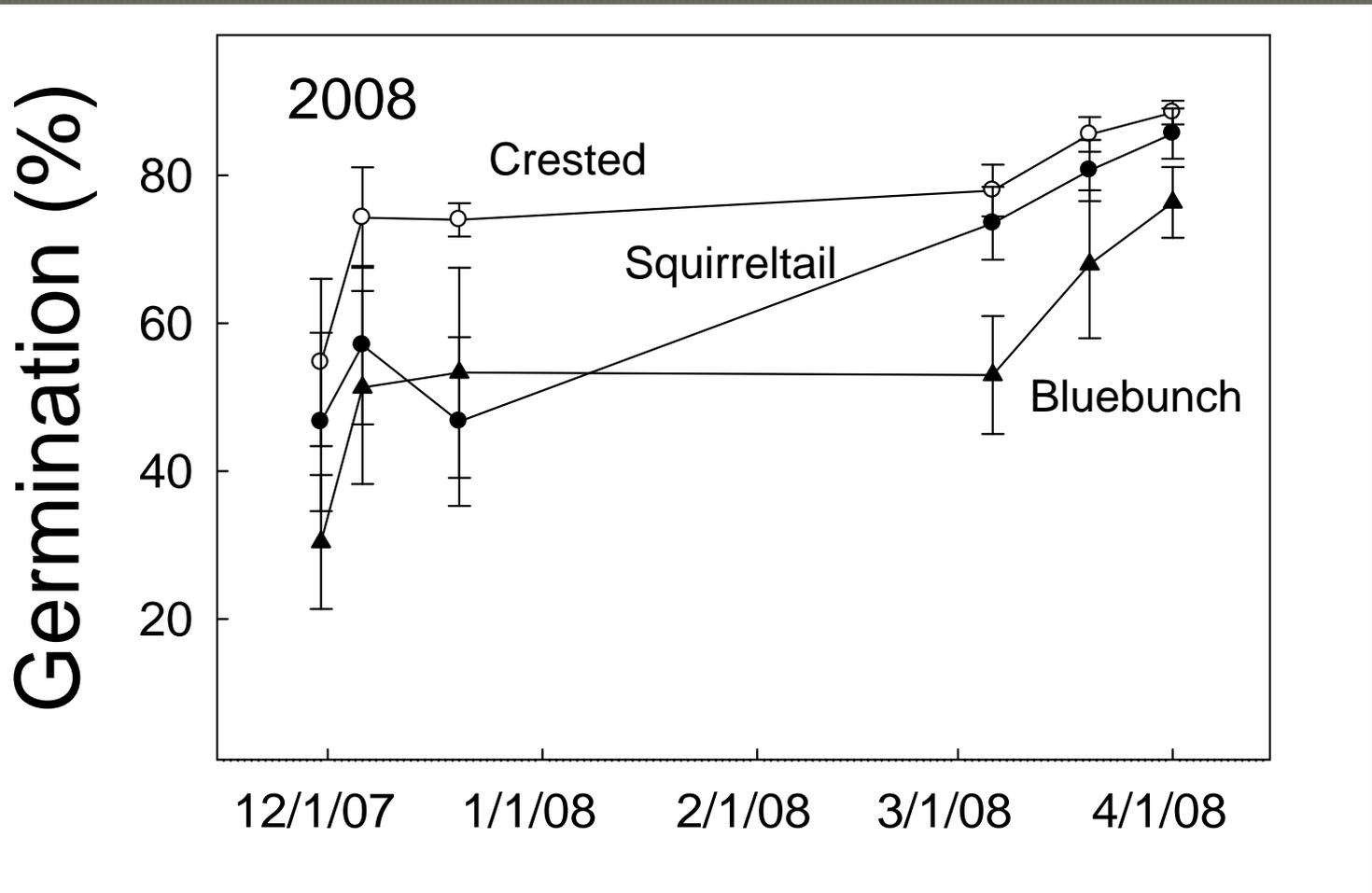
Juvenile Survival



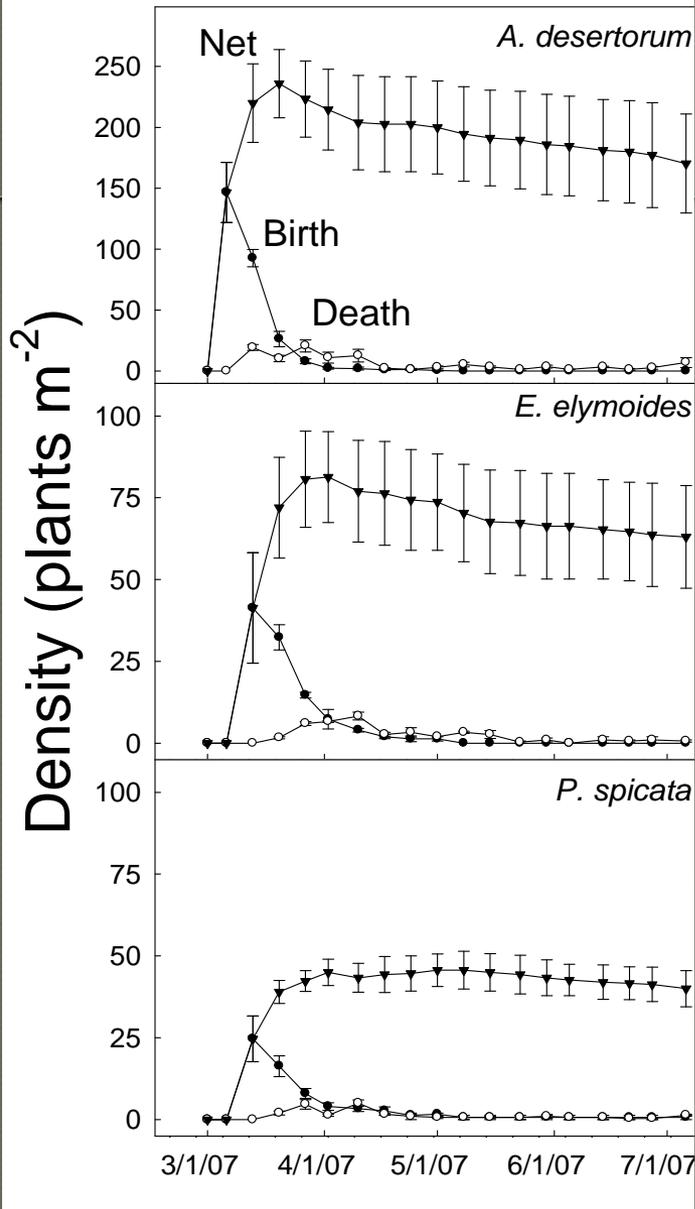
Adult Survival



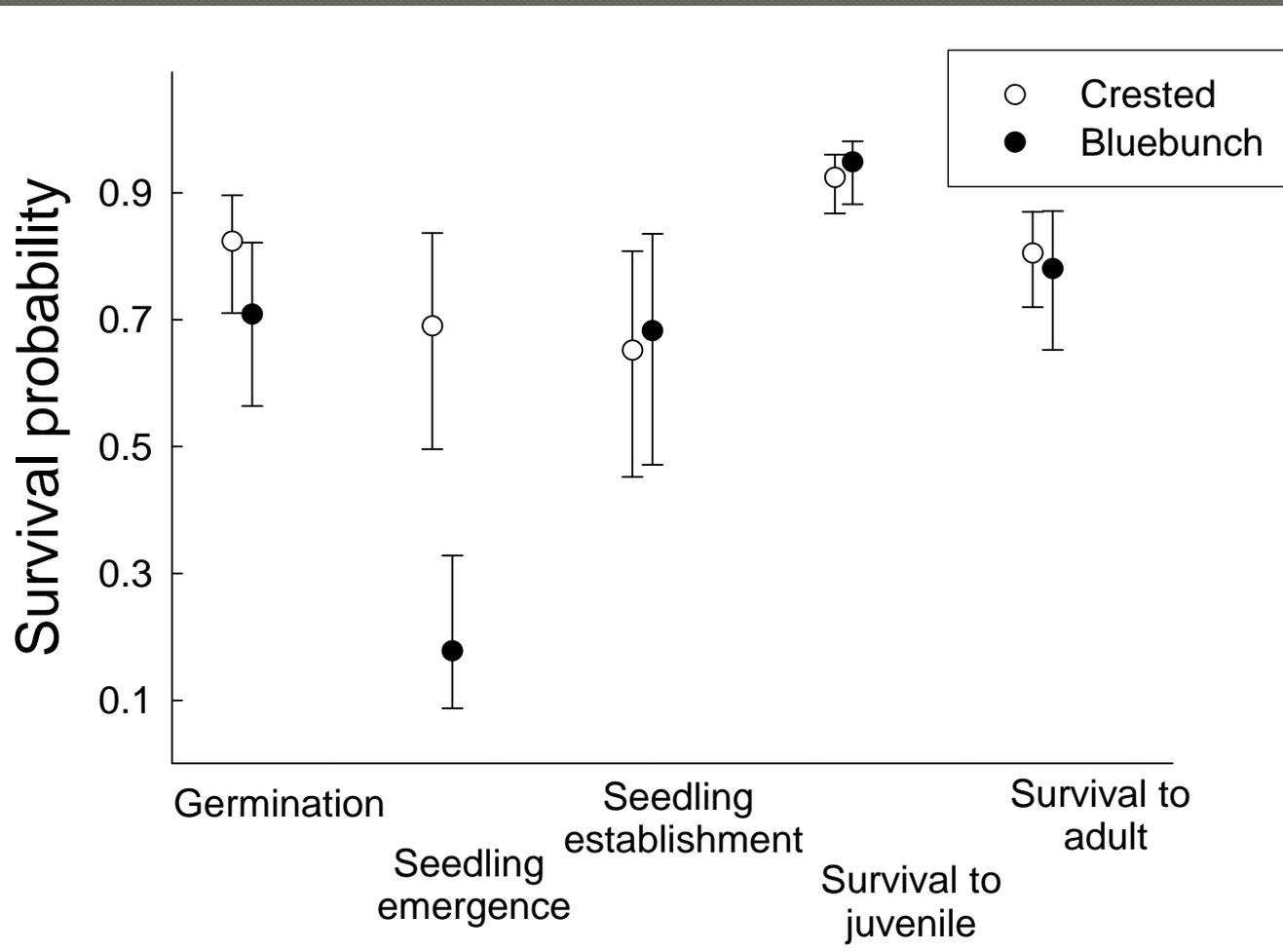
# Germination timing



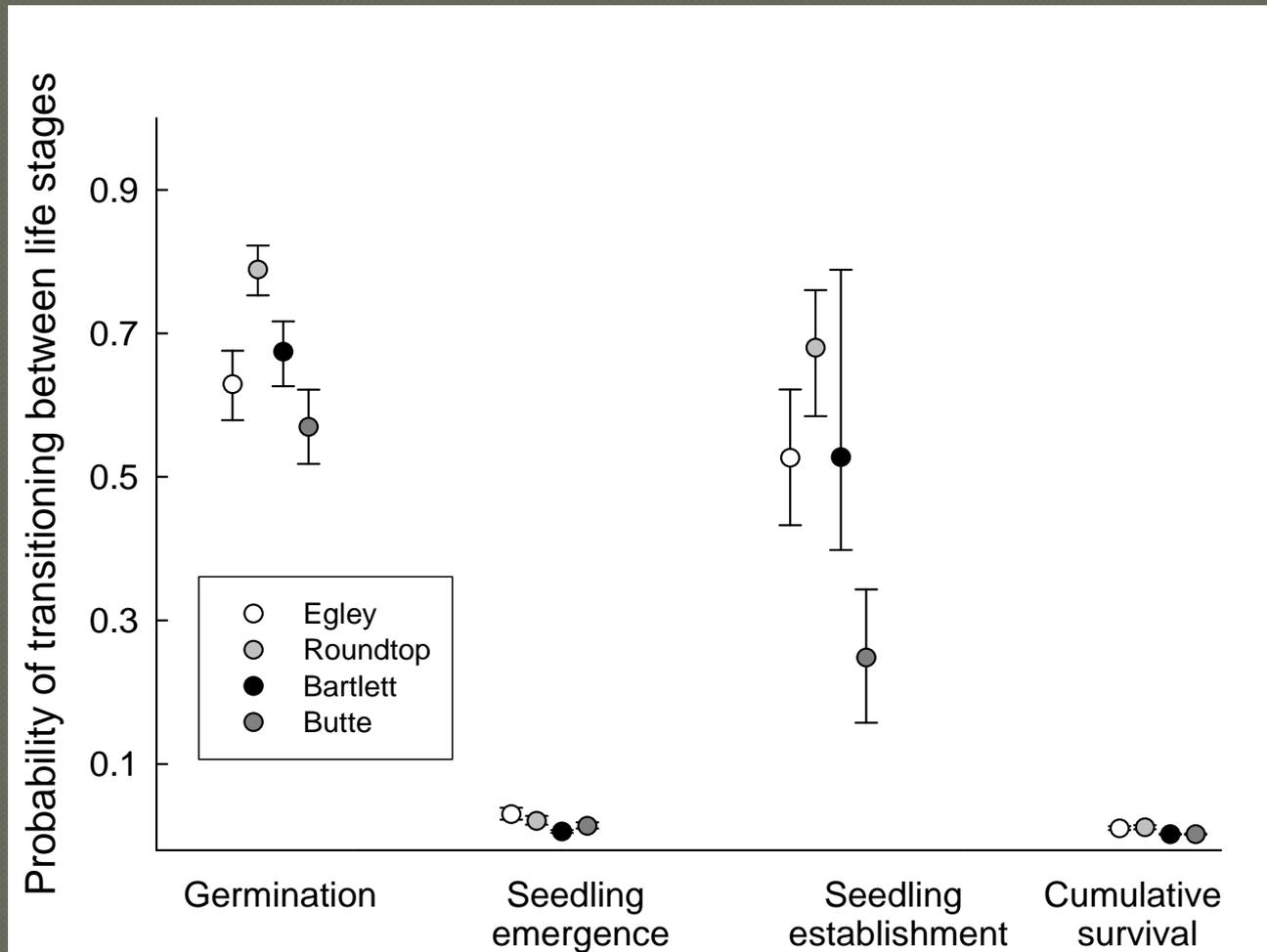
2007



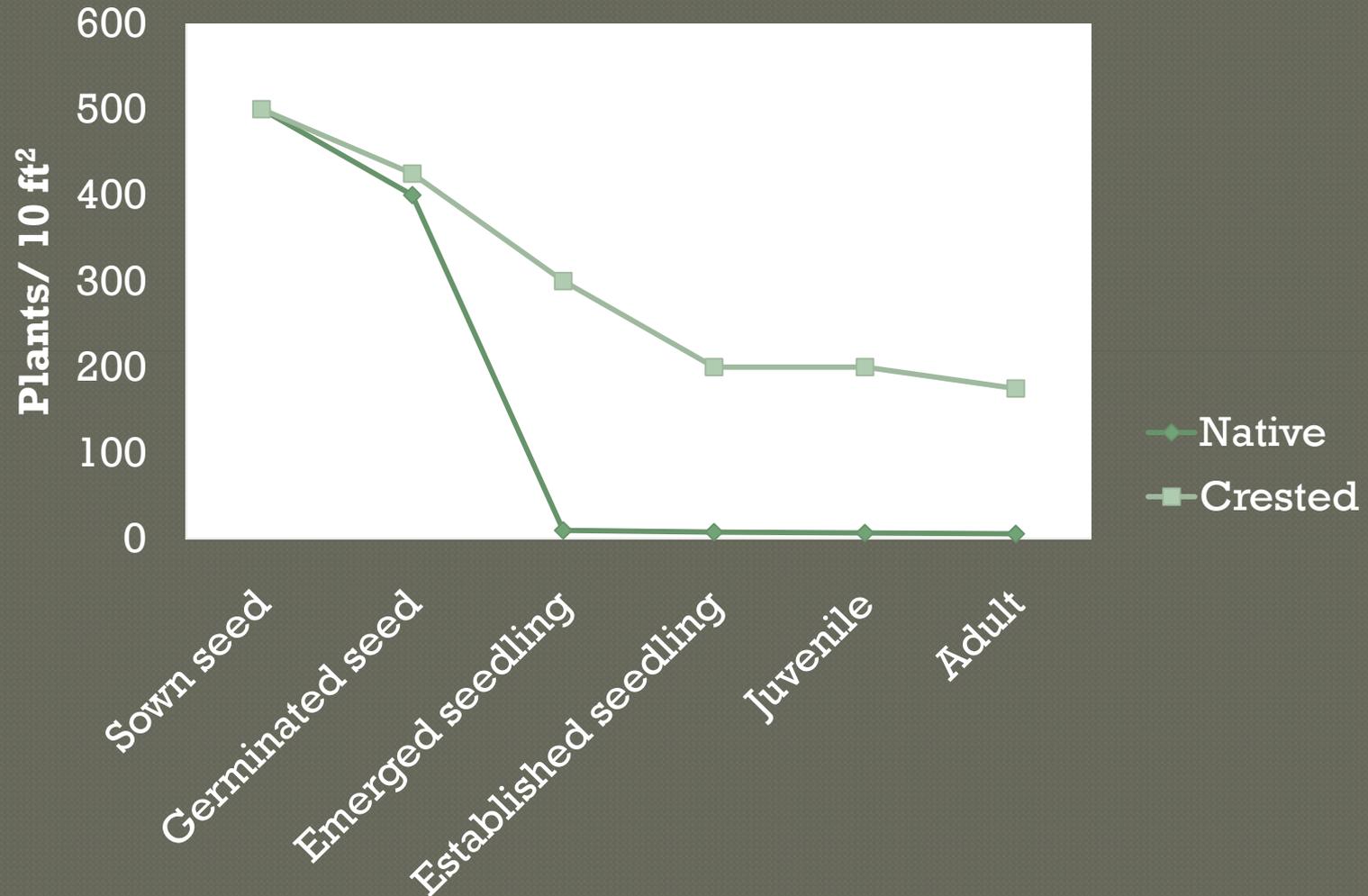
# Seedling survival



# Transition probabilities at fires



# Seedling survival



# When do plants die?



20%



88%



5-10%



90%



# Summary

---

- Germination is high across years and sites (60-80%)
- Emergence is the bottleneck to native plant recruitment
  - 90% of germinated native seeds do not emerge
  - 50% of germinated crested seeds do not emerge
- Over >90% of seeds sown are lost before they emerge from soil surface

# Questions

