



UNIVERSITY OF SOUTH DAKOTA

# Bird use of early successional sandbar vegetation for nesting: What do we lose by managing sandbars for plovers and terns?

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## INTRODUCTION

- Bare sandbars are necessary for two federally listed species - Interior Least Tern (*Sternula antillarum*) and Piping Plover (*Charadrius melodus*).
- New sandbar formation is limited along the Missouri River; but habitat is maintained for sandbar-dependent species by preventing the colonization of early successional cottonwood-willow forest.
- Early successional forest may supply habitat for a diverse bird community.
- An understanding of the biological tradeoffs to vegetation management options is necessary for a balanced ecosystem-based approach to sandbar management.



## METHODS Data Collection: 2018

- **Point Counts**
  - Breeding Season: 7 locations visited twice at least 10 days apart
  - Fall Migration: 4 locations weekly for several weeks
- **Nest Monitoring:** 3-4 day frequency at 3 locations (N = 97, 14 Species)
- **Nest Success:** Mayfield Method

## STUDY AREA

### Missouri National Recreational River (MNRR)

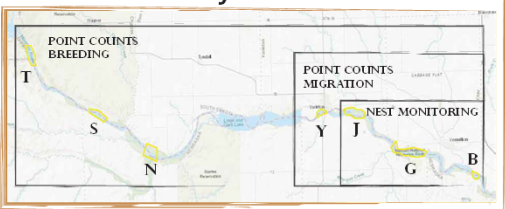


Fig 1. Sandbar habitat created during the 2011 flood.



Fig 2. Colonizing early successional cottonwoods

### Study Locations



## ACKNOWLEDGMENTS



## RESULTS

Migration →

### Species Observed

60

Breeding Season →

48



Fall point counts for birds using habitat for stopover.



Point counts and nest monitoring for breeding bird species.

### Nest Success

Average for 14 species →

26%

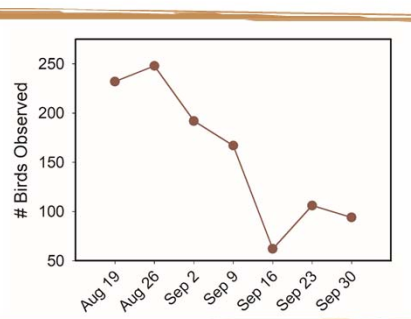


Fig 3. Fall migration timing.

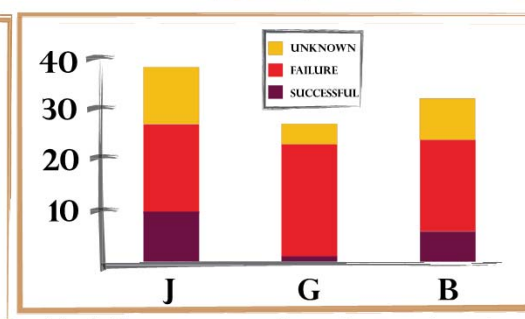


Fig 4. Nest success at three sites monitored during the breeding season.

## CONCLUSIONS

- Cumulative nest survival recorded in nearby mature riparian forest 36% and in farmstead woodlots 44%, Yellow Warbler nest success reported as 28% (Gentry et al.2006).

Overall, nesting birds were less successful during the 2018 breeding season than we expected. The 2018 breeding season experienced higher water levels than a typical year and this may have influenced nesting success. Further comparisons of species-specific nest survival will help identify key breeding areas and migratory stopover sites.

Literature Cited:

Gentry D.J., D.L. Swanson, and J. D. Carlisle. 2006. Species richness and nesting success of migrant forest birds in natural river corridors and anthropogenic woodlands in Southeastern South Dakota. *The Condor* 108: 140-153.