



Introduction:

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Silver Carp have proven their ability to invade and cause enormous amounts of economical and ecological damage to their surrounding environments. As their populations continue to grow, it is crucial to monitor their movements in an effort to manage their population expansion. By documenting movements of Silver Carp in space and time, we can create a framework to analyze and make a transparent and practical management decision.



Methods to create the framework:

- Break up the spatial frame into units
- Create and implement a network of acoustic receivers
- Implant fish with acoustic tags and distribute across spatial units
- Monitor their movements and associated environmental covariates
- Fit a multistate recapture model to determine fish movement among spatial units

Results:

Based on predictions of the effects of stage height on fish, we would expect to see different probabilities of movement between bodies of water in the study frame. As stage height increases, we see fish movement between bodies of water increasing.

Acknowledgements:

1 Department of Wildlife, Fisheries, and Aquaculture; Mississippi State University; Mississippi State, MS 30762

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3 U.S. Geological Survey

This research has been made possible via funding from Mississippi Department of Wildlife, Fisheries, and Parks.

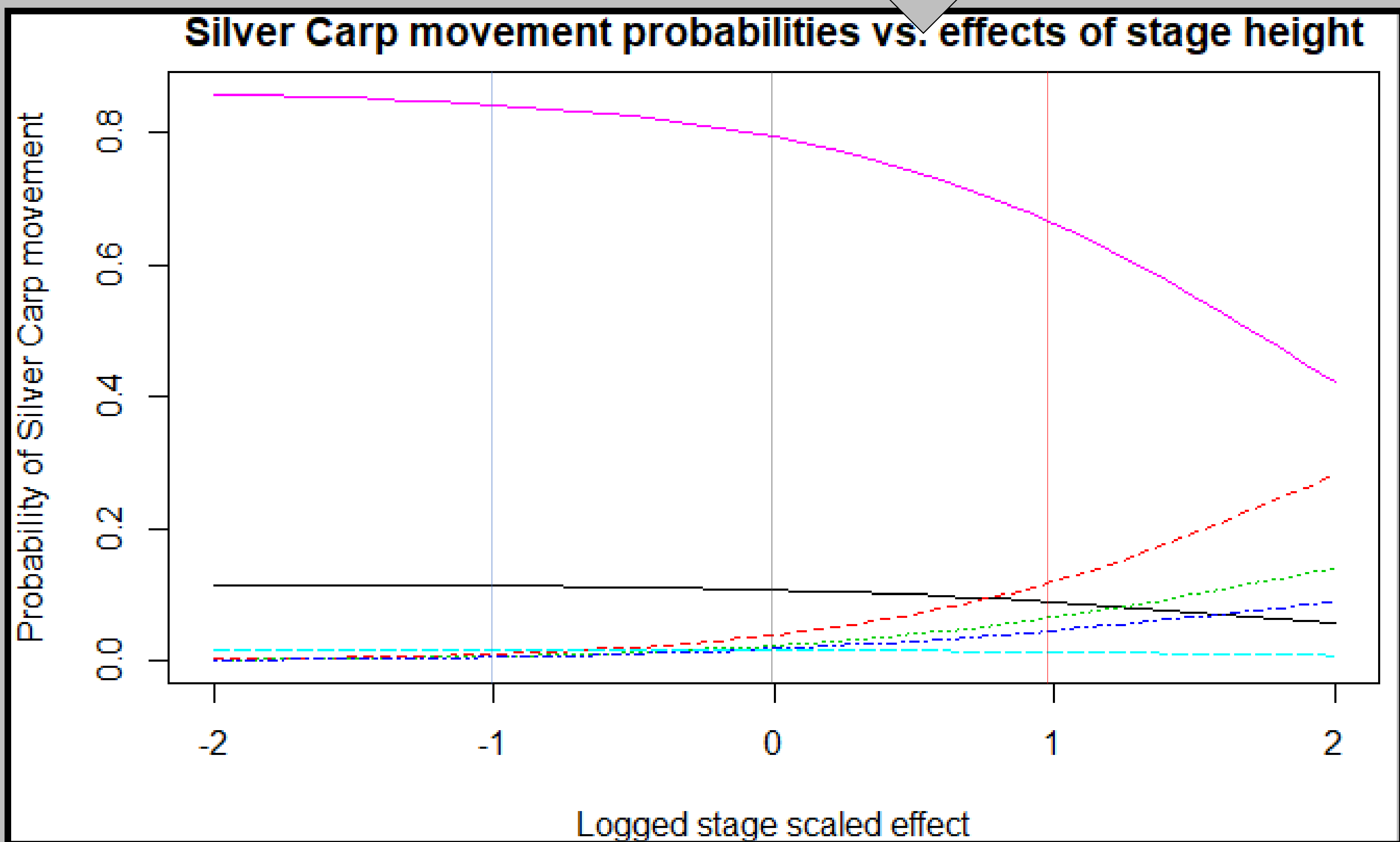


Figure 1: This graphic illustrates timing of barrier placement (blue, black, and red) in relation to stage height to alter movement of carp between spatial units.