

Project Highlight – SD State Wildlife Grant

Project Type Research

Title Northern cricket frog seasonal status and distribution in southeastern South Dakota

In a nutshell This study was conducted to better understand the northern cricket frog's occurrence and abundance, due to the species' uncertain status in the state and its decline elsewhere in its range. Laboratory freezing experiments were conducted to determine if winter conditions may be limiting the northern cricket frog's distribution in South Dakota.

Relevant Habitats perennial rivers of southeastern South Dakota

Cooperators University of South Dakota (Dr. David Swanson and graduate student Seth Burdick)

Purpose

- determine cricket frog occurrence and abundance in appropriate habitats with its historic range in South Dakota
- determine overwintering habitat and habitat conditions in South Dakota
- determine freezing tolerance capacity for cricket frogs in South Dakota

Timeframe 2005-2007

Location southeastern South Dakota

Summary or Important Findings

- The species was found year-round in the James, Big Sioux and Missouri rivers, but was not found in the Vermillion River, where it occurred historically.
- Individuals hibernated in cracks in the mud along the James and Big Sioux rivers.
- These frogs showed a low tolerance to freezing; winter temperatures may limit their expansion in the state.

Best contact person Dr. David Swanson, University of South Dakota

More Information

Burdick, S. 2008. Seasonal status and distribution of Blanchard's cricket frog in South Dakota. M.S. Thesis, University of South Dakota, Vermillion.

Scientific publications resulting from this project:

Burdick, S.L. and D.L. Swanson. 2010. Status, distribution and microhabitats of Blanchard's cricket frog *Acris blanchardi* in South Dakota. *Herpetological Conservation and Biology* 5:9-16.

Swanson, D.L. and S.L. Burdick. 2010. Overwintering physiology and hibernacula microclimates of Blanchard's cricket frogs at their northwestern range boundary. *Copeia* 2010:248-254.

Dinsmore, S., II, and D.L. Swanson. 2008. Temporal patterns of tissue glycogen, glucose and glycogen phosphorylase activity prior to hibernation in freeze-tolerant chorus frogs, *Pseudacris triseriata*. *Canadian Journal of Zoology* 86:1095-1100.