

## Project Highlight – SD State Wildlife Grant

**Project Type**      Research

**Title**      Distribution, abundance, and seasonal habitat use patterns in ornate box turtles in South Dakota

**In a nutshell**      This species is thought to reach its most northerly distribution in southcentral South Dakota. Aside from occasional sightings and specimens, little is known about the ornate box turtle's geographic range in the state or its habitat preferences. This study addressed those needs and examined movements, home range sizes, and activity periods and estimated population size. This study also provided valuable scientific and ecological training for students at Oglala Lakota College.

### Relevant Species of Greatest Conservation Need

- Western box turtle (*Terrapene ornata*)

**Relevant Habitats**      sandhill habitats

**Cooperators**      Oglala Lakota College (Alessandra Higa and Hugh Quinn) and USDA Forest Service (Daniel Uresk)

### Purpose

- Estimate the geographic range of ornate box turtles in South Dakota through the use of ecological niche modeling.
- Document the macro- and microhabitat use throughout the active season (May through September).
- Describe movements and estimate home range size.
- Document daily and seasonal activity periods.
- Estimate population size.
- Provide training in ecological field research to Oglala Lakota College students.

**Timeframe**      May 2010 – September 2012

**Location**      Pine Ridge Reservation, Shannon County, southcentral South Dakota

### Summary or Important Findings

- Box turtles were located by using trained dogs, by searching suitable habitat, located while crossing roads, or brought in by citizens in response to a wanted poster.
- A total of 170 living turtles and 9 dead turtles examined during the 2-year study.
- A total of 25 turtles in 2010 and 24 turtles in 2011 were fitted with radio transmitters and temperature data loggers.
- Turtles showed habitat preference for shrubs and sand sagebrush compared to grass and forbs.
- Most radio-tracked turtles burrowed underground by mid- to late October to hibernate. Hibernation sites were in loose sandy soils in upland habitat.

**Best contact person**      Alessandra Higa, Oglala Lakota College

**More Information**

Higa, A., H. Quinn, and D. W. Uresk. 2012. Distribution, abundance, and seasonal habitat use patterns in ornate box turtles (*Terrapene ornata*) in South Dakota. Final Report to South Dakota Dept. of Game, Fish and Parks. 78 pp.

Scientific publications resulting from this project:

Quinn, H. R., H. Quinn, and A. Higa. 2014. Notes on reproduction and growth of South Dakota ornate box turtles (*Terrapene ornata*). *Chelonian Conservation Biology* 13:65-71.