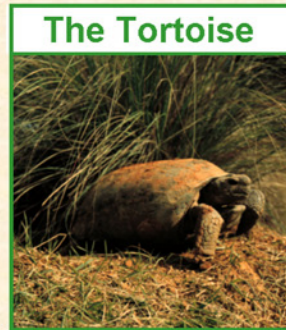


Repatriation of Gopher Tortoises to the Savannah River Site (SRS)

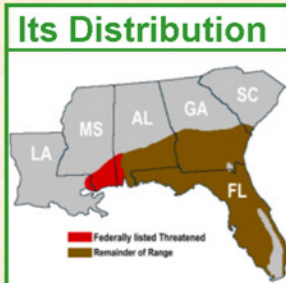
Principal Investigators: Tracey D. Tuberville, Erin Clark, Kurt A. Buhlmann, and J. Whitfield Gibbons

Background



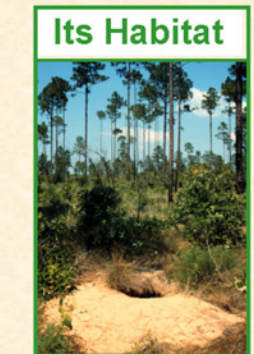
The Tortoise

- Terrestrial
- Constructs large underground burrows
- Long-lived



Its Distribution

The gopher tortoise is state and/or federally listed throughout its range



Its Habitat

- Deep, sandy soils
- Open, pine-mixed oak forests (esp. longleaf)
- Abundant herbaceous groundcover
- Fire-maintained

FACT: <5% of original longleaf pine forest remains

Habitat loss to development → Local extirpation and/or relocation of tortoises

The Problem

- Relocation is currently implemented as knee-jerk response to development of individual sites
- No long-term species conservation plan in place
- Lack of post-relocation monitoring conducted to determine relocation success
- Relocation may be an effective conservation tool if used with the goal of maintaining a network of protected populations throughout range

Project Description

Goals

- Re-establish protected population on the SRS
- Test efficacy of existing relocation methods
- Develop model for relocation of other tortoise species

Methods



Fall 2001:

>100 tortoises (adults, juveniles, eggs) captured from 99 acre development site in Georgia

Relocated to Savannah River Site (SRS), Aiken Co., SC



Why the SRS?

- Within historical range
- Evidence of former occurrence on site
- Long-term protection & management of site is ensured

Group 1



Temporary holding off-site pen until March 2002

Released into unpenned area of release site

Group 2



Placed in 1 ha pen at release site in Fall 2001

Pen removed 8 July 2002

Group 3



Placed in 1 ha pen at release site in Fall 2001

Pen removed 23 Sept 2002

Each group consisted of 13 individuals

All tortoises were provided with starter burrows

Research & Application

On-Site Research Projects



•Radiotelemetry: Effects of penning treatments on movement patterns and site fidelity



•Temperature data loggers: Devices mounted on tortoises record hourly environmental temperatures experienced by individuals. When compared to air temp and temp inside burrow, can provide information on daily activity patterns.



•Genetics: DNA samples collected from all individuals in population in order to investigate mating system

•Commensals: Inventory of vertebrates using gopher tortoise burrows as refugia at a site from which tortoises had previously been extirpated

•Re-establishment of social structure

Comparative Studies & Collaborations

The data collected on the relocated population and the release site are being used for comparison in larger scale studies.

- Effects of single-species management for red-cockaded woodpeckers on sympatric tortoise populations
- Effects of timber management on tortoise populations
- Effects of military training activities on tortoise population
- Comparison of home ranges, spatial distribution, and activity patterns of relocated tortoises to tortoises in naturally occurring populations

