

BLANDING'S TURTLE
(*Emydoidea blandingii*)
RECOVERY PROJECT IN
DUPAGE COUNTY, ILLINOIS

Dan Thompson
Forest Preserve District of DuPage County
Wheaton, IL USA

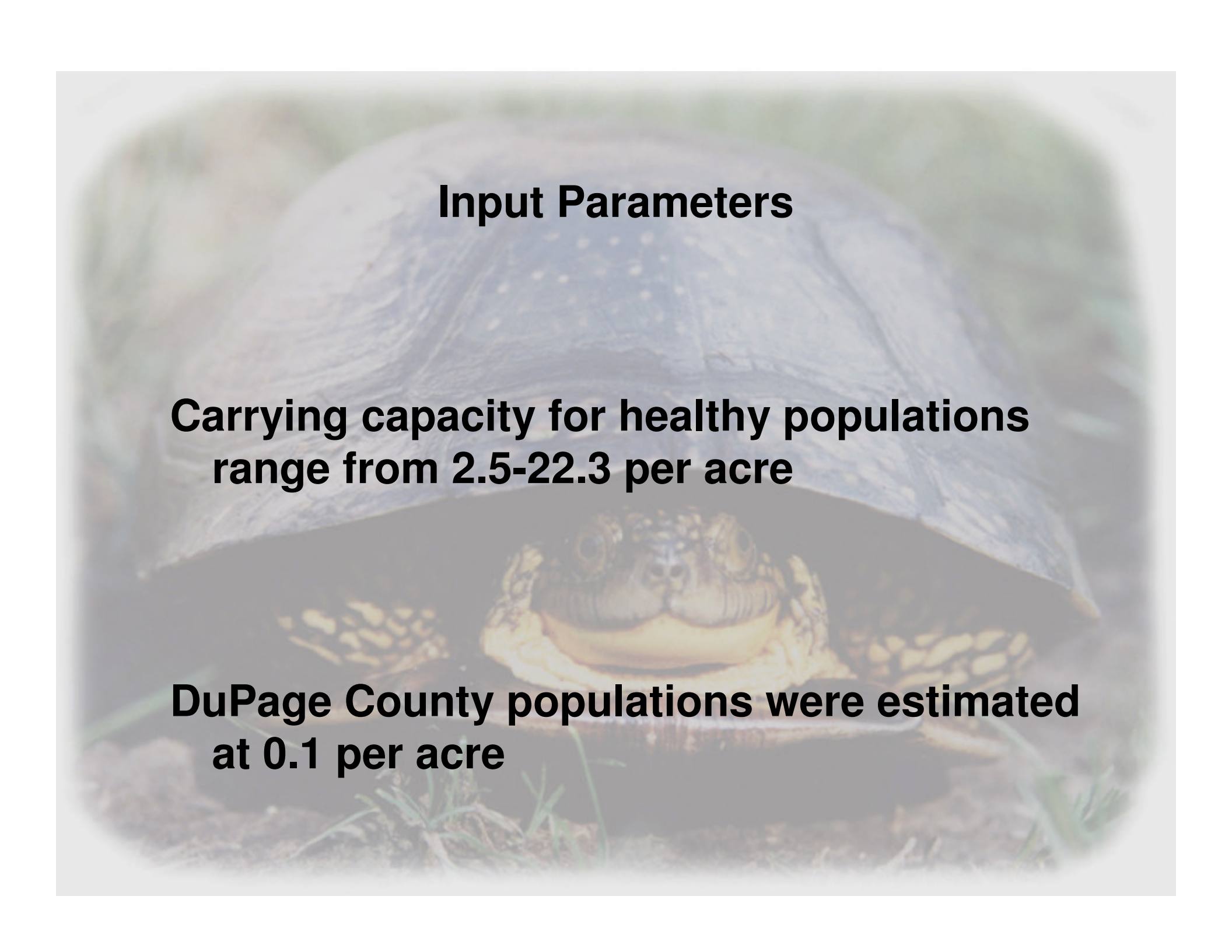
A photograph of a Blanding's turtle resting on the ground. The turtle's head and front legs are visible, showing its characteristic yellow and black patterned skin. The background is a soft-focus natural setting with green grass and brown soil.

Blanding's Turtle Program History

- **1987-1990: County-wide reptile & amphibian surveys**
- **1994: Blanding's Turtle population study**
- **1996: Head-start program initiated**
- **1998-2000 Population viability analysis**
- **1999: State of Illinois listed as threatened**
- **2001: Nesting activity monitored**

Population Viability Analysis

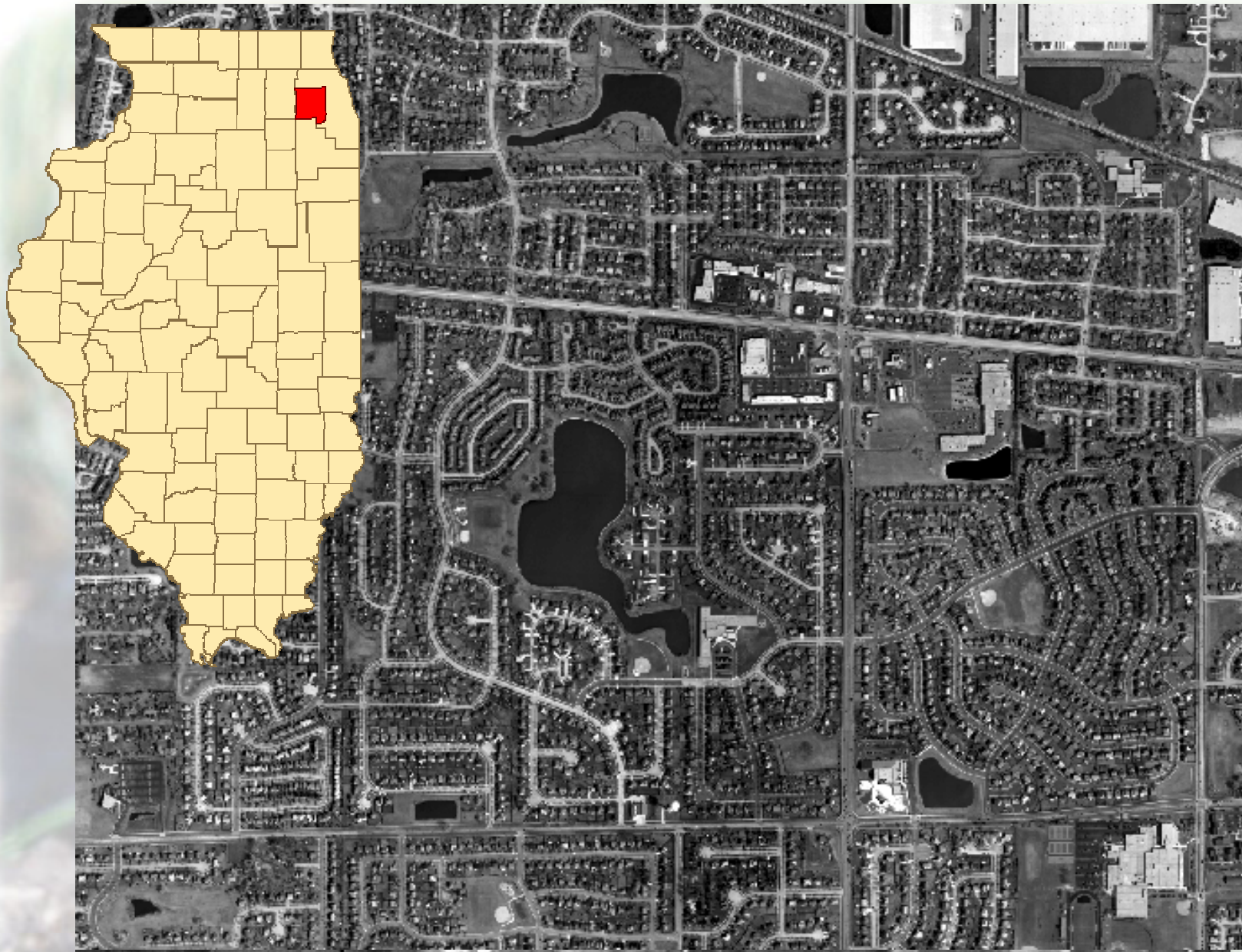
- VORTEX computer software (Lacy 1993a) for population viability analysis
- Input Parameters-mostly taken using data taken from Congdon et al. 1993 work at University of Michigan's E. S. George Reserve supplemented with limited DuPage County data

A photograph of a turtle, likely a pond turtle, resting on the ground. The turtle's head and front legs are visible, showing a pattern of dark spots on a lighter background. The shell is a mottled brown and black. The background is a soft-focus natural setting with green grass and brown soil. The entire image is overlaid with a semi-transparent grey filter.

Input Parameters

**Carrying capacity for healthy populations
range from 2.5-22.3 per acre**

**DuPage County populations were estimated
at 0.1 per acre**



1954

2003



Model assumes 74% natural nest mortality



Hatchling success is estimated at 26% for survival through one year of age

A large tortoise is shown from a top-down perspective, resting on a patch of ground with some green grass. The tortoise's shell is a mottled brown and tan color. The text is overlaid on the image in a bold, black, sans-serif font. The background image is slightly faded to make the text stand out.

Model Predictions

**Release of less than 100 turtles
seems to provide little benefit**

**With 80% juvenile annual
survivorship less than 3% of the
released turtles would be expected
to survive to breeding age**

Genetics

- **Ruben et al. 2001 Chicago region populations isolated and may be genetically depauperate, although currently do not exhibit significant differentiation**
- **To maintain more genetic diversity and reduce inbreeding is to combine presently isolated populations (and prevent any further fragmentation) Transferring head started juveniles can mutually reinforce each population**

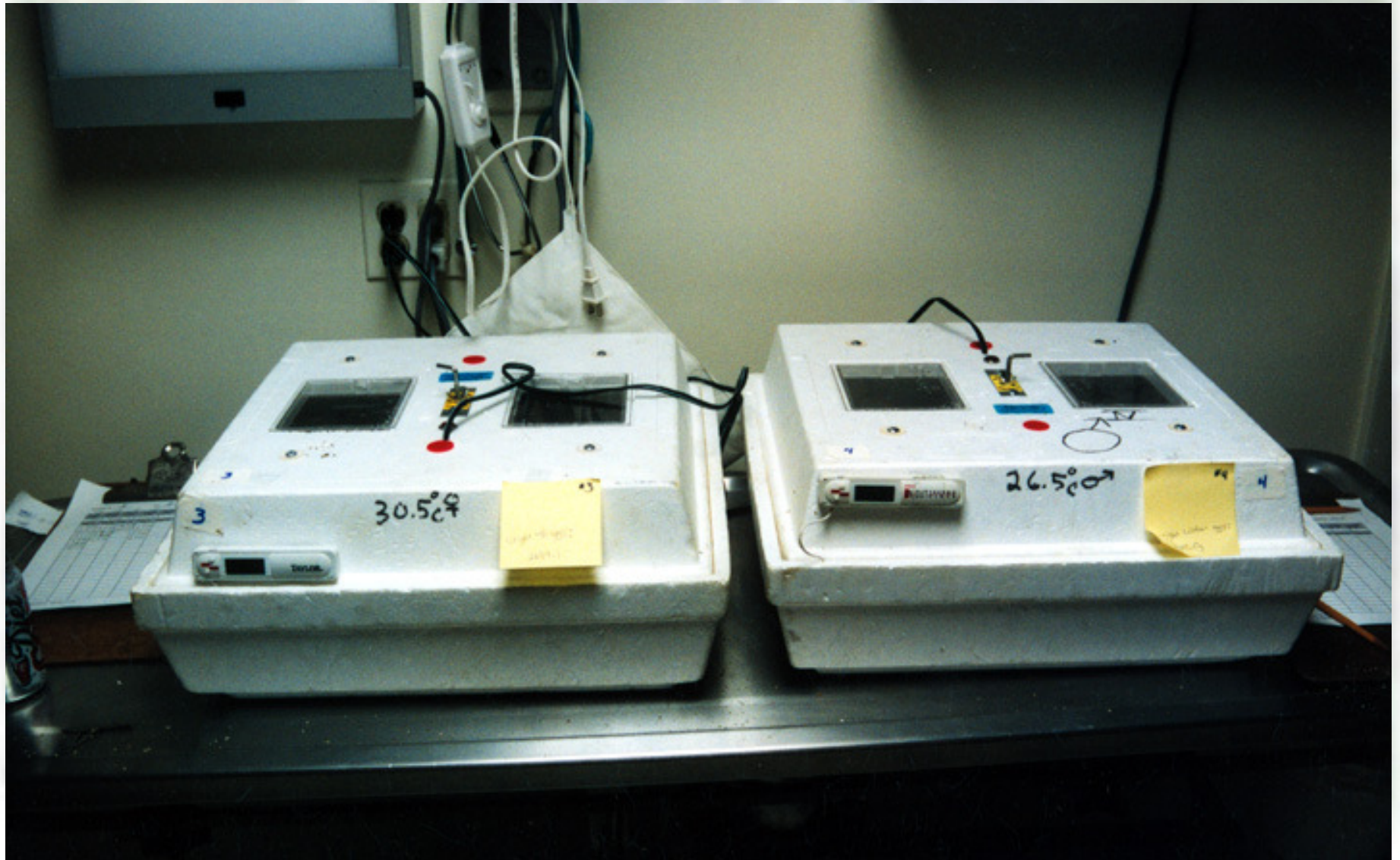
Predators



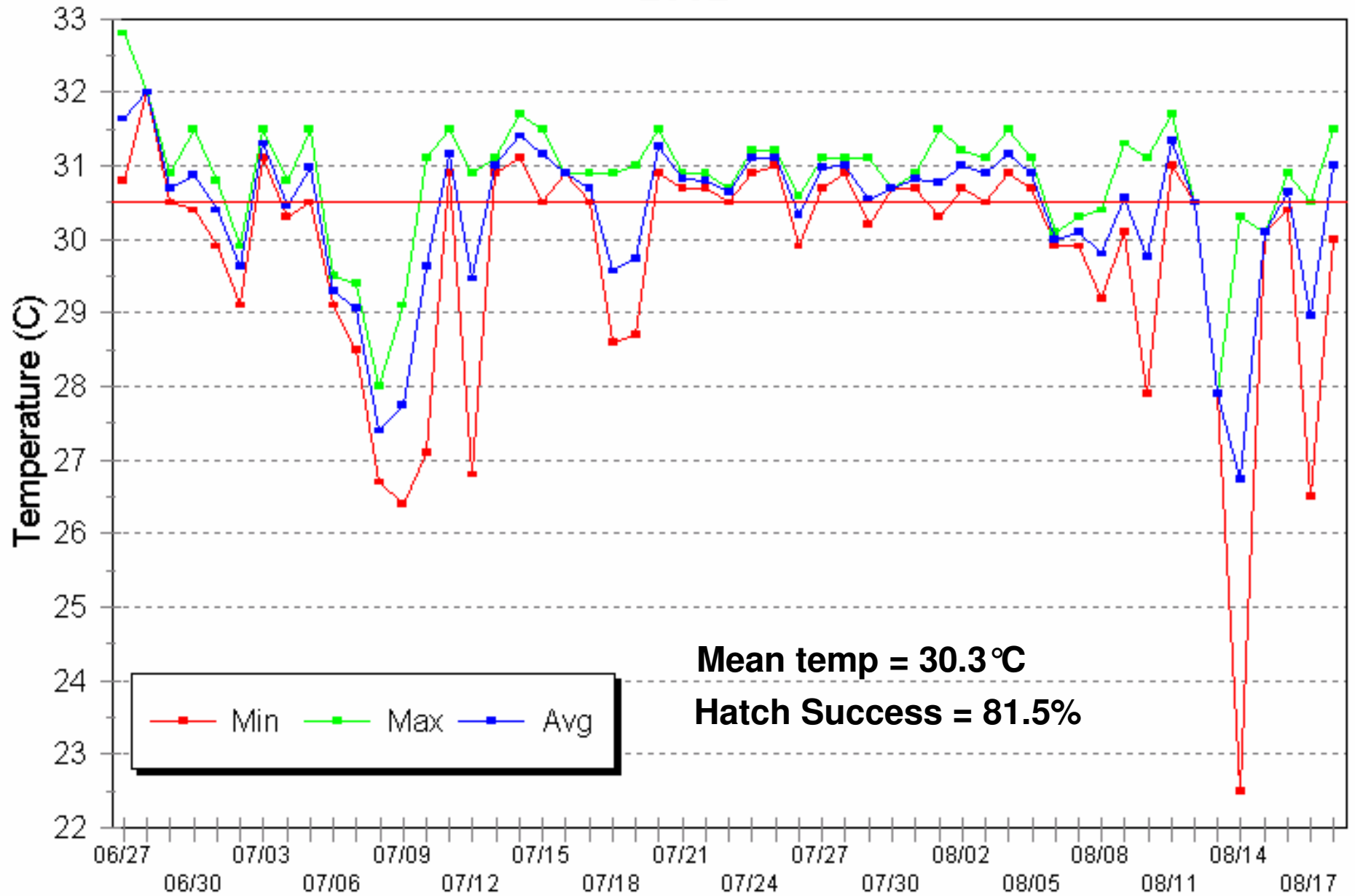




Incubation Sex Ratio



Temperature Ranges for Hovabator #7 2002





Hatchling success reached 95% in 2006

Human Pressures





A large tortoise, possibly a Galapagos tortoise, is shown resting on the ground. The tortoise has a dark, patterned shell and a lighter-colored head and neck. It is surrounded by green grass and soil. The image is slightly faded to allow text to be overlaid.

Husbandry Issues

- Habituation
- Loss of instinctual fear of predators
- Disease and Parasites *Entamoeba invadans*
- Nutritional requirements
- Natural rate of development

Release Techniques

Various ages and size

Mainly Fall release =
Soft release

Some supplemental
Spring release





Acknowledgements

**Chicago Zoological Society
Dr. Robert C. Lacy**

**Illinois Department of Natural Resources
Dr. Daniel R. Ludwig**

**Dr. Justin Congdon; *Professor Emeritus, University
of Georgia***

**University of Illinois
Cory Ruben, MS**

Ongoing Program Goals

- **Restore/create wetlands and nesting areas**
- **Genetic study with Brookfield Zoo**
- **Update population modeling with Lincoln Park Zoo**
- **Improve corridors for movement**
- **Dietary study with University of Illinois**
- **Determine survivorship of hatchlings and juveniles**
- **Reduce predation impacts**
- **Maximize egg collection numbers**
- **Improve husbandry techniques**