

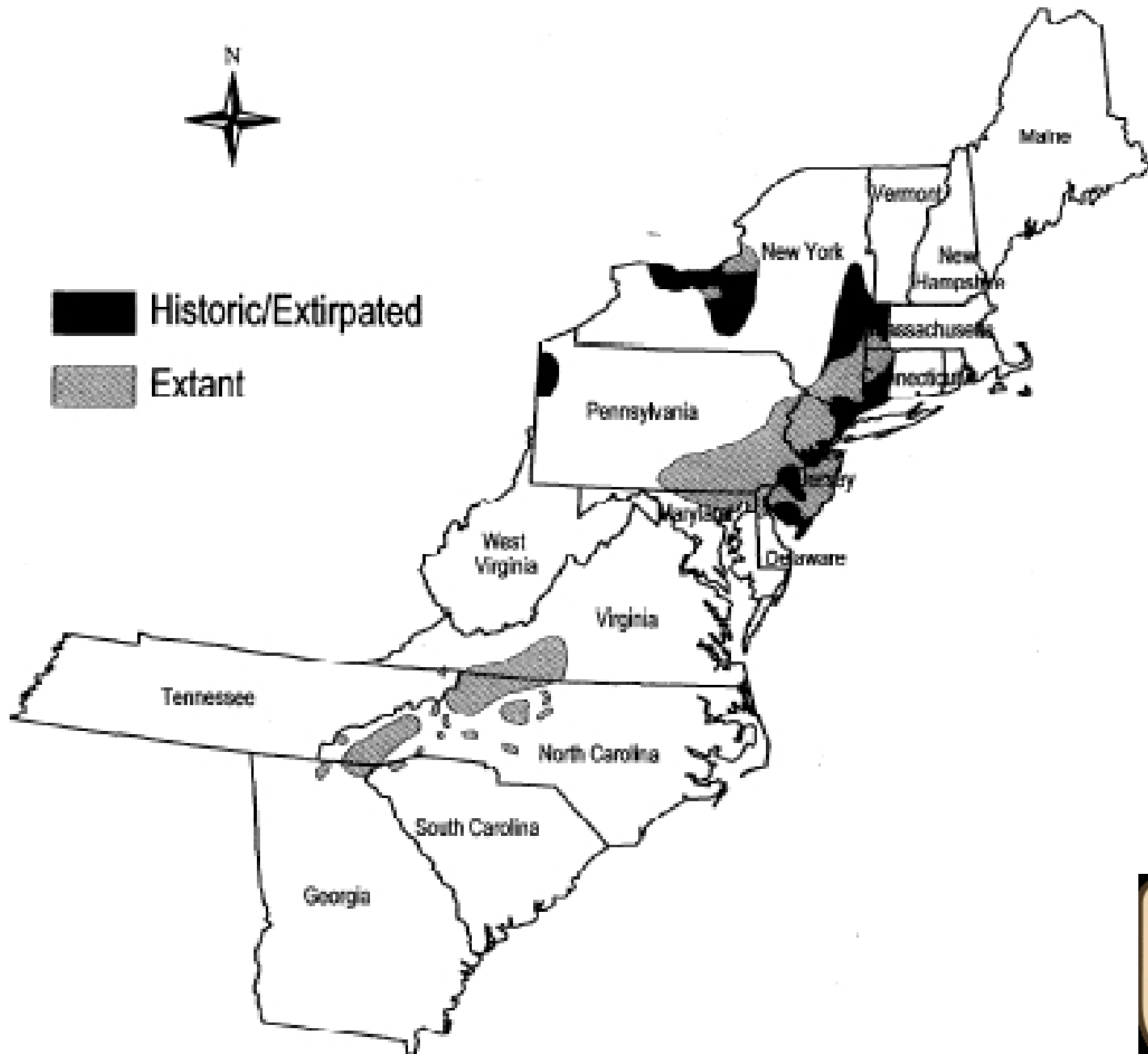


New Jersey Bog Turtles and Invasive Plants

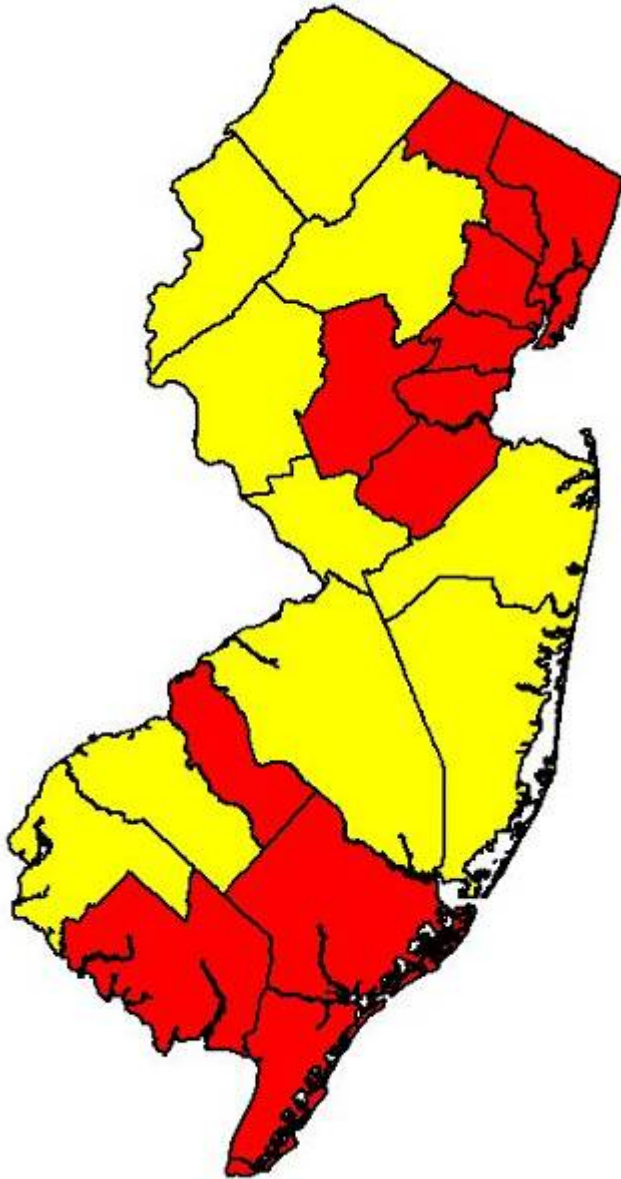
Brian Zarate

NJ Div. of Fish & Wildlife, Endangered & Nongame Species





State Range



● Found in 10 Counties
(Historically 18 Counties – no records from Cumberland, Essex, Hudson)

- Burlington
- Gloucester
- Hunterdon
- Mercer (1 recent record 2007)
- Monmouth (nothing recent)
- Morris
- Ocean (nothing recent)
- Salem
- Sussex
- Warren

Bog Turtle Threats in NJ

- Habitat change
 - Succession
 - Invasives/Exotics
- Habitat fragmentation
 - Road mortality
 - Genetic isolation?
- Illegal collection
 - Law Enforcement



Conservation is a Team Sport

● Partners

- USFWS – NJFO
- USFWS – Refuges
- NRCS
- Conserve Wildlife Foundation
- NJ Audubon
- Universities
- Consultants/Private Industry
- Volunteers
- **Private Landowners**

- Over 70% of sites are privately owned



Red Maple



Shrubs



Phragmites



Reed Canary Grass



Traditional livestock



Goats - 'Living Brush-Hogs'

- Clearing brush, large trees, multiflora rose, *Phragmites*, reed canary grass, cattail, purple loosestrife
- When preferred browse reduced, will seek new pasture
- Short-term use



Cattle

- Clearing brush, *Phragmites*, reed canary grass, cattail, purple loosestrife
- Excellent at litter compaction
- Require large >2 acre enclosure with uplands
- Long-term habitat maintenance
- Best choice - augment microhabitats & hydrology



Sheep

- Primarily grasses
- Use in conjunction with goats
- Excellent for re-sprouted *Phragmites* & *Microstegium*

Restoration Grazing

(Traditional Vegetation Control Methods)

Herbicides

Hand-removal

Prescribed burning

- Labor-intensive
- Potentially harmful
- Ineffective for some plants
- Affect non-target plants

VS.

Prescribed Grazing

- Historically occurred at most sites
- Effective for all types of invasives
- Improves microhabitats for turtles

1999



2003





Water Buffalo



On the Horizon...???

- European Alder
- Glossy Buckthorn
- Mile-a-minute
- Kudzu
- Siebold's Viburnum

A close-up photograph of a turtle's head and shell. The turtle has a dark, textured shell and a head with prominent orange and black markings. The background is a soft, out-of-focus green. The text "Thank You" is overlaid in the top right corner.

Thank You

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