

# Restoring Nesting Areas on the E.S. George Reserve, Michigan, to Reverse Declines in Turtle Nest Survivorship That Threaten Population Stability

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*Chrysemys picta*





*Chelydra serpentina*





*Emydoidea blandingii*































***Elaeagnus umbellata***



# Loss of Nesting Habitat

- From 1975 to 2005:
  - Number of nesting areas reduced from  $> 50$  to 8.
  - Acres of nesting habitat from  $> 70$  to  $< 9$ .
- In 2016:
  - The only remaining nesting areas were roads, lawns, and firelanes.
  - Nesting habitat restoration initiated.



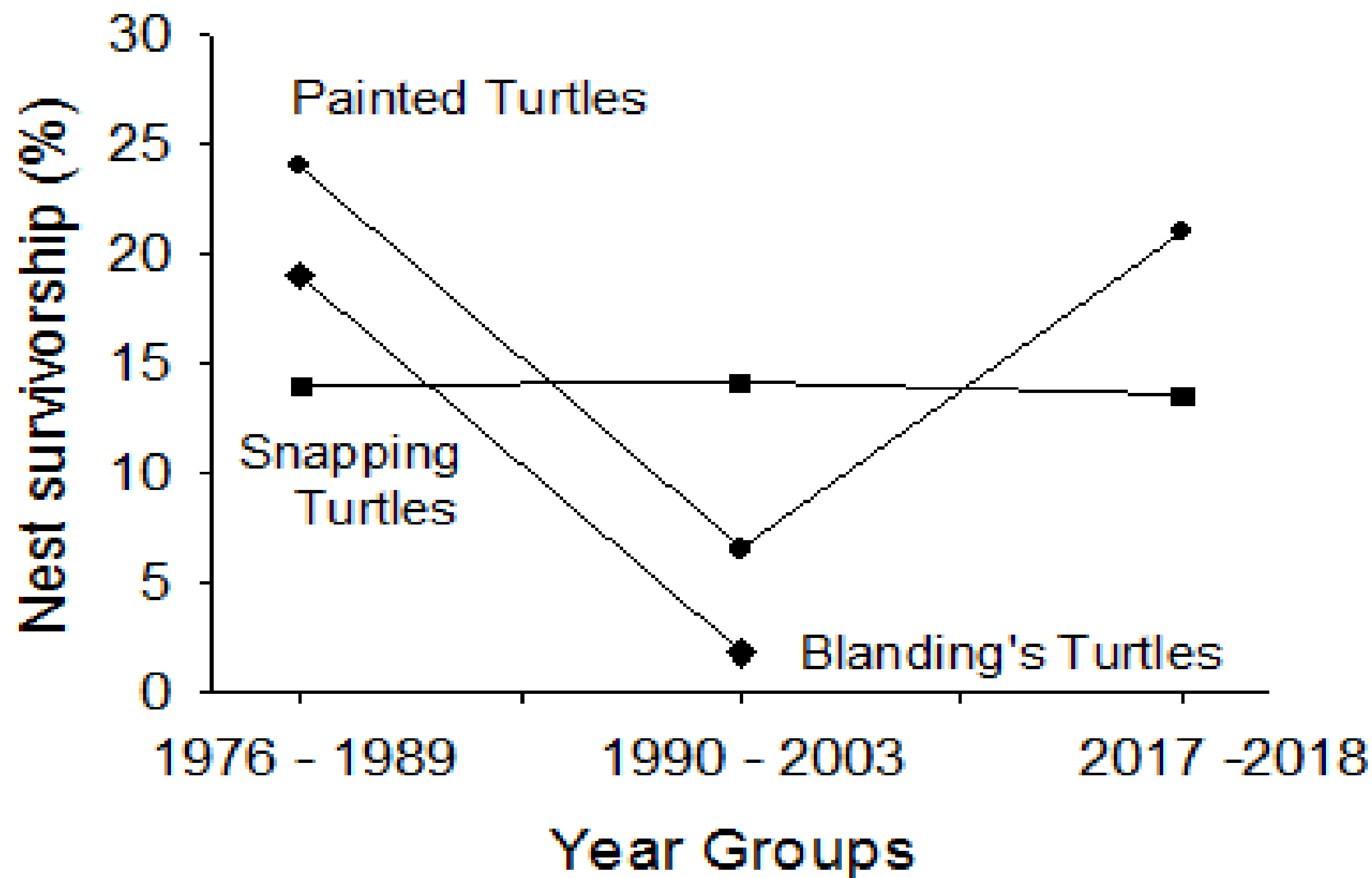




Pre-Autumn Olive

Autum Olive

Six nesting areas  
*restored*





# Restoration Equipment

























# Restoration Equipment













# Habitat Restoration Lessons

- Distribution, number and size of nesting areas are important ways to reduce predation rates.
- Knowledge of historic nest survivorship and nesting area locations was helpful.
- Restored nesting areas require annual tilling for several years to reduce seed bank & viable roots.
- Chain saw, tiller, and dedicated researchers and volunteers can do a lot to maintain nesting habitat.