

Population and Distribution of Turtles in Lake Matoaka

Research Experience for Undergrads Summer 2004
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Advisor: Randy Chambers, College of William and Mary

Research Questions:

- 1) What is the population size of sliders in Lake Matoaka?
- 2) What is the distribution of turtle species in Lake Matoaka?

Null Hypothesis: Turtle species distribution in Lake Matoaka does not vary spatially.

Alternate Hypotheses:

- 1) More native species on undeveloped west
- 2) More introduced species on developed east

RED BELLY SLIDER



Pseudemys rubriventris

EASTERN PAINTED TURTLE



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Chrysemys picta picta



Common Snapping Turtle

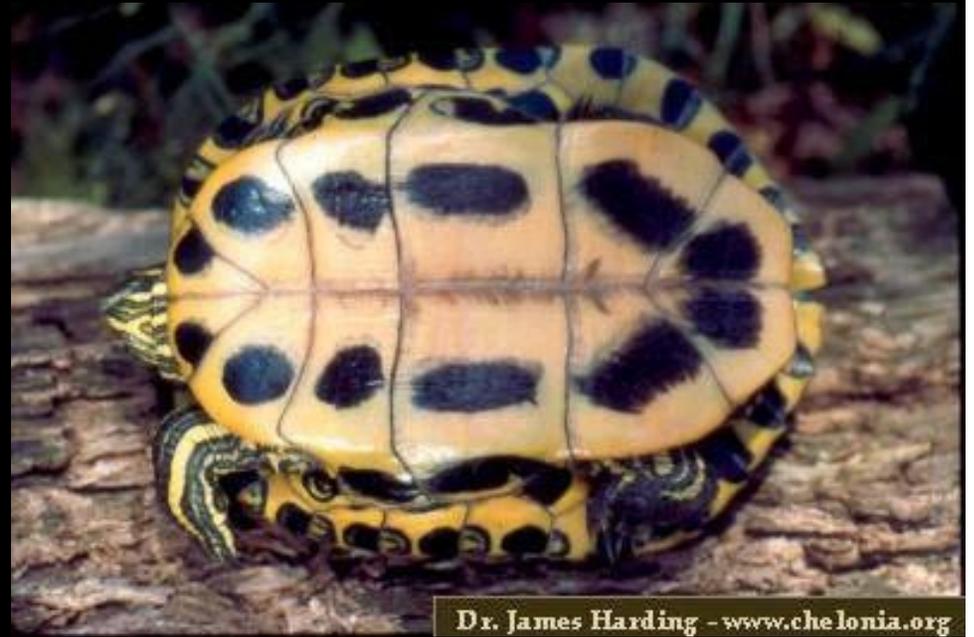
Chelydra serpentina serpentina

STINKPOT TURTLE



Sternotherus odoratus

RED EAR SLIDER



Pseudemys scripta elegans

Hybrid?



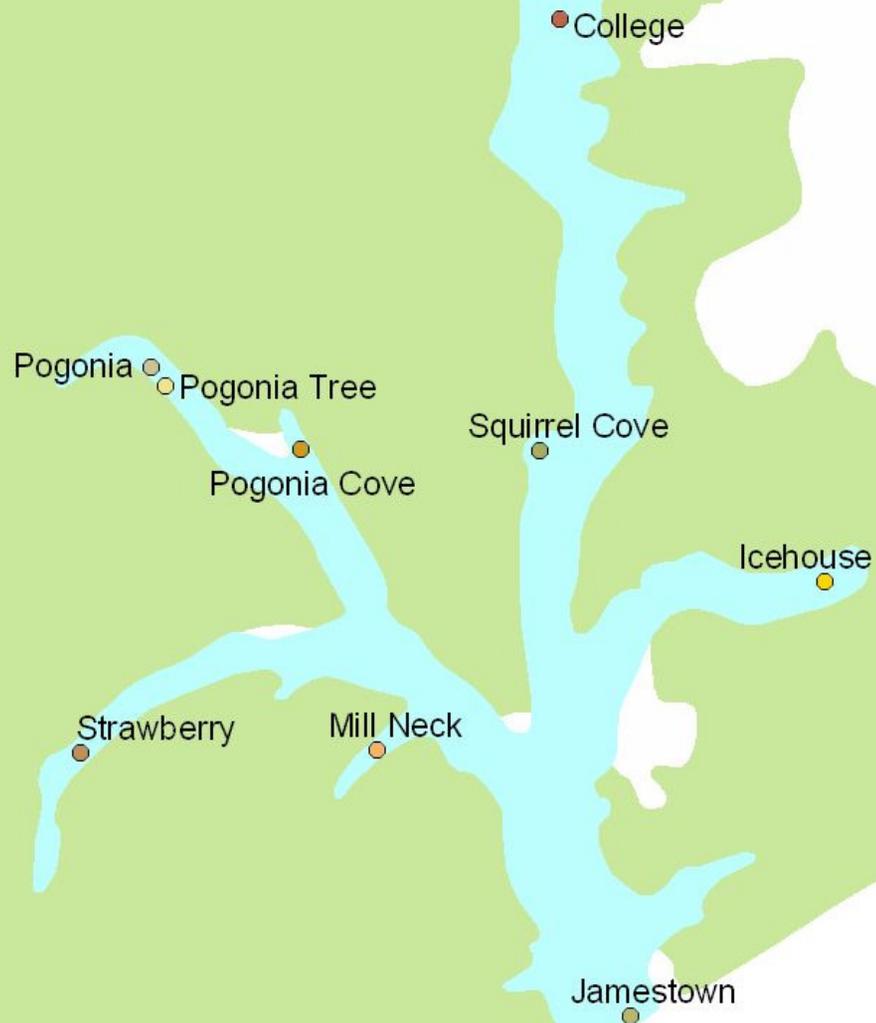
Method: Mark-Recapture

Trapping with hoop nets
in the lake

Hand collection
on land



Trap Locations



Results:

245 total turtles captured

6 total turtles recaptured

136 Red Bellies captured

4 Red Bellies recaptured

$$\hat{N} = \frac{\sum(C * M)}{\sum R + 1}$$

N= estimated # of turtles in population

C= total # of individuals caught in sample

M= # of marked individuals in the population just before sample is taken

R= # of recaptures in sample

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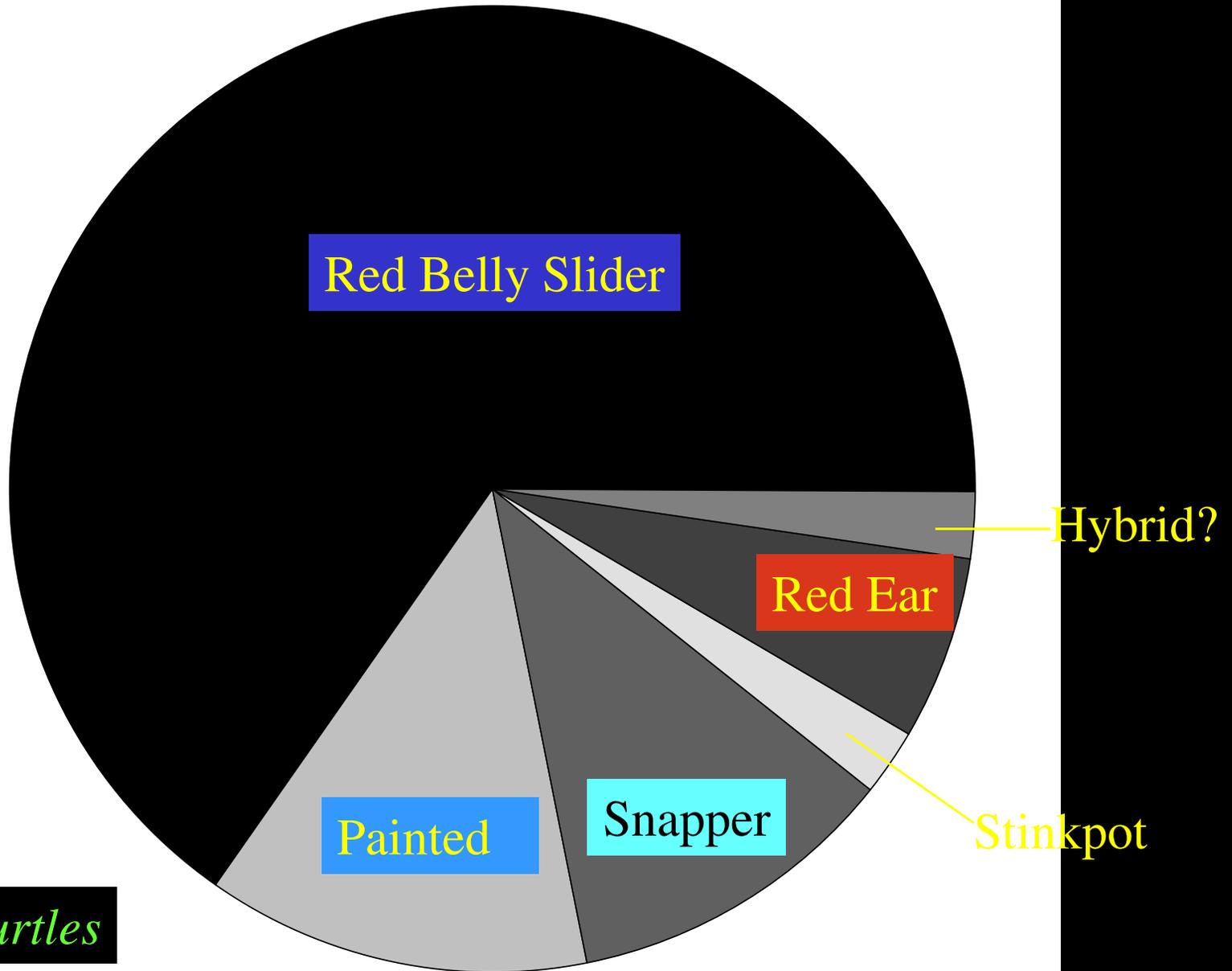
R= # of individuals already marked when caught in sample

Movements of Recaptured Turtles



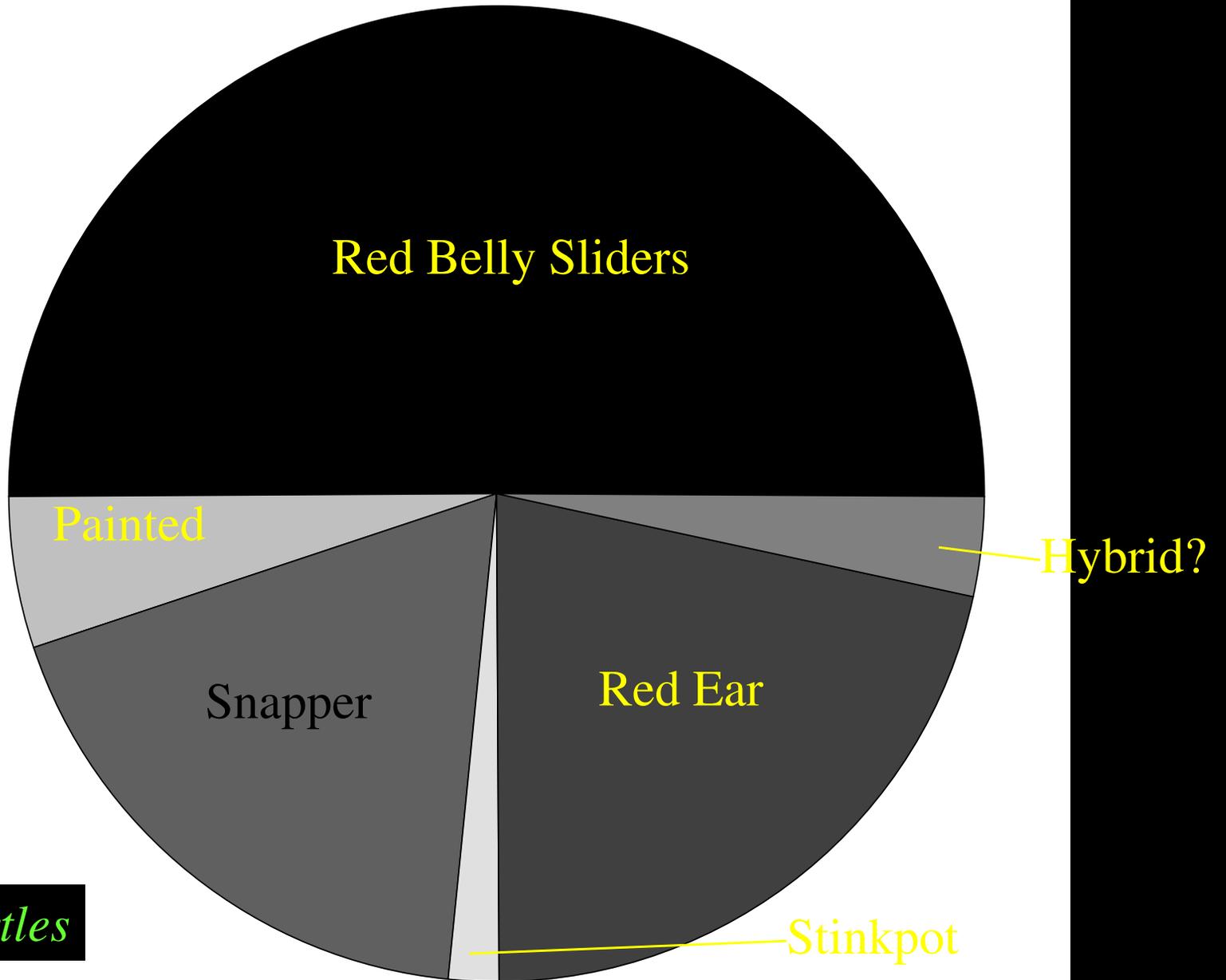
6 recaptured turtles

EAST/ DEVELOPED SPECIES COMPOSITION



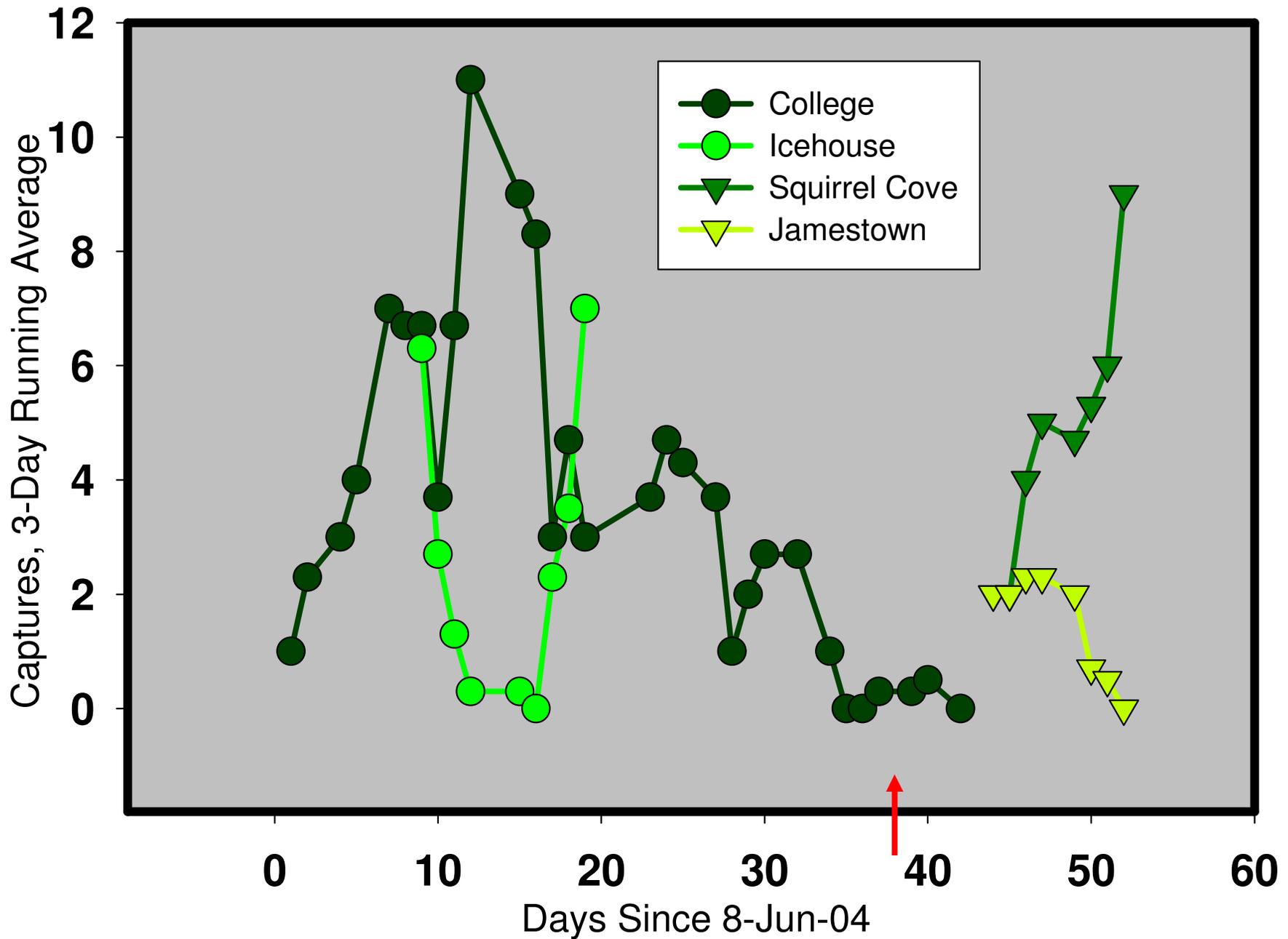
178 total turtles

WEST/ UNDEVELOPED SPECIES COMPOSITION

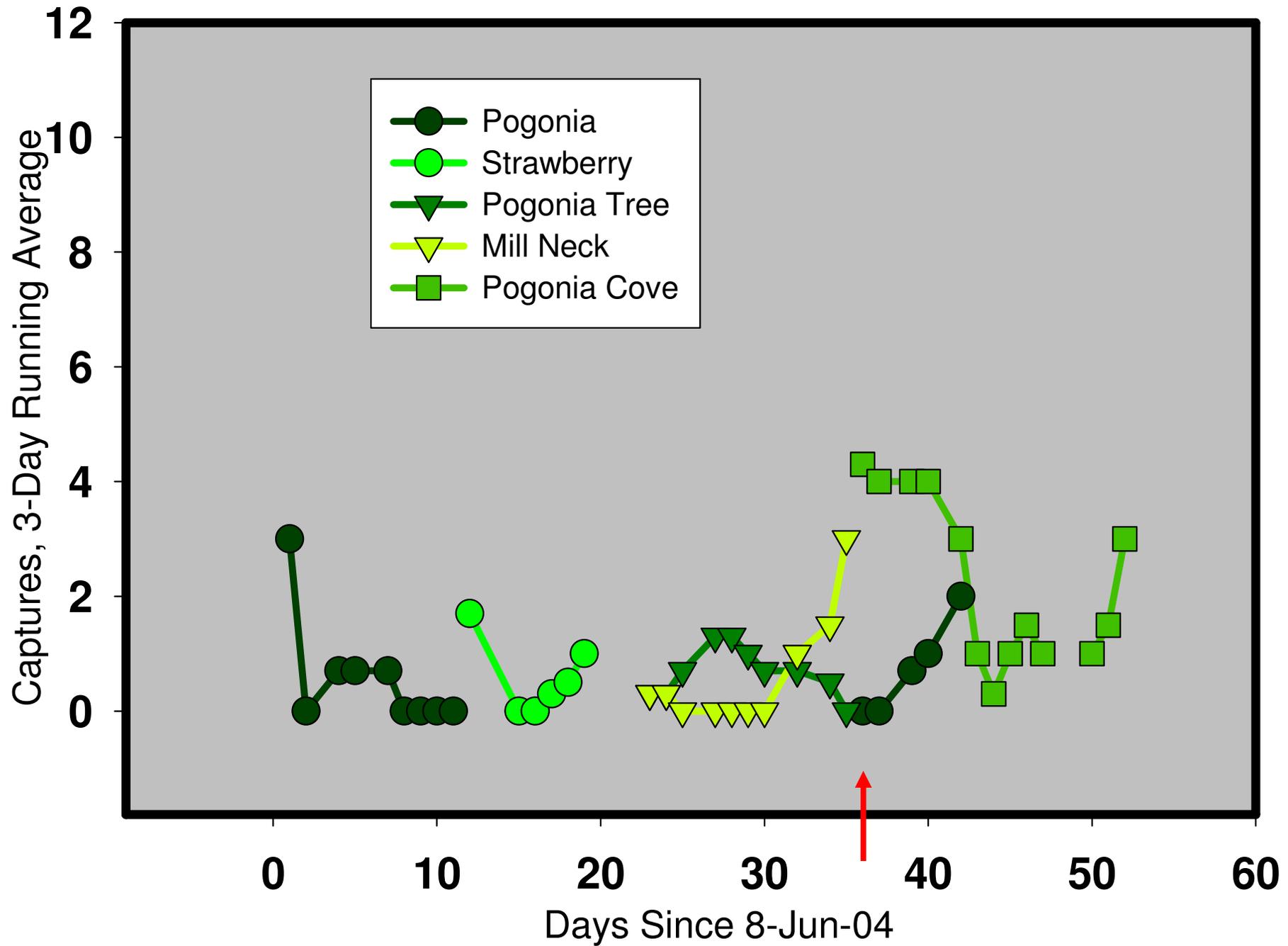


60 total turtles

TRAPPING TRENDS ON EAST/DEVELOPED



TRAPPING TRENDS ON WEST/UNDEVELOPED



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- * Turtles may be moving collectively around lake

Acknowledgments

*Dr. Randy Chambers
Turtle Helpers
Tim Russell
Tonya Insani*

