

THE SHORT- AND LONG-TERM EFFECTS OF ANTHROPOGENIC HABITAT DISTURBANCE ON THE GEOGRAPHIC RANGE DISTRIBUTION OF THE EASTERN BOX TURTLE

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Eastern Box Turtles (*Terrapene carolina*)

- Decreasing population because of habitat loss due to human development and collection for pet trade.
- Some disturbances include trails, homes, roads, and construction sites.



Original Goals

- Before the pandemic, we planned to go out in the field everyday and locate the turtles.
- The main purpose of doing this was to try and find nesting sites to see if the turtles prefer a particular habitat for nesting.





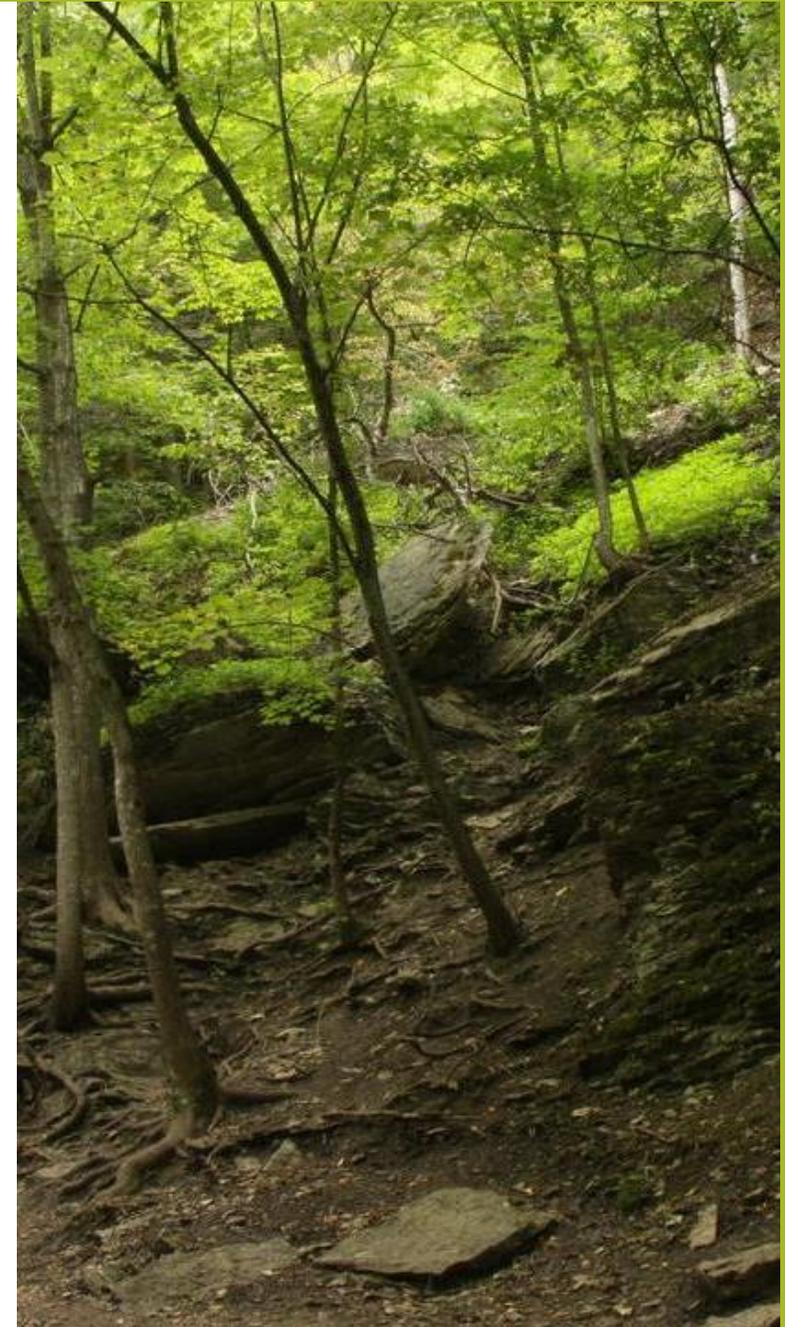
Goals

- There is a lot of powerline construction in the area, so we are analyzing the impact the disturbances are having on the turtles' home ranges.
- The turtles may shift their home ranges in response to the changing landscape.



Location

- We have radio tagged 12 turtles in an area in Berks County
- The area has steep, rocky hills that often affects the radio signals of the transmitters
- We are tracking 7 turtles currently



Results

- We compared home ranges between male and female turtles.
- Females average home range size is 2.56 ± 2.20 ha (mean \pm se), and males is 0.63 ± 0.18 ha
- The females this year do not seem to have a larger home range than males ($t=0.52$, $df=5$, $P>0.05$).



Comparison 2019 to 2020

- The female's mean home range size in 2019 was 2.76 ± 0.8 ha and the males were 0.53 ± 0.12 ha
- There was no major change in home range size other than the one turtle who was found again this year about 600m from her previous locations



Future Plans

- I want to continue to attempt to locate nests to aid conservation efforts.
- We plan to collect rainfall data to analyze if turtles are more active during precipitation.



Thanks to...

- ACRE program
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