From: Mike Cardwell [mailto:mikecardwell@comcast.net]
Sent: Wednesday, August 6, 2014 1:03 PM
To: Mike Cardwell [mailto:mikecardwell@comcast.net]
Subject: Rattlesnake update – 6 August

Hello all,

Here's a quick update on our rattlesnake study.

First, the movement maps (below): You'll notice the satellite photo is neither as recent nor as high resolution as the one I was using previously. In the past, I have been transferring data points from my mapping program to a beautiful Google Earth photo. However, that has become too time consuming and, in any event, I'm trying to illustrate only general movement distances and patterns. So I am now just copying the older and lower resolution satellite photo from the mapping program, as the process is quick but still illustrates the snakes' movements. I have also divided the male rattlesnakes into two images so their movements appear less cluttered. As before, the location of the two pregnant females (Coo39 & 41) are not shown to protect them over the next couple of months, as they probably will move little, if at all, until they have their kids in late September or early October.

An interesting but expected difference in thermoregulation between the males and pregnant females is emerging. Remember, I can calculate the snakes' core body temperatures from the pulse frequency of the transmitters (they pulse faster when warm and slower when cool). I now have 121 body temps recorded from 5 males and 21 temps recorded from 2 (pregnant) females. The maximum body temperatures I have for males and females is 91F and 90F, respectively (no real difference). But the lowest body temps for males and females are 59F and 81F, with average temperatures of 75F and 84F, respectively. This is due to the males moving around and hunting, often on the surface at night, while the pregnant females remain in shelters where they can stay warm at night. In fact, I have not seen either female out of her shelter recently. Their physiological priority now is to incubate those embryos rather than hunt for food. If we had non-pregnant females in the mix, I would expect to see them hunting and recording temperature ranges indistinguishable from the males. Interestingly, a colleague of mine in Tucson just emailed yesterday about baby Arizona Blacktail Rattlesnakes born in the past few days. We see baby rattlesnakes in southern California in early/mid September, and here around the end of September or a little later. Length of gestation is very much dependent upon temperature (usually correlated with both latitude and elevation) in these live-bearing reptiles.

We now have a telemetered rattlesnake roaming around residential yards northwest of the preserve. Coo37 has been in yards up there for several days. Between people not being home and long driveways, closed gates, and "no trespassing" signs, I have only been able to gain access to a few yards, each time finding the signal coming from the other side of a fence. But I have made some headway with notes left on doors and am contacting folks behind the "no trespassing" signs by mail. In the mean time, male #37 is on his own as I estimate his location by triangulating on his radio signal from a distance. Since none of these males are young animals, he and others have almost certainly been there before, apparently without incident (or they wouldn't have survived). In case you're interested (or know anybody that lives in the area), I have attached the flyer I'm using when I contact residents in the area.

Finally, I have been accompanied lately by EYNC docent-in-training and professional videographer George Nyberg, who's documenting our rattlesnake study for the Nature Center's website. He is hoping to have the piece finished and available after the arrival of baby rattlesnakes in the fall.

Best wishes,

Mike


Jamie's Coo35 (male)
Mike's Coo37 (male)
Paul's Coo40 (male)


Marilee's Coo36 (male)
Jackie's Coo38 (male)