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Sent: Monday, July 16, 2014 5:44 PM
To: Mike Cardwell [mailto:mikecardwell@comcast.net]
Subject: Rattlesnake update

Hi everyone,

There's been lots going on with the rattlesnakes while I was preoccupied with the programs at the Nature Center last Thursday through Saturday, along with other responsibilities. I've also been tinkering with the map, since it's so cluttered with new data and animals. I'll soon either create multiple maps with fewer snakes per map or just show current season home ranges. (See comments about too much info below)

Speaking of adding animals, Denise (my wife) discovered our first female (#39) behind the Visitor Center on Saturday, 5 July. We implanted a transmitter and released her on 8 July but during surgery, we discovered that she's pregnant with at least 6 embryos! I came across another female (#41) this morning. I'm currently out of transmitters but some refurbished ones are due to arrive from the Canadian manufacturer in the next day or two, so we'll radio-tag #41 too.

I have elected not to show females on the map, although I look forward to sharing the locations and all other details with you personally. As I was reminded last week, making too much location data public invites unscrupulous folks to find, catch, or kill the study animals; sadly, it happens all too often. I want you guys to feel free, in fact I encourage you, to share these emails and what we're doing and learning with friends, family, and colleagues, so I want to keep locations pretty generic. The males move constantly and even when you know exactly where they are, they're usually difficult to spot. Females are different, however.

Females move a lot less and, especially when pregnant, often select a favorite location where they will likely spend 2-3 months thermoregulating until they give birth in late September or early October. And they may use that location repeatedly each year they reproduce. I expect to send photos of the pregnant girls as things develop (and later with their kids) and the combination of a dot on an aerial photo with pictures of the location is just inviting someone to interfere.

Back to current events: A new male (#40) crashed the blue grass concert Saturday night and was captured by Paul. I put my last transmitter in him and released him this morning. This snake is very thin (849 mm snout-vent length but only 304 grams; average is around 480 g for his length) but he behaves normally and acts healthy. I'll keep an eye on him and see if he gains mass or declines; the segments of his rattle (a bit like tree rings) show no indication of health or weight problems in the past so maybe he just chased too many females (at the expense of eating!) this spring. More to come.

Numbers 36 and 37 have shed within the past week, after remaining immobile and mostly out of sight for more than a week before their sheds; #37's shed skin was right where he had laid up (see photo below) but I couldn't find #36's shed. Numbers 35, 36, and 37 have all been in ambush coils at various active ground squirrel burrows in recent days (see photo of #37). I assume they're hoping for pups, since the adult squirrels are pretty much immune to their venom. Shedding and hunting by the males is a good indication that courtship is over until late summer/fall, although it lasted longer this spring than usual.

Number 38 has been on the hillside below the residential back yards for two weeks, slowly working his way north and uphill. But on 14 July and this morning, he has been near the top of the hill, deep in a grape and ivy thicket but very close to the fence of a yard on Edgehill Lane (see map). One of the

objectives of the study is to find out how often rattlesnakes from the river bottom venture into yards and we may get our first indication soon. If he enters a yard, I'll have to notify the property owner and discuss whether or not to remove him.

Best wishes,

Mike



