

Rattlesnakes: Part Two

The conversation was conducted without benefit of tape recorder, so while it is not verbatim, it has been reconstituted from notes.

Chris Parent's research at Killbear has all been pointed toward answering the question, "Does human disturbance affect snakes?"

SL: Does it?

CP: Yes, just having people there is having an effect on them. We looked at whether they behaved differently and what effect that was having, and they do behave differently and at some costs to them.

These snakes (Massassauga Rattlers) move less where there are a lot of people around. In the wild they move approximately 25 metres a day; in mild population areas, they move 12 metres a day; and in heavy population they might only move 2-3 metres a day.

SL: What is the significance of less movement?

CP: In terms of prey, the Massassauga Rattlers are sit-and-wait predators rather than hunters. They wait for prey to come within reach rather than chasing it down. In any given area, their prey will run out and they have to move to better foraging sites. If they don't feel free to move as far, they may not be able to pick the best sites for hunting.

In terms of males moving in search of females, the females leave a pheromone trail and the males have to follow it. It can really slow them down. Picture a snake in the ditch wanting to cross a road. His first instinct is to freeze in the face of danger. It makes it difficult for them to get out of the ditch on a well-travelled road and it poses great danger to them when they are crossing. You have to look also at habitat change. More humans makes for a major difference. Inevitably there are fewer woods and more open spaces, less cover and this can be a factor in limiting movement and slowing them down.

SL: Overall, does that have a large effect on breeding?

CP: There has been so little research done on it that the statistics are still weak. What we have found is that reproducing females in heavy population areas grow more slowly. The Massassauga Rattler is a

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fairly long-lived snake. It's not uncommon for them to be 10, 12, or even 15 years old. It takes them an awfully long time to mature. The females don't usually start to reproduce until they are five or six, and then only every second year. If it takes them longer to reach maturity, and then a few reproducing adults are hit by cars each year, you can see that it could have an effect on the population.

Also, a pregnant female needs more energy, more food, and if it can't get to it or gets to it more slowly it will have an effect. They also spend a lot of their time basking. If they are hiding, in shadow and under things, it's time that they aren't basking, and that can affect the development of the baby snakes.

SL: They are born rather than hatched?

CP: Yes, the female retains the eggs in her body and regulates their temperature through periods in the sun and time in the shade. When a pregnant rattler gives birth, she loses 50% or more of her body mass. It's amazing that they survive at all. They average 11 snakelets (he called them neo-nates). The most I've ever seen was 17.

SL: Who oversees your research, how is it funded?

CP: I'm finishing off this part of my research as part of an M.Sc. program at Carleton. Nobody was doing it before me. When I'm finished this part of my research I'll carry on with it under a Ph.D. program at McMasters. We're going to take a page from the O.J. trial and use DNA sampling. We'll sample the DNA of the male snakes and be able to track the distribution of breeding males and their offspring. That should enable us to answer definitively if human disturbance is affecting mating patterns and whether a snake in the middle of a populated area is more or less successful at reproducing than a snake in the wild.

I'm funded by the World Wildlife Foundation, by the Ministry of Natural Resources and Ontario Parks, and by the Greater Bay Area Foundation. This is a charitable organiza-

tion that donates money to research into the effects of people on Georgian Bay (Greater Bay Area Foundation, 48 Lesmill Rd., Don Mills, ON M3B 2T5, and they are a registered charitable organization with a tax number and will accept donations), and some wages are paid through an NSERC (Natural Science & Engineering Research Council) Grant. It's important to recognize that research is important. It's important first because I feel we have a responsibility to make sure that the species survives and the research furthers that. The NSERC grant legitimizes to some extent the fact that the research is considered important and shows that it has interest both as an academic study as well as recognizing its value to applied conservation.

The staff at Killbear is outstanding in their cooperation and support, the MNR staff helps out, and visitors are helpful too.

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Two years ago, a little girl almost stepped on a two and one-half footer. I was called and put a radio on it. Two days later we wanted to release it in the same spot we got it. We let everyone in the surrounding campsites know and they all went for it, they told us to go ahead. Another time, there was a pregnant snake living under a rock. Some of the campers around there were interested in seeing a snake, so I introduced them to it. A few days later, one of the park staff came by and one of the original campers was giving my talk, almost verbatim, to a large group of campers. Once you introduce people to them, there tends to be a strong bonding. There was a rattler spotted on one campsite and somebody yelled out about it. The guy from the next campsite came running over with an axe. A bunch of campers formed a ring around it, just like musk-oxen, and wouldn't let him at it. Another time yet, I caught one and was holding it but didn't have anything to put it in. A few people gathered around, one of them went off to get some help for me. Meanwhile, a little girl went into her tent, dumped out all her Barbie stuff and came over with her Barbie suitcase. We put the snake in the Barbie suitcase and transported it like that. We get just amazing support both from park staff and from visitors.

The only disappointment this year is the cut to the Environmental Youth Corps program because we used to use those student positions to do a lot of the physical work for the research program.

SL: Thanks for taking as much time as you did to talk to us.

CP: I could talk about rattlesnakes for a few hours every day and not get tired of it.