Urban and Rural Coyote Ecology Project: Summer/Fall Updates

for

Ann & Sandy Cross Conservation Area

Prepared by Alexander Watts

The Ann & Sandy Cross Conservation Area (ASCCA) has been generous to allow researchers from the Department of Geography, University of Calgary to access their lands and include this area as a focal site in the Urban and Rural Coyote Research Project. The principal researchers in this project include Master's students Alexander Watts and Marielle Fortin-McCuaig, and Dr. Shelley M. Alexander. As many educators, stewards, and visitors of the Ann and Sandy Cross Conservation Area are likely aware, coyotes inhabit much of this landscape and can frequently be spotted in the early morning hunting for food. Research at this site is part of a larger Coyote Ecology project that was initiated by Dr. Alexander in 2005, which investigates the relationship between coyotes, the amount of garbage they consume, the incidence of conflict with coyotes in Calgary and surrounding environs, and the attitudes and values of people towards this carnivore species. Our specific research is comprised of two complimentary aspects that build on prior research: coyote disease status and coyote diet in urban and rural environments. To measure these factors, we search trails and agricultural transects (roads or paths through sites) for coyote scats (feces). The analysis of fresh animal scat is a proven method for understanding what species eat (i.e. deer/rabbit/ground squirrel hair or bones, berries, or grasses, etc.), as well as for finding parasites that may lead to disease in the animals (i.e. *Toxascaris leolina*, *Giardia* spp., *Echinococcus* spp., etc.), and evaluating whether animals that eat in urban environments may carry higher loads of parasites and thereby be more compromised in health. Using scat also allows us to examine the species ecology without disturbing it (i.e. it is non-invasive and does not require us to trap, handle and drug the animal, as with radio collaring).

Ultimately, through a better understanding both coyote diet and disease status, we can better understand how the urban environment may impact coyote ecology, what risks this may pose to humans or domestic animals, what role the coyote plays in the urban and rural ecosystem (in terms of consuming various small mammals like ground squirrels) and whether there is a relationship between these factors and levels of coyote-human conflict observed in the region. We have been sampling weekly at the Ann and Sandy Cross Conservation Area, and 16 other rural and urban sites since July 2009. We will continue to collect scat until the late Spring 2010. We work in collaboration with the management of the conservation area, in addition to many rural land-owners, and can be seen searching in many urban greenspaces as well. We are available to discuss our project when on site at the Cross Conservation Area on Mondays throughout January to July 2010 and are happy to provide additional information by email: Alex Watts (awatts@ucalgary.ca); Marielle Fortin-McCuaig (marielle.fortin@gmail.com); and Dr. Shelley Alexander (smalexan@ucalgary.ca).

Thus far, we have had a productive yield for scats (~125 scat samples) and have had numerous exciting observations of wildlife. Red foxes have darted across our path and we have weekly sightings of white-tailed deer. With respect to coyotes at this site, many have been seen in groups of 4 or 5. While it is generally assumed that coyotes tend to travel in independent, solitary pairs, it is very common for them to be in packs during the denning and pup rearing times, well into the fall, when they disperse into pairs or lone individuals. Many scats have been found directly on the path one of our principal transects - Rancher's Trail. Scats were often found on the sides of roads, and are commonly placed at farm gates. The consistent placement of scats in these locations is fascinating in a context of coyote territoriality that has been demonstrated elsewhere. These scat samples are all taken back to the Earth Sciences building at the University of Calgary for freezing prior to our analysis, which began in November 2009. By Spring 2010 we will have preliminary results comparing parasites occurrence and diet items from the coyote scat taken from ASCCA. As noted above, we are enthusiastic to share this information with everyone at ASCCA when our laboratory analysis begins.

Alexander Watts

Photographs taken at Ann & Sandy Cross Conservation Area by Alex Watts and Marielle Fortin-McCuaig