Weaselhead Monitoring Project: An initiative by Environmental Technology – EVT – students at Southern Alberta Institute of Technology

By Andrew Wilkinson

Calgary is an expansive city that ebbs and flows through river valleys, grasslands, wetlands, and hillsides. As the City redefines its boundaries, fragments of wilderness are left in the wake to try to survive in a fast paced urban world. The Weaselhead Natural area (Weaselhead) is the latest natural area that will be asked to adapt to Calgary's growing population and new transportation infrastructure. It is hard to know at the present moment how mammals will use the area after the completion of the Southwest Calgary Ring Road but a project from Environmental Technology (EVT) students at SAIT Polytechnic will study this issue over the next several years.

Research has identified that roads affect mammal movement, occurrence, and habitat use (Trombulak & Frissell 2000). The Weaselhead is a natural area in the City of Calgary and a variety of mammal species inhabit the area and move through the area. The Southwest Calgary Ring Road (SWCRR) is a multi-quadrant connecting highway planned to replace an existing road in the area with a five metre earthen berm, which will span the valley on the western boundary of the Weaselhead. Traveling mammals rely on wildlife corridors to move from one usable site to another and the highway will present a significant obstacle to mammals; it will fragment the Weaselhead from outlying wildlife communities. Several students, myself included, as well as a program instructor at SAIT Polytechnic, have developed a multi-year project to study the effects of the SWCRR on mammals using the Weaselhead Natural area as our case study.

The initial step of our project is to collect baseline data that will establish a current view of which mammals use the habitat as well as their occurrence. The results of the baseline data can then be compared to data collected in subsequent years by future students to observe any significant difference in mammal occurrence.

The First Day

Our first day on site started off on a sunny but cold mid-January day, a balance testing pathway of ice led us to the position of our first transect. The forest floor was holding on to 30 cm of snow, which for the inexperienced hiker, wound up occupying the free spaces in their boots. Twenty-five students ducked through a thick forest and scrambled over decaying trees to set up five transects measuring between three and 4 kilometres in total length. One transect consist of five to seven 100m long by seven-metre wide marked sections that run east to west in the natural area. Using transects, trained students in mammal track recognition can survey tracks and trails of mammals left behind within 3-5 days of a recent snowfall. The task would prove to be a test of patience with Calgary weather. On the first day a multitude of tracks were identified in the snow: cougar, weasel, vole, mouse and ungulate. The optimism of the project participants was remarkable, but in the weeks that followed Calgary experienced an understated dry winter.

Several weeks had passed and the existing snow in the park consolidated into ice. New mammal trails could not be observed and any hope of fresh snow was quelled by flawlessly blue sunny skies. The lack of snow created a problem for the project, but the project had another means of data collection that was not wholly dependent upon the weather. With permission from the City of Calgary, we installed 21 motion-sensor cameras in the Weaselhead. The main objective became, in lieu of much needed snow, to collect passive data from the cameras to measure the mammal occurrence within the park. The cameras worked wonderfully, capturing the attached images of a young white tailed deer, a skulking coyote, and a prowling cougar. All of those animals are currently present and roaming in the Weaselhead Natural area.

The Future of the Project

In subsequent years, students entering the EVT program will pick up the reins of the Weaselhead Monitoring Project. They will construct transects, place wildlife cameras and catalogue data and present progress reports to our sponsor, Weaselhead Preservation Society, and to representatives of the SAIT Innovative Student Projects Fund who have supported the project financially. A final report consisting of the compiled results will be sent to the City of Calgary's parks ecologist at his request. All records also will be available to graduating students who have a vested interest in the ongoing findings of the project. The project also intends to make

its findings available to the public once it is completed.

The residents of Calgary use parks as a place of recreation, gathering, and a window on the natural world. Our student project plays an important role as we learn more about the wildlife that use this natural area within the city limits and we help the general public and decision makers know more. As the city expands its transportation corridors, knowing more about the wildlife should help with planning to conserve natural habitat and ecosystems as much as possible. This will help ensure that wildlife corridors are protected and enhanced throughout the process.

Note: the dates on the images are incorrect due to improper set up of cameras.

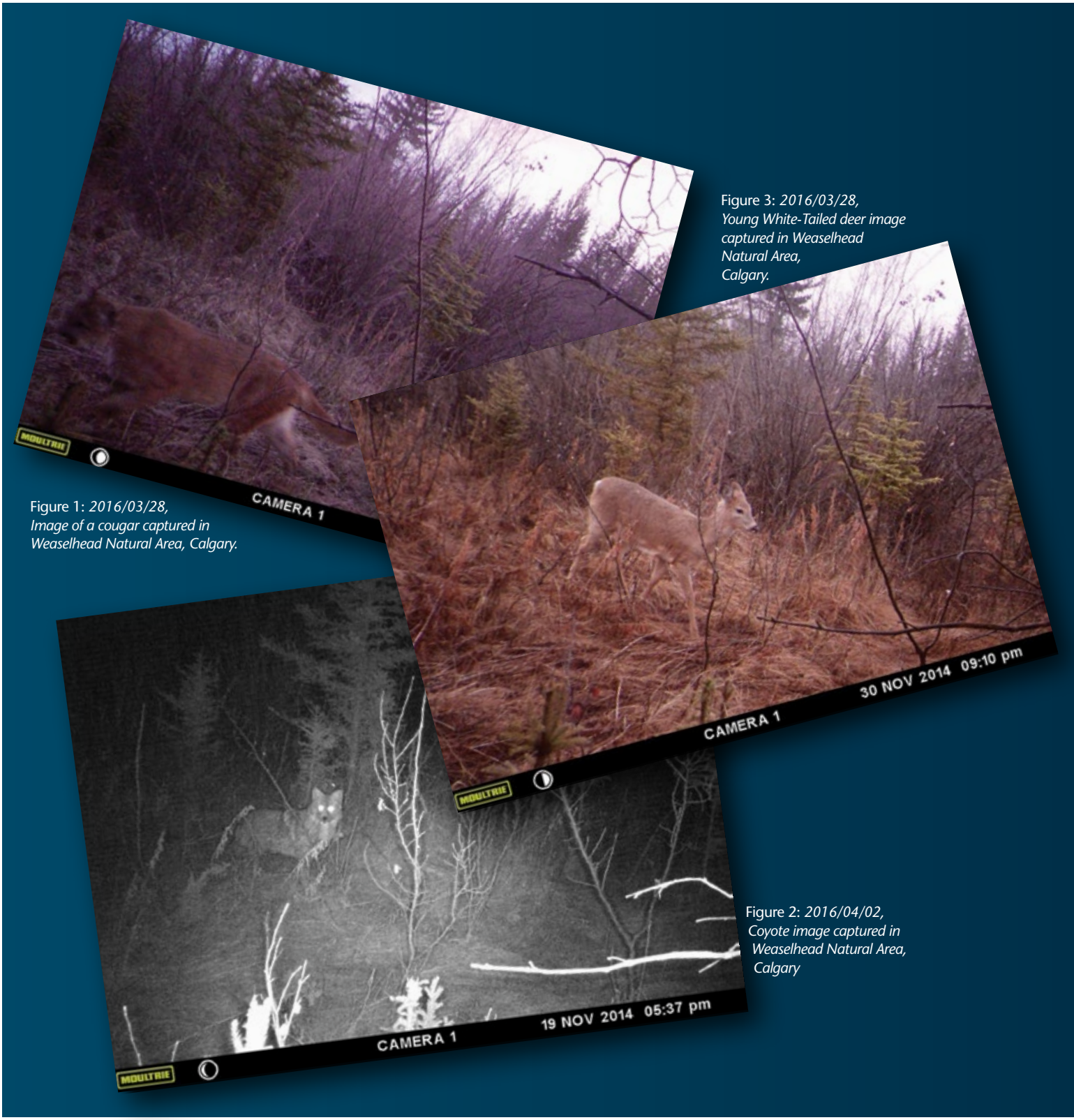

Figure 1: *2016/03/28, Image of a cougar captured in Weaselhead Natural Area, Calgary.*

Figure 3: *2016/03/28, Young White-Tailed deer image captured in Weaselhead Natural Area, Calgary.*

Figure 2: *2016/04/02, Coyote image captured in Weaselhead Natural Area, Calgary*