Where the Wild Things Are:

harnessing the power of citizen scientists

By Samantha Managh, *Parks Ecologist, Calgary Parks*

Citizen science in its simplest form is exactly as it sounds – it is the citizens and the science. The citizens are willing participants in the scientific process, and the science is a question that needs to be answered. Ideally, the program is accessible to non-specialists and the program is led by a team of scientists who have designed a structured approach to addressing the research question. Citizen science can be used by researchers to monitor biodiversity or other aspects of natural history and has long been recognized as a legitimate means of collecting scientific data. The level of difficulty of programs can range from easy checklists participants can do on their own to more complex methodologies that have trained volunteers working in conjunction with professional scientists. In contributing their time and effort, citizen scientists are supporting important conservation and research efforts.

Citizen science can be a very useful method to engage all parts of society and build an informed citizenry that can successfully advocate for issues of concern to them. Within a municipality it can be used to achieve biodiversity and urban ecology goals through the generation of information and engagement of the public in urban ecological issues. In addition, citizen science can complement existing research and monitoring initiatives and enable data collection that would not otherwise have occurred due to cost constraints. Recent rapid technological advances have provided opportunities for participation that were not available in the past. It has accelerated the democratization of science.

Calgary Parks has committed to increasing the ecological literacy of our citizens by providing volunteer initiatives and education programs to support environmental stewardship and biodiversity conservation. This commitment animates *Our BiodiverCity*, Calgary's 10 year biodiversity strategic plan. As part of this initiative, City of Calgary Parks has embarked on a multi-year wildlife remote camera monitoring program, Calgary Captured, which includes a large citizen science component.

This citizen science program was publically launched in January 2018. Calgary Captured offers Calgarians a novel way to peek into our local parks and classify wildlife caught on camera. Over sixty remote motion-activated cameras have been installed throughout Calgary's largest natural areas, including Fish Creek Provincial Park. The remote cameras are placed to capture im-

Some of the wildlife photographed by Calgary Captured. CREDIT: CITY OF CALGARY

ages of medium and large sized mammals, such as cougars, bobcats, coyote, fox, bear, deer, moose and elk. All of these species depend on intact wildlife corridors to move throughout the landscape. This data will inform conservation and management decisions about Calgary's open spaces.

Some of the questions we will be exploring with Calgary Captured over the next few years include:

Who calls Calgary home?

While we won't be directly measuring populations with the data from our cameras, we can get a sense of which species are most common and where they are.

Calgary supports a population of 1.2 million people but is also home to a diverse array of terrestrial mammals, including bobcats, moose, deer, coyotes and skunks. There are occasional reports of grizzly bears, black bears, and cougars as well.

How do species live with each other?

We know almost nothing about how species in Calgary might compete with one another, engage in predator-prey dynamics or avoid each other. By evaluating our camera images, we can begin to better understand the Calgary urban ecosystem, including how species interact.

How are they moving through our city?

How well do our natural areas function as movement corridors? This long term monitoring will help assess patterns of terrestrial mammal movement occurring in Calgary.

How can humans and wildlife co-exist in a city?

We know that people change the way wildlife behave, but many of the details about how humans impact wildlife remain unclear. Some animals adapt well to humans, some are indifferent, and some avoid us. In addition to images, by collecting incidental observation data on humans (what time of day do we use our parks etc) we can get a sense of how animals in urban settings react to the people who make the city their home.

Initial Results

Our first season of images (May – July 2017) was classified in a short 51 days. This first season included 120,000 unique images and each image was classified (viewed) five times and we had just over 2,000 volunteers sign up on the Zooniverse site. Interesting species of note captured in this first season were a long tailed weasel – currently listed as *May be at Risk* on the *General Status of Alberta Wild Species* report, a northern flying squirrel,

and a possible grizzly bear.

Our second round of images (August 2017 – January 2018) will be released in June 2018 for citizen scientists to classify. Look for a few species to show up that were not found during the first round of classifying! We will be releasing initial results from our first season shortly and more information will be made available on the Calgary Captured Zooniverse page.

How to Participate

Calgary Captured offers you a novel way to peek into our local parks and classify wildlife caught on camera. With your participation, tens of thousands of wildlife images can be reliably classified in only a few weeks.

We welcome your participation by:

1. **Going to Zooniverse.org**: and search for Calgary Captured to begin identifying species.
2. **Join the Conversation:** be sure to click the #talk button on the last screen before you submit your observation to let us know if you found something really great!

Log on and start experiencing your parks from the comfort of your own home. This is a chance for you to take a peek into Calgary's local parks and see what the critters get up to!