

The impact of *wildness* on biodiversity and public perceptions in CMP

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Urban Parks and *Wildness*

- Urban parks typically differ greatly to wildlands
- But that doesn't mean that user communities don't recognize that certain urban parks feel more *wild* than others
- *Wildness* is an attribute in urban parks which can have benefits for human use as well as plant and animal biodiversity
- First such effort to engage very underrepresented citizen science communities to measure ecological wildness and human perception
- Provide feedback to CMP about how best to manage for wildness so as to meet specific targets



Urban Parks and *Wildness*

- Research questions
 - i) How does plant, bird, and mammal biodiversity vary across a network of urban parks?
 - ii) Can the human perception of wildness be predicted by biological diversity in the context of urban parks?
- Hypotheses
 - i) *Wilder* parks will be more biodiverse in terms of plant, bird, and mammal species richness
 - ii) We can develop strategies to manage for *wildness* – promote biodiversity



Proposal

- We are proposing to;
 - Deploy 400 camera traps throughout CMP
 - Study biodiversity of plants, birds, and mammals via citizen-science driven data collection protocols
 - Interview park users across the CMP network to determine spatial variation in the perception of wildness



Additional Benefit

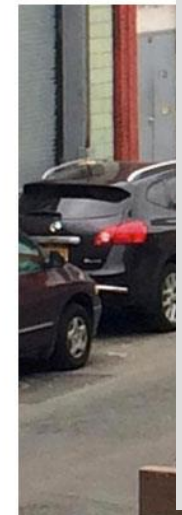
- Enhanced monitoring will;
 - Achieve existing efforts for population monitoring of key species
 - Reveal the types of organisms that are using the parks when we are not looking
 - Develop a new research avenue for CMP including studies of wildlife habitat use as well as movement/disease ecology



Recent Scientific Attention



SCIENCE THE ST
New
Coyotes may
but they're cl
By Lance Richardson



A coyote spotted on the roof of L.I.C. Bar on Vernon Blvd. in Queens, March 30, 2015.



HOME / RESEARCH NEWS / CONSERVATION BIOLOG

CATS DON'T ROAM IN P

IN CONSERVATION BIOLOGY. RESEARCH NEWS

BY MICHELLE Z. DONAHUE



A coyote investigates a camera trap set up in a protected areas, urban forests and suburban habitats showed that where coyotes are common, cats are not.

In one of the largest studies of its kind, a volunteer-fueled camera trapping effort showed that

N.Y. / REGION

Coyotes Create Dangers and Divisions in New York Suburbs

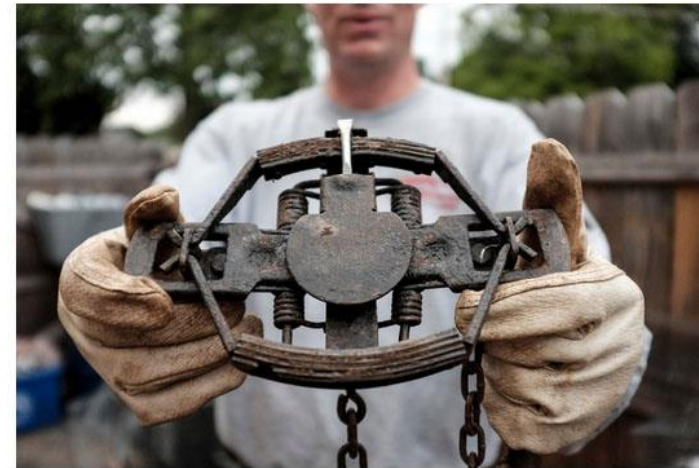
By LISA W. FODERARO JUNE 23, 2015

Periodically, it seems, an animal species arises to wreak havoc on the best laid plans of human beings. In years past, deer have eaten every hosta and tulip in sight, wild turkeys have chased homeowners off their lawns, bears have ripped apart bird feeders like tin cans.

This year, it is the coyote.

In New York City, where Eastern coyotes are having a breakout year, a glimpse of one of the animals is still rare enough to elicit curious amazement. But in the suburbs, the feeling is different.

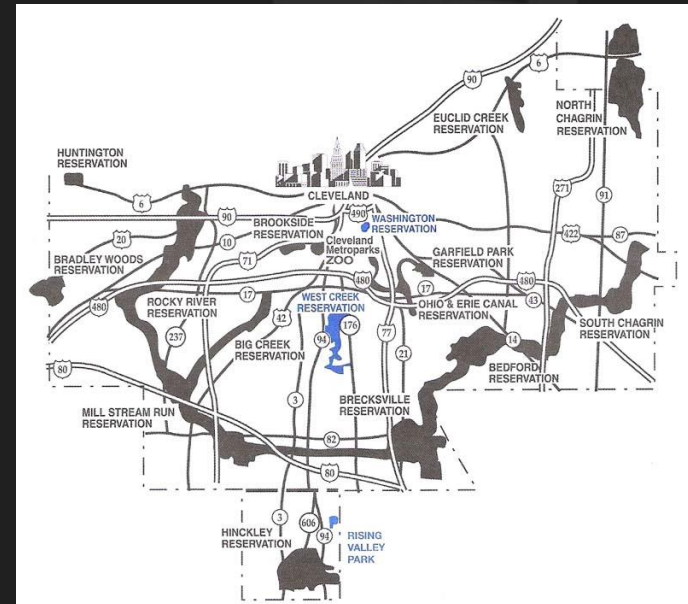
In New Castle, N.Y., residents are warring over what to do about the animals, which attacked and killed a number of small dogs in the town



Jim Horton, a licensed animal trapper in Westchester County, with a foothold he uses on

The Cleveland Metroparks

- > 23,000 acres of parks that vary in their size, configuration, and integrity
- Diversity in parks and steadfast dedication to community engagement by CMP
- In the last 3 years CMP has implemented programs that have engaged >200,000 youth
- CMP is highly interested in engaging under- represented citizen scientists



Underrepresented Citizen Science

- We will provide integrative opportunities for very-underrepresented citizen scientists
- Integrate blind citizen scientists in acoustic monitoring of birds (for bird monitoring)
- Work with underrepresented youth to deploy, maintain, and collate camera trap data (for mammal monitoring)



Preliminary Results

- Established the research team
- Collected plant biodiversity data
- Developed grant applications
- Secured graduate student contracts
- Initiating collaboration with citizen science partners



Meet the Team



- Jeremy Bruskotter
Associate Prof OSU



- Terry Robison
Director of NR - CMP



- Jon Cepek
Wildlife Ecologist - CMP



- Pam Dennis
Veterinary Epid. - CMZ



- Patrick Lorch
Field Research - CMP



- Remington Moll
Ph.D. Student MSU



Data Collection

- CMP has established 400 permanent research plots
- Staff monitor plant biodiversity in accordance with the Carolina Vegetation Survey
- Thus, we have a large dataset representing a portion of the data necessary to evaluate our questions
- Next, we need to conduct acoustic monitoring (birds) and deploy camera traps (mammals)



Grantsmanship

- Application to the Earthwatch Urban Ecosystems Program - Currently in review
- “Harnessing the power of citizen science to address global change”
- Opportunity to develop additional applications to NSF, others



Studentships

- Remington Moll is a MSU University Distinguished Fellow and a National Science Foundation Graduate Research Fellow
- The combination of these prestigious fellowships provide him with 5 years of funding totalling >\$200,000
- Seek to integrate additional students onto the project as it grows



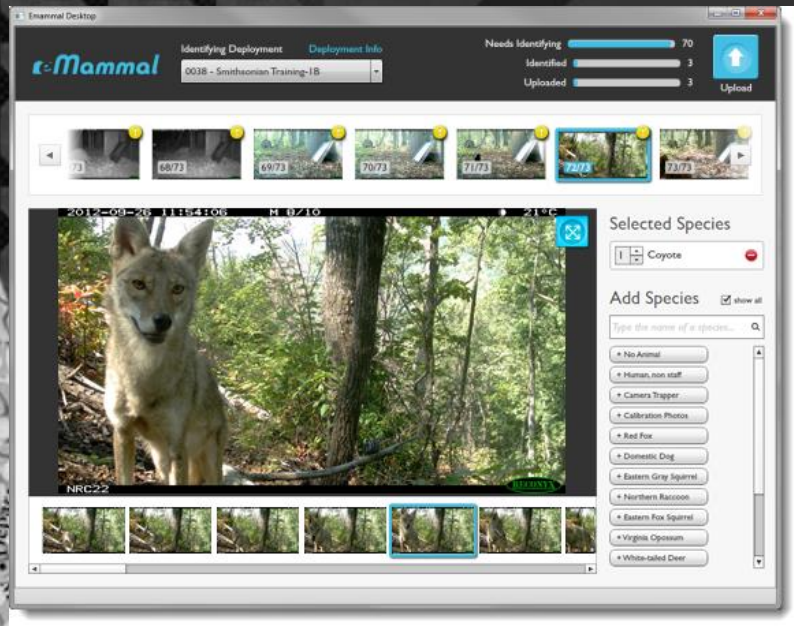
Developing Project Contacts

- Contacts with the Cleveland Sight Center and the Montessori High School at University Circle
- Funding to associate camera traps with each of the 400 permanent vegetation plots distributed throughout CMP
- Established agreement with TrailCamPro to attain these cameras at highly discounted rates



Why will we be successful?

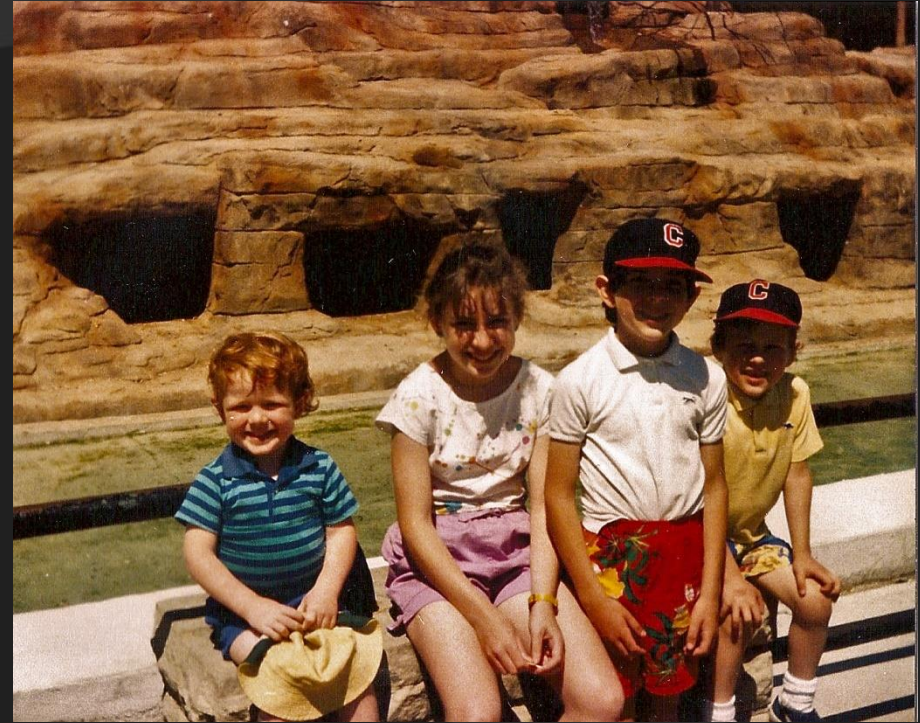
- CMP is setting us up for success
- We have worked on large-scale camera trapping initiatives both domestically and abroad
- E-Mammal
- Ruaha, Tanzania



The screenshot shows the E-Mammal web interface. At the top, it displays 'Identifying Deployment' and 'Deployment Info' for '0038 - Smithsonian Training-1B'. A progress bar indicates 'Needs Identifying' at 70, 'Identified' at 3, and 'Uploaded' at 3. Below this is a row of thumbnail images. The main view shows a large photo of a coyote in a forest, labeled 'NRC22'. To the right, there is a 'Selected Species' section with 'Coyote' selected, and an 'Add Species' section with a search bar and a list of species including 'No Animal', 'Human, non staff', 'Camera Trapper', 'Calibration Photos', 'Red Fox', 'Domestic Dog', 'Eastern Gray Squirrel', 'Northern Raccoon', 'Eastern Fox Squirrel', 'Virginia Opossum', and 'White-tailed Deer'.



Why does this project matter to me?



Thank you!

