



Alliance for Contraception  
in CATS & DOGS

## Key Projects 2016

ACC&D'S WORK TO ADVANCE non-surgical methods of fertility control for cats and dogs is leading the animal welfare field into the future. The projects we design address today's needs, but with tomorrow's opportunities and dilemmas in mind. Please enjoy this visual guide to our key projects and be sure to visit [www.acc-d.org](http://www.acc-d.org) for further detail.





# Preventing Unwanted Litters Without Surgery

Frangelico enjoys affection from Gregory Castle



The ball pit is a big hit at Clowder



Co-Investigator, Dr. Julie Levy, rewards a cat with Cheese Whiz



Study participant, Figment, uses volunteer Katie Frey to get a better view

**ACC&D EXPLORES** the future of humane cat population control by designing and sponsoring the study of a promising contraceptive vaccine. In addition to testing non-surgical options, this unique study has taught us how scientific rigor and remarkable cat welfare can go hand in hand.



University of Illinois students volunteering at Clowder Concepts

INNOVATION PARTNERS



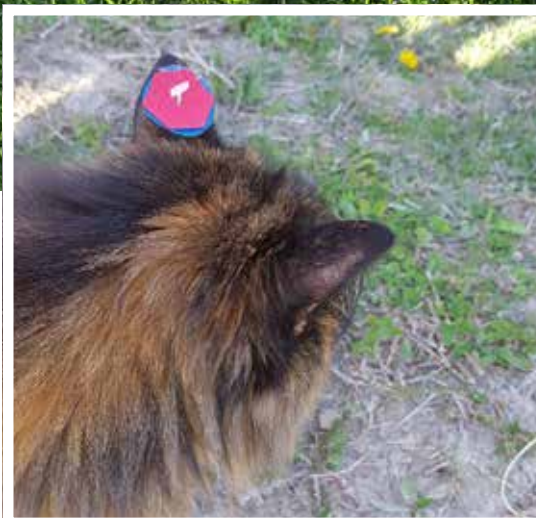
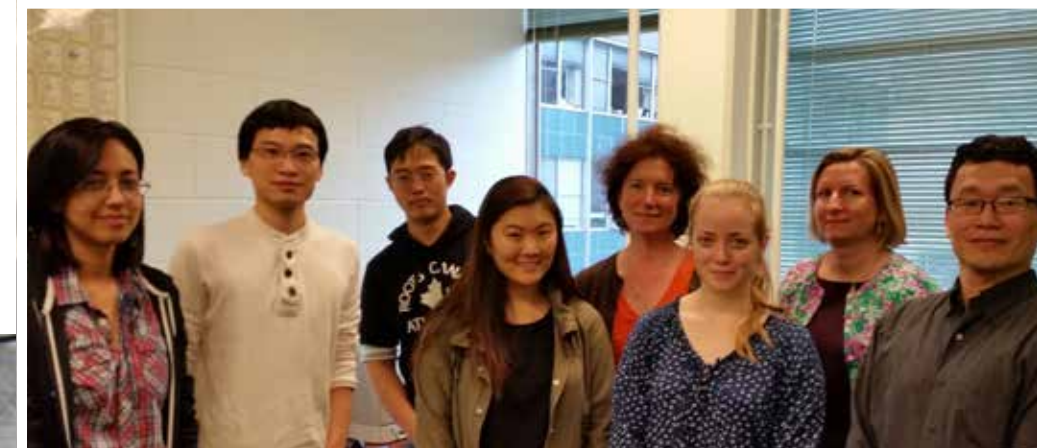
Clowder Concepts, LLC

John T. & Jane A. WIEDERHOLD Foundation



# Developing Important New Tools

Students and faculty from Cornell University working together across disciplines to create a 21st century ear tag (from left to right – Debashree Guruaribam, Yunfei Ma, Po-Jen Hsieh, Lorie Kim, Elizabeth Berliner, Eloise Cucui, Margaret Frey and Edwin Kan)



**HOW DO WE IDENTIFY DOGS AND CATS** treated non-surgically? We're partnering with leading organizations to design and humanely test a 21st century ear tag. Field trials are expected to begin late 2016 with one or more of these partners.



Puppies in Romania trialing ear tags in Eloise Cucui's study



Possible coding for ear tags

## INNOVATION PARTNERS



## FIELD STUDY PARTNERS AND SITES



Kenya



American Samoa



Mexico



# Simulating Cat Colonies for Smarter TNR



**PLOS ONE**

RESEARCH ARTICLE  
**Simulating Free-Roaming Cat Population Management Options in Open Demographic Environments**

Philip S. Miller<sup>1\*</sup>, John D. Boone<sup>2</sup>, Joyce R. Briggs<sup>3</sup>, Dennis F. Lawler<sup>4</sup>, Julie K. Levy<sup>5</sup>, Felicia S. Nutter<sup>6</sup>, Margaret Slater<sup>7</sup>, Stephen Zawistowski<sup>8</sup>

**Abstract**  
Large populations of free-roaming cats (FRCs) generate ongoing concerns for welfare of both individual animals and populations, for human public health, for viability of native wildlife populations, and for local ecological damage. Managing FRC populations is a complex task, without universal agreement on best practices. Previous analyses that use simulation modeling tools to evaluate alternative management methods have focused on relative efficacy of removal (or trap-return, TR), typically involving euthanasia, and sterilization (or trap-neuter-return, TNR) in demographically isolated populations. We used a stochastic demographic simulation approach to evaluate removal, permanent sterilization, and two population types: a given implementation rate of the TR strategy results in the most rapid rate of population decline and (when populations are isolated) the highest probability of population elimination, followed in order of decreasing efficacy by equal rates of implementation of TNR and temporary contraception. Even low levels of demographic connectivity significantly reduce the effectiveness of any management intervention, and continued abandonment is similarly problematic. This is the first demographic simulation analysis to consider the use of temporary

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OPEN ACCESS  
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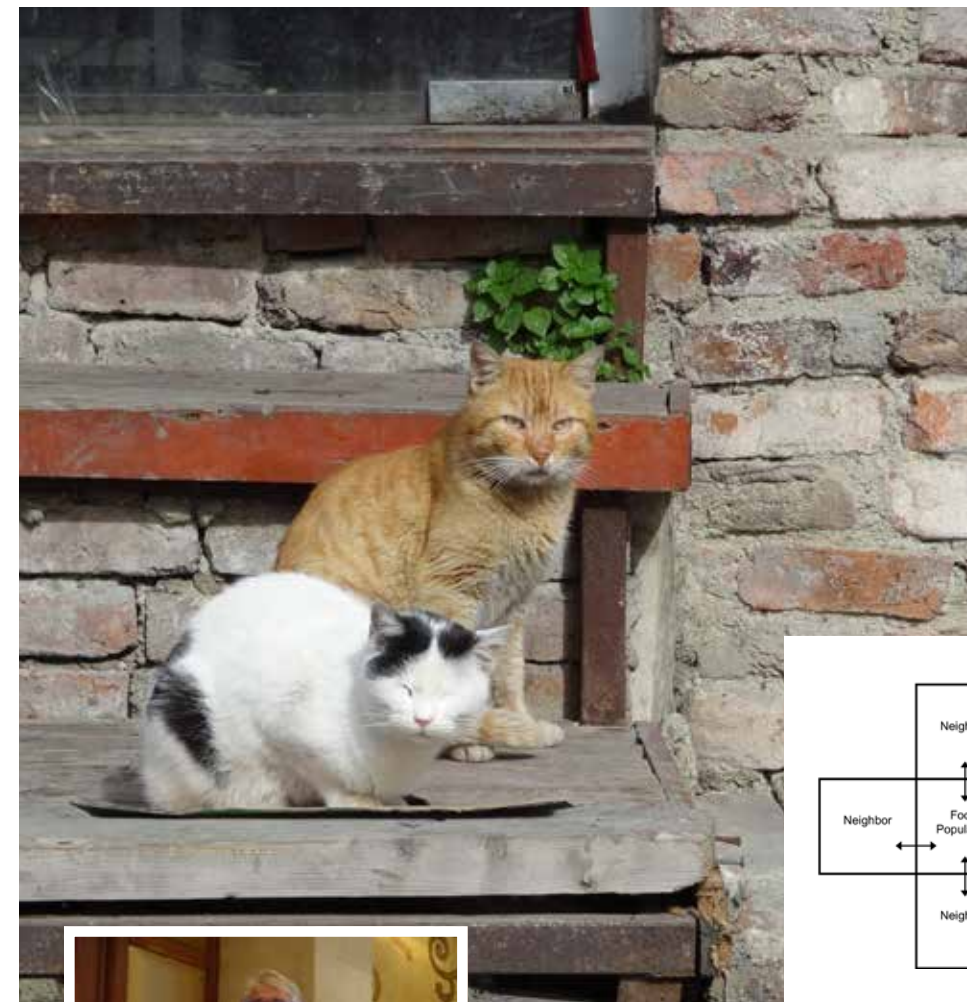
Data Availability: The authors confirm that all data underlying the findings are fully available without restriction. All relevant data are within the paper and its Supporting Information File.

Funding: This research was supported by a grant from the Australian Society for the Prevention of Cruelty to Animals (ASPCA) for the project 'Efficacy of TNR in FRCs'. The authors thank the National Science Foundation (NSF) for their support in study design, data collection and analysis. We thank the following individuals for their assistance in study design, data collection and analysis: Stephen Zawistowski, Felicia Nutter, and members of the team.

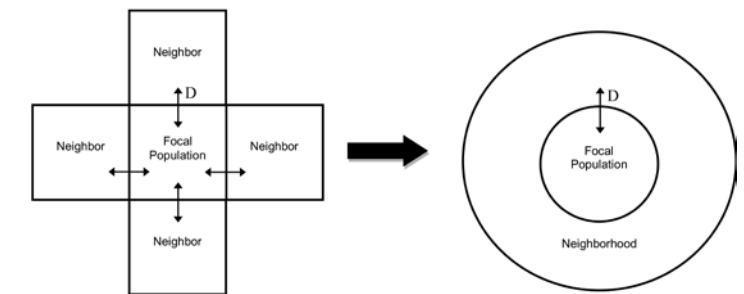
Competing Interests: The authors have declared that no competing interests exist.

PLOS ONE | DOI:10.1371/journal.pone.0113553 November 26, 2014 1 / 17

**HOW CAN WE HELP TNR PROGRAMS be successful? We convened experts across disciplines to answer this question, resulting in computer simulation to model the population dynamics of cat colonies. This work looks at the population impact of traditional TNR, temporary contraception and removal; cost implications for these interventions have recently been incorporated. The result: key guidance for funders interested in the best use of their dollars for humane prevention of litters.**



Biologist Dr. John Boone speaks often about ACC&D's population modeling work



Spatial representation (left) of a focal free-roaming cat population in an area surrounded by similar habitat inhabited by other cats, and a generalized representation (right) of that same metapopulation configuration used within the VORTEX simulation software environment. Dispersal rate designated by parameter D.



Dr. Phil Miller, expert in computer simulation modeling and wildlife, brings his expertise to the study of free roaming cats

## The ACC&D Free-Roaming Cat Model Development Team:

- Aaron Anderson, PhD, National Wildlife Research Center, USDA APHIS
- John Boone, PhD, Great Basin Bird Observatory
- Joyce Briggs, MS, Alliance for Contraception in Cats & Dogs
- Dennis Lawler, DVM, FNAP, Illinois State Museum, Pacific Marine Mammal Center Laguna Beach
- Julie Levy, DVM, PhD, DACVIM, University of Florida College of Veterinary Medicine
- Philip Miller, PhD, IUCN/SSC Conservation Breeding Specialist Group
- Felicia Nutter, DVM, PhD, DACZM, Tufts University
- Margaret Slater, DVM, PhD, ASPCA
- Chris Sloomaker, PhD candidate, National Wildlife Research Center, USDA APHIS
- Steve Zawistowski, PhD, CAAB, ASPCA

## INNOVATION PARTNERS





## Ethics in the Field

**THERE ARE FEW RESOURCES**  
*to guide ethical decision making  
when testing innovations aimed to  
improve animal welfare in the field.  
We're closing that gap. Our Feb. 2017  
Think tank will convene a spectrum of  
experts with perspective on this topic,  
the goal being a published resource for  
global use in the field.*



## A True "Alliance"

**OUR 6TH INTERNATIONAL  
Symposium in 2018 will bring  
together the brains and heart  
of this cause; ours is truly an  
Alliance. As an independent  
resource for information  
regarding non-surgical  
sterilization, resources from  
this in-person meeting will  
also be available online via the  
World Veterinary Association's  
education portal for those who  
are unable to attend.**



INNOVATION PARTNERS



**6<sup>th</sup> International Symposium 2018**

*On Non-Surgical Contraceptive Methods  
of Pet Population Control*



# Council of Stakeholders

**OUR WORK IS MADE POSSIBLE** by the visionaries in these organizations. A three year commitment by your organization to general operating support allows our small, energetic team to continue to inspire collaborations and to innovate for animals.

## 2016 VISIONARY CIRCLE

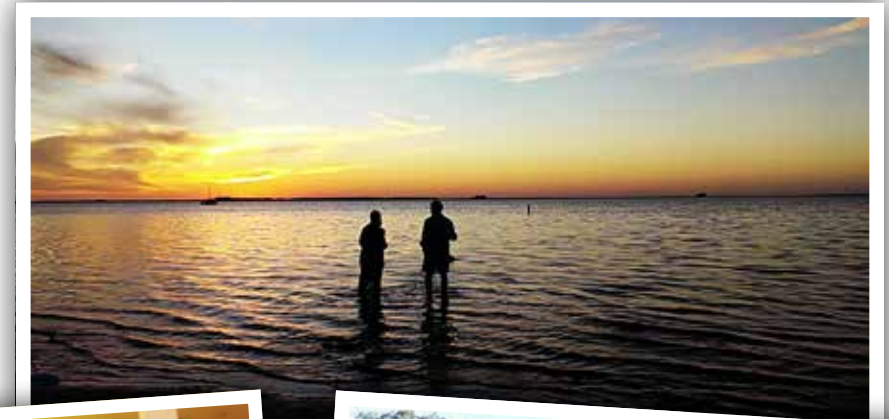


## 2016 SUSTAINING PARTNERS



We'd love to tell you more about our work and how you can get involved!

Optional involvement in our annual briefing is your access to a strategic summit on progress in the field. This year's briefing will take place in Crystal Beach, FL on December 5th, 2016.







Left to right – ACC&D Project Manager Valerie Benka, Linda, Gregory, Joyce, Amy, Kevin, Betsy M, Bob, Elly, John. Not pictured: Holly Hazard, Betsy S, Jed, ACC&D Coordinator Susan Getty

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