

# Feral Cats and Trap, Neuter & Return: What Recent Science Demonstrates

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# Outline of Presentation

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- Background
- Efficacy of TNR
- Community programs with TNR
- Infectious diseases
- Wildlife issues
- References

# TNR Benefits

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- Sterilization decreases fighting, roaming, noise
- No breeding so no litters, less stress
- No unwanted kittens
- Overall improvement in health
  - Gain in weight after neutering
- Caretakers often report become more sociable, improved coat quality

# TNR plus Adoption

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- Need many different components to control cats community-wide
- Adoption may decrease colonies 40-70% initially
  - Feral adults may become adoptable after TNR and time
  - 82% of feral kittens equally satisfactory as pets at 1 year (maybe better!)
  - Problems more likely if  $\geq 8$  weeks and no prior human contact

# Cat Reproduction

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- NC Study (9 colonies and Catnip)
- Pregnant year round but
  - March, April, May were peak
- Average of 1.4 litters/year (max 3)
  - Median 3 kittens (1-6)/litter
- 75% died or disappeared by 6 mo
- Median age 1<sup>st</sup> litter of 10.5 mo (6-15)

# Efficacy Of TNR Programs

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Often campus programs

Some data on trapping

# University of Central Florida

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- 11 years, 155 cats total
- After 5 years 68 cats remained on campus
- In 2002 only 23 cats (15%) remaining
  - 7 year median duration of residency
- 47% of cats were adopted
- 15% disappeared
- 11% euthanized, 6% died
- 6% moved to nearby woods

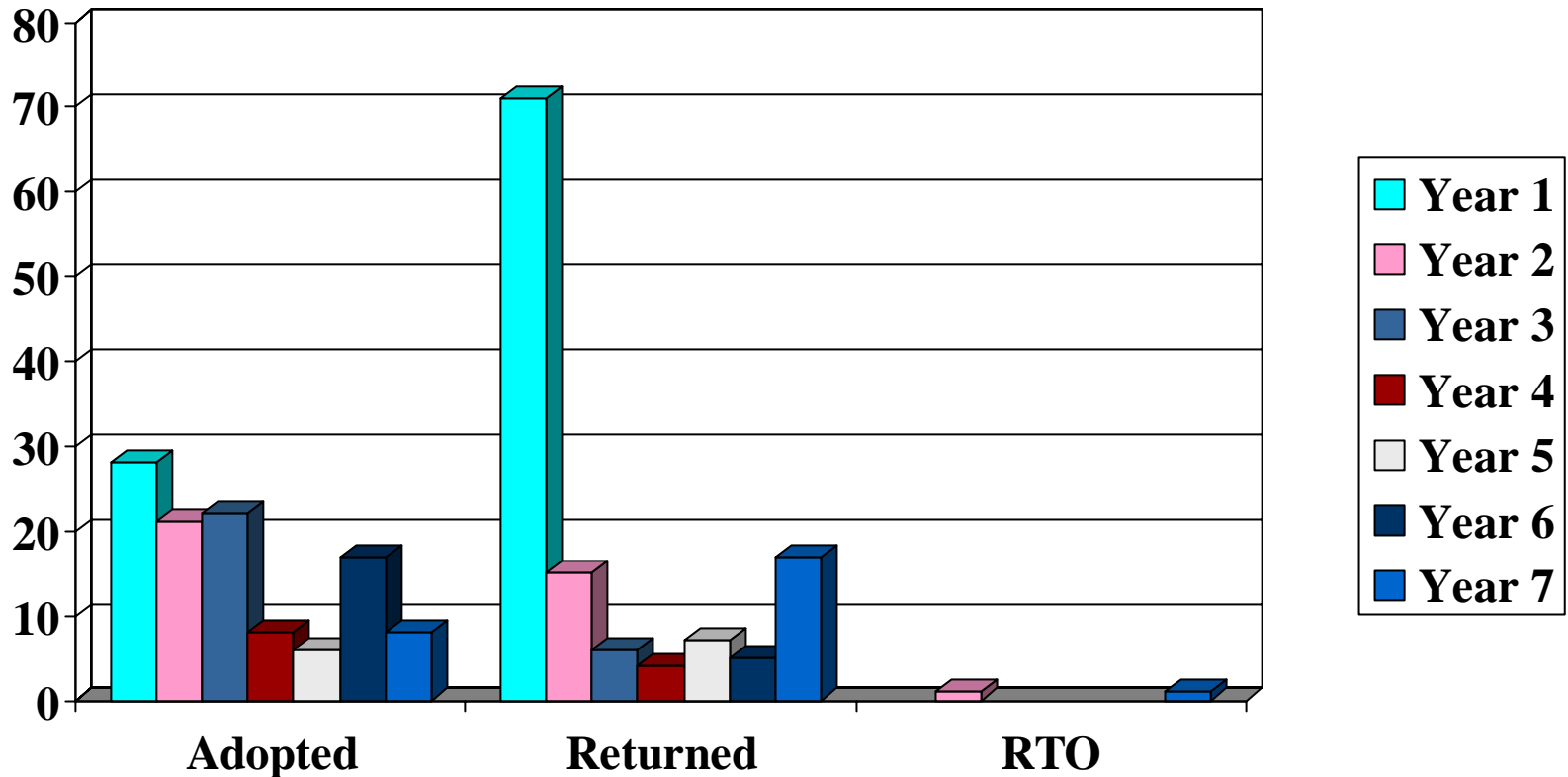
# AFCAT Outcomes

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- 7 years duration
- 303 cats, < 1/2 returned to campus
  - 2 returned to owners
  - 5% felv and 6% fiv
- Complaints on campus dropped
- No kittens born by second spring
  - 2 litters summer of 2005
  - 3 kittens returned, 2 adopted
  - Tame mother returned too



# Numbers of New Campus Cats “Trapped” Each Year



# North Carolina Colonies

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- 6 sterilized colonies (>10 cats, 3 males), not urban or near road
  - Average decrease of 36% in 2 years
  - 1 extinct, 1 almost in 3 years
- 3 control colonies (fed, wormed)
  - Average increase of 47% (31% to 283%)

# Trapping Efficacy Data

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- 9 colonies in NC (15 traps/night 1<sup>st</sup> 5 nts)
- Live traps with mackerel and paper
- No food 24 hours prior
- Average of 13 cats/colony (10-27)
- Trap-night = 1 trap/night
  - $9 \pm 4$  tn/cat captured
  - First 5 days:  $87\% \pm 10\%$  of cats captured
  - Overall  $98\% \pm 4\%$

# Failure of TNR?

## Castillo master's thesis

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2 colonies in southern FL parks

- Many new cats from abandonment
  - Colonies encourage this?
- 65 of 89 original TNR cats at end
- 47 new cats at the end
- Not territorial enough to keep out
- No adoption program

# Community-Level Data

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Comprehensive  
community programs

# Merrimack River Feline Rescue Society

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- Tourist town with feral cat complaints
- Chamber of commerce, vets, public health
  - Formal TTVARM program instituted
- Many tame cats/kittens with no local shelter
- Limited admission, cat only shelter
  - 8000 adoptions in 10 years
- Expanded programs, building, website

# MRFRS

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- About 4000 cats in TNR program in the region in first 10 years
- About 300 feral cats in town neutered originally
- Less than 20 feral cats in town now
  - All senior cats, most > 12 years
  - In some areas, there are no cats at all
- No kittens born on water front after 5 years

# San Francisco SPCA

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- Shelter with feral cat program
- Partnered with Animal Control
- Free spay/neuter with \$5 to person
- Educational programs
  - 24 hour voice mail
  - Cat Workshops
- Advocacy and mediation
- Traps and food
- Expert advice and cat community network



## SF/SPCA Cat Data (93-99)

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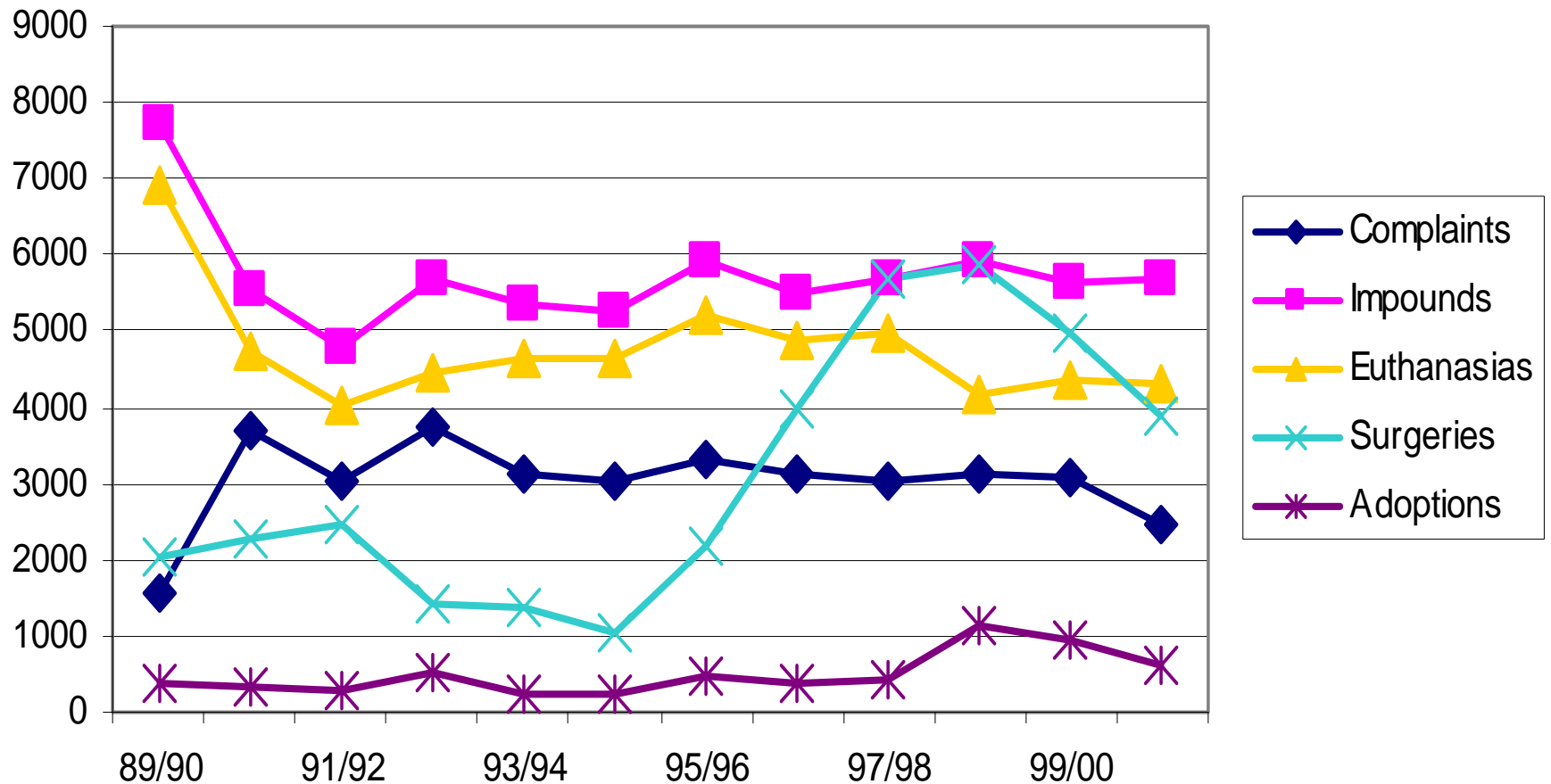
- Impounds down 28%
- Total cat euthanasia down 71%
- 47,289 cat surgeries (increase of 23%)
  - increase in feral sterilization of 275% (~1900 feral cats in 1999)
- neonatal euthanasia dropped from >900 to 200 kittens
- Save rate climbed to 78% in 2003

# Orange County Florida

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- Animal Control partnered with non-profit feral cat organization
- Cat group handles complaints, trapping
- Shelter does surgery, rabies, ear-tipping
- Cooperative agreement
- Improvement in community relationship
- One 6 block area had > 50% drop in complaints after TNR
- Increase in human population >30%

# Orange County Cat Problems



# Infectious Diseases and Cat Health

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Rabies!

Other diseases

Parasites

# Free-roaming/Feral Cats and Rabies

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- Historically, rabies control:
  - Restrict movement of animals
  - Remove free-roaming animals
  - Vaccination of susceptibles
- Current recommendations
  - Understand animal-human relationships
  - Develop culturally appropriate approach

# Free-roaming/Feral Cats and Rabies

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- In countries with dogs as primary rabies reservoir
  - Elimination of dogs by any method had no long-term effect on population size
  - Animosity toward program personnel
  - Decreased cooperation with vaccination
  - WHO no longer recommends removal

# Free-roaming/Feral Cats and Rabies

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- Ontario, Canada: “Point Infection Control Strategy” for rabies
  - Trap, vaccinate and release feral and domestic cats
  - Within 10 km of initial raccoon rabies case
  - Many free-roaming cats
  - About 800 cats done in 1999 outbreak

# Free-roaming/Feral Cats and Rabies

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- Connecticut study of rabies vaccination compliance in pets
  - Vaccination is more common in homes where rabies is considered a problem
  - Cats vaccinated less often than dogs
- Early rabies vaccine, single dose
  - Provided complete protection > 3 years



# Rabies Example in Dogs

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- Flores Island in Indonesia
- Rabies free till 3 dogs from another island with rabies introduced
- Killed 70% of dogs in one location in 1998 without stopping outbreak
- Dog # decreased to 1/5, still rabies
- Rabies cases increased until vaccination began

# North Carolina Health Data

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- 100 feral and 76 pet cats (practice)
- Cat scratch and Toxoplasmosis
  - Higher in feral than pets
- Cryptosporidia, Giardia, Rounds
  - Similar frequency
- Bloodwork similar
  - Feral cats slight anemia, increase in neutrophils

# Cat Health Issues

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- In FL, fleas, ear mites common
  - Skin problems, ticks rare
- Gain weight and body fat
- Euthanasia other diseases 0.4% (FL)
- Ear tipping approved RCVS
- FeLV rates about 5-6%
- FIV rates about 2-8%

# Free-Roaming Cats and Wildlife

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# Wildlife and Birds

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- Urban, suburban, farm, parks and islands are NOT the same
  - Mainlands = no impact on prey as a species
- Island ecosystems and already fragile location are complex
  - Cats interact with other species, rats
- Each location has a distinct set of pressures

# Wildlife and Birds

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- Philosophical objection:
  - Cats are a domestic species
  - Should not be allowed to hunt native wild species
    - Not regulated (usually) in same way
  - Should be controlled/confined
  - Recognize that cats deliberately or accidentally introduced by humans

# Wildlife and Birds

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- Cats as Introduced Species:
  - Used to support removal of cats from environment
- Assumption that protection of native wildlife is primary goal
- Assumption is that removal of introduced species will return environment to “normal”
  - Environment modified by human habitation

# Defenders of Wildlife Report

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- Bird declines may be worse than we think based on 64 years of data
- Long distance migrants worse off
- Loss of habitat for breeding AND migration, stopover and wintering
- Also pesticides, poison, humans
- Cats included as one of many species
  - Nest predators as a “small carnivore”
  - Disturbance of nesting, but humans are primary problem



# Wildlife Relationships

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- Depends on climate, habitat, other species
- Cats increase, decrease or tolerated by dingos?
  - Habitat?
- Some birds fine with cats 60 years till rabbits →
  - Extinction or decline of birds
- Decreased rabbits →
  - decreased foxes and cats, but also → increase native predation?
  - Increase in cats eating Weka → extinction of other introduced species
  - Increase in seabird predation by cats (no other food)

# Conclusions

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- Still many questions
- Different location=different problems and solutions
- TNR is a long term commitment
  - Can manage cats to extinction
  - Seems dependent on setting
- Focus on sources of feral cats!!

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