

Managing cats scientifically & humanely to decrease cats (& costs)



A U S T R A L I A N
Pet Welfare
F O U N D A T I O N



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THE UNIVERSITY
OF QUEENSLAND
AUSTRALIA



How big is the problem?

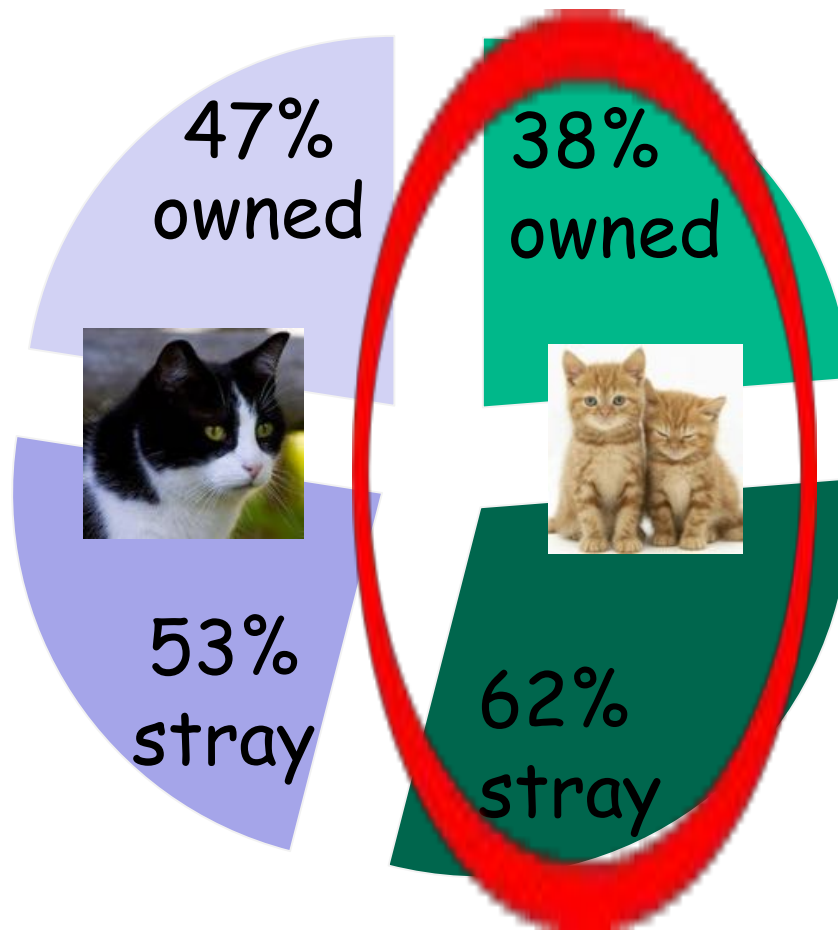
City of 1,000,000 residents

- 150,000 owned cats (Roy Morgan Research 2014, Animal Health Alliance 2013 -15%)
- 50,000-65,000 stray cats (based on US statistics 1 stray cat per 15-20 residents or 50-65 cats/1000 residents).
- How many enter shelters & pounds annually?
- 5 to 10 cats/1000 residents
 - 3,000-6,000 stray cats in city of 1 million
 - 2,000-4,000 owned cats
- Over 50% killed
- Average cost at least \$500/cat
- = \$2.5 - 5 million/yr to community



Approx. half the cats are kittens

Adult
RSPCA
50%:50%
Pounds
80%:20%



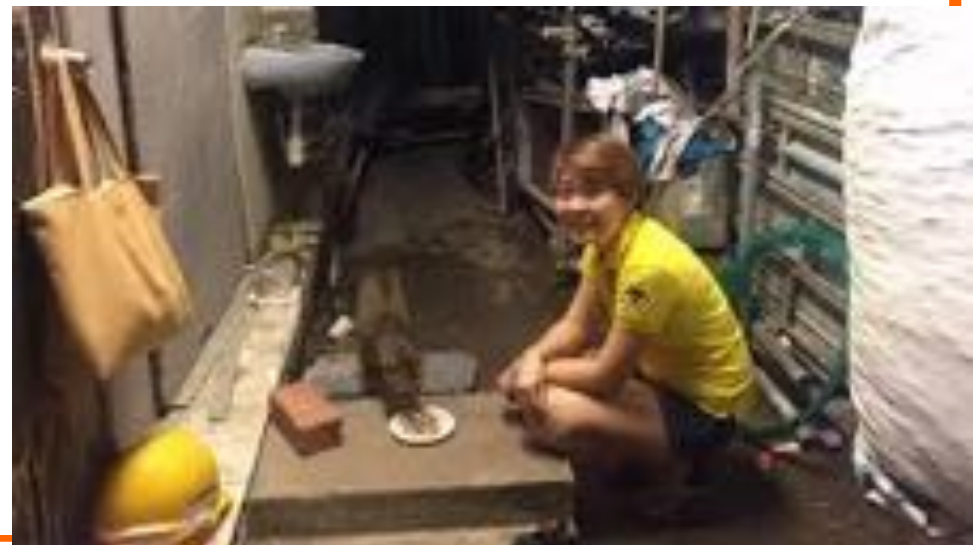
Kitten
RSPCA
50%:50%
Pounds
90% stray

Where are stray cats coming from?

- Wandering owned cats
- Lost owned cats
- Abandoned cats - moved house
- Semi-owned cats = largest group

Most stray cats are socialised to people

"Feral" cats based on behaviour - 10%



Semi-owned cats

- 56% of people surrendering stray cat to RSPCA had provided care for > 1 mth
- 22% of Victorian households feed a cat they do not perceive they own & 33% owned a cat
- 9% of respondents to internet survey fed an unowned cat daily
= 1 in 15-20 people feed daily one or more cats they don't own



What are our management options for stray cats?

1. Continue what we are doing - accept strays from public & provide traps

- Kill approx. 5% of urban stray population annually

-> stimulates reproduction ensuring a new crop of kittens & cats next year

- Low level killing can increase numbers (Lazenby)

= farming cats & harvesting kittens



Insanity is doing the same thing, over and over again, but expecting different results ~ Albert Einstein

Does it work?

Cats: Council trends over time (NSW)

Agencies	Intake	Euthanasia	Euthanasia %	Year of data
Dept of Local Govt	24,586	16,605	68%	2008-9
	25,982	17,407	67%	2009-10
	26,477	17,991	68%	2010-11
	24,641	16,145	66%	2011-12
	22,714	13,351	59%	2012-13
	24,992	13,250	53%	2013-14
	24,080	12,507	52%	2014-15
	= 173,472	= 107,256	62%	

What are our management options for stray cats?

2. Lethal control

- Requires killing 30-50% of the stray cat population every 6 months for at least 10 years to overcome reproductive capacity (Miller 2014)

= Kill 15 times more of stray population annually

-> Community unlikely to support it, and will sabotage attempts to trap

- Council will need to do most of trapping - 4-6 nights/cat to get whole colony

= \$\$\$\$\$\$\$\$ & increase complaints

Who will pay for it?

Decrease cat numbers by culling: Kill 30-50% every 6 mths >10yrs

City of 1 million = kill 40,000 cats & \$24m @\$500/cat



Kill 200,000 cats Melb or Sydney 1st yr

Cost \$100 Million in the 1st yr

Miller *et al* 2014



What are our management options for stray cats?

3. Feeding bans

- Who will police it?
- No city where a feeding ban has succeeded in eliminating cats
- Can't ban compassion
- Not enough officers



What are our management options for stray cats?

4. Trap, neuter & return (TNR)

= Desex, adopt or return home

"Stray" cats are trapped, desexed, returned to same location (home)

+/-, adoptable cats & kittens rehomed

+/- vaccinated, wormed, flea control, microchip

& ear tipped



TNR: Does it work to decrease intake & costs?

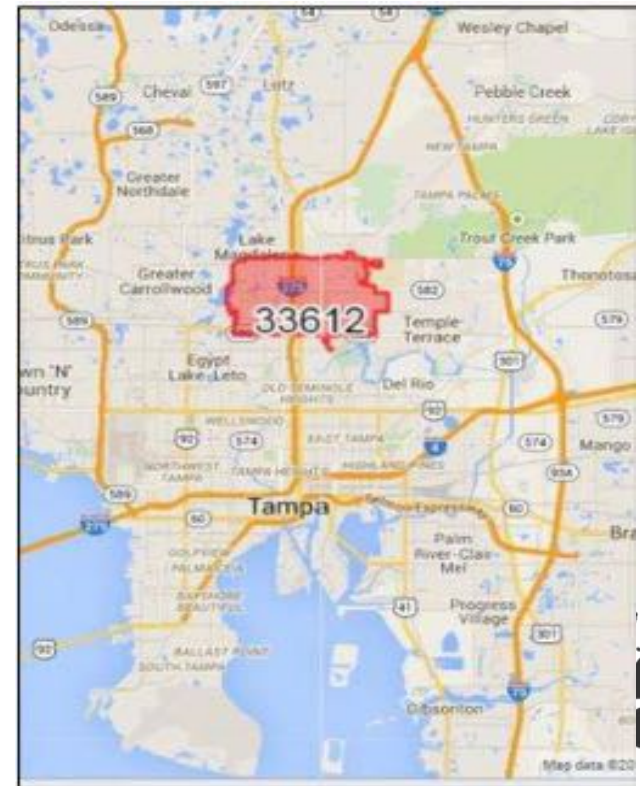
TNR must be targeted to be effective

Tampa, Florida

Target area = postcode with highest cat intake to council pound

Population = 44,600

Desexed 2,920 free roaming cats over 2 years (2010-2012)

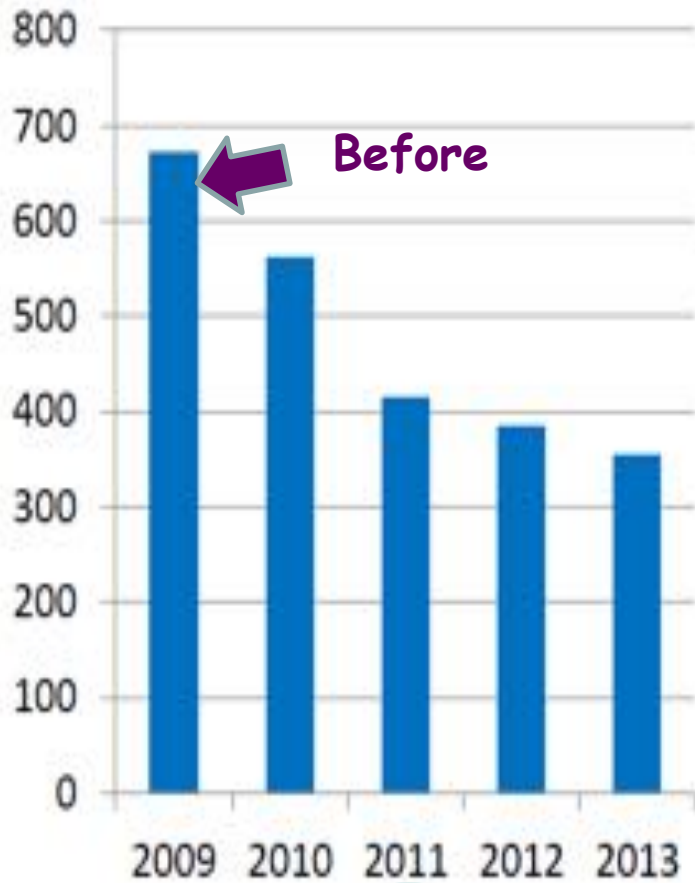


TNR: How does it work?

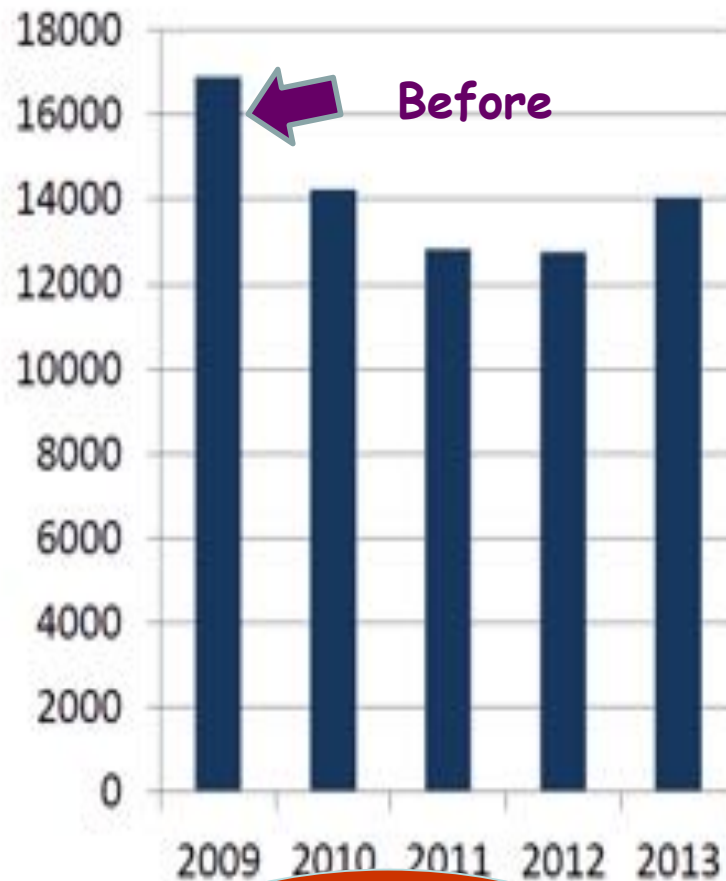
- Full-time paid trapper supported by volunteers
- Street by street approach
- Wrapped vehicle
- Signs in yards



TNR: Does it work?



Zip 33612: -47%
(cf. 2013 to 2009)



Outside zip 33612: -17%
(cf. 2013 to 2009)



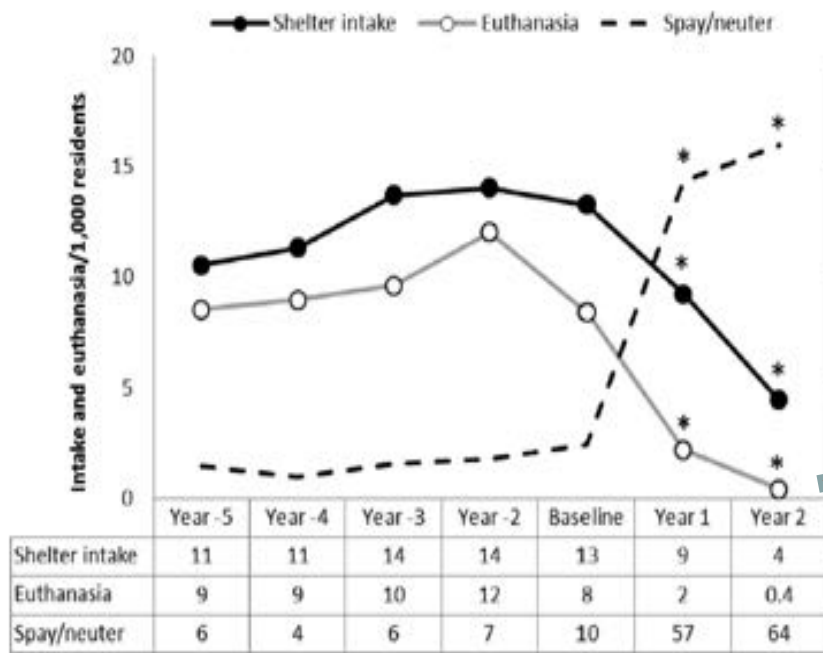
TNR: Does it work? Gainesville, FL

Targeted area: TNR of 2,366 cats over 2 yrs
(adopted social cats & kittens) = 60 cats/1000 pop
= 54% of unowned cat population

Control area: Non-targeted TNR = 8 cats/1000 pop

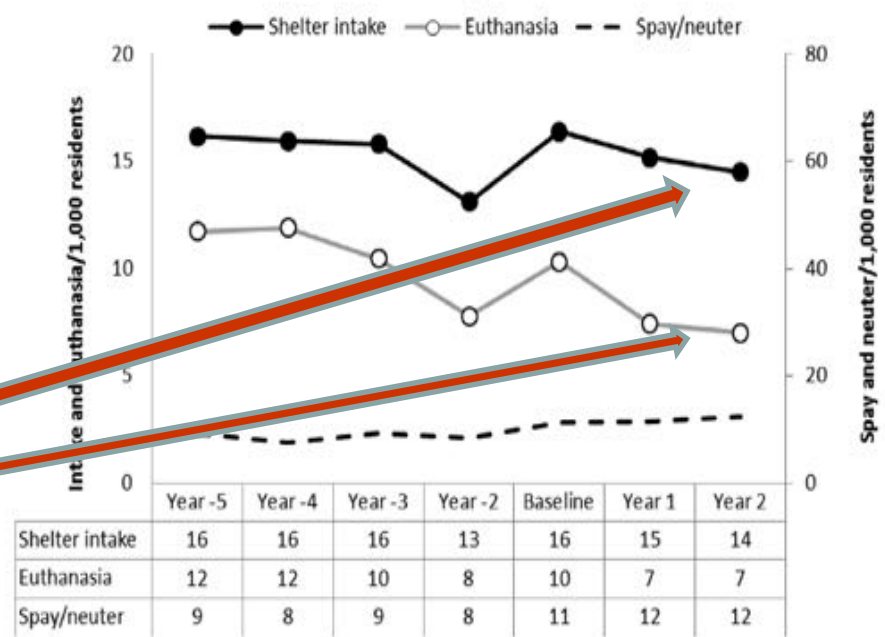
A

Target Area



B

Non-Target Area



Intake reduced 66% - 3.5 times higher in control area
Euthanasia – 17.5 times higher (Levy 2014, *The Vet J*)



TNR: Does it work?

- Humphrey's County Humane Society, TN partnered with Waverly Shelter (pound)
- Introduced TNR to replace euthanasia as standard policy for healthy, unowned, poorly socialised cats
- Pop 18,500
- 580 cats desexed
May 2013- July 2014
- ACO's trapped half cats, rest by residents

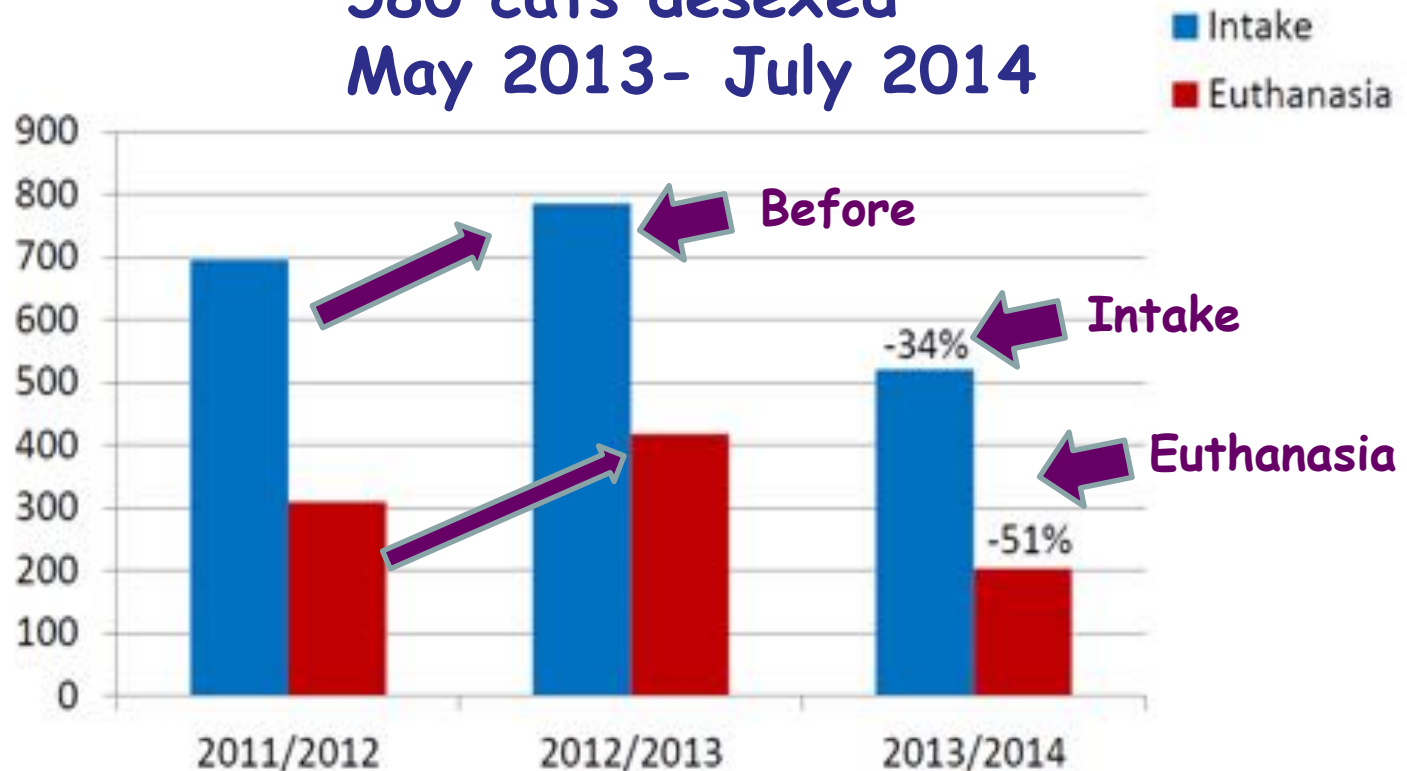


TNR: Does it work?

Waverly Animal Shelter



580 cats desexed
May 2013- July 2014

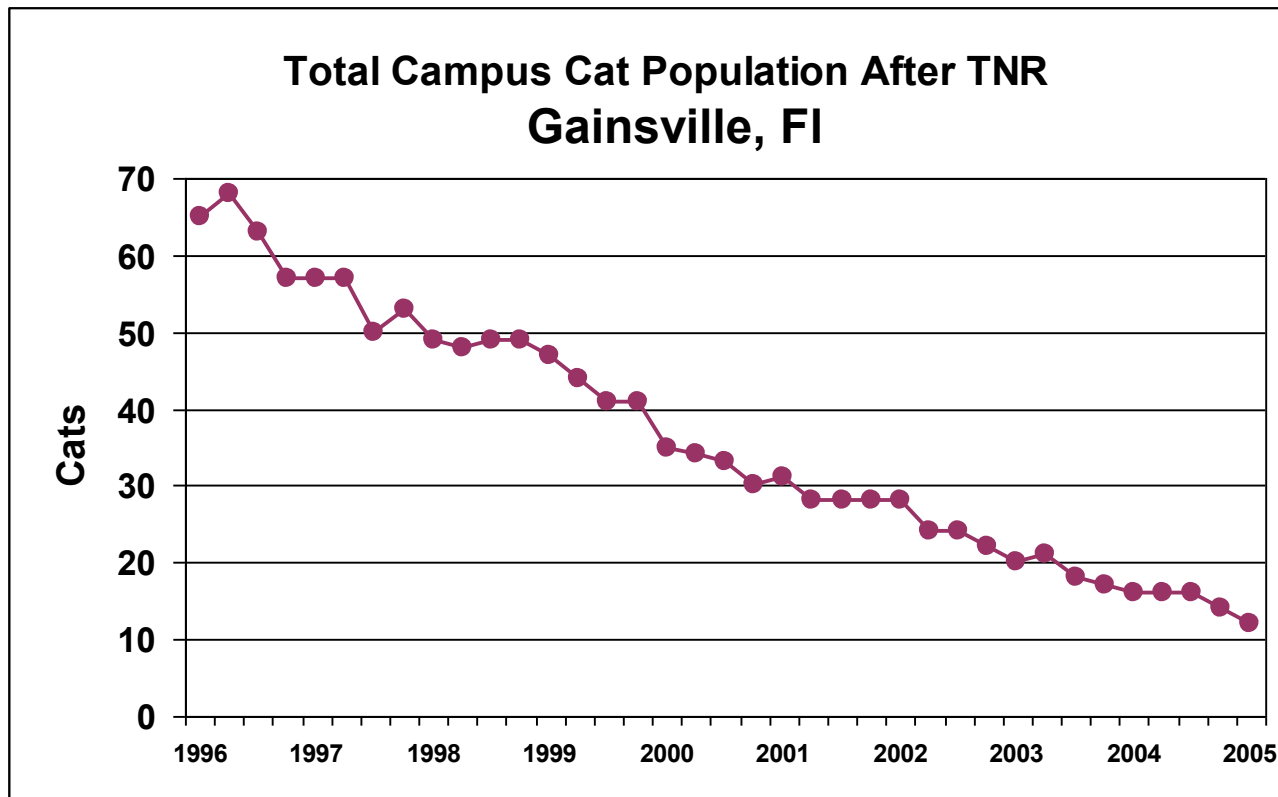


Slide courtesy – Bryan Kortis – Neighborhood Cats



TNR: Does it work?

TNR must be targeted to be effective

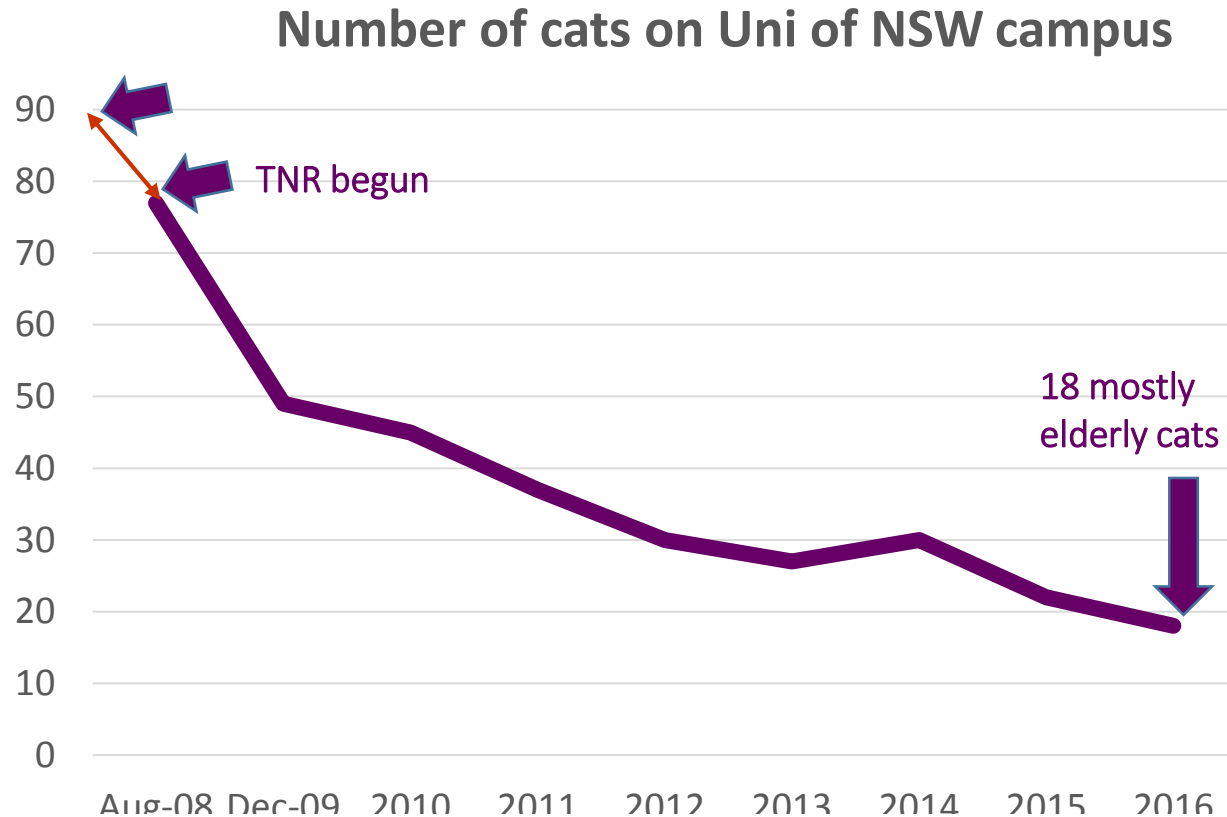


Levy, J.K., *Evaluation of the effect of a long-term trap-neuter-return and adoption program on a free-roaming cat population* (2003) *Journal of the American Veterinary Medical Association*, Vol. 222, 42-46.



TNR: Does it work in Australia?

Cat-related complaints led to lethal control - reduced cats from 90 to 77 over 1st half of 2008 & cost \$10,000's plus increased complaints



What about other situations in Australia?



animals

Open Access Article

Trap-neuter-return activities in Australia

Kuan Tan^{1,*}, Jacqui Rand^{1,2}

¹ School of Veterinary Science, The University of Queensland, Gatton, QLD 4343, Australia; kuan.tan1@uqconnect.edu.au (K.T.); j.rand@uq.edu.au (J.R.)

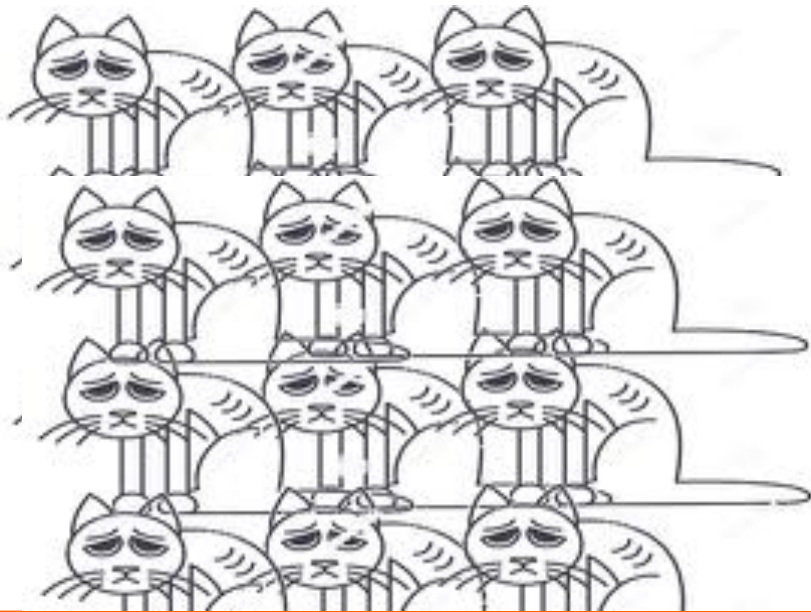
² Australian Pet Welfare Foundation, Kenmore, Queensland, Australia

- On-line survey, 53 respondents
- 46 colonies described



What about other situations in Australia?

- On-line survey
- Initial number of cats/colony: median **12** (3 - >50).
- Current number of cats: median **7** (1 - >50) $P < 0.001$
- Managed for median of **2** years
- Median number adopted = **3** kittens/cats
- **Initial number 515 reduced to 344 cats**



What about TNR in other situations in Australia?

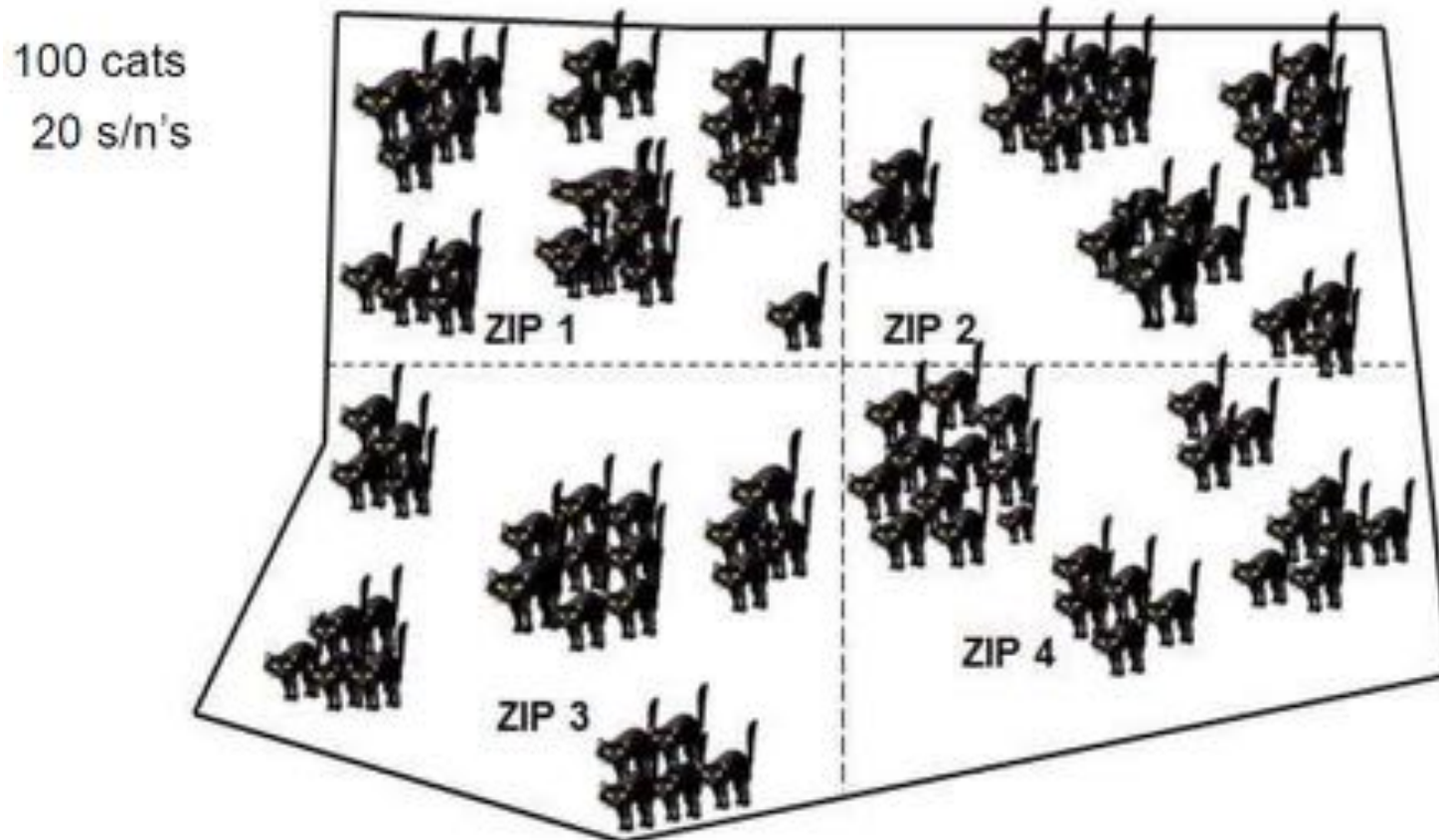
- Largely paid for by individuals
- Fed once or twice a day
- Vaccinated, health care
- 44% microchipped & registered to carer



TNR: Must be targeted to reduce intake into city pounds & shelters

Feralville


NEIGHBORHOODCATS



Slide courtesy – Bryan Kortis – Neighborhood Cats

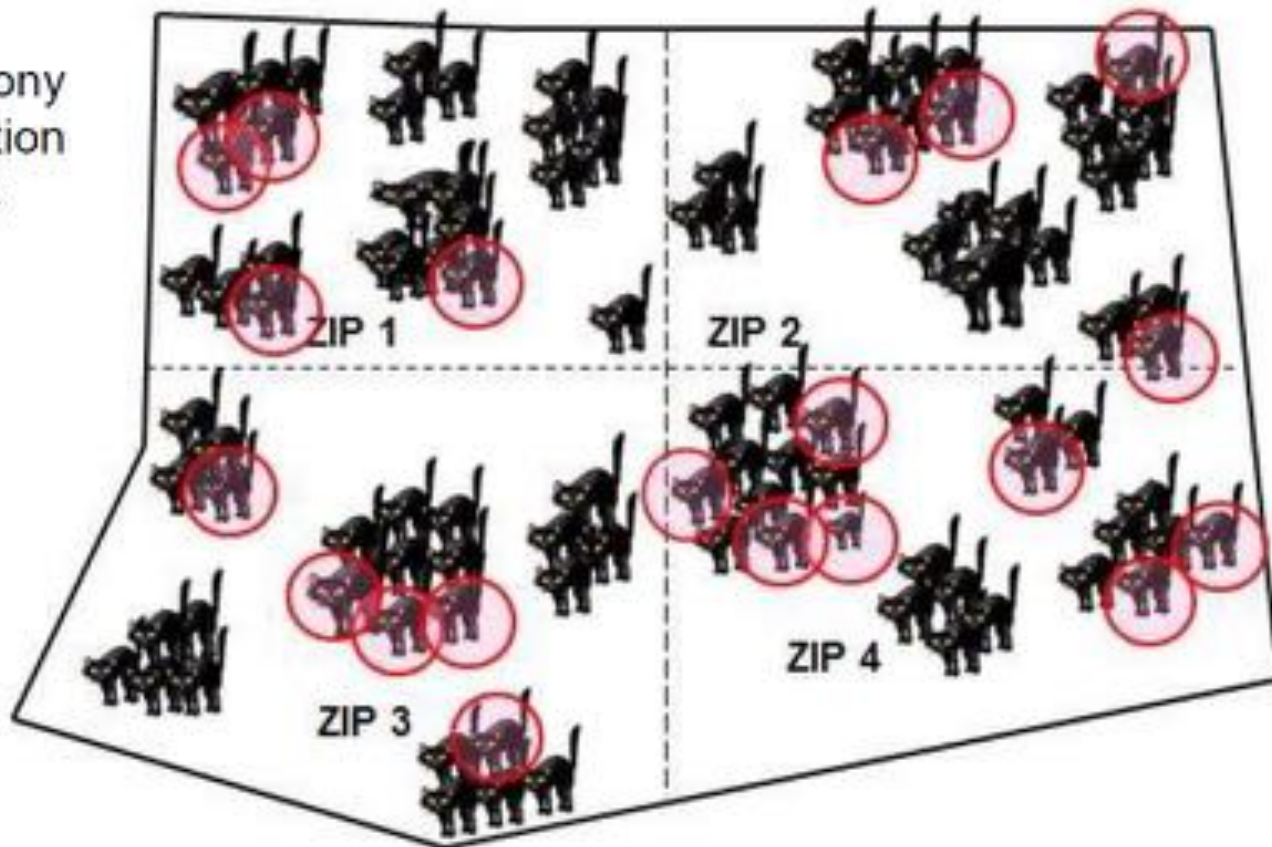


TNR: Must be targeted to work

No targeting


NEIGHBORHOODCATS

Low colony
sterilization
rates



Slide courtesy – Bryan Kortis – Neighborhood Cats

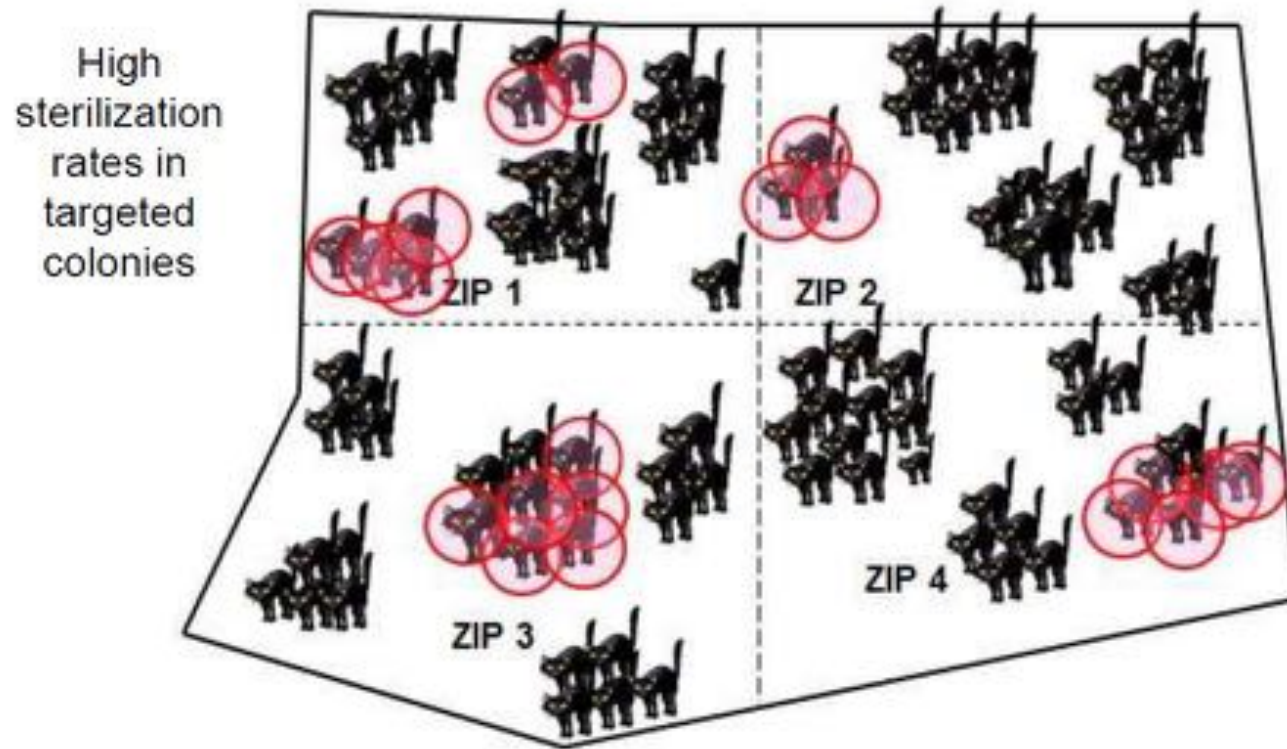


TNR: Must be targeted to work

Colony level targeting



NEIGHBORHOODCATS

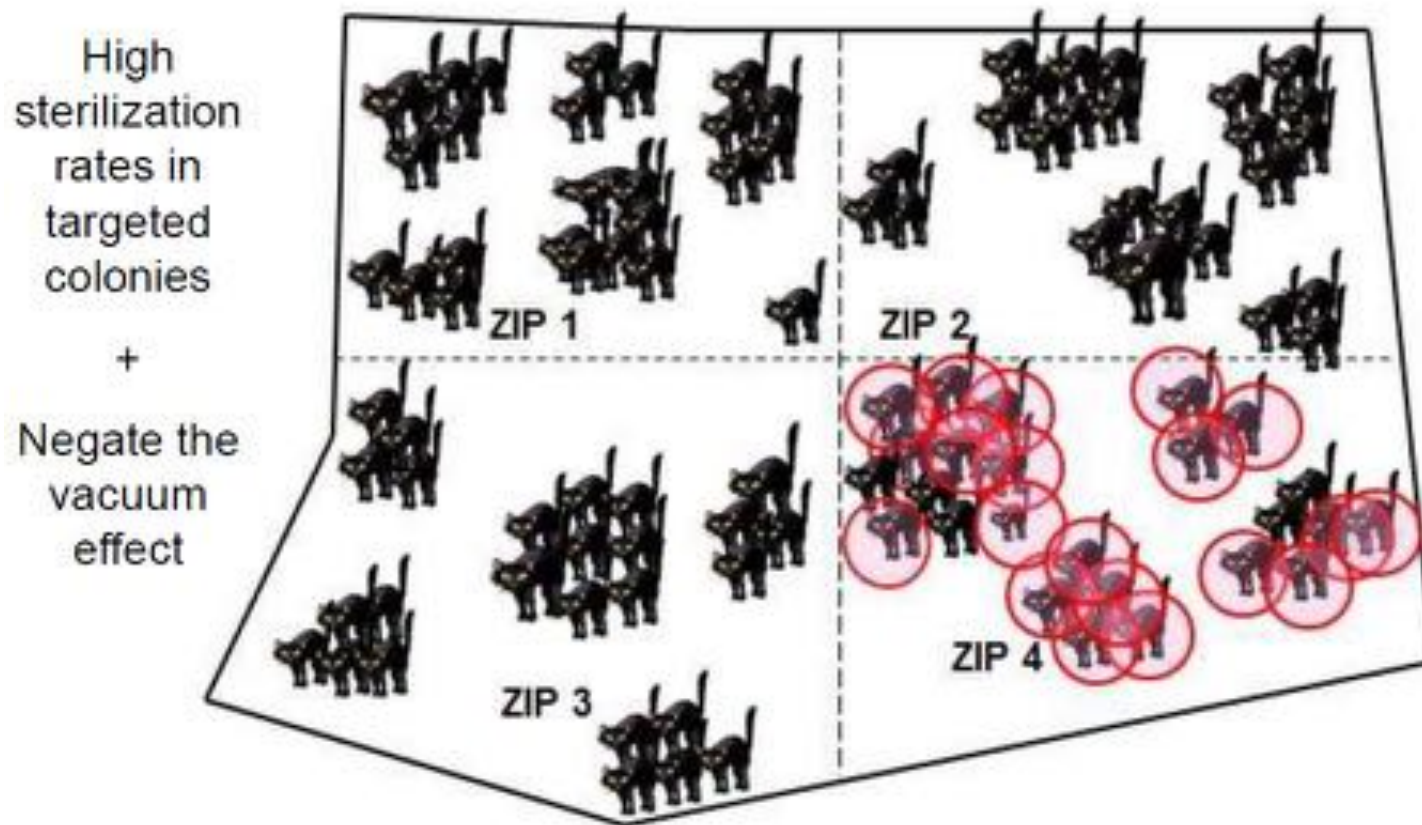


Slide courtesy – Bryan Kortis – Neighborhood Cats



TNR: Must be targeted to work

Community level targeting



Slide courtesy – Bryan Kortis – Neighborhood Cats

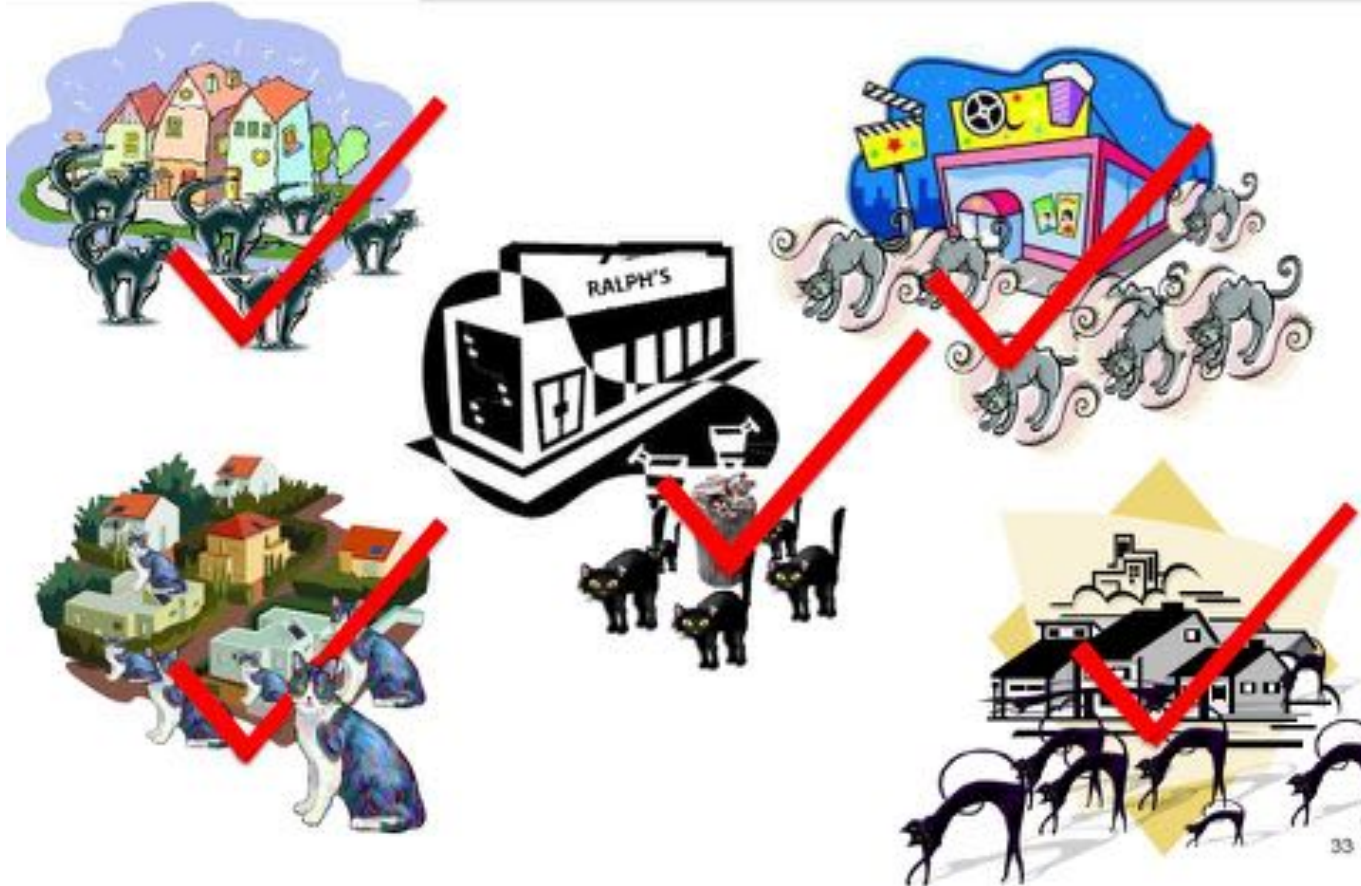


TNR: Must be targeted to work

Community level targeting:
prevent vacuum effect



NEIGHBORHOODCATS



33



TNR = Desex, adopt & return home

- Montana
 - 36% decline in cat intake,
 - 87% decline in euthanasia
 - 84% decline in cat-related complaint calls
 - Texas
 - 90% decline in cat-related complaint calls
 - Kentucky
 - 51% decline in cat intake in targeted areas and only 20% decline in entire service area
- = Decreases intake, euthanasia & council costs
- Australia - 31% decline in colony size in 2.2 yrs



Objections



TNR in Australia

- Gray area of legality regarding definition of abandonment and classification of free-living cats as pest species^{2,3}
- AVA & RSPCA official policy is that they do not support TNR
- AVA policy document in 2016 states: "Trap Neuter Return (TNR) strategies have not been shown to be effective under Australian conditions"



1. per comm C. Pierson 2. Prevention of Cruelty to Animals Act 1979 (Section 11) 3. National Parks and Wildlife Act 1974 (Section 109 and 133(4)) 4. AVA policy document 2016



Objections

- What about their welfare?



What about their welfare?

- <1% of 100,000 free-living stray and feral cats trapped in TNR programs were too unhealthy to be returned to the field (Wallace *et al*, 2006)
- Incidence of infectious disease in free-living is similar or less than in pet cats (Luria *et al* 2004, Levy *et al* 2014)



What about their welfare?

- Neutering and return to site is associated with an improvement in health, body condition and longevity, or at least no deterioration (RSPCA 2001, Robertson, 2008, Jessup 2004)



What about their welfare?

Majority of neutered free-living cats in managed or unmanaged colonies are healthy

- cats in managed colonies not significantly different from owned cats (Dale 2015).
- cats in unmanaged colonies were leaner than pet cats or managed colony cats (4% were emaciated compared to 2% of owned cats; Dale 2015).



So why are we killing them?

Why not return them?

- Cats **3 times** more likely to "disappear" from household than dogs
- **66%** of lost cats found because they returned home
- Only **7%** of lost cats found via call or visit to shelter
- Cats are **>13 times** more likely to return by non-shelter than by shelter means
- Only **4.5%** of cats reclaimed from shelters & pounds in Australia



Lost owned adult cats



www.alamy.com - G274M11



50%



- 50% within 50 meters
- 75% within 500 meters



Objections

• What about wildlife?



2 options to decrease cat numbers

Kill 40% every 6 months & spend \$24M in 1st yr in city 1 million

OR

TNR - desex, adopt or return home



What if we returned cats to home location...

- No study in urban Australia demonstrating negative effect of cats on native wildlife population
- Perth study - investigated species diversity across 3 bushland sites
- For >10 years either - banned cats , required cats inside overnight and to wear a bell, one had no regulations regarding cats



Species diversity in 3 bushland sites

- Numbers of most abundant medium sized mammals were similar across all sites - brushtail possums and southern brown bandicoots



- Smaller mardo *Antechinus flavipes* - highly susceptible to cat predation - mostly at an unregulated cat site.

Lillith MC, et al. *Biology*
2010;16:162-172.



No effect of cats on birds

- 57 sites across metropolitan Perth
- Investigated factors effecting passerine bird community composition (eg. magpies)
- No link between cat density and passerine bird species richness
- Decreasing bird population with increasing housing density, and with increasing distance from bushland
- = Habitat destruction and degradation were the critical factors, not cats



Grayson J, Calver M,
Lymbery A. 2007:.



Sydney bushland

- Predation of bird eggs & nests in 24 forest patches through Sydney metropolitan region
- Avian predators attacked all patches
- Black rats attacked nests in 10 areas
- Ring tail possums and antechinus others
- No nests attacked by cats
- Reduced nest predation associated with higher cat activity

Matthews, 1999



Prey captured by domestic cats and domestic dogs in Australia: A preliminary study

MJ Franklin^{a*}, JS Rand^{a,b}, and JM Morton^{a,c}

*Corresponding author: michael.franklin@uqconnect.edu.au

^aSchool of Veterinary Science, The University of Queensland, Gatton, Queensland, Australia

^bAustralian Pet Welfare Foundation, Kenmore, Queensland

- What animals do owners of dogs and cats observe their pets catch over a 6 month period?
- What did they catch?
- Cats - overwhelmingly mice > rats, small lizards, common birds (consistent with other studies)
- Consistent with Macquarie Island data - cats had positive effect on wildlife because of rabbits

Franklin, Rand, Marston, Morton
2014, unpublished data



Brisbane City Council study...

Stomach Contents Analysis Results

Each year, Brisbane City Council implements a pest animal trapping program funded through the Brisbane Invasive Species Management Plan (BISMP) Implementation program, to manage the threats that pest animals pose to the environment, biodiversity and social values in Brisbane.

In order to better understand the risks posed by invasive species, and the prey consumed by invasive predators, analysis was undertaken of stomach contents of fifty cats and foxes captured within and outside of natural areas.

Results: Feral Cat Stomach Contents Analysis

Unfortunately, the results from the examination of the stomach contents of feral cats provided little insight into the impact of cats on the wildlife of Brisbane, with the only prey species consumed—being a black rat.

Brisbane City Council:
Invasive Species Times
Issue 4 2015-16



AUSTRALIA

Average life of birds...

- Average life of most free-living Australian bird species is 2-4 years
- If 5 years, 20% die every year
- Keeps breeding stock healthy & uses best genes
- Survival of fittest



What about wildlife?

- Two studies (UK, France) showing birds killed by cats less healthy than birds killed by cars or flying into windows
- Concluded that cats are opportunist hunters & tend to remove sick, old, fallen out of nest



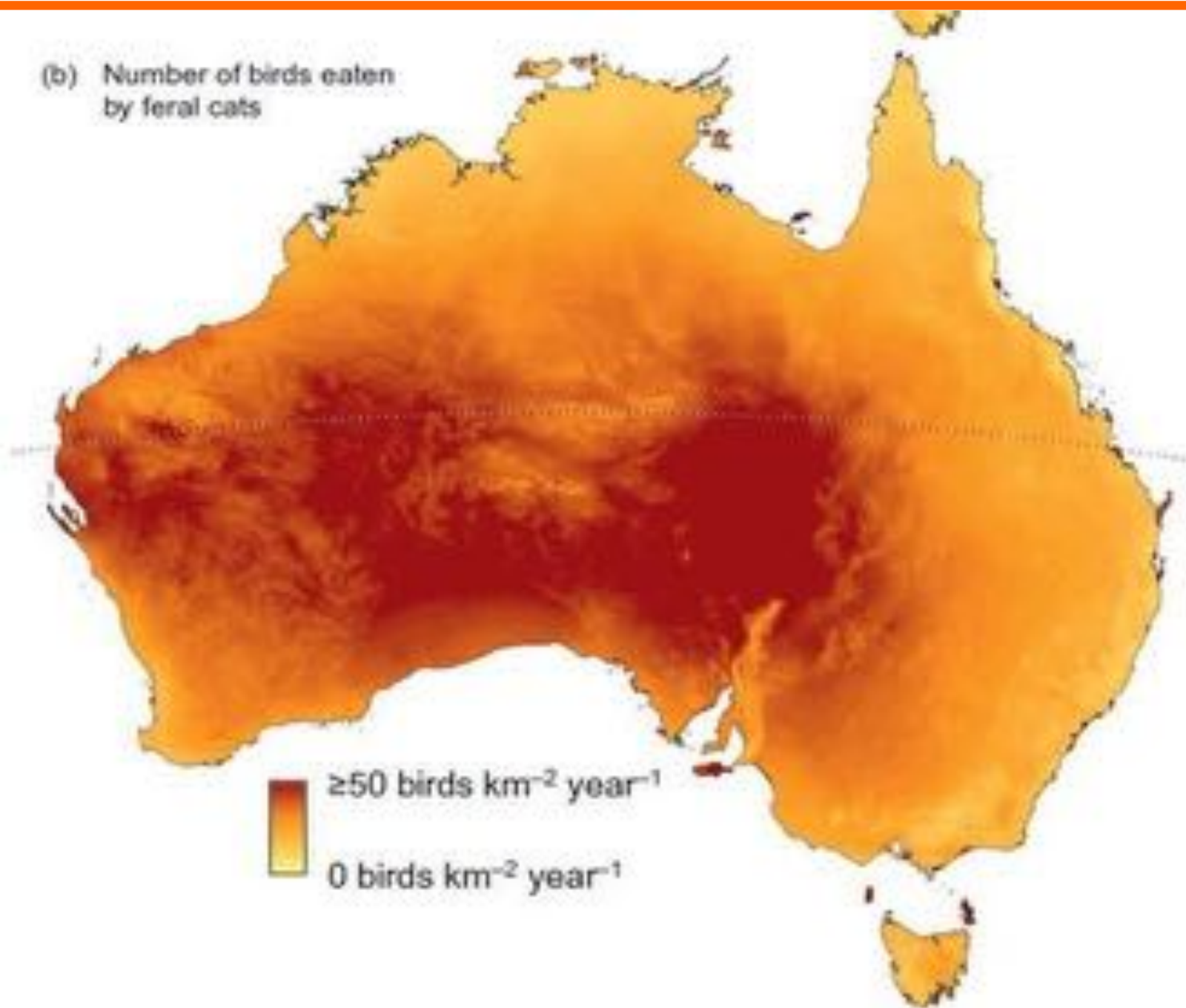
Baker PJ, et al *Ibis* 2008;150:86-99.27.
Møller AP, Erritzøe J. *Oecologia* 2000.

Royal Society for the Protection of Birds

"Despite the large numbers of birds killed, there is no scientific evidence that predation by cats in gardens is having any impact on bird populations U.K.-wide... It is likely that most of the birds killed by cats would have died anyway from other causes before the next breeding season, so cats are unlikely to have a major impact on populations."



(b) Number of birds eaten
by feral cats



Objections

Will the community support it?



Will the community support it?

Attitudes of Australian dog and cat owners towards predation by their pets

MJ Franklin^{a,*}, JS Rand^{a,b}, and JM Morton^{a,c}

*Corresponding author: michael.franklin@uqconnect.edu.au

- ^aSchool of Veterinary Science, The University of Queensland, Gatton, Queensland, Australia
^bAustralian Pet Welfare Foundation, Kenmore, Queensland, Australia



Community support

- Survey 1239 respondents
- 70% said cats had a negative effect on wildlife in their area (24% for dogs)
- "Overseas, programs exist where stray suburban cats are captured, desexed (spayed/neutered), then returned to where they were captured. These programs have been shown to reduce the number of complaints about these cats and to reduce the numbers of stray cats and kittens put to sleep in shelters. Would you support a trial project like this in a specified area near you?"
- 82% of respondents said YES



Recommendations:1

- Legislation relating to abandonment & feral pests to be amended to allow TNR in urban areas of Australia
- Best practice guidelines be developed & implemented
- Mandatory state level registry of colonies accessible by municipal authorities & including:
 - Carer responsible for registering colony & providing primary & secondary contact details & organisation
 - Location - address & type of site
 - Annual reporting of cat numbers - desexed/entire, cats/kittens



Recommendations:2

- We encourage managed colonies rather than unmanaged colonies and utilising best practice:
 - Adoptable kittens & cats removed initially to get rapid reduction in colony size
 - 100% of colony desexed with 6 months (1 week ideal) & healthy cats returned to location
 - Cats vaccinated & provided with parasite control at desexing
 - Minor health treatment if indicated
 - Cats microchipped (primary & secondary contacts plus organisation registered on data base)
 - Ear-tipped
 - Immigrant cats desexed quickly



Recommendations: 3

- Food placed in containers hidden from public view
- Uneaten food removed after 30-60 mins
- **Appropriate shelter provided & hidden from view**
- Educational material developed by councils &/or welfare organisations & distributed to people in area
- Best practice implemented on dispute resolution - including offering opportunity for trial rental of cat deterrent devices.



What are the alternatives?

- Keep doing what we are doing = farming cats & harvesting kittens
- Lethal control & increase killing by 15 X
- Ban feeding
- Magic wand
- Desex, adopt or return home
 - Decrease population size
 - Decrease shelter & pound intake
 - Decrease shelter & pound euthanasia
 - Decrease cat related complaints
 - Decrease impact of killing on staff
 - Decrease costs to community



Cost: Psychological cost

- 50% of workers directly involved with euthanasia develop post-traumatic stress
 - depression, substance abuse, high blood pressure, sleeplessness, suicide
- Staff turnover rate in shelters is proportional to euthanasia rate



Photos; Joy Verrinder, AWL;

Rohlf V, Bennett PC. *Society & Animals*
2005

Without Community Cat Programs

- Someone has to kill the kittens and cats
- Killing healthy animals damages people's lives, and some cases, killing animals kills people too.
- Suicide rate for animal rescue sector in USA reached number 1 with police & firemen



"Every day while I was cleaning cat cages, the euthanasia team would come through and euthanize the day's cats and pile them on a cart and wheel the pile out to the cooler. Every day when I saw that I went out in the parking lot and threw up

- After the community cat program began, now we just tear up the euthanasia list and all the cats go to surgery".



It's time!

Managing cats scientifically & humanely to decrease cats and costs



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