

Standard Operating Procedures, Protocols & Guidelines

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The material presented in this manual has been extracted from Neighborhood Cats, TNR Handbook by Bryan Kortis with the author's permission, but adapted for use in Australia. The document will continue to be refined throughout the project and should not be considered the final version.

1. Table of contents

2. Definitions

These definitions are in accordance with the RSPCA (2018) report: *Identifying Best Practice Cat Management in Australia*.

- **Domestic cats** have some dependence (direct or indirect) on humans and may be either:
 - Owned cats: identified with and cared for by a specific person and are directly depending on humans. They are usually sociable, although sociability varies.
 - Semi-owned cats: fed or provided with other care by people who do not consider they own them. They are of varying sociability with many socialised to humans and may be associated with one or more households. Often these cats have wandered into the person's property and stayed once food, companionship or shelter are provided.
 - Unowned cats: indirectly dependent on humans, with some having casual and temporary interactions with humans. They are of varying sociability, including some who are unsocialised to humans, and may live in groups.
- **Feral cats** are unowned, unsocialised, have no relationship with or dependence on humans (i.e. no food or shelter) and reproduce in the wild. They are typically at least 1-2 kms from the closest human habitation. These cats will not be included in the project and require evidence-based strategies to manage them and protect threatened and endangered wildlife.

3. Overview of a Community Cat Program

3.1. Chapter contents

- Aims of a Community Cat Program
- Elements of a Community Cat Program
- Sources of cats in a Community Cat Program
 - Owned cats
 - Semi-owned cats
 - Stray cats
- Personnel involved in a Community Cat Program
 - Lead agency staff
 - o Partner or support agencies
 - Volunteers

3.2. Aims of a Community Cat Program

- Humanely manage free-living cats in urban and peri-urban areas.
- Decrease the intake and euthanasia rates of cats and kittens in council pounds and animal welfare organisation shelters.
- Improve the mental health and job satisfaction of pound / shelter staff and volunteer animal carers.
- Increase the proportion of responsibly owned cats, strength of the owner-cat bond, and responsible cat caring attitudes and behaviours (e.g. desexing and confinement).
- Decrease cat-related complaints received by councils and changes in community attitudes to urban stray cats.
- Improve costs and benefits, compared to traditional methods of cat management, for councils and shelters.
- Decrease population size and density of free-roaming urban stray cats.
- Decrease problematic behaviour such as fighting, spraying and constant breeding, leading to cat-related complaints.
- Decrease wildlife predation and cat roaming behaviours.
- Give each cat and kitten the opportunity to maintain good health and quality of life.

3.3. Elements of a Community Cat Program

- Capturing stray cats in cities and towns, desexing healthy and treatable cats and returning them to their home location, and where possible, identifying a carer to support them.
- Adopting readily adoptable cats, and especially kittens, to new homes.
- Identifying carers of semi-owned cats, desexing their cats, and where possible, registering the carer as the owner or carer on the microchip / registration database.
- Offering free / subsidized desexing for owned cats in areas contributing to high shelter intake and euthanasia.
- Desexing unowned and unclaimed cats brought to a shelter by members of the public or council officers and returning these cats to the location where they were found if they are not readily adoptable.
- Community education regarding the importance of desexing and keeping cats safe through confinement on property and identification (i.e. microchip with correct contact details, and if possible, collar with ID tag giving contact phone numbers).
- Best practice in resolving cat related issues in the community, including providing education and cat deterrents for people who do not want cats on their property.
- Community cat watch to identify cats that are not desexed or are injured or sick and notifying the agency responsible for the CCP in the area.

3.4. Sources of cats in a Community Cat Program

Cats in the target area involved in a CCP will originate from three sources: (a) owned cats needing to be desexed; (b) semi-owned or unowned cats, including colony cats, which are caught or trapped; and (c) stray cats surrendered by the public to a shelter or pound or admitted by municipal or welfare agency officers.

3.4.1. Owned cats

Residents in the target area will be offered subsidised or free desexing to encourage / support them to desex their cats and kittens. This includes owners found for semi-owned cats after scanning for a microchip at veterinary clinics and shelters. Depending on state laws, owners will be contacted by the clinic, shelter or council to reclaim their cat if it is trapped in the CCP, and if it is not desexed, then desexing will be offered. To facilitate desexing, the owner will be followed up and offered support (e.g. for transport, making appointments for the owner if they have no phone, etc).

3.4.2. Semi-owned cats

Semi-owners feed or otherwise care for cat(s) that they do not regard as their own. This includes cats that may wander into someone's yard or be looked after by someone in a colony situation. Semi-owners will be encouraged to locate the formal owner of the cat through letterbox drops, and if possible, by taking the cat to a veterinary clinic or shelter/pound (depending on state laws) for scanning for a microchip. If no formal owner is identified, semi-owners will be offered free desexing for the cat and encouraged to adopt the cat, or at least continue to care for the cat after it has been microchipped to the local welfare group. Where it is not possible for the semi-owner to continue to care for the cat, the cat will be desexed and rehomed, or an alternative carer identified in the area, or as a last resort, the cat will be relocated (e.g. to become a barn or factory cat). To ensure that the cat is desexed, the semi-owner will be followed up, and offered support if necessary (e.g. for transport, making appointments for desexing if they have no phone, etc).

Colony cat carers will be provided with free desexing and supported, if needed, to catch / trap and transfer cats to a participating vet clinic, and to return the cats after desexing. After return, the cats will be monitored and supported by the carers, and best practice care-taking encouraged, for example, feeding at the same time each day with sufficient food just for the colony. If possible, the carer's contact details will be listed as the owner or the secondary contact on the microchip data base (and the relevant animal welfare organisation listed as the owner). The aim is for all the cats in the colony to be desexed, ear-tipped, microchipped, vaccinated and parasite-treated (and provided with any other veterinary treatment necessary for the welfare of the cats).

3.4.3. Stray cats

Where these are surrendered by the public to a shelter or pound, or admitted by municipal or welfare agency officers, they will be scanned for a microchip by council or shelter employees.

Cats with identification (i.e. a collar and tag or a microchip linked to a phone number) will be transferred to the organisation responsible for managing lost pets in that council area. If the owner does not reclaim the cat within the minimal holding period for that state (e.g. Vic 8 days, Qld usually 5 working days, NSW 14 days), the cat will be examined, desexed, ear tattooed, microchipped, vaccinated, wormed, flea-treated, and treated for any injury or illness. It will then be rehomed by a relevant organisation if capacity allows, or the CCP organiser, in conjunction with the local shelter / pound and trained staff / volunteers will return the cat to where it was found. Microchips will be registered to the relevant carer and / or animal welfare organisation as the owner(s) on a recognised microchip database in the relevant state.

Cats without identification will be transferred to a vet clinic participating in the program for examination, desexing, ear-tattooing, microchipping etc. without undergoing the minimal holding period for that state. This is based on the evidence that:

- Cats without microchips have only a 5% probability of being reclaimed by the original owner (Lancaster et al. 2015);
- Lost cats are 13 times more likely to return home via non-shelter means than a call or visit to a shelter (Lord 2007, Weiss 2012);
- 75% of lost cats were found within 500 metres of where they were receiving care (Huang 2018);
- Most healthy cats are either owned or fed by someone who does not perceive ownership but provides some care for the cat (Zito 2018);
- Cats in shelters are at increased risk of developing infectious disease and the probability of infection increases with duration of stay (Pedersen et al. 2004, Bannasch and Foley 2005, Dinnage et al. 2009, Steneroden et al. 2011); and
- Euthanasia rates approach 100% in shelters and council pounds for cats that are poorly socialised (Alberthson 2013; Kerr 2018).

Those cats that are too frightened / unsocialised to be safely handled will be caught with a humane trap for desexing, identification and treatment. Trapped unidentified cats will be transported by designated program staff to participating veterinary clinics as soon as possible after scanning (not exceeding 18 hours after trapping). Once recovered from desexing and microchipping to the carer / animal welfare organisation as owners, trapped cats will be returned to where they were found, to be monitored by carers, where possible. Where local carers are not available, the relevant local council officers will be notified in case there are issues reported by residents. Information will be disseminated to the community that if a previously unidentified cat returns to its owner afterit has been desexed, microchipped etc for these owners to contact the relevant program organiser or local government to transfer ownership on the microchip.

3.5. Personnel involved in a Community Cat Program

While the CCP will generally be managed and executed by animal shelter or council staff, there are various opportunities for external personnel to be involved in the program. Implementing a CCP with a team of personnel rather than separately and in isolation can create a culture that assists the success of the program overall. It is important that external personnel undergo induction with their own organisation regarding health and safety risks, and are covered by insurance with their organisation, or are official volunteers with the animal shelter or council and are covered by insurance.

3.5.1. Lead agency staff

Staff and management involved in the overall program operation and the day to day running of the CCP may include animal shelter officers, administration officers and council animal management officers. A Community Liaison Officer (CLO) may be appointed to manage the day to day running of the program in the community (see <u>Appendix 1: Sample job description for Community Liaison Officer</u>).

3.5.2. Partner or support agencies

For the program to be successful, the lead agency may partner with various external organisations. Support may be required from local vet clinics to assist with desexing, community groups to undertake research and community education programs, and other animal shelters to provide extra facilities. It is important to ensure that when partnering with external agencies, a Memorandum of Understanding is developed to ensure the success of the program.

3.5.3. Volunteers

Volunteers may assist in the program, including counting cats, cat trapping, ongoing care of cats while in traps, cleaning of equipment and facilities, transportation of the cats, and releasing cats. Volunteers can also become semi-owners who care for the cats once released. Volunteers need to be covered by insurance of their organisation, or of the animal shelter or council. They should receive health and safety training from the relevant organisation.

4. Pre-intake collection of essential information

4.1. Chapter contents

- Distribution of information about the CCP to the public and handling enquiries
- Essential information to be gathered from finder
- Complaint mitigation

4.2. Distribution of information about the CCP to the public and handling enquiries

Essential information needs to be gathered from the public or animal management officers prior to accepting a cat into the CCP. This is to avoid inadvertent admission of desexed owned cats or cats that have been previously desexed in the CCP.

To minimise the program intake of stray cats, a flyer or community notice (see Appendix 2: Example flyers and community notices) will be distributed to enable the general public to find out if specific cats are owned and to take ownership if they are willing. This information will indicate what local services are available for community cats, both for those who are feeding and want them around, and those who would rather they were removed. A website link will provide details of the positive actions that can be taken by community members. Contact details of the program's community liaison officer will be provided - this person will respond to callers and organise necessary support (see Appendix 3: Desexing program protocols).

For cats that need to be collected for desexing and microchipping by the CLO on behalf of owners or semi-owners who want to take ownership, the relevant forms (see Appendix 4: Microchipping agreement and owner information form and Appendix 5: Surgery permission form), will be provided by the CLO for completion by the owner or prospective owner at time of collection

As much information as possible will be gathered, preferably before admission, from members of the public or animal management officers who want to bring community cats to the pound, shelter or vet clinic for management through the program. An appointment for an interview (either face-to-face or by phone) before delivery or at the time of delivery will be scheduled. If scheduling occurs well ahead of the intake appointment, information can be gathered to enable the CLO or designated program staff to initiate appropriate actions:

• If the cat has already been ear-tipped: advise the finder/feeder that the cat has already been desexed. Explain how the CCP works, gather information on the cat for the database (e.g. is the cat is healthy, faring well, or needing treatment, or additional care; is the cat in danger or causing nuisance) and provide support as appropriate

• If the cat is not ear-tipped: where possible, visit the neighbourhood before the cat's arrival to learn more about the cat's circumstances, and suitability for the CCP. Canvassing the block and talking to residents, and distributing flyers about the cat, may enable the owner to be found, or semi-owner to take ownership, to avoid intake, and to enable support services such as desexing, microchipping, methods of containing the cat to the property, etc.

A comprehensive questionnaire (see Appendix 6: Intake questionnaire) will be used to gather as much information as possible about where the cat was found, how long the cat has been there, who was feeding it, possible owners, etc.

4.3. Essential information to be gathered from finder

- Accurate address of where captured / found: This is the most vital piece of information for the
 program's success. All animal management officers who may collect a cat from a finder, and
 staff/volunteers who speak directly to a finder of a cat will be made aware of how to clarify and
 confirm the address with particular attention to:
 - O Distinguishing between the finder's address and the address where the cat was found (these must be clearly delineated on the Information Form/Shelter Database). Most of the time, the cat's location of origin will be an exact street address e.g. 345 Elm St. However if a finder was driving or walking through an unfamiliar area and picked up the cat, a cross-street, landmark needs to be identified and the location narrowed as precisely as possible (e.g. in front or behind a specific shop or next to a green garbage skip behind a particular name of a factory site). If found at an intersection, record which particular corner, or which side of a street it was found to prevent the cat having to cross a busy street to get home.
 - Use of on-line maps to pinpoint the exact spot.
 - Asking the finder: "Is this information you've given me enough for me to be confident that
 I will be putting the cat back where she lives?"
 - There may be streets with the same name, so recording the specific area is important as well.
- Finder's name and a number of contact details: In case more information needs to be gathered about the cat or the finder is willing to help further with returning the cat. Consider requesting some type of identification to verify the finder's address.
- What prompted the finder to want to bring the cat in: For example, to rescue the cat from neglect, danger (e.g. at risk of being hit by a car), to get rid of nuisance issues (e.g. spraying urine, lying on deck furniture or car, scratching & pooing in the garden, killing birds), to access free desexing services so they can keep the cat and prevent further breeding. This will help decide whether to return the cat, and what other interventions may be needed.

- The finder's relationship with and observations of the cat: Is the cat ear-tipped or ear tattooed? Is the finder feeding the cat? Is the cat coming inside the house? Is the cat friendly, fearful? Can the finder pat the cat, pick up the cat? Is anyone else feeding the cat? Does the finder believe the cat is owned / abandoned / lost? Is the cat injured / ill? Is the cat at the finder's property or other place of feeding most of the time? Does the cat come and go at regular times? How long has the cat been in the area?
- The finder's observations about the location: Is the location safe for the cat to be returned to? What are the obstacles to return and how these could be addressed? Are there other cats or kittens in the area needing or getting support?
- The finder's interest in providing further care: Willing to take ownership if offered discounted or free desexing and microchipping? Willing to foster temporarily if the cat needs further medical attention or housing while recuperating from any surgery/treatment (e.g. cages, crates, feral cat dens provided)? Depending on possible options for the cat: Is the finder interested in helping with monitoring / support after the cat is desexed and returned? Or helping with other processes in the CCP (e.g. trapping / transporting / releasing / monitoring)? Helping with additional cats in the area? Is the cat pregnant? Does the cat have a litter?
- If the finder is a managed colony caretaker seeking free desexing: The cat will be allocated directly to an appropriate participating vet clinic.
- If it is suspected that the finder is the owner of the cat presenting a cat or mother cat and kittens as strays: Provide information about the subsidised / free desexing program as they may then be willing to keep the mother cat and care for the kittens until they are old enough to be desexed and rehomed. If so, refer the finder to their nearest participating clinic (if possible, with a desexing voucher), and provide any additional assistance needed, such as transport, carry cage etc. Organise a follow up call to check if the cat(s) have been desexed.
- The program must be fully transparent: The finder will be informed of possible outcomes, including adoption, and return to home location, with or without support depending on circumstances. This will encourage participation and support and will ensure that any concerns can be raised and addressed, thus avoiding antagonism toward the returned cats and the program (see Appendix 7: Return-to-field questions and answers).

4.4. Complaint mitigation

If finders are not happy about the possibility of a cat being returned, their concerns will be discussed and brochures/information offered on how issues can be resolved (see Appendix 8: Complaint mitigation brochures and information sheets), offering help as needed (e.g. loan programs for equipment, site visits, hands-on assistance to install equipment, if necessary).

- Complaints about odours: desexing the cat prior to return will result in elimination of odour after a week or two when the testosterone is no longer in their system.
- Complaints about yowling/fighting: desexing the cat will prevent mating behaviour.
- Complaints about digging, scratching, jumping on garden furniture: deterrents such as
 motion-activated sprinklers, ultrasonic devices, barriers, cat-scat mats may be suggested.
 Removing dense shrubs, limiting access to dark hiding places or changing feeding spots can
 also reduce unwanted presence in the finder's home or yard. Details will be provided on the
 CCP website, based on information from Neighborhood Cats.

Proactive support for carers of colony cats to prevent complaints will also be offered e.g. guidance on maintaining a safe sanitary feeding area; tidy shelters (see Appendix 9: Information for colony carers). For further information see the section on Responding to questions or complaints.

5. OH&S: Protecting staff when handling cats

5.1. Chapter contents

- Potential for disease transmission
- · Minimising the risk of disease transmission
- Minimising the risk of bites and scratches
 Minimising the risk of ringworm and other infectious diseases

5.2. Potential for disease transmission

Most diseases with the potential to be spread by cats to humans are rare and require close contact with infected cats, and are transmitted directly through bites, scratches, or in faeces (Centers for Disease Control and Prevention, 2016). The public health risk from cats is small (Chomel, 2014), and pet cats with close human contact pose a higher risk to humans than urban strays, which infrequently have direct physical contact with humans.

- Ringworm (a fungal infection caused by Microsporum canis), fleas, mites (Cheyletiella spp.)
 and intestinal worms (Toxocara spp.) can all be transmitted from cats to humans, but these
 are easily treated.
- Cat bites and scratches represent a more serious health risk, resulting in wounds that cause localised pain and infection, as well as the transmission of the bacteria (*Bartonella henselae*) which causes cat scratch fever.
- Toxoplasmosis (protozoal disease) is an important zoonotic disease that can result in neurological damage in immunocompromised people and abortion or stillbirth when pregnant women are exposed. Human infection by toxoplasma occurs via ingestion oocysts directly from the environment (for example, on unwashed vegetables) or via tissue cysts in improperly cooked meat.
- **Gastrointestinal infections** (such as Giardia and Salmonella) occur when humans are in contact with the faeces of an infected cat.

5.3. Minimising the risk of disease transmission

The risk of zoonoses will be reduced by maintaining high standards of animal care and husbandry and good hygiene practices. In addition, disease risk to humans, pets and wildlife will be minimized through reduction in fighting after desexing and reduced environmental contamination with toxoplasma oocyte and helminth eggs, because of the markedly reduced number of kittens being

born. Cats under one year of age shed substantially more infectious agents, including toxoplasma oocytes in faeces than older cats (Davis 1995; Dubey 1995).

The zoonotic (biosecurity) risk that semi-owned and unowned cats pose to humans, domestic cats and wildlife will be monitored as part of this project. Blood samples will be collected from a subset of cats at the South Australian and Queensland sites in order to study the prevalence of FeLV, FIV, *Toxoplasma. gondii* and panleukopenia. Hair and faecal samples will also be collected and examined for the presence of parasites including ringworm (*Microsporum canis*) giardia, roundworms (Toxocara catii, Toxoscaris leonina), hookworms (Ancylostoma spp), *Toxoplasma gondii*, lungworm (*Aelurostrongylus abstrusus* and *Eucoleus arophila*) and coccidiosis (*Eimeria spp*).

5.4. Minimising the risk of bites and scratches

Unsocialised cats should not be handled and should instead be trapped, including if they escaped from their trap cage. You must not attempt to catch them by hand, even with gloves (see section on <u>Trapping</u>). Unsocialised cats will not be handled individually, except when sedated / anaesthetized. These cats will be caught in trap cages and remain in them until return to their home location. The exception is when they are anaesthetized (administered by intramuscular injection while in the trap cage) and removed for surgery. They will be returned to their trap cage while still heavily sedated and are unlikely to pose a risk if level of sedation is being monitored appropriately.

To protect personnel tasked with feeding and cleaning cats while they are confined in traps

pre- and post-surgery, we also encourage the use of barbecue tongs or ice tongs. Two trap dividers should always be used to secure the cat while the trap is being cleaned (see section on Converting traps into cages), but even with this protection a frightened cat is capable of reaching through both dividers and scratching any hand that comes too near. Using tongs (see photo) to remove soiled paper, food dishes and debris that ends up near the dividers will prevent such injuries (A sample photo of some ice tongs



Socialised cats, even very friendly cats, can bite or scratch when they feel scared. Reduce fear by covering cage and avoid exposure to loud noises including dogs barking. If a socialised cat appears very fearful, defensive with growling or swatting or is attempting to bite or scratch as you are handling it, put one or two thick large towels over the cat prior to picking the cat up. Thick gloves can be used in addition to one or two towels. Look at Dr Sophia Yin and Fear Free videos on handling fearful or fractious cats (e.g. video demonstrating how to minimise stress for the cat and protecting yourself from injury available here).

Even if a cat appears friendly in its territory, we discourage caretakers / owners from picking the animal up and attempting to place in the trap. A cat being forced into an unfamiliar space can panic in an instant, inflicting injury, so the strong recommendation is always let the cat enter the trap under its own accord.

If you are bitten or scratched, you must notify your supervisor and file an incident report with the relevant department (i.e. The University of Queensland, RSPCA or Greencross) as per normal OH&S protocols.

5.5. Minimising the risk of ringworm and other infectious diseases

For ringworm and other zoonotic diseases, prevention is once again the best defence. Anyone handling the cats' traps for purposes of feeding, cleaning or providing medical care should be **wearing latex gloves** (or non-latex if allergic). It is also very important that you wash your hands and exposed skin thoroughly after handling animals.

To reduce risk of disease spread to other cats and humans, traps, trap dividers, food bowls and holding spaces should be thoroughly cleaned to remove organic material, then disinfected using products with accelerated hydrogen peroxide or equivalent after each use. Soiled bedding and used dishes from traps should be placed in sealed plastic bags and disposed of in a timely way.

To further reduce the risk of disease and parasite spread, all cages, traps, dividers, food and water bowels will be thoroughly cleaned and disinfected after each use. Recommended agents are antibacterial, antiviral, and antifungal. They are designed for veterinary use and considered non-toxic, non-corrosive, and environmentally safe. These include benzalkonium chloride & poly (hexamethylene biguanide) hydrochloride (sold as F10, Health and Hygiene Ltd), and accelerated hydrogen peroxide (sold as. Oxivir, Virox Animal Health™). These are effective against parvovirus and ringworm, and will also kill COVID-19.

Also see information in the short booklet, "Keep it Clean", about infection control and biosecurity from Virox Animal Health (manufacturer of Oxivir in Aust, Accel in USA). Also see tips for environmental decontamination from the UC Davis Koret Shelter Medicine Program (available here), but the product names in the US will be different from those in Australia).

All relevant government directives regarding restrictions and procedures aimed at limiting spread of COVID-19 must be complied with to minimize risk to those handling, transporting and desexing cats.

6. Intake process and record keeping

6.1. Chapter contents

- · Identification check and search of lost and found registries
- Allocation of CCP identification
- Essential information to be recorded
- Vaccination

6.2. Identification check and search of lost and found registries

Where it is feasible to safely handle a cat without sedation, the Community Liaison Officer (CLO) will check for ID tags and cats scan for a microchip as soon as possible after notification from a member of the community about the stray cat(s). If the owner or semi-owner wants the cat desexed and microchipped, the CLO will organise an appointment (and as needed, trapping, paperwork and / or transport) as soon as possible. In the rare instance where a cat is found to have a microchip but is not desexed, and the owner or semi-owner is not the owner listed on the database, the contact details listed will be used to contact the owner. If the cat was trapped and transported to the veterinary clinic for desexing, but was found to be microchipped after anaesthesia, if the owner cannot be immediately contacted to give permission for surgery, the cat will be allowed to recover from anaesthesia without proceeding to desexing, and the cat will be transferred to the participating shelter/council for the mandated minimal holding period. Standard shelter/council processes will be used to attempt to contact the owner. If the owner is not found by the end of the mandated minimal holding period, the cat will be rehomed by the shelter/council, with a priority for it to be rehomed to the person indicating an intention to be the new owner. If rehoming is not likely because of the timid nature of the cat, it will be desexed and returned to its home location as part of the community cat program.

6.3. Allocation of CCP identification

Details on all cats managed through the CCP will be entered into the overall study database (see Shelter Buddy or <u>Appendix 10: Sample spreadsheet</u>), and where appropriate on the relevant shelter database. Each cat will be assigned a unique CCP identification number and all information relating to the identification and any treatments received by the cat from intake to return/release must be recorded. This is vital to ensure that the Community Cat Program is not in breach of the reporting requirements for the associated permits.

Enter the details of the cat into the software system and assign a unique Project ID. Record this on the intake trap/cage and all associated paperwork for the cat. For example, a manila tag with

description of the cat, home/colony location and other relevant information fastened to the trap with rubber bands. The tag will follow the cat from its trap into surgery (e.g. attached to the cat's leg) and back to the trap again. Attaching a collar, tag or piece of duct tape to the cat with the ID number while the cat is unconscious may be an alternative method of ensuring the identification of the cat is tracked continuously.

If the cat is friendly, a collar may be the easiest way to track the cat while at the shelter / vet clinic. If the cat is fractious, skilled handlers will need to be available to put a collar on and remove prior to release. A completed checklist prior to release will ensure that a cat is not released with a collar (due to risk of injury and entanglement), unless being monitored with tracking devices / cameras for wandering and predation behaviours for the research. In that case, precautions will be taken to monitor the cat carefully until planned removal of the collar.

6.4. Essential information to be recorded

Track the cat's progress through the shelter / clinic to release date using Shelter Buddy or other computer recording system or paperwork. Attach updated records to the cage / trap (e.g. using a kennel card, or zip-tied plastic sleeve with insert; see Appendix 11: Sample cage / trap card), which will include:

- Intake: existing identification (microchip number, collar & tag information), description of the
 cat (markings and any specific identifying features/gender/estimated age), colour photograph,
 intake date, name of staff member/volunteer filling out the form, location of origin, relevant
 notes (see Information to be gathered from finder, above), labelling as Return-to-Field or
 Return-to-Finder/Owner.
- Examination (body condition score, weight etc)
- Non-surgical medical treatment (vaccines, microchip number)
- Surgery (desexing, tattoo, ear-tip, pregnancy, lactating)
- Return (when, by whom) or euthanase (if untreatable health conditions)

6.5. Vaccination

Whether the cat is vaccinated on intake will depend on where the cat is held, how long it is to be held, and its history. If housed in a shelter with the general cat population, normal protocols will be followed. If CCP cats are held separately and their length of stay is likely to be short (for example to find its owner, or return to its home location as already desexed, ear-tipped and in database) vaccinations may not be needed. If going straight to surgery, vaccinating during surgery may be more efficient, and safer if the cat is difficult to handle.

Intake process and record keeping

7. Trapping

7.1. Chapter contents

- Suggested list of equipment and consumables
- Trap selection and companion equipment
- Preparation for trapping
 - Secure veterinary appointments
 - Establish feeding pattern
 - o Identify colony members and record in database
 - Prepare trapping equipment, holding site and transport
- Procedure for trapping
 - Duration
 - Withholding food
 - Prepare and bait the traps
 - Trap placement and monitoring
 - Timing for trapping
 - Reducing stress of trapped cats
 - Difficult-to-trap cats
 - Record keeping
 - Transporting trapped cats
- Trapping pregnant or lactating females and kittens
 - Trapping pregnant cats
 - Trapping when it is known that a cat is lactating
 - Trapping when it is unknown before capture that a cat is lactating
 - Trapping lactating cats and kittens together

7.2. Suggested list of equipment and consumables

- Traps with wire mesh rear doors (minimum of two or more traps than estimated number of cats; length: 76cm minimum, 91cm ideal; if wire mesh rear door isn't possible, standard solid metal rear door)
- Trap mats (coin-grip PVC flooring ideal)
- Trap dividers (minimum of two per vet clinic)
- Trap covers (one per trap; e.g. cotton sheets, towels, blankets)
- Newspaper (lots of it!)
- Water dishes (with flat bottoms)

Trapping

- Bait (two kinds preferably with a strong odour such canned tuna) and food dishes (paper or plastic)
- Can opener
- Plastic spoons
- Plastic drop cloth (preferably minimum of 3mm thick)
- Latex gloves
- Thick protection gloves
- Paper towels
- Marker (permanent)
- Duct tape (if it is windy or for marking/numbering traps)
- Torch (if it is dark; headtorches recommended)
- Garbage bags
- Tables (optional)
- Small towels (optional)

7.3. Trap selection and companion equipment

Always use traps, even if cats seem friendly (their reaction to being handled is unpredictable). Cats should be kept in the covered trap for the duration of their time being held (except for during the desexing procedure) because secure and consistent confinement minimises stress to the cat and reduces risk of injury and escape.

7.3.1. Box traps

The standard trap used for cats is a "humane box trap". Shaped like a large rectangular box, typically 71cm to 91cm in length, with a minimum of 65,000 cubic cm in interior space. Raised open door at the front with bait placed at the back behind the "trip plate". The cat steps on the "trip plate" causing the front door to shut and lock behind the cat. Rear door opens by sliding (a "guillotine-style" rear door). Note, the trip plates should be extended when trapping by taping a piece of cardboard onto the pressure plate (see photo below).

Trapping



Cat traps in Australia are available from Wiretainers (box traps) and ACES site (box traps and dropdown traps). One of the best cat traps made in Australia is from Wiretainers (<u>available here</u>). It has more interior space than the models of Tomahawk traps available in Australia from ACES. The one recommended from ACES (<u>available here</u>) is smaller than ideal, but they work, and may be cheaper to ship because of smaller size.

Note that double-door traps that have a trip plate in the middle can be dangerous if a cat starts running back and forth, because the plate remains raised even after the trap shuts. Whether you order the Tomahawk or the Wiretainer, both should have their trip plates extended when trapping by taping a piece of cardboard onto the pressure plate (as described previously). Also, with the Wiretainer, the rear door does not have a lock, so you need to devise one (e.g. using carabiners, cable ties or the like).

7.3.2. Drop traps

For difficult-to-trap cats, selective trapping or trapping multiple cats at the same time (e.g. mother and kittens). A drop trap is a wire mesh version of a box propped up on a stick with a string attached and bait placed underneath. These are triggered by pulling the string to drop the trap down to the ground and are activated by the trapper or can be activated remotely. Drop traps are collapsible and lightweight and cats are less fearful of entering them than box traps. Cats are transferred out of the drop trap and into a box trap through a side door that aligns with the rear door of the box trap. Recommended traps are Tomahawk Drop Traps (Hazlehurst USA).

7.3.3. *Trap mats*

Cover the floor from the front edge of the trap to the trip plate. They provide a more secure feel for wary cats and a better surface for leaving a trail of bait (available from Tomahawk Live Trap or can be made from heavy duty coin grip PVC flooring). Trap mats can also be made of newspaper or cut cardboard, but then must be taped onto the floor of the trap in windy conditions. Cardboard also

has the disadvantage of having to be replaced after only one use, unlike PVC mats which can be cleaned and reused.

7.3.4. Cat dens (optional)

A "cat den" is a rectangular carrier and comes with a sliding, guillotine-style plastic front door and a round porthole door on the side, which opens by flipping it upwards. Cat dens provide a quiet place for unsocialized cats confined in cages and during transport. During trapping, captured cats can be transferred into them to free up traps. The dens have sliding guillotine-style front doors which line up with the rear doors of traps. They also have porthole-style side doors which can be opened and closed while a cat is in a cage without opening the door of the cage. Cat dens will be used at the discretion of the trapping team.

7.3.5. Transfer cages (optional)

A transfer cage can be used to free up box traps or for transporting cats. It has a guillotinestyle front door, which lines up with the rear door of a box trap allowing safe cat transfer. Due to their smaller size, transfer cages should not contain cats for extended periods.

7.3.6. Trap dividers

Divides the trap and isolates cat, making it safer and easier for containment. Allows trap cleaning, feeding, microchip reading, veterinary anaesthesia without the cat escaping.

7.3.7. Trap coverings

To reduce stress, the traps should be covered with sheets or blankets. Purpose-built plastic covers for the traps can also be purchased.



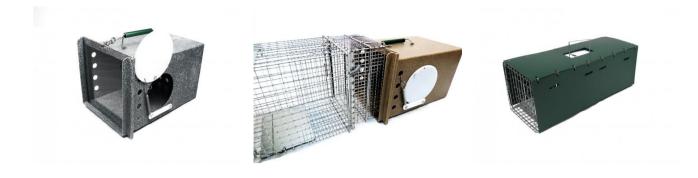
Box trap (top), transfer cage (right), trap divider (left)



Drop trap (used with or without remote trigger at front)



Heavy duty PVC trap mat (with coin grip)



Cat den (left) and attached to box trap with connector (right)

Purpose-built plastic trap cover

7.4. Preparation for trapping

7.4.1. Secure veterinary appointments

Mass trapping for colonies is recommended. In this instance, try to secure enough surgery/desexing slots with participating veterinary clinics so that all the cats in the colony can be desexed on the day that they are captured. Determine the clinic procedures in advance, including drop-off and pick-up times, and paperwork that needs to be completed beforehand.

7.4.2. Establish feeding pattern

Two weeks before the trapping, put out the cats' food at the same time and place, and for the same duration (or as close as possible) – 30-60 minutes is adequate. Repeat daily and link food arrival with a unique sound (keys, clicker, whistle). Choose a time and place that will work for trapping, and inform locals (i.e. residents, other feeders) of what you are doing, and why.

7.4.3. Identify colony members and record in database

While establishing the feeding routine, count and record the number and description of cats in the colony using a trapping record, and assess the colony for special cases (e.g. kittens, ill, pregnant, injured). Trapping record headings (see Appendix _____) should include: Name of cat, description of cat, special notes (medical conditions, pregnant, nursing, age of kittens, injured/sick, friendly, etc.), male/female if known. A photographic record can also be helpful.

7.4.4. Prepare trapping equipment, holding site and transport

Reserve and prepare the trapping equipment and consumables. The traps should be covered by a sheet to reduce stress to the trapped cats. The holding site for cats after trapping, and before and after surgery, must be of suitable temperature, dry and secure. Examples include a basement,

garage, laundry room, bathroom, spare room, or vacant store/warehouse. Outside is not ideal, but this can be done as long as it is still in the cats' territory. The site must be secure from access by people not involved with the research and protected from rain and direct sunlight, and at a moderate temperature.

Transport will be organised for trapping equipment to and from the trapping site, and for cats to the holding area, and later back to their home site. Organise suitable vehicles for transport between the trapping site and holding site, between holding site and vet clinic, and for collection and return of equipment. It is safe to transport cats for at least two hours, provided the vehicle has suitable temperature control.

7.5. Procedure for trapping

7.5.1. Duration

Plan to do trapping over at least two days, in case of bad weather, construction / noise, someone accidentally feeding just before trapping, wary cats, or other unexpected events. For colonies of 10+ cats, allow a minimum of three days, but trapping should continue if possible until all cats are captured.

7.5.2. Withholding food

No feeding for 24-48 hours prior to or during the trapping period but continue to provide water. Withhold food for no longer than 24 hours for young kittens, or ill or injured cats.

7.5.3. Prepare and bait the traps

Write a trap number on each trap using duct tape or masking tape with a permanent marker and check that they are working properly before transporting them to the trapping site. While outside of the colony territory and out of sight of the cats, unload and line up traps with the rear doors facing one way.

Prepare the traps 30 to 60 minutes before usual feeding time. Place bait in the food dish inside the traps, tuck cover sheets into handles of traps (unless it is very windy), and place trap mats inside. Use two types of bait in different traps in case different cats prefer different types. Use a trail of bait (tuna juice, bits of food, or a crumbled cat treat) leading to the trap. Also put a trail of bait inside the trap, leading to the trip plate. Ensure that rear doors are slid fully down and secure.

7.5.4. Trap placement and monitoring

Once all the traps are ready, place them in the territory / feeding zone at the same time and set them. They should be spread out to cover as much of the territory as possible. Concentrate traps

around the feeding area or along routes cats travel to get there. There will likely be "hot spots" where cats will repeatedly be trapped successfully. Place traps against something vertical (curb, fence, wall) to facilitate cats entering trap, but make sure that this does not interfere with operation of the trap door. Exit the territory and monitor the traps.

Enter the territory as little as possible, but never leave traps unattended by leaving the area entirely. Overnight trapping without monitoring is only done as a last resort and in secure areas that cannot be entered by people not associated with the research. Where traps are not able to be monitored, drape the sheet over the sides of the trap, leaving the front and rear doors uncovered. Do not stare at cats near traps. Stay out of sight.

7.5.5. Timing for trapping

Where possible, commence shortly before the time of day the cats are used to being fed. Trapping early in the day rather than at night reduces the containment time to the cat. However, some cats may be too wary to come out during daylight.

7.5.6. Reducing stress of trapped cats

When a cat is trapped, if they are stressed, cover the trap completely and give time for the cat to calm down. Then remove the covered trap containing the cat and replace it with a new baited trap, or a baited trap from elsewhere in the trapping area.

If a trapped cat is quiet and eating calmly, leave it alone and do not immediately approach to cover the cage. There is no reason to risk entering the territory and scaring away un-trapped cats. But if the trapped cat begins to get anxious and move back and forth, cover and remove as usual. If a cat is not calming down, use a trap divider to limit the cat's space so it cannot move around as much.

Keep cats covered at all times during transport and captivity.

7.5.7. Difficult-to-trap cats

Some cats will not enter the box traps on the first day (they may be more cautious or not show up on the day). Continue to withhold food (for larger colonies, three days of trapping are recommended, with a minimum of two days). Also consider using a drop trap.

7.5.8. Record keeping

After trapping, complete the trapping record (see _______), with the trap number, trapping date etc. Records can be partially completed during preparation for trapping to save confusion on the day. Use a unique identifying code (Appendix 4: Cat and Sample Coding) for each

trapped cat. This code will also be used to identify origin of faecal and other samples for infectious disease taken from selected cats. Use a different record for each colony if trapping at multiple sites (colour-coding can be used).

Maintain the ongoing record of information on the cats, including date and time of intake, observations of cat during holding period, desexing date (see <u>Appendix 11: Sample cage / trap card</u>

TO BE DEVELOPED - BASED ON NEIGHBORHOOD CATS RTF APPENDIX 5).

7.5.9. Transporting trapped cats

When transporting cats, line the vehicle with protective covers or disposable layers (thick plastic /newspaper and blankets/towels). Traps may be stacked as long as they are stable. It is safe to transport cats for two hours or more if their environment is temperature controlled, but it is best to minimise transport time. Keep cats in their covered traps until they are released at their home location, except during the desexing surgery.

7.6. Trapping pregnant or lactating females and kittens

Note that the following recommendations are options for each site to consider rather than a strict protocol. Factors including the local colony environment, and the opinions of the site team about best practice, particularly regarding the key ages for kitten management options, may vary between sites and the protocol should therefore be decided locally before CCP operations commence.

It has been suggested that CCP trapping operations should be intensified during periods outside of kitten season because during those times potential problems of trapping pregnant cats and separating lactating females and their dependent kittens are less frequent. However, this does not imply that trapping operations during kitten season should be avoided, as cessation in trapping activity at any time may compromise the aims of the CCP. In any case, "kitten season" is now becoming less clear!

A careful audit of the cat colony, and an interview with the caretaker where appropriate, should always be conducted prior to starting trapping to identify any pregnant or lactating females, or females that have recently given birth. The number and age of any kittens, and their capacity to survive without their mother, should be determined where possible, as this will guide the process to be followed. An overarching ethical principle is that the mother cat should never be knowingly separated from very young kittens if they are unlikely to survive the separation (see section _____ for recommended veterinary procedures for lactating cats).

7.7. Trapping pregnant cats

It is often difficult to determine whether a cat is pregnant, particularly in the early stages, by observation alone. In general, given the purpose of CCP programs to reduce cat numbers, a cat that is trapped and known or found to be pregnant should undergo desexing and the pregnancy should be terminated. The exception to this general rule is if the cat is in active labour or about to go into labour. In these circumstances, efforts should be made to deliver the kittens alive. In these cases, management of the newborn kittens should be determined based on resources available at each site. Pregnant cats should be trapped and the final decision on termination of the pregnancy will depend on the philosophy of the agency, temperament of the cat and capacity for care.

7.7.1. Trapping when it is **known** that a cat is lactating

- If the age and location of the litter are unknown: trapping of the mother should be delayed until the litter is located and the capacity of the kittens to survive is considered. The mother will rarely come out to eat until the kittens are 2-3 days old. This helps to avoid trapping a mother with very newborn kittens.
- If the litter is of known age (whether or not their exact location is known): the appropriate action depends on the age of the kittens, the mother's level of socialisation, and whether there is capacity to foster, socialise and adopt out the kittens. If possible, it is best to wait until the kittens are at least 5 weeks old before trapping and spaying the mother.

Alternative views to consider include:

- Trap and desex the mother when the kittens are 5-6 weeks old, prior to weaning, so that the mother will return to the kittens to continue feeding. The lactating queen will continue to produce milk after desexing if the kittens continue to suckle.
- Avoid trapping the mother until the kittens are eating on their own (at 6-8 weeks of age). This approach carries the risk that the mother may be difficult to retrap for desexing before she can breed again. As soon as milk production starts to decrease, the mother can come into season and become pregnant again, perpetuating the cycle of reproduction and population growth.

7.7.2. Trapping when it is **unknown** before capture that a cat is lactating

- When a lactating mother is unintentionally trapped during a CCP operation, or her lactating status is only discovered after she has been trapped and taken for desexing, consideration should be given to: (1) whether the mother is likely to be re-trapped; (2) whether the kittens can be located; and (3) the age and status of the kittens.
- Depending on circumstances, approaches to consider include:

- Release the mother immediately without desexing, to allow her to return to her kittens (noting that this does not guarantee the survival of her kittens).
- Proceed with prioritised desexing and return the mother as quickly as possible to her kittens (see Chapter 4 for recommended veterinary procedures for lactating cats). If the lactating mother is desexed and then released as quickly as possible, the kittens may survive until she returns.
- If lactation is only discovered after the cat is anaesthetized, proceed with desexing and prioritize release.

It should be borne in mind that stray kittens in the wild typically suffer a high mortality rate, often 50% or more. Even if the lactating mother is released immediately after trapping (before desexing), there is a chance that some of her kittens will die anyway. Certainly, if she continues to have further litters of kittens, many of these will also die. More kitten lives may effectively be saved in the long term if the mother is desexed before release. The welfare of the mother cat is also improved by desexing to prevent further litters.

7.7.3. Trapping lactating cats and kittens together

- If a mother cat and her unweaned kittens can be trapped together it is best to catch the kittens before the mother. This ensures that, if any are missed, the kittens will not be left alone without their mother.
- If the mother is trapped before the entire litter, then trapping should continue until all kittens are trapped.
- The kittens can be returned to the mother immediately after her surgery.
- After the mother's recovery from surgery, one management option is to return the whole family
 to the home site. The kittens can then be left in the colony with their mother until desexing age
 (about 8 weeks) and then trapped, desexed and returned to the colony, or socialised and
 adopted.
- Alternatively, the family unit can be fostered together until the kittens are weaned. At that time
 the mother can be desexed and returned to the colony if unsocialised, and the kittens adopted.
- Alternatively, the mother can be returned to the colony and the kittens placed in foster care (but note that if the kittens are not yet weaned, they will need to be bottle fed until eating by themselves). During fostering, regular efforts should be made to socialise the kittens.

7.8. Caring for cats in traps

7.8.1. Importance of holding cats in traps

The safest and most cost-effective way to care for trapped cats is to keep them in their traps at all times rather than transferring them into other enclosures. Unsocialised cats prefer tight, dark enclosures over large, wide-open spaces like cages. Stress is minimised by keeping the tops and long sides of the traps covered with a sheet or light towel at all times. Not transferring cats out of traps minimises stress to the cat and reduces the risk of injury and escape. With proper care, cats can be safely confined in a suitable trap for at least one week, including up to 3 days prior to desexing surgery, the day of desexing surgery, and 24-72 hours of recovery time after desexing surgery.

7.8.2. Conditions for holding area

- Holding areas need to be warm, dry and secure and preferably 20-28°C.
- If placing the traps on a floor, cover the floor with thick plastic drop cloths. If available, place traps on tables lined with newspaper (attach paper using duct tape).
- Line up the traps in rows with rear doors facing the same direction, with about 10 cm between traps if possible.
- The use of Feliway diffusers in the holding area may be helpful in reducing stress.
- Regularly check cats held in traps at the holding site (feed and refresh newspaper twice per day, using trap dividers to prevent their escape).

7.8.3. Converting traps into cages

• Lift one end of the covering sheet, to encourage the cat to move from the light to dark area (to the back of the trap), then use two trap dividers (offset from each other to prevent cats getting through the prongs and with the prongs pointing towards the cat – see photograph) to secure the cat at the back of the trap. Open the door, remove old newspaper/waste with tongs, and place fresh newspaper on the trap floor. Shut the front door, remove the dividers, and cover the other end of the trap with the covering sheet. Do the same on the other end, but also put in food and water.



(source: RTF Handbook)

- When changing newspaper in the base of the trap after surgery, please be sure to check the paper for any excessive blood, vomit, other signs that the cat may not be well.
- For cats who may be in care for longer periods (e.g. for medical treatment), the covered trap (or where available a feral cat den) can be placed in a collapsible wire 42" dog crate, which is also covered with a sheet. Slide up the back plate of the trap to allow them to leave the trap to use the litter tray, eat and drink. They will naturally hide in the covered trap at other times. The suggested cut off time before moving a cat to a larger cage (if they are undergoing prolonged treatment) is 2 weeks.
- Cats will often knock over water if it is in a separate bowl. For a short stay, mixing water in
 with the wet food is sufficient, but if giving dry food, water needs to be provided.
 - Cats eating wet food need an additional 0-10mL/kg water per 24 hours added to the food.
 - o Cats eating dry food need an additional 60mL/kg water per 24 hours.
- Additional supplies: Cat food, newspaper, water, plates and dishes, latex gloves, paper towels, disinfectant spray, and large garbage bags.
- Reduce chances of escape by double-checking that doors to the building are locked.
- Escape: If a cat escapes, do not attempt to grasp the cat with unprotected hands, or attempt to catch the cat by throwing a blanket over it. You will need to re-trap the cat.
- Desexing preoperative procedure: Withhold food/water per veterinary instructions (kittens need food closer to surgery time), clean traps and lay thin layer of newspaper.
- Advise the veterinary clinic staff to return the cat to a clean trap rather than a clinic cage.

8. Decisions on outcome, including definitions of healthy, treatable and untreatable

8.1. Chapter contents

- Categories for decision making
 - Euthanasia
 - Medical Management Plan
 - o Pregnant cats
 - Adoption
 - Stray cats surrendered to shelter or municipality
- Definitions of healthy, treatable and untreatable

8.2. Categories for decision making

8.2.1. Euthanasia

All decisions will be made on an individual cat basis by the responsible veterinarian, and where appropriate, in consultation with the caregiver. Physical examination findings, diagnostic test results and reason for euthanasia will be recorded in the patient record. It is expected that approximately 0.5% of trapped cats will need to be euthanased for debilitating illness or injury (untreatable and terminal illness) for which a treatment and foster care plan cannot be implemented and where lack of treatment would lead to unacceptable suffering. The decision to euthanase an individual cat will depend on the expected response to treatment in alleviating suffering or recovery from injury.

8.2.2. Medical Management Plan

Debilitated cats that are deemed too unhealthy for surgery and return to location, but are deemed treatable by the attending veterinarian will, where possible, be provided veterinary treatment. If treatable based on disease, temperament, resources of the agency, capacity of the carer or availability of alternative carer to provide care, a medical management plan will be developed by the responsible veterinarian and recorded in the patient record (note this is a reporting requirement for the Animal Ethics Permit) Cats will be transferred to the participating organisation for that local government area or to foster care for treatment. Once deemed sufficiently recovered, they will be desexed and rehomed, or returned to their home location. If treatment cannot be provided, the cat will be humanely euthanased.

8.2.3. Pregnant cats (see section 5.6.1 for more details)

If a cat is known or discovered to be pregnant, there are three options: (1) desex and terminate the pregnancy; (2) let her give birth in a cage or other confined space where she can then raise the kittens; or (3) do not trap her and allow her to give birth outdoors, trapping her and any surviving kittens at a future date. The decision on which option is chosen depends on the philosophy of the agency, temperament of the cat and capacity for care. In general, it is recommended the cat be desexed for population control and welfare of the cat. Kittens born outside may be subject to mortality rates of more than 50%. If there is little human contact in the first 8-10 weeks of life, they will also be poorly socialised to humans, which may impact their adoptability.

8.2.4. Adoption

Decision to be made by participating organisations based on resources and sociability.

8.2.5. Stray cats surrendered to shelter or municipality

Healthy and treatable unidentified (no microchip, ID tag) stray cats surrendered by members of the public or municipal / welfare officers, and which are unlikely to be readily adopted, will be desexed, ear tattooed, ear tipped, vaccinated, provided with preventive health care, and when recovered from surgery, returned to where they were found.

Healthy and treatable identified (microchip, ID tag) cats that are unclaimed by their owners during mandatory holding period in pounds and shelters will be incorporated in the program as above, unless the pound/shelter has resources to readily rehome them.

8.3. Definitions of Healthy, Treatable and Untreatable

Category 1	Healthy
Category 2	Unhealthy but treatable
Category 3	Unhealthy and untreatable

All cats in the CCP will be categorised by the responsible veterinarian as either healthy, treatable or untreatable. Categorisation will be based primarily on physical examination findings, and information from the carer if available. Where indicated and feasible, diagnostic test results such as blood tests, urine tests and imaging may be used to determine, where possible, a diagnosis and treatability, particularly for cats likely to categorised as Category 3.

The aim of the program is to release as many cats alive as possible whilst maintaining animal welfare. Every cat will be given every possible chance to receive veterinary treatment and be released alive. The vast majority of cats (99.5%) entering the program are expected to be released alive (Category 1. Healthy, or Category 2. Treatable). All decisions will be made on an individual cat basis by the responsible veterinarian, and where appropriate, in consultation with the caregiver. The aim is that only those cats with an untreatable condition with intractable suffering and where it is cruel to keep the cat alive will be euthanased. NOTE: Only an extremely small percentage of cats involved in the program are expected to be euthanased and placed in Category 3 (an estimated 0.5% of total cats entering the program).

Healthy cats will not be routinely tested for FIV/FeLV, in line with the recommendation by the American Association of Feline Practitioners (Levy, Crawford, et al., 2008), because:

- False positive test results are substantially higher in healthy cats that demonstrate no clinical signs consistent with infection;
- Prevalence is similar in stray and pet cats with outdoor access, so stray cats are being returned
 to a population with similar prevalence of the disease. In Western Australia, lower rates of FIV
 were demonstrated in shelter cats compared to owned cats (Westman et al, 2016);
- Spread of disease will be decreased as a result of decreased fighting due to desexing; and
- Many cats with FIV in Australia remain healthy, and do not have any symptoms for years.

Euthanasia of FIV positive cats will not decrease the prevalence in the population because of the high prevalence of FIV in stray and owned outdoor owned cats relative to the numbers of cats being trapped. Importantly, a policy of euthanasing FIV positive cats will jeopardize the success of the program, because colony carers will not participate if they know that up to 30% of their cats may be euthanased, most of which will be clinically healthy. FIV/FeLV testing will only occur where the responsible veterinarian observes clinical signs indicating likely symptomatic FIV/FeLV infection. Symptomatic FIV/FeLV positive cats will be provided with veterinary treatment and considered "Treatable" unless their condition is causing intractable suffering and it is cruel to keep the cat alive, in which case these cats will be placed in Category 3.

Cats with serious dental disease (Grade 4) will be provided with veterinary treatment and considered 'Treatable' unless they have concurrent untreatable terminal illness that is causing intractable suffering and it is cruel to keep the cat alive, in which case these cats will be placed in Category 3.

Category 1: Healthy

- Healthy generally means that the cat is reasonably healthy and does not show signs of disease, injury or congenital/hereditary conditions that adversely affect the health and welfare of the cat.
- Healthy cats and kittens >1kg in body weight will be desexed.
- Preventative health care will be provided, for example, flea/worm treatment.
- Healthy cats will be adopted or returned to where they were found, ideally with ongoing daily monitoring and care.
- Adoptable kittens and cats will be rehomed through the participating organisation or through appropriate foster and rescue groups.

Category 2: Unhealthy but treatable

- Treatable generally means that the cats are not healthy:
 - But are likely to become healthy with veterinary treatment OR
 - Not likely to become healthy regardless of care provided but would likely still maintain a satisfactory quality of life if given care.
- Examples of treatable conditions include cat fight abscess, dental disease, ear infection, ringworm, cat flu, fleas, fracture repair, skin disease, where there is reasonable expectation that the treatment can be delivered to the cat in a humane way.
- Cats with treatable conditions will be provided with veterinary treatment. A medical
 management plan will be determined by the responsible veterinarian and recorded in the
 patient record.
- Depending on the nature of the health issue, the cat may be desexed and microchipped while receiving veterinary treatment concurrently or desexing/microchip may be delayed until veterinary treatment is finished.
 - Where an owner/semi-owner or participating organisation does not have the resources to provide immediate veterinary treatment:
 - The local Program administrators will be contacted.
 - Where appropriate, the cat caregiver will be consulted.
 - For socialised cats, veterinary treatment may be temporarily delayed (provided this does not cause unacceptable suffering to the cat) and cats will be desexed/microchipped (provided they are sufficiently healthy for the procedure) and housed with the participating organisation/foster care/ caregiver temporarily while resources become available for their veterinary treatment.

- o For unsocialised cats or socialised cats that cannot be held without undue stress on the cat, but have treatable conditions (e.g. a cat that requires dental work and is otherwise reasonably healthy) veterinary treatment may be temporarily delayed and:
 - The cat will be desexed and microchipped (provided they are sufficiently healthy for the procedure) and be released to the place where they were found, provided the responsible veterinarian considers that the health condition would not cause unacceptable suffering and,
 - The cat will be monitored and cared for daily by carers/persons responsible and subsequently re-trapped when treatment resources become available (preferably within 3-6 months or earlier if possible) and veterinary treatment provided at that stage.
 - The need for follow-up veterinary treatment will be recorded in the patient's record to ensure follow-up when resources are available.
- For an unsocialised cat with a treatable condition which the veterinarian considers requires immediate treatment, that is, the treatment cannot be delayed because the veterinarian considers this will cause unacceptable suffering, all options for providing that treatment will be explored, e.g. placing the cat in temporary foster care during treatment. Only if no treatment options are possible will euthanasia be considered.
- Note that whether an animal meets the definition of 'Treatable' does not depend on whether the participating organisation actually has the resources to treat the cat.
- Treatable cats who become healthy after receiving veterinary treatment or who maintain a
 satisfactory quality of life with care (because they are not able to become healthy) will be
 adopted or released to the place where they were found with ongoing monitoring and care.

Category 3: Unhealthy and untreatable

- This category includes cats deemed unhealthy with an untreatable and terminal illness.
- NOTE: Only an extremely small percentage of cats involved in the CCP are expected to be
 placed in Category 3 and euthanased (an estimated 0.5% of total cats entering the program).
- Placement of cats into this category is based on physical examination findings and diagnostic test results which confirm diagnosis of a terminal, untreatable illness. Blood tests, urine tests, imaging etc. are undertaken as required, to make a definitive diagnosis where possible.
- Examples of untreatable and terminal illnesses include:
 - o terminal cancer, causing suffering

- o end stage kidney failure, causing suffering
- o multiple chronic illnesses, causing suffering
- Physical examination findings, diagnostic test results and the reason for recommending euthanasia will be recorded in the patient record.
- The responsible veterinarian, where appropriate in consultation with the carer, makes a
 determination that the illness is untreatable, and is causing or will lead to unacceptable
 suffering, and that it is cruel to keep the cat alive.
- All euthanasia decisions will be made on an individual cat basis by the responsible veterinarian, and where appropriate, in consultation with the caregiver.
- Note that some cats with untreatable and terminal illnesses may retain some length of
 reasonable quality of life if they receive appropriate care from a responsible caregiver and
 may not require immediate euthanasia. In these circumstances, a record will be kept of the
 decision not to euthanase immediately, and a timeframe for follow-up should be determined
 to ensure that the cat does not suffer.
- Euthanasia will be performed humanely by intravenous injection of barbiturate to relieve intractable suffering and a post-mortem examination carried out if possible. The cat will be sedated prior to euthanasia as required to reduce stress.

9. Veterinary procedures

9.1. Chapter contents

- Examination
- Desexing
- Microchipping, vaccination, parasite management and ear tattoo
- Ear-tipping
- Post-operative care
- Sample collection

9.2. Examination

- Examination will be conducted by a responsible veterinarian.
- Cats that exhibit stressed or aggressive behaviour will be sedated for examination (<u>Appendix 5: Anaesthesia for cats which are not readily handleable</u>).
- Cats will be scanned thoroughly for a microchip. If the cat is microchipped see procedure in overview section on <u>Stray cats</u>).
- Cats will undergo a physical examination and be given a body condition score, recorded on a
 9-point scale (see Appendix ______) and results recorded in the patient record.
- Cats will be categorised by the responsible veterinarian as either healthy, treatable or untreatable (see Chapter 3).
- Cats deemed unhealthy but treatable will be provided veterinary treatment and transferred to the participating organisation for that local government area, or to foster care for treatment and rehoming.
- If an owner of a cat examined prior to desexing is unable to afford treatment necessary for the welfare of the cat, support will be offered (e.g. payment plans, price reduction, subsidies, deferred treatment) while the owner saves the amount needed (provided the responsible veterinarian considers that the health condition would not cause unacceptable suffering).

9.3. Desexing

9.3.1. Inclusion criteria

Healthy cats and kittens >1kg in body weight and cats that are "treatable" and sufficiently healthy to be desexed, will be desexed.

9.3.2. Pre-op and anaesthesia

Anaesthetic regime used will be at the discretion of the attending veterinarian based on assessment of each individual cat. The following regime has been found to be safe and effective based on extensive use in CCP programs for poorly socialised cats:

- Restrain the animal by transferring into a crush cage, using trap dividers in the trap to limit available movement, or even using a soft cushion to push the animal gently to one end of the trap, in order to safely administer the injection of anaesthetic.
- Single-dose injection of ZTD (Zoletil (Tiletamine and Zolazepam)-Torbugesic/Butorphanol-Domitor (Medetomidine) (Appendix 3). Alternate drugs can be used at the discretion of the attending veterinarian. However, if alternate drugs are used, it is necessary to include an opioid preoperatively before incision to prevent dorsal horn wind-up pain, and to ensure adequate analgesia.
- This combination typically provides 30-45 minutes of surgical-grade anaesthesia.
 - Younger cats metabolise drugs faster.
 - o Highly stressed cats sometimes require second injection (at half-dose).
 - o Geriatric or older cats tend to need longer recovery.
- Within a few minutes after injection, remove the cat from the trap and prepare it for surgery.
- Instil corneal lubricant to prevent desiccation and ulceration.
- Place an anaesthetic mask on the cat and start it on oxygen.
 - Isoflurane can be added (if needed).
 - Pull cat's tongue out when placing the mask, so that mucous membranes can be constantly monitored.
- Intubation is performed in pregnant cats, cats with upper-respiratory tract disease signs, and cats that are not breathing well or have suboptimal colour.
- Monitor the following: mucous membranes, breathing, heart rate, and peripheral capillary oxygen saturation (SpO₂) using pulse oximeter (especially if intubated).
- See appendix for anaesthesia for cats who are not readily handleable.

9.3.3. Surgery

- For male cats, orchiectomy will be performed.
- For female cats, a full ovario-hysterectomy via a midline approach will be used, but this is at the discretion of the veterinarian doing the surgery, particularly for lactating females.
- Flank spays are recommended for lactating cats (surgical approach is at the discretion of the veterinarian performing the surgery)

9.4. Microchipping, vaccination, parasite management, and ear tattoo

While under anaesthesia, and after desexing:

- All cats will be microchipped, and subsequently registered on an appropriate database.
 - For cats that live at a private residence with an identified owner, the microchip will be registered to the owner.
 - o For urban stray cats, the microchip will be registered to the local council, shelter or community rescue group, and, where possible, a colony carer. State laws and procedures may determine whether an identified person needs to be named on registration documents in addition to an organisation for unowned stray cats.
- All cats will be vaccinated (F3 minimum) feline herpes virus, feline calicivirus and feline panleukopaenia
- All cats will receive parasite treatment for worms and fleas. The actual product used will depend on whether it is donated or purchased but should provide treatment for gastrointestinal nematodes and flea control. MSD Animal Health are donating Bravecto Plus (fluralaner and moxidectin) for the Queensland site. This is a spot-on treatment, which provides three months protection for fleas and 2 months for ticks and heartworm as well as controls roundworms, hookworms and ear mites. Where a spot-on treatment is used, this is most easily managed while the cat is under anaesthetic. Oral medication is more problematic to provide at the time of desexing, but may be suitable for carers to provide as ongoing protection in the home location.
- All cats will receive an ear tattoo in the left ear. The standard ear tattoo to indicate a desexed status is a circle with a line struck through.

9.5. Ear-tipping

All cats where an owner is not named on the microchip/council registration data base that are being returned to colonies or locations where they were found, and are anticipated to remain free-roaming, will be ear-tipped on the left ear. For unowned cats that roam freely, ear tipping is an international convention to aid in visual identification that the cat is desexed, thus avoiding repeat trapping and surgery. It also indicates that the cat is in a CCP and has contact details on the microchip, which is important if the cat is sick or injured.

The process is performed under sterile conditions while cat is anaesthetised. It is relatively painless, with little-to-no bleeding. 1 cm is removed from the tip of the left ear in a straight-line cut, using a template to draw the line at the correct length first. When ear-tipping kittens, adjust the positioning of the hemostat so that proportionately less than 1 cm is removed. For kittens three months

old or younger (3 lbs. or less), 6.5 millimeters of the ear is removed. The full procedure and demonstration video are available here and a summary is provided below:

- 1. **Examine both ears**: for ear mites, infection and debris, and treat as necessary.
- 2. **Prepare a haemostatic paste**: Mix Kwik Stop® (styptic powder) with just enough lidocaine to make a thin paste. The mixture must be ready to be applied as soon as the ear has been tipped.
- 3. **Sterilise site**: Apply sterile scrub to the top 1.5 cm of the ear, ensuring no sterile scrub solution gets into the ear canal.
- 4. Position the haemostat: Maintain gentle pressure with the haemostat (holding or clamping) across the top 1 cm of the left ear. Never clamp the haemostat beyond the first notch of the haemostat excessive pressure may cause tissue damage. Adjust positioning of haemostat so that a proportionate amount will be removed in kittens. The goal is a clean, straight line (this shape is easily recognised as tipping).
- 5. **Cut the ear**: Using sharp scissors (less bleeding) or a scalpel, cut across the top of the ear, removing the top 1 cm.
- 6. Apply the haemostatic / local anaesthetic paste: Immediately after cutting, with the haemostat still in place, apply the prepared haemostatic paste using a cotton swab across the cut surface. This will stop bleeding and reduce pain. Then remove haemostat and observe for bleeding.

Place template over ear of cat and draw a cut line with a ballpoint pen 1cm from tip of ear (less for kittens)





9.6. Post-operative care

- Pain relief: Will be given to every cat and kitten following surgery once vital signs are normal.
 Robenacoxib (Onsior^R) or Meloxicam (Metacam^R) are recommended. Other drugs may be used at the discretion of the attending veterinarian, but it is important to ensure that the drug used will provide adequate analgesia.
- Reversal agent: Atipamezole
 - Used on kittens < 1.36kg, cats experiencing prolonged recovery and cats with upper respiratory tract infection signs.
 - Immediate reversal should be applied for cats that are not breathing well, and cats that were intubated because of poor colour, then maintain on isoflurane.
- Fluids: Should be given to pregnant cats, dehydrated cats, and those that bled a lot during surgery.
- Antibiotics: Are not routinely used, but kept on hand for cats with abscesses, infections or other wounds (Convenia recommended for long duration of action and antimicrobial activity).
- Stress reduction: Gabapentin and Feliway diffusers can be used to decrease stress in cats. Gabapentin (100 mg capsule mixed in food) reduces anxiety approximately 90 minutes after ingestion, but sedation is a common effect of gabapentin administration, and ataxia, hypersalivation, and vomiting are also reported. All effects resolve within 8 hours after gabapentin administration. It is most commonly used prior to transport, which is not recommended in cats being trapped for transport, in case the cat consumes gabapentin but is not trapped. Depending on the level of sedation, the dose of ZTD for anaesthesia may need to be reduced if it is used. It is also not recommended that gabepentin be used within 8 hours of returning the cat to its outdoor home because of its sedative effects, unless the can be confined and monitored by the carer.
- For cats that were caught in a trap and transported in the trap for desexing, the clinic will return the cat to a freshly papered trap (rather than a cage), and keep the trap covered once they know the cat is recovering well.
- Owned cats will be collected by their owner on the day of the surgery to be monitored in their home overnight.
- Unowned cats will be returned to a designated CCP holding site overnight. Minimum postsurgery hold time is overnight (except lactating females). For males, a 24-hour hold time is standard practice, and for females a hold time of 36-72 hours is common. To limit stressing unsocialised cats, longer than 72 hours should only be used in special cases, for example, medical treatment with antibiotics.

9.7. Special procedures for pregnant and lactating cats (see also discussion in Chapters 2 and 3):

- Mid-to-late-term pregnant cats are given warm fluids (intravenously / parenterally) during surgery or subcutaneously in recovery).
- Lactating cats should be labelled to identify their status and accompanying paperwork should be marked "Desex first same day release" (i.e. they should be the first cats desexed that day as priority and "priority" marked on their paperwork).
- Once the queen is alert after surgery (drug reversal and flank spay recommended) and where
 it is safe to do so, lactating cats should be released the same day as surgery so they can be
 returned to their kittens as soon as possible. An alternate view is that, where the survivability
 of the kittens is unknown, the health of the mother cat takes precedence and the lactating
 mother should be held until fully recovered from surgery.

9.8. Sample collection and processing:

To evaluate the health risks posed by unowned and semi-owned urban cats to owned cats and humans, the prevalence of zoonotic infections and common infectious diseases will be determined and compared among these three cat populations.

Hair and faecal samples will be obtained from cats being desexed in the program and tested for the zoonotic pathogens *Microsporum canis* (ringworm), *Giardia*, roundworms (*Toxocara catii*, *Toxoscaris leonina*), hookworms (*Ancylostoma* spp), and *Toxoplasma gondii* as well as for feline-specific intestinal parasites that cause lungworm (*Aelurostrongylus abstrusus* and *Eucoleus arophila*) and coccidiosis (*Eimeria* spp) using faecal flotation/sedimentation tests and PCR. Blood samples will also be obtained for serological tests to detect previous exposure to *T. gondii* and FPV and persistent infections with FIV and FeLV using ELISA, PCR and haemagluttination inhibition assays. The same tests will be performed in healthy age and sex-matched at visiting participating veterinary practices in the same region for vaccination or wellness examinations.

Samples for infectious disease will be collected from a subset of cats at the South Australian and Queensland sites:

Blood: Jugular blood samples (10mL) will be taken under anaesthesia from 750 semi-owned and unowned cats and 500 owned cats from SA, and 1250 semi-owned and unowned cats and 500 owned cats from Qld for FeLV, FIV, *T gondii* and panleukopenia.

Hair: Hair samples for ringworm (*Microsporum canis*) will be taken by combining from 250 unowned/semiowned and 250 owned cats in each of SA and Qld (1,000 total cats).

Veterinary procedures

Faeces: Samples will be taken from faeces defecated in the trap before or after desexing for parasites including Giardia, roundworms (*Toxocara catii*, *Toxocaris leonina*), hookworms (*Ancylostoma* spp), and Toxoplasma gondii as well as for feline-specific intestinal parasites that cause lungworm (*Aelurostrongylus abstrusus*, *Eucoleus arophila*) and coccidiosis (*Eimeria* spp) using faecal flotation/sedimentation tests and PCR.

10. Return to the field

10.1. Chapter contents

- Criteria for return and steps for release
- After return to the field
- Converting semi-owners and identifying colony carers
- Distribution of information to residents

10.2. Criteria for return and steps for release

Cats deemed by the responsible veterinarian to be healthy or treatable (see Chapter 3) but not readily adoptable, will be returned to where they were found as soon as they are fully recovered from surgery. There may be situations where a cat cannot readily be returned to its original location, because it is not welcome or because it will not be safe. Strategies to deal with these situations are discussed in Chapter 6.

After recovery from desexing, cats not readily adoptable, who are 16 weeks or older with no known carer, or older than 8 weeks with identified carer, and deemed sufficiently healthy for return to their home location, will be transported to the release site, either by an employee of the relevant council or participating organisation, or a volunteer registered with those organisations. Kittens aged 8-16 weeks with no known carer, and kittens 8 weeks of age or less will be adopted or fostered.

Release at location of capture, ideally within a one-house radius of location found, but no more than 200 metres from where they were found. Where possible, place the trap in a secluded area and alongside items such as buildings, fences or near bushes. Release at night whenever possible, particularly if releasing in a busy area. Before release, check for alertness, healing incision, and no significant loss of blood. Allow the cat several minutes to become orientated. Open the trap door and allow the cat to exit themselves.

10.3. After return to the field

Clean and disinfect housing and transport facilities including all used equipment and materials to prevent transmission of disease and keep the cats in the program healthy. A cleaning and disinfecting protocol (see APPENDIX _____) including who is responsible for disinfection should be established and include all surfaces (benches, tables, floors), equipment (traps including under trip plates, dividers, towels, blankets), personnel protective clothing, vehicles and any other areas where cats were held prior to theirreturn. The protocol should include the prompt removal and disposal of all solid materials such as paper, faeces and uneaten food, and a disinfection regime with a hospital

grade or veterinary grade disinfectant effective against panleukopenia (parvovirus) following manufacturer's instructions.

Update the cat's record to reflect that it has been returned. It is recommended that this be a distinct type of outcome, so the numbers of community cats can be recorded. Record if cat is owned, semi-owned or colony cat. If the owner/carer of the cat was not in attendance upon its return,, it is important to advise the owner/carer of the cat's return. Also follow up with the residents on the number of stray cats that remain in the area.

10.4. Converting semi-owners and identifying colony carers

In most states, it is lawful for people who are feeding stray cats to take ownership and get the cats desexed and microchipped. Where restrictions exist on numbers of cats a person is allowed to own, this may require flexibility by Councils to allow people who are willing to take ownership of stray cats to keep more than the current allowed number, provided they can do so responsibly and without nuisance, as this ultimately helps prevent unwanted breeding and further stray cats which impact on the community.

Semi-owners caring for one or two cats (typical maximum number of cats allowed by municipal councils as pets) should be encouraged to take ownership of the cats, and their contact details should be registered on the microchip database. If they do not want to become the registered owner, their contact details where possible will be registered as a secondary contact for that cat along with the local organisation participating in the CCP. If more than two cats are being cared for, the semi-owner would be considered a colony carer.

For colony cats, where possible, a responsible colony carer will be identified / appointed to care for the cats after return. Where necessary, they will recruit other volunteers to assist with feeding etc. Where a responsible colony carer is identified, their contact details can be included on the microchip as a secondary contact along with the local organisation participating in the CCP (i.e. welfare agency, rescue group or municipal council).

10.5. Distribution of information to residents

In some situations, it may be helpful to **distribute information to residents in a 300-metre radius of where the cat is to be released**. Develop a communication protocol (SEE APPENDIX ______) for communicating relevant information to the community, carers and volunteers. This information will explain that a desexed, vaccinated and microchipped cat has been returned, and will provide the CLO's contacts if residents are concerned or have questions.

11. Relocation

11.1. Chapter contents

- Reasons for relocation
- Identification of new site and caretaker
- Period of confinement
- Other things to consider

11.2. Reasons for relocation

Due to the many challenges with relocating cats, this should only be considered if the return location is unknown, or there is imminent threat to the cats, and all other alternatives have been considered and exhausted. Relocation should be considered as the <u>absolute last resort</u>. Some circumstances where it is difficult or unsafe to return the cat to its original location include:

- The person who has been feeding the cat already has many other cats and is at risk of eviction if the cat returns:
- The cat is at risk of being harmed by other people or animals;
- The return location is unsafe, such as a building site or close to heavy traffic;
- The original location of the cat is unknown.
- The cat is living in an environmentally sensitive area, for example, where there are threatened and endangered wildlife that are susceptible to cat predation.

If the cat is at risk of being harmed or the person evicted, efforts should be made to resolve any neighbour or public concerns (see CHAPTER ______ Responding to Questions or Complains) Complaint Mitigation strategies in Chapter 1), identify alternative outcomes for the cat, or find another location for safe release. For example, a semi-socialised cat could be placed with an experienced/trained foster carer to be socialised and adopted. Another option is that the cat could be safely relocated as a barn or factory cat.

11.3. Identification of new site and caretaker

Moving a cat to a new site requires a two to three-week relocation process and is not recommended unless there are no other options. Any relocation should be done with input and collaboration of the previous cat carer where this is appropriate. Inspect the proposed new location before cats are relocated, spend the extra time and effort to survey the prospective new place, meet the caretaker, and check that proposed caring hours and feeding times are as expected. Considerations for a new site are as follows:

Relocation

- A reliable new caretaker who will strictly follow the guidelines for relocation and fully accept responsibility for the cats' long-term care;
- A structure of some sort (e.g. barn, shed, garage) that will provide shelter and protection from the elements during the confinement period, but will provide access to their new territory once released; and
- A location away from construction sites or heavy traffic.
- Consider other factors, including native wildlife impact, potential danger from foxes or dogs, hostility from nearby neighbours or businesses, proximity to land designated for hunting, and any other potential environmental hazards or issues.
- Beware of people who are dishonest about their intentions to care for the cat as they may
 mistreat it or let it go in the bush, especially in cases where they have been paid to take the
 cat.
- Attempting to relocate cats into an existing colony can be a much harder process than relocating to a fresh site and should be avoided if possible.
- Whenever possible, relocate the entire colony (or at least two cats together) so as not to break
 up their strong bonds.
- Ideally, relocating should occur in moderate temperatures as relocation is stressful and may affect the cats' health.
- Accept that a perfect site is difficult to find but aim for the ideal if achievable.

11.4. Period of confinement

To avoid runaways, the cats need to be taught that their food source has changed. The best way to do this is confine them (for example in a large cage, or a small room or space) in the new territory for two or three weeks, before release into its new wider territory. Before transporting the cat, ensure that everything is set up at the new location, including cage/den/playpen, food, litter tray, etc. Three weeks of confinement is optimal to acclimate the cats to their new surroundings so that they will not panic upon release. To avoid confusion the cat must be able to get from their confined space to their new territory on its own.

Keeping the cats confined for longer than three weeks is not recommended. Once acclimation is accomplished, continued confinement is unnecessary as well as stressful and can cause the cat to want to flee the area. During the acclimatisation period of confinement, it is advised to use cages or pens, as this will minimise the risk of escape while the caretaker is attending to them.

11.5. Escape during confinement period

The cats may try to escape, especially during the first few days. Be certain the caretaker knows how to care for unsocialised cats in cages and demonstrate the procedure. The cats need fresh food and water twice a day and clean litter, so the cage door will be opened often, giving lots of opportunities for the cats to make a run for it if they are not shut into their dens or carriers. In case of escape, set out food and water near the cage or playpen and, sprinkle used litter around the area to create a familiar scent. Escapees typically hide then run, so if they have familiar smells they may not run outside.

11.6. Other things to consider

- An important consideration is what will happen in the old territory if the cats are removed. If
 food and shelter are still available, sooner or later new cats will move in to take advantage of
 these resources and the cycle will begin again.
- Desex the cats before relocating them, so they can get over the stress of the surgery before
 having to adjust to a new location. Nurse sick or injured cats back to health before relocation
 because the relocation process is stressful.
- Encourage the caretaker to talk to the cats and try to bond with them. They need to adjust to new voices and sounds as well as everything else that is new.
- Set up large playpens or cages in the confined space and allow access to this quiet space after release following the acclimation period, so that they can hide while adjusting to their new surroundings.
- If a cat is used to certain food, continue with that as any change will add to the stress of
 moving. Keep feeding times on a schedule. If the cat likes wet food, this may be better initially
 (as consumed faster) and helps habituate the cats to a new routine. Over a few weeks you
 can convert to dry food if this is preferred.
- Stay in touch with the new caretaker, to monitor the cat's progress and to be available to offer help or advice. Ask the caretaker to advise if anything changes at the location that may make it unsafe or unsuitable for cats. Whenever possible, have a backup location, in case the primary location does not work out.

12. Support after-return

12.1. Chapter contents

- Ongoing monitoring
- · Feeding stations
 - o Placement
 - Construction
 - Rubbermaid bins
 - Wood station
- Automatic feeders and waterers
- Avoid overfeeding and attracting new cats
- Keep the feeding area clean and do not feed the wildlife
- · Tips for protecting food
- Nutrition

12.2. Ongoing monitoring

While the vast majority of returned cats will thrive once returned to the same location, some cats will need to be monitored and re-assessed. A protocol for the ongoing care and management of community cats after desexing and return (see appendix ______) will be required, including steps to be undertaken in the event a community cat is not coping after desexing or is showing signs of illness or injury.

Consider how the initial finder may be able to get involved in the program. If the finder wants to adopt the cat, this option should be considered as a positive step. If a finder continually brings in the same cats, it is important to try to establish exactly what the issues are with the cats in the area. A potential solution may be able to be found or the area may need to be assessed for its suitability to continue with the CCP.

12.3. Feeding stations

12.3.1.Placement

Feeding stations should be easily accessible to the carer, but out of sight and not accessible to the public (a backyard is ideal). If this is not possible, feed cats as far away from busy areas as possible, and hide food and water for example, behind a wall or pile of rocks. Discretion also reduces likelihood of people seeing and dumping unwanted pets there. If the location is secure, food can be stored on-site.

12.3.2. Construction

Feeding stations should shield food and water from elements and have room for one or two cats to be inside while eating. Where possible, line station floors with industrial-strength rubber or vinyl mat (runners). to help keep stations clean.

12.3.3.Rubbermaid bins

These are easy to clean (plastic) with a removable top and quick to assemble. Transform a large lidded plastic storage bin into a feeding station. Usually 100-200 litre size is suitable, however choose the size that best suits the location and the cat size. Cut an opening in one of the longer sides using a box cutter, leaving a 7.5 cm off-the-ground lip to prevent ground water seeping in after rain. Alternately, cut two smaller openings on each of the bin's narrower sides (this will prevent one cat from taking over the whole cafeteria). Trace and re-trace the opening with the box cutter to cut through; don't try to cut through at once.



20-gallon storage bin



55-gallon storage bin

12.3.4. Wood station

When properly constructed, these will last longer than a Rubbermaid bin. Build with one side completely open, roof overhanging the front and pitched towards rear (for rain run-off), and legs on the ground (to keep out ground water from rain). To prevent rot, coat the station with a latex deck paint and seal seams with silicone glue. Reduce costs by using scrap timber from home improvement stores.







wooden feeding station

12.4. Automatic feeders and waterers

Gravity-driven systems, which are useful when everyday access is not available, or if the carer goes away for a couple of days. However, they need to be inside the feeding station or somehow protected from the elements. Automatic feeders are not ideal if wildlife frequent the feeding site.

12.5. Avoid overfeeding and attracting new cats

A desexed colony of cats will guard their territory against intrusion by new cats. If there is "just-enough" food available for the colony cats, they are motivated to stop newcomers moving in and sharing their meals. Over time, as the colony size declines, reduce the amount of food provided.

Avoid obesity in colony cats because this predisposes to other conditions such as lower urinary tract infection, diabetes, joint disease and contributes to premature death. Generally, 60 calories/kg is sufficient energy intake per day for an outside cat. But body condition should be monitored and the amount fed decreased or increased as required to maintain ideal (lean) body condition. Some inactive cats only require 30-40 calories per kg per day to maintain ideal body weight, and there are considerable differences between individual cats in their energy efficiency and activity levels. Feeding an amount which can be eaten in 30 minutes is also a reasonable guide, and ensures food is not left over to attract vermin.

12.6. Keep the feeding area clean and do not feed the wildlife

Remove food at night and limit the period in which cats have food available. Put food out for a certain length of time (e.g. 30 mins) once or twice a day, preferably during daylight - cats will learn this routine. If this is not practical for the carer, narrow the window of feeding (e.g. put food out on the way to work and bring it in on the way home).

Pick up and remove empty cans, plates, spoons, etc. This will also improve community attitudes towards the program.

Construct a feeding station that wildlife cannot access. Cats are better at jumping than a lot of wildlife, so creating a raised feeding station may also help deter wildlife.

12.7. Tips for protecting food

Ants: Build a small moat by putting a flat dish with raised edge and filling it with a ¼ inch (6mm) of water, then placing the food bowl in the middle of the pan. Alternatives: Specially made "ant-proof" bowls or drawing a circle of chalk powder around the bowls or feeding area.

Snails/Slugs: Draw a circle of real chalk powder around the bowls or feeding area (must be real chalk, as this contains diatoms which are painfully sharp for slugs). Alternatives: Feed slugs separately by sprinkling dry food on the ground several inches away from the cats' bowls and dishes (this will be more accessible to the slugs).

Flies: Limit amount of time wet food is left out in hot weather by training cats to eat at specific periods during the day and removing uneaten leftovers. Alternatives: Put wet food out during cooler parts of the day (e.g. sunset) or rely on dry food during warm weather.

Rain: If you are unable to build a covered feeding station, protect food from rain by putting the food in a round container, and placing the lid on top upside down. This will keep the rain out, but cats will still smell the food and push the lid off.

Fences: When feeding through a fence, use an "arm extender" (aka "extension grabber") to keep food out of arms reach of passers-by. Push dishes out of view if possible (e.g. behind a bush or rocks).

Pigeons and ibises: Most pigeons will be reluctant to enter a confined space, but if they are entering, use a piece of thick plastic (cut into strips with a 5 cm border uncut at the top) to cover the door on all sides, attaching with duct tape. Ibises can be deterred by limiting the size of the feeding box entrance to a maximum of 18 cm tall, and placing a brick on its side just outside the entrance (see photos in Appendix 7). Cats will be able to negotiate the obstacle, but ibises just cannot do the required gymnastics!

Extremely cold weather: Consider using electrically heated water bowls, solar-heated water bowls, immersion heaters (battery-powered), "Snuggle Safe" heating pad, Styrofoam vaccine shipping container, DIY (old tyre filled with rocks), deep and thick plastic bowls, water added to wet food, or placing the bowl near heating pipes inside building walls. If concerned about wet food freezing, serve dry food as a back-up.

12.8. Nutrition

Knowing the make-up of food empowers you as a carer to make educated choices. Cats are carnivores – their basic nutritional need is not satisfied by grains. However, whole meat diets are often not balanced with the micronutrients required. It is best to feed a balanced cat food made by a reputable manufacturer. Feed urban stray colony cats the highest quality food you can comfortably afford. Whatever choice of food works best for your budget, the cats are better off because you care enough to donate your time and funds towards feeding them.

Check the ingredients label and ensure it says it is a balanced cat food for all stages of life (note that dog food is NOT suitable for cats). Ingredients are listed in the order of greatest quantity (e.g. If the first ingredient listed is turkey, the food is mostly turkey, but if the ingredients are listed "corn meal, turkey" then the food contains more corn meal than turkey. Good nutritional value is indicated when the protein sources such as beef, chicken, turkey are listed first. Poor nutritional value is indicated when food has a high percentage of corn, grain or rice (dry matter >35%) or listed first. Often, wet food will have more nutritional value (higher protein) than dry food of the same quality, especially for less expensive foods.

"By-products" are the products of the slaughtered animal not used for human consumption (these typically are things like kidneys, lungs, brain etc but for unreputable manufacturers might include feathers, hair, hooves, eyeballs, or faecal waste). Price is often a guide to quality.

Raw food by itself is not a balanced diet and when provided it must must be served fresh. Raw bones and especially raw chicken necks are good for cats' teeth, BUT cooked bones should never be given to cats as they will splinter and cause injury.

13. Responding to questions or complaints

13.1. Chapter contents

- Responding to sightings of ear-tipped cats
- Responding to hostility or resistance
- Deterring the presence or activity of cats

13.2. Responding to sightings of ear-tipped cats

Cats with no identified owner, including colony cats, will be ear tipped and community education (SEE APPENDIX 16 WHY EAR-TIPPED CATS?) provided to inform the local community of the organisation running the CCP, and to advise that:

- An ear tipped cat is not lost and does not need to be rescued if it appears healthy.
- If an ear tipped cat appears sick or injured:
 - o Inform the local CCP organisation (if known).
 - Catch the cat and take it to the nearest veterinarian or shelter because it has a microchip which will allow the responsible organisation to be contacted to provide care.
 - If the cat cannot be caught, notify the local CCP organisation, or nearest shelter or municipal pound, with exact location and a description of the cat.
- If an ear tipped cat is causing a nuisance, contact the local CCP organisation with location and description, as well as details of the issues so that they can be solved.

13.3. Responding to hostility or resistance

An urban stray cat problem will typically come to attention after a crisis has already developed; too many cats, people can't sleep at night due to yowling, piles of unsightly empty cat food cans littering the block, backyards cannot be used because of the smell. These are typical signs of an out-of-control, unmanaged colony. People can therefore have a hostile, even confrontational, attitude towards you, a cat-friendly person. It is the intention that best practice in community education and dispute resolution will be followed and practical tools will be further developed during the project.

Do not take anything said personally and do not be hostile in return. Try to understand why someone might be frustrated or unhappy with the cats. Situations causing frustration include being woken up at 2am by yowling, cats toileting in their garden, rooms smelling of spray of unaltered male cats. Listen carefully and openly sympathise with what they've had to deal with and explain how a Community Cat Program will help. Most people will calm down and respond well when they see their

side of the story is being heard. When they understand there is a way to keep the cats and resolve the problems, most are willing to try. Stay in control at all times.

Sometimes people in positions of authority will not agree with desexing and returning cats; don't give up easily. Get someone else to speak to the person, whose word may carry more weight, such as a supportive animal management or public health official, local councillor or minister. If you still don't get anywhere, make a decision whether to keep the lines of communication open, in case they change their mind in the future, or attempt to apply public pressure to get them to change their mind now. Applying public pressure is not simple, so be realistic about your capacity to launch an effective campaign.

13.4. Deterring the presence or activity of cats

People have a right not to have cats on their property. Cat deterrent devices are effective at preventing cats and are either ultrasonic or water-based and available from \$50 in Australia. Providing them on loan or to buy can be an effective way of addressing complaints and concerns. Examples of cat deterrent devices:

- Motion activated ultrasonic devices emit a high-pitched sound imperceptible to people but annoying to cats. They can be purchased also with strobe light and solar powered. Try to purchase one that is bird-friendly. Ultrasonic devices typically provide adequate coverage of a yard. More than one device may be needed if the area to be protected exceeds the capacity of a single device. Remember to position units so that they're aimed at the spots the cats are using to get into the yard, or out from the areas they're attracted to. By placing them in a pot plant, they can be moved around the garden, which may be necessary over time to prevent the cat learning locations that do not trigger it.
- Motion-activated water sprinklers detect when a cat (or similar sized animal) enters an area and then shoots out a sudden burst of water. The spray rarely hits the cat, but startles him and scares him away. Soon, cats in the neighbourhood learn the boundaries of the area protected and become trained to stay out. The device is connected to a hose and the area to be covered should not exceed the range of the device.
- Containment systems used to keep pet cats in yards can also be used to keep stray cats out. The Oscillot Cat Containment System involves installation of roll bars, also called paddles, on top of existing fences. As a cat attempts to jump up and over the fence, he tries to grab the roll bar. The bar spins upon contact and forces the cat to drop back down to the ground. Designed and manufactured in Australia.
- If someone wants to keep cats out of a garden, the trick is to discourage them from digging.
 Rough-surfaced rocks can be used to cover exposed ground. Prior to planting, lattice fencing

can be laid on the ground, then place flowers and seeds in the openings. Another way to deter cats from using a garden or somewhere else in the yard as a litter is to provide them with a more attractive place for eliminating. A pile of peat moss in the corner of the yard is an inexpensive alternative.

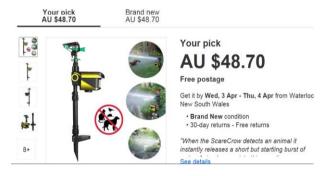


Motion activated ultrasonic deterrent



Oscillot Cat Containment System





Solar powered motion activated sprinkler deterrent

- Provide people enrolling a cat in the program with information on benefits of keeping their cat
 on their property, and confined inside at night. For example, it reduces risk of their cat getting
 into fights and subsequently infected with FIV/FeLV, or developing a cat bite abscess. It also
 reduces risk of injury or death from motor vehicle accidents and wildlife predation.
- Provide resources on how to keep cats safely and happily in their own yard see RSPCA
 Australia https://www.rspca.org.au/adopt-pet/adopting-catkitten/safe-and-happy-cats and
 AWLQ resources https://www.awlqld.com.au/pet-owner-help/cat-behaviour-care

14. Impact

14.1. Chapter contents

- Research objectives
- Measured outcomes
- Data analysis
- Other impacts

14.2. Research objectives

Outcomes from this project are intended to inform best practice strategies in Australia for humane management of urban stray cats. We aim to provide scientific evidence for local governments, animal welfare agencies and community stakeholders to develop effective and economically viable policies and practices for stray cat management. An intention of the research is to stimulate legislative change to achieve effective and humane laws across states. This research can also help clarify whether decreasing cat numbers and increasing the proportion desexed, will reduce cat predation behaviour and impact on native species, as well as decrease the risk of disease spread to humans and other animals, compared with current strategies. Overseas, community cat programs have revolutionised animal sheltering, with substantial decreases in shelter intake, euthanasia rates, mental stress on shelter workers and costs, and are supported by the majority of the community. Outcomes from this project will potentially be similarly transformational for the Australian animal welfare sector, local governments and communities.

14.3. Measured outcomes

Data will be gathered before, during and after the research period to measure the impact of the program. Changes to be measured include:

Aim 1: To determine the impact of community cat management programs on intake and euthanasia rates of cats and kittens in council pounds and animal welfare organisation shelters - Lead researcher: PI Rand Intake and outcome data will be exported from ShelterMate, the data management system used by the RSPCA and AWL. Data will be analysed for feline intake numbers based on age groups, source (owner-surrendered, stray, council contract etc.), outcomes (reclaimed, rehomed, transferred, euthanased) and reasons for euthanasia (health, behaviour). Data will be compared between non-treatment (control) and treatment sites before and after implementation of the community cat management program focused on conversion of semi-owners to owners.

Aim 2: To determine the impact of community cat management programs on mental health and job satisfaction of pound and shelter staff and volunteer animal carers - Lead researcher: CI Bennett Compassion fatigue, secondary trauma and burnout can adversely affect those who work in caring professions. Caring for sick and dying animals, together with exposure to cases of neglect and abuse, and participating in euthanasia of otherwise healthy animals, can make people who work with animals vulnerable to this condition. Post-traumatic stress disorder (PTSD) is also reported in workers directly involved with animal euthanasia. To explore levels of compassion fatigue and PTSD among paid and volunteer animal carers, and to identify variables that may moderate the relationship between job demands and compassion fatigue, a series of self-report questionnaires measuring job satisfaction, compassion fatigue, indicators of PTSD, job demands and resources, personal resources, emotional intelligence, social support and self-compassion, will be administered pre and post intervention to participating pound/shelter workers. In depth interviews will also be conducted post intervention, so that experiences through the trial can be documented.

Aims 3 and 4: To determine the impact of community cat management programs on the semi-owner/owner relationship with their cats(s), community attitudes to urban stray cats, and cat-related nuisance complaints received by councils - Lead researchers: CI Bennett and PI Rand The proportion of cats desexed in the program that become owned will be recorded as a proportion of all cats desexed. A random subset of 100 people who perceived themselves as owners, and 200 who did not perceive themselves as owners of the cat they were caring for (semi-owners) but subsequently agreed (n=100) or did not agree (n=100) to have their name registered as the owner on the microchip database, will be surveyed at enrolment and 6 months after the cat is desexed. Changes in the human-cat bond and responsible cat caring attitudes and behaviours will be assessed. Council data on cat-related complaints will be used to determine the effect on complaints per 1,000 residents in the test and control areas before and after implementation of the targeted desexing program. A survey of residents at the research sites will be undertaken to investigate community attitudes towards urban stray cats, the problems they cause, and opinions on methods of cat management. Cat owners, non-cat owners and semi-owners will be included in the survey cohort. Surveys will be distributed to residents in the test and control postcodes before, and one and two years after implementation of the program, to include a representative sample of respondents based on gender, ethnicity, age and pet ownership. Both quantitative surveys with forced-choice and openended questions and qualitative interviews with cat-owning residents will be included pre- and post-desexing to determine changes in attitudes to cat ownership.

Aim 5: To determine costs and benefits of community cat management programs compared to current methods of cat management, enabling a cost-benefit analysis for councils and shelters - Lead researcher: CI Mahadevan An empirical evidence-based approach will be used to compute relative costs and benefits to shed light on the effectiveness of the proposed

alternative programs relative to a 'Business as Usual' program. This necessitates the identification and quantification of the effects on all stakeholders in the wider community including the owners and semi-owners of cats, local government agencies (councils), veterinary practices and shelters/welfare agencies, including impacts on their staff. Questions pertaining to social valuation as well as gathering data on costs and benefits will be included in the surveys for all stakeholders in the wider community.

Aim 6: To evaluate the relative risks of spread of infectious disease to pet cats, humans and wildlife, for semiowned, unowned and owned urban cats - Lead researcher: CI Barrs To evaluate the health risks posed by unowned and semi-owned cats to owned cats and to humans, the prevalence of zoonotic infections and common infectious diseases will be compared among these three cat populations. Hair and faecal samples will be obtained from cats prior to desexing and tested for zoonotic pathogens Microsporum canis (ringworm), Giardia, roundworms (Toxocara catii, Toxoscaris leonina), hookworms (Ancylostoma spp), and Toxoplasma gondii as well as for feline-specific intestinal parasites that cause lungworm (Aelurostrongylus abstrusus and Eucoleus arophila) and coccidiosis (Eimeria spp) using faecal flotation/ sedimentation tests and PCR. Blood samples will be used to detect prior exposure to T. gondii and FPV and persistent infections with FIV and FeLV using ELISA, PCR and haemagluttination inhibition assays. The same tests will be performed in healthy age/sex-matched owned cats visiting participating veterinary practices in the same area.

Aim 7: To investigate the efficacy of community cat management programs to decrease numbers of free-roaming urban stray cats - Lead researcher: CI Leung Camera traps and transect surveys together will provide spatially explicit mark-resight data to estimate the local freeroaming cat population size and density (cats/km2) prior to commencement of the desexing program, then at 6monthly intervals. Paired treatment and control sites in Qld and SA will be evaluated using camera traps for 28 consecutive nights. To ensure every adult cat in the target areas has access at least one camera, target suburbs will be sectioned into 0.6 km2 grids and a camera trap positioned centrally in each (Bengsen et al 2011, Hensen et al 2018). This spacing ensures the distance between cameras does not exceed the average home range of owned cats. A motion-detection camera will be mounted ~2m above each station with the lens facing downwards to photograph cats walking throughthe station. Cameras will use a multi-shot mode to obtain photographs, providing multiple viewpoints and increasing individual identification. Scent (e.g. tuna/chicken meat), visual (e.g. feathers) and call lures will be used to attract cats. Assessments will be staggered between the Qld and SA sites to utilise camera resources efficiently. Based on pilot data, pairs of researchers will walk transects through each grid region at each site. All grid regions will be assessed on one night per week for 4 weeks. Cats will be photographed, and their details recorded in the ArcGIS Collector app, with the aim of resighting at least 70% of "marked" cats. Cats will be identified at an individual level using distinguishing features (coat colour/patterns/markings, body size/shape and breed) and information provided by residents. Photographs taken at the camera stations and transect surveys will be used in a passport system to estimate/index the local free-ranging cat population.

Aim 8: To determine the impact of desexing on cat roaming, nuisance behaviours and predation of wildlife - Lead researcher: CI Leung Seventy free-ranging entire cats (35 to be desexed, 35 control) at the Qld and SA treatment sites will be recruited from collaborating owners and semiowners. Cats will be fitted with GPS and/or point-of-view video cameras on breakaway collars, with motion sensors to record only during active periods. Roaming and predation behaviours will be monitored for 2 weeks before desexing and 2 weeks per guarter for 1 year after desexing, with a 1week acclimatisation period prior to data collection. Camera units will be charged and returned to each cat daily. Daily travel and home range estimates will be calculated using data collected at hourly intervals from the GPS collars. The point-of-view cameras will enable quantification of predation on wildlife before and after desexing, through estimates of hunting efficiency; predation rate/24 hours; timing of kills; % prey consumed, abandoned or brought home; prevalence of harassment/stalking behaviour; and prey species (Bruce et al 2019). The study will also examine prevalence of nuisance behaviours such as fighting; straying; and bin scavenging. Average daily and nightly activity budget (%) will also be reported in terms of inactivity, roaming, eating/drinking, grooming and hunting (Bruce et al 2019). Analyses will examine the effect on activity budget, roaming behaviour and predation of desex status, age, sex, breed, season, temperature, weather conditions, whether the cat had previously worn a collar, outdoor access, and single/multi-cat household. Only socialised cats normally seen/handled by their owner every day and >6 months of age (so that camera weight is < 3% of body weight) will be eligible candidates for the camera/GPS units. To compare predation by owned and semi-owned cats with unsocialised unowned cats that are unsuitable candidates for collars with cameras, hair samples will be collected from cats during the desexing process for isotope analysis of diet.

14.4. Data analysis

Data will be analysed before, during and after the program to identify where adjustments need to be made in procedures e.g. numbers of cats being returned to the shelter that were trapped or brought to shelter by members of public, number of cats developing an upper respiratory tract infection, fewer intact cats entering the shelter in relation to number of kittens, rate of staff turnover.

Found location data will be gathered in the form of a mappable address with a postcode to ensure that trends and hotspots can be readily identified for further investigation and possible targeted interventions. RTF cats and TNR colonies will be mapped separately to compare TNR activity with RTF clusters to determine impacts on each other, and possible interventions e.g. contacting

caretakers to help resolve management issues; if an ear tipped cat is brought in, locate a nearby colony to see if the caretaker can come and reclaim the cat.

14.5. Other impacts

Resources which may be freed from caring for cats in the shelters as a result of more desexing and return to field will be able to be allocated to providing more programs for vulnerable cat populations (e.g. working cat relocation programs for cats unable to be returned to where they were found, specialised foster programs for orphaned neonates or unsocialised kittens, isolation rooms for cats with ringworm or other contagious but curable conditions). With increased efforts to save the lives of community cats, there will be a greater number of people reaching out to the shelter when these cats get sick, injured or need end-of-life decisions made. "Fospice" programs where elderly or terminally ill animals are placed in foster homes to enrich their final days may be able to be provided. Interventions to further decrease the number of cats needing assistance may include outreach to landlords to promote cat-friendly housing, and assistance to underserved communities.

Dog intake is expected to decrease as a result of the community messaging and presence of community liaison officers, and dog live release is also expected to increase due to more resources available to assist dogs with treatable behavioural or health issues.

In Australia, the legislation surrounding the legalities of implementing a Community Cat Program vary between each State. Depending on the location, one or more permits (in addition to animal ethics approvals for research) may be required before unowned cats can be legally trapped, transported, desexed, vaccinated and treated for any other injuries or illnesses, then returned to their home. You MUST obtain permission from the relevant state authorities before you include unowned cats in a CCP. In most states of Australia, it is legal for a cat to be desexed for someone caring for a cat, provided they are willing to take ownership, and complete the paperwork to have their contact details listed on the microchip database as the owner, either before the cat is transported for desexing (Qld), or at the time it is returned to them after desexing and microchipping.

Appendix 1: Sample job description for Community Liaison Officer

Appendix 2: Example flyers and community notices

Appendix 3: Desexing program protocols

TO BE DEVELOPED

Appendix 4: Microchipping agreement and owner information form

Appendix 5: Surgery permission form

Appendix 6: Intake questionnaire

DATE & TIME:	/	at: am / pr	m
PERSONAL INFO	RMATION		
Name:			
Street address:			
Suburb:			

State:				Post	code:				
Phone 1	:								_
Phone 2	: :								
Email:									
ANIMAL	. INFORMATION								
Found s	treet address:								
Suburb:									
State:				Post	code:				
	□ Front of address	□R	ear of addres	s 🗆 Si	de of addı	ess			
If addres	ss is unknown, provi	de nearest o	cross streets	and/or landma	·ks:				
This add	dress is (check all tha	at apply):	□ Aband	doned building	□ Pa	rk			
	□ Private residence	e □ B	usiness	□ Vacant lot	□ Alle	eyway	□ Apar	tment complex	(
	Additional		informa	ation		abo	ut		location:
	PLEASE ANSWER	THE FOLL	OWING OUF	STIONS:					
	Why are	you	bringing	this	cat	to	the	shelter	today?
									,
with food	How did you secured, trapped)?	e the cat in o	order to bring	it here today (e.g. picke	d up and	placed into	carrier, lured	into carrier
	Do you know if any	yone own	s this cat?	□ Yes □ No)				
	If so, who?								
	Do you believe this	cat was ab	andoned?	□ Yes □ No					
	If yes, please descr	ribe:							
	How long have you	been seein	g this cat in tl	he area?					
	Have you been fee	ding this cat	t regularly?	□ Yes □ No					
	If yes, for how long	?							
	Are you aware of a	nyone else	who may be f	eeding this cat	regularlv	? ≤ Yes ≤	No		

_	Does the cat live indoors, outdoors, or both?
[Does the cat appear to have any injuries or signs of illness? □ Yes □ No
I	f yes, please describe:
ı	s the location where the cat was found safe for cats to be outdoors? □ Yes □ No
I	f no, please describe:
١	Would you like to formally adopt this pet if it becomes available for adoption? □ Yes □ No
I	f not, would you be willing to continue to care for the cat if/when he/she is returned? □ Yes □ No
I	f the cat needs medical care, are you able to care for the cat during recovery? $\ \square$ Yes $\ \square$ No
	Describe the cat's behaviour:
	□ Outgoing/Friendly □ Timid □ Fearful □ Unsocialized to people
	□ Other
_	Do you know if this animal has nursing kittens? □ Yes □ No
I	f so, where are they now?
1	If yes, do you know the approximate age of the kittens?
ŀ	Have you observed other stray cats in the area? □ Yes □ No
I	f yes, please estimate how many: adult cats kittens
[Do you feel as though they are causing a nuisance on your block? ☐ Yes ☐ No
I	f so, please describe:
[Do you know if anyone is or has recently been feeding and/or spaying/neutering these cats? □ Yes □ N
I	if so, who?
	Please provide any other information that may be helpful:

Animal ID numb	er:			
Microchip numb	er:			
Intake done by:				
If cat is to be re	turned, it goes to	o this address		
ii cat is to be re	tarrica, it goos t	o tillo addicoo.		

Appendix 7: Return-to-field questions and answers

TO BE DEVELOPED – SEE APPENDIX 7 IN RTF HANDBOOK

NOT NEEDED IF SEMI-OWNER IS TAKING OWNERSHIP

Appendix 8: Complaint mitigation brochures and information sheets

TO BE DEVELOPED

NOT NEEDED IF SEMI-OWNER IS TAKING OWNERSHIP

Appendix 9: Information for colony carers

Appendix 10: Sample spreadsheet

High Priority	Date	Address	Post Code	Phone Number	Call Note s	Case Number	Neighbourhood	Total # Cats	Feeder	Trapper Assigned	Activity Notes
No	1/02/2018	123 South Street, Springfield, VIC	1234	555-5555		C00012345	Springfield	5 Adults and 3 Kittens	Mrs Doe believed feeder resides in 123 South Main St,	Sally (volunteer)	
Yes - pregnant cat	5/03/2018	12 West Street, Southport	1236	777-7777		C00045678	Southport	3 Adults		CCP Staff	

	С	Н	Trap	Trap	0	0	Outc
СР	Cat	igh	ping date	ping / found	wner /	wner /	ome date
ID#		priority		address	finder	finder	
					phone	address	
					number		

Appendix 11: Sample cage / trap card

TO BE DEVELOPED – BASED ON NEIGHBORHOOD CATS RTF APPENDIX 5

TRACKING FORM

High	priority	for	desexing	(eg	. pregnan
Intake date	e and time:	/	/ at	:	_ am / pm
Outcome of	date and time:		//	at	_ : am / pm
Outcome:	Return, euthanase	ed, relocated,	other outcome	(describe)	
Return to f	field location:				
Carer nam	ne:				
Carer pho	ne 1:				
Carer pho	ne 2:				
Animal ID:					
Age:					
Sex:		Male / Fema	le / Unknown		

Intake information				
Vaccinations at intake:				
Identification:	Microchip / Tattoo / Ear-tip	ped / None		
Microchip number:				
Body Condition Score (1-9):				
Obvious	injuries	/		cond
Pregnant and Duration of pre	egnancy			
Veterinary information				
Surgery date:	/ at	:	_ am / pm	
Type of surgery:				
Is the cat:	Pregnant / Lactating			
Other medical conditions:				

□ Yes □ No	lf	no,	why	not
□ Yes □ No If		no,	why	not
		□ Yes □ No If	, 	<u> </u>

Appendix 4: Cat and Sample Coding

If trapping at multiple sites on the same night, use a unique code for each site in the Cat Code. This could be the suburb name, street name, building name or street address.

For example:

Urban area

6 Green St, Newtown or 6GreenNT-Cat01-DSH-BW

8 Green St, Newtown or 8GreenNT-Cat01-DMH-Tabby

Large site with multiple buildings

At Building 3 of Hospital: Hosp-Bld3-Cat01-DSH-Ginger

Appendix 5: Anaesthesia for cats which are not readily handleable

Feline drug chart: Original from ASPCA Spay/Neuter Alliance (updated 28/01/2018)

NOTE – this chart is only included here for checking with chart below on next page that has been adapted for drugs available in Australia. This anaesthetic regime has been used in thousands of cats in TNR programs by HSUS and other organisations and is considered superior to protocols including ketamine.

	TTDEX VOLUME	MELOXICAM	ANTISEDAN (if necessary)	
Maight (Kas)	mL (IM)	mL (SQ)	mL (IM)	Maight (Lha)
Weight (Kgs)	0.035 mL/kg	0.1 mg/kg	1/3 Volume of TTDex	Weight (Lbs)
	N/A	5 mg/mL	5 mg/mL	
1.0 - 1.1	0.04	0.02	0.01	2.2 - 2.4
1.2 - 1.3	0.04	0.03	0.01	2.6 - 2.9
1.4 - 1.5	0.05	0.03	0.02	3.1 - 3.3
1.6 - 1.7	0.06	0.03	0.02	3.5 - 3.7
1.8 - 2.0	0.07	0.04	0.02	4.0 - 4.4
2.1 - 2.2	0.08	0.04	0.03	4.6 - 4.8
2.3 - 2.4	0.08	0.05	0.03	5.1 - 5.3
2.5 - 2.7	0.09	0.05	0.03	5.5 - 5.9
2.8 - 2.9	0.10	0.06	0.03	6.2 - 6.4
3.0 - 3.1	0.11	0.06	0.04	6.6 - 6.8
3.2 - 3.4	0.12	0.07	0.04	7.0 - 7.5
3.5 - 3.6	0.12	0.07	0.04	7.7 - 7.9
3.7 - 3.8	0.13	0.08	0.04	8.1 - 8.4
3.9 - 4.0	0.14	0.08	0.05	8.6 - 8.8
4.1 - 4.3	0.15	0.08	0.05	9.0 - 9.5
4.4 - 4.5	0.16	0.09	0.05	9.7 - 9.9
4.6 - 4.7	0.16	0.09	0.05	10.1 - 10.3
4.8 - 5.0	0.17	0.10	0.06	10.6 - 11.0
5.1 - 5.2	0.18	0.10	0.06	11.2 - 11.4
5.3 - 5.4	0.19	0.11	0.06	11.7 - 11.9
5.5 - 5.6	0.19	0.11	0.06	12.1 - 12.3
5.7 - 5.9	0.20	0.12	0.07	12.5 - 13.0
6.0 - 6.1	0.21	0.12	0.07	13.2 - 13.4
6.2 - 6.4	0.22	0.13	0.07	13.6 - 14.1

Add 0.2 mL of saline to each dose of Antisedan for reversal Meloxicam 0.1 mg/kg administered SQ at prep TTDex dosed at 0.035 mL/kg

Torbugesic	10 mg/mL
Telazol (when reconstituted)	100 mg/mL
Dexdomitor	0.5 mg/mL

Purchase unconstituted Telazol vials, and reconstitute with 2.5 mL of Dexdomitor (500 mcg per mL) and 2.5 mL of Torbugesic (10 mg per mL). Give 0.035 mL/kg IM for total injectable anesthesia.

If feline reversal is necessary after greater than 60 minutes (patient not showing signs of recovery), Antisedan may be administered IM. The patient must be warm and hydrated, and also adding 0.2 mL of saline to the reversal (in same syringe) will help to circulate the drug to the patient.

Feline drug chart: Adapted from ASPCA Spay/Neuter Alliance (updated 28/01/2018) for Australia

Weight (kgs)	ZTD* VOLUME	MELOXICAM	ANTISEDAN (if necessary)
	mL (IM)	mL (SQ)	mL (IM)
	0.035 mL / kg	0.1 mg / kg	1/3 Volume of ZTD
	N/A	5 mg/mL	5 mg/mL
1.0 - 1.1	0.04	0.02	0.01
1.2 - 1.3	0.04	0.03	0.01
1.4 - 1.5	0.05	0.03	0.02
1.6 - 1.7	0.06	0.03	0.02
1.8 - 2.0	0.07	0.04	0.02
2.1 - 2.2	0.08	0.04	0.03
2.3 - 2.4	0.08	0.05	0.03
2.5 - 2.7	0.09	0.05	0.03
2.8 - 2.9	0.10	0.06	0.03
3.0 - 3.1	0.11	0.06	0.04
3.2 - 3.4	0.12	0.07	0.04
3.5 - 3.6	0.12	0.07	0.04
3.7 - 3.8	0.13	0.08	0.04
3.9 - 4.0	0.14	0.08	0.05
4.1 - 4.3	0.15	0.08	0.05
4.4 - 4.5	0.16	0.09	0.05
4.6 - 4.7	0.16	0.09	0.05
4.8 - 5.0	0.17	0.10	0.06
5.1 - 5.2	0.18	0.10	0.06
5.3 - 5.4	0.19	0.11	0.06
5.5 - 5.6	0.19	0.11	0.06
5.7 - 5.9	0.20	0.12	0.07
6.0 - 6.1	0.21	0.12	0.07
6.2 - 6.4	0.22	0.13	0.07

Meloxicam 0.1 mg/kg administered SQ at preparation

Purchase unconstituted **Zoletil** vials and reconstitute with **2.5 mL of Domitor (medetomidine 1 mg/mL) OR 2.5 mL of Dexdomitor (0.5 mg/mL)** and 2.5 mL of **Torbugesic** (butorphanol 10 mg/mL). Give 0.035 mL/kg IM for total injectable anaesthesia.

Drugs in ZTD mix

^{*}Zoletil, Torbugesic, Domitor/Dexdomitor mix (ZTD) dosed at 0.035 mL/kg

Zoletil (same as Telazol) (tiletamine HCL 50mg &	100 mg/mL
zolazepam HCl 50mg per 5 mLs when reconstituted)	
Torbugesic (butorphanol)	10 mg/mL
Domitor (medetomidine is 1:1 sterioisomer of dexmedetomidine and levomedetomidine - LM has minimal efficacy) * OR	1 mg/mL
Dexdomitor (dexmedetomidine) *	0.5 mg/mL

^{*} There is no clinical difference between dexmedetomidine and medetomidine (Ko & Berman (2010); Burnside et al. (2013))

If reversal is necessary after greater than 60 minutes (patient not showing sign of recovery), Antisedan (alpha adrenergic antagonist, atipamezole 5 mg/mL, which reverses effects of medetomidine) may be administered IM and dose is 1/3rd the volume of ZTD administered. The patient must be warm and hydrated. For reversal, add 0.2 mL of saline to each dose of Antisedan (in the same syringe) which will help to circulate the drug to the patient.

This anaesthetic regime has been used in thousands of cats in TNR programs by HSUS and other organisations and is considered superior to protocols which include ketamine. (Ko, Jeff C., and Aime G. Berman. 2010. "Anesthesia in Shelter Medicine." Topics in Companion Animal Medicine 25 (2): 92–97. https://doi.org/10.1053/j.tcam.2010.03.001.)

This combination results in rapid induction of immobilization, unconsciousness, and muscle relaxation typically within 3-5 minutes with an anaesthesia duration of 30 to 45 minutes. ZTD combination provides analgesia before, during, and after the procedure. The premedication dose of ZTD for dogs and cats is 0.01 mL/kg IM. ZTD can be stored at room temperature for up to 3 months.

It is recommended that animals between 6 and 16 weeks of age be off of feed 2 to 4 hours before surgery but not fasted for more than 4 hours. For animals older than 16 weeks, a 4-hour fast is adequate

Endotracheal intubation may not always be used with uncomplicated spey/neuter procedures. However, endotracheal intubation with oxygen and ventilation should be immediately available and instituted in the event of an emergency

In principal, the larger the dose of ZTD, the longer the duration of anaesthesia and the longer the duration of recovery, if not reversed. Also, the larger the dose, the more profound the cardiorespiratory depression. In principle, paediatric, geriatric, emaciated, and pregnant animals require a smaller dose of ZTD than overall healthy cats.

Key points from Ko and Aime 2010 Anesthesia in Shelter Medicine (with minor modifications for drugs and trade names used in Australia):

Dose and efficacy

"To use the ZTD as injectable anaesthesia for surgery, such as ovariohysterectomy, a dose of 0.03 mL/kg IM is recommended. This provides a surgical plane of anaesthesia for 30 to 40 minutes. If a longer (up to 50 minutes) procedure is performed, then a dose of 0.04 mL/kg should be used (or see the dose chart of Table 2 for surgical anaesthesia in article). At these doses, dogs and cats assume laterally recumbency 3 to 5 minutes after intramuscular injection and can be intubated and maintained on 100% oxygen without inhalant anaesthetic. If the anaesthesia must be extended, isoflurane or sevoflurane may be used as a supplement. However, at this dose rate, the inhalant is not usually necessary. The key point to remember when using this dose of ZTD is that the effect occurs very quickly after a single intramuscular injection. The animal very quickly assumes lateral recumbency and is ready for prepping and surgical stimulation; therefore, to take advantage of the entire surgical duration induced by ZTD, everything should be in place and ready to start before administration."

Safety and reversal

The wide safety margin of ZTD allows an estimated body weight with a dose at 0.17 mL per 5kg IM for those cases in which the body weight cannot be obtained for whatever reason.

All but one component in the ZTD can be effectively reversed with a specific antagonist. Medetomidine/ Dexmedetomidine/ is reversed with atipamezole (Antisedan). Butorphanol is antagonized with naloxone or naltrexone. The zolazepam of the Zoletil is antagonized with flumazenil (Sandoz). The only component that does not have a specific antagonist is tiletamine. However, studies have shown that doxapram administered at a dose of 5.5 mg/kg intravenously, can antagonize tiletamine-zolazepam—anesthetized animals by increasing respiratory rates and shortening arousal time. In general, atipamezole is the most commonly used reversal agent for the ZTD combination to antagonize medetomidine/dexmedetomidine when the procedure is complete. The atipamezole volume used for reversal is half the volume of the ZTD used.

Intramuscular administration of atipamezole is recommended to minimize sudden arousal. Add 0.2 mL of saline to each dose in the same syringe.

Adverse effects

Some cats develop hypoxia soon after administration of ZTD. The hypoxia usually occurs within the first 5 to 8 minutes after administration of a surgical dose of ZTD. The hypoxia is oxygen responsive, so it is resolved by providing 100% oxygen insufflation via face mask or flow by. The hypoxic response usually subsides with the start of surgical stimulation. An apneustic breathing pattern (inspiratory breath holding followed by a few rapid breaths) may be observed in cats receiving ZTD. No treatment is required. In addition, apnea may occur occasionally. Intubation followed with positive ventilation using either an anaesthetic breathing circuit with an anaesthesia machine or an Ambu bag resolves the issue. The apnea usually subsides once the surgical stimulation starts.

Unlike other anaesthetic combinations, ZTD usually induces hypertension and not hypotension. This hypertensive stage should not be interpreted as a lack of analgesia or a response to surgical stimulation. No treatment is necessary for such hypertension. There is no vomiting response when high doses of ZTD are used in cats. This is likely due to the rapid onset of anaesthesia, which reduces activation of the vomiting centre. However, some animals may vomit when receiving smaller doses of ZTD. This is not long lasting and is not considered a clinical concern. Pain on intramuscular injection of ZTD may be noticed in cats. This is likely due to the low pH associated with the drug mixture. However, the small amount required for injection likely minimizes the pain. Attempting to change the volume or adjust the pH of the ZTD.

Monitoring.

Basic monitoring is achieved by palpating animal's lingual, radial, femoral, or metatarsal arterial pulse rate and rhythms; observing mucous membrane colour; and monitoring respiratory rate, depth, and patterns. Assessing jaw tone, eye position, and general muscle tone are helpful in assessing the animal's anaesthetic depth.

Pulse oximetery, measured on the tongue of the animal as soon as they are anesthetized, allows early detection of hypoxia. Body temperature should also be carefully monitored both during and after surgery. Hypothermia prolongs the duration of recovery, especially when using an injectable anaesthetic because it slows drug metabolism. Provide an exogenous heat source during surgery. It is also helpful to use towels or bubble wrap to reduce body heat loss during recovery"

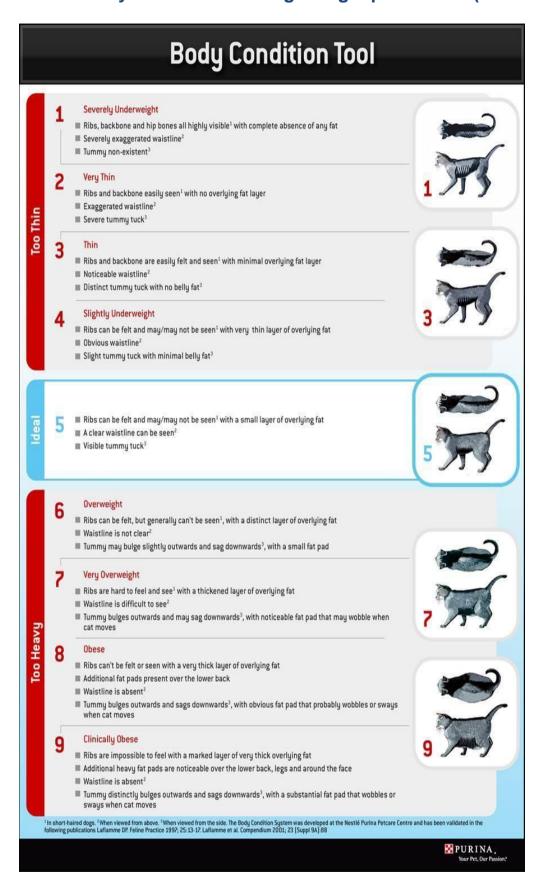
Intubation versus no intubation

In general, where the anaesthetic is expected to be short and uncomplicated for male neutering or female spays, it is recommended that a mask be used to deliver oxygen, and oxygenation be monitored via mucous membrane colour, and if possible, pulse oximetery. However, endotracheal intubation with oxygen and ventilation should be immediately available and instituted in the event of an emergency. It should also be used routinely for pregnant females and cats with signs of upper respiratory tract disease.

Information below is from: D. C. Brodbelt, D. U. Pfeiffer, L. E. Young and J. L. N. Wood Risk factors for anaesthetic-related death in cats: results from the confidential enquiry into perioperative small animal fatalities (CEPSAF) British Journal of Anaesthesia 99 (5): 617–23 (2007) doi:10.1093/bja/aem229:

Increased risk of major complication with tracheal intubation has been previously reported in cats (ref 3,8) and problems with airway management have also been a major cause of anaesthetic death in human anaesthesia (Ref 7,16,37,38). In the current study, this association remained even after adjusting for major confounders, in particular ASA physical status and intended procedure, such that even in the healthier patients and the more minor procedures, increased odds ratios were observed when endotracheal intubation was undertaken. In the multivariable model, there was a non-significant tendency to an interaction between intended procedure and endotracheal intubation, with endotracheal intubation being particularly associated with increased odds of death in minor procedures and reduced odds in major procedures (endotracheal intubation OR=2.3 in minor procedures, OR=0.6 in major procedures, P=0.08)

Appendix 6: Body Condition Scoring using 9-point scale (Deflamme 1997)



Appendix 7: Community communication

16. References

Burnside, Wesley M., Paul A. Flecknell, Angus I. Cameron, and Aurélie A. Thomas. 2013. "A Comparison of Medetomidine and Its Active Enantiomer Dexmedetomidine When Administered with Ketamine in Mice." BMC Veterinary Research 9: 1–9. https://doi.org/10.1186/1746-6148-9-48.

Ko, Jeff C., and Aime G. Berman. 2010. "Anesthesia in Shelter Medicine." Topics in Companion Animal Medicine 25 (2): 92–97. https://doi.org/10.1053/j.tcam.2010.03.001.

17. Supporting information

17.1. Downloadable books

The Guide to Trap-Neuter-Return for the Feral Cat Caretaker by Neighborhood Cats (2013): available here

Return-to-Field Handbook by The Humane Society of the United States (2019): available here

Community TNR: Tactics and Tools by Bryan Kortis, PetSmart Charities (2014): available here

Managing Community Cats: A Guide for Municipal Leaders by The Humane Society of the United States (2014): available here

Pets for Life Community Outreach Toolkit by The Humane Society of the United States: <u>available</u> <u>here</u>

17.2. Neighborhood Cats website links

17.2.1.Trapping

Trapping: The basics: LINK

Traps and equipment: LINK

Caring for cats in traps: LINK

Drop traps: LINK

Hard-to-catch cats: LINK

Fostering feral cats safely: LINK

Trapper tips: LINK

17.2.2. Colony Care

Relocation: LINK

Feral cat winter shelter: LINK

Stop freezing water: LINK

Feeding: LINK

Caretaker tips: LINK

Keeping cats out of gardens and yards: LINK

Supporting information

17.2.3. Veterinary

Feral cat protocols: LINK

Ear-tipping: LINK

FIV / FeLV testing: LINK