

## THE POTENTIAL FOR FERAL CAT CONTROL THROUGH COOPERATION

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**Abstract:** Feral domestic cats (*Felis catus*) can have a detrimental impact on wildlife especially on wintering native predators as they compete for the same prey base. Their high reproductive rate, secretive habits, and the public attitude toward them make controlling cats difficult. Solitary feral cats were reported in Tilden Regional Park at least 30 years ago. During the last decade, colonies of cats have formed which are fed daily by park visitors. Attempts by park naturalists to prevent feeding have failed. Control by trapping and removal is difficult as many adult females escape the trapping and some park visitors actively interfere with the trapping efforts. After establishing good contacts with the people feeding the cats and getting their approval, an alternative control method, trap, sterilization and release, was tested at the Tilden Park colony. In the long-run, this method should be more efficient, cheaper and more effective than repeated trapping and removal. This new method is supported by the people concerned about the animals' welfare and these people can play an active role in the program.

Feral cats (*Felis catus*) are domestic cats released, escaped or born freely living in the wild. Feral cats are opportunistic predators hunting the most abundant and available prey (McMurry and Sperry 1941, Coman and Brunner 1972, and Liberg 1984). Except on islands, they appear by themselves to pose little direct threat to their prey populations (Liberg 1984). Their most detrimental impact is likely competition with native predators, especially in periods of low prey availability (Georges 1974, Liberg 1984). For example, cats, along with foxes and buzzards, were believed responsible for a decline in stoats, kestrels, and long-eared owls (Erlinge 1982, 1983). Cats in combination with other predators can have an impact on their prey base. Pearson (1964, 1966) showed that terrestrial predators (feral cats, raccoons, skunks, and foxes) lead to a catastrophic reduction of the cycling mouse populations, their primary food source. The predators then shifted to less favored prey species and the predators, in turn, decreased in numbers.

Laboratory studies of cats suggest that hunting and food consumption are controlled by separate centers in the brain, that is, hunting behavior is independent of hunger (Adamec 1976). Cats fed by humans are not generally affected by a shortage of prey and will continue to hunt. Field studies have documented the species and amount of prey taken by well-fed house based cats (Bradt 1949, Georges 1978, Liberg 1984). A literature review of cat food habits is provided by Fitzgerald and Karl (1979).

Although domestic cats are usually considered solitary animals, feral cats can form social groups similar to lion prides (Liberg 1980). In cities and parks close to urban areas, colonies of cats fed daily by people often form. This "feeder phenomenon" is widespread in the United Kingdom (Tabor 1981) and the United States (personal observation).

The control of feral cat colonies poses a special challenge to wildlife managers because a large segment of the public views these cats as pets. This can lead to active protection of the cats, and opposition to and even

interference with control programs. Frequently, the negative impact of feral cats on wildlife species is not fully recognized or considered. An example is their possible role in the spread and transmission of rabies (Hall and Pelton 1979).

This paper reports on work in progress to address the management of a feral cat colony located in Tilden Park, east of Berkeley, California. A proposed control method is described and tested using the cooperation of regular park-patrons who feed the cats on a daily basis.

### HISTORY OF THE PROBLEM

Feral domestic cats are present in many, maybe all, parks of the East Bay Regional Park District (EBRPD). Cats may have been present in Chabot Park for 50 years (Moorehead, personal communication). Some cats are fed daily by park visitors. These visitors have established numerous feeding stations along a one-mile trail in the park (personal observation).

Live trapping has been done during the winter months to control the cats in several EBRPD parks. Visitors interfere with these trapping efforts. Their efforts include springing the traps and changing locations of their feeding stations (Moorehead, personal communication). This situation has been reported during other trapping efforts. During a Toronto rabies study, 26-48% of the traps were sprung by anti-trapping individuals (Rosatte 1985).

Currently, Tilden Park is drafting a land-use management plan. The situation is strikingly similar to Chabot Park. Solitary feral cats were reported in the park 26 years ago (Pearson 1964). Cat colonies have been fed daily for years by park visitors (Gordon, personal communication). Attempts by park personnel to discourage feeding have been ineffective (Gordon, personal communication), however the "no-feeding" regulation (EBRPD Ordinance 38) is not enforced. Live trapping at the Tilden Nature Area parking lot in the winter 1985 yielded 30-35 cats, mainly subadults, as

estimated by the park employee in charge of the trapping effort. Two park patrons who have fed the cats for over eight years estimated that 20 cats disappeared during the 1985 trapping program. The total population was not known.

## METHODS AND RESULTS

The colony at the Tilden Nature Area parking lot was selected for study in the summer 1986. The cats were observed daily for 5 weeks with ordinary field glasses. A sketch of their natural coat marking was drawn which made individual identification possible. The hiking trails in the area were patrolled on foot and by car weekly at dawn and dusk. After 5 weeks, good relations were developed with 2 of the most assiduous feeders. They allowed the cats to be observed at close range during their feedings. Although all cats did not come to each feeding, the late evening feeding would regularly attract a large number (up to 20). Information about age and origin of these cats was provided by the feeders who had been coming daily (one in the morning and one in the evening) for 8 years. Only direct observations (individual sightings, locations, litters) or information corroborated by the feeders (age, origin) is reported.

At the end of the observations in August 1986, the colony consisted of at least 24 cats, 11 adults and 13 juveniles. Twenty kittens were observed during the summer. Five disappeared and 2 were killed by automobiles. Predators such as dogs, great horned owls, and 1 coyote were seen in the area. No immigration of feral cats was observed. Twelve adult cats were seen regularly near the parking lot (Table 1). It is possible more cats were present, especially wandering males during the breeding season, but we never saw them and they were unknown to the feeders. Nine of the adults were females

and 3 of these were about 7 years old. At least 5 of the adults were born in the park.

Cat abandonment was not as serious a problem as anticipated prior to the study. Only 3 abandoned cats were found at the study site during the summer, one kitten and two adults. One of these was seen only once. The second was still at the colony at the end of the observations. The kitten was abandoned at the doorsteps of a park building and was taken to the Humane Society.

Eleven adults present in 1986 escaped the live trapping in 1985. Two of these cats, although appearing only occasionally at feedings, resided 500 and 1000 m from the parking lot. Both had a litter in 1986 that, for 2 months, escaped our weekly patrolling of the area. Three of the cats born in 1985 also lived approximately 1000 m from the parking lot. Some of these cats were not discovered until information was provided by the feeders. The distances these cats live from the central colony may serve as sources of colonization into the park. These adults were wary enough to escape trapping and our daily observations. When assessing the results of the trapping program, 20 to 35 cats trapped seem successful. However, those trapped appeared to be the most visible cats. From the viewpoint of park personnel, it is highly desirable to remove these cats as they pose a health hazard to the park visitors because of the close contact. However, from the wildlife perspective, the less visible cats may rely more on the park fauna for survival and should also be targeted for control.

## DEVELOPING COOPERATION

By 1986, the dispute between feeding and control of the feral cats in Tilden Park had resulted in frustration and distrust on both sides. The views seemed irreconcilable. On one hand, park personnel were concerned about the cats' possible threat to public health and the impact on wildlife. At the same time, park visitors were concerned over the fate of individual cats. Attempts by park employees to discourage feeding (based on rationale biological arguments) did not succeed and ended in frustration. This also led to a perceived double-standard: concern for wild animals and lack of concern for feral animals. The result was distrust of park biologists. In this context, it seemed unlikely that a compromise or alternative method could be initiated. A creative option was needed to unlock the situation. To gain support, the alternative should benefit both sides.

Biologically, the control strategy should concentrate on the breeding adults because they have the highest energy requirements. In addition, older females can breed up to 3 times a year compared to young females at first breeding who usually have only 1 litter with a relatively low survival rate (Liberg 1983). The control strategy should also reduce the risk of emigration from the

Table 1. Adult cats by sex, estimated age, and origin observed at Tilden Park during the summer of 1986.

ID	Sex	Age in years	Origin
1	F	8	Born in park
2	F	2	Unknown
3	F	7	Born in park
4	F	2	Unknown
5	F	4	Born in park
6	M	1	Abandoned 8/86
7	M	1	Born in park
8	F	8	Unknown
9	F	2	Unknown
10	F	—	Unknown
11	M	1	Born in park
12	F	2	Unknown

colony into the park.

Politically, the method should be acceptable to park visitors concerned about "their" cats, especially in the present context of animal rights activism. Although unrecognized, these visitors can also help with a control program if they approve of it. They also have no conflicting feelings about their actions as opposed to some of the trappers (personal observation).

Capturing breeding adults was the main difficulty as shown by the results of the 1985 Tilden winter trapping. Since feral cats tolerate the proximity of their feeders, these individuals could be enlisted to help the trapping effort. The cats would then be neutered, vaccinated for rabies and released at the trapping site. Kittens and recently abandoned cats would be removed to the animal shelter. This idea was presented to the cat feeders and local park authorities. After some negotiations, both sides agreed to a trial test. Two trapping sessions were scheduled in early September, 1 with each feeder. The feeders withheld food prior to the trapping and then attracted the cats by their presence at the usual feeding station. Each resulted in one adult cat being trapped. The cats were treated and released. All parties considered the trial effort a success.

## DISCUSSION

A local example of the motivations and efficiency of private citizens concerned about feral cats is the organization "Community Concern for Cats" in Contra Costa County. After only 18 months of existence, they had dealt with 500 feral cats. The adults had been neutered, vaccinated, and released, and the kittens placed in homes. This was accomplished on a limited budget of donations, memberships, and also a grant of \$2,000 from the city of Danville (Contra Costa Grand Jury Report 1986).

In England, research on feral cat control revealed that in 91.9% of 704 colonies surveyed, cats were fed by persons working or living close to the locations of the colony. Neutering as a control measure had been done for 10% of the colonies by 1980 (Rees 1981). Those programs were carried out with the cooperation of people concerned about the cats' welfare. In the United States, Smith and Shane (1986) undertook to replicate the observations of several researchers (Rees 1981, Neville 1983, Neville and Remfry 1984).

Although a biological issue, the control of feral cats cannot be separated from the sociopolitical context in which it takes place. As early as 1951, Hubbs (1951) mentioned this problem. The situation in the EBRPD shows that an official policy of removing cats is far from providing adequate control. In Chabot Park, after 2 years of trapping, cats of all age groups can be seen along the trails (personal observation), the 1985 winter trapping

yielded 9 cats, mainly subadult males (John Maciel, personal communication) and numerous feeding stations are provided daily (personal observation). In Tilden Park, the cats are fed in at least 5 different areas (personal observation), some in concealed locations.

The local park authorities now support a proposal to more fully test this method during a two-year study. This alternative control strategy has the potential to be more effective and cheaper in the long run than repeated trapping and removal (Neville 1983). When the cost and efficiency of the method are documented, the information could be useful to any park located close to an urban area facing a feral cat problem.

This progress report demonstrates the development of a cooperative program to manage a feral cat colony. The method proved successful in eliciting cooperation between two apparently opposing sides of the management issue. The question about the effectiveness of the proposed trap, sterilize, and release method in reducing the feral cat colony size and/or its biological impact on the park will not be known until the full scale program is conducted. We think this pilot test has established the framework for such a program.

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