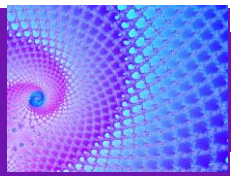


April 5, 2010

David Chanda, Director
New Jersey Department of Environmental Protection
Division of Fish and Wildlife
P.O. Box 400
Trenton, NJ 08625

Dear Mr. Chanda:

We are writing to the New Jersey Department of Environmental Protection's Division of Fish & Wildlife (NJDFW)

I) to rectify misleading or inadequately researched information provided to it by the U.S. Department of the Interior, Fish and Wildlife Service, New Jersey Field Office (USFWS), in a letter written in support of the New Jersey Fish and Game Council's "Resolution on Trap-Neuter-Release (TNR) and Free-ranging Domestic Cats," passed June 19, 2007 ("the Resolution");

II) to address misleading and incorrect statements made in the Resolution; and

III) to provide research-based information that we believe is critical to policy decision-making regarding free-ranging cats in New Jersey **given that the body of credible, scientific research creates serious doubt about any actual negative impact of the free-ranging cat on native wildlife in New Jersey**.

Our more thorough research indicates that animal welfare and humane, effective and cost-efficient methods of animal control need not be at odds with environmental efforts to protect our native wildlife. It is not an issue of "cats versus wildlife;" there are solutions that work to protect wildlife in New Jersey and humanely care for its lost, unwanted or abandoned cats without condemning those for whom there is no room in the shelters only to death.

Summary

- Domestic cats are non-native but do not meet the USDA ISAC definition of "invasive species;"
- The role of other predators and their impact on the wildlife and environment, including wolves, coyotes, red foxes (a non-native species), raccoons, dogs (a non-native species), and some bird species (especially several non-native invasive species), has not been adequately addressed;
- There is no strong support for the viewpoint that cats are a serious threat to wildlife, except where there are fragile (prey) populations in isolated or fragmented ecosystems (O'Keefe, 2003);
- Cats are obligate carnivores but are opportunistic feeders, and information provided in the New Jersey Fish and Game Council Resolution on free-ranging cats and by the U.S. Fish & Wildlife service as it relates to their diet and predation habits is at best misleading;
- Without further study, it cannot be concluded that free-ranging domestic cats in New Jersey have any negative impact on native wildlife in the State;
- In fact, it may well be that the benefits of free-ranging cats on the environment (especially as it relates to native species, particularly birds) actually outweigh any potential negative impact (Fan et al., 2005);
- The supplemental feeding of cats has been shown to reduce the predation rate of cats: a study conducted in a suburb of Sydney, Australia found that natural prey represented 8-17% of the diet of cats by volume, and that most of the diet was derived from human-provided sources of food. (Dickman, 2009);
- We cannot condemn a species simply because it is carnivorous;

- With observation of normal hygiene practice, free-ranging domestic cats pose little threat of transmission of zoonotic diseases to humans (CDC);
- Feral cats have similar or lower prevalence rates of infections than those published for pet cats in the U.S.: feral cats appear to be of no greater risk to human beings or other cats than pets (Luria et al., 2004);
- Food provided for free-ranging cats poses no more threat of attracting skunks, raccoons or bears than does providing food for dogs on one's property or feeding birds; further, proper feeding routines and use of properly designed feeding stations eliminates the risk altogether;
- Studies of cat predation have been taken out of context, and the impact on prey populations in New Jersey has not been addressed;
- Studies of cat predation indicate predation on birds is primarily compensatory (Møller and Erritzøe, 2000), though further study is required;
- Domestic cats are not the greatest threat to native wildlife, the loss of habitat is. The effect of humans on sensitive ecosystems and declining/disappearing species is often ignored and is the primary cause of reduction in wildlife populations. Notably,
  - New Jersey is the most densely populated U.S. State with 1,171 people per square mile (U.S. Census 2007);
  - Between 1995-2002, New Jersey developed 15,140 acres per year; a conversion rate equivalent to over 30 football fields of urban development every day (Hasse, Lathrop, 2008);
  - New Jersey is "home" to 187 Superfund sites as detailed on the EPA's National Priorities List – more than any other State;
- Trap-Neuter-Return (TNR) is mentioned as part of the solution to free-roaming cat overpopulation by the New Jersey Department of Health & Senior Services. Nationally, The Humane Society of the United States, the ASPCA and the National Animal Control Association endorse TNR. Taking a position that would prevent TNR would be contrary to the best practices of animal welfare authorities.

I. Regarding information provided to the NJDFW by the United States Fish & Wildlife Service, it appears the USFWS has not conducted thorough due diligence to support their position on free-ranging cats given the body of work available in scientific peer-review literature, professional research and resource organizations, and as provided by the U.S. Department of Agriculture.

a) The USFWS letter states "Feral and free-ranging domestic cats are a non-native, invasive predator species to North America."

According to New Jersey Administrative Code as defined in **§ 7:5A-1.3 Definitions,** " 'Invasive species' means nonindigenous plant and animal species that have been intentionally or accidentally introduced into habitats and geographical areas outside of their natural geographical range and that have the ability to reproduce and spread, thereby threatening native biological diversity and/or the integrity of natural ecosystems." This technical definition of "invasive species" means that any of the 4,000 species of non-indigenous plants and at least 2,300 species of non-native animals that now reside in the U.S. (according to The Nature Conservancy) could be considered "invasive." The State's definition of the term "invasive" is essentially a synonym for "non-native."

Notably, according to the *"Invasive Species Definition Clarification and Guidance White Paper,"* submitted by the Definitions Subcommittee of the Invasive Species Advisory Committee (ISAC) of the USDA (April 27, 2006), "Complications concerning the concept of *invasive species* arise from differing human values and perspectives…. *Invasive species* are those that are not native to the ecosystem under consideration and that cause or are likely to cause economic or environmental harm or harm to human, animal, or plant health. Plant

and animal species under domestication or cultivation and under human control are not *invasive species*. Furthermore, for policy purposes, to be considered invasive, the negative impacts caused by a non-native species will be deemed to outweigh the beneficial effects it provides. Finally, a non-native species might be considered invasive in one region but not another. Whether or not a species is considered an *invasive species* depends largely on human values." The ISAC further clarifies, "We use environmental harm to mean biologically significant decreases in native species populations, alterations to plant and animal communities or to ecological processes that native species and other desirable plants and animals and humans depend upon for survival."

In this definition of "invasive species," because a species is non-native does not make it dangerous or "invasive." As the ISAC points out, whether or not a species is considered an invasive species depends largely upon human values. There are certainly clear-cut cases, such as the West Nile Virus, or the Zebra Mollusk: but there are also gray areas – and that includes the domestic cat.

The Center for Invasive Species and Ecosystems Health (www.invasive.org) is one among many agencies and information centers: it does include the domestic cat on its list of "Invasive and Exotic Species of North America." It lists 32 species of mammal, including the domestic dog, the feral dog, the coyote, goats, the black-tailed jack rabbit, the European hare, Pallas's mastiff bat, the nutria, the house mouse, the Norway rat (otherwise known as the common brown rat), the black rat, the (Mexican) gray squirrel, the pig, and the (European) red fox. The Center for Invasive Species and Ecosystems Health also lists 92 birds in its list of invasive, non-native mammals, including populous residents of New Jersey, such as the (European) house sparrow, the European starling, the house finch, the mallard, the rock dove, the house crow, the mute swan, and the common pheasant. The Center further lists 455 invasive insects, 78 invasive reptiles, 85 invasive fish, 31 invasive arachnids, 20 invasive crustaceans, 55 invasive mollusks, 6 invasive amphibians (including the bullfrog), 1,514 invasive plants, and 161 invasive pathogens.

Populous non-native, invasive mammals in New Jersey include:

Rats (the Black rat (the ship rat or roof rat), *Rattus rattus;* **and the Norway rat** (the common brown rat), *Rattus norvegicus),* are populous residents of New Jersey and clearly invasive species. According to Columbia University's Introduced Species Project, "Some people consider *Rattus norvegicus* to be the greatest mammal pest of all time…A U.S. Government report estimated that each individual rat annually damages $1 to $10 worth of food and other material, and contaminates 5 to 10 times more…they are a highly invasive species… (and) have contributed to the extinction and reduction of many mammal, bird, reptile, and invertebrate species through competition and predation."[1] According to Yvonne Menard, the public information officer for Channel Islands National Park, non-native rats are responsible for an estimated 40 to 60 percent of bird and reptile extinctions in the world.

The European house sparrow, *Passer domesticus*. According to Audubon Naturalist Society of the Central Atlantic States' Naturalist News (2007), the (European) house sparrow is "the kudzu of the skies, aggressive, opportunistic bullies with voracious appetites." They "have become the scourge of bird enthusiasts everywhere."[2] According to the North American Bluebird Society, "House Sparrows are the most abundant songbirds in North America and the most widely distributed birds on the planet."[3] They are aggressive and territorial. The loss of and competition for available nesting sites are the primary cause of bluebird population declines (Edwards: UT Arboretum Society Journal, *The Leaflet*).

The European starling, *Sturnus vulgaris*. The Columbia University Introduced Species Project states, "In addition to the problems they create for people, European Starlings also have detrimental effects on native ecosystems, particularly through their tendency to out-compete native bird species for food and nest sites. European Starlings are cavity nesters and are known to compete with woodpeckers, Great Crested Flycatchers, Tree Swallows, Eastern Bluebirds and Purple Martins for nests, possibly causing these populations to decline. Studies documenting these effects have produced differing results, depending on the species examined. …If

populations of cavity nesters are declining in areas with large numbers of European Starlings, the effects of nest usurpation by starlings should be examined as a possible cause."[4]

The Red fox, *Vulpes vulpes.* According to The Columbia University Introduced Species Project, the red fox may be solely responsible for dozens of small mammal extinctions in Australia, including several species of endangered ground nesting birds, small mammals, amphibians, and reptiles. The red fox contributes to the spread of disease due to the widespread nature of its range and its resistance to population control methods; it could be a key carrier of rabies. While there was a native species of red fox, the current population of *Vulpes vulpes* was introduced to the U.S. sometime between 1650-1750 (Churcher, 1959). According to the University of Nebraska, Wildlife Damage Management (Winter and Wallace, 2006), after removal of six red fox and one cat from Monmouth Beach North in 2005, productivity for Piping Plover was 1.67 fledges per pair, one of the few sites in the state above the recovery goal of 1.50 fledges/pair.

If the concern of the Fish & Game Council, the NJDFW, or the New Jersey Department of Environmental Protection is the impact of non-native, invasive species on wildlife, especially endangered and threatened species and species of concern in the State, the Norway rat, the black rat, the European house sparrow, the European starling, and the European red fox are all documented as having a major impact on populations of native species of mammals and other wildlife, including birds, in otherwise healthy ecosystems.

b) In its letter to the NJDFW, the United States Fish & Wildlife Service cites cat predation studies indicating that cats "are recognized as one of the most widespread and serious threats to the integrity of native wildlife populations and natural ecosystems." To that end, the USFWS cites Nogales et al. 2004, Hughes et al. 2008, and Knowlton et al. 2007. Unfortunately, this is a very select and negatively biased list of studies regarding the impact and threats of cat predation. Each and every one of these studies was conducted in a small island habitat:

Hughes et al. (2008): Ascension Island, South Atlantic (88 sq. km.);

Knowlton et al. (2007): Channel Islands, USA and Pacific Baja California Peninsula Islands, Mexico (the largest Channel Island is Santa Cruz, at 249 sq. km.);

Nogales et al. (2004) was "A review of feral cat eradications on islands." In this review, 48 feral cat eradications on islands were identified. According to the authors, most were on islands less than 5 sq. km in size, though a few took place on islands of greater than 15 sq. km.

In many island habitats where the domestic cat has become feral, there is no doubt that it has had a negative impact on native species, in some cases resulting in their complete extinction (Fitzgerald, 1988). Small Island ecosystems are usually less complicated than those on larger land masses, making ecological interactions easier to interpret.

In fact, studies into cat predation have been conducted for almost a century, and a review of the body of literature indicates that there is no strong support for the viewpoint that cats are a serious threat to wildlife, *except for fragile populations in isolated or fragmented ecosystems* (O'Keefe, 2003). The studies cited by the U.S. Fish & Wildlife Service are examples of studies conducted in very small, isolated environments. And as the USDA ISAC points out, a non-native species might be considered invasive in one region but not another. At 22,608 square kilometers, the State of New Jersey is hardly comparable to a small island habitat.

Notably, work conducted by Fan et al. (2005) supports the earlier work done by Courchamp et al. (1999). The work of Fan et al. predicts that reducing cat populations in certain environments would actually cause more harm to birds due to a resulting increase in rat populations. The work indicates that in a prey-mesopredator-superpredator trophic food web, eradication of introduced superpredators such as feral domestic cats in the BRC model is not always the best solution to protect endemic insular prey: the presence of a superpredator may have a beneficial effect in such systems.

Examples of this effect are reflected in the work of Fitzgerald in New Zealand (1990) and Tidemann et al. on Christmas Island (1994) where feral cats have been shown to have a beneficial effect on native wildlife populations by stabilizing the numbers of introduced rats, which can have a sometimes more serious impact as predators of wildlife (Atkinson, 1985).

Let's not forget that cats were domesticated to serve as pest control agents: they are still used for this purpose in many locations. In fact, they may actually serve an important role in keeping levels of other invasive species down as they do in Canberra, Australia, where according to Barratt (1998), 64% of cats' prey was introduced mammals.

Given that cats do prey on small mammals and birds, and the Norway rat (the common brown rat), the black rat, the house mouse, the European house sparrow, and the European starling are all non-native residents of New Jersey that arguably do meet the ISAC criteria for being defined as "invasive," without further scientific study of the diet and predation habits of free-ranging cats in New Jersey in varying habitats, no conclusions whatsoever of their impact on any wildlife populations (let alone threatened or endangered species) in the State can be made. The free-roaming cat may well be doing the State of New Jersey a service by primarily helping to control populations of other non-native and invasive species.

c) The U.S. Fish & Wildlife letter states, "A growing body of literature strongly suggests that domestic cats are a significant factor in the mortality of birds." In addition to citing Hughes et al. 2008, citations here include Winter 2004, and Winter and Wallace 2006, and the American Bird Conservancy is cited for an estimate of "hundreds of millions of birds, small mammals, reptiles, and amphibians killed annually by free-ranging cats."

There are certainly studies that indicate cats can kill a significant number of prey – for instance, Churcher and Lawton, 1987; Barratt, 1998; Woods et al. 2003; and Baker et al., 2005, 2008. The American Bird Conservancy likes to use scare tactics when addressing the issue of cat predation based on extrapolations of various predation study data. That cats are carnivores has never been disputed. So are fox, wolves, coyotes, dogs, and raptors. ***The issue is not that cats prey upon small mammals and birds, reptiles and/or amphibians, but whether or not they have a negative impact on the prey population.*** Evaluating the impact that domestic cats have on prey populations has proven problematic in most cat predation research. One of the most serious problems in non-isolated or mainland habitat cat predation studies, including owner-observation studies or cat fecal examination studies, is addressing the question as to whether or not cats are preying upon sick or injured animals, or scavenging already dead animals, and determining to what extent other environmental factors are playing a role in the change of the prey population – if there is a change in the prey population.

According to Kays and DeWan (2004), the ecological impact of a cat population is a difficult metric to quantify [in mainland habitats], yet probably the most important when evaluating the conservation risks associated with their management. While a number of researchers have extrapolated kill rates from a few cats [very small sample size studies] into huge estimates of prey killed by cats over large areas (Mitchell and Beck, 1992; Coleman, Temple & Craven, 1997; Woods et al., 2003), these are rarely contrasted with similar estimates of potential prey populations over the same scales. Unfortunately biologists have rarely sampled both cat and prey populations in such a way that direct effects on prey populations can be shown.

Further, in the debate over the impact of cat predation, it is enticing – though inappropriate – to extrapolate data from one study site in one habitat to produce state-wide or nation-wide figures, just as it is inappropriate to extrapolate such numbers from one predation habitat into different habitats (van Heezik et al. 2010). As cats are opportunistic feeders, such extrapolations are unreasonable due to variable prey availability in different habitats. This affects the proportion of cats that actively hunt and the amount and variety of prey (Fitzgerald, 1990; Jarvis, 1990). Variable abundances of birds and other species between rural and urban areas, as well as across urban gradients (Mitchell and Beck, 1992; Blair, 1996; Chace and Walsh, 2006; van Heezik et al., 2008) mean cats in different habitats will have different hunting or scavenging profiles (van Heezik et al. 2010).

Finally, specifically addressing Winter and Wallace 2006, *"Impacts of feral and free-ranging cats on bird species of conservation concern: A five-state review of New York, New Jersey, Florida, California, and Hawaii,"* this report is a non-scientific study that relies heavily on anecdotal evidence of observed "cat tracks." The report repeatedly implies that cats are the main predator when piping plover nests fail due to predation problems, yet according to the NJDFW itself, the state uses electric fence exclosures to combat problems with "some mammalian predators, primarily red fox, that have learned to target exclosures and dig under them." (NJ Division of Fish & Wildlife, *"Beach Nesting Bird Management,"* 2009). Not once does the report of Winter and Wallace refer to observed fox tracks, though fox are a primary predator of ground nesting bird sites, and as noted earlier, it was the removal of six red fox (and one cat) from one location (Monmouth Beach North in 2005), that resulted in the increase of productivity for Piping Plover in that location.

d) The U.S. Fish & Wildlife letter states, "Feeding cats does not deter them from killing wildlife for they do not always eat what they kill. Even if food is available, free-ranging house cats hunt natural prey during all seasons and seem to prefer natural prey when it is easily accessible (Liberg, 1984)." The abstract of Liberg's work, *"Food habits and prey impact by feral and house-based domestic cats in a rural area in southern Sweden,"* published in the Journal of Mammalogy (1984; 65(3): 424-432) reads:

"Natural prey of domestic cats *(Felis catus)* in the Revinge area in southern Sweden during 1974-79 was related to prey abundance, annual production, and availability. Of 1,437 scats collected, 996 contained remains of vertebrate prey. Most cats (80-85%) were house-based and obtained from 15-90% of their food from natural prey, depending on abundance and availability of the latter. Wild rabbits *(Oryctolagus cuniculus)* were the most important prey, and cats responded functionally to changes in abundance and availability of this prey…"

31% of the examined scat contained no remains of vertebrate prey. Liberg clearly states that of the cats whose scat contained the remains of vertebrate prey (69% of cats), the cats' diet of natural prey ranged from 15%-90%. We again point out the problems of scat-based studies: there is no way to know what percentage of the prey population was hunted versus culled or scavenged. Liberg did note that "in the severe winter of 1977, rabbits were abundant but many were in weak condition. Dead, dying and very weak rabbits were commonly seen. House cats responded strongly to this superabundant and readily available food resource. Rabbits made up 93% of weight of all prey and absolute intake of rabbits that winter was 162 g cat/day which was six times higher than in the corresponding season in 1974-76.[5] This data obviously skews the overall results of the study and also serves to confirm that <u>not</u> all cat predation is additive.

Importantly, Liberg also noted in the results of the study that it has been argued that cats, supported by humans, are more likely to affect prey populations than are natural predators, **but his own conclusion is that the data collected in his study does not justify a conclusive assessment of the effects of cats on their prey populations; his data indicate that cats by themselves were not limiting any of their prey.** *(*Emphasis added).

- **In fact, supplemental feeding of cats <u>has</u> been shown to reduce the predation rate of cats. A study conducted in a suburb of Sydney, Australia found that natural prey represented 8-17% of the diet of cats by volume, and that most of the diet was derived from human-provided sources of food. (Dickman, 2009).** According to Barratt (1994), domestic cats as predators can be described as "sedentary generalists." Berkeley (2001) and Winograd (2003) categorize cats as *opportunistic feeders*, indicating that cats will utilize whatever food source is most prevalent, including supplemental feeding by humans, garbage and carrion. This is supported by the work of van Heezik (2010). Of the cats that rely on hunting, according to Berkeley (2001) and Fitzgerald (1988) the majority of their diet consists of mammals [not birds], and frequently the flying birds consumed are injured or already dead (Berkeley, 2001).

Of course we agree that the State of New Jersey should take appropriate action to ensure that cat owners act responsibly to restrain or confine their animals. The focus of wildlife advocates in the "Cats vs. Prey" debates is always on the risks cats pose to other animals and humans; however, there are many risks that pose a threat to cats

outdoors. We also encourage greater enforcement of the State's "No Animal Abandonment" statute (N.J.S.A. 4:22-20(a)(b)). But without further study of the role of free-roaming cats in the various habitats of New Jersey, there is no way to know that eradication of the free-roaming cat will achieve the desired effect – specifically, minimizing dangers to threatened and endangered species, as that must be the issue at stake: **we as a population cannot condemn an entire species simply because it is carnivorous.** Finally, as mentioned, according to Fan et al. (2005), though counter-intuitive, eradication of the free-roaming cat may have a negative impact on native bird populations, especially endangered and threatened species located in fragmented habitats within the State.

II. Regarding statements made in the New Jersey Fish and Game Council's "Resolution on Trap-Neuter-Release (TNR) and Free-ranging Domestic Cats," passed June 19, 2007 we address statements made in the Resolution that reflect lack of fully researched content, appear deliberately misleading, or simply are not true**.**

A) The New Jersey Fish and Game Council's Resolution states, "Any time large numbers of animals congregate in one area, as in domestic cat colonies, there is increased risk for the spread of diseases, including feline leukemia, toxoplasmosis, and rabies, among others." We do not attempt to address all enzootic or zoonotic risks associated with cats, only the most serious (those mentioned in the Resolution):

- According to Lee et al. (2002), the prevalence of Feline Leukemia virus (FeLV) infection rates in unowned free-roaming cats were similar to prevalence rates reported for owned cats in the U.S. (sample size 733 cats in North Carolina and 1,143 in Florida);
- According to Luria et al. (2004), in a study where 533 feral cats were tested with a panel of antibody, antigen or PCR assays, feral cats in the study had similar or lower prevalence rates of infections (FIV, FeLV, M. haemofelis, M. Haemominutum, Bartonella) than those published for pet cats in the U.S. ***The conclusion of the study authors was that feral cats assessed in the study appeared to be of no greater risk to human beings or other cats than pet cats*** (emphasis added);
- According to Wallace et al. (2006), of 103,643 stray and feral cats examined in spay/neuter clinics in six states from 1993-2004, just 0.4% of those cats were euthanized due to debilitating conditions, trauma or infectious disease.

As pointed out by The Humane Society of the United States, "With all the media attention that rabies gets, you may be surprised to learn that this disease is much less of a danger to Americans now than ever before. Thanks to widespread pet vaccinations, 100% effective post-exposure treatment, and the relative rarity of an undetected bite by a rabid animal, the number of human deaths in the United States due to rabies has declined to an average of only one to two per year." In fact, "Human fatalities caused by lightning strikes and bad hamburgers far exceed the number of human deaths caused by rabies."[6]

- **According to the Merck Veterinary Manual (2008), no cat-to-cat transmission of rabies has been recorded, and no feline rabies virus variant is known.**
- According to McQuiston et al. (1999)
  - cats and dogs are not reservoirs for rabies virus variants circulating in the U.S. (with the exception of a small focus of dogs carrying the canine variant in Texas);
  - bat-associated rabies virus variants (the most commonly associated with human contraction of the virus) were not a common cause of rabies in dogs and cats;
  - Of the 308 animals submitted that were determined to be carrying the rabies virus, 53% were owned animals.
- According to the U.S. Centers for Disease Control and Prevention (CDC):

- Of the 38 human cases of rabies listed in the 14-year period 1995-2008, 28 were contracted from bats, 8 from dogs, 1 from fox and 1 from raccoon. Notably, no reported human case of rabies was caused by contraction of the disease from a cat. (United States Rabies Surveillance Data, 2008).
- Rabies is uncommon in dogs, cats and ferrets in the U.S.; very few bites by these animals carry a risk of rabies. (*General Q&A about Rabies*).

– According to Gompf et al. (2008), no person in the U.S. has ever contracted rabies from a dog, cat, or ferret held in quarantine for 10 days.

Toxoplasmosis is the disease of which *Toxoplasma gondii* (*T. gondii*) is the causative agent. According to the CDC, the disease is usually minor and self-limiting but can have serious or even fatal effects on a fetus whose mother contracts the disease during pregnancy or on an immunocompromised human or cat; the primary cause of contraction of the disease is undercooked meat. But observance of normal hygiene practice (such as washing hands after cleaning a litter box), thoroughly cooking food and washing fruits and vegetables can virtually eliminate the risk of contracting Toxoplasmosis, and the CDC states that pregnant mothers and immunocompromised individuals need not get rid of their cat.

– According to Jones et al. at the Division of Parasitic Diseases, National Center for Zoonotic, Vectorborne, and Enteric Diseases, CCID, Centers for Disease Control and Prevention (2007):

- Transmission to humans usually occurs by ingestion of cysts in undercooked meat and exposure to soil and water contaminated by oocysts;
- Human infections are usually asymptomatic or cause a self-limited flu-like illness;
- Of the 17,672 people examined in NHANES 1999-2004, 90% were tested; the age-adjusted *T. gondii* seroprevalence among persons 6-49 years old was 10.8%;
- In the period 1999-2004, there was a 36% reduction in *T. gondii* prevalence from 14.1% to 9% among 12-49 year-old U.S.-born persons versus the 1988-1994 period;
- The reduction in *T. gondii* seroprevalence is not due to fewer cats in the U.S. because the number of cats per capita has increased. It is likely due to education [regarding properly cooking meat, washing fruits and vegetables, and the importance of observing proper hygiene].

B) The New Jersey Fish and Game Council's Resolution states, "Food provided for free-ranging cats also attracts skunks, raccoons, black bears and other species that are capable of contracting and/or spreading rabies through interactions with vector species." In fact, food provided for free-ranging cats poses no more threat of attracting skunks, raccoons or bears than does providing food for dogs on one's property or of attracting bears through providing bird food (seed or suet). Importantly, proper feeding routines (such as not leaving food out overnight) and use of proper feeding stations (anything elevated will deter skunks, and raccoon-proof elevated feeding stations have been designed) eliminates the risk altogether.

C) The New Jersey Fish and Game Council's Resolution states, "the National Association of State Public Health Veterinarians has stated that there is no evidence that colony management programs will reduce diseases." Given that enzootic risk and zoonotic risk of disease transmission is low as detailed in response II.A to the New Jersey Fish and Game Council's Resolution on Trap-Neuter-Release (TNR) and Free-ranging Domestic Cats, beginning on page seven of this letter, this point should have no bearing on the decision-making process.

D) The New Jersey Fish and Game Council's Resolution states, "NJSA 23:2A-14 makes it illegal to intentionally leave out food that can be accessed by or attractive to bears." If people feeding cats are to be prosecuted for violating this law, then people putting out bird food of any sort and people feeding their dogs outside should also be prosecuted.

III. **Studies of cat predation have been taken out of context, and the impact on prey populations in New Jersey has not been addressed.** In the closest similar habitat to many areas of New Jersey (a suburban environment surrounding a wildlife preserve), the study by Kays and DeWan (2004) indicates that "there was no relationship between the number of cats detected in an area and the local small mammal abundance," and "these results suggest that cat activity has no influence on small mammal populations or foraging activity in our study site."[7]

IV. **Studies of cat predation have not adequately addressed whether or not predation is primarily compensatory (killing animals that would have died anyway) or additive.** Predation is generally understood to be an important selective force in evolution, and evidence of natural selection by predation on birds exists in a large study of raptor predation on gulls (Genovart et al., 2010) where the study "unequivocally showed that age, muscle condition and sickness were clues for differential predation by birds of prey."[8] More to the point, a study using 18 species of passerine birds and domestic cat predators as a model system found that disease and parasitism appear to play an important role in predator-prey interactions (Møller and Erritzøe, 2000), indicating that predation by cats is compensatory – at least in some measure, a consideration often lacking in presentation of cat predation data.

V. **Domestic cats do not pose the greatest threat to bird & other wildlife populations and the environment.** It is not the domestic cat, whether feral or not, that poses the greatest threat to bird and wildlife populations nor the environment in which they prosper. By far it is human destruction of the natural habitat of the native flora and fauna that is the direct threat to our endangered species. New Jersey is the nation's fourth smallest state (with 5 million acres). With 8.7 million residents (2009 U.S. Census estimates), New Jersey is the 11th most populous state in the U.S., which means New Jersey is the most densely populated state with 1,171 people per square mile. A 2008 report, "*Tracking New Jersey's Dynamic Landscape: Urban Growth and Open Space Loss 1986-1995-2002,"* published by Dr. John Hasse (Department of Geography at Rowan University) and Dr. Richard Lathrop (Rutgers University Center for Remote Sensing & Spatial Analysis) indicates that:

- Urban development between 1985-2002 was nearly a quarter million acres. That is roughly equivalent to adding the entire developed land area in New Jersey's four most urbanized counties (Bergen, Union, Essex, and Hudson) to the state every 16 years;

- Urban development in New Jersey increased statewide by 105,988 acres during 1995-2002. This equates to development of approximately 15,140 acres per year; a conversion rate equivalent to over 30 football fields of development every day;

- Urban growth between 1995-2002 consumed 58,495 acres of upland forest, a rate of 8,356 acres per year; that is a conversion rate equivalent to 17 football fields of forest lost every day;

- Urban growth between 1995-2002 consumed 1,573 acres per year; that is a conversion rate equivalent of 3.3 football fields of wetlands lost every day;

- Forest land has been the most prevalent landscape category in the state, occupying more acres than any other land use category. Recent decades have seen deforestation in New Jersey accelerate (largely due to sprawling residential development): urban growth is consuming forest at such a pace that at current trends the amount of developed land statewide will surpass upland forest in total acres by midyear 2008;

- Forest land in New Jersey is not only shrinking, but becoming more fragmented;

- A majority of the new urban land demonstrated various characteristics associated with "sprawl" (low density development and fragmented areas of development);

- During 1995-2002, 5,116 acres per year were paved (the creation of "impervious surfaces"); this is the equivalent of paving 1,742 parking spaces every day;

- New Jersey is on track to become the first state in the country to reach build-out within the next several decades. ("Build-out" is a condition where all available land has been either preserved as open space or consumed for development).

Of particular note, readers are referred to Table 3.4.1 of the report, in "Impacts of Urbanization to Threatened and Endangered Species" section 3.4 (p. 34). The authors concluded that suitable habitat, priorities species habitat, State threatened species habitat, State endangered species habitat, and Federal threatened and endangered species habitat loss was "substantial," with New Jersey Grasslands experiencing the greatest impact (4.9% of total defined acreage). The New Jersey Grasslands also had the greatest loss of Federally-listed endangered species habitat loss, representing 2.6% of such mapped grasslands.

If all feral cats were eliminated and all domestic cats were kept indoors, wildlife and bird populations would continue to decline because of destruction of their habitat by humans. This destruction of habitat includes farming, livestock grazing, industrial and residential development, urban sprawl, road building, parking lot paving and pesticide use, among many others.

Conclusion

The New Jersey Division of Fish & Wildlife should not support a State-wide position or policy of eradication of the free-ranging cat. The homeless cat population problem in New Jersey, as elsewhere, has arisen due to both lack of education regarding the importance of spaying and neutering our pets along with the cruel and illegal abandonment of unwanted animals. The solution to the problem need not be about protecting native wildlife **OR** cats**. Not only does the body of credible research create serious doubt about any actual negative impact of the free-ranging cat on native wildlife in New Jersey**, as the Audubon Society of Portland and the Feral Cat Coalition of Oregon point out, it is about protecting birds [and other native wildlife] **AND** cats.

Animal welfare and environmental protection efforts need not be at odds. Programs of cooperation between feral cat organizations and ornithological societies in California and Oregon have paved the way and should serve as an example to other communities: *"Portland Audubon and Feral Cat Coalition Team Up,"* http://audubonportland.org/backyardwildlife/brochures/cats/catsindoors; The City of Foster City, Homeless Cat Network and Sequoia Audubon Society's Project Bay Cat, *"Project Bay Cat Succeeds with Humane Feral Cat Management Program,"* http://www.fostercity.org/news/press_releases/Project-Bay-Cat-Succeeds-with-Humane-Feral-Cat-Management-Program.cfm.

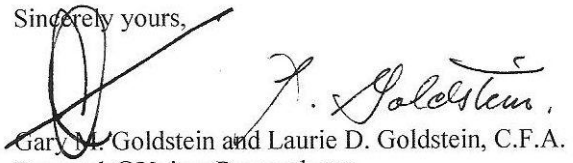
More than 100 municipalities in New Jersey have turned to Trap-Neuter-Return as their preferred approach to feral cat management. TNR has grown increasingly popular in the state since 2004 when then Governor McGreevey's Animal Welfare Task Force strongly recommended it: http://www.state.nj.us/animalwelfaretaskforcereport.pdf . It is mentioned as part of the solution to free-roaming cat overpopulation by the New Jersey Department of Health & Senior Services. Nationally, The Humane Society of the United States, the ASPCA and the National Animal Control Association endorse TNR. The Fish and Game Council's "Resolution on Trap-Neuter-Release (TNR) and Free-ranging Domestic Cats" is ill-advised and poorly researched, and the current proposed reclassification of domestic cats would not only be illegal, it would be contrary to the best practices of animal welfare authorities and the will of the people of New Jersey.

While the New Jersey Department of Environmental Protection may want to further designate areas of protection for endangered and threatened species, given the habitat diversity within the State, we hope the New Jersey Division of Fish & Wildlife will support local policies (that should be taken within the legal framework as it applies to threatened and endangered species) regarding free-ranging cats. Further, in its determination of policy and/or

position, we hope the New Jersey Division of Fish & Wildlife will consider the extensive information referenced herein in conjunction with the recommendations of the 2004 New Jersey Animal Welfare Task Force Report.

Please note that professionally we are Senior Equity Research Analysts on Wall Street and were not compensated in any way for our time spent conducting or writing up this research. Thank you.

Sincerely yours,



Gary M. Goldstein and Laurie D. Goldstein, C.F.A.
Research@UniqueResearch.net

CC:

Governor Chris Christie
Office of the Governor
P.O. Box 001
Trenton, NJ 08625

Bob Martin, Commissioner
New Jersey Department of Environmental Protection
P.O. Box 402
Trenton, NJ 08625-0402

Amy Cradic, Assistant Commissioner
New Jersey Department of Environmental Protection
PO Box 404
Trenton, NJ 08625-0404

Larry Herrighty, Assistant Director
New Jersey Department of Environmental Protection
P.O. Box 400
Trenton, NJ 08625-0400

Catherine Tormey, Ethics Liaison Officer
Department of Environmental Protection
P.O. Box 402
Trenton, NJ 08625-0402

Dawn Marie Addiego, Assemblywoman
8th District Office
32A North Main St.
Medford, NJ 08055

Joan M. Voss, Assemblywoman
38th District Office
520 Main Street
Fort Lee, NJ 07024

Scott Rudder, Assemblyman
8th District Office
32A North Main St.
Medford, NJ 08055

Nelson T. Albano, Chair
Agriculture & Natural Resources Committee
21 N. Main St.
Cape May Court
House, NJ 08210

1124 N. High St.
Millville, NJ 08332

1028 East Landis Ave.
Vineland, NJ 08360

Celeste M. Riley, Vice-Chair
Agricultural & Natural Resources Committee
14 East Commerce St.
3rd Floor
Bridgeton, NJ 08302

935 Kings Highway
Suite 400
West Deptford, NJ 08086

199 East Broadway
1st Floor
Suite G
Salem, NJ 08079

John F. Amodeo, Assemblyman
Agricultural & Natural Resources Committee
1801 Zion Rd.
Suite 1
Northfield, NJ 08225

Ronald S. Dancer, Assemblyman
Agricultural & Natural Resources Committee
2110 W. County Line Rd.
Jackson, NJ 08527

Gilbert L. Wilson, Assemblyman
Agricultural & Natural Resources Committee
Brooklawn Shopping Plaza
Route 130 & Browning Rd.
Brooklawn, NJ 08030

Jeannette Vreeland, Acting Chair
Dr. Barbara Brummer
Mr. Dave Burke
Mr. Fred Hough
Mr. Ed Kertz
Mr. John Messeroll
Mr. Robert Puskas
Mr. Dan Van Mater
Dr. Leonard Wolgast
New Jersey Fish and Game Council
C/O New Jersey Department of Environmental Protection
Division of Fish and Wildlife
P.O. Box 400
Trenton, NJ 08625-0400

Dave Jenkins, Chief
New Jersey Bureau of Endangered and Non-game Species
PO Box 400
Trenton, NJ 08625-0400

Dr. Barbara Brummer, Chair
Dr. James Applegate
Dr. Joanna Burger
Dr. Emile DeVito
Mr. Howard Geduldig
Dr. Rick Lathrop
Dr. Erica Miller
Dr. David Mizrahi
Ms. Jane Morton Galetto
Dr. Dale Schweitzer
Mr. James A. Shissias
Endangered & Nongame Species Advisory Committee
C/O New Jersey Department of Environmental Protection
P.O. Box 400
Trenton, NJ 08625-0400

Poonam Alaigh, MD, MSHCPM, FACP, Commissioner
Department of Health and Senior Services
P.O. Box 360
Trenton, NJ 08625-0360

Faye E. Sorhage, V.M.D., M.P.H.
State Public Health Veterinarian
Department of Health and Senior Services
Office of Animal Welfare
P.O. Box 369
Trenton, NJ 08625

Colin T. Campbell, D.V.M.
Senior Public Health Veterinarian
Department of Health and Senior Services
Office of Animal Welfare
P.O. Box 369
Trenton, NJ 08625

Paula A. Franzese, Chair
Hon. William E. Schluter
Dr. Stephanie Bush-Baskette
Michael E. Levin
Dr. Joann LaPerla-Morales
State Ethics Commission
28 W. State Street
Room 1407
P.O. Box 082
Trenton, New Jersey 08625

Kathleen Wiechnik, Esq., Executive Director
State Ethics Commission
28 W. State Street
Room 1407
P.O. Box 082
Trenton, New Jersey 08625

Mark Holmes, Esq., Deputy Director
State Ethics Commission
28 W. State Street
Room 1407

P.O. Box 082
Trenton, New Jersey 08625

P.O. Box 082
Trenton, New Jersey 08625

Jeffrey S. Stoolman, Esq., Compliance Officer
State Ethics Commission
28 W. State Street
Room 1407

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