



**Maryland Ornithological Society
Policy Statement
on Free-Roaming Domestic Cats and the Management of Feral Cats**

Introduction

Since its inception in 1945, the Maryland Ornithological Society (MOS) has held as one of its central tenets the promotion of knowledge, appreciation and conservation of Maryland's avian species and the natural resources necessary for their support. Reaffirmed in 1998 by the MOS Board of Directors in the MOS Mission Statement,¹ MOS finds that it is crucial to apply this tenet to the issues of free-roaming domestic cats and the management of feral cats. This policy statement is the official position of the Society. It is intended to guide individual chapters and members, and it is up to each individual to decide if he or she wishes to follow this policy. Compliance with that policy is not a requirement of membership in MOS.

Executive Summary

Recognizing that free-roaming and feral cats are probably the greatest source of human-caused bird mortality in North America, and constitute a major public and wildlife health threat, while at the same time being dangerous for the cats themselves, MOS discourages allowing domestic cats to wander freely in the landscape, and advocates keeping them indoors or confined in a way that they do not impact wildlife. MOS also calls for neutering of cats so that the number of unwanted cats does not continue to grow. It is the position of MOS that full implementation of the steps recommended in this policy statement will result in lowering the numbers of free-wandering and feral cats, decreasing wildlife mortality from cat predation, and improvements in public and wildlife health.

MOS further opposes the creation and maintenance of Trap-Neuter and Release (TNR) colonies for cats, and does not support TNR as responsible solution to the problem of unwanted or unadoptable domestic cats. MOS opposes policies, regulations, and ordinances that promote or support the practice of TNR because of the negative impact on native birds and other wildlife; because of the negative impact such practices have on human and wildlife health; because of the detrimental effects such practices have on released domestic cats; and because the practice is contrary to state and county laws and regulations protecting Maryland's natural resources.

The Impact of Domestic Cats on Birds

The Maryland Invasive Species Council (MISC)² in 2010 described feral cats as "a perfect invasive species," not native to North America. When "released into the

environment on a permanent basis, they can disrupt an already fragile ecosystem.... Birds, especially nestlings make up approximately 20% of a feral cat's prey.”³

Peer-reviewed studies conducted in the United States and Canada have shown domestic cat predation to be the largest direct source of human-related mortality to birds in both countries, ranging from 1.4 to 3.7 billion per year in the U.S., and 100-250 million per annum in Canada. An even greater toll is inflicted on small mammals⁴⁵. These results were incorporated into the North American Bird Conservation Initiative (NABCI) U.S. Committee's State of the Birds Report 2014. NABCI U.S. Committee is a forum comprised of 23 federal and state agencies, and private conservation organizations and bird initiatives. The 2014 report placed annual bird deaths caused by cats at 2.4 billion in the U.S. and 196 million in Canada, significantly exceeding all other direct human-associated actions. The report recommends keeping cats indoors and implementing policies to eliminate feral cat colonies.⁶ More locally, the Second Chance Wildlife Center in nearby Gaithersburg, MD, between 2010 and 2013 received 498 birds of 41 species injured by cats, with 80% not surviving.⁷ The Wildlife Conservation Center of Virginia treated roughly 3,000 bird and mammals injured by outdoor cats over a ten year span, with over 70% of the small mammals and 81% of birds succumbing to their injuries.⁸ Tri-State Bird Rescue and Research in Newark, DE, has found that 10-12% of all birds received for care are victims of cat attacks, and the majority are nestlings or fledglings. Tri-state sees 200-250 such cat attack victims annually.⁹

It is important to note that harming native birds, even if by indirect actions, is a Federal crime under the U.S. Migratory Bird Treaty Act.

Because of domestic cat predation, some species of birds are particularly affected so that the number of young birds fledged is not sufficient to maintain the population at healthy levels, causing a significant decline in the species. This was shown in a January 2011 Smithsonian study that documented that 47% of all Gray Catbirds killed by predators were killed by cats.¹⁰ A 2011 study in the United Kingdom demonstrated that the mere presence of a cat can reduce the amount of food parent birds deliver to their chicks, and greatly increases the nest's vulnerability to predation by third parties, such as crows.¹¹

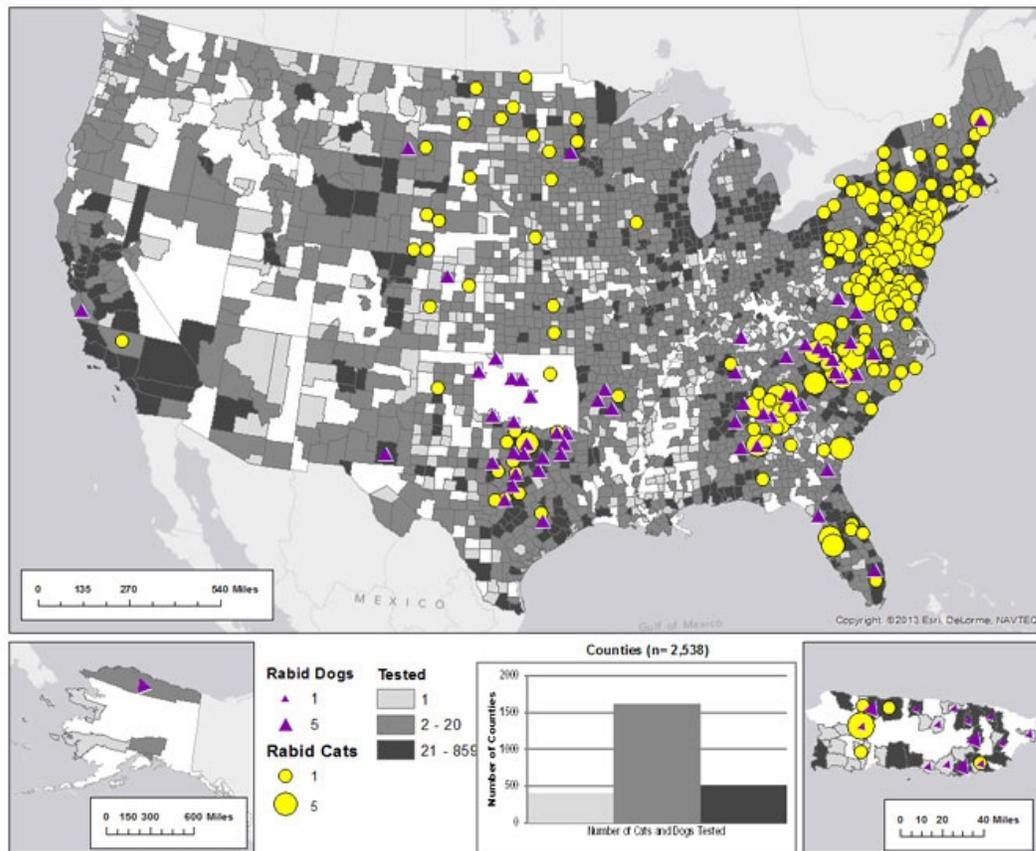
Trap-Neuter-Release and Birds

These wildlife impacts are exacerbated by a practice often advocated for dealing with feral cats known as trap-neuter-release or trap-neuter-return (TNR). Such colonies can cause prey populations to decline so much they can no longer support native predators, a process known as hyperpredation.¹²

TNR's Impact on Public and Wildlife Health

TNR colonies present a serious public health threat. While cats placed in such colonies are generally vaccinated against rabies, other feral cats attracted to the colony are not. Furthermore, rabies vaccinations need to be renewed periodically and booster shots are not generally given, with recapture rates for such purposes below 10%.¹³

A Centers for Disease Control (CDC) map of rabies incidence from 2012 indicates that Maryland and adjacent states have one of the highest incidences of rabies in cats (indicated in the below map by yellow circles).¹⁴



Eighteen cats were confirmed to be infected with rabies by the Maryland Department of Health and Mental Hygiene in 2014.¹⁵ The Maryland Department of Health and Mental Hygiene includes the removal of stray animals from the community as one of the cornerstones of its rabies prevention program.¹⁶

There is a serious health risk involved with the physical practice of TNR. Wildlife rehabilitators who handle wild rabies vector species such as foxes or raccoons are required by the state of Maryland to have had rabies vaccinations. Cats are a major rabies vector in Maryland. Since there is no way to test a living cat for rabies status, those trapping, handling or performing surgery on feral cats who have not been vaccinated (probably a large majority¹⁷) are putting themselves in considerable danger.

Aside from the rabies threat, an even greater public health issue from feral cats is Toxoplasmosis. *Toxoplasma gondii* is a microscopic parasite that is transmitted only by cats. The parasite eggs are shed in the cat feces and can remain infective for 18 months in the soil. The parasite is transmissible to humans, and the CDC in 2003 reported a link between *Toxoplasma gondii* infection and psychotic symptoms in humans similar to schizophrenia.¹⁸ The CDC also considers Toxoplasmosis a leading cause of death from

food-borne illness and in newly infected pregnant mothers it can present a serious threat to the child. Over 60 million persons in the U.S. have been infected by this parasite.¹⁹ A July 2014 study in the journal *Trends of Parasitology* described the prevalence of *Toxoplasma gondii* oocysts in the United States as a major potential public health threat.²⁰

To our knowledge, no TNR program routinely tests nor treats its cats for the parasite. This is a serious issue: a study on a TNR colony in Ohio found that over 50% of the colony's cats were carrying *Toxoplasma*. They had in turn infected a majority of white-tailed deer in the same area, presenting a threat to humans who might consume undercooked venison.²¹ Aside from humans and deer, *Toxoplasmosis* has been shown to negatively affect other mammal species. *Toxoplasmosis* from cat feces discharged to surface waters has also been implicated in the steep decline of Sea Otter populations in California.²²

TNR's Impact on Cats

Re-releasing feral cats into the wild can be detrimental to the health of the cats themselves. The cats are subject to the weather, predators, automobiles, parasites, disease, and intentional abuse. The American Veterinary Medical Association (AVMA) supports actions "to eliminate the problem of free-roaming and feral cats...most of these cats will suffer premature mortality from disease, starvation, or trauma."²³ Veterinarian Dr. Michael W. Fox, a former Vice President of the Humane Society of the United States and columnist in the *Washington Post*, has labeled TNR "neither a panacea nor an appropriate response to the population and homelessness crisis we face as a society today."²⁴ Even the animal rights organization PETA opposes TNR and supports euthanasia when necessary.²⁵

Furthermore, TNR is a likely violation of both the Abuse and Neglect (§ 10-604) as well as Abandonment (§ 10-612) provisions of Title 10 of Maryland state.²⁶

Effectiveness of TNR

TNR advocates claim that TNR is effective at reducing the number of cats in a colony, since they can no longer breed after being neutered. Peer-reviewed studies within the field of wildlife biology, however, have shown TNR to be generally ineffective at reducing colony size. A 2003 study in Florida published in the *Natural Areas Journal* showed that dumping of cats and attraction of strays more than offset losses, with the colonies growing in size.²⁷

A 2009 study published in the journal *Conservation Biology* showed that TNR sites showing any declines in size at all included vigorous adoption efforts, and that cats in a colony do not, in fact, defend the colony from outside cats.²⁸

A study in 2010 showed that TNR was effective only in small colonies of 50 cats or less, and advocated trapping and euthanasia for colonies greater than 50 for reducing colonies quickly.²⁹

In 2014, a study evaluated the relative effectiveness of trap-removal, trap-neuter-return, and temporary contraception. The study concluded that trap-removal was the most effective means for reducing colony size, and in an isolated population, showed the highest probability of eliminating a colony.³⁰

Cats and Rodent Control

Some maintain that cats serve as a useful means of rodent control. Cats, however, do not serve as an effective means of rodent control according to science and agricultural authorities. A 1999 study in California found that house mice were more abundant in areas frequented by cats than in areas without cats. In addition, the presence of cats appears to facilitate the expansion of house mice into areas where they had not previously occurred.³¹ Another study in 2009 showed that cats in urban environments showed little effect on Norway rat populations.³² The Virginia Cooperative Extension Service states that cats are not an effective means of rodent control and that cats can lead to the transmission of *Toxoplasma gondii* oocysts to hogs.³³ A study by the National Pork Producers Council in 2000 indicated that 41.9 to 70.7 per cent of farm cats tested positive to *T. gondii* infection. It recommended that feral cats be eliminated and access of cats to swine areas be secured from cats.³⁴ The University of Maryland Extension makes no mention of using cats to control rodents on small poultry farms, instead advises using a combination of traps and rodenticides.³⁵

In short, cats are ineffective at controlling rodent populations and their use for that purpose is, at best, not recommended, and in the case of hog production, specifically enjoined.

Legal and Property Ramifications of TNR

If someone is bitten or scratched by a cat from a TNR colony, who bears legal liability? If a cat takes a bird or mammal protected on the Endangered Species Act or the Migratory Bird Treaty Act, who is liable for the cat's action? These liability issues are generally ignored in TNR colonies.

The following Maryland Counties have laws or ordinances essentially prohibiting TNR, treat feral cats as stray or at large cats, or call for the euthanasia of feral cats: Baltimore, Caroline, Charles, Talbot, and Worcester.³⁶

Cats do not respect property lines. Hence, cats from a TNR colony can and do wander onto neighboring property, presenting risk of cat-borne disease and injury to private homeowners, family, and guests. Likewise, they can wander onto city, county and state parks, schoolyards, and playgrounds, presenting acute risk to children, other visitors, and staff.

Many state and federal lands in Maryland are managed to protect their wildlife habitat values. Potentially affected areas are managed by the National Park Service (C&O Canal National Historical Park, Antietam Battlefield, Catocin Mountain Park, Fort McHenry, Assateague Island National Seashore, Fort Washington Park, Piscataway Park, etc.), the U.S. Fish & Wildlife Service (Patuxent, Blackwater, and Eastern Neck National Wildlife

Refuges) and the Department of Defense (Aberdeen Proving Ground, Joint Base Andrews, Fort Meade, Patuxent River Naval Air Station, etc.).

MOS Positions

MOS for the reason cited above can never endorse TNR as a responsible solution to the feral cat issue. We support trapping and neutering as vital to reducing the problem, but not their subsequent release. Many state and federal lands in Maryland are managed to protect their wildlife habitat values. Cats present a danger to these protected lands.

We oppose TNR because it is a proven threat to birds and other wildlife and as such is opposed by Maryland's Department of Natural Resources,³⁷ as well as national organizations such as The Wildlife Society³⁸ and American Bird Conservancy³⁹. TNR poses a serious threat to public health and as such is opposed by the Maryland Department of Health and Mental Hygiene. Finally, we oppose TNR because it is, in essence, animal abandonment and as such is opposed by humane organizations, as well as many Maryland animal shelters.

In light of the toll inflicted by free-roaming cats on wildlife, the impact on public and wildlife health, and the exposure of the cats themselves to the vicissitudes of disease, weather, autos, persons of ill intent, food shortages, etc. MOS calls for the following:

- Aggressive public education on the problem of cat overpopulation and the need for neutering and vaccination;
- Encouragement of cat owners to neuter their cats if not engaged in breeding;
- Encouragement of cat owners to keep their cats indoors, or leashed or fenced when outdoors. A good resource for those wishing to expose their cats to the outdoors without hurting wildlife is the American Bird Conservancy's Cats Indoors! Program.⁴⁰
- Enactment and enforcement of local municipal and county leash and licensing laws;
- Full funding for municipal and county animal control agencies;
- Provision of low-cost or free neutering programs by local governments and humane organizations.
- Strong promotion of adoption programs by animal control agencies and local governments as well as other appropriate solutions such as enclosed sanctuaries, where neither wildlife nor public health are threatened;⁴¹
- That animal control agencies utilize euthanasia only as a last resort, while ensuring that genuine pets are not accidentally put down.
- That MOS continues a dialogue on this issue with organizations and government agencies to devise the most appropriate, humane, and conservation-minded solutions to the issues.

¹ Maryland Ornithological Society Mission Statement, December 5, 1998, <http://mdbirds.org/about/mission/mission.pdf>

² The Maryland Invasive Species Council includes representative of the Maryland Department of Agriculture, the Maryland Department of Environment, the Maryland Department of Natural Resources, the Maryland Department of Transportation, the U.S. Department of Agriculture, the U.S. Department of Interior, the University of Maryland, and other private and quasi-governmental organizations. <http://www.mdinvasivesp.org>

³ The Maryland Invasive Species Council, Invader of the Month: Feral Cats, April 2010, http://www.mdinvasivesp.org/archived_invaders/archived_invaders_2010_04.html

⁴ Loss, Scott R., Tom Will, Peter P. Marra, "The impact of free-ranging domestic cats on wildlife of the United States," Nature Communications 4, Published 29 January 2013.

https://repository.si.edu/bitstream/handle/10088/19537/nzp_Loss_et_al_2013_Nature_Communications_-_Impact_of_cat_predation_on_US_wildlife.pdf?sequence=2&isAllowed=y

⁵ Blancher, Peter, Estimated Number of Birds Killed by House cats (*Felis catus*) in Canada, Avian Conservation and Ecology, vol. 8, issue 2, <http://dx.doi.org/10.5751/ACE-00557-080203>

⁶ North American Bird Conservation Initiative, U.S. Committee. 2014. The State of the Birds 2014 Report. U.S. Department of Interior, Washington, D.C. 16 pages. http://www.stateofthebirds.org/2014%20SotB_FINAL_low-res.pdf

⁷ Second Chance Wildlife Center, Cat caught data sheet.xls, personal communication.

⁸ Battista, Mark, Public Lands Besieged by Cats, Parks and Recreation, March 1, 2015, <http://www.parksandrecreation.org/2015/March/Public-Lands-Besieged-by-Cats/>

⁹ Sarver, Matt, Outdoor Cats, Birds, and the DOS Conservation Committee, The Flyer, Vol. 46, No. 10, June 2015.

¹⁰ Balogh, Anne L., Thomas B. Ryder, Peter P. Marra, "Population demography of Gray Catbirds in the suburban matrix: sources, sinks and domestic cats," Journal of Ornithology, 152(3): 717-726, 2011
https://repository.si.edu/bitstream/handle/10088/16752/nzp_Balogh_JORNITH_2011.pdf?sequence=1&isAllowed=y

¹¹ Bonnington, Colin, Kevin J. Gaston, Karl L. Evans, "Fearing the feline: domestic cats reduce avian fecundity through trait-mediated indirect effects that increase nest predation by other species," Journal of Applied Ecology, Volume 50, issue 1, pages 15-24.
<http://www.cfr.washington.edu/classes/esrm.450/Bonnington.pdf>

¹² Longcore, Travis, Catherine Rich, and Lauren M. Sullivan, "Critical Assessment of Claims Regarding Management of Feral Cats by Trap-Neuter-Release," Conservation Biology, Volume 23, No. 4, 2009, <http://www.urbanwildlands.org/Resources/2009LongcoreetalConBio.pdf>

¹³ A. D. Roebeling, D. Johnson, J. D. Blanton, M. Levin, D. Slate, G. Fenwick and C. E. Rupprecht, Rabies Prevention and Management of Cats in the Context of Trap-Neuter-Vaccinate-Release Programmes, Zoonoses and Public Health, January 3, 2013,
<https://vetmed-maddie.sites.medinfo.ufl.edu/files/2014/07/2013-Roebeling-Rabies-and-TNR.pdf>

- ¹⁴ CDC, Rabid Cats and Dogs Reported in the United States during 2012, September 28, 2012, <http://www.cdc.gov/rabies/resources/publications/2012-surveillance/cats-and-dogs.html>
- ¹⁵ Maryland Department of Health and Mental Hygiene, Laboratory Confirmed Animal Rabies in Maryland, 2014 http://phpa.dhmv.maryland.gov/OIDEOR/CZVBD/Shared%20Documents/Laboratory%20Confirmed_jurisdiction_species_2014.pdf
- ¹⁶ Maryland Department of Health and Mental Hygiene, Rabies, <http://phpa.dhmv.maryland.gov/OIDEOR/CZVBD/SitePages/rabies.aspx>
- ¹⁷ A. D. Roebeling, D. Johnson, J. D. Blanton, M. Levin, D. Slate, G. Fenwick and C. E. Rupprecht, Rabies Prevention and Management of Cats in the Context of Trap–Neuter–Vaccinate–Release Programmes, Zoonoses and Public Health, January 3, 2013, <https://vetmed-maddie.sites.medinfo.ufl.edu/files/2014/07/2013-Roebeling-Rabies-and-TNR.pdf>
- ¹⁸ Torrey, E. Fuller and Robert H. Yolken, “Toxoplasma gondii and Schizophrenia, Emerging Infectious Diseases,” CDC, 2003, http://wwwnc.cdc.gov/eid/article/9/11/03-0143_article
- ¹⁹ Parasites-Toxoplasmosis, Centers for Disease Control, <http://www.cdc.gov/parasites/toxoplasmosis/>
- ²⁰ Torrey, E. Fuller and Yolken, Robert H., Toxoplasma oocysts as a public health problem, Trends in Parasitology, volume 29, issue 8, July 2013, <http://abcbirds.org/wp-content/uploads/2015/05/Torrey-and-Yolken-2013-Toxoplasma-oocysts-as-a-public-health-problem1.pdf>
- ²¹ Ballash, Gregory A., and J. P. Dubey, O. C. H. Kwok, Abigail B. Shoben, Terry L. Robison, Tom J. Kraft, Patricia M. Dennis, Seroprevalence of Toxoplasma gondii in White-Tailed Deer (Odocoileus virginianus) and Free-Roaming Cats (Felis catus) Across a Suburban to Urban Gradient in Northeastern Ohio, EcoHealth, volume 10, issue 1007, October 1, 2014, for abstract see: <http://abcbirds.org/wp-content/uploads/2015/07/Ballash-et-al-2014.pdf>
- ²² Conrad, P.A. et al, Transmission of Toxoplasma: Clues from the study of sea otters as sentinels of Toxoplasma gondii flow into the marine environment, International Journal of Parasitology, volume 35, pages 1155-1168, 2005. https://search.yahoo.com/search;_ylt=AsO9OGIn6lzpzn7y7sa8pWbvZx4?p=Transmission+of+Toxoplasma%3A+Clues+from+the+study+of+sea+otters+as+sentinels+of+Toxoplasma+gondii+flow+into+the+marine+environment&toggle=1&cop=mss&ei=UTF-8&fr=yfp-t-252&fp=1
- ²³ American Veterinary Medical Association, Free-roaming Abandoned and Feral Cats, 2015, <https://www.avma.org/KB/Policies/Pages/Free-roaming-Abandoned-and-Feral-Cats.aspx>
- ²⁴ Fox, Dr. Michael W., “Animal Doctor: Trap-release-neuter programs for feral cats are often misguided, critics say,” Washington Post Local, February 12, 2014, http://www.washingtonpost.com/local/animal-doctor-trap-release-neuter-programs-for-feral-cats-are-often-misguided-critics-say/2014/02/06/0b242cbc-884d-11e3-a5bd-844629433ba3_story.html
- ²⁵ PETA, The Great Outdoors? Not for Cats! <http://www.peta.org/issues/companion-animal-issues/overpopulation/feral-cats/great-outdoors-cats/>
- ²⁶ West's Annotated Code of Maryland. Criminal Law. Title 10, November 2014, <https://www.animallaw.info/statute/md-cruelty-consolidated-cruelty-statutes>

- ²⁷ Castillo, Daniel, Alice L. Clarke, Trap/Neuter/Release Methods Ineffective in Controlling Domestic Cat “Colonies” on Public Lands, *Natural Areas Journal*, volume 23, issue 3, 2003, <http://abcbirds.org/wp-content/uploads/2015/05/Castillo-and-Clarke-2003-TNR-ineffective-in-controlling-cat-colonies1.pdf>
- ²⁸ Longcore, Travis, Catherine Rich, and Lauren M. Sullivan, “Critical Assessment of Claims Regarding Management of Feral Cats by Trap-Neuter-Release,” *Conservation Biology*, Volume 23, No. 4, 2009, <http://www.urbanwildlands.org/Resources/2009LongcoreetalConBio.pdf>
- ²⁹ Loyd, K. T., and J. L. DeVore. 2010. An evaluation of feral cat management options using a decision analysis network. *Ecology and Society* 15(4): 10. <http://www.ecologyandsociety.org/vol15/iss4/art10/>
- ³⁰ Julie K. Levy, Felicia B. Nutter, Margaret Slater, Stephen Zawistowski, Simulating Free-Roaming Cat Population Management Options in Open Demographic Environments, *PLOS one*, November 26, 2014, <http://journals.plos.org/plosone/article?id=10.1371/journal.pone.0113553>
- ³¹ Hawkins, Cole C., William E. Grant, and Michael T. Longnecker, Effect of Subsidized House Cats on California Birds and Rodents, *Transactions of the Western Section of the Wildlife Society*, vol 35, issue 29, <http://www.tws-west.org/transactions/Hawkins%20Grant%20Longnecker.pdf>
- ³² Glass, Gregory E, Lynne C. Gardner-Santana, Robert D. Holt, Jessica Chen, Timothy M Shields, Manojit Roy, Stephen Schachterle, and Sabra L. Klein, Trophic Garnishes: Cat-Rat Interactions in an Urban Environment, *PLOS-One*, Vol. 4, issue 6. June 2009, <http://www.ncbi.nlm.nih.gov/pmc/articles/PMC2686234/>
- ³³ Harper, Allen, The Truth about Cats and Hog Farms, Virginia Cooperative Extension, August 2004, http://www.sites.ext.vt.edu/newsletter-archive/livestock/aps-04_08/aps-361.html
- ³⁴ Gamble, Dr. H. Ray and Dr. Sharon Patton, Pork Safety Fact Sheet, National Pork Producers Council—American Meat Science Association, 2000, <http://old.pork.org/filelibrary/Factsheets/PorkSafety/toxoplasma04494.pdf>
- ³⁵ Moyle, Jonathan, Jennifer Rhodes, Brigid McCrea, and Dustan Clark, Rodent Control on Small Poultry Farms (FS-985), University of Maryland Extension, June 2014, http://extension.umd.edu/sites/default/files/_docs/publications/FS-985%20Rodent%20control%20on%20small%20poultry%20farms.pdf
- ³⁶ Maryland County Laws Regarding Feral Cats, Maryland Department of Agriculture, January 1, 2015, http://mda.maryland.gov/about_mda/Documents/SNAB/Maryland%20County%20Laws%20Regarding%20Feral%20Cats.pdf
- ³⁷ Letter, Joseph P. Gill, DNR Secretary, to Earl F. Hance, Agriculture Secretary, September 14, 2014
Letter, Mark Belton, Acting DNR Secretary, to Joseph Bartenfelder, Agriculture Secretary, February 20, 2105.
- ³⁸ The Wildlife Society, Final Position Statement on Feral and Free-Ranging Domestic Cats, August 2011, <http://wildlife.org/wp-content/uploads/2014/05/28-Feral-Free-Ranging-Cats.pdf>
- ³⁹ American Bird Conservancy, Cats Indoors, 2013, <http://abcbirds.org/program/cats-indoors/>
- ⁴⁰ American Bird Conservancy, Cats Indoors, 2013, <http://abcbirds.org/program/cats-indoors/>