

## WHY NO DOGS? - NATURE PRESERVES

Thank you for supporting the protection of natural ecosystems.

The presence of dogs, leashed and unleashed, has been scientifically shown to be detrimental to natural ecosystems in the following ways -

1. Dog walking displaces native birds from natural areas
2. Dog walking in woodland leads to a 35% reduction in bird diversity and 41% reduction in abundance
3. The scent of dogs repels wildlife and the effects remain after the dogs are gone.
4. Dogs create fear - non-lethal effects of predators can include habitat displacement to safer but less desirable areas (e.g. less food or shelter), increased stress, reduced feeding, and decreased reproduction
5. Pregnant wildlife and newborn animals do not have the reserves to repeatedly expend in avoiding dogs
6. Dogs roaming off trail can trample vegetation
7. Dog poop adds significant nitrogen to the soil, which encourages the growth of non-native plants at the expense of native plants Dog waste pollutes water and transmits harmful parasites and diseases to people.
8. Canine distemper - One of the most infectious diseases of domestic dogs, is highly prevalent in wild carnivores, rodents, and primate
9. Small mammals, including squirrels (*Sciurus spp.*) and rabbits (*Sylvilagus spp.*), exhibit reduced levels of activity within 50 m of trails in areas that allowed dogs when compared with areas without.
10. Animals are alarmed and cease their routine activities. This increases the amount of energy they use, while simultaneously reducing their opportunities to feed. Repeated stress causes long-term impacts on wildlife including reduced reproduction and growth, suppressed immune system and increased vulnerability to disease and parasites.

Thank you for helping protect the last few wild places on Earth.

**BIRDS** - 2007 study compared 45 sites where dog-walking was allowed with 45 sites where dog-walking was prohibited in the urban fringe of Sydney, Australia:

- Dog walking displaces native birds from natural areas
- dog walking in woodland leads to a 35% reduction in bird diversity and 41% reduction in abundance, both in areas where dog walking is common and where dogs are prohibited

By Peter B Banks and Jessica V Bryant, University of New South Wales, published in Biology Letters in December 2007

<http://rsbl.royalsocietypublishing.org/content/3/6/611>

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**FEAR FACTOR** - “The most profound effects of carnivores on prey may be through fear rather than mortality”

- The non-lethal effects of predators can include habitat displacement to safer but less desirable areas (e.g. less food or shelter), increased stress, reduced feeding, and decreased reproduction.
- dog management could simply be a matter of convincing owners and communities to control their pets.
- Because dog populations are orders of magnitude larger than natural predator populations, domestic dogs represent a formidable threat to other species worldwide.

By Jennie Miller, Yale School of Forestry and Environmental Studies, published in the Yale Environmental Review, November 2012

<http://environment.yale.edu/yer/article/wildlife-going-to-thedogs#gsc.tab=0>

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**PHYSICAL DAMAGE and PREDATION** - “Trampling is the major impact of hikers and their pets to plants” – Tom Chester

- Dogs roaming off trail can trample vegetation, and if dogs are numerous they can remove the vegetation in popular areas by trampling, scratching and digging.
- Direct Predation. dogs are rarely successful in catching the many birds and squirrels they chase, dogs occasionally directly kill wildlife, or injure the wildlife enough to cause their subsequent death.
- Indirect Predation. the potential prey has had to expend significant energy in order to save their life. Since in many cases animals are just barely surviving, expenditure of extra energy may push them over the edge to malnutrition and allow other predators to kill them. In particular, pregnant wildlife and newborn animals do not have the reserves to repeatedly expend in avoiding dogs.
- Addition of nitrogen to the soil.- dog poop adds significant nitrogen to the soil, which encourages the growth of non-native plants at the expense of native plants.

By Tom Chester, author of Field Guide to the Santa Rosa Plateau, Riverside County, California, published online April 2005 <http://tchester.org/srp/lists/dogs.html>

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**CANINE DISTEMPER** - “one of the most infectious diseases of domestic dogs, is highly prevalent in wild carnivores, rodents, and primates” - BMC Veterinary Research

“Toronto Wildlife Centre’s wildlife hotline received 1554 calls about raccoons perceived to be sick or injured in the fall of 2015 – a dramatic rise from the 191 calls received in the fall of 2014. TWC’s Executive Director Nathalie Karvonen attributes the extreme rise in call volume to the rapid spread of canine distemper virus in raccoon populations.” – Toronto Wildlife Centre

Diversity of susceptible hosts in canine distemper virus infection: a systematic review and data synthesis BMC Veterinary Research 12:78 Marlen Martinez-Guiterrez and Julian Ruiz-Saenz. 2016 <http://www.ncbi.nlm.nih.gov/pmc/articles/PMC4865023/>

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**WILDLIFE and WATER QUALITY** - In April, 2016, Lori Hennings reviewed over 75 publications from the scientific literature on the impacts of domestic dogs on wildlife. She concluded:

1. **Physical and temporal displacement** – The presence of dogs causes wildlife to move away, temporarily or permanently reducing the amount of available habitat in which to feed, breed and rest. Animals become less active during the day to avoid dog interactions. Furthermore, the scent of dogs repels wildlife and the effects remain after the dogs are gone.
  2. **Disturbance and stress response** – Animals are alarmed and cease their routine activities. This increases the amount of energy they use, while simultaneously reducing their opportunities to feed. Repeated stress causes long-term impacts on wildlife including reduced reproduction and growth, suppressed immune system and increased vulnerability to disease and parasites.
  3. **Human disease and water quality impacts** - Dog waste pollutes water and transmits harmful parasites and diseases to people. The average dog produces  $\frac{1}{2}$  to  $\frac{3}{4}$  pound of fecal matter each day – a hundred dogs can produce more than 500 pounds of waste per week. Pet waste as a significant contributor to one of the region’s most ubiquitous and serious pollutants, E. coli bacteria.
- People do not always take responsibility for their impacts on wildlife.
  - Several studies demonstrate that natural area visitors, including dog owners, often don’t believe they are having much of an effect on wildlife, or assign blame to different user groups rather than accepting responsibility themselves.
  - Some natural area visitors assume that when they see wildlife, it means that they are not disturbing the animals – or worse, that because they didn’t see any wildlife, they didn’t disturb any.
  - People with dogs are much more detrimental to wildlife than people alone; off-leash dogs are worse; and off-trail impacts are the highest.

By Lori Hennings, Senior Natural Resource Specialist, Portland Metro Parks and Nature <http://www.oregonmetro.gov/sites/default/files/impacts-of-dogson-wildlife-water-quality-science-review.pdf>

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## **EFFECTS OF DOGS ON WILDLIFE COMMUNITIES** - 'These findings have implications for the management of natural areas, particularly those that allow dogs to be off-leash'

Domestic dogs (*Canis familiaris*) are frequent visitors to protected areas, but little is known about how they affect wildlife communities. We studied the effects of dogs on wildlife communities by comparing the activity levels of wildlife in areas that prohibited dogs with areas that allowed dogs. We measured wildlife activity on trails and up to 200 m away from trails using five methods: (1) pellet plots, (2) track plates, (3) remote triggered cameras, (4) on-trail scat surveys, and (5) mapping prairie dog (*Cynomys ludovicianus*) burrow locations.

1. The presence of dogs along recreational trails correlated with altered patterns of habitat utilization by several species. Mule deer (*Odocoileus hemionus*) activity was significantly lower within 100 m of trails in areas that allowed dogs than in areas that prohibited dogs.
2. Small mammals, including squirrels (*Sciurus* spp.) and rabbits (*Sylvilagus* spp.), also exhibited reduced levels of activity within 50 m of trails in areas that allowed dogs when compared with areas without.
3. The density of prairie dog burrows was lower within 25 m of trails in areas that allowed dogs.
4. The presence of dogs also affected carnivore activity. Bobcat (*Felis rufus*) detections were lower in areas that allowed dogs, and red fox (*Vulpes vulpes*) detections were higher.

Lenth, Benjamin & L. Knight, Richard & E. Brennan, Mark. (2008). The Effects of Dogs on Wildlife Communities. *Natural Areas Journal*. 28. 218-227.  
10.3375/0885-8608(2008)28[218:TEODOW]2.0.CO;2.

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### Additional resources

**The bark side: domestic dogs threaten endangered species worldwide**  
<https://theconversation.com/the-bark-side-domestic-dogs-threaten-endangered-species-worldwide-76782>

**Arielle Waldstein Parsons et al. The ecological impact of humans and dogs on wildlife in protected areas in eastern North America**, *Biological Conservation* (2016). DOI: [10.1016/j.biocon.2016.09.001](https://doi.org/10.1016/j.biocon.2016.09.001)

<https://phys.org/news/2016-10-effects-dogs-humans-wildlife.html>

## **Don't Just Blame Cats, Dogs Disrupt Wildlife, Too**

<https://www.livescience.com/27330-dogs-disrupt-wildlife.html>

## **Is Wildlife Going to the Dogs? Impacts of Feral and Free-roaming Dogs on Wildlife Populations**

We believe our call for more directed studies, public outreach, and policy changes could greatly enhance the understanding of the impacts feral and free-roaming dogs may have on wildlife. Our case study suggests that efforts to conserve threatened and endangered species that do not include management actions aimed to reduce dog-wildlife interactions may be ineffective in areas where feral and free-roaming dogs occur. Man's best friend may not be wildlife's best steward.

<https://academic.oup.com/bioscience/article/61/2/125/242696>

## **Dogs' becoming major threat' to wildlife**

<https://www.bbc.com/news/science-environment-47062959>