



## Veterinarians Help Protect the Environment and Assist in Disaster Recovery

A teacher resource  
developed by the American  
Veterinary Medical  
Association  
[www.avma.org](http://www.avma.org)



### Why have a teacher guide?

*The goal of AVMA sponsored 4<sup>th</sup>-6<sup>th</sup> grade learning activities is to heighten awareness of the vital role that veterinary medicine plays in the lives of humans, animals, society, and the environment. This initiative has five objectives:*

- To teach children that there is an inseparable relationship between animals and humans
- To teach children that veterinary science makes vital contributions to our world
- To teach children that veterinary science significantly impacts their lives every day
- To interest young students in a career involving biology, mathematics, and applied science
- To promote a greater understanding of the scope of veterinary medicine

### How do veterinarians help protect the environment?

Scientists, regulators, and the public are becoming increasingly concerned about the presence and impact of emerging chemical contaminants (including pharmaceuticals, veterinary medicine residues, nanoparticles, and degradation products) and emerging persistent organic pollutants (POPs) in the environment. Veterinarians assist in protecting the environment by identifying and tracking contaminants from sources like confined animal feeding operations or fish hatcheries to prevent contaminants from polluting waterways (lakes, rivers, and streams) and ground water aquifers.

Veterinarians who work in aquatic medicine monitor changes in fish populations, research aquatic animal diseases, and assist in emergency situations such as oil spills by organizing the capture, cleanup, and release of affected wildlife in the area.

## Do veterinarians help animals in the event of a hurricane or other disaster?

Veterinarians play a critical role in caring for animals after natural and man-made disasters like Hurricane Katrina or the 2007 wildfires in California. Today, more and more emphasis is being placed upon anticipating the needs of animals *before* a disaster strikes and preparing for a potential emergency or evacuation in advance. The federal government has even mandated that states allow people to take their pets with them to shelters when there is an emergency evacuation. As a result of the *Pets Evacuation and Transportation Standards Act of 2006*, many states are now developing state animal response teams to help in disaster situations.

*The AVMA has materials to assist communities in creating disaster plans that include both people and animals. See [www.avma.org/disaster](http://www.avma.org/disaster) for more information.*

## How do veterinarians assist after a disaster?

One way veterinarians have assisted animals impacted by disasters is through the work of Veterinary Medical Assistance Teams (VMATs). Consisting of highly trained veterinarians, veterinary technicians, scientists, epidemiologists, toxicologists, and other medical and lay support personnel, these VMAT teams were created by the AVMA and have been sponsored by the [American Veterinary Medical Foundation](#) as a vehicle to respond to the needs of animals during a disaster.

## What activities can veterinarians perform in a disaster situation?

- Assessment of medical needs of animals
- Medical treatment and stabilization of animals
- Animal disease surveillance
- Zoonotic disease surveillance and public health assessment
- Technical assistance to assure food and water quality
- Biological and chemical terrorism surveillance
- Animal decontamination
- Medical treatment for working (search and rescue) dogs
- Humane euthanasia

## Glossary:

**Emerging chemical contaminants** — pharmaceuticals, veterinary medicine residues, nanoparticles, degradation products, and emerging persistent organic pollutants (POPs) in the environment

**Euthanasia** — ending an animal's life

**POPs** — persistent organic pollutants are residues and waste products that make water unsafe for humans and animals to drink and food unsafe to eat

**USDA** (*United States Department of Agriculture*) — the department of the federal government that develops and enforces policy on farming, agriculture, and food.

**VMAT** (Veterinary Medical Assistance Team) — consists of trained veterinary professionals who assist animals impacted by natural or man-made disasters

## Additional Resources:

[www.aveweb.org](http://www.aveweb.org) Alliance of Veterinarians for the Environment

[www.wildlifedisease.org](http://www.wildlifedisease.org) Wildlife Disease Association

[www.avmf.org](http://www.avmf.org) American Veterinary Medical Foundation

[www.avma.org/disaster](http://www.avma.org/disaster) American Veterinary Medical Association disaster preparedness materials

[www.in.gov/boah/pdfs/HorseSAVE.pdf](http://www.in.gov/boah/pdfs/HorseSAVE.pdf) Disaster preparedness plan

[www.epa.gov/esd/chemistry/images/303ecb04db.pdf](http://www.epa.gov/esd/chemistry/images/303ecb04db.pdf) EPA PPCPs in the environment

[http://toxics.usgs.gov/photo\\_gallery/emercont.html](http://toxics.usgs.gov/photo_gallery/emercont.html) U.S. Geological Survey of Emerging Contaminants

## Student Activities:

**4<sup>th</sup> Grade Activity Sheet:** *My Animal Disaster Preparedness Plan*: The students will create a disaster preparedness plan for their pets (or a pet they would like to have) using information from a sample plan as a guide.

**5<sup>th</sup> Grade Activity Sheet:** *The Impact of Environmental Pollutants on Animals and Humans*: The students will learn about pharmaceuticals and personal care products (PPCPs) as environmental pollutants and create a visual map of how these environmental pollutants impact animals and humans.

**6<sup>th</sup> Grade Activity Sheet:** *How Emerging Contaminants Impact the Environment*: The students will create a local city or neighborhood plan to control the impact of emerging contaminants with information from the United States Geological Survey (USGS) Web site. They will relate emerging contaminants to potential changes in local ecosystem sustainability.

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