

# Natural Pet Care

COLD RIVER VETERINARY CENTER

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## The Body Ecology

Ecology is the science of relationships between organisms and their environment.<sup>1</sup> It has been used to describe the impact of humans on their environment (*human ecology*), the impact of agricultural practices on the landscape (*agroecology*), and the living (biotic) and nonliving components of a specific environment such as *marine ecology*.

In biology, different levels of organization exist, from molecular interactions, to cell biology, to studies on a global scale, such as the spread of Avian Influenza. Ecology is one branch of the biological sciences that investigates the interdependence of organisms, their activities, and the environment.

The environment is defined as all the conditions surrounding and affecting the development of an organism.<sup>2</sup> It is comprised of non-living (abiotic) components such as climate, atmosphere, and geology, with living (biotic) members of that habitat. Ecological research seeks to understand how the environment influences organisms and how organisms influence their environment. A guiding principle of ecology is that each organism has an ongoing and continual relationship with every other element that makes up its environment.

An ecosystem is a community of organisms and their environment; its size is variable depending on what we are interested in studying. Ecology then is also the study  
(continued)

<sup>1</sup>*The American Heritage Dictionary*, Third edition, © 1994, Houghton Mifflin Co., New York.

<sup>2</sup>*Webster's New World Dictionary* © 1973, The World Publishing Co., New York.

Long-term or a sudden severe disturbance of the body's ecosystem leads to an *ecological crisis*. We can hurt as well as heal, depending on the dose and type of medicine. Broader environmental implications of medical practice are poorly understood. For example, what happens to the synthetic hormones that get excreted in urine or feces; how do they affect soil and water-borne organisms? What happens to the radioactive waste following treatment of thyroid tumors? What is the fate of millions of pounds of flea, heartworm and tick pesticides applied to pets? To what extent are synthetic antibiotic residues creating drug-resistant bacteria on farms, daycare facilities and in hospitals? How are toxic metals entering the cultivation and preparation of medicinal herbs?

**Ecology is more than a science**- it's a vision of a better world, better health, and conserving our resources. Avoiding ecological damage is everyone's responsibility. As mentioned above, ecological stability is achieved through diversity. Diversity involves understanding how to co-exist with species at every level. Co-existence means finding a balance: in our companion animals, communities, the global environment, and ourselves.

**The body is an ecological system**- it is habitat to hundreds of organisms, depends on non-living resources, and continuously must respond to its environment. Understanding the principles of ecology is one step towards seeing the interconnectedness of all creatures. And in medicine, keeping the focus on ecological stability rather than pushing the patient away from it is the route to better health.

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