

JULIE LARSEN MAMEROWICZ



Red-eyed tree frog, just one of the many species of frogs affected by Chytridiomycosis, a disease caused by *Batrachochytrium dendrobatidis*.

HUMAN GENERATED WILDLIFE CONCERNS

Animals have been used in medical research for many years. Now it is speculated that frogs from Africa that were used for human pregnancy tests in the 1930's, could have carried and spread *Batrachochytrium dendrobatidis*. This fungus is the cause of Chytridiomycosis, a disease that is a major cause of amphibian decline worldwide. This is just one example of how our use of wildlife in the past may be devastating current wildlife populations. By not being aware of wildlife disease, we may have endangered an entire group of animals. This is a testament to the need for a multidisciplinary effort that looks at relationships among wildlife, environment, and humans.

DIGGING INTO DISEASE: THE EMERGING FIELD OF CONSERVATION MEDICINE

As environmental concerns are brought to the forefront of people's interests, several science fields are coalescing in an attempt to address the relationships of ecology, environmental sciences, veterinary medicine, and human medicine. Once we start looking at the global ecosystem, it is clear that humans, animals, and the environment are inextricably linked. This is changing the

thinking from isolated issues (i.e. global warming, rainforest deforestation) to a more holistic view of how our actions are affecting both wildlife and human health. By using a multidisciplinary approach, we are better able to look at maintaining the health of our earth and its inhabitants as human population grows.

WHY ARE DOCTORS AND THE GENERAL PUBLIC CONCERNED?

Several zoonotic diseases such as SARS, West Nile Virus, and Avian Influenza, have emerged that cause us to be alarmed. These diseases have caused worldwide attention and concern. Infections can be spread from animals to humans and vice versa.

Most zoonotic illnesses can be prevented through basic sanitation and personal hygiene measures, such as washing hands with soap and water or agricultural practices, such as vaccinating animals and providing good veterinary care. However, the conditions for spreading zoonoses are increasing due to human population growth. Contact with numerous wild animals is increasing, and space shared with domestic animals is being condensed. Agricultural practices have changed, increasing human and domestic animal – wildlife interface that can result in inadvertently passing diseases to each other. Humans may be causing the growing trend of zoonoses.

"These diseases emerge because of human activities such as wildlife trade and global travel. Anytime you bring multiple species of animals together at high density and mix them with humans, you're setting the stage for pathogens to jump between species and for an outbreak to occur." - Dr. Peter Daszak (http://www.wildlifetrust.org/news/2005/0929_1_SARS.htm)

CONSERVATION EFFORTS

"Wildlife populations can act as buffers against the spread of disease as well as sources for its emergence. Through providing a better understanding of how pathogens move among species, the field of Conservation Medicine gives us the tools we need to maintain healthy ecosystems that protect people and wildlife." - Dr. Pearl (http://www.wildlifetrust.org/news/2005/0929_1_SARS.htm)

Conservation medicine may continue to see growth and importance not only in saving our environment, but also in saving our own health. Many organizations are working to incorporate this field in their efforts. The Wildlife Conservation Society (WCS) has a Field Veterinary Program dedicated to protecting wildlife due to human driven environmental impacts. The program seeks out wildlife that are not the focus of any other efforts. They are making a difference by:

1. Building local capacity to care for and protect the health of wildlife worldwide,
2. Gathering and applying critically needed information to protect the health of wildlife, people, and domestic animals, and
3. Promoting policies, guidelines, and best practices to ensure a healthy planet."

(http://www.wcs.org/sw-igh_tech_tools/wildlifehealthscience/fvp)

Conservation efforts are no longer just focused on saving wildlife. In 2003, WCS spearheaded the creation of the program Animal Health for the Environment And Development (AHEAD) with The World Conservation Union (IUCN) Veterinary Specialist Group (VSG) and other partners. Specifically, this program aims to develop proper conservation efforts where development is leading to negative interactions of wildlife and agriculture animals. This is focused on using the multidisciplinary, holistic approach to tackle the "triangle of wildlife health, domestic animal health, and human health." (<http://www.wcs-ahead.org/>)

By realizing that our health is linked to the health of our global ecosystem, we can begin to look at our responsibilities to our environment. Our conservation efforts now will govern our health and environment in the future.



AHEAD - Animal Health for the Environment and Development

Logo for the group showing connection of wildlife, domestic animals, and people within an ecosystem.

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National Programs Staff

Ann Robinson

Director of National Programs

Jennell Ives

Assistant Director of National Programs

Jennifer Hewson

Teacher Trainer

Shellye Valauskas

Teacher Trainer

Judith Unis

Project PRISM Coordinator

Call 718.220.7755 or 1.800.937.5131 for more information on teacher institutes and educational materials.

Visit our web site at bronxzo.com/bz-education or e-mail jives@wcs.org