

Current Event Assignment: Example (scroll down to see the 2nd page)

Victimized vultures

Politics and banned drug combine to doom large scavengers

FROM THE UNIVERSITY OF MICHIGAN

Captive breeding colonies of a critically endangered vulture, whose numbers in the wild have dwindled from tens of millions to a few thousand, are too small to protect the species from extinction, a University of Michigan analysis shows.

Adding wild birds to the captive colonies, in Pakistan and India, is crucial, but political and logistical barriers are hampering efforts, says lead author Jeff A. Johnson in a study published online in the journal *Biological Conservation*.

With a 7-foot wingspan, the oriental white-backed vulture (*Gyps bengalensis*) was an awesome presence in south Asia until the mid-1990s, when populations began to collapse. At first the cause was unclear, but researchers eventually zeroed in on an anti-inflammatory drug, diclofenac, that is used to alleviate arthritis-like symptoms in livestock but is toxic to vultures.

Vultures that feed on carcasses of animals treated with the drug die of kidney failure within a day or two after eating the tainted meat. And although India, Nepal and Pakistan outlawed its manufacture in 2006, diclofenac is still available, and birds are still dying.

While the death of an unattractive bird that scavenges for a living may not sound like a great loss, vultures

have important cultural and religious significance in south Asia. The ancient Parsi religion holds earth, fire and water sacred, and to avoid contaminating them, the Parsis dispose of their dead by placing them on "Towers of Silence," where vultures consume the remains. In addition, the vulture saint Jatayu is an important figure in Hindu religion.

The absence of vultures poses a direct threat to public health as well, as uneaten livestock carcasses provide breeding grounds for bacteria and attract feral dogs, which may spread rabies and other diseases.

When any large population crashes, as the vultures have, the amount of genetic diversity in the population also is likely to dwindle. This is a concern, Johnson said, because a population's genetic diversity reflects its ability to adapt to environmental challenges such as changing climate or outbreaks of disease. Without the ability to adapt, populations and whole species may become extinct.

Johnson and co-workers used museum specimens collected before the decline began, along with recent feather and tissue samples, from birds in Pakistan's last remaining wild breeding colony, to see how genetic diversity in the wild population has changed as the population has plummeted. Then, assuming

captive populations of various sizes, they used computer simulations to determine how large captive populations must be to preserve genetic diversity.

The analysis showed that, while there was still a fair amount of genetic diversity in the wild population two years ago when their last samples were obtained, current captive populations are not large enough to maintain that diversity if the wild populations are wiped out — a fate that seems inevitable if people keep using diclofenac. The simulation results also suggest that levels of genetic diversity in the wild may already be in decline.

"We know the problem, and we know the solution," said Johnson, who was an assistant research scientist at the University of Michigan when the research was done and recently accepted a position as an assistant professor at the University of North Texas in Denton. "We just need to get diclofenac out of the environment and more birds into protection before it is too late."

The Peregrine Fund, an organization that works to conserve birds of prey in nature, is trying to prevent the birds' extinction, but it's an effort that requires money and international cooperation, both of which can be problematic in the vultures' home countries.

"One of my goals with this paper," Johnson said, "is to raise awareness of the problem and to increase political will in India and Pakistan to get this matter resolved."

Created by: Mr. Golub

Title of the article

Heading

Name #
Current Events-5G
10/1/08

Victimized Vultures: Politics and banned drug combine to doom large scavengers

Where

Who

Research scientists at the **University of Michigan** were able to investigate how the genetic diversity of the **oriental white-backed vulture** has changed over time. Genetic diversity of a species refers to how the population adapts to environmental changes such as climate and disease, over time. Museum specimens of vultures in the wild were compared to feather and tissue samples of vultures in captive colonies. The results were alarming. They showed that the birds in current captive colonies are not large enough to

Why/How

maintain diversity if the birds in the wild become extinct. Vultures in the wild, **feed off animal carcasses that have been treated with the anti-inflammatory drug diclofenac.** This

When

What

drug (which is toxic to vultures) has caused the population to decline **since the 1990s.** In order to **prevent extinction,** scientists need to add more wild vultures to existing captive colonies. Politics and drugs, however, are hampering their efforts.

Notice: the space between paragraphs is no different than the space between other sentences

Paragraph two requirements

In my opinion, it is extremely important to raise public awareness of this problem. If countries continue to allow the use of drugs (such as diclofenac), and refuse to increase political will, the oriental white-back vulture will become extinct. Maybe if scientists publish their research on this topic in more popular magazines, more people will become aware of how they can get involved. The internet would also be a great vehicle for spreading the word.

Paragraph three requirements

I chose this article because I am interested in birds of all types, and the pictures caught my attention. **This topic is important because** preventing the birds' extinction can help to stabilize a valuable ecosystem (and save other species in the process). We can do our part by continuing the efforts that are being made to raise awareness on this important issue. **This topic is relevant to me because** I believe in the conservation of birds of prey in nature.