Arizona's Raptor Experience, LLC

April 2018

~Newsletter~

Greetings from Chino Valley!

We hope you are well and enjoying the first spring-like days of the season. The sun is out, the birds are singing and a few flowers have begun to bloom.

Although the old saying "April showers bring May flowers" will apply in some places, here in AZ we probably won't see rain again until July when the monsoon season returns. This can be particularly difficult for wildlife and we do not always consider the many ways in which they are tied to water.

In this issue our focus will be on birds of prey and water…from drinking, to bathing, eating and more! We hope you enjoy it.

Leopold

Bald Eagle

Fish-eating member of the sea eagle group.

Photo by Jackie Klieger

The Importance of Water in the Lives of Raptors…

Food and Habitat – eagles, owls and hawks

A whole family of eagles, known as sea eagles and fish-eagles, live near bodies of water and exist on a diet comprised primarily of fish. There are ten species in this group, including our national symbol, the Bald Eagle. This widespread and varied family of eagles can be found on every continent except South America and Antarctica.

There are also four kinds fish-eating owls, including Blakiston's Fish Owl, the largest living species of owl. These birds are native to east, south and southeast Asia.

Although many species of raptors have been documented feeding on fish, it remains a tiny percentage of the diet of birds like Red-tailed Hawks, Peregrine Falcons, etc. and rarely occurs. The Osprey is the only hawk-like bird that lives near water and feeds exclusively on fish.

Osprey

Photo by Bob Walker, Syracuse, NY

Water-borne Disease

Avian cholera is a bacterial disease that most commonly infects birds that ingest the bacteria from the environment (including bodies of water) or by feeding on the carcasses of diseased birds. Waterfowl tend to be the largest group affected. Birds of prey are infected and often die when scavenging on diseased waterfowl carcasses.

Water Balance in Birds of Prey - Nasal Secretions

Anyone who spends enough time observing birds of prey will notice that when they eat, they secrete a liquid from their nares. This liquid comes from the nasal gland, also known as a salt gland, and serves to help them balance salt in their body.

Birds have a primitive type of kidney which can secrete some salt, but is quite poor at it. The ability to process salt varies between species, and seems to be linked to habitat, particularly marine environment and drought conditions. To compensate for the kidneys, birds possess a nasal or salt gland. Although the nasal gland is present in all birds, it is functional only in those species that are regularly exposed to salt in their diet. In birds that regularly eat a diet high in salt or drink salt solutions, the nasal glands increase in size. The only land birds with active nasal glands are some desert species such as the ostrich, and many birds of prey.

Nasal glands are able to excrete salt in high concentrations, about ten times as high as kidneys are able to. This enables all seabirds to eat fish, crustaceans and even plankton, and to drink seawater.

The nasal gland is only active when it is needed to eliminate salt. It always excretes salt in high concentration, and so wastes very little water in doing so. In contrast, a kidney will need three pints of fresh water to eliminate salt from one pint of seawater.

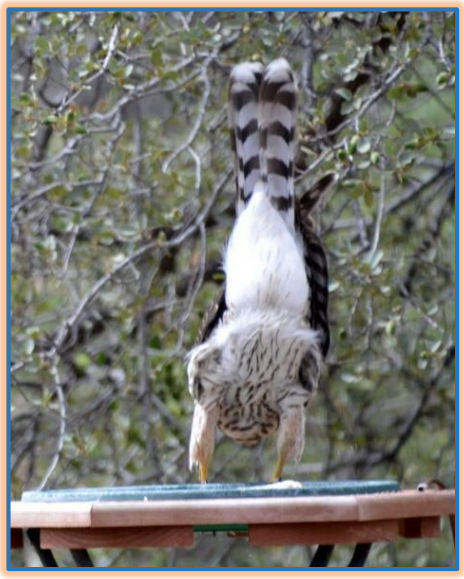
The Impact of Drought

Along with neighboring states, Arizona has been in a drought for many years. The effects on some wildlife species are more noticeable than others – we have seen pronghorn in many new places this year, in people's yards and closer to the roads in search of water and food.

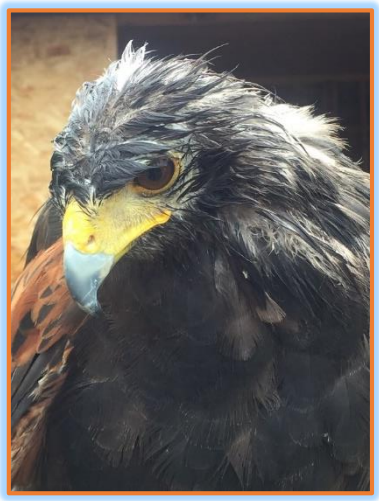
The impacts on birds of prey may not be as obvious, but they can be devastating. At the top of the food chain, raptors are impacted as the lack of water has a domino effect on the rest of the ecosystem. Little rain leads to a decrease in vegetation, which results in fewer insects, mice, other rodents, small birds and rabbits – all important sources of food for raptors. Lack of food leads to a decrease in nesting success, and in some cases eggs and young are abandoned by parents that will save themselves to breed again in the future. Some may choose not to nest at all.

Water-based raptors like Bald Eagles and Osprey may be the most impacted because they eat fish and when rivers, streams and lakes dry up, their food source is directly impacted. Parents have to work harder and go farther to get food for the young. Consequently, they have smaller clutches, fewer numbers of eggs hatch and fewer babies from the group of eggs survive.

Drought has affected the states of Utah, Arizona, Colorado, Texas and New Mexico to the point where the number of birds of prey seen along migration routes has dropped, in some cases significantly. Some are even noticing a decrease in birds well adapted to urban environments. Local birds can benefit from bird baths in your yard, like the Cooper's Hawk pictured below drinking from a bird bath in our neighbor's yard. Thanks to our friend Pat Azlin for sharing her photos!



Water and Captive Raptors



Enclosures for captive raptors should include a weathering area where birds can choose to sit in the rain, snow, sun, etc. or not. In our experience, the birds typically love to sit in the rain, often opening their wings and flapping to get a full shower!

Coda (Harris's Hawk) is pictured here after a brief rain shower.

In addition, enclosures must include a bath pan for drinking water and be large enough for a bath! Andromeda (Eurasian Eagle Owl) is really enjoying herself!

Little Charlie (American Kestrel) chooses to take his bath about once a week.

Although the birds get most of their water from their food, they do drink water as well. It's interesting to note that the body of a mouse is approximately **65% water**!

Guest photo:

Osprey

By

Bob Walker, Syracuse, NY