



Arizona's Nongame News

Nongame and Endangered Wildlife Program
Arizona Game and Fish Department

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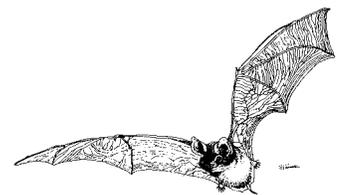
A resident of the flood control structure at 40th Street and Camelback Road in Phoenix, this juvenile male western pipistrelle was found exhausted one morning at the doorstep of a nearby business. After rehabbing for two days, he was released successfully near the tunnel.

Bats Galore!

The next time you're in Phoenix take a walk on the wild side to see one of Arizona's 28 native bat species! It's estimated that more than 5,000 Mexican free-tailed bats live in the Arizona Canal Diversion Channel at 40th Street, just north of Camelback Road. Bats occupy this "tunnel" during their maternity season, from spring through late summer. These bats sleep during the day, and become active at dusk, exiting several minutes before sunset to forage for insects. If you observe from the footpath by the canal, you will be able to watch them exit and fly off to the east.

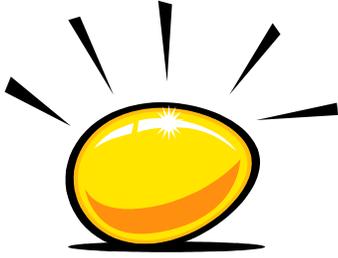
The Flood Control District of Maricopa County is happy to host this colony of bats, and is committed to being a steward of their environment in cooperation with the Arizona Game and Fish Department. Exit counts conducted in September found over 5,000 bats at this tunnel. You may be able to hear them inside the tunnel – and you may even be able to smell them! Mexican free-tailed bats have a distinctive odor that comes from the same compound that gives beer and taco shells their smell.

If you would like more information on Arizona's bats, ways to safely welcome or exclude bats from your home, or how to help bats in your area, please contact the Department's Bat Project at bats@gf.state.az.us or 602-789-3529.



Western Pipistrelle Bat

The "smallest bat in Arizona" award goes to the western pipistrelle, weighing in at 3 - 6 grams (0.1-0.2 ozs). Primarily a desert species, it inhabits a variety of habitats from rocky canyons, cliffs and outcroppings to creosote flats. During the day, these bats prefer to roost in rock crevices, but may roost in mines, buildings, animal burrows or beneath rocks. Western pipistrelles tend to roost singly or in small groups, with small maternity colonies (about 12 individuals). This bat begins foraging before sunset and can be seen well after dawn. Their fluttery, weak flight and size make them susceptible to wind – a slight breeze can bring these bats to a standstill, and a stronger wind may cause them to seek shelter. Prey items include caddisflies, moths, small beetles, flies, mosquitoes, ants, and wasps. Their distribution is from southern Washington to Arizona in the United States, and south into Mexico. Twins are born in June or July, after a gestation period of 40 days. Newborn pipistrelle bats weigh less than 1 gram; a bit less than a plain M&M!



Baby Condor Hatches

It's smaller than an ostrich egg and bigger than a goose egg...what is it? It's the California condor egg. Born in a remote cave, Arizona's only reintroduced wild-hatched condor has been closely watched since it was first observed last spring. We anticipate fledging sometime in mid to late October. Since first confirming the chick's presence, the condor field crew monitors the site daily – not an easy task! All reports indicate the chick gets fed about every other day, and is a very active youngster that is doing "great" at around 18 to 20 weeks old.

The news in Arizona looks very good for re-released condors. Two condors that had been treated at The Phoenix Zoo for lead exposure were released and are doing well back in the wild.

Bat Registration?

In keeping with their boat registration procedures, the Region IV office in Yuma began issuing AZ numbers to bats along the lower Colorado River – yes, bats! They use tattoo pliers to apply a unique number to the wing of each bat caught during long-term monitoring surveys. This will hopefully provide a permanent mark for identification of individuals during subsequent surveys to better understand and manage these important members of the ecosystem.

Several years earlier, 300 bats were tattooed at one monitoring site, but thus far only one recaptured bat has appeared in surveys at the same location. This raises questions of whether we are dealing with a huge population of bats at some sites, whether the bats have low site fidelity, high mortality rates, or whether the tattoos affect survival.



Another possibility is that bats may avoid survey sites as a result of their capture experience. We hope that this mark-recapture experiment at bat registration will begin to provide some answers.

Nongame Commission Orders Ready For Approval

In May 2003, the Department began its annual review of Commission Orders 25 (Raptor Capture), 41 (Amphibians), 42 (Crustaceans & Mollusks), and 43 (Reptiles). After internal and external review, the final draft of the Commission Orders are ready to be presented at the Arizona Game and Fish Commission meeting. The public can provide further comment at the October 18 Meeting in Phoenix. Recommended changes for the 2004 Hunt Seasons are:

Commission Order 25 (Raptor Capture)

1. Addition of the western screech owl to the list of species permitted for take for falconry purposes.

Commission Order 41 (Amphibians)

1. No substantive changes.

Commission Order 42 (Crustaceans & Mollusks)

1. No substantive changes.

Commission Order 43 (Reptiles)

1. Addition of milksnakes to the list of closed-season species for Cochise County only.



Funding for the activities described in this newsletter is from several sources: The Heritage Fund, Nongame Checkoff, Donations, Grants, and Sportfish and Wildlife Restoration Funds.

Thank You Sierra Club!

The Nongame and Endangered Wildlife Program is indebted to the many volunteers and contributors that generously give their time or money for wildlife resources. Recently, members of the Sierra Club Wildlife Committee contributed money toward the black-footed ferret project. Donations are an invaluable means to purchase much needed equipment and supplies. This donation was used to purchase handheld spotlights used to track ferrets during nighttime monitoring surveys.



Bat Echo Imaging

Do bats have eyes? They do. But even more amazing is the wonderfully complex echo system that helps bats orient. Early experiments found that bats with tubes implanted in their ears could not fly. Equally intriguing was the fact that small muzzles fitted on the bats likewise prevented them from emitting high frequency sounds – and flying.

Observations like this led to the discovery of echolocation. Echolocating animals can not only determine the location of an echo source, but they can also perceive its size, form, and surface texture! The echo imaging system consists of two main components, a transmitter and a receiver: or larynx and the bats two ears and associated neural systems. This complex system has allowed bats to successfully become independent of sunlight as a medium for perceiving their world.

Most bat vocalizations are ultrasound, at a frequency above 20 kHz, the upper limit of human hearing. While some other small mammals can produce ultrasound vocalizations, only bats use it as an aid to orientation. Of the 900 species of bats in the world, about 750 use echolocation. Oh – and they don't fly into your hair. I did hear of a fisherman that had a bat go after a bug attracted to his headlamp while he was tying on a fly. So much for that tale!

A Dedication

If you are an avid reader, there are likely to be several piles of books near your favorite reading spot. The curious among us probably have read the dedication and wondered about the significance that person has had in the author's life. On July 29th, 2003, we experienced that significance as a "once in lifetime" book dedication unfolded during our staff meeting. The Nongame and Endangered Wildlife Program Chief Terry Johnson, was as surprised as we were when the founder of Preserve Arizona's Wolves (PAWS), Bobbie Holaday, entered the meeting room with an advanced copy of her new book ***Return of the Mexican Gray Wolf – Back to the Blue***. And even better, she graciously read the dedication: "To Terry, who made it happen."



On behalf of your staff, peers, and those that now know...congratulations, Terry, for living a life dedicated to conserving threatened and endangered animals in the wild, and working to ensure that Arizona's rich diversity is there for future generations.

A Summer Intern's Encounter with the Sonora Tiger Salamander

We thought you would enjoy reading this account written by one of our summer interns.

When starting as a summer intern for the Department, I wasn't quite sure what to expect. While I knew that I would primarily be working with the invertebrate section, I didn't quite realize that I would be strapping on chest waders and mucking my way through "cow ponds" in the San Rafael Valley.

When I first looked upon the cow pond (or cattle tank), I was, perhaps, less than anxious to plunge in. The aroma rising from the pond did little to encourage me! However, I was there to seine the tank in hopes of finding Sonora tiger salamanders. We mapped tanks that supported the salamander to comply with the recovery plan for the salamanders. While the first tank we sampled did not turn up any salamanders, it did yield an estimated 11,000 bullfrog tadpoles! Due to the fact that bullfrogs are not native to Arizona and are a threat to the Sonora tiger salamander - we eradicated the tadpoles. Bullfrogs are known to travel from one tank to another, so while we did not find any salamanders in this first tank, we helped lessen the threat of the tadpoles later turning into bullfrogs and traveling to a tank that does contain the federally-listed endangered salamander.

As our efforts continued at other tanks, we did discover salamanders. At the end of my trip to the San Rafael Valley, I was no longer disgusted by cow ponds because I knew then the very special animal that call these ponds home: the Sonora tiger salamander.

Note: Summer Internships are short-term work opportunities for students attending Arizona's universities. These positions offer a person the chance to work with Department staff and see whether they are cut out for the misadventures of fieldwork.

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