

Arizona Wildlife Podcast

Transcript: Episode 1 – Arizona’s Diversity

(Please note: this podcast was recorded live from a public presentation. It was not a rehearsed speech. This transcript attempts to capture the dialogue as it was spoken. At times when the speech was difficult to hear or understand, a good effort was made. These rare cases are noted in the text.)

The content for this episode came from the training day at the 2008 National Envirothon competition. It was originally recorded on July 29, 2008, outdoors at the Flagstaff Arboretum. It consisted of Arizona Game and Fish Department employees providing background information about some of the wildlife and wildlife issues found in the state. It concluded with a question and answer session by the students participating in the competition.

Listen as Sam Huselton, a Department educator, describes some of the amazing diversity found in Arizona. Kellie Tharp and Eric Proctor, also Department educators, help Sam answer questions at the end.

SAM:

Now Arizona is a very unique state. We have several different types of habitats here. We go from the deserts all the way up to the Alpine Tundra. We are the only state that has four different types of deserts. We have the Great Basin Desert, where it is just a cold desert and it is found in the northern part of the state. And deserts are based on rainfall and the amount of evaporation that occurs there. Areas do get a certain amount of rainfall but they’re not considered deserts. The other deserts that we have is the Mojave Desert, that’s the one that’s near the California border. We have the Sonoran Desert, which is the typical desert you think of in Arizona with the saguaro cactus. And then we have the Chihuahuan Desert, which is found in the southeast part of the state.

Above some of our deserts in elevation we have an area called chaparral. There those plants grow very thick, they’re very leathery, and they’re usually controlled by fire. Arizona and California are very well known for having chaparral.

Above the chaparral is an area called pinyon-juniper. Those are smaller pine trees usually associated with a grassland. Above the pinyon-juniper is the ponderosa pine forest. Arizona has one of the largest continuous ponderosa pine forests in the world. Above the ponderosa pine forests we have an area called spruce fir. Up there, those pine trees grow very thick; they grow very dense; they get a lot of snow in those areas. It’s usually very, very cold. We even have two places in the state where there is tundra. So we go all the way from the deserts up to tundra.

So, those are some of the habitats that we have.

Because we have a large range of habitats a lot of animals like to call Arizona home. We have a large variety of wildlife that live here. Arizona has thirteen different species of rattlesnakes. That’s more than anywhere in the United States. Next to Texas, we have the most bat species, with twenty-eight. Arizona also has seventeen species of hummingbirds. So, we do have a wide variety of animals because we do have that wide variety of habitat.

We have a lot of behavioral adaptations that animals have to survive here. In the deserts, the animals have to be able to adapt to that extreme heat and they do something called estivation. Some animals will go underground, usually during the heat, and they will stay down there until the summer rains come in the desert, and then they will come out. It's like a summer form of hibernation.

We do have animals that do hibernate.

We have animals that are nocturnal - active at night like great horned owls and skunks. We have our diurnal animals - a lot of animals that are active during the day. Plus we have animals that are crepuscular - animals that are active at sunrise, active at sunset. A lot of rabbits tend to be that way.

During the heat of the summer, we'll have animals that will switch from being diurnal to being nocturnal. It's just too hot for them to be out during the day so they become active at night. So they actually will switch their behavior for survival.

A lot of these behaviors...we have migration of course. We'll have large animals that migrate. We have the birds that migrate. We have a lot of animals that migrate elevationally. Elk tend to do that. Elk in Arizona in the summer time are going to stay in the high country, as the snows come they start to move down, just like most areas. So they will migrate elevationally as a behavioral adaptation.

A lot of animals will burrow. That's another behavior that they have. That is a behavioral adaptation.

We have a lot of animals that have great physical adaptations that allow them to survive. In Arizona, especially in the deserts, our animals tend to be smaller. If you have a smaller body size it's easier to dissipate heat. It's called the Bergmann's rule. If you're a large animal and you want to live in the cold country because it's easier to hold that body mass, keep that heat in. So, if you find a raccoon here in Arizona, it's going to be much smaller than a raccoon you would find up in Minnesota.

Animals also have their adaptations as far as their skull structure - what they like to eat. Okay, they're going to have...You're going to look at their facial structure; you're going to look at the teeth structure; you're going to know if they're a mammal, an herbivore, or if they are a carnivore.

You have animals with claws. Claws are used for a variety of different things. You have birds of prey that use their claws to grab their prey. You have woodpeckers that use their claws so that they can hang up on, hang on trees. You'll have bears, they have the tremendous claws. They don't use that so much for defense, but they use that so that they can get under logs, push things over, scratch around, find stuff to eat.

And animals have a unique way of maintaining water. We have an animal that lives in Arizona, called a kangaroo rat. Guy never drinks water. He has the ability to get the water that he needs from all the seeds that he eats. And that's one of the special adaptations that some of our animals in Arizona have.

Some animals will pant. Birds are very good at panting. They will do something called a gular flutter. Where this will...just like your dog panting. They're kind of cooling themselves down. Plus they've learned to go stand in the water. It cools down. They've got big blood vessels in their...in their legs so as they stand they can cool down, dissipate the heat. They will also bring their feathers much closer. When it's hot out they're going to pull the feathers in because that helps reduce that body mass, helps reduce that air space so that they don't have insulation. When they're cold they fluff up, when they're hot they're going to smooth down those feathers to help them release the heat.

Coloration is a good adaptation that animals have. Some of them have camouflage some of them have warning colors.

So those are some adaptations. You've got to look at physical adaptations and behavioral adaptations. And there's a large variety for both in the state of Arizona.

STUDENT QUESTION:

How much rainfall classifies a desert?

SAM:

Ten inches.

ERIC:

Ten inches or less.

SAM:

I think it's about ten inches or less. I'm not positive on that.

ERIC:

But there are areas that get ten inches that aren't consider deserts because it does have to do with that evaporation rate - how quickly it evaporates as well as transpires.

SAM:

Yeah.

STUDENT QUESTION:

Can you review the four different regions again?

ERIC:

The four different...deserts?

STUDENT:

Habitats?

SAM:

The four different deserts?

STUDENT:

Yes.

ERIC:

There are four deserts. The Great Basin Desert.

SAM:

That's a cold desert.

ERIC:

Yeah, it's actually a cold desert. Not all deserts are hot. Desert is defined more by...

SAM:
Rainfall

ERIC:
Rainfall, and its relation to transpiration and evaporation. So, the Great Basin Desert. The Sonoran Desert, which is probably the one that Arizona's most known for.

SAM:
That's the highest desert.

ERIC:
The Chihuahuan Desert.

STUDENT:
Try spelling that!

KELLIE:
I'm not spelling it.

ERIC:
Just like Chihuahua...

SAM:
Cha-hua-hua

ERIC:
Just like Chihuahua, basically. And then the Mojave Desert. And those are the only four deserts found in North America and they are all found in Arizona.

STUDENT QUESTION:
Now what was estivation?

KELLIE:
That's summer time hibernation for reptiles. So it's more like when the desert tortoise burrows underground and they're spending some time when it's really hot getting out of the heat.

SAM:
Some mammals will do that also.

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Thank you.