

Arizona Wildlife Podcast

Transcript: Episode 19 – Bald Eagle History and Evolution

(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 bald eagle banding overview presentation that took place at the Arizona Game and Fish Headquarters in Phoenix on March 12, 2009. It was part of the Arizona Game and Fish Department's Homeschool outreach program.

Listen as Kenneth "Tuk" Jacobson, the Department's bald eagle management coordinator briefly discusses the evolution of raptors and the history of bald eagles in the United States and Arizona. Following the live recording, the audio was edited and Eric Proctor, a Department educator, interjected appropriate questions to link the content.

ERIC:

How are bald eagles related to golden eagles and other raptors?

KENNETH:

There was a...a kind of a split as far as birds of prey went about 36-58 million years ago. Whereas, uh, your...your hawks, your falcons, your harriers, your golden eagles are all off on...on one side of that fork, and bald eagles are kind of off on the other side. They're actually closer related to some of your Old World vultures and other sea eagles. So they're kind of unique in that aspect. They're a different branch. They...they act differently. And...and are much more different than the other hawks and, uh, golden eagles that you see here in Arizona.

ERIC:

Wow! So they are actually quite different than golden eagles. That's interesting! Now I know eagles have been in the United States for a while. They are our official national symbol, after all. But how long have they been here?

KENNETH:

Uh, the history of bald eagles here in North America: the first known records were about, you know, six hundred, seven hundred thousand years ago. Uh, there's remains of an eagle found in a cave in...in Colorado and that's where they have dated that individual. Back at the time when the US was settled by Euro...Europeans, we estimated the population at 250,000-500,000 individuals. There was...there was a lot of bald eagles all over the place.

Since that time, there was dramatic declines in the eagle population due to all of these things:

1. Declining prey base. Uh buffalo herds, bison herds – as those diminished, the eagles fed very prominently on dead animals in those herds, especially during the winter time.
2. There was poisoning. A lot of that came from, uh, intentional poisonings that were targeted towards coyotes and wolves and...and trying to get...keep those predators off of livestock operations. As a result, though, the way they did that is they would use meat. The eagles

themselves would go after that and end up getting poisoned in the process. We lost a lot of birds in that respect.

3. Uh, just...just humans moving into area. Development. Uh, habitat was lost.
4. But, uh, the real nail in the coffin for them was the use of DDT. DDT was used as a pesticide. It was a very effective pesticide. Great! We thought it was wonderful. And then several years after using it, we started to see that raptor populations were starting to decrease. And what was happening is that DDT was...was getting into the food...the food system for eagles. It was getting into the water systems. Fish were absorbing and eating up this chemical, and the fish...the eagles were eating these fish. Over time it would start to accumulate in their bodies to a point where it started affecting the eggs. The eggs would get thin enough where they...the moisture in those eggs would dry out, causing the egg itself to, uh, no longer be able to hatch. And also those thin shells made it so they were very susceptible to being cracked and broken before they were able to hatch on their own.

So, back in 2007, Fish and Wildlife Service delisted the bald eagle throughout the continental U.S. They were never listed in Alaska because there's always been a ton of them there, and they were not listed in Hawaii because they don't exist there. But our populations in 2007 were up to just under 10,000 birds. Back when they were first listed, they were...they were down to just a few hundred nesting pairs. So, it's been quite an increase.

Specifically here in Arizona, our first reports of eagles was by a guy named Alexander Mearns, uh, in 1890. He found a bald eagle nest and...and documented a bald eagle nest at Stoneman Lake. Then, forty years later, the 1930s, when they started building the dams right here around Phoenix, they found their first two, uh, pairs of bald eagles nesting in the desert, in a desert environment. These two nest sites that were found in the 1930s have been active or occupied, at least off and on, since. They're still in existence today. One of these nest is our, uh, biggest nest in the state. It was built in a...in a crack on a cliff, and there's...the crack itself was several feet deep. Over the last, uh, eighty years or so...that nest, year after year, they've built on it. Now that nest goes all the way up to the top of...of the cliff ledge there and it's about, uh, fifteen feet deep from the bottom of it to the top.

So, since those 1930s, uh, little was known about eagles; uh, very little data was collected. By 1971 you can see, we...we still only knew of three nests. Um, at that point, that's when we started getting concerned about eagle populations, concerned about the levels being low. And by 1978 they were listed on the Endangered Species Act as endangered. From 1978 on, we really started working hard on learning about eagles here in Arizona as well as nationwide. And a lot of that growth that you see between '78 and...and 1990 or so is due to us actually actively looking for information on eagles. A lot of those nest sites were in existence, uh, long before we knew it. After about 1990, we believe we had a good...a good handle on what was...what was in existence. And the growth beyond there is due to actual growth in the population not just our survey efforts. In 1995, uh, they were downlisted, still protected by the Endangered Species Act, but downlisted to threatened status. And then in 2007, and as I had mentioned earlier, they were actually delisted from the Endangered Species Act.

Arizona is a...in a...in a little different place as far as...as the rest of the nation on this...on this topic. The Fish and Wildlife Service was sued by the Maricopa Audubon Society and Center for Biological Diversity on their decisions to, uh, delist the eagle here in Arizona and their responses to a petition that they had...had...had put forth to the Fish and Wildlife Service. As a result of that lawsuit, the judge ordered that the bald eagles in Arizona be treated as a distinct population segment as well as be protected on the Endangered Species Act, uh, as threatened, pending a 12-month review. And so, actually, the birds here in Arizona, at least the ones south of the Mogollon Rim are protected by the Endangered Species Act still. Right now, we're in that interim period pending, uh, official 12-month review that the Fish and

Wildlife Service is due to give by October of this year. So, in October, we'll find out what the final designation, at least at this point forward, for the eagles are in Arizona.

ERIC:

Will any protections still be in place if the Arizona population is removed from the Endangered Species list?

KENNETH:

There are multiple federal laws that protect the bald eagles if Arizona does get removed from the Endangered Species Act protection. The Fish and Wildlife Service has updated and upgraded the Bald and Golden Eagle Protection Act, which, uh, provides bald eagles, and golden eagles, much of the same protections on the nest sites, on their...their productivity, uh protections against disturbance while they're breeding, much of those same protections that the Endangered Species Act gave the bird. So there is a mechanism to keep those populations here in Arizona protected. Ultimately, we want to fledge these birds and have as many bald eagles as possible out in the wild so you guys can see them when you're out there also.

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Thank you.