Arizona Wildlife Podcast

Transcript: Episode 20 – Bald Eagle Management

(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 describes why the management of eagles is important and some common strategies used in Arizona to help these birds. Following the live recording, the audio was edited to link the content.

KENNETH:
Why do we need to manage bald eagles here in Arizona? Ah. Well, there's many, many, many reasons.

Arizona is a desert state and water resources are limited. People want to be there just as much as the eagles do. And so we've got to, you know, actively manage the, uh, the recreation pressures and…and be able to meet those needs of the people as well as meet the needs of the eagles and still allow them to produce…produce young on a yearly basis. You've got an increasing demand for water. If, uh, we dry up these lakes and these rivers the eagles aren't going to be able to, uh, produce young any longer. As well as many other things that, uh, I could go into detail but I'll spare you.

Given that there was a need identified for managing bald eagles in Arizona, in 1984, they, uh, formed the Southwestern Bald Eagle Management Committee. Uh, this is a committee of, now, twenty-three members consisting of, uh, state, private, federal, tribal entities that all work together and meet twice a year in order to basically discuss what's going on with the eagle population, what are issues that we can address, what are things that we can do. Our common goal for this group is basically the conservation and promoting of the bald eagle population here in Arizona. Since 1991, they passed the charge of the actual implementation of, uh, the bald eagle management – all the on-the-ground work – they had passed that on to the Game and Fish Department in 1991, and we've been running and implementing the, uh, management program since. We are the chair of the Southwestern Bald Eagle Management Committee, we run the nestwatch…the bald eagle nestwatch program, we have a yearly nest search, visual identification and banding projects, winter count, occupancy and reproductive assessment flights, as well as monitoring, uh, heavy metals within the breeding areas and their effects on the birds. This is a list of our main projects, our main focuses for the bald eagle management program.

So, now I'm going to talk about some of those projects in a little bit of detail.

The bald eagle winter count. Actually it's bigger than Arizona itself. All of the western states get together on a two-week period in January and during that two weeks all the states will go out and do a survey of all the habitat that they can and they conduct standardized surveys. That way they're able to look at the big picture of bald eagles across its entire range. During the winter time, you've got wintering birds, you've got breeding birds (at least here in Arizona breeding birds), and it gets us an idea of how the population as

a whole is doing. It also helps us identify important wintering areas and any management needs for, uh, protecting those wintering areas. It is a national coordination. Here in Arizona it is coordinated by the Game and Fish Department but we have many sites that are…are monitored and surveyed on a yearly basis by volunteers. For those sites that are in the rugged areas of the state, such as our rivers and canyons, we do do our surveys by helicopter. Helicopter time is donated by Salt River Project and Bureau of Reclamation. So, what…what we've found here in Arizona is, on average, we've got about 320 bald eagles here in the winter. Uh, some of those are breeding birds. Some of those are birds that have fledged here and not…not old enough to breed themselves yet. And some of them are birds from northern latitudes that are just down here using our mild winters to stay for the winter. And, similar to the rest of the nation we find that here in Arizona that we've got about 65% of those birds are adults and 32% are subadults or…subadults are basically birds four years or under, they haven't quite reached the point where they've got the full white head and full white tail.

I mentioned those birds from northern latitudes. Where are those birds coming from? Most…a lot of them, the ones that are spending their time here in Arizona are coming from Canada. Uh, they're flying long distances to come here. I would, uh…looking at this migration pattern you…what you're probably having is those far northern birds jumping the…the…the bald eagles in the central-northern part of the United States and those one in the northern part of the United States are migrating much shorter distances. You find this with a lot of bird populations, they've got a migration pattern such as this. You've got a question?

PARTICIPANT:
Yeah, when the birds that migrate down like from Canada or someplace, do they wait until they get back to Canada then to have their nest and everything?

KENNETH:
Yes. Yes. They'll, uh, start showing up here in Arizona sometime late October, mid-to-early November, and by March, mid-March most of them have already turned around and started heading back north. Uh, the birds in these northern latitudes, they'll…they generally don't lay their eggs until early to mid May. So, they're laying eggs about the time our birds are flying up there to get out of the heat.

Another big project of ours is the annual bald eagle nest search. Basically what this is is our way of being able to find those new breeding areas as they arise. We, by helicopter, fly around and check areas that bald eagles aren't in. We identify…we find nests that ospreys use. Uh, we monitor golden eagle nests. Um. And monitor, as well as just monitor lakes and sections of the river and habitat that eagles aren't in yet but we expect them to move in there sometime. In this manner, we're able to, uh, catch those…those nest sites early, be able to identify what needs those birds may or may not need in order for, uh, us to insure a successful breeding attempt.

So, as a result we've found these breeding areas throughout the state. As of the end of last year, we had fifty-six known breeding areas. So far this year we've just kind of started our…our work for the year, we've already found additional breeding areas for the year, we're up to fifty-nine at this point. As a result of those…those surveys, those nest surveys and a result of the population itself growing, our population has grown from those three or four nests in 1971 to, uh, over fifty now. Like I said, this…this…this map goes to 2005 and by 2008 we had fifty-six and this year I'm hoping to break the sixty mark. But the real interesting thing about this is productivity. Uh, the productivity with an eagle nest is…is specifically referring to how many nestlings are being fledged on average from each nest site, each occupied breeding area. And you can see early on, our productivity was just all over the place. Good years. Bad years. Horrible years. No eagles fledged in a year. But as our population started growing, it started getting to the point where the…the eagles were spread out across enough water drainages, across enough habitats

within the state that, uh, yearly fluctuations in weather – a massive snow storm, although it might cause some of our nests to fail, nests in other parts of the state may end up doing better because of that. So, our productivity, our yearly production of young has really started to stabilize and…and increase over time which is an indication of a population that is starting to function properly, less in danger.

Uh huh.

PARTICIPANT:
So if something happened to an eagle's nest when they had started sitting on it, would they go…I mean, say something destroyed it, a rockslide or whatever, would they go on to another nest that year or would that…

KENNETH:
On a rare…on a rare occasion, if it happened really early, they may go back and, we call it a clutch. So they may go back and double clutch, lay a…a second set of eggs. Most of the time they don't, especially if…if they've got enough time to lay that second set of eggs by mid-March they may go ahead and try but if…if their…if something happens to their nest, say, by mid-March, mid-April, they are not going to have enough time to develop those eggs, which takes about a month, raise those eggs to hatching, and then get those nestlings out of the nest and able to get to actual water before we hit those really hard temperatures…hot temperatures.

We monitor the organo-chlorines and heavy metals. This is all something that we do as part of the banding process. When we're in the nest sometimes we'll find eggs that haven't hatched, spend time in the nest looking for the egg shell fragments which are very, very small and hard to find. And what we'll do is we'll take those egg shell fragments and we'll take those eggs and we'll have them analyzed. The thickness of the fragment is an indirect measurement of the levels of DDE that's in the environment. It's basically what DDT broke down to in the environment. So, we still have its presence here in Arizona, so we're monitoring it. The eggs themselves, the…the liquids inside, we're able to analyze…find out whether or not they were fertile or not, find out what kind of chemicals were in them and hopefully just figure out what it was that made that egg incompatible to hatch. And here's some of the data that we've got for…specifically for those egg shell fragments. And what we found is…is productivity for the year doesn't really get affected much as long as the egg shell hasn't been thinned more than 10%. But when it increases above 10% thinning that's when you start having more failures and worse productivity for the year. So a lot of the places where you see the spike in thinning you'll also see a corresponding dip in productivity. And where's these chemicals and mercury that we've found in eggs are coming from…some of its just naturally in the environment, some of its getting brought up and remixed into the water system by flash flood events, some of it is coming from, uh, mining operations, its coming from a lot of different places.

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Thank you.