

# Arizona Wildlife Podcast

## Transcript: Episode 2 – Invasive Species

*(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 Eric Proctor, a Department educator, discusses the problem with invasive species. Kellie Tharp, also a Department educator, helps Eric answer questions at the end.

---

### **ERIC:**

The first question I'm going to ask is: what's an invasive species? Raise your hand if you think you know what it is. Yes.

### **STUDENT:**

A non-native species.

### **ERIC:**

It's a non-native species. Okay. We like to go a little bit beyond that. It's more than just a non-native species, okay. It's a non-native species that has basically come into an area and usually outcompetes other native species and basically invades. We have lots of non-native species that we don't necessarily consider invasive species. Those would be some of our exotic fish that we've introduced, for example, as sport fish. Rainbow trout would be an example of something that we don't necessarily consider an invasive species, although some people would. But we...we actually put it in the water so that it could be used for that recreation; we bring a recreational element in.

Invasive species are really those ones that really cause destruction to the environment. They outcompete other species. Okay. They typically will damage the environment, maybe destroying it entirely; in some cases removing all the plants. And usually invasive species are incredibly hard to control. Once they're in an area they're very difficult to get rid of.

What's the most common reason why we have invasive species in Arizona? What brought them here?

### **STUDENT:**

Humans.

### **ERIC:**

Humans! Humans, by far, are the main reason why we have invasive species. Now there's a lot of different reasons. Some of it's done accidentally; maybe it's carried on the bottom of your shoe; maybe you stepped in some sort of plant when you were hiking in one state or one area and you got some seeds

on your shoe and you walk into another area and you spread those seeds. That's an accidental way of moving them. Some are very intentional. Okay. Some angler – somebody who's fishing – had a bunch of bait in a bucket. When he was done he might have dumped it out. Well some of that bait might have still been alive and now it's in the water. So there's intentional and there's unintentional, but humans are the main cause of the spreading of invasive species throughout anywhere.

Let's talk about aquatic species. Aquatic resources are very valuable in Arizona. Because, you know, we're typically viewed as a hot state with not a lot of water, so the water we have, we want to preserve. Can you think of some aquatic invasive species found in Arizona? I'll test your knowledge here a little bit. Yes, you in the back there.

**STUDENT:**

Zebra mussels.

**ERIC:**

Zebra mussel. We have the quagga in Arizona but they're closely related to eat other. Highly invasive. What's another one?

**STUDENT:**

Salt cedar

**ERIC:**

Salt cedar, otherwise called tamarisk. Found um...it was brought in actually to control erosion and since then it's taken off. It actually outcompetes our cottonwoods.

**STUDENT:**

Crayfish.

**ERIC:**

Crayfish, crawdads, same animal. We are one of the few states that has no native species of crayfish. We have two invasive species, okay. And these are highly destructive, much like the bullfrog. Bullfrog is another example of an aquatic invasive species. These two species together are probably the leading cause of most of our environmental damage caused by invasive species as anything else. They eat everything. Not only do they eat the fish, they'll eat the plants; they will eat the eggs. We have pictures of crayfish holding snakes. They will even eat each other if it was appropriate. They will eat everything. And crayfish, they'll burrow into the ground; they'll bring up all that dirt; they'll bring up that silt. They'll make it more difficult for plant roots to take hold, and they'll make the water really murky. Okay. And they reproduce like crazy so they're incredibly difficult to control. Crayfish are, by far, one of our biggest invasive aquatic species.

What about terrestrial? Thinking about land and air now, what are some of those invasive species that Arizona faces?

(Pause)

A common one is the wild burro, okay. They were brought in by prospectors – years ago – and they were just left here. They cause massive damage to our water resources, as well. They'll actually trample through areas; they will change the course of water.

And we have a lot of invasive birds, okay. European starling is an example of one. Pigeons are invasive species. And another one that might be of concern that's a little bit more recent is the lovebirds. We actually have lovebirds that were people's pets that have been released now and are taking hold in major metropolitan areas. We're talking about, like, Phoenix which has populations of lovebirds occurring there, okay. So those are invasive species – incredibly difficult to control.

**STUDENT QUESTION:**

What are you doing to control the native...uh, the invasive species of crawfish and bullfrog?

**KELLIE:**

We have crayfish eradication workshops where we work with educators and the public to collect citizen science data and actually remove the crayfish from the streams and lakes and where they find them, and have a good ol' crayfish boil at the end.

**ERIC:**

There's been all kinds of things we've tried. Um...That's our main one right now. The problem is that because most of the rivers and...and lakes and stuff are what we would call an open system, um, if you remove them from one area – just because you removed them there – all they do is come from downstream. So in open systems they are incredibly difficult to get rid of. We've had some luck in a closed system – it might be a water tank that's all by itself that maybe feeds cattle or something like that. Um. We can go in there and remove it. But crayfish – and probably bullfrogs, but crayfish – we've found can move up to a mile over night out of water. Even though they have gills, they can actually get out of the water and, typically, over night and they can move over to water. So some of these areas get invaded later on. So we have to keep going back to an area. Its intense man power. We've tried different research things. Maybe sending, um, pesticides down the water. I know it doesn't sound the best thing in the world. But you remove the fish from the water source, the fish you care about; you remove the native fish. Then, you send a pesticide down the water or something like that. But the crayfish burrow so the pesticides would just wash down the river and wouldn't affect the crayfish and then they would come out when the pesticide had passed through. Um. So there's lots of different things like that we've tried... we've actually found now that a native fish, a tiny little native fish called a desert pupfish – where the males get this bright blue, they get this bright blue, um – they're highly aggressive fish and they're finding that they might be successful in...they actually can eat the baby crayfish. So we may be able to...now we have a native fish that we can reintroduce into areas and possibly impact crayfish populations but we're just getting that now.

---

This podcast is brought to you by the Environmental Education section of the Arizona Game and Fish Department and is made possible through the Heritage Fund and the Arizona Lottery. For supplemental information and activities for this podcast, please visit [www.azgfd.gov/focuswild](http://www.azgfd.gov/focuswild) and click on the podcasts button.

Thank you.