



**UNITED STATES OF AMERICA  
DEPARTMENT OF THE INTERIOR  
FISH AND WILDLIFE SERVICE  
ENDANGERED SPECIES PROGRAM**

**TELEPHONIC INTERVIEW Time (6:47)**

**SALT CREEK TIGER BEETLE (HOST – BRYNN WALLING WITH ROBERT HARMS)**

This transcript was produced from audio provided by U.S. Fish and Wildlife Service's Endangered Species Program

**P R O C E E D I N G S**

(Music plays.)

MS. WALLING: Hi, this is Brynn Walling for the US Fish and Wildlife Service, and today I have on the phone Robert Harms. Robert is a fish and wildlife biologist with Grand Island, Nebraska. How are you today?

MR. HARMS: I'm just fine.

MS. WALLING: Robert's here to tell us about the Salt Creek tiger beetle. Would you mind starting us off with an overview of the species?

MR. HARMS: The Salt Creek tiger beetle is an insect that majors at about three-quarters of an inch long. In the adult phase, the tiger beetle is only around for about a month. It has a two year life cycle where it spends most of its time in a larvae burrow. You know, the interesting thing about the Salt Creek tiger beetle is that it's endemic to the Nebraska Eastern Saline Wetlands. It lives nowhere else in the world; it's just here in Nebraska.

MS. WALLING: What are some of the primary threats to the species?

MR. HARMS: The primary threat is development – urban development and some of the infrastructure that might go along with that. For example, old road projects, developments that, you know, I had said that that species is known from just north of Lincoln, Nebraska. Lincoln is the capital city of the state, so you can imagine the kind of development pressures that go along in the outskirts of Lincoln. So I would say that that

is the greatest threat to that species – construction developments, roadways and infrastructure may not have a direct impact on that species.

It's more of the indirect effects that we are concerned about – things like storm water run-off that might dilute the saline habitat that that species lives in. Like all insects, the Salt Creek tiger beetle is attracted to light, and so it could fly to new light sources that generally you'd expect along roadways or development. So that takes it away from its habitat and increases its risk from predation. It spends more energy flying to lights, so those are the main risks to that species.

MS. WALLING: Could you describe some of the key components to conserving the Salt Creek tiger beetle in its habitat?

MR. HARMS: Well, certainly protection of its habitat is a really super key component. A lot of that habitat that's out there has been acquired from willing sellers. So we've got habitat, and then there's – so that's a really important deal. The second thing would be the restoration of that habitat, and that presents challenges on account of there's been so many changes in hydrology over the last 100 years. What I mean by that is, a lot of the drainages that are in the saline wetland habitat area have actually entrenched, which lowers the water table. So whereas in the past, there was sort of an upwelling of springs that took saline salt solution up to the surface, we don't have that as much anymore.

So we have to figure out how to get those salt flats back by getting the water up to the surface. That's a really challenging thing to do. It didn't make it the right concentrations that favor the Salt Creek tiger beetle. Then once you have the habitat – you've restored the habitat – you've got to be able to put the beetle out there. So a higher priority task recognized by the service quite a while back was rearing and reintroduction of the Salt Creek tiger beetle so we could actually take individuals out to places where we had restored habitat and release them there so they could expand their populations.

MS. WALLING: Who are some of the partners that are involved in conserving the species?

MR. HARMS: Oh, there are several. We couldn't do this on our own; Fish and Wildlife Service just could not do this on its own. There are so many people that are out there and organizations that have expertise that we don't have. Certainly, obvious ones are the Nebraska Parks Commission, State Resource Agency, University of Nebraska at Lincoln – they provide a lot of help in terms of doing research. The Saline Wetlands Conservation Partnership has just been absolutely instrumental in acquiring lands that are out there along Little Salt Creek and elsewhere for the benefit of Salt Creek tiger beetles and other species. The Nebraska Environmental Trust has provided a lot of funding; the Lower Platte South Natural Resources District has been great.

The city of Lincoln has been very supportive in the conservation of the Salt Creek tiger beetle. I would also say in terms of rearing and propagation, we couldn't have made the

strides we have without the support of the Lincoln Children's Zoo and the Henry Doorly Zoo. And I know I'm forgetting some partners out there, but those, I think, are probably the biggies.

MS. WALLING: You mentioned the reintroduction project for the Salt Creek tiger beetle. Could you elaborate a little bit more on that?

MR. HARMS: What we're trying to do is trying to simulate what Mother Nature does in sort of a lab setting. That is really challenging. What we do is, we go and collect male and female pairs, and we take those out of the wild to rearing chambers at the Henry Doorly Zoo. They mate, they lay eggs, and in about a month, we'll get the eggs and they'll turn into larvae. We put those into tubes that are probably about a foot long and about an inch wide, and seed those larvae. They burrow down into the soil, and so that's probably about – we collect those adults in June, and probably about the end of July, we'll have larvae.

And then have those in tubes, and probably right about now we'll start to try to simulate what's going on outside in a rearing chamber – kind of like a very large refrigerator where we can vary light, daylight times artificially and temperature artificially. And so we'll start to reduce the daylight time as well as the temperature to simulate winter conditions, and over winter the larvae – So up until now, we've been feeding the larvae, but now they're sort of going through a phase where they're thinking about hibernating, so – And then we have rearing chambers at the Lincoln Children's Zoo with larvae, and then also at the Henry Doorly Zoo.

And then in May or April or so, we'll start to warm those chambers back up and lengthen the daylight – so sort of simulate spring conditions. The larvae will start waking up, for lack of a better term, and then we take the larvae back out to the saline wetland habitats. We actually put them out there in places that we hope are suitable. We're kind of at the very beginning stages, and this hasn't been done widely before, so we're sort of learning as we go. We've also used a surrogate species to help us learn about what kind of soil substrate is the best. That's helped us. So far, so good.

MS. WALLING: Well, this has all been very informative; thank you very much for sharing today.

MR. HARMS: You're welcome.