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DEPARTMENT OF THE INTERIOR
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ENDANGERED SPECIES PROGRAM**

TELEPHONIC INTERVIEW TIME (07:57)

**CALIFORNIA TIGER SALAMANDER (HOST – BRYNN WALLING WITH
MARIE BRUEGMANN)**

This transcript was produced from audio provided by FWS 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 U.S. Fish and Wildlife Service and I'm on the phone today with Marie Bruegmann. She is the Plant Recovery Coordinator for the Pacific Island Ecological Service Field Office in Hawaii. Hi, Marie, how are you?

MS. BRUEGMANN: I'm good. How are you, Brynn?

MS. WALLING: Fine, thanks. Marie is here today to talk to us about the Mauna Loa silversword. Could you give our listeners just some basics about the species?

MS. BRUEGMANN: This species is probably one of the most charismatic plants we have in Hawaii and it gets its name from its sword shaped leaves that are covered with dense silvery hair that form a rosette that probably gets about two – one to two feet tall. There are several species of silverswords in Hawaii, and this one occurs only on the Island of Hawaii on the volcano that's called Mauna Loa. That's how it gets its name.

It's an interesting species in that it can live up to 50 or 75 years before it'll ever flower. It'll send up a flowering stalk several feet tall with beautiful, sort of daisy-like purplish magenta flowers. And once it flowers it dies. The plants are incompatible, so that means it has to cross with an unrelated individual in order

for there to be any seed produced. Currently there are about 400 wild individuals in three populations scattered around Mauna Loa.

MS. WALLING: So what are some of the primary threats to this species?

MS. BRUEGMANN: Feral ungulates or hoofed mammals are the largest threat to this species. They were introduced to Hawaii for game hunting and for this species in particular, the mammals include pigs, sheep and another type of sheep called mouflon. I think the plants are sort of like ice cream for these animals because they tend to find every individual silversword in amongst the shrub land of other native species and they will eat the growing tips out of the plant. Our biggest effort is to construct fences to keep the goats, pigs and sheep out.

There really aren't a lot of other major threats to this particular species, unlike most plant species in Hawaii, but that's enough to have knocked down the population quite a bit from what it originally was. At one point there probably was a wreath or lei of silverswords around the summit of Mauna Loa.

MS. WALLING: And what are some of the key components to conserving the species and its habitat?

MS. BRUEGMANN: There are very few weeds, so we're really lucky in that respect. But we do – all the wild and re-introduced populations are now in fences. But in addition to that because the numbers have been reduced and the plants are fairly scattered, there's a large managed breeding program in place. And this involves collecting pollen from individuals and transferring it to receptive flowers on other individuals trying to catch as many different plants as possible in case they are related in any way and won't produce seed.

And the interesting thing on the way that the pollination is done is we actually pick up the pollen with make-up brushes to transfer it to other plants. So, you know we've joked around that maybe we should try to get some corporate support from the make-up brush people.

And there's also a massive program for out-planting individuals.

MS. WALLING: So, one of the largest populations is located on National Land at Kahuku Park, and there are two other smaller populations located on state managed land. Who are some of the partnering groups and organizations that you work with? And how do you work with those partners to conserve the populations?

MS. BRUEGMANN: Right. Actually the Kahuku area is an extension, recent extension of Hawaii Volcanoes National Park, so we do work with the National Park Service. There's a major partnership effort between the Park Service and

Fish and Wildlife Service, a group – a non-profit group called the Hawaiian Silversword Foundation, who pretty much organizes everyone and keeps us all working together. There's the Hawaii Division of Forestry and Wildlife, which is the state office that helps with projects on state land.

There's also a volcano replant facility, which is state operated and they propagate all the plants for reintroduction efforts. In addition there's the Tri-Mountain Alliance, which is a watershed partnership that encompasses most of the islands of Hawaii, who have done a lot of work on protecting major landscapes in the area for reintroduction – habitat that we can use for reintroduction. And I'm probably forgetting many other parties that are involved. It's a pretty large group effort.

The group works very informally, but it's been incredibly successful because over the last ten years or so we've managed to out plant 33,000 individuals on state and federal lands. And there are efforts to do some on private lands as part of the Tri-Mountain Alliance in the near future. Which sounds like a wonderful success story, but unfortunately because these plants are so long lived before they ever flower, it could be decades before we really know if we're successful in creating a future generation of species. And it might not even happen in my lifetime.

MS. WALLING: So there are silversword located on private property? Do you have certain working relationships with landowners?

MS. BRUEGMANN: I don't know if we've actually planted any out yet on private property, but I know there's a safe harbor agreement in the works. It hasn't been finalized yet – to allow the landowners to put plants on their property without any negative long-term repercussions from what endangered species might impact them. Although, you know plants are much less protected than animals under the Endangered Species Act, so unless they're gonna do something that requires federal funding, they're unlikely to have any impacts in the long term.

And the plants are getting put in areas that probably would never be developed or impacted by anything the landowner would wanna do in the long run anyway.

MS. WALLING: And can you think of anything else about this species that we should know about?

MS. BRUEGMANN: One of the interesting things that they found as a result of growing the plants side-by-side from the free populations in greenhouses, is that one of the populations occurs in a very wet site called a bog. And it may actually be a different species. So in the future we may be listing an additional species of silversword in Hawaii.

There's taxonomic work and genetic work going on right now to try to determine if that's true. And because that may be the case, we're doing very careful work to maintain these genetic lines and not mix them and make sure that they're planted in habitats similar to what the wild plants came from.

MS. WALLING: Well, thank you very much for meeting with us today, Marie, and telling us a little bit more about the silversword.

MS. BRUEGMANN: Oh, you're quite welcome.