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Endangered Species Program**

Telephonic Interview Time (15:52 minutes)

Topic: Puerto Rican parrot recovery (Host – Madeline Prush with Marisol Lopez)
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[Intro music].

Madeleine: Most people don't realize this, but the Puerto Rican parrot was on the very first endangered species list, in 1967. Hello, my name is Madeleine Prush, I am a fish and wildlife biologist with the ecological service program at our headquarters office. Today, I'm going to be speaking with Marisol Lopez, about the endangered Puerto Rican parrot. Marisol is the project leader for the Puerto Rican parrot recovery program, and the Caribbean Ecological Services Field Office. Thank you so much for taking the time to speak with us today.

Marisol: Thank you, Madeleine.

Madeleine: First off, we would just like to see if you could give us a description of the species, and its habitat to our listeners, um as well, as its importance to Puerto Rico.

Marisol: The Puerto Rican parrot is a large, green bird, with a red forehead, and blue flight feathers. It measures approximately 11 inches in length, with about 270 grams, or 11 ounces. And it's considered the smallest of in its genus, which is the genus *Amazona*. Well, the Puerto Rican parrot, and its genus, and species are – is *Amazona vitata*, was listed as an endangered species throughout its range in 1967. And later, received the federal protection through the Endangered Species Act, in 1973. This endemic species is the only native parrot in the United States, and is considered one of the ten most endangered birds in the world.

Madeleine: Tell us about some of the threats that cause the species to be listed.

Marisol: One of the biggest factors was the widespread habitat loss, or deforestation

in the early 1900s. So back, in the 1940s, the only remaining population was in the El Yunque National Forest of Eastern Puerto Rico. Due to the decline of the species, from 1950s, and then, to the early 1970s, the people in the island was very concerned about the – the extinction of the species. So they created a captive program, and this started in 1973, to prevent the extinction of the species. In its early research, they took eggs from the [inaudible] [00:02:20], and handed over the chicks in the Loquillo Aviary.

But since 1976, most of additions for the aviary were chicks salvaged from – due to a variety of problems in the wild. So those were the babies that we were taking to the facility. Due to the Hurricane Hugo, in 1989, which wiped out half of the wild population, by that time, it was almost 50 birds.

Madeleine: Wow.

Marisol: We decided that we needed to have another aviary, and another wild population. And with the help with the Puerto Rico Department of Natural Environmental Resources, they built a new facility, a new aviary, which is called the Jose Luis Vivaldi Aviary. And in 1993, 12 Puerto Rican parrots from the Loquillo Aviary, were transferred to this new facility in the northern coast region. Due to the large proportion of secondary forest that occurred in the northern coast region of the island, this place was identified to be one of the most suitable sites, not only for having the facility, the aviary, but also for the reintroduction of the species in the near future.

Due to the topography of the forest, which creates cavities, which is probably the main problem for the Puerto Rican parrot, that may contribute it, at that point, to have a sole establishment of the species, in the indigenous region. In 2006, 22 Puerto Rican parrots were released for the first time outside the Yunque National Forest. Also, having an enormous success in the northern coast region, and having reintroduced the species for many years now, and introducing new birds to the second side, we decided that we have to keep doing this in the rest of the island.

So a third site was evaluated, and in 19 – in 2014, the Maricao State Forest, which is a public forest protected, and managed by the Puerto Rico Department of Natural and Environmental Resources was elected as the third site area to reintroduce parrots in the island. The forest was elected to be the new site because it had, and demonstrated the required biological and ecological features needed for the successful of reintroduction of the parrots. In November 30, of 2016, a few months ago, 31 parrots were released for the first time.

And we decided that for the next four years, we'll be releasing 25 parrots to keep increasing the numbers in this new site, which is completely an area that doesn't have any parrots around in the area, nor an aviary, also. So after that, we will continue releasing this group of – this group – big group of parrots for the next four years, and then, we'll be supplementing the population with then, 12 more birds to – to increase the numbers in this new site.

And like we did in the Yunque National Forest, and in the northern coast region, the similar management practices that we've been using in these two wild populations will be conducted in this new site to – which is considered one of the most richer and diverse habitats of all forests in the island.

Madeleine: Deforestation has been the main um issue facing the Puerto Rican parrot. Um have you found over time, during the recovery effort that any new threats have presented themselves, or is that the main issue that you guys are dealing with down there?

Marisol: There were other problems affecting the parrot. And not only that they depended on [inaudible] [00:06:13] forest that produced large cavities for them to be able to breed.

Madeleine: Mm-hmm.

Marisol: There were other threats also affecting the parrot such as competition, and predation of eggs and chicks by the pearly-eyed thrasher, which is a native species in the island. The predation of fledglings, and adults by the red-tailed hawk, which is another native species, and very abundant in the island. And also, by the broad-winged hawk in the northern coast region, which is the second site we reintroduced the parrot. But this broad-winged hawk is an endemic subspecies of the island, and is also considered endangered. We also have predation by rats, parasites, and by warble flies, and of course, the major impact that hits us every year.

Not – we don't get hit all the years, but it's an imminent threat, which are the hurricanes. Other than – other that uh are not that problematic, and which is the competition by – by the use of cavities, by the European and Africanized honey bees. And most of these threats have been managed, except for the hurricanes, and excessive rainfall, at some point. Many of these threats are being controlled through management [inaudible], such as the placement of artificial nest cavities for the parrots to breed every year, and the parrots breed from January until May, once a year.

We also have placed pearly-eyed thrasher nest boxes, in the forest, near the artificial nests that were used for the parrots. We put a small box for

the pearly-eyed thrashers for them to be able to – to breed, and they don't compete with the parrots. We have a control program for the red-tailed hawk. This program was established within the breeding habitat to reduce the predation rate, especially during the fleshling period of the Puerto Rican parrot, which is April, May. So that program is done heavily during those – those – that timeframe because these birds, when they get out of their cavities, they are completely naïve, they don't know what is going on.

So it takes them a little bit longer to get them to get used to feeding, and you know, to move with their parents, and to avoid predators. So during that period, we – we have this controlled program established. We also put our rat bait stations near the artificial nest structures to avoid predation by rats because sometimes the babies, when they flesh out of the cavity, we are there, we conduct blind surveys when they're flying – flying from their nest. We have an employee from dusk to dawn, and if they fall into the ground, we go and capture the birds, and place them back to the cavity. But if they did that in the evening, and when we're not there, if it goes to a rat – if it goes to the ground, a rat can eat them easily.

So we do the baiting stations to avoid numbers – big numbers of rats near the site. We have also to avoid the warble flies, and diseases such as fungus and bacteria. We treat our nest materials with **[inaudible]** **[00:09:34]** to avoid the growth of fungus and bacteria. And also, we use a natural neem tree, which is a natural repellent, and that will avoid warble flies to go into the cavities, and infect them with these worms that grow inside of them. We have all of the threats such as diseases, there.

But we have a 21-year experienced veterinarian that has been working with the parrots for – for since almost the program began. And we do our um annual health monitor program, we have a – a program that we monitor 33 per cent of the population every year to identify new diseases, or diseases that are – were not detected. And we also have a – a partner, which is the Southern Cooperative – Southeastern Cooperative Wildlife Disease Study, in Atlanta, and they are the ones that do necropsies, and they are the ones that tell us, “You know, this bird died due to this” and so sometimes, we can – not only veterinarian, but due to the necropsies, we can identify new diseases coming.

So most of the threats that the Puerto Rican parrot has, we have been able to manage, except for the hurricane, which is a natural event, and there's nothing we can do. Just protect our – protect the birds that we have in captivity, and put the parrots into the hurricane shelter, and that's the only thing we can do with those.

Madeleine:

Wow, it sounds like those threats would definitely make the recovery

process more complicated. How many birds do you have in the wild, and in captivity right now?

Marisol: Okay. We have approximately 50 parrots, that are free ranging at Yunque National Forest, and approximately 112 exist in the northern coast region. And today, the aviaries, hold about 350 birds in captivity, for the main purpose of production of parrots, to maintain the three wild populations that exist in the island.

Madeleine: So the birds that are in captivity um are for breeding, not to – not waiting to be released?

Marisol: Yes. We have 350 total from both aviaries.

Madeleine: Mm-hmm.

Marisol: However, we have as a team, created a matrix, which we – we determine how many birds are we are going to keep for replacing birds that – in captivity. We have how many we're going to release in the three sides, and how many we're going to save for upcoming releases. So because we usually have different ages. In all the releases that we conduct in the field, we have different ages, we have older birds during the first releases done, and then, we have younger bird releases throughout – just supplementing the existing wild population.

So yes, the aviaries are our – are our heart, if the aviaries are not well, and they're not doing well, then the program, the reintroduction program will fail. So for us, the captive program is probably you know, the best source that we have so far.

Madeleine: A lot of times, people don't feel a personal connection to a particular species, and they might struggle with the motivation to help protect it. How can people get involved, and aid in the recovery, if they aren't local? And do you find that people in your area are personally invested in helping out the Puerto Rican parrot?

Marisol: The Puerto Rican parrot is a very charismatic species in the island, in Puerto Rico. People care about the parrot, and they love to see them free flying in the island. We have had many – environmental assessment, and EPA processes, and we have received like, "How can we help? How we – how can we contribute to the recovery of the species?" Because, it's a patriot – patriotic symbol. We always tell people, if they encounter a parrot in the wild, we always urge them not to disturb, harass, chase, or capture the birds.

Just observe them, and take them in your memory, and feel proud of being

able to see a species that it was almost at the risk of extinction. But through lots of effort, from many people throughout the years, this species was saved, but there's still a long way to go for the recovery of the species, and no species in the [inaudible] [00:14:00] struggled like the Puerto Rican parrot did. It is essential on – and protect our own resources, for the benefit of all of us including our fellow friends, plants, and animals. So we tell people just to care about them, see them, enjoy them, and feel proud that it was not extinct.

Madeleine: And then, I would love to hear um just, I know you mentioned a few partners, but you know, how they've helped you overcome the challenges that you've encountered, the partners that you work with.

Marisol: Through many years, the Fish and Wildlife Service was working with the Puerto Rican parrot, and later on, after we realized that we need to work with many partners for us to be able to – to manage a population, we entered into an agreement. The U.S. Fish and Wildlife Service, the U.S. Forest Service, and the Puerto Rico Department of Natural and Environmental Resources collectively have agreed, in an agreement to continue and expand collaboration, and participation to promote and support the recovery, and conservation of the Puerto Rican parrot, in Puerto Rico.

This agreement helped us out in an intent to advance the implementation of the Puerto Rican parrot recovery plan. Through the collaboration of these three agencies, [inaudible], with the recovery of the species, and also, giving the expertise – each agency has its expertise, so we give our expertise, sometimes it's funding through the program. So as a group, these three agencies works together to – for – for the main goal, which is the recovery of the Puerto Rican parrot.

Madeleine: Sounds like you're surrounded with a really amazing local team down there.

Marisol: [Laughs]. Yes, we do.

Madeleine: Well, that is all the time we have to talk today. Um again, I just want to thank you so much for speaking with us, Marisol, and to keep up the great work.

Marisol: Thank you.

[End of Audio]