



## LOST TOADS OF THE CLOUD FOREST – VIDEO TRANSCRIPT

Hello everyone, we're so excited to see you. My name is Miss Beth Skorochood and I'm the Managing Director at Conservation Nation. We are so thrilled to be a partner with your school to be able to bring our academy lessons into your classroom to bring students out and into the outdoors and into nature and to bring our conservationist network to all of you. And we're going to do that today.

I'm really excited to have one of our 2026 conservationist grantees with us who's going to talk to you this morning. We're so honored and thrilled to have her with us. She'll make a presentation and then there's going to be time for you all to ask questions of her. So if you have questions throughout her presentation, please hold on to them, remember them, write them down so that you can ask her some of these questions when we get time towards the end of her presentation.

Now I'm so proud to be able to introduce to you Miss Gaby Sandoval. Gaby is an amazing person, an amazing rock star. She's the vice president of the Khamai Foundation in Ecuador. She's also a biologist working with a very special species that she's going to tell us more about today. So I'm very proud and excited to bring Miss Sandoval up on screen with us. So welcome Miss Sandoval.

Good morning to everyone. It's a pleasure to be here with you. My name is Gaby. Thank you very much, Beth, for your presentation about myself. I'm very excited to join you today and tell you about my work with the Mindo Harlequin Toad at Ecuador. I want to be and keep this very interactive. So as Beth mentioned, if you have certain questions or any inquiry about my presentation or about my work, you can write it down and we can discuss at the end of the presentation. So okay, let's start meeting our species.

Okay, so the Mindo Harlequin Toad. Let's start with this precious species. This is a really tiny frog that lives only in the cloud forest of my country home, Ecuador. As you can see in this map here, I'm going to use this color. So you can keep, as you can see here, my country home, it's Ecuador. The Mind Harlequin toad lives just like in here. And as I mentioned, it's a tiny brightly colored toad that lives in the cloud forest. It has very precious colors just like Christmas: green, red, orange, and it loves to be near cool and clean rivers as it's an amphibian. Those colors are not just beautiful, but they are also a warning for predators that they may be toxic. But the toad isn't. It's just like a fake warning so they don't eat this little one out in the wild. Regarding its size, an adult female is usually just over one inch long just like our thumb size. About male size can even be smaller, maybe the half



of your thumbs. Despite this tiny size, this species plays a really important role in keeping the cloud forest ecosystem healthy. We can go to the next slide please.

An interesting fact about this species is its habitat. As I mentioned this frog only lives in a relict and pristine cloud forest of the Mindo cloud forest in Ecuador and the Mindo Harlequin Toad lives inside a protected area called the Arlequin Reserve. This reserve was created in 2024 by the Khamai Foundation, the NGO where I work to protect the relict habitat of this toad. At first, we covered only five hectares of forest but thanks to the Conservation Nation support, in 2025, we expanded the reserve into 33 hectares of this cloud forest. And we are going to see this video about the reserve. So you can get to know about more this magical place.

[VIDEO] If you've never seen this place. It may seem like a dream or a secret. A forest cloaked in mist. Where mosses move, the night sings. And a creature so rare it's been seen only eight times since 1989 still hides among the shadows. This is Arlequin Reserve, a relict cloud forest tucked deep in the Ecuadorian Andes, possibly holding the greatest number of threatened species per unit area anywhere on Earth.

Here, birds echo ancient myths. Frogs wear goblin masks. Vipers have toad heads, and some lizards don't yet have names. But one species defines this reserve. The Mindo Harlequin toad, delicate red and green, declared extinct after vanishing for over 30 years. Then impossibly it reappeared right here. While the species vanished from every other known site, it survived in this valley beside the crystalline headwaters of the Santa Rosa Creek. A place untouched by pollution, invasive fish, or deadly pathogens. The water glides over golden sand in a canyon so high that it feels like it is raining from the cliffs. Walk beside this stream and you feel it.

Goosebumps rising as if in the presence of something sacred. The toad is a good omen. Proof that even in a broken world, miracles still happen. But miracles are fragile.

Chainsaws now echo over the creek, drowning out the water's song. The forest is being cleared for cattle, burned, slashed, violated. The last surviving population of the Mindo Harlequin toad, fewer than 50 adults, is being cornered into extinction once more. [VIDEO ENDS]

Okay. After our presentation, you can tell me your favorite part about this habitat of the Mindo. But now we are going to understand what does critically endangered mean. Unfortunately, the Mindo Harlequin toad is listed as critically endangered. As you can see right here what does this mean as this term of critically endangered? This means that the species is at an extremely high risk of extinction. As scientists, we use a system created by the International Union for Conservation of Nature or IUCN to measure how threatened a species is. We look for population size, a habitat range and how quickly individual numbers are declining of our species.



And we can go to the next slide, please. So now I want to hear from you about this first slide. Why do you think a species that lives in only one place of the world be more vulnerable to extinction?

Why did this species and why in general species decline almost until extinction? In the case of the Mindo Harlequin toad many years ago, this species was more common in its habitat. However, during the period of the 1980, the amphibian pandemic called Chytridiomycosis spread across the world and this is a little infectious disease that affects only amphibians. Sadly, this causes extremely high mortality rates, wiping out many frog populations, including the Mindo Harlequin. At the same time, in Ecuador, the forest of the habitat of the toads were deforested for agriculture and ranching activities. Rivers become polluted and not native fish species just like were introduced to waterways. Together all of these threats caused the population to collapse. This shows us that these species and as I mentioned species in general often became more endangered not just because of a single problem but because of many pressures happening at once.

Okay, we can go to the next slide please. How do scientists protect the species? Okay, so our work starts here. Nowadays as my team at Khamai Foundation and I are in charge of monitoring the Mindo Harlequin toad. When our team of biologists find any individuals of the toad, we treat it with a lot of care and tenderness to monitor its health. It is really important to know that these toads are really fragile and amphibians in general are really fragile and they breathe and live through its skin. So the skin barrier is really delicate. So when we find an individual of the species, we gently swab as you can see here. For example, we are swabbing this little toad here to check if it is healthy and it is without this Chytridiomycosis fungus or disease. But it is also really important to keep strict hygiene protocols like cleaning our boots and equipment before entering the habitat of the Mindo Harlequin toad. We can prevent the spreading of pathogens in this fragile habitat. These precautions are a crucial part of responsible conservation and biology field work.

We can go to the next slide please. But now I'm taking you guys on a field work day with me. So you will be joining me on my day activities while we are on field. And after this video you can tell me also what which was your favorite reserve.

[VIDEO] Today I'm taking you on a special adventure in nature and I will show you how we work to protect animals and their habitats such as the Mindo Harlequin. During these days of field work, we explore a new forest area within the Sanchez land lot, a recently incorporated land lot into the protected area of the Arlequin reserve. We work together with Gerardo, the park ranger of the Arlequin Reserve. He helped us to create new hiking paths in this area so people and biologists like us can explore the forest while protecting it. We also help the forest to grow. We've reforested the



Sanchez land lot and we planted several trees and native tree species that belong here in Mindo and help keep the forest healthy and strong.

When the sun goes down, our work continues. At night, we go into the forest using headlamps on our heads. We do monitor by walking quietly and making quick checks. We look for frogs, insects, and other animals that come out at night. Each quick encounter helps us learn more about the forest and its wildlife. By working as a team, we protect wildlife, care for the Arlequin reserve, and help to save the population and habitat of the Mindo Harlequin from extinction. [VIDEO ENDS]

Okay. Well, I hope you liked this field workday with me. After the presentation, we can talk about it. Now, how many individuals of this species have been found so far? Since 2018, my team at Khamai Foundation and its wonderful colleagues of biologists that I have, with important support from conservation NGOs's just like Conservation Nation, we have found 16 individuals so far. We have found 10 males. You can see as I mentioned at the beginning of the presentations, males are smaller than females. As you can see, females are these precious girls that they are carrying babies or eggs and four tadpoles, which means that they will become baby frogs anytime soon. So those are our precious individuals of the Mindo Harlequin that are being taken care of foundation by Khamai Foundation.

And we can go to this next slide, please. I have another question for you guys. I want you to tell me why do you think finding even a small number of individual is important for conservation?

[Student replies] It's important because it could change from being extinct or endangered to the research it show they're not extinct. They're still living and it could change the way you think. Thank you for that. Exactly. There's another answer.

[Student replies] It is important to find a small number so they could reproduce and maybe not be endangered anymore.

Awesome.

Exactly. Both of these answers work perfectly because in conservation even a small number of individuals can represent a sign of hope just as the Mindo Harlequin does. As both of you guys mentioned and congratulations for your answers, each animal contribute to genetic biodiversity and diversity of its species and help us scientists to understand how to protect the species. Many conservation success histories began with very few remaining individuals. We just need like a female or a male and we can make magic as biologists.

Okay, we can continue with the next slide. Now conservation has a very important core factor and is how communities can help us locally and worldwide to achieve



our goals. Luckily in my country we have begun our community work with the Primero de Mayo community in the Mindo Cloud Forest. One of its members, Gerardo Obando, as you can see him is now the current park ranger of the Arlequin Reserve. Community members are very important as they know the region even more than biologist or scientists can do. So for example, Gerardo is a local from Mindo. So he can help us every day by monitoring and protecting the reserve habitat. Other community members also support us by joining different conservation activities such as monitoring or as you can see here like planting tree activities and we have a very nice time doing this planting tree activities and conservation activities.

We can go to the next slide. Just another quick question. How does protecting land help protect the species even without directly touching the species without touching the animal

[Student replies] Because it gives them like a safe habitat and we can learn like what they adapt to and like what's the best habitat and like area they like, what's the best for them.

Thank you very much for your answer. Yes, protecting habitat as Chad, if I heard correctly, mentioned it's very important because it help us scientists to understand what are the most practical conditions for a species. For example, you can compare it as a home if you like warmer or colder it's like the same for a species. We can learn about an habitat about a species preferred conditions to live.

Finally, what can you do to help us scientists? There are my foundation and NGOs that are fighting for species. Worldwide support is also very important for our mission. Even though you might live far from Ecuador, you can still help us protecting our ecosystems. Communities like yours and supporters and future conservation leader just like you in your own city. You can act by protecting local wildlife, keeping rivers, parks and ecosystem clean and learning about nature and species and helping us to spread our mission and teaching about why animals and other forests and ecosystems matter. Just like Conservation Nation, support our mission from far away.

So that must be all. Thank you very much for listening to me and I will be happy to answer any questions you might have for me.

Thank you so much, Gaby. That was amazing and what an adorable toad. We're going to take some questions now from the students. I'm going to be quiet and Jocelyn or Coach K if you want to bring up students to ask Gaby some questions.

[Student Q&A]

Yes, we are ready. Is there any predators that could harm the environment?



Okay. Do you refer to any predators of this species?

Yeah.

Usual predators are birds, even big cats. But most commonly birds because birds are always like flying and hunting them as they are easy preys. Big cats or other mammals can also be the principal predators of the Mindo Harlequin Toad.

Is it completely safe in the forest for you to look out for the frog, go looking for the frogs? Like she got to watch her back?

Okay so if you refer like us as biologist we have to take care of our back from for example big cats or other big animal species. Yes. Every field work has its risk, mostly also not just for animal species but climate conditions. That's why we go to field work on those monitoring season as a team with other team members so we can take care of each other. But animal species in the mindo forest there aren't like for example big cats or high mortal species. There's like two or three venomous snakes but they are far away from the reserve so I guess our bigger or highest risk is the rough climate conditions depending on the time of the year.

Thank you Gaby. Have you ever found one of the Mindo Harlequin toads?

This is one of my goals for this year. I want to find an individual of this species. But well, if I have found I definitely be sending a photo with this species because it's really difficult to find especially during the dry seasons that we are going through in the Mindo cloud forest. But if I found I will send in the photo with the toad.

When you're trying to find them what is one method that they told you to do?

For finding this toad, you have to do visual encounters during night and you have to go near to the river of Santa Rosa where the toads prefer to be and have their eggs and their babies near the river. So, you have to go, for example, from 7:00 p.m. to 4:30 a.m. searching for the frog. And you have to do a lot of peaceful checks on leaves, on trees, and you have to have like a hawk eye to find this species. It's not that easy to find, but they are over there. Thank you for your question.

We can take one last question. What if the toad isn't healthy when you swab it?

If we swab a toad and it has the Chytridiomycosis, urgent action is needed as I mentioned this is a high risk and mortal disease. So we will have to enter the Arlequin reserve in a total quarantine zone and we have to apply a high hygiene and special protocols to eliminate this disease from their Arlequin Reserve to prevent the mortal consequence of this fungus. It's difficult to control this fungus but it's not impossible with a quarantine.

Thank you so much for taking our questions, Gaby. We can move on now. [End of Q&A]

