

WEBVTT

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00:00:09.360 --> 00:00:17.250

Saint Louis Zoo Education Liaisons: Good evening everyone, we will get started in just a minute just want to take a second to let everybody make their way in for our evenings webinar.

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00:00:49.800 --> 00:00:58.800

Saint Louis Zoo Education Liaisons: Alright, well, good evening everyone, and thank you so much for joining us for our seventh Community climate forum avian conservation and climate change.

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00:00:59.130 --> 00:01:09.480

Saint Louis Zoo Education Liaisons: My name is Lisa religious and, as always, I will be your host and moderator tonight, I am a conservation education liaison at the zoo and co Chair of the zoo's climate change.

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00:01:11.160 --> 00:01:13.890

Saint Louis Zoo Education Liaisons: Climate communication committee we just changed her name.

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00:01:14.790 --> 00:01:23.760

Saint Louis Zoo Education Liaisons: Before I introduce our presenter I want to first give a quick overview of how this webinar will work first this webinar is being recorded and will be shared at.

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00:01:24.060 --> 00:01:33.480

Saint Louis Zoo Education Liaisons: St l Z O dot O rg slash climate change, the same page where probably many of you registered for the webinar.

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00:01:34.080 --> 00:01:42.480

Saint Louis Zoo Education Liaisons: Because this is a webinar we are unable to see or hear you, but our goal tonight is to engage with you hear your thoughts and answer your questions.

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00:01:42.780 --> 00:01:51.360

Saint Louis Zoo Education Liaisons: We will be monitoring the Q amp a and the chat please put your questions in the Q amp a box and any thoughts or discussion points in the chat.

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00:01:52.290 --> 00:02:01.440

Saint Louis Zoo Education Liaisons: Please remember to be respectful and courteous to our presenter panelists and each other, and please keep your questions and thoughts relevant to the present a topic.

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00:02:01.860 --> 00:02:09.570

Saint Louis Zoo Education Liaisons: If someone is unable to follow these protocols their comment or question, it will be removed and they themselves may be removed entirely from the webinar.

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00:02:10.290 --> 00:02:18.060

Saint Louis Zoo Education Liaisons: Our presenter will also leave as much time as possible at the end of her presentation to address questions and discussion points with our panelists.

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00:02:18.510 --> 00:02:28.620

Saint Louis Zoo Education Liaisons: So now, without further ado let's get started our distinguished presenter tonight is amanda bender the zoological manager was our bird department take it away amanda.

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00:02:29.400 --> 00:02:33.660

Amanda Bender: All right, thank you so much Lisa i'll go ahead and share my screen.

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00:02:35.070 --> 00:02:35.970

We can get started.

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00:02:38.610 --> 00:02:56.370

Amanda Bender: Okay, well, first of all thank you so much for having me tonight i'm really excited to chat with you all and talk a little bit about my experiences through our wealth care centers and some important impact that climate change is having on the species related to be centers.

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00:02:58.410 --> 00:03:11.250

Amanda Bender: So, first of all, very basically, I think a lot of time, many people will think of climate change as synonymous with global warming, and that is certainly part of the story.

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00:03:12.000 --> 00:03:23.040

Amanda Bender: But what also needs to be realized some thought about is that climate changes impacts are also on climatic events like

hurricanes droughts, typhoons.

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00:03:23.820 --> 00:03:32.910

Amanda Bender: El Nino and Lavinia event so many of these things are normal cyclical event that that happens on a.

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00:03:33.510 --> 00:03:43.710

Amanda Bender: regular basis, but climate change is causing the intensity and the frequency of many of these events, to increase over time, and that is.

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00:03:44.310 --> 00:03:57.690

Amanda Bender: Mainly, what would we be talking about today, as it relates to our wealth care centers so the St Louis zoo while care institute support 17 wild care centers across the entire planet.

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00:03:58.440 --> 00:04:06.750

Amanda Bender: So we're involved in conservation of endangered species from the zebras and Africa to help vendors, right here in Missouri.

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00:04:07.440 --> 00:04:19.290

Amanda Bender: So we have a lot of impact all over the world through the bird department i've been fortunate enough to be involved with two of those wild care centers and we'll talk about both of those today.

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00:04:19.860 --> 00:04:29.280

Amanda Bender: First i'll share some information about how climate change can affect the species that we're working with in the Center for conservation in San Juan, Peru.

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00:04:30.120 --> 00:04:39.060

Amanda Bender: Through this wild care we support conservation of humble penguin by supporting a breeding reserve at Su to San Juan.

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00:04:39.480 --> 00:04:53.310

Amanda Bender: We also support studies and data collection, through a humble penguin census which we've been participating in since 2007 and we also support Community education in the region in Peru.

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00:04:55.980 --> 00:05:06.390

Amanda Bender: So just to kind of picture, where this is on the map So

you see the United States above us so we're way down on the west coast of South America in Peru.

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00:05:06.810 --> 00:05:20.790

Amanda Bender: and asked to to San Juan it's actually the largest reading site of humble penguin so that's why it's important that a reserve was established help protect suffered as well as other animals that uses space so.

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00:05:21.390 --> 00:05:34.560

Amanda Bender: it's in the southern half of Peru right on the end of this nice little peninsula, so you can see, the green area, there is the reserve itself at 51 or sometimes we refer to it as PSG.

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00:05:38.250 --> 00:05:48.300

Amanda Bender: So, like I mentioned earlier, this well care Center support census data collection on humble penguin so we've been collecting this data yearly since 2007.

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00:05:48.810 --> 00:05:55.770

Amanda Bender: I was fortunate enough to participate in that sense of work in 2017 2018 and 2019.

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00:05:56.160 --> 00:06:08.790

Amanda Bender: So what that kind of looks like is a small teams of biologists, including myself picture here, along with patty mcgill's formerly at Dallas to we are visiting the whole thing site.

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00:06:09.390 --> 00:06:20.490

Amanda Bender: Of humble penguin with Peruvian colleagues often out in the field, mostly these multi sites are out on small island off the coast of Peru.

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00:06:20.880 --> 00:06:25.620

Amanda Bender: But there are a few mainland sites, like the size of the reserve of PSG.

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00:06:26.520 --> 00:06:38.340

Amanda Bender: For often visiting these sites by both and we're counting by hand through binoculars to get a physical Count of how many birds were seeing, and this is just kind of a snapshot every year.

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00:06:39.060 --> 00:06:47.220

Amanda Bender: The idea is that we're catching them during the Multi season, where many of the birds are not out of the ocean, or in the ocean foraging and.

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00:06:47.460 --> 00:06:58.380

Amanda Bender: Eating fish they're up on land kind of huddled together in a group, while they're going through their natural molting process but that's the best time to kind of get our eyeballs on them and do the census.

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00:07:01.560 --> 00:07:15.810

Amanda Bender: So El ninos can impact this coastal ecosystem of Peru again an El Nino is a normal cycle, it does happen, typically every two to seven years somewhere in that range.

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00:07:16.350 --> 00:07:32.430

Amanda Bender: But in the past several decades they have been stronger and way more frequent and what happens is the waters are warmed and pushed towards the west coast of Peru in central and throughout South America.

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00:07:35.340 --> 00:07:41.250

Amanda Bender: And those warmer waters are causing changes in that system, the fisheries there.

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00:07:41.940 --> 00:07:56.010

Amanda Bender: are going deeper and more towards the cold water so it's more difficult for a lot of the first like humble penguins and other animals that are relying on this fisheries to reach so that is one of the main impact.

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00:07:57.660 --> 00:08:02.790

Amanda Bender: So again, the frequency and intensity of these El Nino events is increasing over time that's what this.

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00:08:03.690 --> 00:08:22.320

Amanda Bender: table or this graph is showing us and you can see there's a distinct shift kind of in the 70s, where all of a sudden they're really starting to pick up in frequency and intensity and intensity being how warm the waters are getting during each El Nino

events.

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00:08:27.180 --> 00:08:35.850

Amanda Bender: And what's important to realize here that there are many layers to the impact of what an El Nino events will do to this kind of region of the world.

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00:08:37.710 --> 00:08:48.990

Amanda Bender: They are like I mentioned, causing the fisheries to kind of decline the fisher are going deeper and deeper waters where where the humble penguins aren't able to get them.

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00:08:49.320 --> 00:08:56.040

Amanda Bender: As well as the entire coastal ecosystem is, including several other species of seabirds sea Lions, etc.

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00:08:56.520 --> 00:09:09.930

Amanda Bender: The drop in fisheries impacts, the economies in the region that are relying on fish for human use and consumption, another important layer that El ninos can factor into an impact is that.

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00:09:10.380 --> 00:09:18.150

Amanda Bender: Another natural resource that the Peruvians are relying on them in these regions is for guano or bird droppings.

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00:09:18.810 --> 00:09:33.240

Amanda Bender: So it's the birds aren't there to leave behind the guano because of the fishery decline, because of the warmer tense of El Nino events, the guano harvesting portion of their economies also suffering, so the El Nino events.

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00:09:34.290 --> 00:09:36.390

Amanda Bender: The impacts are multi layer

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00:09:39.510 --> 00:09:49.080

Amanda Bender: And I just wanted to show you this photo to kind of try to give you an idea that these waters are historically extremely abundant.

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00:09:49.530 --> 00:09:59.310

Amanda Bender: The humble current right along the website of South

America is very cold and nutrient rich and brings with it tons and tons of fish, which supports high productivity.

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00:09:59.670 --> 00:10:15.480

Amanda Bender: Of the fish, such as into betta that the humblest are eating a lot of which, in turn, supports an amazing amounts of marine lives in this region so picture here is just a molting colony of humble penguins On top of that section of islands.

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00:10:17.190 --> 00:10:37.170

Amanda Bender: And again, more than humble these waters are supporting other seabirds like he could turn around pelicans millions of one I cormorants South American sea Lions, and I have a short video to show you just to kind of give you an idea of the abundance of these birds in this region.

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00:10:38.400 --> 00:10:44.670

Amanda Bender: Millions of paper you can see some few lines off to the right of them image as well.

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00:10:45.270 --> 00:11:00.330

Amanda Bender: So while these systems have evolved with normal El Nino events kind of throughout time and can rebound back to healthy levels over time, you can kind of imagine how repeated blows can start to impact the resilience and numbers of this coastal.

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00:11:02.280 --> 00:11:09.630

Amanda Bender: So these are a few photos from the census that I did in 2017, so this is a site called patches muck.

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00:11:10.350 --> 00:11:27.960

Amanda Bender: kind of a really cool what cave site, so, if you look closely inside, you can see hundreds of little penguins standing and bold thing all along the shore inside that case so in 2017 we kind of 601 penguins at this site in.

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00:11:29.460 --> 00:11:44.340

Amanda Bender: There was an El Nino events so when we went back in 2019 we could actually see some of these changes and a lot of the census data that we were recording just comparing two years back to back.

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00:11:45.390 --> 00:12:00.690

Amanda Bender: So this is the same site and 2019 we only counted 182 penguins at the site and again the El Nino came through and 2018 and 2019 and the birds were hit pretty hard that year, so we were seeing a lot of drop in several of our site.

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00:12:01.800 --> 00:12:09.960

Amanda Bender: So again, another important sites that we count every year is Santa Rosa is this big beautiful kind of plateaued island.

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00:12:10.980 --> 00:12:19.950

Amanda Bender: In 2017 we kind of 1700 penguins there in 2019 there were only 528 so a significant decrease.

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00:12:21.720 --> 00:12:32.610

Amanda Bender: There are almost no penguin in this photo from 2019 it might be very difficult to see everything you're seeing here is pretty much all go on, I cormorant.

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00:12:33.540 --> 00:12:42.660

Amanda Bender: But if you can imagine that entire scene completely flipped to 2017 it would have been covered with penguin just from our experience and the other year.

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00:12:43.860 --> 00:12:57.990

Amanda Bender: So this acknowledges surely that this experience was just one snapshots and the census, which just one little piece of data from this particular site and all the other sites that we that we visit each year.

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00:12:58.620 --> 00:13:09.570

Amanda Bender: But this data, I just want to emphasize correlates really strongly overall trends in the region for fisheries and other biological data on the effects of El ninos in this region.

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00:13:10.710 --> 00:13:23.880

Amanda Bender: This paired with the information that shows that El Nino events are are becoming more frequent and more intense is the is one of the big concerns for the species in this region as it relates to climate change.

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00:13:24.330 --> 00:13:44.910

Amanda Bender: And just want to mention also our total count for all the sites that we visited in 2017 with 10,426 penguins in 2019 following that on menial we physically counted only 500 or 5,642% so pretty pretty big drought that was noticeable even in our even our network.

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00:13:46.440 --> 00:13:56.760

Amanda Bender: So what now like what does this tell us tells us that the census data is important it's important to monitor the humble penguin population over time, excuse me.

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00:13:57.390 --> 00:14:12.450

Amanda Bender: So we can follow the trends in the population, this data can also help drive support for conservation and protection of purple nesting and multi sites like to San Juan, and here is an image of two of the guard, but that.

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00:14:13.650 --> 00:14:19.800

Amanda Bender: are living and protecting on one of the one of the islands and helping to protect the birds there.

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00:14:21.630 --> 00:14:35.940

Amanda Bender: Further, the match just helping to be an advocate and learn more about how climate can impact feces across the globe is really important, so I appreciate they're all here and learning a little bit more about tonight.

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00:14:39.420 --> 00:14:50.520

Amanda Bender: So next we'll kind of switch gears and i'm going to share with you a little bit about how climate change can impact and and even ways that i've seen climate impacts.

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00:14:52.800 --> 00:14:57.180

Amanda Bender: species in the Center for avian conservation in the Pacific island.

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00:14:58.320 --> 00:15:03.630

Amanda Bender: So, through the bird department, I was able to be involved with transportation.

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00:15:03.990 --> 00:15:19.710

Amanda Bender: Through this well here in 2018 and 2019 and we're also

gearing up for our next translocation again in 2022 we're which we're really excited about it took a little break with cobras and everything but we're getting ready to get back out there and feel.

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00:15:20.610 --> 00:15:30.750

Amanda Bender: So this wild care Center focuses on bird species in the Pacific Islands and supports that conservation work through translocation like I mentioned.

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00:15:31.590 --> 00:15:40.620

Amanda Bender: Also, through supporting wild populations by rearing them in human care when when needed, we do have a few species.

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00:15:41.220 --> 00:15:49.800

Amanda Bender: Of Pacific island birds several species, actually, that we do participate in species survival plan and breeding programs here at the zoo.

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00:15:50.520 --> 00:16:00.510

Amanda Bender: In conjunction with support from other Asia institutions, and we also support Community education there in the Northern Mariana Islands so.

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00:16:01.050 --> 00:16:13.140

Amanda Bender: kind of shifting to a different part of the globe, if you imagine you're going less than you know her where Hawaii is just keep on going live for a while until you're just above Australia and that's kind of where the Northern Mariana Islands are.

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00:16:14.130 --> 00:16:20.820

Amanda Bender: and, specifically, our work has primarily focused on translocation.

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00:16:21.510 --> 00:16:38.550

Amanda Bender: Moving birds from side pan So if you if you look down the bottom, you see the big island is one half up a couple island and you'll see the island of spy pan and also some translations from pinion to other on uninhabited island in the chain.

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00:16:42.330 --> 00:16:58.140

Amanda Bender: So why are transportations even important let's backtrack just a little bit so back during World War Two, the brown

trees snakes was accidentally introduced into that island chain on to the big island of guam.

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00:16:59.160 --> 00:17:06.030

Amanda Bender: it's an invasive species and it didn't have any natural predators, so its population just exploded on the island.

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00:17:06.840 --> 00:17:10.800

Amanda Bender: It is an authorial etc so it's climbing trees.

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00:17:11.340 --> 00:17:23.130

Amanda Bender: Really really well and it was able to eradicate all of bombs exotic bird species, now there are only two species that still exist and only in the care of students.

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00:17:23.490 --> 00:17:40.440

Amanda Bender: And that's the guam rail and the guam Kingfisher which we do have here at the St Louis zoo and are proud to work with a species for conservation, so this brown tree snake is a devastating threat that is constantly kind of lingering.

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00:17:41.760 --> 00:17:49.590

Amanda Bender: a threat to side pan bird species because it's really pretty close it's just a couple islands down on that island chain.

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00:17:49.920 --> 00:18:00.660

Amanda Bender: So, in partnership with the department efficient wildlife an organization an organization called Pacific for conservation, as well as other Ada institution.

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00:18:01.140 --> 00:18:12.150

Amanda Bender: Who partner in this important work we translocated or move endemic birds receipts from side pan and sometimes Kenyan to other islands in the chain.

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00:18:12.840 --> 00:18:24.420

Amanda Bender: so that they may set up kind of assurance population somewhere else, so that we know they'll be safe, if the brown trees snakes were to ever make its way to side panel essentially.

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00:18:26.190 --> 00:18:33.480

Amanda Bender: So what does translocation look like, so what it looks like first is will miss net the birds.

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00:18:33.870 --> 00:18:43.650

Amanda Bender: And a miss net is a super fine that that we've been through it a little section of the forest kind of like a volleyball net the birds can't see the Net and so when they.

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00:18:44.370 --> 00:18:47.850

Amanda Bender: bounce into it they're generally captured and we can remove them safely.

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00:18:48.630 --> 00:19:00.360

Amanda Bender: Then we'll move them to a temporary holding room where they will get a species appropriate diet two to four times a day, they also received veterinary exams upon arrival.

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00:19:00.930 --> 00:19:13.470

Amanda Bender: and are able to receive that chair during their stay, if needed, so if at any point they're being not fit to make the transformation journey we will just go ahead and release them right where we caught them.

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00:19:14.400 --> 00:19:26.700

Amanda Bender: Then, once the translocation day comes, will load up the crates with the bird send them on to a boat, or sometimes a helicopter and move them to the designated island for release there.

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00:19:29.550 --> 00:19:42.600

Amanda Bender: So this is a few These are a few images of transport dates we're moving the boxes from the large boats onto the island to be carried up into the forest to release the birds there.

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00:19:43.140 --> 00:19:55.530

Amanda Bender: And so here, I am in the left hand side waiting with the birds in the shade for more hands to help carry all the boxes up into the forest where they were released on this target island no these photos are from 2019.

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00:19:58.320 --> 00:20:05.160

Amanda Bender: So, how does climate change impacts me systems and these birds that we're working with specifically in the Northern

Mariana Islands.

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00:20:05.910 --> 00:20:12.960

Amanda Bender: Remember we're talking here about a lot of impact related to the increase of climatic events so.

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00:20:13.710 --> 00:20:24.540

Amanda Bender: Here in this region they're experiencing typhoon again semi regularly as typhoon is basically a big tropical storm that happens in the Pacific Ocean.

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00:20:24.990 --> 00:20:45.660

Amanda Bender: When we have big storms like this from the Atlantic Ocean, or in the western hemisphere, we call them hurricanes so it's basically a giant hurricane so super typhoon YouTube hits in October of 2018 right after we had been there in jail or in April and May of 2018.

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00:20:46.710 --> 00:20:58.950

Amanda Bender: YouTube was equivalent to a cat a 45 hurricane is a significant storm and then went directly oversight and, as you can see that arrow is right, where side can is and that tiny island chain.

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00:21:00.030 --> 00:21:19.590

Amanda Bender: It was the worst storm to us soil since 1935 and speed, the wind speeds were over 180 miles per hour so it's really devastating not only to the forest tracks, but also to the infrastructure on the island, people were out of power, for a long time, a lot of structural damage.

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00:21:21.120 --> 00:21:29.790

Amanda Bender: So scientists are loading up super typhoon every year, the average is increasing, and unfortunately this was also.

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00:21:30.330 --> 00:21:40.350

Amanda Bender: Following right behind another super typhoon that happens and hit by Panda in 2015 so they only had a three year span to kind of recover and they were hit really hard again.

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00:21:40.890 --> 00:21:49.140

Amanda Bender: And a super typhoon just implies that the wind speeds are over 150 miles per hour so users significant weather events.

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00:21:50.610 --> 00:22:01.080

Amanda Bender: So, remember, I went in 2018 and 2019 so smack DAB in between those YouTube hits So what we are seeing when we came back in 2019 was a lot of the image for it.

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00:22:01.500 --> 00:22:13.290

Amanda Bender: But this is website for us will typically look like the secondary like needed for us inside and when we came back in 2019 a lot of it is really damaged so with the canopy damage.

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00:22:14.010 --> 00:22:24.240

Amanda Bender: The net fights were very hot and sunny which increased our net checks, we had to physically be out there checking to make sure birds weren't caught and just sitting in the sun.

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00:22:24.630 --> 00:22:32.490

Amanda Bender: And also just reduce the time that we had an update to face, we have the next open because it just got too hot, with no cover.

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00:22:33.090 --> 00:22:38.730

Amanda Bender: So made to feel work a lot harder on the team and more difficult to make sure the birds will not getting overheated.

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00:22:39.480 --> 00:22:46.620

Amanda Bender: The native fruiting trees like papaya had very low production in the field, usually will go out and harvest papaya.

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00:22:47.370 --> 00:22:55.830

Amanda Bender: to feed to the birds and the program that's the fruit that they're used to eating, so we just continue to eat at home, while other and analysis temporarily before their move.

116

00:22:56.070 --> 00:23:03.000

Amanda Bender: But there was basically no papaya available, so we had to rely on different fruits horses, when we were doing everything from.

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00:23:03.300 --> 00:23:13.050

Amanda Bender: frozen blueberries to can peaches just trying to make

sure we had enough proof to offer the bird so we had to get a little creative We also noted.

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00:23:13.620 --> 00:23:21.810

Amanda Bender: that many of the birds were coming in, which is lower body condition scores and that's kind of means that the person was quite as robust they weren't.

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00:23:22.140 --> 00:23:34.230

Amanda Bender: They didn't have as much weight on them as they had in previous years, overall we're still working really carefully with the vet team to make sure that we still felt confident, they were able to make the translocation journey.

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00:23:34.770 --> 00:23:41.760

Amanda Bender: But we definitely notice that the body condition to kind of dropped following the typhoon YouTube and 2018.

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00:23:43.830 --> 00:23:58.800

Amanda Bender: So, again kind of what what now I see what this does show is that translocation are still important, not only as they relate to the threat of the brown trees things, but also as they relate to really to.

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00:24:00.090 --> 00:24:08.940

Amanda Bender: To storm events like super tight citizens, because if a typhoon hits a particular island really hard it could really have a huge impact on the species of.

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00:24:09.300 --> 00:24:19.890

Amanda Bender: birds and other animals that are there so having an assurance population on another island, even though it's closed, it might it might fare better during some storm systems.

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00:24:21.690 --> 00:24:28.140

Amanda Bender: And again just advocacy climate change awareness just being able to kind of understand.

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00:24:29.160 --> 00:24:43.170

Amanda Bender: What our role is in climate change and what we can do even small things day to day to try to do our part to shift things in the right direction, I think, more than ever, we need more.

126

00:24:43.770 --> 00:24:57.150

Amanda Bender: advocacy around education and action towards reducing our impact on climate change, we may not be able to stop a typhoon from wiping out an island, just as we can't stop El Nino events in its tracks.

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00:24:57.720 --> 00:25:15.480

Amanda Bender: But we do have a responsibility to be better stewards of our earth and all the species on it so bit by bit by this we've affected this change on our world and our climate, so we, what we need to do now is just bit by bit, do everything we can do to support efforts to slow these negative impacts.

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00:25:18.120 --> 00:25:27.780

Amanda Bender: So with that i'd like to thank you and thank everyone who has made this work possible Thank you to the wild care Center for conservation and boots and one.

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00:25:28.200 --> 00:25:37.380

Amanda Bender: Thanks to the wild care Center craving conservation in the Pacific Islands, thank you also to my boss curator and keeper and the routine for supporting.

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00:25:38.220 --> 00:25:53.190

Amanda Bender: myself and other staff going out to do this impactful work and i've listed a few of our partners that work with us on these projects below, as well as my email address if you would like to ask any questions or reach out find the presentation.

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00:25:57.750 --> 00:26:03.930

Saint Louis Zoo Education Liaisons: Great Thank you so much amanda that was riveting, to say the least, I was glued.

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00:26:05.370 --> 00:26:22.740

Saint Louis Zoo Education Liaisons: To this presentation, because it's, not only is it fascinating just the work that's going on, but the compounding impacts from climate change on top of the basically the original issues, why the zoo got involved with the species is just it's just it's a lot.

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00:26:23.790 --> 00:26:25.350

Saint Louis Zoo Education Liaisons: We do have a few questions.

134

00:26:25.950 --> 00:26:32.550

Saint Louis Zoo Education Liaisons: I do, encourage anybody, if you have any other if you have questions, please type them in the Q amp a if you have any topics or.

135

00:26:33.420 --> 00:26:44.430

Saint Louis Zoo Education Liaisons: Anything that amanda discussed that you would like us to discuss further Please go ahead and put that in the chat so our question, so these go back to our penguins to the humbles.

136

00:26:44.520 --> 00:26:56.250

Saint Louis Zoo Education Liaisons: and push them on region a couple questions had to do with when you're talking since the numbers are so dramatically lower so much lower and just a few years.

137

00:26:57.570 --> 00:27:11.010

Saint Louis Zoo Education Liaisons: What are kind of the thoughts or assumptions of what's happening to those penguins so do do do scientist you guys think there's they're dying, are they moving woody, what do you guys think and so far.

138

00:27:11.640 --> 00:27:22.260

Amanda Bender: um it is, it is good to note that humble penguin tend to be very sensitive to disturbing and that's part of the reason why.

139

00:27:23.340 --> 00:27:31.560

Amanda Bender: Like the last photo I had a photo of the guards on the island, on the bottle island those folks are there to help try to.

140

00:27:33.330 --> 00:27:42.990

Amanda Bender: enforce and deter fishermen for coming really close to the islands and things like that that that can really hear the birds, so at certain site.

141

00:27:43.920 --> 00:27:52.080

Amanda Bender: it's possible that things events like that might have just disturbed that group, and is there disturbed enough they might just find another spot.

142

00:27:52.860 --> 00:28:01.170

Amanda Bender: But I think the, the main concern is that the warm waters, a little me know when they come across.

143

00:28:01.560 --> 00:28:10.020

Amanda Bender: They really just push the fish down and out and and lower lower the amount of fish that the humble even have access to.

144

00:28:10.290 --> 00:28:18.180

Amanda Bender: So they're they're traveling further their foraging farther and farther from their normal kind of foraging ranges to try to find food.

145

00:28:18.480 --> 00:28:29.460

Amanda Bender: And unfortunately, a lot of them do have trouble finding food and that's probably the main reason why we're seeing such a significant drop after these El Nino events.

146

00:28:33.660 --> 00:28:37.920

Saint Louis Zoo Education Liaisons: that's fascinating and it's it's kind of one of those like I guess and.

147

00:28:39.120 --> 00:28:57.120

Saint Louis Zoo Education Liaisons: Unfortunately, time will probably tell, at least in the next few years of you know where trends continue to go with how things keep changing and we do have a question about the Pacific island birds since you're moving them from one place to another do.

148

00:28:57.420 --> 00:28:58.140

Saint Louis Zoo Education Liaisons: Have you noticed.

149

00:28:58.170 --> 00:29:06.210

Saint Louis Zoo Education Liaisons: The Birds ever using their natural toning abilities to ever try to go back to the island from whence they came.

150

00:29:07.080 --> 00:29:15.330

Amanda Bender: Good question um so most of these feces have pretty small ranges I mean they're they're growing up on are living on islands that are.

151

00:29:16.470 --> 00:29:25.770

Amanda Bender: Pretty small like 40 square miles 100 square mile so the islands are really small for this and they don't really travel a ton even within the island.

152

00:29:26.550 --> 00:29:39.420

Amanda Bender: So one of the reasons that we that we do physically trans locate them is because they they wouldn't disperse themselves, they wouldn't necessarily island hop on their own.

153

00:29:40.080 --> 00:29:48.330

Amanda Bender: So we kind of have to gather them and drop them on to a new island, so that they can start to establish that other populations it's just not.

154

00:29:48.600 --> 00:30:06.180

Amanda Bender: part of their natural history to to travel long distances and migrate like a lot of the species that were used to hear my great huge fan twice a year, these guys are pretty much right where they are in that all they're interested in seeing so that's a really good question, though.

155

00:30:07.800 --> 00:30:16.050

Saint Louis Zoo Education Liaisons: And that makes sense and it's it's neat to think about I mean there's some like the diversity within bird species, but how depending on.

156

00:30:16.710 --> 00:30:25.980

Saint Louis Zoo Education Liaisons: That like I said, their home range what those actual movements look like and being able to get it's almost like hibernation and bears like if they get all the food they need.

157

00:30:26.250 --> 00:30:38.670

Saint Louis Zoo Education Liaisons: They don't have to hibernate if the birds get all they need from this one small area they're going to go and it's an you know, an island that i'm assuming has weather pretty similar all year round and.

158

00:30:39.120 --> 00:30:53.490

Amanda Bender: Yes, it's a tropical island, so the weather is pretty

consistent year around the trees are fruiting more Alexia year around so it's it's pretty much the same every day for them awesome.

159

00:30:55.470 --> 00:31:06.600

Saint Louis Zoo Education Liaisons: Now we've had a few questions go back to penguin sorry i'm bouncing all over the place for you i'm going back to penguins we've had a few questions that I was able to answer a couple of them about what the Waldo is used for and.

160

00:31:07.890 --> 00:31:11.700

Saint Louis Zoo Education Liaisons: How the one on kind of factors into the original.

161

00:31:13.380 --> 00:31:16.110

Saint Louis Zoo Education Liaisons: Conservation issue that the zoo was really interested.

162

00:31:16.140 --> 00:31:21.600

Saint Louis Zoo Education Liaisons: In right on and supporting, I think, let me see, we have a visitor.

163

00:31:22.680 --> 00:31:24.450

Saint Louis Zoo Education Liaisons: participant from Munich Germany so.

164

00:31:24.510 --> 00:31:26.190

Amanda Bender: Hello welcome.

165

00:31:26.550 --> 00:31:33.900

Saint Louis Zoo Education Liaisons: that's awesome but there she kind of with this person kind of went into a little more detail on their question whether or not.

166

00:31:34.680 --> 00:31:47.520

Saint Louis Zoo Education Liaisons: it's still a factor for these birds and whether or not there's a trade in the fertilizer or is it something that needs to be stopped band, and what the impact has, on top of climate change yeah.

167

00:31:47.550 --> 00:31:52.170

Amanda Bender: So going back like a few decades.

168

00:31:53.220 --> 00:32:04.710

Amanda Bender: The bottle harvest was one of the the kind of first things that helped us kind of get involved to helping to support conservation of humble penguins because.

169

00:32:06.600 --> 00:32:18.870

Amanda Bender: The guano on these islands sites, especially we're just getting stripped down to the rock super frequently, so the disturbance was really a problem for the penguins.

170

00:32:19.200 --> 00:32:29.070

Amanda Bender: But physically not having that guano to burrow down into and that's done was was a huge problem so once that was kind of identified.

171

00:32:30.750 --> 00:32:41.160

Amanda Bender: The there was a shift to more sustainable management of guano so the zoo supporting sustainable wild harvest harvest so that.

172

00:32:42.030 --> 00:32:52.680

Amanda Bender: You know, a site may not be service for 1015 years at a time, but then they have a you know, a harvest year concerted effort to go in there harvest.

173

00:32:53.580 --> 00:32:58.020

Amanda Bender: A sustainable amount and then pull back out and not mess with it again.

174

00:32:58.410 --> 00:33:10.590

Amanda Bender: For a long time and in many cases the humblest are contributing to the guano but it's many of the other birds vcs that are that are really piling on a lot of the supply of wine on like the.

175

00:33:11.010 --> 00:33:31.230

Amanda Bender: One I kormoran of movies pelicans things like that that are also using these islands as their recovery and nesting sites so they're sitting there really close together and just putting out tons of guano it's a super super abundance system, there are millions of seabird there.

176

00:33:32.550 --> 00:33:42.030

Amanda Bender: So yeah stripping the water repeatedly is causing problems from the penguins as well as the other birds just not allowing them to set up and and nest.

177

00:33:42.720 --> 00:34:03.990

Amanda Bender: So drop in all those the guano producing species equal to dropping guano, which was a huge problem, so now they're much more sustainable kind of regulations regarding the going to harvest that is still harvested, it is still used as part of their economy as a natural resource for fertilizer.

178

00:34:05.460 --> 00:34:16.350

Amanda Bender: But it's it's much more regulated and much more refined to be more sustainable, not only for the one on the fly, but for the birds that are they're producing.

179

00:34:18.840 --> 00:34:28.590

Saint Louis Zoo Education Liaisons: And that really speaks to kind of, as you mentioned, when you were talking about the El Nino events and how the fisher the fish impacts are hitting everybody.

180

00:34:28.680 --> 00:34:29.940

Amanda Bender: Not just young with another.

181

00:34:30.210 --> 00:34:47.820

Saint Louis Zoo Education Liaisons: Sea lions and other coastal animals, but people as well, and you know how already having that with, especially with the wealth care Center and what a wonderful job the wealth care Center does with that holistic approach of this ecosystem contains more than just one species.

182

00:34:47.850 --> 00:34:48.390

Saint Louis Zoo Education Liaisons: And it also.

183

00:34:48.540 --> 00:34:57.780

Saint Louis Zoo Education Liaisons: You know there's people there too, so addressing you know all those different factors is just remarkable really great.

184

00:34:57.840 --> 00:34:58.740

challenging.

185

00:35:00.330 --> 00:35:00.840

Saint Louis Zoo Education Liaisons: challenging.

186

00:35:03.900 --> 00:35:18.300

Saint Louis Zoo Education Liaisons: Alright, so we had okay another question about the El Nino um do you know the El Nino effects, is it, and I know your map kind of showed how it really does kind of just slam right into that area.

187

00:35:19.320 --> 00:35:29.490

Saint Louis Zoo Education Liaisons: Are there other like some more southern penguins like more Antarctic penguins if you know or not they're also filming you effects are also down there.

188

00:35:29.820 --> 00:35:35.130

Amanda Bender: as well, once you get down into chili.

189

00:35:35.430 --> 00:35:37.110

Amanda Bender: Or to lay um.

190

00:35:37.170 --> 00:35:43.410

Amanda Bender: You know the magellanic penguins kind of start creeping in real close to the humble penguin range on the website.

191

00:35:44.310 --> 00:35:56.730

Amanda Bender: But I would say they're probably the most likely species to be impacted as well by specifically El Nino events other climate change and other current changes impacts.

192

00:35:57.240 --> 00:36:15.210

Amanda Bender: Other penguins species, certainly, but i'd say the magellanic since they're so close to that range are probably the other species that are hit hardest by El Nino and the increase in frequency and intensity of El Nino events.

193

00:36:17.940 --> 00:36:27.240

Saint Louis Zoo Education Liaisons: yeah that makes sense, you know and it's and that's the thing with you know, one of the reasons it's great to have you presenting today and how climate change.

194

00:36:27.510 --> 00:36:41.790

Saint Louis Zoo Education Liaisons: Has these global impact, so what people are you know it doesn't it's not what the Mariana Islands are doing to contributing to climate change that is causing you know its global and it's you know what we're all doing.

195

00:36:43.230 --> 00:36:57.060

Saint Louis Zoo Education Liaisons: Okay, so going back to the Mariana Islands curious, we had a question if each islands ecosystem is unique somewhat like the Galapagos or are they all pretty similar.

196

00:36:58.920 --> 00:36:59.460

Amanda Bender: In.

197

00:37:00.090 --> 00:37:01.410

Saint Louis Zoo Education Liaisons: That region.

198

00:37:01.530 --> 00:37:02.310

Amanda Bender: they're all.

199

00:37:02.400 --> 00:37:13.590

Amanda Bender: Pretty similar and the Department of fish and wildlife helps us do kind of a habitat assessment before any animals would ever be translocated so they're looking to make sure that.

200

00:37:14.070 --> 00:37:23.610

Amanda Bender: They have appropriate fruiting trees for food and things like that and to see what other species might be on the island already if there are.

201

00:37:24.390 --> 00:37:34.140

Amanda Bender: Just to make sure we're not setting that population of you know, for failure we want to make sure they have what they need to be successful and sustainable long term.

202

00:37:34.980 --> 00:37:42.240

Amanda Bender: So the permanent fish and wildlife helps to do a lot of those assessments beforehand, but many of those islands are pretty much.

203

00:37:43.230 --> 00:37:57.960

Amanda Bender: pretty much exactly the same, which is handy because they're all kind of scattered all throughout the South Pacific, but we, there are measures in place to make sure that they're suitable before we decide to move the species there.

204

00:38:00.000 --> 00:38:08.010

Saint Louis Zoo Education Liaisons: Nice and speaking of US fish and wildlife is the brown tree snake being eradicated from any of the islands which.

205

00:38:08.430 --> 00:38:10.440

Amanda Bender: is a really great question so.

206

00:38:11.460 --> 00:38:11.940

Saint Louis Zoo Education Liaisons: The.

207

00:38:12.300 --> 00:38:20.430

Amanda Bender: brown tree snake is a tricky creature it's very prolific and there have been several.

208

00:38:21.450 --> 00:38:34.920

Amanda Bender: You know, different management strategies to try to curb their population and bring them bring them down to a place where they could functionally be eradicated unfortunately that's really difficult to do.

209

00:38:36.480 --> 00:38:50.430

Amanda Bender: Their breeding and such huge numbers and they're fairly small and abundance everywhere it's it's a bigger problem then.

210

00:38:50.970 --> 00:39:03.150

Amanda Bender: It sounds so great, like some we just don't kill all those things and just to protect but I i'm trying i'm grasping at the words to explain to you how abundant they are and just how difficult that will be.

211

00:39:03.960 --> 00:39:14.460

Amanda Bender: Some of the measures that they have tried are like the fetus than acetaminophen mousetraps so acetaminophen is a drug that we take you know tylenol.

212

00:39:16.320 --> 00:39:25.290

Amanda Bender: it's totally fine for us, but for the snakes and sexually Liesl so they would basically dose mice dead night.

213

00:39:25.980 --> 00:39:33.510

Amanda Bender: With acetaminophen and drop them all over the island with the hopes that the snakes to pick them up and die, and that they could control the population that way.

214

00:39:34.320 --> 00:39:44.310

Amanda Bender: It works, some of the time, but it's not effective enough to bring the population down to zero when uh I think this like stats are like a female.

215

00:39:44.880 --> 00:39:57.810

Amanda Bender: From trees, they can have something like close to 500 young in a culture something absolutely absurd so they're they're just explosively taking off whenever they have the opportunity.

216

00:39:58.950 --> 00:40:16.260

Amanda Bender: So it's hard, there is a small site on one at the air force base there that they have been able to kind of partition off with snake barrier fences and things so there's kind of a site there that's a little more snakes proof.

217

00:40:17.100 --> 00:40:34.800

Amanda Bender: So they're kind of playing with ways like if that could be expanded, over time, but they're they're very good at climbing they're very good at figuring now even like safety net box kind of situation they figure out how to get in and get the birds so it's a tricky problem, I think.

218

00:40:36.000 --> 00:40:44.130

Amanda Bender: it's still worth investigating and a lot of effort is going into investigating how to get rid of the wrong tree snakes but.

219

00:40:44.730 --> 00:40:58.680

Amanda Bender: I think there may be other ways to get some of those feces on to other islands that might be more effective at this point, unfortunately they're just they're really tricky.

220

00:41:02.550 --> 00:41:08.130

Saint Louis Zoo Education Liaisons: So one of the species, you mentioned that is hanging in, there is the guam Kingfisher.

221

00:41:08.370 --> 00:41:26.640

Saint Louis Zoo Education Liaisons: yeah, and so I had kind of two questions along those lines, the first one is, do you think the captive population, so the population in human care zoos will ever be support reintroduction or is it kind of just to make sure they don't go extinct.

222

00:41:26.790 --> 00:41:29.340

Amanda Bender: that's a great question and a.

223

00:41:29.730 --> 00:41:31.260

Amanda Bender: question that I think.

224

00:41:31.380 --> 00:41:38.370

Amanda Bender: is very exciting to finally have like a glimmer of hope and a really good answer do so.

225

00:41:39.180 --> 00:41:57.030

Amanda Bender: The power of fish and wildlife and I you CN as well as easy issues that are better holding the species currently is working together to form plan to reintroduce the species into the wild not on guam but on a similar.

226

00:41:58.440 --> 00:42:03.240

Amanda Bender: A similar island that would be appropriate for for their release.

227

00:42:03.900 --> 00:42:15.780

Amanda Bender: So that plan well, while we're you know reaching for the stars takes a lot of steps and a lot of planning to make sure that you know the hundred and 60.

228

00:42:16.140 --> 00:42:32.370

Amanda Bender: guam kingfishers that are insisting now today like we need to do well by them to make sure that their offspring are successful there, so what that process will likely kind of look like and what they're planning on is having a eggs.

229

00:42:34.080 --> 00:42:42.030

Amanda Bender: that are laid in az institution sent to a secondary kind of training site where the chicks will be reared.

230

00:42:42.660 --> 00:42:50.280

Amanda Bender: they'll be kind of as you ever grown seedlings and signed, and you know you have to harden not your plants before you can place them outside.

231

00:42:50.460 --> 00:42:57.360

Amanda Bender: that's kind of the same steps that they're hoping to take the gone Kingfisher so these agents will be sent to a secondary island site.

232

00:42:58.260 --> 00:43:06.390

Amanda Bender: Where there'll be an outdoor enclosures they'll be able to you know naturally forage and catch lizards and and.

233

00:43:07.200 --> 00:43:17.340

Amanda Bender: have appropriate predator responses and things like that, and then they would be moved from that site to the destination island.

234

00:43:18.090 --> 00:43:27.450

Amanda Bender: That they're they're still kind of working out where is appropriate and identifying the best place one cool thing that we've been involved with here at St Louis.

235

00:43:27.960 --> 00:43:39.420

Amanda Bender: In conjunction with the zoological society one, then there is an investigator there, who is doing a study and other ACTA institutions to have one kingfishers currently.

236

00:43:40.200 --> 00:43:52.380

Amanda Bender: They were investigating radio transmitter attach attachments methods, because once those birds are put out on that new island we're going to want to know where they're going and mark.

237

00:43:53.430 --> 00:44:04.680

Amanda Bender: You know mark their their their movements and their territories where they're hunting who they're pairing up with and and

get a glimpse of all those behaviors because this will be the first time they're back out in wild.

238

00:44:05.520 --> 00:44:13.770

Amanda Bender: So we here put transmitters have a couple different styles types on some of our uncared birds.

239

00:44:14.100 --> 00:44:27.090

Amanda Bender: Just to see how they did with them over time, make sure there wasn't too much like where of their feathers make sure their waists didn't draw or anything unusual based on those attachment types what we did find is.

240

00:44:28.320 --> 00:44:35.040

Amanda Bender: Some of the attachment types didn't work as well for bumpy kingfishers as they probably work on other species of birds.

241

00:44:35.700 --> 00:44:43.590

Amanda Bender: kingfishers are they're very you know funky they've got a lot of grit and they also have a pretty strong bill, even for a.

242

00:44:43.890 --> 00:44:51.480

Amanda Bender: Small species, so they were able to rip those transmitters off and work on the little straps that are attaching them over time.

243

00:44:51.810 --> 00:45:01.710

Amanda Bender: So there are a couple of those attachment methods that we found out pretty quickly probably weren't going to work and certainly weren't going to be something we can rely on long term once we.

244

00:45:02.100 --> 00:45:21.180

Amanda Bender: Eventually, move them back into their their their new wild home, but that was a really cool kind of building block project to be a part of and work on as we prepare slowly to actually get the species back out into the wild don't really exciting work.

245

00:45:21.960 --> 00:45:29.520

Saint Louis Zoo Education Liaisons: that's amazing, and you know it has has to be challenging you have an animal that can reach its back, and you know pretty much everywhere.

246

00:45:30.930 --> 00:45:42.420

Saint Louis Zoo Education Liaisons: But I mean we could do an entire webinar at some point just on like reintroduction and what that looks like because it's it's never as simple as just taking an animal from.

247

00:45:42.870 --> 00:45:53.310

Saint Louis Zoo Education Liaisons: In human care and just placing it out, you know, in a new habitat so yeah that's incredible and it's fantastic to hear that there's a lot of promise there.

248

00:45:55.800 --> 00:46:12.030

Saint Louis Zoo Education Liaisons: Now, going back to the lung kingfishers and then they said the guam rail is the other birds that is hanging in there have they notice any reason, in particular, why that those two are are able to hang in there with the country's name or they just too big for this next to eat or.

249

00:46:13.530 --> 00:46:20.370

Amanda Bender: Thank you for bringing this question up and helping me clarify so those two species, no longer exist on guam their.

250

00:46:20.430 --> 00:46:20.670

Little.

251

00:46:21.720 --> 00:46:24.750

Amanda Bender: yeah unfortunately they do persist.

252

00:46:25.380 --> 00:46:27.690

Amanda Bender: In human care only.

253

00:46:27.990 --> 00:46:35.220

Amanda Bender: got john doe where we're glad that we were able to save those from the ground three things kind of eradication.

254

00:46:35.670 --> 00:46:49.410

Saint Louis Zoo Education Liaisons: gotcha yeah and then frank had a question are there still problems with tourists in the area around, so this is perak us which i'm is maybe in taipan.

255

00:46:50.310 --> 00:46:51.000

Amanda Bender: In Peru.

256

00:46:51.510 --> 00:47:01.710

Saint Louis Zoo Education Liaisons: and Peru okay that tour Okay, so are there any issues with tourists in that region that in terms of disturbing the penguin since you mentioned they're so sensitive to.

257

00:47:02.700 --> 00:47:17.730

Amanda Bender: Definitely progress is a very touristy kind of area I don't have like any specific stats or increase decrease kind of feelings or information about what's been going on in practice.

258

00:47:18.120 --> 00:47:28.920

Amanda Bender: Recently, but they do do a paid boat tour out to one of the islands, the general public can just go to and pay to see penguins kind of thing.

259

00:47:30.990 --> 00:47:40.830

Amanda Bender: So, most of the island that we're visiting visiting typically to do our sentence, where all of those spaces, we have to have permits and all those things even get close.

260

00:47:41.730 --> 00:47:51.090

Amanda Bender: So practice being a more touristy area it wouldn't surprise me if some of that is still kind of persisting but I don't have a great day, just so like.

261

00:47:51.420 --> 00:48:11.550

Amanda Bender: better or worse than previous I do know that it seems like Caracas and its tourist areas kind of growing and getting more popular so it could you know we could infer that maybe it has potential to maybe be a little bit worse, but I don't have a great answer.

262

00:48:15.330 --> 00:48:15.990

Saint Louis Zoo Education Liaisons: that's good.

263

00:48:17.760 --> 00:48:26.880

Saint Louis Zoo Education Liaisons: All one last question about Peru and then we've got some exciting questions about local birds to see what kind of efforts, we can do there.

264

00:48:27.900 --> 00:48:35.340

Saint Louis Zoo Education Liaisons: So a question came in about artificial nesting so and for specifically for the penguins.

265

00:48:36.660 --> 00:48:41.520

Saint Louis Zoo Education Liaisons: Are those are we able to do that or support any of that intro.

266

00:48:41.940 --> 00:48:53.820

Amanda Bender: Yes, we've done a fair bit of artificial next next box support for who does anyone kind of testing out different styles and figuring out.

267

00:48:54.180 --> 00:49:05.760

Amanda Bender: Which material they can be made of to make sure that the insights aren't getting too hot for the bird on consider the desert climate and it can get very hot.

268

00:49:05.790 --> 00:49:06.660

Amanda Bender: during the day.

269

00:49:07.080 --> 00:49:08.880

Amanda Bender: So yeah we've done quite a bit of.

270

00:49:10.020 --> 00:49:14.340

Amanda Bender: Artificial ness box support for for the humble penguins over time.

271

00:49:18.570 --> 00:49:21.930

Saint Louis Zoo Education Liaisons: Very cool and yeah before we move on to.

272

00:49:23.490 --> 00:49:31.110

Saint Louis Zoo Education Liaisons: native birds and the questions we have there because there's a lot of cool work going on with those guys and I just want to encourage everybody, you know.

273

00:49:32.250 --> 00:49:38.460

Saint Louis Zoo Education Liaisons: Climate change is big its global

it's affecting all kinds of people all kinds of ecosystems and.

274

00:49:38.820 --> 00:49:52.920

Saint Louis Zoo Education Liaisons: amanda just gave us some pretty sobering examples of what's really good what is going on in some of the areas that we work, and so I encourage everyone to really think about you know Community solutions Community based solutions.

275

00:49:53.970 --> 00:50:05.010

Saint Louis Zoo Education Liaisons: You know we've talked a lot in our webinars about all kinds of different solutions, so I definitely encourage you to rewatch a lot of those if you're really seeking out any opportunities to find solutions so.

276

00:50:05.940 --> 00:50:21.990

Saint Louis Zoo Education Liaisons: What we do here and the big actions, we can take here do have global impacts, which is pretty incredible but switching back to local Do you see any effects of climate change on birds and misery, so I know we've got a whole song great initiative.

277

00:50:23.820 --> 00:50:25.080

Saint Louis Zoo Education Liaisons: So yeah.

278

00:50:25.740 --> 00:50:41.940

Amanda Bender: that's a really great question um off the top of my head I don't have any great like pivotal examples of climate change impacts, though I have no doubt that says there is happening.

279

00:50:43.080 --> 00:50:51.210

Amanda Bender: Especially you know the bird says they're migrating are cute in so not only the link but they're arriving at sites, because.

280

00:50:51.660 --> 00:50:58.710

Amanda Bender: they're evolutionarily they evolutionarily have learned that once they get there it's going to be abundant with.

281

00:50:59.190 --> 00:51:07.920

Amanda Bender: You know SAP slow or insects, or whatever the case may be, so climate change can definitely impact, a lot of those things.

282

00:51:08.160 --> 00:51:17.220

Amanda Bender: are like they get there, and the bugs are already done, you know they're they're already moving on or they've done their breeding flights or whatever the Insects are doing, you know so.

283

00:51:17.580 --> 00:51:29.670

Amanda Bender: I think they're definitely probably things happening I don't have any great like example for native for but climate change impacts everything.

284

00:51:30.930 --> 00:51:31.350

Amanda Bender: So.

285

00:51:31.920 --> 00:51:32.730

Saint Louis Zoo Education Liaisons: yeah and I think.

286

00:51:34.200 --> 00:51:53.190

Saint Louis Zoo Education Liaisons: yeah I think the food chain connection is probably one of the more apparent or a little easier to see or see kind of creeping up like you said, with the way things have blooming differently, and the way animals react to that, and then it just you know works its way up the chain for sure.

287

00:51:55.710 --> 00:52:18.690

Saint Louis Zoo Education Liaisons: Also, with local birds, we have someone Andrew is doing his capstone project on Feral cats in his universities area and he was wondering if the zoo has studied invasive Feral cats affecting bird populations so kind of drawing a parallel between the trees snakes in Japan and cats here.

288

00:52:19.200 --> 00:52:31.980

Amanda Bender: Absolutely had our wonderful domesticated animals and lots of love happiness test five certainly going down on cast too much, but outdoor cats.

289

00:52:32.400 --> 00:52:44.250

Amanda Bender: We have found really be a huge problem for native birds they unfortunately predate or kill more than 2 billion birds every year.

290

00:52:45.180 --> 00:53:01.800

Amanda Bender: So they are being like number one killer of birds,

unfortunately, here in the US, so we have done a lot of work, trying to kind of just educate and advocate for if you have a pet cat.

291

00:53:02.310 --> 00:53:16.710

Amanda Bender: Wonderful we think that's great, but just kind of asking people to consider keeping those guys inside I think it's you know, culturally, a very popular thing to have outdoor cats or have barn casts and things like that.

292

00:53:17.280 --> 00:53:24.360

Amanda Bender: But those cats are predatory of all sorts of small animals, but especially small bursts and.

293

00:53:25.980 --> 00:53:30.810

Amanda Bender: So they can be really devastating to somber populations in North America.

294

00:53:31.860 --> 00:53:38.970

Saint Louis Zoo Education Liaisons: yeah and i've actually seen all kinds of very creative ways to still get your cat time outside.

295

00:53:39.150 --> 00:53:47.580

Saint Louis Zoo Education Liaisons: yeah out them being able to predate on birds, so I highly recommend people checking those out if you know.

296

00:53:47.940 --> 00:54:01.650

Saint Louis Zoo Education Liaisons: If this is a topic that interests you because there's some and even like zoo employees that have cats I know plenty of them that could find all kinds of creative ways, so they can still be cats without decimating our populations exactly yeah.

297

00:54:02.580 --> 00:54:10.020

Amanda Bender: And it's much safer for the cats as well, and people don't realize the dangers and diseases and try.

298

00:54:10.140 --> 00:54:12.900

Amanda Bender: to catch bass by being an outdoor cat.

299

00:54:13.980 --> 00:54:17.250

Amanda Bender: So, considering those for your capsules as well, I think it's important.

300

00:54:18.000 --> 00:54:18.480

For sure.

301

00:54:19.800 --> 00:54:34.830

Saint Louis Zoo Education Liaisons: Someone asked, and this is a really awesome question um, are there any citizen science opportunities for this work that you've been talking about so participating in joining or participating in these projects.

302

00:54:34.920 --> 00:54:40.650

Amanda Bender: Oh, like the civic to be 12 hair projects that's really great question um.

303

00:54:42.630 --> 00:54:43.050

Amanda Bender: I.

304

00:54:44.490 --> 00:54:59.820

Amanda Bender: In in those regions we do a lot of Community like activities and outreach and things but that might be something that we could investigate in the future, how to help make a direct connection with our Community here in those spaces.

305

00:55:00.600 --> 00:55:05.610

Amanda Bender: there's not something kind of already established, but I think that's a really cool idea.

306

00:55:06.330 --> 00:55:19.950

Saint Louis Zoo Education Liaisons: Well, and do you know of any local that might be a little more accessible, because i'm kerri travels with you, I know it's a lot of work to get to get to say manner to get to Peru.

307

00:55:20.850 --> 00:55:26.250

Saint Louis Zoo Education Liaisons: locally or there to kind of get people a little more engaged with their backyard birds.

308

00:55:27.300 --> 00:55:42.690

Amanda Bender: there's a lot that we can do our folks can do locally,

there are several different like first counts, that are encouraged kind of throughout the year there's the great backyard for counts in the spring there's also the Christmas counts.

309

00:55:43.230 --> 00:55:48.750

Amanda Bender: Usually, if you check out the audubon website, the one on St Louis.

310

00:55:49.860 --> 00:56:03.360

Amanda Bender: Chapter they'll have a lot of information about how you can sign up and basically this year they shifted the great backyard for count to be just on your phone through the Cornell.

311

00:56:04.470 --> 00:56:20.430

Amanda Bender: Bird APP So if you saw her you could just do it right there on your phone say I saw a bird and even if you aren't sure what the bird is that actually helps you kind of walk through based on what's the bird was doing where you saw it what's the general size of the bird you know the.

312

00:56:20.730 --> 00:56:22.350

Amanda Bender: barrel size rossides.

313

00:56:22.380 --> 00:56:29.400

Amanda Bender: Pro size that kind of thing, so can help you identify and then you say yep that's my bird and they're collecting all that data.

314

00:56:30.120 --> 00:56:40.740

Amanda Bender: To to kind of put towards citizen science projects and just really good general data collection if you're a little more involved or interested, you can also participate.

315

00:56:41.250 --> 00:56:52.500

Amanda Bender: In he bird is is a great online kind of birding law where you can check in different locations and what birds you're seeing in different areas.

316

00:56:52.770 --> 00:57:04.890

Amanda Bender: Especially right now, during spring migration is a super fun time to get out there and see what you might see because there are lots of different species migrating through our area we sit.

317

00:57:05.160 --> 00:57:05.790

Amanda Bender: Right in this.

318

00:57:05.880 --> 00:57:08.790

Amanda Bender: magical place right in the middle of the country.

319

00:57:09.480 --> 00:57:18.810

Amanda Bender: called the Mississippi flyway like 60% of species that are migrating across North America are using our flyweight so the right.

320

00:57:19.050 --> 00:57:30.270

Amanda Bender: Here in our backyard and I think that's something that a lot of people, maybe don't realize or take it for granted, but there's a lot of really amazing things to see right now, and if you go just a little bit north.

321

00:57:30.600 --> 00:57:38.460

Amanda Bender: you'll likely see sand hill cranes, and some of the other species, they may not be right here in St Louis, but you can make a fun day trip out of it and.

322

00:57:39.030 --> 00:57:48.990

Amanda Bender: see some cranes, and things like that, so this is a really special place in time we actually want to get more involved any of those kind of bird counts or check out a bird.

323

00:57:49.710 --> 00:58:02.220

Amanda Bender: would be a fun place to start also just putting out a feeder and seeing what might be encouraged to hang out in your backyard is a really fun and easy way to get involved in and see see some birds.

324

00:58:03.540 --> 00:58:13.830

Saint Louis Zoo Education Liaisons: yeah and that's because it's citizen science, because it is data collection that contributes to a body of knowledge that will help us answer some of these bigger questions like.

325

00:58:14.340 --> 00:58:17.550

Saint Louis Zoo Education Liaisons: How our movements populations How are things changing.

326

00:58:17.880 --> 00:58:31.140

Saint Louis Zoo Education Liaisons: And so, even doing something like that is a huge step is a huge action for birds and for this type of data that's going to help us figure these things out to know what steps some really specific steps we can take.

327

00:58:31.620 --> 00:58:39.300

Saint Louis Zoo Education Liaisons: And our you know local governments and whoever can take to help preserve and conserve the species.

328

00:58:40.620 --> 00:58:49.500

Saint Louis Zoo Education Liaisons: So it's awesome yay and what a great way to end on what we can do here and all these great things we can do to help birds all over the world, so.

329

00:58:50.100 --> 00:59:01.980

Saint Louis Zoo Education Liaisons: We are just at time so I apologize if we didn't get to your question feel free like amanda shared her email so feel free to reach out to amanda and amanda i'm wondering.

330

00:59:03.540 --> 00:59:18.420

Saint Louis Zoo Education Liaisons: When we post so you'll be posting this recording of next week, take a look for next week i'm wondering if we can throw in are some of the links to some of the citizen science stuff.

331

00:59:18.450 --> 00:59:21.330

Amanda Bender: yeah yeah i'd be happy to share those with you.

332

00:59:21.690 --> 00:59:35.820

Saint Louis Zoo Education Liaisons: Okay, great we'll post that, along with the video so if anybody is interested, you can have fine quick access to those so you can get involved and take some action for birds.

333

00:59:36.750 --> 00:59:55.590

Saint Louis Zoo Education Liaisons: All right, well, I think you're just at time amazing Well done, everybody I love when everything just inches up perfectly, so thank you all so much for joining us Thank you

so much amanda for your fabulous presentation and facilitating our fantastic discussion tonight.

334

00:59:59.730 --> 01:00:00.330
frank fischer: amanda.

335

01:00:00.630 --> 01:00:01.470
Amanda Bender: Thank you, frank.

336

01:00:03.390 --> 01:00:10.620
Saint Louis Zoo Education Liaisons: And thank you to frank and wanda for helping navigate all your amazing questions and keep an eye on the chat for us tonight so.

337

01:00:11.400 --> 01:00:23.670
Saint Louis Zoo Education Liaisons: Everyone, please be on the lookout for information on next month's Community climate for Forum, which will be held on April 14 at 5:30pm have a wonderful rest of your evening everyone, thank you for joining us.

338

01:00:26.190 --> 01:00:27.090
frank fischer: Thanks Lisa.

339

01:00:28.110 --> 01:00:30.150
frank fischer: Take care care.