

Wild Hope
Salamander of the Gods

	TIMECODE	GRAPHICS ONSCREEN	AUDIO
1.	01:00:02:19	[Subtitles in ENGLISH]: <i>It's very special because it is a mythical animal. It's a unique species in the world.</i>	OMAR DOMINGUEZ DOMINGUEZ (Spanish): <i>Es muy especial porque es un animal mítico. Es una especie que es única en el mundo.</i>
2.	01:00:13:15	[Subtitles in ENGLISH]: <i>It's a species that many people want to have in their homes.</i> [Subtitles in ENGLISH]: <i>They exist in zoos all over the world.</i>	OMAR DOMINGUEZ DOMINGUEZ (Spanish): <i>Es una especie que mucha gente quiere tener ahora en sus casas.</i> OMAR DOMINGUEZ DOMINGUEZ (Spanish): <i>En los zoológicos existen alrededor de todo el mundo.</i>
3.	01:00:24:20	[Subtitles in ENGLISH]: <i>Despite the fact that they are all over, they are on the verge of extinction in the wild.</i>	OMAR DOMINGUEZ DOMINGUEZ (Spanish): <i>A pesar de que existen alrededor del mundo, está al borde de la extinción en la naturaleza.</i>
4.	01:00:37:06	[Subtitles in ENGLISH]: <i>As conservationists, we think it's necessary to find out whether there's a population that can be recovered.</i>	OMAR DOMINGUEZ DOMINGUEZ (Spanish): <i>Creemos que es necesario averiguar si realmente si había una población que podía ser recuperada.</i>
5.	01:00:47:11 01:01:02:12	GRAPHICS ONSCREEN: WILD HOPE GRAPHICS ONSCREEN: SALAMANDER OF THE GODS	
6.	01:01:08:10		NARRATOR: MEXICO CITY IS HOME TO OVER 20 MILLION PEOPLE – A MEGACITY WHERE BUILDINGS AND CONCRETE SPRAWL OVER 500 SQUARE MILES. BUT IN A SMALL CORNER OF THIS METROPOLIS, THERE'S A REMNANT OF A MORE NATURAL WORLD. LAKE XOCHIMILCO. AND IT'S HOME TO A MYTHICAL CREATURE.
7.	01:01:35:05	[Subtitles in ENGLISH]: <i>I've been working here in Xochimilco for ten years. Xochimilco today is an example of what Mexico's basin used to look like. It was a huge network of channels and lagoons. What's interesting about this area is that the people who lived here built this system of chinampas to produce food for the</i>	CARLOS SUMANO (Spanish): <i>Llevo diez años trabajando en Xochimilco. Ahora Xochimilco es una muestra de cómo fue, eh, toda la zona lacustre de, de la cuenca de México. Era una red muy, muy grande de canales y de lagunas.</i> <i>(Nature sounds)</i> <i>Que lograron algo interesante de esta, de esta zona y de cómo era, es que, los pobladores que crearon el sistema de chinampas lograron un sistema de, de producción que, que está en comunión con el ecosistema.</i>

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		<i>community by working with the ecosystem.</i>	<i>(Birds chirping)</i>
8.	01:02:09:15	LOWER THIRD: Carlos Uriel Sumano Arias Development Planner, National Autonomous Univ. of Mexico	NARRATOR: CHINAMPAS ARE LARGE, MAN-MADE FARMING ISLANDS CREATED BY THE AZTEC BEGINNING IN THE 14TH CENTURY. THEY BUILT THEIR CAPITAL ON AN ISLAND IN A VAST LAKE, AND USED A SERIES OF COMPLEX DYKES, LEVEES, AND CANALS TO KEEP THEIR CITY FROM FLOODING.
9.	01:02:32:03 01:02:40:03	GRAPHICS ONSCREEN: Lake Texcoco and Mexico City through the centuries	NARRATOR: WHEN THE SPANIARDS ARRIVED, THEY FOUNDED MEXICO CITY ON THIS LOCATION. BUT THEY IGNORED THE AZTEC'S UNDERSTANDING OF THIS LANDSCAPE, AND DRAINED THE LAKE TO PREVENT FLOODING. ALL THAT IS LEFT OF THAT WATERWORLD IS LAKE XOCHIMILCO. AND IT'S THE ONLY PLACE IN THE WILD TO FIND A CREATURE THAT WAS REVERED BY THE AZTEC: A SALAMANDER KNOWN AS THE AXOLOTL. BUT HOW MANY STILL SURVIVE IN THESE URBAN WATERS?
10.	01:03:04:14		LUIS ZAMBRANO: <i>Not too many. The problem was that nobody cared.</i>
11.	01:03:08:21		NARRATOR: DR. LUIS ZAMBRANO HAS BEEN LEADING THE EFFORT TO SAVE WILD AXOLOTLS FOR ALMOST 20 YEARS. BUT IT WASN'T QUITE LOVE AT FIRST SIGHT.
12.	01:03:18:23 01:03:20:12	LOWER THIRD: Luis Zambrano Biologist, National Autonomous Univ. of Mexico	LUIS ZAMBRANO: <i>As I always said, my love with axolotls is a second date love. It was not first date love. Normally the first date is with people basically that you are attracted to. Would be something like a mammal, I mean, a wolf or a bear or something like that that you like a lot. And the axolotls are the complete opposite. They, they are really, really slimy, small, dark but they are really interesting in many ways.</i>
13.	01:03:52:11		NARRATOR: LUIS HAS SEEN FIRST HAND HOW THIS REMARKABLE CREATURE HAS CHARMED ITS WAY INTO MANY HEARTS.
14.	01:03:58:00		LUIS ZAMBRANO: <i>Suddenly, in the last 10-15 years, the animal became really, really popular nationally and internationally.</i>

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			<p><i>(Sound of motor passing)</i></p> <p><i>You started to see people in love of axolotls in Germany, in Japan, in Korea, in the US, they love the axolotls as pets. All the biological characteristics, all the cultural characteristics helped a lot of the popularity.</i></p>
15.	01:04:23:06		<p>NARRATOR: SOME OF THE ADULATION MAY HAVE TO DO WITH ITS EXTRAORDINARY ABILITIES.</p>
16.	01:04:28:15		<p>LUIS ZAMBRANO: <i>The axolotl can regrow tissues. If it lose limb or it lose the tail or it lose the gills, or even if it lose the eye or the brain, he or she can regenerate the tissues and be as good as new.</i></p>
17.	01:04:46:13		<p>NARRATOR: AS THE AXOLOTL HAS GAINED MORE FANS, THE CAPTIVE-BRED POPULATION HAS RISEN TO ABOUT A MILLION.</p> <p>BUT THOSE CONDEMNED TO A SHRINKING AND POLLUTED NATURAL HABITAT ARE DYING OUT.</p> <p><i>(Water splashing)</i></p>
18.	01:05:00:19		<p>LUIS ZAMBRANO: <i>The first time that there was a census in... in... for the axolotls was in 1998.</i></p>
19.	01:05:07:05		<p>NARRATOR: AT THE TIME THE TEAM COUNTED 6,000 AXOLOTLS PER SQUARE KILOMETER.</p>
20.	01:05:13:13		<p>LUIS ZAMBRANO: <i>And the last one, we, we did it in 2014, '15 was 36. So, in almost 20 years, the axolotl's population reduced from 6,000 to 36 per square kilometer. The biggest threats of the... for the axolotls are water quality, which is changing all the time and exotic species, such as carp and tilapia.</i></p> <p><i>(Water splashing)</i></p>
21.	01:05:37:06		<p>NARRATOR: THESE FISH WERE ADDED TO MEXICO CITY'S WATERWAYS IN THE SEVENTIES AS AN ADDITIONAL FOOD SOURCE.</p> <p>UNFORTUNATELY, THEY SOON BEGAN TO PREY ON AXOLOTL EGGS AND YOUNG.</p>
22.	01:05:49:16		<p>LUIS ZAMBRANO: <i>So to reduce these threats we started to work with chinamperos that have the chinampas.</i></p> <p><i>(Birds chirping)</i></p>

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23.	01:06:01:20		<p>NARRATOR: CHINAMPEROS ARE THE FARMERS WHO MAINTAIN THESE MAN-MADE ISLANDS.</p> <p>CARLOS HAS SPENT THE LAST DECADE CULTIVATING THIS PARTNERSHIP - WORKING TO APPLY SUSTAINABLE FARMING PRACTICES THAT CAN RESTORE THE AXOLOTL'S DELICATE ECOSYSTEM.</p>
24.	01:06:17:12	<p>[Subtitles in ENGLISH]: <i>My job is to build refuges together with the chinamperos so that axolotls are once again in their natural habitat, and we need to improve water quality for that to happen—so they can live.</i></p>	<p>CARLOS SUMANO (Spanish): <i>Mi trabajo es construir junto con los chinamperos refugios para, para lograr que los ajolotes otra vez estén en, en su hábitat natural, mejorar mucho la calidad de, de agua para que eso suceda, para que puedan vivir.</i></p>
25.	01:06:36:09		<p>NARRATOR: THESE REFUGES ARE PART OF A FARMING TECHNIQUE THAT CLEANS THE WATER IN THE SURROUNDING CANALS FOR CROP IRRIGATION INSTEAD OF USING PESTICIDES.</p>
26.	01:06:49:06	<p>[Subtitles in ENGLISH]: <i>If we work a chinampa working with no agrochemicals, no poisons and without applying pesticides, then we can have a high quality channel and potentially, axolotls.</i></p>	<p>CARLOS SUMANO (Spanish): <i>Si tenemos una chinampa que se trabaja sin agroquímicos, sin venenos, no se aplica ningún tipo de pesticida, entonces podemos tener un canal de muy buena calidad, tenemos la posibilidad de tener ajolotes.</i></p>
27.	01:07:05:03		<p>NARRATOR: A NEW GENERATION OF FARMERS IS JOINING IN THE CAMPAIGN TO RESTORE THE AXOLOTL'S HOME.</p>
28.	01:07:15:05	<p>[Subtitles in ENGLISH]: <i>My grandparents were chinamperos, but they sold their land because they thought nobody wanted to be a farmer.</i></p>	<p>CLAUDIA MEDINA CASTILLO (Spanish): <i>Mis abuelos eran chinamperos, pero justamente, eh, vendieron todas las tierras porque pensaban que nadie quería ser, eh, campesino.</i></p>
29.	01:07:24:06	<p>LOWER THIRD: Claudia Medina Castillo Farmer</p>	<p>NARRATOR: CLAUDIA MEDINA CASTILLO WAS A YOUNG CHILD WHEN HER GRANDPARENTS SOLD OFF THEIR LAND BECAUSE HER FAMILY HAD OTHER PLANS FOR HER AND HER SIBLINGS.</p>
30.	01:07:34:15	<p>[Subtitles in ENGLISH]: <i>My family encouraged everyone to study. I studied Biology at UNAM's Faculty of Science. My siblings and I are the first generation to go to college in my family.</i></p>	<p>CLAUDIA MEDINA CASTILLO (Spanish): <i>Mi familia se impulsó, pues, el que sa, salieran a estudiar. Yo estudié biología en la facultad de ciencias de la UNAM.</i></p> <p><i>(Grass pulled from ground)</i></p>

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			Nosotros somos, eh, yo y mis hermanos, la primera generación de la familia universitaria.
31.	01:07:48:16	[Subtitles in ENGLISH]: <i>Like any young person, I wanted to see the world, but I realized the importance of this land and our identity. The history that our grandparents told us about is getting lost.</i>	CLAUDIA MEDINA CASTILLO (Spanish): <i>Como cualquier joven quería salir a conocer el mundo, pero me di cuenta de la importancia del territorio, de la importancia de nuestra identidad. La historia que, que incluso nuestros abuelos nos contaron se está perdiendo, no?</i>
32.	01:08:04:00		NARRATOR: SO, CLAUDIA DECIDED TO PUT HER BIOLOGY DEGREE TO WORK IN A CHINAMPA.
33.	01:08:09:00	[Subtitles in ENGLISH]: <i>We not only have to conserve but restore.</i>	CLAUDIA MEDINA CASTILLO (Spanish): <i>Además de conservar tenemos que restaurar.</i>
34.	01:08:13:15	[Subtitles in ENGLISH]: <i>In this space, we grow vegetables, flowers, and seeds using sustainable farming methods. It's also a refuge where we intend to treat water for the irrigation of our crops. Once it's developed enough, it'll work as a shelter for many species that have been lost recently.</i>	CLAUDIA MEDINA CASTILLO (Spanish): <i>Este espacio es productiva de, eh, hortalizas, flores, semillas, eh, de manera agroecológica. Es una chinampa también, eh, refugio donde la intención es, eh, darle un tratamiento al agua para poder hacer el riego de nuestros cultivos y que, en algún momento, cuando esta parte ya este suficientemente maduro, eh, pueda ser un refugio para varias especies, eh, que se han perdido en durante este tiempo, ¿no?</i>
35.	01:08:45:02	[Subtitles in ENGLISH]: <i>We have 15 varieties of plants in the canal. These work as our filters. They help to improve the quality of water. Once we establish the plants, insects that feed on the plants begin to grow.</i>	CARLOS SUMANO (Spanish): <i>Al interior del canal trabajamos con unas 15 variedades de plantas,</i> <i>(Underwater sounds)</i> <i>y esos en realidad son nuestros filtros. Ayudan a, a mejorar mucho la calidad del agua. Una vez que tenemos establecidas plantas empiezan a crecer los insectos que se alimentan de las, de las plantas, no?</i>
36.	01:09:04:06	[Subtitles in ENGLISH]: <i>Once the insects are in the channel, we can start having small fish that feed on insects and then we can add axolotls.</i>	CARLOS SUMANO (Spanish): <i>Una vez que tenemos los insectos en el canal podemos tener peces, este, pequeños que se alimentan de los insectos, una vez que tenemos peces este pequeños, pues, ya podemos tener ajolotes.</i>
37.	01:09:16:23	[Subtitles in ENGLISH]: <i>The axolotl has been considered a flagship species but there are a bunch of other species</i>	CLAUDIA MEDINA CASTILLO (Spanish): <i>El ajolote es una... una especie bandera, pero hay montón de especies que están asociadas al ajolote.</i>

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		<i>that are associated with the axotl.</i>	<i>(Claudia and Carlos speaking Spanish)</i>
38.	01:09:25:06		NARRATOR: A DECADE OF HARD WORK REBUILDING BIODIVERSITY IN THESE REFUGES IS PAYING OFF--AND CREATING SAFE SPACE FOR THE AXOLOTLS IN THE CHINAMPAS.
39.	01:09:34:13 01:09:41:01	[Subtitles in ENGLISH]: <i>How does it look, Claudia? Look.</i> <i>It's pretty good.</i> <i>It has reproduced quite a bit, yes.</i>	<i>(Carlos speaking Spanish)</i> CARLOS SUMANO (Spanish): <i>¿Cómo la han visto, Claudia? Mira.</i> CLAUDIA MEDINA CASTILLO (Spanish): <i>Pues está bastante bien, ¿no?</i> CLAUDIA MEDINA CASTILLO (Spanish): <i>Se ha reproducido un montón. Ajá.</i>
40.	01:09:50:21	[Subtitles in ENGLISH]: <i>It smells like a fish tank.</i> <i>Is it good or bad?</i> <i>Oh, yes.</i> <i>Smells like a clean fish tank.</i>	CARLOS SUMANO (Spanish): <i>Huele a pecera.</i> <i>(Laughter)</i> CLAUDIA MEDINA CASTILLO (Spanish): <i>Eso es bueno o malo?</i> CARLOS SUMANO (Spanish): <i>Sí.</i> CLAUDIA MEDINA CASTILLO (Spanish): <i>Ah, sí. (Laughs)</i> CARLOS SUMANO (Spanish): <i>Huele a pecera limpia.</i>
41.	01:09:58:12	[Subtitles in ENGLISH]: <i>Look at how many bugs.</i> <i>There are a bunch.</i>	CLAUDIA MEDINA CASTILLO (Spanish): <i>Sí. Ay, mira cuántos bichos.</i> CARLOS SUMANO (Spanish): <i>Son un montón.</i> <i>(Background conversation in Spanish)</i>
42.	01:10:03:21	<i>Look at it.</i> <i>Oh. It's really alive. Look.</i>	CARLOS SUMANO (Spanish): <i>Pero mira como está.</i> CLAUDIA MEDINA CASTILLO (Spanish): <i>Ay, sí, está supervivo. Mira.</i>
43.	01:10:08:20	<i>It's a crustacean, isn't it?</i>	YOUNG FARMER (Spanish): <i>Es un crustáceo, no?</i>

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		<p><i>Yes, I think it's related to copepods.</i></p> <p><i>There's a bunch. This is good.</i></p>	<p>CARLOS SUMANO (Spanish): <i>Ajá, es el de la familia de los (unintelligible). Creo que si es copépodo.</i></p> <p>CLAUDIA MEDINA CASTILLO (Spanish): <i>Muchos.</i></p> <p>CARLOS SUMANO (Spanish): <i>Si, hay muchísimo. Está bien.</i></p>
44.	01:10:17:00		<p><i>(Claudia and Carlos speaking Spanish)</i></p> <p>NARRATOR: CLEAN WATER AND PLENTY OF FOOD FOR AN AXOLOTL. THESE ARE THE SIGNS THE TEAM WAS HOPING FOR.</p>
45.	01:10:23:18	<p>[Subtitles in ENGLISH]: <i>This model is an example that it can be done, and that it can have solid and real results.</i></p>	<p>CARLOS SUMANO (Spanish): <i>Este modelo es un, es un ejemplo de que es posible hacerlo, de que es viable y de que también tiene resultados muy, muy concretos y muy, muy reales.</i></p> <p>UNKNOWN: <i>Uh-huh.</i></p>
46.	01:10:37:07 01:10:43:04	<p>GRAPHICS ONSCREEN: Map establishing Michoacan in relation to Mexico City, and showing the size of Lake Pátzcuaro.</p>	<p>THE AXOLOTL IS NOT THE ONLY SALAMANDER IN MEXICO FACING EXTINCTION IN THE WILD.</p> <p>ABOUT 200 MILES WEST, THE CRITICALLY ENDANGERED ACHOQUE IS DISAPPEARING FROM ITS ONLY NATIVE HABITAT: LAKE PÁTZCUARO.</p> <p>SCIENTISTS HERE ARE SCRAMBLING TO UNDERSTAND THIS LESS-STUDIED SPECIES – AND THAT MEANS GATHERING A LOT OF REAL-WORLD DATA.</p>
47.	01:11:02:00 01:11:04:12	<p>LOWER THIRD: Luis Escalera Vázquez Biologist, University of Michoacán</p>	<p>LUIS ESCALERA VÁZQUEZ: <i>We're gonna take some samples from the mud to know which macroinvertebrates we have, uh, for potential preys for achoques. In terms of insects or worms, stuff like that. And we are monitoring populations of achoques in order to know if the abundance is related to seasonal changes or, eh, to anthropogenic or global changes.</i></p> <p><i>(Water splashing)</i></p>
48.	01:11:33:22		<p>NARRATOR: BOTH THE ACHOQUE AND AXOLOTL ARE CLOSE COUSINS OF THE TIGER SALAMANDER, WHICH STARTS ITS LIFE UNDERWATER BEFORE MATURING AND MOVING ON TO LAND.</p> <p>BUT THE ISOLATED LAKES IN CENTRAL MEXICO'S VOLCANIC LANDSCAPE SPURRED A REMARKABLE ADAPTATION.</p>
49.	01:11:53:18		<p>NARRATOR: FINDING FEWER PREDATORS AND PLENTY OF FOOD IN THE LAKES, THESE TWO SPECIES EVOLVED OVER THE PAST MILLION YEARS TO</p>

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			<p>SPEND THEIR ENTIRE LIVES IN WATER – BECOMING ADULTS BUT KEEPING THEIR JUVENILE FEATURES.</p>
50.	01:12:09:00		<p>NARRATOR: BUT LIKE THE AXOLOTL’S URBAN WETLAND,</p> <p><i>(Sound of seagull call)</i></p> <p>THE ACHOQUE’S HOME FACES MAN-MADE THREATS OF ITS OWN:</p> <p><i>(Sound of water rushing behind boat)</i></p> <p>POLLUTION AND CLIMATE CHANGE.</p> <p>SO THESE SCIENTISTS HAVE PARTNERED WITH LOCAL FISHERMEN TO HELP THE ACHOQUE REBOUND.</p>
51.	01:12:24:10	<p>[Subtitles in ENGLISH]: <i>How long have we known each other, Sergio?</i></p> <p><i>About five or six years.</i></p>	<p>LUIS ESCALERA VÁZQUEZ (Spanish): <i>¿Hace cuánto nos conocemos, Sergio?</i></p> <p>SERGIO EZQUIVEL (Spanish): <i>Como unos cinco años o seis, por ahí.</i></p> <p>LUIS ESCALERA VÁZQUEZ: <i>Five years, something like that.</i></p>
52.	01:12:28:09	<p>LOWER THIRD: Sergio Ezquível Fisherman</p>	<p>NARRATOR: SERGIO EZQUIVEL KNOWS THESE WATERS BETTER THAN JUST ABOUT ANYONE.</p> <p><i>(Boat creaking)</i></p>
53.	01:12:35:06	<p>[Subtitles in ENGLISH]: <i>I fish for a living. I've been fishing for about 23 years.</i></p>	<p>SERGIO EZQUIVEL (Spanish): <i>Para vivir, trabajo en la pesca. Como unos 23 años tengo pescando.</i></p>
54.	01:12:41:12	<p>[Subtitles in ENGLISH]: <i>My grandfather, my father, my brothers, we have all worked in fishing.</i></p>	<p>SERGIO EZQUIVEL (Spanish): <i>Mi abuelo, mi papá, mis hermanos, todos hemos trabajado en la pesca.</i></p>
55.	01:12:47:23	<p>[Subtitles in ENGLISH]: <i>I help the scientists to know more about the lake. More than I already know. I know about fish and all that, but I know very little about achoques.</i></p>	<p>SERGIO EZQUIVEL (Spanish): <i>Les ayudo pues para, para saber más acerca del lago, más de lo que ya sabe uno, pues. Pues, uno sabe (unintelligible) del pescado y todo eso, pero del achoque sabíamos un poco, no mucho.</i></p> <p><i>(Waves splashing)</i></p>
56.	01:13:06:08		<p>NARRATOR: IMPROVING THE ECOSYSTEM FOR ACHOQUES IS ALSO VITAL FOR THE FISHING COMMUNITY.</p> <p><i>(Water splashing)</i></p>

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			OVER THE YEARS, WASTE WATER AND FARM CHEMICALS DRAINED INTO THE LAKE, CREATING TOXIC CONDITIONS AND DEPLETING STOCKS ALSO HIT BY OVERFISHING.
57.	01:13:21:23	[Subtitles in ENGLISH]: <i>The water was transparent before, it was a little clearer, more transparent when my grandfather was alive and my father was a child. In fact, there were parts where you could see the bottom.</i>	SERGIO EZQUIVEL (Spanish): <i>Era transparente el agua antes, era un poco más clara, más transparente cuando mi abuelo vivía y mi papá era niño. De hecho, había partes donde alcanzabas a mirar el fondo.</i>
58.	01:13:35:02		NARRATOR: ACHOQUES, LIKE ALL AMPHIBIANS, HAVE PERMEABLE SKIN THAT MAKES THEM SENSITIVE TO TOXINS IN THE WATER. SO RESEARCHERS HAVE BEEN WORKING WITH SEVERAL TOWNS ALONG THE LAKE TO HELP REDUCE POLLUTION FROM HOMES AND FARMS.
59.	01:13:54:06	[Subtitles in ENGLISH]: <i>We hope that it will be repopulated again as it was before, when there were more of them.</i>	SERGIO EZQUIVEL (Spanish): <i>Tengo esperanza de que se repoble otra vez como estaba antes, había un poco más.</i>
60.	01:14:02:06		NARRATOR: TODAY, LUIS AND HIS TEAM ARE FOCUSING ON FINDING AN ACHOQUE.
61.	01:14:07:11		LUIS ESCALERA VÁZQUEZ: <i>At the beginning of the project we tried different trapping techniques. This was the most effective and harmless, eh, technique for achoque.</i>
62.	01:14:21:17		LUIS ESCALERA VÁZQUEZ: <i>Whoa.</i> ASSISTANT: <i>(Laughter)</i> <i>(Overlapping Spanish)</i> SERGIO EZQUIVEL (Spanish): <i>Ay caramba.</i>
63.	01:14:33:04		NARRATOR: FINDING THIS ANIMAL IS A BIG DEAL. IT'S ESTIMATED THAT THERE MAY BE FEWER THAN 100 ACHOQUES LEFT IN THIS ENTIRE LAKE. THEY'LL SIZE UP THIS ADULT AND THEN SET IT FREE.

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64.	01:14:46:00		LUIS ESCALERA VÁZQUEZ: Measure how tall he is, or she is. Male, female. What it's eating. We process the data, scientifically speaking, in order to recognize the useful thing of this information.
65.	01:15:05:19		NARRATOR: THE TEAM MONITORS WATER QUALITY ACROSS THE ENTIRE LAKE. IT HELPS THEM UNDERSTAND HOW CONDITIONS IMPACT THE ACHOQUES TODAY, AND WHEN THE WATER MIGHT BE CLEAN ENOUGH TO REINTRODUCE CAPTIVE-BRED POPULATIONS TO THE LAKE. <i>(Sound of boat's motor)</i> IT'S AN AMBITIOUS GOAL. BUT THIS TEAM HAS AN IMPORTANT ADVANTAGE: THEY'VE DONE THIS BEFORE.
66.	01:15:41:05	[Subtitles in ENGLISH]: <i>We have had previous experiences with the reintroduction of a species that was extinct in the wild and came back from captive populations.</i>	OMAR DOMINGUEZ DOMINGUEZ (Spanish): <i>Nosotros sí hemos tenido experiencias anteriores, de la reintroducción de una especie que sí estaba extinta en la naturaleza y que a partir de organismos en cautiverio, se regresó de nuevo.</i>
67.	01:15:51:15	LOWER THIRD: Omar Domínguez Domínguez PhD, University of Michoacán	NARRATOR: OMAR DOMINGUEZ IS A BIOLOGIST AT THE UNIVERSITY OF MICHOACÁN. HE LEADS THE ACHOQUE CONSERVATION TEAM AND IS MODELING THEIR APPROACH ON PREVIOUS SUCCESS WITH ANOTHER SPECIES: THE TEQUILA FISH.
68.	01:16:06:23	[Subtitles in ENGLISH]: <i>The Zoogoneticus tequila or the tequila fish, is a small fish of almost 3 inches... more or less. This species had already been declared extinct in 1994.</i>	OMAR DOMINGUEZ DOMINGUEZ (Spanish): <i>El Zoogoneticus tequila o el pez tequila es un pez pequeño de 7 cm, más o menos. Esta especie ya había sido declarada extinta en el 94.</i>
69.	01:16:15:19		NARRATOR: LIKE THE AXOLOTL, HOWEVER, TEQUILA FISH WERE THRIVING IN CAPTIVITY.
70.	01:16:21:03	[Subtitles in ENGLISH]: <i>In 2000, a group of English aquarists from the Chester Zoo donated several specimens to our team here in Mexico.</i>	OMAR DOMINGUEZ DOMINGUEZ (Spanish): <i>En el 2000 un grupo de acuaristas ingleses nos trajo a México un grupo de organismos donados por el Zoológico de Chester.</i>

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71.	01:16:29:04		NARRATOR: BUT REINTRODUCTION ISN'T AS SIMPLE AS DUMPING FISH INTO A RIVER. FIRST, YOU HAVE TO UNDERSTAND WHY THEY WENT EXTINCT THERE IN THE FIRST PLACE.
72.	01:16:39:18	[Subtitles in ENGLISH]: <i>We did a very rigorous, very thorough investigation and we were able to understand what was the site's problem, what were the best solutions for the site, what were the best reintroduction areas.</i>	OMAR DOMINGUEZ DOMINGUEZ (Spanish): <i>Hicimos una investigación muy rigurosa, eh, muy minuciosa, y pudimos entender, eh, cuál era la problemática del sitio, cuál era la mejor solución para el sitio, cuál era la mejor zona de reintroducción.</i>
73.	01:16:55:02		NARRATOR: THE TEAM FIGURED OUT THAT THE LIKELY CULPRITS WERE FAMILIAR FOES, POLLUTION AND INVASIVE SPECIES, AND SOON TARGETED A RELEASE LOCATION. THEN THEY INTRODUCED FISH THEY HAD BRED IN CAPTIVITY.
74.	01:17:09:13	[Subtitles in ENGLISH]: <i>We did experiments in floating cages where we tried to understand how that species was going to adapt to the river under very controlled conditions. And when we saw that the fish were eating, reproducing, and thriving in the cages, that's when we started to freely reintroduce them in the river. All this gave us the confidence that if we were able to do this with a fish, then it was possible that we could start with a more complex project such as the achoque of Lake Pátzcuaro.</i>	OMAR DOMINGUEZ DOMINGUEZ (Spanish): <i>Lo que hicimos fue experimentos en jaulas flotantes, donde intentamos entender un poco como esa especie se iba a adaptar a las condiciones del río en condiciones, eh, muy controladas. Y cuando entendimos que era posible, y que comía, que se reproducía, que crecía en las condiciones del río, fue cuando se inició la reintroducción. Entonces todo esto nos dio la, la, la confianza de que, bueno, pues, si lo pudimos hacer, si lo pudimos hacer con un pez, pues, será posible de que, que pudiéramos iniciar ya con un, un, un proyecto más complejo como es el achoque del lago de Pátzcuaro</i>
75.	01:17:44:05		NARRATOR: THE PREP WORK IS SIMILAR: EVALUATE THE WILD POPULATION AND THE STATE OF THE ECOSYSTEM. BUT THERE ARE REAL DIFFERENCES BETWEEN RAISING TEQUILA FISH AND ACHOQUES.
76.	01:18:00:13 01:18:06:20	LOWER THIRD:	RODOLFO PÉREZ RODRÍGUEZ (Spanish): <i>Aquí paradójicamente el acuario más limpio es el menos propicio. Mantenerlos en un agua verde como la que</i>

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		<p>Rodolfo Pérez Rodríguez, Biologist, University of Michoacán</p> <p>[Subtitles in ENGLISH]: <i>Paradoxically, the cleanest aquarium is the least adequate. Keeping them in green water, like the one you are seeing now, which is also changed periodically, allows microbiota to flourish. These help because they establish themselves on the achoques' skin and repel pathogenic microbiota.</i></p>	<p><i>están viendo ahorita, eh, que además, se cambia periódicamente, eh, permite el florecimiento de mucha microbiota, microbiota que, eh, les ayuda a ellos, lo que se establece en su piel y que les ayuda a repeler la microbiota patológica.</i></p>
77.	01:18:37:16		<p>NARRATOR: UNDERSTANDING HOW TO REPLICATE A HEALTHY, NATURAL ENVIRONMENT AND SUCCESSFULLY RAISE ACHOQUES REQUIRES PAINSTAKING EXPERIMENTATION.</p> <p>THE SCIENTISTS GOT A HEAD START BY COLLABORATING WITH AN UNLIKELY ALLY.</p> <p><i>(Water splashing)</i></p>
78.	01:19:01:00		<p><i>(Church music)</i></p> <p>NARRATOR: OMAR AND HIS TEAM FIRST CAME TO THE BASÍLICA DE NUESTRA SEÑORA DE LA SALUD ABOUT 20 YEARS AGO...</p> <p>NOT FOR DIVINE INTERVENTION.</p> <p>THIS CHURCH IS HOME TO A GROUP OF DOMINICAN NUNS WHO ARE EXPERT ACHOQUE BREEDERS.</p>
79.	01:19:18:14	<p>[Subtitles in ENGLISH]: The nuns showed us how they bred them and developed their breeding methods, and it was an exchange of knowledge.</p>	<p>OMAR DOMINGUEZ DOMINGUEZ (Spanish): <i>Las monjas nos mostraban cómo los cultivaban, cómo, cómo se desarrollaban sus medios de cultivo y, pues, era un intercambio de conocimiento.</i></p>
80.	01:19:26:07	<p>LOWER THIRD: María del Carmen Pérez Saldaña Convent of Immaculate Mary of Health</p>	<p>NARRATOR: SISTER MARÍA DEL CARMEN PÉREZ HAS WORKED WITH ACHOQUES EVER SINCE JOINING THIS CONVENT.</p>

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81.	01:19:35:18	[Subtitles in ENGLISH]: <i>Are you sick? Why are you not moving? No, no you're not sick. You were just asleep.</i>	MARÍA DEL CARMEN PÉREZ SALDAÑA (Spanish): <i>¿Estás enfermo, por qué no te mueves? No, no estás enfermo. No estabas enfermo, estabas dormido.</i>
82.	01:19:46:13	[Subtitles in ENGLISH]: <i>I think that God thought about creating the achoque with love. Just like He makes all His children in nature. At the same time, I think the achoque's mission is to give health and survive.</i>	MARÍA DEL CARMEN PÉREZ SALDAÑA (Spanish) Yo <i>creo que Dios pensó este crear al achoque con amor. Así como crea a todos sus hijos dentro de la naturaleza. Y al mismo yo creo que, que la misión del achoque pues es dar salud, es conservarse.</i>
83.	01:20:10:13		NARRATOR: THE NOTION THAT ACHOQUES CAN IMPROVE HUMAN HEALTH GOES BACK ABOUT A MILLENNIUM. THE PUREPECHA PEOPLE WHO SETTLED IN THE MICHUACAN REGION IN THE 11TH CENTURY SAW THE ACHOQUE AS AN IMPORTANT MEDICINAL SOURCE. THEN, ABOUT A HUNDRED YEARS AGO, THE CONVENT STARTED USING THE ACHOQUE AS THE KEY INGREDIENT IN A COUGH SYRUP. NOW THEIR ELIXIR IS SUCH A STAPLE THAT STREET VENDORS HAWK THEIR OWN VARIETIES.
84.	01:20:39:14	[Subtitles in ENGLISH]: <i>It can help with other ailments such as asthma, breathing problems, cough.</i>	MARÍA DEL CARMEN PÉREZ SALDAÑA (Spanish): <i>Ayuda por ejemplo para el asma, problemas de vías respiratorias, la tos.</i>
85.	01:20:49:05		NARRATOR: THE SYRUP BECAME AN IMPORTANT PART OF THE CONVENT'S WORK. SO WHEN WILD ACHOQUE NUMBERS CRASHED IN THE 1980'S, THE SISTER'S CAME UP WITH A SOLUTION - BREEDING THEIR OWN COLONY.
86.	01:21:03:00	[Subtitles in ENGLISH]: <i>It's said that we humans are lowering the population, and possibly we are. But then we can't stay idly by. We have to work together and dedicate ourselves to that task and have the awareness that if we're able to help, we must.</i>	MARÍA DEL CARMEN PÉREZ SALDAÑA (Spanish): <i>Dicen que nos lo estamos acabando los seres humanos, posiblemente sí. Pero entonces no hay que quedarnos nada más en ello, sino hay que también colaborar y este, y, y darnos un poquito a esa tarea y tener la conciencia también de ayudarlo, ¿verdad? Que si lo podemos hacer, pues hay que hacerlo.</i>

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87.	01:21:24:00		<p>NARRATOR: AND HELPED THEY HAVE. THE NUNS APPROACHED THE CRISIS WITH SCIENTIFIC RIGOR, MICROCHIPPING THE ANIMALS AND DEVELOPING BREEDING PROTOCOLS.</p> <p>IN JUST A FEW DECADES, THEY HAVE CREATED A GENETICALLY DIVERSE POPULATION THAT COULD ONE DAY HELP REPOPULATE THE LAKE.</p>
88.	01:21:45:00	<p>[Subtitles in ENGLISH]: <i>It's beautiful how a flower can make us feel a special emotion. A tiny animal can do the same.</i></p>	<p>MARÍA DEL CARMEN PÉREZ SALDAÑA (Spanish): <i>Es hermoso de verdad como una flor nos hace sentir una emoción especial. Un animalito también igual.</i></p>
89.	01:21:56:19	<p>[Subtitles in ENGLISH]: <i>I'm happy and I want to keep working with the species.</i></p>	<p>MARÍA DEL CARMEN PÉREZ SALDAÑA (Spanish): <i>Estoy contenta y al mismo tiempo, bueno, pues, el querer seguir colaborando con, con la especie.</i></p>
90.	01:22:07:12		<p>NARRATOR: IT'S THE SCIENTISTS' HOPE THAT THE NUNS' PASSION FOR THE ACHOQUE WILL BE ADOPTED BY THE LOCAL COMMUNITY AS WELL.</p>
91.	01:22:14:11	<p>LOWER THIRD: Federico Hernández Valencia Biologist, University of Michoacán</p>	<p>NARRATOR: AND THAT'S WHERE DR. FEDERICO HERNÁNDEZ VALENCIA COMES IN.</p>
92.	01:22:19:03	<p>[Subtitles in ENGLISH]: <i>I work on the achoque conservation project, and I'm responsible for the social and community outreach aspect.</i></p>	<p>FEDERICO HERNÁNDEZ VALENCIA (Spanish): <i>Trabajo en la parte del proyecto de la conservación del achoque y su hábitat, responsable del área socioambiental.</i></p>
93.	01:22:29:16		<p>NARRATOR: THE SCIENTISTS WORRY THAT THEIR EFFORTS TO RESTORE THE WILD ACHOQUE POPULATION COULD BE IN VAIN UNLESS THE COMMUNITY BECOMES INVESTED IN THE CREATURE'S SURVIVAL.</p> <p><i>(Animal chirping)</i></p> <p>TO RAISE AWARENESS, A LOCAL ZOO IS PUTTING ON AN EXHIBIT CALLED "THE WONDERFUL WORLD OF ACHOQUES."</p>
94.	01:22:50:18	<p>[Subtitles in ENGLISH]: <i>See? He's greeting you. His tail helps him move in the water. They live underwater their whole lives.</i></p>	<p>YESSICA ESPINOSA SANTILLAN (Spanish): <i>¿Ya viste? Te está saludando.</i></p> <p><i>(Unintelligible Spanish)</i></p>

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			YESSICA ESPINOSA SANTILLAN (Spanish): <i>Y su cola le ayuda para moverse en el agua. Ellos siempre viven abajo del agua, toda su vida.</i> (Background conversation)
95.	01:23:02:08		NARRATOR: THE TEAM ALSO ENLISTS THE HELP OF LOCAL ARTISTS TO BROADEN THE ACHOQUE'S APPEAL.
96.	01:23:26:16	[Subtitles in ENGLISH]: <i>We are working with artists who are creating twelve murals around the shores of Lake Pátzcuaro centered on the achoque.</i>	FEDERICO HERNÁNDEZ VALENCIA (Spanish): <i>Estamos trabajando más bien con muralistas, que han reelaborado 12 murales en la rivera de Pátzcuaro en torno al tema del achoque.</i>
97.	01:23:38:16	[Subtitles in ENGLISH]: <i>We are also working with artisans who are preparing a craft exhibition centered on the theme of achoque, with different disciplines such as embroidery, artistic blacksmithing, painting.</i>	FEDERICO HERNÁNDEZ VALENCIA (Spanish): <i>Estamos trabajando con artesanos, ellos están elaborando una exposición artesanal, también con el tema del achoque y con diferentes ramas artesanales, como es bordados, eh, herrería artística, pintura.</i>
98.	01:23:50:21	[Subtitles in ENGLISH]: <i>Working with different actors, residents, artisans, and children is exciting because each one tells you what they think the lake and the achoque represent.</i>	FEDERICO HERNÁNDEZ VALENCIA (Spanish): <i>El trabajar con diferentes, eh, actores, pobladores, artesanos, eh, niños, eh, todo eso es una emoción, porque cada uno te dice, de lo suyo, lo que representa el agua, lo que representa el achoque.</i>
99.	01:24:12:15	[Subtitles in ENGLISH]: <i>We are just passing through. The idea is to strengthen the community's knowledge, their creativity and for them to continue building, because, in the end, they are going to continue the conservation process.</i>	FEDERICO HERNÁNDEZ VALENCIA (Spanish): <i>Nosotros digamos, estamos de paso, la idea es fortalecer sus capacidades, su creatividad y para que ellos sigan construyendo, porque al final de cuentas, ellos van a continuar la conservación.</i> (Birdsong)
100.	01:24:33:09		NARRATOR: FOR FEDERICO, THE PART HE LOVES MOST ABOUT HIS OUTREACH WORK IS KINDLING A SENSE OF WONDER IN THE NEXT GENERATION.
101.	01:24:41:22	[Subtitles in ENGLISH]: <i>What can you tell me about the achoque? What are these parts here for?</i>	FEDERICO HERNÁNDEZ VALENCIA (Spanish): <i>¿Que me puedes platicar del achoque? Para qué crees que son estas partes que están aquí?</i>

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		<i>They breathe through those hairs. Fish have them here, but in them those are the gills.</i>	NATALIA SHECID SANCHEZ MORALES (Spanish): <i>Esos pelos son donde respiran. Para los peces las tienen acá, pero ellos esos son sus branquias.</i>
102.	01:24:55:06	[Subtitles in ENGLISH]: <i>When they bring their face close to the fish tank and see the live achoque, it's really striking. It's wonderful.</i>	FEDERICO HERNÁNDEZ VALENCIA (Spanish): <i>El hecho de acercarse su cara a la pecera y ver el, el, el achoque, eh, vivo, realmente es sorprendente, es, eh, es maravilloso.</i>
103.	01:25:09:02	[Subtitles in ENGLISH]: <i>What does the achoque evoke in you?</i> <i>Happiness. Because these little animals can disappear and it's nice to see a little animal knowing that it can still be there.</i> <i>Look, he's saying hi.</i>	FEDERICO HERNÁNDEZ VALENCIA (Spanish): <i>¿Qué te despierta el achoque?</i> NATALIA SHECID SANCHEZ MORALES (Spanish): <i>Alegría porque estos animalitos se pueden perder y es bonito ver a un animalito que saber que aun así puede estar.</i> FEDERICO HERNÁNDEZ VALENCIA (Spanish): <i>Mira, nos está saludando.</i> NATALIA SHECID SANCHEZ MORALES (Spanish): <i>Sí.</i> FEDERICO HERNÁNDEZ VALENCIA: <i>(Laughs)</i>
104.	01:25:25:08	English: <i>That encounter between a child and the achoque... they marvel. Really, when I talk about it I get goosebumps.</i>	FEDERICO HERNÁNDEZ VALENCIA (Spanish): <i>Diría yo ese, ese encuentro con, eh, de un niño con ese ser. Y no sé, o sea, se maravillan y realmente, cuando lo platico, me pongo, la piel se me eriza.</i>
105.	01:25:40:08		NARRATOR: BACK IN MEXICO CITY, COMMUNITY SUPPORT FOR THE AXOLOTL IS ALREADY DEEPLY ROOTED. ITS IMAGERY IS EVERYWHERE. AND IN LAKE XOCHIMILCO, LUIS ZAMBRANO'S TEAM IS BACK AT THE NEWLY CLEANED CANAL BY CLAUDIA'S CHINAMPA FOR A MAJOR STEP IN THE CONSERVATION PROCESS - A CONTROLLED RE-INTRODUCTION. <i>(Leaves rustling)</i>
106.	01:26:02:00	[Subtitles in ENGLISH]: <i>When we do a controlled release, we design a container with the necessary conditions that will keep the animal stress-free and calm.</i>	HORACIO MENA (Spanish): <i>Cuando hacemos una liberación controlada, nosotros diseñamos un contenedor con las condiciones necesarias, donde el animal no tenga estrés, donde el animal esté tranquilo.</i>

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	01:26:12:05	LOWER THIRD: Horacio Mena Veterinarian, National Autonomous Univ. of Mexico	
107.	01:26:13:00		NARRATOR: HORACIO MENA AND HIS TEAM WILL CHECK ON THE AXOLOTL REGULARLY. IF THIS PIONEER DOES WELL, THEY'LL RELEASE MORE AXOLOTLS OVER THE COMING MONTHS.
108.	01:26:23:22 01:26:29:17	[Subtitles in ENGLISH]: <i>It means the axolotl will be able to live without so many threats in the future.</i> LOWER THIRD: Olivia Aminta Estrada Leyva Biology Student	OLIVIA AMINTA ESTRADA LEYVA (Spanish): <i>Significa la oportunidad de que alguna, eh, que en el algún punto en el futuro el ajolote pueda vivir sin tantas amenazas.</i>
109.	01:26:35:20	[Subtitles in ENGLISH]: <i>The axolotl plays a role in the ecosystem. It eats mosquitoes that transmit diseases: zika, dengue, . If we let them do what they're made for, the environment will be balanced.</i>	HORACIO MENA (Spanish): <i>El ajolote tiene una función en el ecosistema. Depredaba moscos que transmiten enfermedades; zika, dengue, chikunguña.</i> (Net rustling) <i>Si los dejamos actuar para lo que están hechas el ambiente, eh, está equilibrado.</i>
110.	01:26:51:12		NARRATOR: RE-BALANCING THIS ECOSYSTEM WOULD BE A VICTORY FOR CONSERVATIONISTS EVERYWHERE.
111.	01:26:57:21	[Subtitles in ENGLISH]: <i>This is a ray of hope within conservation, that it is possible for us to do something good for nature among all the bad we have done to it.</i>	OMAR DOMINGUEZ DOMINGUEZ (Spanish): <i>Esto es un rayo de esperanza dentro la conservación es posible, no?, que es posible que nosotros hagamos, eh, algo bueno por la naturaleza de todo lo malo que le hemos hecho.</i>
112.	01:27:08:04		NARRATOR: RESCUING THESE EMBATTLED AMPHIBIANS HAS DEEPER IMPLICATIONS. IT'S TOUCHING THE HEARTS OF MANY, LINKING COMMUNITIES, AND REJUVENATING POLLUTED HABITATS FOR PLANTS, WILDLIFE, AND PEOPLE ALIKE. RESTORING AN ANCIENT BALANCE IN A MUCH CHANGED WORLD.

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113.	TRT: 01:27:30:00		