


CONSERVATION IN ZOOS AND THE EFFECT IT HAS ON WILDLIFE.

An Honors Thesis

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Conservation is “the action of conserving something.” (Sandbrook 565).



Conservation efforts are defined as a “crisis discipline.”



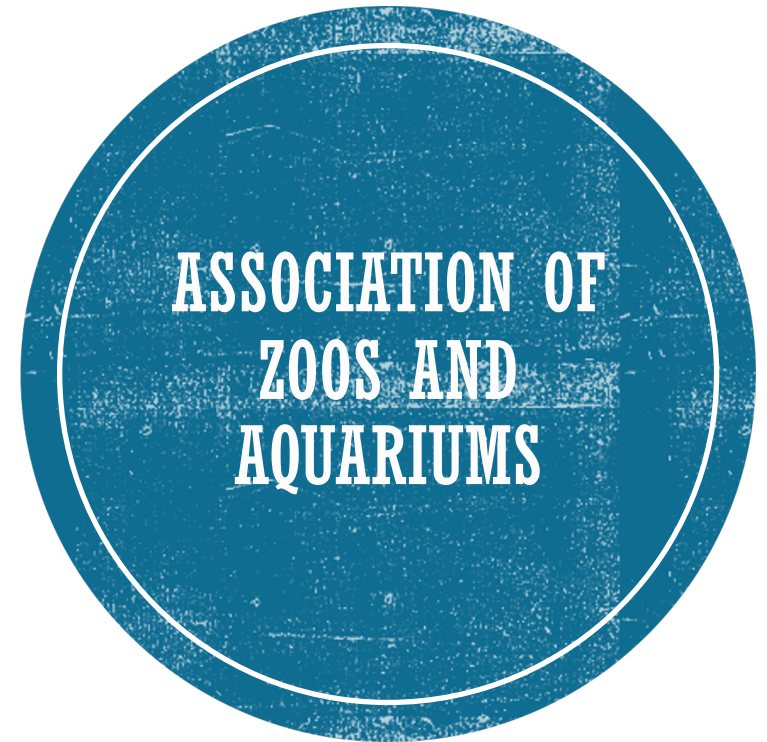
The primary way to help with conservation is to now develop an application of systematic conservation planning and to have a formal setting before each conservation job is considered. (Kareiva and Marvier 963).

WHAT IS CONSERVATION

IN-SITU VS. EX-SITU CONSERVATION

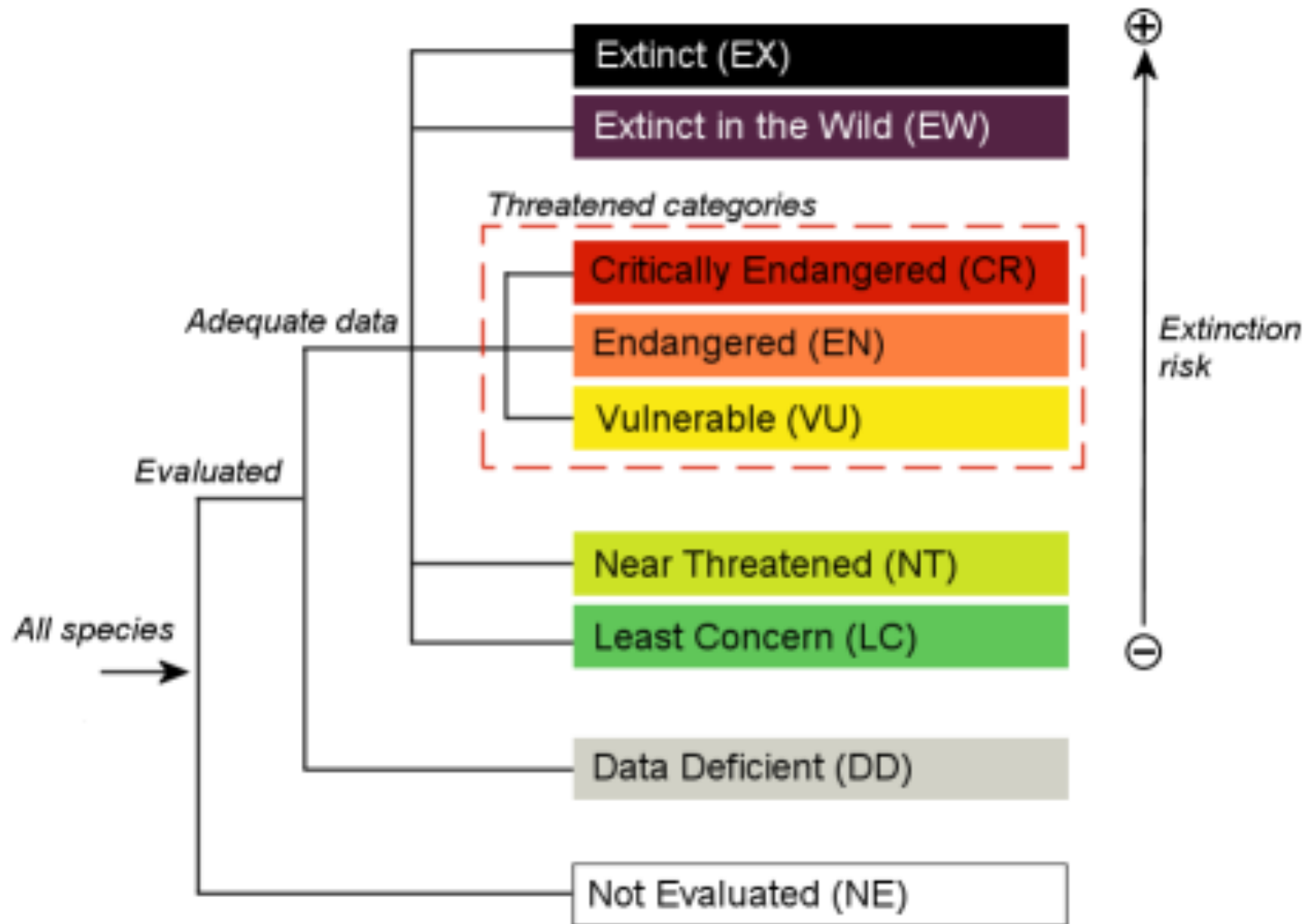
- In-Situ conservation is the conservation of a species in their natural habitat. These habitats could include some of the following: beaches, forests, grasslands, desserts, swamps, and ponds. (Anwar).
- Ex-situ conservation involves the conservation of species outside of their natural habitats. These are networked areas of established botanical and zoological gardens, banks of germplasm, pollen, seeds, seedling, genes, and DNA (Anwar).

- For zoos to be considered experts in conservation, they must be accredited by the Association of Zoos and Aquariums (AZA). The AZA is a non-profit organization that their main goal is to help zoos and aquariums advance in the area of conservation.
- Wildlife parks, sanctuaries, rescues, rehabs, and wildlife conservation groups can apply to be a 'certified related facility.'
- Their mission statement is to help save species from going extinct in the wild (About).



- The use of SSPs in zoos have been beneficial as information has been determined and shared (Species).
- Green are the most sustainable over time.
- Yellow are species that are potentially sustainable
- Red are programs that are not sustainable.
- Purple are programs that could hope to grow into an SSP (Colclough).

SPECIES SURVIVAL PROGRAMS



(Alvarado)

ENDANGERMENT SCALE

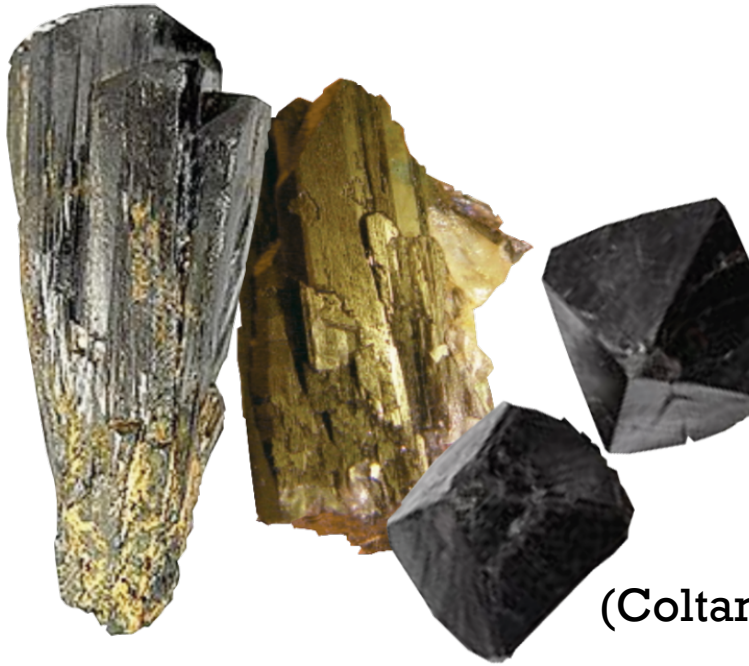
- Each animal species is on a list, called the Red List. This list is made by the International Union for Conservation of Nature.
- There are seven levels of conservation that are in the Red List. These seven levels are: least concern, near threatened, vulnerable, endangered, critically endangered, extinct in the wild, and extinct.

- It is believed that captive breeding is a keyway to manage severely endangered species; however, maximizing captive production is a challenge due to the lack of knowledge of species breeding.
- Species conservation is challenging due to threats to biodiversity and inbreeding depression. Even though in situ conservation is the most effective, it has believed that not all species can be efficiently preserved in their natural habitats (Witzenberger & Hochkirch, 1850).





(Mobile)



(Coltan)

UNCONVENTIONAL WAYS FOR CONSERVATION

- Mobile phones
- 7.3 billion phones were in service as of 2014
- Coltan is mined in the eastern Democratic Republic of Congo in protected areas such as the Kahuzi-Biega National Park. This area is home to eastern lowland gorillas which are endangered. Because of the mining an estimated 300 gorillas were killed just for meat (Litchfield, Lowry & Dorrian, 2).
- This is used to recycle phone parts
- Zoos Victoria in Australia has developed conservation campaigns for phones. With this campaign they were able to collect 2,376 mobile phones.



METHODOLOGY

In order to obtain my data, I conducted interviews with conservationists at selected zoos.



I accessed these individuals by gathering information from zoos websites to contact the selected zoo. I called the selected zoo and contacted their conservationist.



Once that contact was made, an interview was set up by phone, zoom or email.

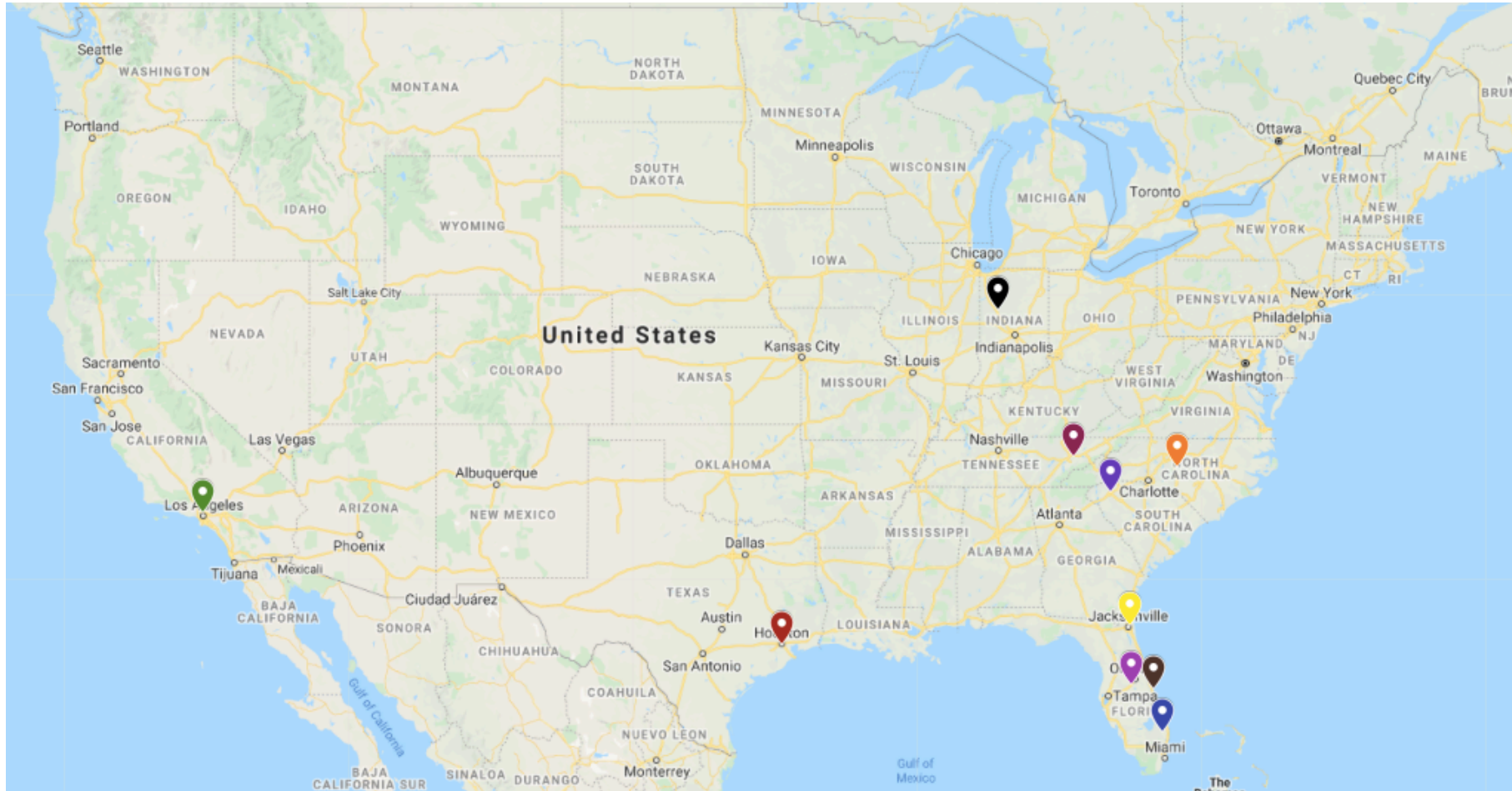
Questions











- 1) How long have you been with ____ zoo?
- 2.) What types of conservation does your zoo participate in (ex. Breeding, education, releasing
- 3.) What animals does your zoo help conserve?
- 4.) How many threatened or endangered species does your zoo have?
- 5.) How do you keep yourself motivated for conservation work?
- 6.) Is there any specific animal you prefer to work with or a generalized group (ex. Mammal, reptiles, birds, etc.)
- 7.) Why do you believe conservation is important?
- 8.) Have you ever participated in conservation in another country?

INTERVIEW QUESTIONS



LOCATION OF ZOOS INTERVIEWED



-  Zoo Knoxville
-  LA Zoo
-  Greenville Zoo
-  Jacksonville Zoo
-  North Carolina Zoo
-  Brevard Zoo
-  Houston Zoo
-  Wolf Park
-  Lion Country Safari
-  Disney's Animal Kingdom

ZOO KNOXVILLE RESULTS



(Madagascar)

- Phil Colclough: Director of Animals, Conservation, and Education
- Types of conservation: Educational Programs, SSPs.
- One of their main projects is Bog Turtles. Program founded by Bob Segway, a GWU alumni.
- Zoo Knoxville helps breed bog turtles in the zoo, then releases them into a safe reserve in Eastern Tennessee.
- Worked with Madagascar tortoises, hellbenders, mudpuppies, timber rattlesnakes, and monarch butterflies.
- A zoo researcher has possibly found a new species of hellbender in the Smoky Mountain Park
- Important: To help keep animals from going extinct

LA ZOO RESULTS



(California)

- Anna Becker: Coordinator of Volunteer Programs for the Greater Los Angeles Zoo Association.
- Types of Conservation: Management, education, and translocation.
- California Condor: only 27 left in the world when first started, now 530, use GPS tracking for them.
- Local conservation with youth in L.A.
- Has worked with rhinos and birds.
- Important: Historically, researchers thought it was an animal problem but its a people problem as well as climate change.



(Orangutan)

GREENVILLE ZOO RESULTS

- Jennifer Garcia: Education program coordinator
- Types of Conservation: Educational such as animal ambassadors and SSPs.
- Work on conserving Giraffes and Orangutans
- Loves working with the kinkajou animal ambassador.
- Important: So that we can continue to live the way we do, we need to adapt and change to save the animals.



(Okapi)

JACKSONVILLE ZOO RESULTS

- Lucas Meers: Conservation Program Officer
- Types of Conservation: Breeding
- Animals: Hoofstock in Chad, Striped Newts, Puerto Rican Crested Toads, and Okapi
- Diseases are the main concern with hoofstock animals
- Important: Just research isn't conservation people must work together.
- Went to Congo to see Okapi, works with dragonflies at Miami University, and has gone to Gabon, South America, Baja, Mexico, and western ghats of India to learn about conservation

NC ZOO RESULTS



(Spotted)

- Bob Langston: Sustainability and conservation outreach coordinator
- Types of Conservation: breeding, education, and releasing
- Salamanders: Breeding for spotted, tiger, and marble
- Hellbenders or snot otters. Researchers collect eDNA. They get a concentration of how much hellbender DNA is in water. They placed nest boxes for hellbenders to shelter in.
- Collect frog eggs and Raise in zoos (raise in stock tanks) and when they grow up release.
- Important: Resources are dwindling, Once the planet is not livable, we don't have any where else to go.
- Works with Swarze Polar Bears: Willie and Marsha. Marsha was kept in a tiny cage and he worked with him for five years.

BREVARD ZOO RESULTS



(Florida)

- Jody Palmer: Director of Conservation Programs
- Types of Conservation: International, local, and education
- Sending financial help and helping with mangroves.
- Breeding for Florida Scrub Jay, grasshopper sparrows, Florida Keys Beach Mouse, rhinos, bongo, warty pigs, snakes
- Important: Conservationists need as much help that they can to advocate for environmental situations.
- She loves working with marine animals and oysters

HOUSTON ZOO RESULTS



(Prairie)

- Renee Bumpus: Senior director of Wildlife Conservation programs
- Type of conservation: behavior change campaigns, species breeding and reintroduction, and education teams
- Breeding for attwater's prairie chicken, at NASA base in Houston and at the zoo.
- Houston Toads - Reintroduce eggs, 900,000 in 2019.
- Important: Uplifts humanity and some enemies can become heroes and can help save a species.
- She was on the Recovery Team for the Vancouver marmot. She helped restore populations and saved them from extinction.



WOLF PARK INDIANA RESULTS

- Christopher Lile: Program Coordinator
- Types of conservation: Education
- Wolf Park is home to gray wolves, gray foxes, red foxes, and bison.
- Important: ecosystems are intricately connected, and the extinction of a species or destruction of a habitat has greater affects than that one species or habitat.
- He prefers to work with mammals, especially primates and Canidae families.
- He has worked in Madagascar as a research assistant for a lemur monitoring project

(Grey)

GIRAFFE CONSERVATION FOUNDATION

- Julian Fennessy: Co-founder
- Types of Conservation: Conservation and management of giraffes in the wild across Africa
- All four species of Giraffes: Masai Giraffe, Northern Giraffe (Kordofan and Nubian), Reticulated Giraffe, and the Southern Giraffe.
- Important: Conservation of biodiversity is the basis of a healthy world, and therefore important to conserve species and their habitat.



(Northern)



(Chimpanzee)

LION COUNTRY SAFARI RESULTS

- Tina Barbour: Curator of Conservation, Research & Chimpanzees
- Types of Conservation: MOTUS wildlife tracking towers, education, and green initiatives
- She likes working with charismatic mega animals, especially Chimpanzees.
- Important: Humans have been the main catalyst for animal problems.
- In 2012, she started a field-site in Sierra Leone as an undergraduate student.
- Researchers never heard a chimp in the area, but the villagers were eager to say they hunted them. She wanted the villagers to stop hunting chimps and within one year they heard chimps. She knew in that moment that she had made a difference.

DISNEY'S ANIMAL KINGDOM



(Black)

- Lily Maynard: Conservation Program Manager
- Types of Conservation: Funding nonprofits, education, backyard wildlife, and breeding
- Helps monitor sea turtle nests and breeding for black footed ferrets, American bison, monarch butterflies, and purple martins
- Important: We live on a small planet with limited resources. She realized we can coexist with species to help preserve species
- Big cats get her excited, but with her position she gets to talk about a multitude of animals.
- A man in a village she was at lost several cows to lions. To him there was monetary and emotional loss as they look at their cows like we look at our pets. She viewed this experience as even though this man had losses to his herd, he still made space for the lions and wasn't mad.



DISCUSSION

- Each conservationist brought their own ideas and framework to the questions, which allowed for a better understanding of what exactly zoos can do to help conservation efforts.
- Motivators
- Appreciate the successes

- Conservation is an ideal that can mean different things when speaking to different people. One may think that its saving animals, another may believe that its to increase populations, or to even learn about various species.
- Overall, Conservation is important, and if individuals don't start helping the environment, then one day, we may not have any species left.



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THANK YOU
