**­­Group Name:** Wild Animals

**Group Number**: 14

**Project Title**: Wild Animal Welfare

What is the quality of life of these wildlife animals?

Which wild animal species should human interventions be focused upon?

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**Proposal (250-300 words)**:

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| Context and motivation:    Wild animal welfare is “how an animal is coping with the conditions in which it lives. An animal is in a good state of welfare if (as indicated by scientific evidence) it is healthy, comfortable, well-nourished, safe, able to express innate behavior, and if it is not suffering from unpleasant states such as pain, fear, and distress” (American Veterinary Medical Association).  This developing field possesses many uncertainties regarding what animals actually experience low quality of lives, and thus what animals would benefit from human intervention in order to improve their welfare. Our goal for this project is to estimate the welfare of wild animal species to better inform resource allocation for interventions.  Welfare will be considered on a scale from 0 to 1, by weighing up different positive and negative experiences. We will be choosing around 50 species from the following categories: mammals, amphibians, birds and reptiles.      Available datasets:     * COMADRE database derived CSV files, giving datasets for the mortality rates and types of death of each animal species: 941 mammal, 383 bird, 63 reptile, 14 amphibian:        * Life expectancy, maximum lifespan, welfare expectancy and relative welfare expectancy from Table A1:      * Categories of risk level of extinction for different species (CSV) * Also want to access the COMADRE database which will give more datasets * Use scientific paper database to find out how many papers have been published about each species, to reflect the academic attention given to each one.       Method for analysis:    1) Create a function to calculate the welfare of a species from 0 to 1  Defined by the following variables:   * Life expectancy * Welfare expectancy * Risk of extinction (from endangerment categories) * Mortality rates * Type of death (weigh the experience from 0 to 1, by comparing the relative suffering of each way of dying) * Total Harvest * Vehicle * Poisoning * Fence entanglement * Predation * Disease * Starvation/malnutrition * Drowning   2) Cleaning the data  3) Cluster the data to find groups of species with similar welfare      Presenting the data:    1) Graph to help visualize the welfare of each animal (x-axis: welfare value, y-axis: the animals)  2) Box plots (compare welfare within classes i.e. mammals)  3) Concluding visualization: Graph (x axis = welfare value, y axis = value for academic attention given) in order to visualize the lack of academic attention given to some species with low welfare.      What a successful project will tell us about the domain:    Our analysis will tell us what life experiences different wild animals have, what species are neglected by research and conservation efforts and what species we should consider intervening in. This is applicable to conservation, research, and policy. |