

Student Name

Professor Name

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Wildlife plays a vital role in economic, ecological, environmental as well as cultural spheres. It can include a broad range of species, ranging from amphibians, insects, and birds to mammals. As a rule, fauna includes some organisms that are native and the ones that were introduced or re-introduced to their current habitat (Day et al. 283). This report is an in-depth examination of five wild animals living in the United States of America. These animals are red fox (*Vulpes vulpes*), northern harrier (*Circus cyaneus*), black and yellow garden spider (*Argiope aurantia*), northern copperhead (*Agkistrodon contortrix mokasen*), and American bullfrog (*Rana catesbeiana*).

The discussion of every species will answer the following questions:

- Is the species under consideration native or introduced to the environment?
- Are there any physical characteristics in terms of color as well as specific differences between the sexes of respective species?

The issues regarding the species' habitats will be addressed. This is attained by establishing their local habitat as well as their habitat range, their ecological role, the types of food they eat and other relevant relationships, such as parasitism and mutualism. The species' category under IUCN will be also brought to light. At the same time, the report will discover the life cycle of these species and their lifespan as well as how they coexist with people.

Red Fox (*Vulpes vulpes*)

According to Rue (72), red fox is the largest of the animals considered as true foxes. This species is in the family of Canidae, which is comprised of wolves, dogs, and coyotes. These animals are characterized by orange or red fur. Red foxes have white fur on their chest as well as beneath their neck. The tail is usually fluffy and white on the tip. The ears are black and pointed. Their legs are colored black. The animal is about three feet long and weighs 10 pounds. Male species are usually bigger than females with sexual dimorphism more evident in their skull structure.

Red fox inhabits the greater part of the United States as well as Canada, but there is no record to show that they ever existed in Alaska and Texas (Clapham 122). According to IUCN, it is categorized as least concern for extinction and named as world's worst alien invasive species. They live on a broad range of territories, covering approximately 70 million square km, including woodlands and farmlands as well as prairies.

Historically, red foxes were being preyed by lynxes, wolves, and bobcats. Later, due to the reduced number of these predators, people became the major predator hunting these animals for various reasons, such as sport hunting, as well as for their fur, or by farmers in protecting their crops and livestock (Rue 121). Due to the value of its fur, the fox has a long history of being a victim of people. The depiction of this relationship can be found in human folklore as well as in myths.

Red foxes are opportunistic feeders, whose feeding pattern varies with the season, as they eat everything available during certain periods. This species eats fruits, herbs, and berries. They also feed on birds, insects, and small mammals. They can investigate over five miles looking for food despite the fact that they are not hungry. Surplus foodstuffs are hidden to be consumed later (Clapham 54).

Concerning the reproduction, red foxes reproduce only once a year during the spring. Female estrus lasts for 21 days, during which the male mates with it for some days in burrows to have at least an hour of copulation tie there. The gestation period is approximately two months. Before littering, the female called vixen will get two dens ready. The litter size ranges between four and eight. As the female is nursing the litter, the male looks for food. Within a period of about two weeks, the kits open their eyes, and four days after, lower teeth start emerging (Rue 65). The juvenile takes a period of six to seven months, and then the adulthood comes. In their natural habitat, red foxes live for a maximum of five years compared to fourteen years they live in average in captivity.

These mammals are nocturnal and can hear sounds of low frequencies. They stalk their prey just like cats do, pouncing and chasing it afterward. Foxes spend an insignificant amount of time in dens. As a rule, these animals sleep in the open air, using their tails to save warmth (Clapham 23).

Northern Harrier (*Circus cyaneus*)

Also known as marsh hawk, the bird is between 17 and 24 inches with a wingspan ranging from 3.5 to 4.5 feet and weight between 12 and 18 ounces. Males are typically smaller than females. This bird inhabits North America along with Asia and Europe. Their typical habitats include open areas, wetlands, cultivated areas, meadows, grasslands, and tundra. New Jersey's coastal marshes provide northern harrier with rich habitat. They are typically found in New Jersey, Texas, and Alaska and known to wander over 100 miles a day in search of food (Ferguson-Lees & Christie 97). The species' appearance resembles that of an owl. Males are grey and white above and below respectively and have a wingtip that is black as well as the trailing edge towards the wings. Male's white breast has rusty spots on it. Females

are brown and buff colored above and below in that order. Contrary to their male counterparts, females' under-wings are dark, and the black wingtip is obscured. The juvenile looks like a female.

They feed on a variety of foods, including insects as well as small mammals. It is worth mentioning that the bird itself is a prey to skunks and raccoons that steal its eggs, as well as to some birds of prey, feral cats, and red foxes. The acute eyesight makes them perfect hunters that can ambush and grab their victim suddenly. Owing to their sharp eye, they are able to spot their prey. As they circle the area once satisfied with their ambush, they swoop downwards and grab their prey using their sharp claws. *Circus cyaneus* has coexisted with humanity for a long time. For instance, in Europe, there was a superstition that a northern harrier perching on a house predicts that three people living in that house will lose their lives (Ehrlich et al. 162). Some Native Americans considered this bird to be a symbol of a good luck. If it shows up on a wedding day, it is a sign of a long and happy life of a couple. The majority of farmers like these birds because they help control pests by eating eggs of quail and insects that can destroy their crops.

According to Ehrlich et al. (231), these birds are migratory but native to the region. Due to the decline in population because of predation and habitat destruction, the species has been categorized as endangered. They attain reproduction maturation at the age of one year. Females lay between three to six eggs, depending on the prevalence of small rodents in the neighborhood. The incubation period takes approximately one month. While females hatch their eggs, it is the responsibility of males to hunt, bring food, and feed the females. The species can live for up to twelve years.

Black and Yellow Garden Spider (*Argiope aurantia*)

Other common names attributed to the species of black and yellow garden spider include "writing spider" or "corn spider". Black and yellow garden spiders are mostly found in 48 states of the United States of America. Additionally, the species can be found in Mexico, Canada, and Hawaii. The species is uncommon to the Rocky Mountains as well as the Great Basin but can be found in Costa Rico. Moreover, concerning the status of the species, Herbert et al. reveal that the representatives of this species should be treated as endangered or threatened (72). The abdomen and the cephalothorax of the insect are colored black and yellow, respectively. It is worth noting that females are larger in size than males ranging from 19 to 28 mm and 5 to 9 mm, respectively (Gertsch 147). That is an evident sign of sexual dimorphism.

Through its co-habitation with humans, it has been cleared out that *Argiope aurantia* is harmless to people. For that reason, it coexists with people in peace. The spider can also help men in predating some disturbing insects. The representatives of this species are typically carnivores and employ a strategy of waiting for their prey in the web, which is zigzag shaped. Once a prey touches the web, it is deemed to be captured by the spider and injected with venom which immobilizes it. Then, the spider wraps it and stores it somewhere to eat it later. Its preys can be flies, moths, beetles, wasps, and mosquitoes (Gertsch 203). The species is native in most parts of the country, but it is most widely spread in California. These spiders inhabit gardens as well as old fields. Their prevalence in California is explained by their ability to avoid predators. Birds and wasps, such as mud daubers, for example, as well as lizards and shrews, can eat them.

Concerning the reproduction, they breed only once per year. For reproduction purposes, males are the ones searching for females. As a sign of interest in the

reproduction, the male individuals go plucking strands on the web constructed by a female. It is worth noting that after mating the male often dies, being consumed by the female. Eggs are laid at night on silky material and covered. A spider can produce between one to four egg sacs each having close to 1,000 eggs. The female protects the sacs until spring because during the spring season, the juveniles come out. During the period of growth and development, they shed the exoskeleton. At that time, they may lose their legs but they have an ability to regenerate limbs.

Northern Copperhead (*Agkistrodon contortrix mokasen*)

The venomous snake called northern copperhead is found statewide apart from barrier islands living in wetlands, edge areas, and forests. *Agkistrodon contortrix mokasen* is located in numerous states, particularly including Illinois, Alabama, Georgia, and Massachusetts. For that reason, its habitat is wide. The species can be also encountered in open areas made up of rocks, which they use for cover. According to Herrmann (par. 1), the snake has been categorized by the government as endangered.

The snake grows to approximately 76 cm in length. It is characterized by unmarked copper color head and reddish-brown body. They have a thick body and keeled scales. On the sides of its head, an organ which is sensitive to the temperature is located. The juveniles are 7-10 inches. They are greyer than the adults but fade when they reach the age of 3-4 years. The species is sexually dimorphic, males being smaller than females.

Sexual maturation is attained at the age of four years. They have two main breeding seasons that usually last from August to October and from February to May. Using their tongues, males seek for sexually active females. Once it finds the female counterpart, a male starts to rub his head on the ground. When sufficiently

stimulated, the female avails the cloaca. They mate for between 3 1/2 and 8 1/2 hours. During mating, males release a special pheromone that makes a female unattractive to other males. It takes between three to nine months for young ones to pass the larval stages. The life span of this reptile is about 18 years (Herrmann par. 4).

It is worth noting that adult copperhead feeds on a range of small mammals, for instance, mice and other rodents. Occasionally, they eat lizards, small birds, insects as well as amphibians. Their long evolutionary history owes to their ability to escape predators by staying motionless (Herrmann par. 3).

American Bullfrog (*Rana catesbeiana*)

According to Stebbins (32), American bullfrog is the largest frog that reaches 9 to 20.3 cm in the length. Its color ranges from yellow to green with some dark grey mottles. The frog has a large external eardrum with the hind legs webbed apart from the last joint made up of loner toe. The amphibian has no dorsolateral ridges. The belly's color ranges from cream to white, and sometimes, it has grey mottles. The species is also sexually dimorphic. Its females are bigger than males. In addition, they differ in color; males have yellow throats in contrast to females.

The species is not native to all the parts of the USA except of central and eastern parts of the country. The range of its habitat is typically eastern and central U.S., New Brunswick as well as Nova Scotia. They inhabit marine areas, including ponds, slow moving streams, and lakes. Regarding diet, they are capable of eating any types of food if they can swallow it. Their diet consists of fish, mammals, frogs, insects as well as birds. Their hatchlings eat algae, invertebrates, and plants. The introduced species is responsible for the decline of native fauna (Day et al. 83). This species has gained a competitive advantage over the native ones because the first

grow and develop in an environment where competition is fierce. Thus, their prey is deemed to be captured.

The reproduction periods take place between May and June. Fertilization is external. Bullfrogs attain sexual maturation between one to three years of age. After tagging a territory, a male makes a call at night to attract a female. The choice is made after a female enters the tagged territory. Eggs (about 20,000) are laid initially floating the sink under aquatic vegetation (Stebbins 34). The tadpoles are between 10 and 17 cm in the length taking two years to transform. It has been established, that these amphibia can live from eight to ten years in their natural habitat. However, in captivity, they live even longer, usually reaching the age of sixteen years.

Having described all the species, it is possible to conclude that though being representatives of different classes, they still have something in common. For example, all the species under the analysis have sexual dimorphism, which is seen in size and/or color of female and male counterparts. Moreover, they all are predators though some of them may be omnivorous. Some species turned to be local while others are not native to some areas of their habitat. The most vivid examples of differences between these animals were discovered in their lifespan and reproduction.

Works Cited

- Clapham, Richard. *Foxes, Foxhounds and Fox-Hunting*. General Books LLC, 2010.
- Day, Leslie, et al. *Field Guide to the Natural World of New York City*. Johns Hopkins UP, 2007.
- Ehrlich, Paul R., et al. *The Birder's Handbook: A Field Guide to the Natural History of North American Birds: Including All Species That Regularly Breed North of Mexico*. Fireside, Simon & Shcuster Inc., 1998.
- Ferguson-Lees, James and David A. Christie. *Raptors of the World*. Christopher Helm, 2001.
- Gertsch, Willis John. *American Spiders*. General Books LLC, 2010.
- Herrmann, Bree. *Agkistrodon contortrix*, 2000,
[animaldiversity.ummz.umich.edu/site/accounts/information/Agkistrodon_c
ontortrix.html](http://animaldiversity.ummz.umich.edu/site/accounts/information/Agkistrodon_contortrix.html). Accessed 24 Mar. 2016.
- Rue, Leonard Lee. *Complete Guide to Game Animals: A Field Book of North American Species*. Grolier Book Clubs, 1981.
- Stebbins, Robert. *A Field Guide to Western Reptiles and Amphibians*. Houghton Mifflin, 2003.