Overview of Species Reintroduction Programs

Species reintroduction programs were developed in response to the endangerment of wild species of plants and animals due to excessive predation or toxins introduced in the environment. Pollution by farm chemicals, environmental changes like global warming, excessive predation by other animals and humans can contribute to the dying off of an animal group. In reintroduction programs, animals are bred and raised in captivity in accredited zoos and reintroduced to their natural habitat in order to contribute to conservation efforts and replace animals that are facing extinction.

Ex situ conservation involves captive breeding of animal groups, creation of seed band and having zoos and aquaria where species can be maintained artificially and off-site. In situ methods occur in parks and habitats where the species is directly managed but are still considered ‘wild born’. Introduction of animals involves releasing them into new, cleaner and safer habitats where they can establish a new population. Reintroduction involves releasing animals in their old habitats once an area has been restored. From website: Translocations involve moving wild-born animals from one place to another when the wild population is in danger of extinction due to problems in the local habitat (“Captive Breeding and Species Reintroductions”). There are specific guidelines from the American Association of Zoos and Aquariums that must be followed (Association of Zoos & Aquariums).

Pros and Cons of Species Reintroduction

Captive breeding has had a high success rate with 90% of all mammals, 74% of all birds added to U.S. zoo collections since 1985 being born in captivity. Many animals have thrived in the protective atmosphere of zoos and many of them, such as the bald eagle and Andean condor can now live in the wild. These efforts have generated interest and support from the general population.

However, these programs do have their critics since they are expensive to run and they focus on just a few species of animals. Since they are bred in captivity and not in the wild, the gene pool may be shrinking and affect the species long term. The native habitat of some of these animals might have been destroyed so they cannot be returned to it and then they can only survive in captivity. Some people question whether it would be better to just let some animals become extinct (Captive Breeding and Species Reintroductions).

Why did this become necessary for certain American bird species like the peregrine falcon, the osprey and the whooping crane? DDT has been used since World War II as a pesticide. It is used in agriculture to reduce pests like bugs and to kill mosquitos. Over time, the highly negative effects on the
environment and creatures living in it was better understood. Bats, certain birds and fireflies were affected by DDT. In addition, draining of wetlands for farming as well as excessive hunting and egg gathering has negatively affected some bird populations in the Midwest.

**The Osprey Population**

The osprey, known as a fish hawk, is a raptor who eats only fish. It has long talons that can easily grab and hold slippery fish. They need clean water to see and to catch the fish and will avoid an area if the water is contaminated. The osprey population was affected by pesticides like DDT in the 1950’s in the Great Lakes and Atlantic coast area. Their numbers in the Great Lakes and Atlantic Coastal area were greatly reduced as they ate fish that were contaminated by DDT. Pesticides led to thinning eggshells which severely affected the population. Their presence indicates the cleanliness of local waters where they can get fish. Polluted waters do not attract osprey. Lakes and reservoir creation was part of the effort to repopulate the ospreys in Iowa by the Department of Natural Resources and other conservation agencies. Because ospreys do not readily expand their breeding areas, it was necessary to use reintroduction programs in Iowa to increase their population. Ospreys from Wisconsin and Minnesota were relocated to habitats that were suitable for their breeding in Iowa, Kansas, Missouri, Ohio and southern Minnesota ("Osprey Restoration").

In 1997 through the Macbride Raptor Project, hey were initially brought to the area in cages to become familiar with the area at 42 days of age and later released at 53 days of age when full grown. Their diet was also partially supported by the reintroduction staff in order to get them to be able to feed on their own and support themselves.

This has been a very successful reintroduction effort with continued, but slow growth in the population. By 2016, there were 25 nesting pairs noted (“Osprey Population Continues to Expand”).

**The Peregrine Population**

The Iowa Peregrine population was greatly affected by losses in habitat, hunting, egg collection and other human behaviors in the mid-1960’s. DDT pesticides used in the 1950’s were further significantly responsible for decreasing the Iowa peregrine population. DDT was banned in 1972. Like the osprey, the peregrine is a significant indicator of the health of a natural area. The peregrine is at the top of the good chain. This falcon feeds on birds that have eaten seeds, insects and fish that have been contaminated with DDT. Over time the DDT accumulates in its system and is highly poisonous. As with the osprey, the peregrine falcon’s eggshells become frail and thin and break during incubation. This led to a significant drop in the78 % drop in their population over time in the United States (The Nature Conservancy).

In response to this, in 1975 the Peregrine Fund began a reintroduction program in the eastern United States. In order to restore the populations of peregrines, scientists would take young falcons from their
habitat and put them in a ‘hack box’, where they were fed and protected and allowed to learn to fly. This allows the young peregrines to be imprinted with the area of their new home where they were raised and they will return to that same area after they are released. In 1982, peregrines were hacked from Minnesota, part of the Midwestern effort of the Eastern Peregrine Recovery Program. 900 peregrines were released in the Midwest.

By the year 2000, there were 129 nesting pairs in the Midwest. Because Iowa was not reaching its recovery goal, gradually, over time, the Iowa Peregrine Falcon Recovery Team between 1995 and 2000 released more birds to establish a self-supporting population. The cliffs of the Mississippi River were home to 5 pairs of nesting peregrines in 2000. This does not appear to be a very large number given the amount of resources used to re-establish the nesting sites (“Peregrine Restoration”).

The Whooping Crane Population

Whooping Crane Eastern Partnership project was created to protect a rare and highly endangered species of whooping cranes. They are extremely rare birds and were affected by the influx of European immigrants when wetlands were drained for farming. They were near extinction in the 1960’s. Whooping crane populations were also affected by hunting, egg collecting, and petrochemicals. Whooping cranes exist in a marsh habitat and they eat crabs, invertebrates, frogs and minnows (Whooping Crane Eastern Partnership).

Forest fires and dry conditions have more recently affected this population of unique birds (U.S. Fish and Wildlife Service).

The Whooping Crane Eastern Partnership (WCEP) is a group of agencies which was formed in 1999 in order to restore a population of whooping cranes to eastern North America. Eggs from captive whooping crane flocks in Maryland, Wisconsin, and Alberta, Canada were hatched in incubators and care was taken so that they would not get attached to (imprint on) humans. From 2001 to 2015, they were transported to Wisconsin where they were trained to follow ultralight aircraft to prepare them to migrate to Florida in the fall and then back to Wisconsin in the summer in order to restore the North American population of these birds. Over time, they learned the migration pattern from older birds. They are tagged with transmitters so they can be tracked. However, this is a very time intensive and expensive program (Whooping Crane Eastern Partnership).

This program has also been successful and as of April 1, 2017, there were 99 whooping cranes that had migrated back to Wisconsin (“Captive Breeding and Species Reintroductions”).

I believe that it is important to use reintroduction programs for the many species of wildlife. The animals, birds, insects and all living things in an ecosystem are dependent on one another and interact in a healthy environment. Despite the cost, we must protect and restore our natural resources and try to remove the footprint that man and industry has placed upon the land in the service of progress. I feel
that no species should be allowed to become extinct. Humans are very good at advancing their own culture for their own needs but should it be done at any cost? Ecosystems can be very fragile and we need to preserve and respect the natural beauty of our land and water, for ourselves and for all living things. Reintroduction of animals can be important for natural pest control.
Works Cited


