

# Florida Panther and the Genetic Restoration Program



*The Florida panther (*Puma concolor coryi*) is the last subspecies of *Puma* still surviving in the eastern United States. Historically occurring throughout the Southeast, the panther is now restricted to less than 5% of its historic range in one population of roughly 80 animals, located in south Florida.*



Florida Fish and Wildlife Conservation Commission

## Historic Gene Exchange

More than a century ago, natural gene exchange occurred between the Florida panther and other contiguous subspecies of *Puma concolor*. This exchange occurred as individuals dispersed among populations and bred. This natural mechanism for gene exchange maintained genetic health within populations and minimized the occurrence of inbreeding.

However, beginning with early European colonization and continuing through the 19th Century, the panther population began to decline. The Florida panther became geographically fragmented from other subspecies such as the Texas panther (*Puma concolor stanleyana*). Once it became geographically isolated, gene exchange between subspecies could no longer occur. Inbreeding accelerated, resulting in genetic depression, declining health, reduced survivability, and low numbers. If action was not taken to address the loss of natural gene exchange, scientists feared that this “genetic bottleneck” would lead to the eventual extinction of the population.

## Breaking Through the Bottleneck

Between 1991 and 1994, biologists convened three workshops to discuss the genetic health of the Florida panther population. Experts in the fields of genetics, small population biology, captive breeding, and panther health, biology, and demographics participated. Scientists concluded that restoration of gene flow was critical to restoring genetic health to the Florida panther and ultimately recovering the species.

A plan for genetic restoration and management was developed in September 1994. The plan called for an initial introduction of Texas panthers, the closest subspecies to the Florida panther. The introduction was carefully designed so as not to cause genetic swamping of locally adapted traits in the south Florida population.

## Genetic Restoration – A Success Story

The genetic restoration plan was implemented in 1995 with the release of eight female Texas panthers. Five of the eight Texas panthers produced litters and at least 20 kittens were born in south Florida.

Five Texas panthers died from various causes and the remaining three were removed from the wild during the 2002-2003 capture season because they had produced a sufficient number of offspring and because they were thought to no longer be reproducing.

## A decade after the program was first implemented, panther biologists believe the program to be a success.

In 1995 when the program began, between 20-30 Florida panthers were left in the wild. By 2003, the Florida panther population had responded by tripling to roughly 80 animals. The genetic restoration program restored genetic variability and vitality for a healthier, more resilient population.

## For more information contact

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