

PARTNERING TO SAVE THE FLORIDA PANTHER

As the conservation community commemorates the 40th anniversary of the Endangered Species Act (ESA), a collaboration of government agencies, zoos and non-governmental organizations continue the work of saving one of the first listed species. Seven years before the passage of the ESA, the Florida panther was initially listed as a threatened and endangered species, compiled under the precursor Endangered Species Preservation Act. At the time of listing, and after a century of persecution and exponential human population growth, Florida's state animal numbered between five to 20 adults isolated south of the Caloosahatchee River. Forty years later, approximately 100 to 160 adults remain thanks to the collaborative efforts of diverse stakeholders, including White Oak Conservation Center in Yulee, Fla., and other Association of Zoos and Aquariums (AZA) member organizations.



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White Oak encompasses 7,400 acres of forests and wetlands located along the St. Mary's River in northeast Florida. Founded in 1982, and an AZA certified related facility since 1985, White Oak sustains imperiled animal species through innovative conservation breeding, research, education, and field programs. White Oak's large and secluded property and successful felid programs make it an ideal facility for the rehabilitation and recovery of panthers.

The first Florida panther rehabilitations and releases were attempted at Zoo Miami in the early 1980s. White Oak's involvement with efforts to save the Florida panther began in 1986 upon receiving a non-releasable male panther "Big Guy" that had been hit by a car. This began a partnership with the U.S. Fish & Wildlife Service (USFWS) and the Florida Fish and Wildlife Conservation Commission (FWC) that continues today. White Oak's first rehabilitation and release came with the arrival of a nine-month old orphaned and injured female in 1987. Affectionately dubbed "Orphan Annie", but officially known as FP 23, she recovered in a ten acre conditioning enclosure built in natural Florida upland pine habitat. After a year at White Oak, Orphan Annie was released into Big Cypress National Preserve and went on to produce two litters.

Despite small gains prescribed in the recovery plan, the panther population was still on the precipice of extinction, due in large part to inbreeding depression. Many panthers demonstrated visible signs associated with inbreeding, including a high percentage of cryptorchid males with poor sperm quality and an increasing prevalence of atrial septal defects. In 1992, White Oak organized and hosted a stakeholder meeting intended to move conservation planning through political and scientific gridlock regarding proposed genetic introgression. As a result, eight Texas cougar females were released into south Florida in 1994, with the objective of increasing genetic diversity and overall population health. After successfully breeding, the cougar females were removed from the wild after a prescribed time, and three came to White Oak to live out their lives. One of the Texas females still lives in a spacious enclosure at the age of 22.

White Oak staff participates in field work to capture male Florida panthers and assess reproductive parameters as part of the monitoring of the genetic introgression study. Information was gained by studying sperm recovered post mortem from panthers killed by vehicular trauma or inter-male aggression. Data on the reproductive traits of Florida panthers, to determine the influence of outbreeding on this population, was collected over a ten-year period and assessed in terms of the genetic heterozygosity and overall health. These important findings were published in *Science* (2010), describing for the first time the impact of this intervention in preventing the extinction of a species.

Panthers tested positive for feline leukemia virus (FeLV) during the 2002-2003 capture season and an outbreak followed in the Okaloacoochee Slough in south Florida. White Oak completed a safety and efficacy study on killed FeLV vaccine using captive pumas that was used as a part of the intervention strategy, which vaccinated captured panthers in a ring around the outbreak zone.

Perhaps the biggest success of White Oak and FWC's rehabilitation and release program began with the rescue of an orphaned six-month old female kitten in 2002. FWC biologists found the cub FP113 lingering near a deer carcass that her mother had probably died defending. The kitten would have struggled to find and kill prey, and would be unprotected from territorial males and

other predators. With the low number of panthers remaining in the wild, every individual female is important to the population and the FWC team captured the kitten to give her the best chance of survival. FP113 arrived at White Oak on October 24th and was placed in a small secluded enclosure to enable staff to monitor her closely during the crucial early period.

In the isolated enclosure, FP113 was fed a variety of prey, using strict protocols to reduce her association between food and humans. After six months in the conditioning pen, the now sub-adult panther was a capable hunter and ready to take her rightful place as the apex predator in southwest Florida. FP 113 would go on to become a crucial part of the wild panther population, producing at least 12 kittens identified by biologists. Biologists also know that at least one of her female offspring has gone on to produce litters of her own. Years after her release back into the wild, FP 113 is still rewarding the FWC and White Oak panther team for their hard work.

Despite the successful rehabilitation and release of 12 panthers since the program's inception, Florida panther populations remain low due to human related geographical and political factors that restrict panther populations to small patches of suitable habitat and protected areas in southwest Florida. Intraspecific aggression (in large part due to limited suitable habitat) and vehicle collisions continue to be the leading causes of mortality and injury in free-ranging Florida panthers. As broader conservation strategies are put into place, White Oak and FWC continue to work together to save individual panthers and return them to the wild breeding population. Multiple AZA institutions in Florida have contributed to panther recovery by providing housing, rehabilitation, and pathology work. These facilities include Jacksonville Zoo, Zoo Miami, Disney's Animal Kingdom, Tampa's Lowry Park Zoo and Busch Gardens Tampa. The Florida panther story is an excellent example of how AZA institutions work collaboratively to tackle challenges related to restoring populations of endangered large carnivores.

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