

# GLOBAL RE-INTRODUCTION PERSPECTIVES

*Re-introduction case-studies from around the globe*



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**Cover photo:** Clockwise starting from top-left:

- Formosan salmon stream, Taiwan
- Students in Madagascar with tree seedlings
- Virgin Islands boa

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## Re-introduction of the Aplomado falcon into Texas and New Mexico, USA

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### Introduction

At the beginning of the 20<sup>th</sup> century the northern Aplomado falcon (*Falco femoralis septentrionalis*) was a common resident of the grasslands of southwestern North America, but by 1930 the falcon was mostly absent from all areas north of Mexico - causes unknown. Between 1978 and 1988 a total of 25 Aplomado falcons were collected from nests in southern Mexico to establish a captive breeding program. The Aplomado falcon was placed on the United States endangered species list on 27<sup>th</sup> March 1986. A species restoration pilot project was accomplished between 1985 and 1989 and restoration on a larger scale began in 1993. Hacking procedures developed for Peregrine falcon re-introduction were modified and utilized for the release of Aplomado falcons. Although the captive propagation of this species has been challenging, a total of 1,506 Aplomado falcons have been produced and 1,393 released into South and West Texas and Southern New Mexico by the "hacking method." During the spring of 2006, 45 wild pairs of Aplomado falcons were located in South Texas, 56 young fledged from 33 nests.

### Goals

- Goal 1: Re-establish viable wild populations of the northern Aplomado falcon in the southwestern United States and northern Mexico through the release of captive-bred young and to see the species officially de-listed.
- Goal 2: Monitor released falcons, documenting the pairs that result, and their productivity.
- Goal 3: Monitor the levels of environmental contaminants observed in released Aplomado falcons and their progeny.
- Goal 4: As possible gain new information and insight about the species through scientific investigation and publish results.



Northern Aplomado falcon  
(*Falco femoralis septentrionalis*)

## Success Indicators

- Indicator 1: Captive production of over 50 young Aplomado falcons per year.
- Indicator 2: Develop successful release techniques.
- Indicator 3: Develop monitoring techniques with the use of banding and radio telemetry.

## Project Summary

**Feasibility:** The Peregrine Fund chose South Texas for the focus of its initial re-introduction effort for the Aplomado falcon because: 1) some of the last known United States breeding attempts of the species occurred in this area, 2) the highest known nesting density historically occurred in this area, 3) wild Aplomado falcons were still being seen in and along the South Texas coast, and, especially, 4) there appeared to be extensive suitable but unoccupied habitat for re-establishing a wild population. Habitat along the Gulf Coast was surveyed by light aircraft from Sergeant's Beach, Texas, south to San Fernando in the Mexican state of Tamaulipas. In addition, the Aransas National Wildlife Refuge, Attwater Prairie Chicken Refuge, Laguna Atascosa National Wildlife Refuge, Welder Wildlife Foundation, and three divisions of the King Ranch were visited and their comparative merits for potential release sites analyzed. Primary consideration for release site selection includes habitat structure, prey availability, nesting structures, potential threats from predators, logistics to work the site, and extent and proximity to other suitable habitat

**Implementation:** The Implementation phase began in 1993 with the first releases at Laguna Atascosa National Wildlife Refuge. Restoration has continued on other refuges and on neighboring, privately owned cattle ranches. Releases have occurred along the Laguna Madre as far north as Matagorda Island and Sea Drift, Texas, and inland as far west as the Welder Wildlife Foundation near Sinton, Texas. We have been able to utilize artificial nest structures, that the falcons quickly adapted to, in areas where natural nest sites were lacking. We now have 54 of these structures are in place in South Texas. Beginning in 2005, we concentrated all of our releases in trans - Pecos region of West Texas as a result of the reproductive success observed in the falcon population now established in South Texas.

**\*Safe Harbor - A significant component of this re-introduction program was the development of a program under section 10(a)(1)(B) of the Endangered Species Act (Act) that encourages the release of Aplomado falcons on private lands in return for land owner protection-- a "Safe Harbor" - from any additional future liabilities under the Act. The Peregrine Fund is the formal permittee under the requested Section 10(a)(1)(B) permit.**

In 2002, The Peregrine Fund was able to expand its **Safe Harbor\*** permit to enable the development of release sites in West Texas. To date over 2,176,367 acres of private land are involved in the Safe Harbor in both South and West Texas.

For a number of years The Peregrine Fund has been working with a variety of private, state, and

federal entities in New Mexico in an effort to utilize the 10(j) rule of the Endangered Species act to begin to establish a “non essential experimental population” of Aplomado falcons in New Mexico. The rule was approved by the USFWS in 2006 and releases have been occurring for the past two seasons. These xeric grasslands, once home to breeding Aplomado falcons, provide extensive habitat for their re-introduction and will make it possible to establish a second, disjunct wild population from South



**Northern Aplomado falcon habitat**

Texas. In summary 1,393 Aplomado falcons have been released. A self sustaining population of approximately 50 pairs has been established in South Texas. Last years survey efforts in West Texas produced a total of six pairs, and an additional pair was found in New Mexico.

The post-release wild population in Texas will continue to be monitored, and additional barred nest structures will be placed in both areas with existing falcons and in areas located between the nesting pairs on Matagorda Island and those to the south around Laguna Atascosa National Wildlife Refuge and Brownsville. During the 2008 field season we will identify, by plane G.I.S. habitat maps, as much suitable habitat in South Texas for an expanded falcon survey outside the current survey area. We will document territory occupancy and productivity from established pairs, band and collect blood and/or feather samples from nestlings in artificial nest structures, collect addled eggs and egg shell fragments for environmental contaminant analysis, collect prey remains, and identify as many individual falcons as needed to determine stability of this population using a refined model. We also will inspect and maintain existing nest structures in South Texas. We are working closely with the USFWS to update current recovery goals.

### Major difficulties faced

- Learning how to propagate Aplomado falcons on a large scale.
- Identifying the best habitat for releases to occur where there would be a minimum amount of mortality with the young falcons being released.
- Developing partners who would sign on to the Safe Harbor in Texas.
- Establishing the 10(j) rule of the Endangered Species Act in New Mexico, which would allow for the release of captive produced Aplomado falcons.

### Major lessons learned

- We learned how to raise large numbers of falcons in captivity.
- We learned how to safely release Aplomado falcons into their native habitat.

## Birds

- Incorporated the Safe Harbor and 10(j) rule of the Endangered Species act to allow for the release of falcons on both private and government lands.
- We have successfully worked with both the government and private sector throughout the entire re-introduction effort.
- We designed and implemented the use of artificial nest structures in areas that were lacking in suitable nesting sites.

### Success of project

| Highly Successful | Successful | Partially Successful | Failure |
|-------------------|------------|----------------------|---------|
| √                 |            |                      |         |

### Reasons for success/failure:

- Produced and released 1,393 Aplomado falcons into their native habitat.
- Established a self sustaining population of approximately 50 breeding pairs of Aplomado falcons in South Texas.
- Successfully used the Safe Harbor and 10(j) rule of the Endangered Species Act to work with both private and government land managers.
- We have provided artificial nest structures in over 50 locations with an 85% occupancy rate.