THE PEREGRINE FUND

JOB ANNOUNCEMENT - APLOMADO FALCON RECOVERY EFFORT

Seasonal employment opportunity as a field technician helping to restore the Endangered Northern Aplomado Falcon. Join our team in the field from late-May through August 2021, working as a hack site attendant at a release site along the Gulf of Mexico, Texas. Specific dates to be determined once eggs are collected/hatched. Successful applicants will be responsible for the care and release of up to 12 young Aplomado Falcons until their independence from the hack site. Work requirements include working with a partner, and working outdoors in often difficult conditions. Must be able and willing to perform physical activities, i.e., hiking, must be comfortable climbing ten foot ladder onto hack tower, lifting up to 40 pounds. Previous field experience helpful. A project report with detailed notes is required upon completion.

Please see additional project details that are described in the narrative below.

Still interested after reading the narrative? Please email your resume with 2 references (please include their contact information) to: employment@peregrinefund.org , Attn: Brian Mutch; by 15 February 2021.

The Peregrine Fund
Aplomado Falcon Program
Texas Gulf Coast- Barrier Island Proposal

Photo Larry Ditto

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Summary

The Northern Aplomado Falcon was once a part of the dynamic and diverse wildlife community associated with our southwestern grasslands, but the species disappeared during the early 20th century. Our efforts to restore Aplomado Falcons during the past two decades are demonstrating the need to conserve these important habitats and the biological diversity found within them. Through Captive propagation and reintroduction efforts, a self-sustaining population has been established along the Texas Gulf Coast. As recently as 1994 there were NO known breeding Aplomado Falcons within the United States. Reintroduction efforts quickly established a breeding population within historical Texas habitats. The population reached a high of 44 territorial pairs in 2005 but showing fluctuations over time. The project has inspired new and innovative ways to benefit endangered species through partnerships and cooperation with landowners and government agencies alike. For example, the “Safe

Harbor" program for Aplomado Falcons in Texas has opened doors to otherwise inaccessible private land and habitat. As an example of innovation, we have developed and deployed a unique artificial nest structure that improves Aplomado Falcon nest success and productivity and has application to other species where habitat and nest sites may be limited. We maintain 66 such artificial nest structures annually throughout the coastal range of the falcon with two located on the Nueces County Park on North Padre Island. Such approaches allow for the type of adaptive management necessary for a restoration program to work efficiently and effectively in the contemporary landscape. Furthermore, we are working with the agencies, United States Fish and Wildlife Service (USFWS), National Park Service (NPS), Texas Parks and Wildlife Department (TPWD), and private entities like The Nature Conservancy (TNC) to identify areas of habitat management need particularly where brush has invaded grassland habitat not long ago occupied by breeding Aplomado Falcons. In addition to our recommendations of important areas requiring habitat management, we have also prioritized several locations that land/habitat conservation-oriented Non-Government Organizations (NGOs) such as Texas Conservation Fund (TCF) and land management agencies, like the USFWS or NPS, should consider for acquisitions that would greatly benefit the falcon and other grassland species. For example, TCF recently successfully raised funds and acquired two large tracts of land which have been transferred to LANWR, both providing critical habitat for breeding pairs of Aplomado Falcons. Overall, at the northern extent of the species range, the Aplomado Falcon is regaining its place as an integral part of the grassland ecosystem from which it had been absent for more than 50 years.

Catastrophic Event

During the night of August 25, Hurricane Harvey, a category 4 hurricane, made landfall at Rockport, Texas. Three barrier Islands (Matagorda, San Jose and Mustang) which lie just offshore of Rockport extend approximately 40 miles to the north and 20 miles to the south and represent the northern half of the Aplomado Falcons' breeding territories. During almost 30 years of this recovery effort, some of the falcon population has experienced localized hurricanes with little to no effect upon the population; however, none were as severe as Hurricane Harvey. Its landfall during the middle of the night, winds in excess of 120 mph, and torrential rainfall coupled with a storm surge which "rack lines" on the highest dunes would suggest most of the falcons low-lying habitat was under several feet of water for a duration of possibly hours.

At the conclusion of the 2018 occupancy survey, many of our fears were realized. We had lost 10 of the 18 territorial pairs of falcons within the barrier island population. Knowing we lost 60% of the adults to this storm event, we might also speculate that much of 2017's production was also likely lost which numbered 24 young produced by those 18 falcon pairs. Occupancy surveys we completed during the 2020 field season revealed nine Aplomado Falcon pairs occupying nest sites on these three islands. Growth within this population has not yet been favorable. However, the productivity we observed this season was encouraging with nine pairs producing 16 young or 1.8 young/nesting attempt.

Even the favorable productivity observed for the island population during 2020 is still much lower than what we had recorded for many seasons prior to Hurricane Harvey. It has become apparent that this population will likely need management actions once again to insure its wellbeing into the future. One obvious concern, beyond the direct loss to the numbers of breeding pairs is the genetic loss which occurred. It should be noted here that the falcon population to the south (~100 miles), in and around Laguna Atascosa National Wildlife Refuge (LANWR), was unaffected by this storm. However though

there is some flow of falcons north and south along the coast, we have not documented many falcons banded in either the north or south population actually breeding very far outside of their natal range.

Proposed Actions

Adaptive Management

From this southernmost Texas Aplomado Falcon population (LANWR), we plan to collect up to four clutches of eggs (n= ~12 eggs). These will be transported to The Peregrine Fund's Boise, Idaho facility. Once hatched and raised to approximately 32 days old in Boise, the young would then be transported back to Texas/Nueces County Park for placement at their release site. Each group would be released once they reach about 40 days of age. To aid with air transportation of collected eggs, Texas to Boise, Idaho and young, Boise, Idaho back to Texas, we have contacted the Non-Governmental Organization (NGO), LightHawk. They are eager to help us with these flights, providing safe and efficient transportation.

Manipulating production at wild nest sites is a technique that has been successfully used for recovery efforts of raptors. It is also a common practice to greatly increase captive production in many raptor species whether for conservation efforts or for private entities wanting to increase production of raptors. Raptors will typically recycle and produce a second clutch of eggs when their first clutch is lost or removed. In this case the eggs would be pulled from the nest to be incubated artificially with the young then raised in captivity for eventual release to the wild through hacking efforts. It is likely the pair whose eggs were taken will lay a second clutch and potentially double their productivity. We propose to experiment with this technique as early as the 2021 breeding season on the Gulf Coast. We would plan to secure eggs from several of the early nesting pairs within the South Texas population, in and around LANWR. The eggs would be transported to our Boise, Idaho facility, hatched artificially in incubators, and raised to approximately 32 days old when they would be returned to Texas and placed at their release site to be released at about 40 days old. We would select at least one release site within the barrier island population and release all young hatched from those wild secured eggs. We would also continue to closely monitor the pairs from which the eggs were taken. Evidence and data gathered regarding the Aplomado Falcon's willingness to recycle in the wild would be very valuable information.

Construction of Hack (release) Site

A hack site consists of at least one hack tower (Fig. 1), sometimes two for additional flexibility when releasing different age groups of falcons at one site and a nearby shade blind. These towers are used to elevate a hack box where young falcons are held until their release. The tower substitutes as a nest site for them, and they will return to the tower for food each day which is provided morning and evening by the hack site attendants.

- The tower is elevated approximately nine feet high with an 8' x 8' deck constructed between the four upright poles. The deck supports a hack box which is 3' x 4' x 5' in dimension.

- We also construct a sturdy shade blind from which hack site attendants make most of their observations from. This is located less than 100 yards from the tower(s) where the attendants are able to identify each individual falcon using a spotting scope to read their alpha/numeric leg bands.
- The Peregrine Fund (Brian Mutch/Paul Juergens) will complete construction of the release site February/March 2021. Completion of this construction typically requires two days.
- Site selected where it does not interfere with required land owner operations and where the young falcons have the best chance for success. We will work with Nueces County Park to select a site that meets these requirements.

Figure 1 - Hack tower, hack box and interns caring for young Aplomado Falcons

Hack Site Attendants

- Two employees will be hired for a duration of up to 10 weeks with duties dedicated to the care (feeding, monitoring, observations, note taking) of the young Aplomado Falcons at the release site. The Peregrine Fund will hire these seasonal employees.

  During 17 years of reintroduction efforts along the Texas Coast, The Peregrine Fund has hired many hack site attendants most of whom were college-aged biology students. The job

provides valuable field work experience while restoring this endangered species to the Texas Gulf Coast.

- We plan to collect from the southernmost Texas aplomado population up to four clutches of eggs (n= ~12 eggs) which will be transported to The Peregrine Fund's Boise, Idaho facility. Once hatched and raised to approximately 32 days old in Boise, the young would then be transported from Boise back to Nueces County Park for placement at the hack site and their release once they reach about 40 days of age.
- These (up to) four groups, could be separated in age by up to two - four weeks, so their placement and release would be accomplished sequentially.
- Independence of young falcons from the release site occurs seven weeks after the last group has been released. At that point the release effort would be concluded for the season.

Falcon Release Effort

- The young falcons are required to be fed twice daily, seven days/week. Our hack site attendants will live nearby for approximately a ten-week period to care for all falcons released, until their independence. Timing of this release effort would likely occur early June – into August. Exact dates can be identified sometime in May. We would hope to continue this effort for several years, helping to speed recovery of this portion of the aplomado population so negatively impacted by Hurricane Harvey.
- We feed the young falcons captive reared, coturnix quail which are kept in a small freezer at a nearby location. Falcons are fed twice daily, morning and again in the evening, 7 days/week.
- Once the falcons have been released, hack site attendants typically monitor them when they are most active, ~three hours during the early morning and again in the evening during the last ~three hours of daylight, this is required 7 days/week.
- We have prepared an in-depth manual of the hacking process and procedures which is supplied to hack site attendants and all cooperators.
- At the conclusion of the hack site we ask both attendants to provide a report of their field activities and that of the site's success.

Compensation

1. Hack Site Attendants – Two attendants will be hired for approximately a ten-week period. Compensation will be at competitive rate plus housing if required.

Summary Timeline

Task	**Schedule (2021)**
1. Construction of Hack Tower	2 days in mid-February to mid-March

2. Egg Collection	as required in April to May
3. Transport eggs to Boise, Incubation, Rearing, and Transport young back to TX	as required in April to May
4. Hacking and Monitoring	May to August