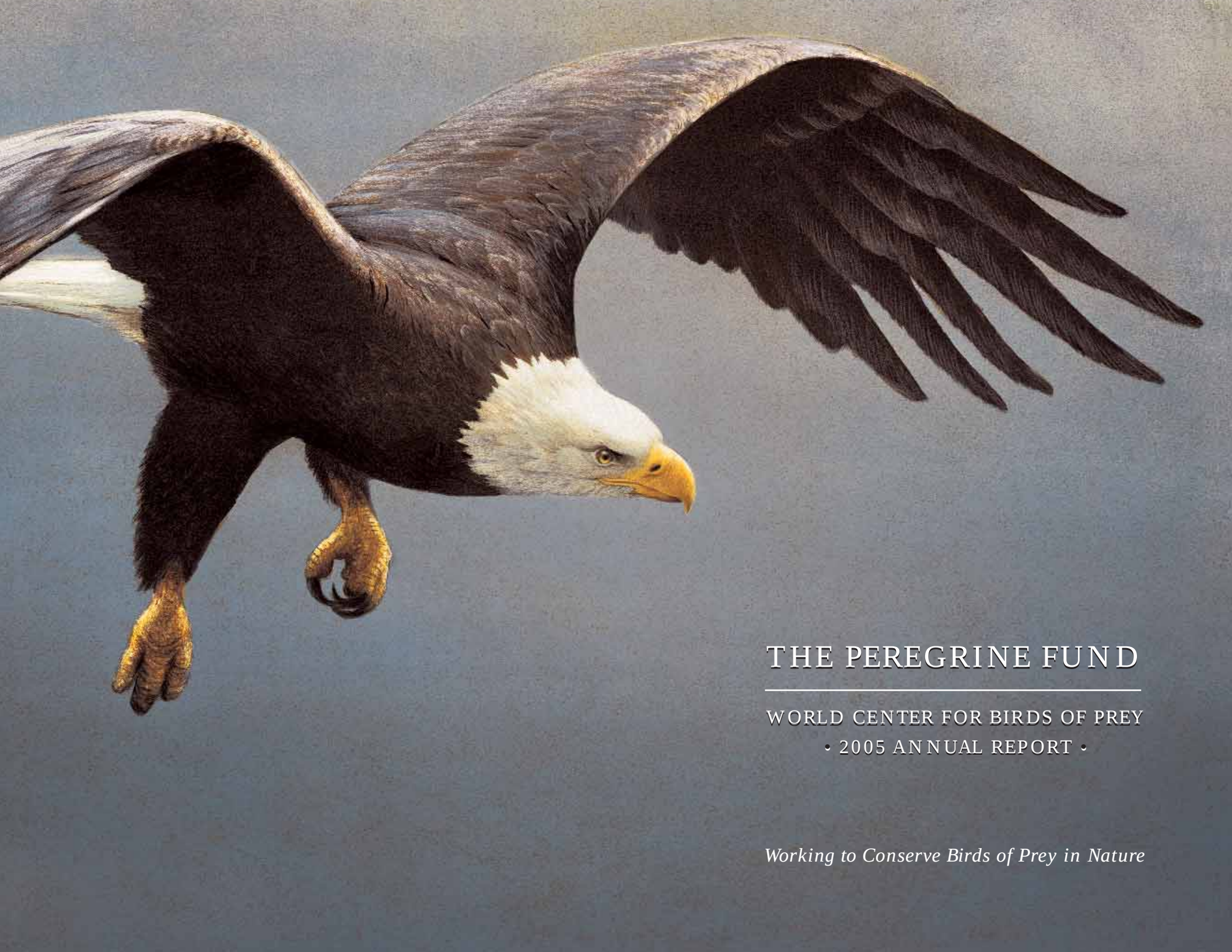

THE PEREGRINE FUND

WORLD CENTER FOR BIRDS OF PREY

• 2005 ANNUAL REPORT •

Working to Conserve Birds of Prey in Nature

The Peregrine Fund Staff

The organization's business-related activities are supported by Pat Burnham (Administrator), Cindy Thiel and Donna Daniels (Bookkeepers), and Sherri Haley (Secretary/Receptionist). Linda Behrman is our Membership Director and manages our web site. Joell Brown coordinates our fund raising activities. Amy Siedenstrang is our art director.

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Thanks to Robert Bateman and Mill Pond Press, Inc. for cover artwork.
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Kurt K. Burnham

Board of Directors Update

Kurt K. Burnham

Ian Newton (above) has worked with numerous species of birds from temperate environments to the Arctic. Below, he and Bill Burnham survey cliffs in Northwest Greenland.

Strong leadership is critical to an organization's success, and The Peregrine Fund's Board of Directors has continued to provide this leadership since the organization began in 1970. During the fall 2005 meeting of the Board of Directors, Ian Newton, former Vice Chairman, was elected as the new Chairman of the Board. The organization is fortunate to have had six Chairmen of the Board all with strong enthusiasm and desire to help the organization continue to succeed and Ian Newton will no doubt continue this tradition in his new role.

Outgoing Chairman of the Board Paxson H. Offield is to be commended on his three-year term and devotion to his leadership role during this time. Mr. Offield was always there to lend a helping hand and help out with whatever was needed and the organization is indebted for his dedication and kindness. Like all the previous Chairmen, Paxson Offield definitely left a lasting impression on The Peregrine Fund.

Ian Newton has played an integral role with the organization's Board of Directors since 1988. His background includes D.Phil. and D.Sc. degrees from Oxford University, and numerous academic and civil awards. He has written several books and more than 300 scientific papers on birds, and performed research on raptors, finches, and waterfowl. He is the former President of the British Ornithologists' Union, former President of the British Ecological Society, Honorary Fellow of the American Ornithologists' Union, and is currently the Chairman of the Council for the Royal Society for the Protection of Birds in the United Kingdom.

Elected as the new Vice Chairman of the Board was Lee M. Bass, with Karen J. Hixon continuing as Treasurer and D. James Nelson fulfilling the role of Secretary. The organization would not be where it is today without the support and direction of all our members of the Board of Directors and we thank them for their dedication.

Bruce D. Taubert

Recently fledged wild Aplomado Falcon in South Texas.

Northern Aplomado Falcon Restoration

The Northern Aplomado Falcon *(Falco femoralis septentrionalis)* once occupied a significant portion of the American Southwest. Often hunting cooperatively as a pair, this strikingly beautiful falcon feeds on medium-sized birds, insects, and bats. Prior to the 1930s this species was regarded as fairly common throughout the humid coastal savannas of Texas and Taumalipas, Mexico, and the more xeric interior grasslands. Over 100 egg sets were collected in southern Texas between 1888 and 1915 which serves as an indication of how common this species once was.

Goal

Establish a self-sustaining population of Aplomado Falcons in the southwestern United States and northern New Mexico through captive propagation, release, and management with the ultimate goal of removing this species from the Endangered Species List.

Populations of the Northern Aplomado Falcon began to decline during the first half of the Twentieth Century. Prior to reintroduction efforts in Texas, the last known breeding of this species within the United States occurred near Deming, New Mexico, in 1952. After this time, no Aplomado Falcon population was known to exist in the U.S. until breeding pairs became established in 1995 as a result of reintroduction efforts.

The Northern Aplomado Falcon is the last falcon species on the Endangered Species List.

Results

This season 140 young were produced from 36 pairs of falcons. Two young were held back to augment the captive breeding population in Boise, Idaho, now totaling 46 pairs. The current number of pairs will allow us to continue releasing between 100 and 140 falcons per year.

A total of 138 Aplomado Falcons were released at six sites on private ranches in the trans-Pecos region in Texas during the 2005 field season. For the first time in over a decade, we did not release falcons in South Texas and are now concentrating all of our release efforts in West Texas. Our overall success rate for this year resulted in 116 (84%) falcons successfully reaching independence. A total of 1,142 captive-bred falcons have now been released in Texas, and during the previous five years 357 of 538 (66%) falcons released became independent.

Mortality factors after release remained much the same as in previous years. This included premature dispersal and predation by Great Horned Owls and coyotes. We did not experience the predation problem encountered last year with the immature Peregrine Falcon. Peregrine Falcons were present again this year but the Aplomado Falcons were older and more agile when the Peregrines were present. We did, however, have problems with Northern Harriers harassing the young falcons, causing them to disperse prematurely. The presence of Northern Harriers in West Texas at this time of year was rather unusual and was perhaps the result of the uncharacteristically high rodent population.

Monitoring the Developing Population in South Texas—In 1995, biologists recorded the first pair of Aplomado Falcons to breed in Texas in more than half a century. These birds were captive-bred young released by The Peregrine Fund. For the 2005 season, this population had increased to at least 44 pairs. We are confident that more pairs would have been located had we been able to expand our search area outside of the Matagorda and Laguna Atascosa National Wildlife Refuges. Unfortunately, this was not possible due to time and personnel constraints.

The continued increase in nesting success observed in falcons provided with artificial nest structures encouraged us to put up additional structures prior to this year's nesting season. Even more significant is the 88% annual survival rate that we have recorded in the adult breeding population.

The question is often asked why we have not found more pairs when over 1,000 falcons have been released. The answer is natural attrition. In the best of circumstances, with natural parents to protect and guide their fledglings, raptors typically lose 65%

Bill Heinrich

Bill Heinrich

Left: Artificial nest structures help reduce mortality caused by raccoons and other predators.

Right: Paul Juergens records data about the size and health of a young Aplomado falcon.

of their numbers before reaching one year of age. These survivors have endured nature's highly selective process. In addition, we are certain that more pairs exist than have been observed, and a primary goal this coming year is to increase our survey effort to better assess the total population. Considering the high mortality rate and the vast landscape, a known population of 44 pairs bodes well for the success of this program and is, if anything, better than could have been expected.

Monitoring Remnant Populations in Mexico—We continue to monitor a small population of Aplomado Falcons in the Mexican state of Chihuahua. Since 1996 we have monitored 220 nesting attempts. This season we located 20 occupied territories in the Tinaja Verde and Sueco study areas. These pairs produced 1.40 young per occupied territory, an increase from last year's observed productivity of 1.06. This population appears to be declining, most likely as a result of the continuing drought; however, in the summer of 2004, ample rains occurred throughout the study area. The increase in productivity observed in the falcon population illustrates how quickly these falcons can respond to such beneficial factors as rainfall and the subsequent increase in the falcons' prey base. As a result of the success of our artificial nest structures in South Texas, our biologists placed five barred nest structures in each of the study areas. None of these structures were occupied during the 2005 breeding season, and the effectiveness of this management tool, so successful in South Texas, is still being evaluated for the Chihuahuan Desert Region. The Peregrine Fund again sponsored studies which monitored grassland prey bird populations at both study sites and installed 10 additional escape ramps in stock water tanks located near falcon territories. This brings the total number of escape ramps in operation to 30. Since we first installed the escape ramps, no falcons have drowned in equipped tanks.

Federal/State and Private Land Owner Programs—In 2005 an additional 255,362 acres were enrolled in the Aplomado Falcon Safe Harbor program. Over 1.8 million acres are now enrolled in the program in both South and West Texas. This is 604 acres larger than the state of Delaware. Because of the success experienced in South Texas in reestablishing nesting pairs, release efforts are now being concentrated in West Texas. We will be working with more landowners in order to incorporate additional release sites and nesting habitat into the Aplomado Falcon Safe Harbor program.

The wild population in South Texas will continue to be monitored and survey efforts will be increased in an attempt to better assess the true population size in this area. Additional barred nest structures will be placed in both South and West Texas where falcons are observed.

We continue to work with the states of New Mexico and Arizona, the U.S. Fish and Wildlife Service (USFWS), and federal land agencies to develop a 10(j) "nonessential experimental population" designation to facilitate the recovery of the Aplomado Falcon in New Mexico. A draft 10(j) has been reviewed by the regional USFWS Solicitor's Office in Albuquerque, New Mexico, and in Washington, DC. The proposed 10(j) was published in the Federal Register in February 2005, and the mandatory public comment period ended on 15 November 2005. The USFWS should make its decision early in 2006; therefore, within the next year we hope to begin releasing Aplomado Falcons in New Mexico.

Publications—J.O. Brown, et al., had a paper entitled "Wild Reared Aplomado Falcons Survive and Re-nest at Higher Rates than Hacked Falcons in a Common Environment" accepted for publication by *Biological Conservation*. A book published by Island Press entitled *The Endangered Species Act at Thirty* has a section on the Aplomado Falcon recovery in chapter 19.

Staff

Director, Peter Jenny; Coordinator, Bill Heinrich; Captive Breeding, Cal Sandfort, Emma Christensen, and Travis Rosenberry; Field, Brian Mutch, Angel Montoya, Paul Juergens, and Erin Gott; and Senior Scientist, Grainger Hunt.

Hack Site Attendants

Keely Arnold, Therese Catanach, John Coffman, Megan Connor, Melanie Fischer, Amanda Gladics, Sarah Goodwin, Dayna Hawes, Justin Jones, Sam Joyce, Christina Kleberg, Ashley Linscott, Christopher McClure, Chasidy Simplot, and Matthew Stuber.

Cooperators

We cooperate with the U.S. Fish and Wildlife Service, the Texas Parks and Wildlife Department, T & E, Inc., the Secretaria De Medio Ambiente Recursos Naturales Y Pesca (SEMARNAP), Universidad Autonoma de Chihuahua and private land owners— Miller Ranch of Valentine, Texas, Means Ranch of Van Horn, Texas, McKnight Ranch of Marathon, Texas, Baeza Ranch of Van Horn, Texas, Rancho Del Cielo of Kent, Texas, and the Faskin Ranch of Sul Ross University of Sierra Blanca, Texas. Pathology is done by Bruce Rideout of the San Diego Zoo.

Providing essential financial and/or logistical support were AA Enterprises/Gayle Allen, the Lee and Ramona Bass Foundation, U.S. Fish and Wildlife Service Private Stewardship Program, Ruth O'Donnell Mutch, Robert J. and Helen C. Kleberg Foundation, National Fish and Wildlife Foundation, The Meadows Foundation, Turner Foundation, Inc., Edward W. Rose III Family Fund of The Dallas Foundation, Grasslans Charitable Foundation, ExxonMobil Foundation, Tim and Karen Hixon and The Tim and Karen Hixon Foundation, The Timken Family Charitable Trust, Peter Davidson, Burlington Resources, Magnolia Charitable Trust, Texas Parks and Wildlife Department, The Tapeats Fund, Joan and Herb Kelleher Foundation, Norcross Wildlife Foundation, and The Sophie Seeligson Bass Foundation.

California Condor Program

Chris Parish

Bill Heinrich

Spectators anxiously await the release of California Condors near the Vermilion Cliffs in Arizona.

The California Condor is returning to the canyon country of northern Arizona and southern Utah where a world of cliffs and updrafts offer home once again to this large, colorful, soaring scavenger. In the 1980s, its extinction seemed imminent when all remaining wild individuals were captured in southern California and held for the purpose of rebuilding the population by captive propagation. The Peregrine Fund created its condor breeding facility in Boise, Idaho, in the early 1990s and began releasing birds in Arizona in 1996 with the ultimate goal of establishing a self-sustaining wild population and thereby hastening the condor's removal from the Endangered Species List. In the nine years since the first released condors began their explorations, the growing wild population has evolved traditions of regional movement and foraging. Wild reproduction began in the Grand Canyon in 2003.

Goal

Establish self-sustaining wild populations of California Condors through captive propagation, release, and management, with the ultimate goal of removing the species from the Endangered Species List.

▸▸ Results

The advantages of experience have accrued both within the condor population and among the biologists who work toward its eventual independence. The techniques of propagation and rearing have been refined at our Boise facility to yield high rates of hatching and chick survival. Time and experience have increased the production of birds hatched and reared by their captive parents and have resulted in better adjustment to life in the wild. Field crews have learned to haze newly-released youngsters from vulnerable roosts to safer ones, thereby ensuring protection from nocturnal encounters with coyotes. Similar hazing has also helped to condition condors to avoid humans and man-made structures. This, together with the gradual maturation of the wild flock, has contributed to increased avoidance. Most importantly, experience has brought an understanding of mortality sources and ways to reduce their impact. Highest on the list of harmful agents is lead poisoning.

Releases in 2005 began with the February/March liberation of eight birds, followed in subsequent months with the release of six more. Three of these condors were brought from California because of their habit of perching on power poles. Translocation broke that pattern of risky behavior, and they have since shown no inclination toward it. One fatality occurred among the 2005 releases; necropsy revealed no findings other than poor body condition. By the close of 2005, there were 59 free-ranging condors in the Arizona/Utah population and nine awaiting release. The captive-breeding facility in Boise produced 20 young condors in 2005, 14 of which were intended for release in Arizona. Seven were transferred to Arizona in December, and the remainder will be brought to Arizona in 2006. Five were given to the U.S. Fish and Wildlife Service for release in California.

The condor flock ranged during 2005 from the South Rim of the Grand Canyon National Park to the Kolob region of southern Utah. As in the past, all condors were equipped with telemetry transmitters, and trackers monitored the whereabouts of their carriers by means of ground-based VHF

telemetry receivers. Radio-tracking often involved unexpected travel. As condors moved easily on the winds from one region to another, their trackers moved less efficiently on available roads. Such difficulty has been overcome with the use of satellite-reporting GPS transmitters that communicate the routes and latest positions of condors via the internet every evening. Tracking by both methods, enhanced by frequent cell phone communication between trackers, has yielded an unbroken record of condor movement and activity throughout the year. This information, together with direct observation of condor behavior, is revealing the true nature of this species in the wild.

In general, condor movements have been far more expansive in the past two winters than in previous winters when the birds seemed more closely tied to the food subsidy at the release site. We attribute the greater winter movement partly to mild weather and partly to the nesting tendencies of condor pairs which, in turn, stimulate the movements of other birds. A third, perhaps even more important reason, however, is the greater proficiency with which condors have learned to forage on their own. In spring and summer, the birds gravitated earlier than in past years to the South Rim, Kaibab Plateau, and southern Utah, and many remained away from the release site later into the winter than previously recorded. The area of Utah now favored by condors is primarily a rugged, high elevation mosaic of forests and broad meadows where sheep ranching is common, together with an abundance of deer and elk.

The need for close monitoring lies primarily in the necessity of discovering, recording, and responding to mortality factors. Every year, such monitoring enables Peregrine Fund biologists to intervene and/or respond where negative events might have otherwise produced setbacks. This aggressive strategy is expediting the development of a substantial population. Tracking and conditioning has all but eliminated the impact of predation on newly-released young condors, and future wild-produced individuals should be even less vulnerable. Tracking has produced evidence as to the sources of lead exposure, and these, in turn, have suggested the testing and treatment, when indicated, of condors returning to the release site. Analyses during 2005 revealed close relationships between condor blood-lead levels and visits to particular areas, and has identified rifle-killed deer as the primary source of lead exposure to the population.

Peregrine Fund biologists presented three scientific papers at the annual meeting of the American Ornithologist's Union during late August in Santa Barbara, California, and all are scheduled for publication during 2006. Chris Woods summarized data on mortality factors, concluding that lead poisoning was the primary cause of death among free-ranging condors in Arizona. Overall survival rates were nonetheless within the expected range for a healthy population, a result attributed to intensive lead monitoring and management. Chris Parish then gave details on the lead testing and treatment program from 1999 through 2004, showing that forty percent of blood tests indicated lead exposure, and nine percent showed exposure levels above the published threshold of clinical effect. Twenty-three individuals received emergency chelation therapy, and all survived. X-rays of 14 condors over the years revealed shotgun pellets or rifle bullet fragments in the digestive system. Grainger Hunt presented data on the movements of condors in relation to lead exposure in the region and showed that the majority of exposures in 2002–2004 came from rifle-killed deer remains during the fall deer hunting seasons. An earlier study by The Peregrine Fund to be published in the *Wildlife Society Bulletin* in early 2006 demonstrates that ordinary rifle bullets explode upon impact, often leaving hundreds of lead fragments within deer remains. All four papers suggest the benefit to condors and other scavengers of the increasing use of nontoxic bullets, some of which are now considered superior to those containing lead. Accordingly, the Arizona Game and Fish Department offered two free boxes of nontoxic ammunition to every permitted deer hunter on the Kaibab Plateau in fall 2005. The response was excellent, with the majority of hunters accepting the offer.

Chris Parish

California Condors basking in the sun.

FUTURE PLANS

The first goal of The Peregrine Fund each year is to produce a healthy new cohort of young condors at the World Center for Birds of Prey in Boise for release in the Southwest. We will continue to do so until a wild population capable of sustaining itself is firmly in place. The core issue of that goal is the maintenance of high individual survival, a requirement necessitated by the slowness with which this species matures and reproduces. We will therefore work hard to minimize mortality by monitoring condor movements, testing lead levels, and treating poisoned birds. We will continue to work closely with the Arizona Game and Fish Department and other state and federal agencies, and will strive to increase public awareness of the important issues of condor conservation. We will further analyze field data and publish articles in scientific journals.

STAFF

Director/Coordinator, Bill Heinrich; Captive Breeding, Randy Townsend assisted by Meagan Kaiser, Joe Burke, and Jenny Myers; Release, Chris Parish and Thom Lord; Research, Grainger Hunt; Research Associates, Kurt Burnham and Brian Mutch; Field Assistance, Roger Benefield, Edward Feltes, Tim Hauck, Michael Maglione, David McGraw, Frank Nebenburgh, Eric Weis, and Jim Willmarth.

COOPERATORS

The historic Arizona reintroduction is a joint project among The Peregrine Fund, the Bureau of Land Management, U.S. Fish and Wildlife Service, National Park Service, Arizona Game and Fish Department, Utah Division of Wildlife, U.S. Forest Service, Southern Utah's Coalition of Resources Economics, and others.

Funding and other support for the project was provided by the U.S. Fish and Wildlife Service, Arizona Game and Fish Department, National Fish and Wildlife Foundation, Liz Claiborne and Art Ortenberg Foundation, Peter Pfendler, Conni Williams, The Kearney Alliance, Grand Canyon Conservation Fund, Patagonia, Earth Friends Wildlife Foundation, Houston Zoo, Inc., Natural Encounters Conservation Fund, The Philadelphia Foundation, Norm Freeman, Salt River Project, the Arizona Strip Bureau of Land Management, the Phoenix Zoo, and the Lowry Park Zoo of Tampa Bay.

T. Halter Cunningham 1922-2005

File photo

Halter, above, trapping and banding a Peregrine.

Right: the cover of a 1947 magazine with Halter (left) and Bill Turner, who co-authored a falconry article.

Courtesy of The Archives of Falconry

The Peregrine Fund mourns the passing in 2005 of an old friend and falconer, T. Halter Cunningham. Although many of us knew him for his longtime dedication as a member of our Board of Directors, his involvement with raptors stretches back to his years as a teenager in Chevy Chase, MD.

Halter was a neighborhood friend of Frank and John Craighead (now considered among the "founding fathers" of falconry in the United States). Peregrines migrated then, as now, along the Atlantic coast, and Assateague Island was a favorite trapping spot of falconers. They buried themselves in the sand, holding a pigeon to bait passing falcons.

Halter had homemade perches for his falcons in the back yard and trained them to hunt in nearby open fields, releasing them when it was time to migrate again. In later years, he and his friend Brian McDonald developed the pigeon harness, a leather harness with several slipknots of fishing line sewn on. Once the pigeon was harnessed, it was released with a long cord attached. When a falcon snatched the pigeon, its talons were caught in the slip knots and the falconer could then capture the falcon and train it. One of Halter's pigeon harnesses was bestowed to The Archives of Falconry along with numerous other artifacts by his son, Tom.

In an article co-authored with William F. Turner in the September 1947 issue of *Hunting and Fishing* magazine, Halter (a.k.a. "Dusty") explained falconry and falcons to the layman, calling the Peregrine Falcon "the finest thing that wears feathers."

"To look in on [the nest of] one of these rare birds," he continued, "requires the following: a strong pair of legs, a broad back, a long rope, and not too much regard for your future."

Apparently Halter possessed all those traits, and he applied them in other areas besides falconry. The day after Pearl Harbor was attacked, Halter enlisted in the Marines and was in the first wave to land on Guadalcanal. He was awarded the Purple Heart for battle wounds he received there.

He worked as a game warden on the Chesapeake Bay after the war, then took over his family's business, Lanman Engraving Company. With Halter at the helm, the company became the largest privately owned pre-press and commercial printing business in the eastern U.S., providing work for major entities including Smithsonian Magazine, National Geographic, and Disney.

> "...through constant contact with wild things a fellow must learn to love them."

Among his lifelong passions, Halter included polo, fishing, and duck hunting; and, to the benefit of wildlife conservation, his passion for raptors never waned. Even in his mid-70s, Halter accompanied other board members of The Peregrine Fund on Peregrine monitoring expeditions at South Padre Island, Texas.

Perhaps the best words to sum up Halter's lifelong conservation ethic are his own, written in 1947:

If we had our money back that we have spent chasing these fool birds from coast to coast, we could probably retire; but if we tried to place a value on the experiences that Falconry has afforded us, we don't think a million dollars would cover it. For the conservation-minded reader, remember that a lad who spends his time in the pursuit of hawking will save many more birds than he will kill, for through constant contact with wild things a fellow must learn to love them. We have acquired an intimate knowledge not only of birds of prey, but of nature in general, which is of incalculable value, both physically and spiritually.

The Archives of Falconry

Falconry has played a significant role in the successes of The Peregrine Fund. In 1986 the falconers who had established The Peregrine Fund founded the Archives of American Falconry to ensure the evidence of our falconry heritage would not be lost. Since then, it has become more than a resting place for old books, correspondence, photographs, and the like. Given the short history of American falconry, a majority of the memorabilia from American donors has been international in nature, resulting in collections that are representative of falconry around the world. In 2004, to better represent the collections, we changed the name to The Archives of Falconry.

Goal

Collect and conserve evidence of the history of falconry world-wide and document the role of falconers in raptor conservation.

Results

The year 2005 was momentous for our archives: we made major strides in developing a memorial to honor deceased falconers; we received a significant grant to add a new wing to the facility; and, we hired our first salaried assistant.

The memorial wall will be a permanent location for clubs, friends, and family to honor departed falconers. An adjacent walkway leads to a Ross Matteson sculpture, a falcon leaping into flight, against a backdrop of Boise, the valley, and the surrounding mountains. A bronze plaque identifying each falconer will be set into the wall and the falconer will be commemorated in a *Book of Remembrance* within the archives. Response to the concept is outstanding and contributors have already honored some 20 falconers. Construction will begin in spring 2006.

In 2003 we noted acquisition of an Arab *majlis* tent and our need for proper display. Recently, His Highness, Sheikh Mohamed bin Zayed, son of the founding president of the United Arab Emirates, has agreed through the Emirates Falconers' Club to help support construction and maintenance of a new 3,000 sq ft addition. This wing will commemorate Sheikh Mohamed's father and his love of falconry, and it will allow display of the tent and memorabilia surrounding the long traditions of Bedu falconry.

Although volunteers have managed the Archives for roughly 20 years now, expansion has necessitated seeking professional, full-time assistance. We have secured the services of David Wells, who, following receipt of a master's degree in library science, gained experience in librarianship and research at Duke University and the city/county public library system in Las Vegas, Nevada, before joining us in 2005.

Donations of materials continue to swell the Archives' holdings. To enhance our exhibit of the Thornton silver-gilt tea urn donated by Bob and Carol Berry, British falconer Tony James placed on indefinite loan a 16-gauge shotgun made for Thornton in 1801. The Peregrine Fund's own Tom Cade has begun shifting his falconry-associated letters to our collections of correspondence. Brian Walton gave his collection of John Moran hoods to commemorate the late Will Shor. The family of the late Morgan Berthrong has shared pathological records from post mortem examinations on many raptors during his decades of service to the falconry community. Two stunning Nineteenth Century Landseer engravings adorn our gallery thanks to the generosity of Jim Weaver. Tom Cunningham, son of the late T. Halter Cunningham, a member of The Peregrine Fund Board of Directors, is sending falconry books, art, and memorabilia from the extensive collection developed by Halter. Probably Halter's most memorable contribution to our sport was the development, with his old friend Brian McDonald, of the pigeon harness for trapping Peregrines, an example of which was included in the donation. The series of Andrew Ellis' paintings that drew acclaim at the opening of our new wing in 2002 has been placed on indefinite loan by their owner, Robert Bagley. Title to individual paintings will be transferred on an annual basis. The Archives' Curator of Books and Manuscripts, John Swift, continues to make significant additions to the library.

Minard Stevens, pioneer California falconer (ca. late 1930s here), has been nominated for representation on the coming Archives Memorial Wall.

G. Stevens, from the files of The Archives of Falconry

As forecast last year, all copies of Volume III of our Archives Heritage Publication Series, Sir Thomas Sherley's *A Short Discourse of Hawking to the Field…*, were sold this year—and the edition is now out-of-print. While considering candidates for Volume IV, a publishing respite is appropriate and necessary.

Future Plans

Launching of our Memorial Wall and Bedu Falconry Heritage Wing will demand time, attention, and resources over the coming year. The final results will be monumental and will add greatly to The Archives' interest to the international falconry community. Both will be complete in time for our 20th anniversary celebration—its date to be announced.

We hope to increase digitization and online capabilities, improving internal functions and expanding accessibility.

Our international role will also expand with the curator's inclusion on an *ad hoc* committee of The International Association for Falconry and the Conservation of Birds of Prey, which is seeking international recognition for falconry as a world intangible cultural heritage. He has also joined the advisory boards of Britain's newly founded Falconry Heritage Trust and Spain's Archivo Iberioamericano de Cetreria.

Staff

Founding Curator/ Archivist, S. Kent Carnie; Administrator, David Wells; Curator of Books and Manuscripts, John R. Swift; Research/Editorial Associate, William G. Mattox; Research Associates: Paul Beecroft, Peter Devers, Harrie Knol, and Natalie Nicholson; and Graphics Associates, Seth Anthony, Don Garlock, Jim Hansen, and Jim Stabler.

Cooperators

The Archives is dependent on the support of many friends, falconers and non-falconers alike. Particularly noteworthy assistance was received from Robert Bagley, Andrew Bullen, Tom Cade, Kent Carnie, Tom Cunningham, The Emirates Falconry Club, Jim Enderson, Eyas Foundation (Pete Widener, Jr.), Great Lakes Falconers Association, John Harrell, Walter Hill, Cliff Kellogg, Cynthia Marchitelli, Patrick Morel, Natalie Nicholson, North American Falconers Association, Sean Rice, Teresa Swayne, John Swift, Brian Walton, and Jim Weaver.

Student Education Program

Goal

Provide research and educational opportunities for students nationally and internationally to further science and conservation.

Collaborators

Financial support was received from the M.J. Murdock Charitable Trust.

Lily-Arison Rene de Roland

Student Donatien Randrianjafiniasa (center) assists staff member/past student Tolojanahary Andriamalala (right) with a Madagascar Cuckoo Hawk held by field technician Monesy (left).

Our student education program achieves lasting conservation results in the United States and internationally by providing motivated and capable students financial support and the opportunity to engage in hands-on research related to raptor conservation. The Peregrine Fund's support of students is an effective way to promote raptor conservation and invest in local capacity.

Results

In 2005 we increased and enhanced the existing level of support, training, and field opportunities for international and United States students through ongoing and new raptor conservation and research projects. In the Neotropical program we hired a senior biologist to supervise and coordinate student opportunities. In the first few months, Mark Watson identified three research priorities and students in South America (see Neotropical Raptor Conservation Program for details). Other programs/projects with student involvement included the East Africa Project, the Arctic Program, the Aplomado Falcon Project, and the Madagascar Project, as well as individuals in New Guinea and the West Indies.

The following table reflects our cumulative and current contribution to student training and support around the world.

	Post Doctorate	Doctorate	M.Sc.	B.Sc.
Students who have worked directly with us		*18*	*51*	*13*
Currently working with us on degree programs	*1*	*2*	*8*	*1*

Future Plans

We will continue to support student education nationally and internationally to the degree that we are financially able. Students will work in Asian, African, North American, and Neotropical regions. We will also provide travel grants to students to enable and encourage them to participate in the Second Neotropical Raptor Conference in Iguazu, Argentina, 11-14 June 2006.

Research Library

Goal

Establish and maintain a comprehensive ornithological and conservation biology research library related to the mission of the organization and of major importance to the entire conservation community.

Staff

The library is supervised by Lloyd Kiff, who is ably assisted by Leslie Jonart and Travis Rosenberry. Ten volunteers generously contributed their time and companionship to the library effort during 2005.

Our Research Library, initiated in 1994 primarily to fill staff researcher needs, has been a service to other biologists in the Intermountain Region. Many donations from private libraries and purchase necessitated larger space to house them all. Initiated by a bequest from the Estate of Jerry and Kathy Herrick, in September 2002 we constructed a building that houses the Research Library and The Archives of Falconry. Due to the size and scope of library and archival holdings, it took until the end of 2004 to complete the reorganization and create computerized catalogs. We are settled in our new location and continue to add titles to our holdings.

Results

By the end of 2005, our library contained 17,253 titles, mostly on birds, and partial or complete runs of over 1,300 journal and magazine titles. The cataloged reprint collection included 17,427 records, with at least another 10,000 awaiting cataloging. We receive 182 technical research journals, 37 conservation magazines, and 122 newsletters by subscription or exchange. It is likely that our Research Library ranks among the 10 largest collections on birds and related natural history topics in North America.

Computerized versions of the library catalog, reprints catalog, and journal inventory are maintained on The Peregrine Fund web site where they can be searched or downloaded. Although awareness of our library is mostly by word-of-mouth advertising, we are becoming well known in the international conservation community. Using a high-speed document scanner, library assistant Travis Rosenberry e-mailed free pdf copies of 879 articles in our collection to 204 off-site researchers representing 34 foreign countries and 14 states in 2005. This unusual service has been well received by our colleagues living in library-poor situations, and it has placed our library on the map of the world conservation community. The library collections also enjoyed increased use by the resident World Center staff and other local biologists.

More than $65,000 worth of library items were received from 15 individual and nine institutional donors, including Frank Baldridge (Citrus Heights, CA), Mikhail Banik, (Khazkiv, Ukraine), James Clements (Temecula, CA), Jack Clinton-Eitniear (San Antonio, TX), Charles T. Collins (Long Beach, CA), James Enderson (Colorado Springs, CO), H. Lee Jones (Newport Beach, CA), Angel Montoya (Las Cruces, NM), J. Michael Scott (Moscow, ID), Brian Walton (Santa Cruz, CA), and Clayton White (Provo, UT). The most significant single gift during 2005 was the superb library of John Hanes, Jr., of Belgrade, MT, collected over

a lifetime of travel and birding.

We maintained membership in the American Library Association's Duplicates Exchange Union in 2005 and received 35 donations of journals and books from other libraries, representing 18 states. In addition, exchanges were made with several other institutional natural history libraries which resulted in additions to our collections. Nearly $3,000 worth of duplicate books and journals were sold from the library to support the acquisitions program.

Thanks to a grant from the M. J. Murdock Charitable Trust, we were able to hire biologist Leslie Jonart as an assistant for the Global Raptor Information Network (GRIN), a web-based tool that allows raptor enthusiasts, researchers, and conservation managers global access to information, the latest research results, and others working in the field. Leslie spent part of her time in 2005 improving library functions and conquering cataloging backlogs—she is a welcome addition to our staff.

Our library has become a significant international conservation resource primarily through donations of funds and publications from many persons, who are listed on our web site. We welcome donations to the library, all of which are tax deductible.

Future plans

As awareness in the international conservation field about our holdings and services increases we anticipate that our Research Library will continue to grow in size and global significance. At a time when some libraries are replacing books and journal runs with digital versions, we are seeking to preserve paper copies of as much of the relevant conservation literature as possible and still make the information widely available by electronic techniques. We are also creating a parallel electronic library on CDs and other media, as more publications become available in electronic form. We will continue to supply free pdfs to researchers by e-mail. This service has not only increased our pool of library users, it has also resulted in a surprising number of book and reprint donations from grateful recipients.

Captive Breeding at the World Center for Birds of Prey

Goal

Propagate the required number of the best possible physically, behaviorally, and genetically constituted raptors for release to the wild.

Staff

Captive propagation at the World Center is accomplished by Cal Sandfort (Aplomado Falcons) and Randy Townsend (California Condors) with assistance from Joe Burke, Emma Christensen, Meagan Kaiser, Jenny Myers, and Travis Rosenberry. Food production is accomplished by Amel Mustic, David Cline, and Mike Haynes. Facility maintenance is under the direction of Sam Davila.

Cooperators

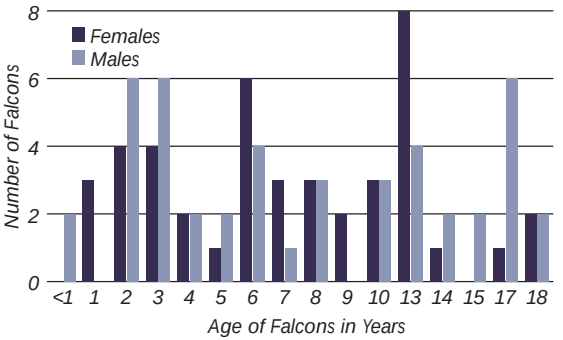
Major financial assistance for California Condor propagation is provided by the U. S. Fish and Wildlife Service. Financial support for Aplomado Falcon propagation is listed within that project report. Important financial assistance was provided by The Steele-Reese Foundation for facility renovations. Pathology and veterinarian support are provided by Meridian Veterinary Clinic (Scott Higer), the Zoological Society of San Diego (Bruce Rideout), Washington State University (Lindsay Oaks), the Idaho Department of Fish and Game, Wildlife Health Laboratory, Caine Veterinary Teaching Laboratory, and The Raptor Center (Pat Redig).

Aplomado Falcon Results

In 2005, the Aplomado Falcon restoration program had 36 Aplomado Falcons lay 309 eggs, of which 172 (56%) were fertile. One hundred forty-one eggs (82%) hatched and 140 chicks (99%) survived to release age. Six of the ovulating falcons were first-time layers. One falcon which ovulated in 2004 did not lay eggs in 2005. No nutritional or disease-related problems occurred. The table below compares 2005 production with previous years.

Year	Total Females Laying/ Laying Fertile Eggs	Total Eggs Laid	Fertile Eggs	Young Hatched	Young Survived
2000	29/26	253	145 (57%)	118 (81%)	115 (97%)
2001	32/27	284	170 (60%)	131 (77%)	129 (98%)
2002	35/32	281	162 (58%)	124 (77%)	120 (97%)
2003*	34/24	297	111 (37%)	93 (84%)	90 (97%)
2004	35/29	286	151 (53%)	120 (79%)	117 (97%)
2005	36/33	309	172 (56%)	141 (82%)	140 (99%)
Total	NA	1,710	911 (53%)	727 (80%)	711 (98%)

*Production decreased because of financial donation shortfall.

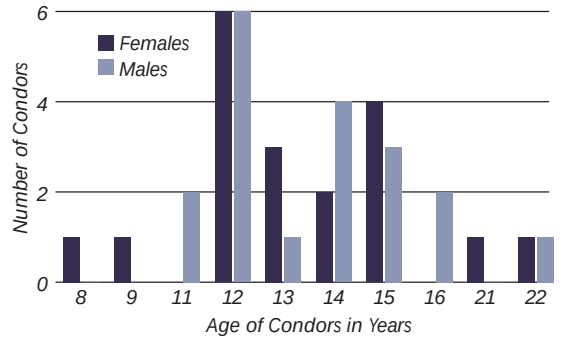


California Condor Results

Eighteen condors at the World Center for Birds of Prey laid 28 eggs of which 23 (82%) were fertile and 20 (87%) hatched with all chicks surviving (see table). Nine of the chicks were raised by adults. Several extraordinary events contributed to this high rate of production, including a fertile egg laid by a female laying for the first time, and the first-time hatching of eggs from two pairs whose eggs failed to hatch in previous years. In all, there were 19 pairs of condors, plus two unpaired condors being held for future breeding, and one mentor bird at the start of the breeding season. An adult male that had sired seven chicks died of hypovolemic shock during the summer after an apparent collision in its chamber during the night. Since that time, the female from that pair has become an excellent mentor to the fledgling puppet-reared chicks. See the table (right) for a summary of the condors' egg-laying history.

As of 1 November 2005, the world California Condor population totaled 274 birds. Of those, 145 were in captivity and 60 (41%) were at our Boise facility. In 2005, 34 captive-bred young were produced of which 20 (59%) were from condors at The Peregrine Fund.

Year	Total Females Laying/ Laying Fertile Eggs	Total Eggs Laid	Fertile Eggs	Young Hatched	Young Survived
1995	2/0	4	0 (0%)	—	—
1996	5/1	8	1 (13%)	1(100%)	1 (100%)
1997	8/2	9	2 (22%)	1 (50%)	1 (100%)
1998	9/4	14	6 (43%)	6(100%)	6 (100%)
1999	11/4	17	5 (29%)	4 (80%)	4 (100%)
2000	19/7	26	8 (31%)	7 (88%)	7 (100%)
2001	17/10	21	15 (71%)	13 (87%)	13 (100%)
2002	17/8	19	11 (58%)	8 (73%)	8 (100%)
2003	19/15	23	17 (74%)	13 (76%)	13 (100%)
2004	18/14	29	22 (76%)	17 (77%)	15 (94%)
2005	18/16	28	23 (82%)	20 (87%)	20 (100%)
Total	NA	198	110 (56%)	90 (81%)	88 (98%)



Education Program

Jack Cafferty

Summer art programs for children incorporate the biology and ecology of birds of prey.

Goal

Educate the public and students about birds of prey and the importance of their conservation, focusing on The Peregrine Fund's numerous successes.

Jack Cafferty

Right: hands-on exhibits enthrall children of all ages.

File photo

This past year Phil and Betsy Eldridge completed a combined 3,789 hours in 27 years of volunteer service to The Peregrine Fund. The husband and wife team have officially "retired" from their volunteer duties, although their years of hard work and devotion to the Education Program will not be forgotten. We thank them for all their contributions.

For more than 35 years The Peregrine Fund has been educating individuals of all ages around the globe and education remains an integral component of the organization's conservation efforts. A successful conservation initiative of any size requires an in-depth public education program to raise awareness and support for the project and to ensure the longevity of the work. Since the education program's formal inception in 1985, more than 700,000 people have been reached through on- and off-site educational presentations. The Velma Morrison Interpretive Center is the headquarters for the organization's Boise-based education program, which strives to provide every visitor with a captivating and informative experience with raptors and impart the importance of their role in our environment.

The Interpretive Center's environmental education program includes three components: adult education (general public), school-endorsed programs, and outreach programs. All three aspects of the program utilize our live raptors as an avenue for promoting conservation of birds of prey, their habitat requirements, and The Peregrine Fund's national and international conservation projects.

Results

The Education Program focused its efforts this year on establishing its reputation within the community as a leader in environmental education. Just as The Peregrine Fund has established itself as the world leader in raptor conservation, the education program began making strides to become the Treasure Valley's number one resource for environmental education programs. From general public tours, to school programs, to outreach events and even our web site, curriculum and materials were revised to ensure all presentations were streamlined and current. Based on teacher feedback from previous years, a priority for 2005 was offering more topical program options and adding cross-disciplinary programs to provide a greater resource for local educators. The new programs were extremely well received and prompted the creation of a new brochure outlining all of our educational offerings, including service learning opportunities, special events, and outreach programs.

Collaboration with Project WILD, a national initiative incorporating hands-on, environmental education activities in everyday classroom learning, has been solidly established as a result of concerted efforts over the past two years. Teacher/educator workshops that incorporate the study of birds of prey and Project WILD activities are now being offered biannually in the spring and fall at the World Center for Birds of Prey. Workshops are filled to capacity months in advance and as a testimony to their success, exposure within the education community has significantly increased, prompting more educators to visit our facility with their students.

The World Center for Birds of Prey continues to be a major attraction in Idaho and this year was no exception. A total of 30,687 individuals participated in educational programs at the Interpretive Center, an increase of twelve percent from the previous year. Visitors came from 50 states and 20 countries, according to our visitor log. Students reached this year included 8,914 through on-site activities and 4,518 through outreach programs. This year's totals included 140 schools, grades K-12, from 36 communities in Idaho, Oregon, and Utah. The demand for off-site programs has dramatically increased and this year staff conducted 56 outreach programs impacting 10,825 people. The majority of these programs included at least one of the education birds, a 60-minute talk, and encouragement to visit the Interpretive Center. Sites visited included schools, interpretive centers and visitor's centers around the Northwest, businesses, state parks in Idaho and Oregon, an art gallery in Sun Valley, and many other venues. The total impact of all the components of the education program combined was more than 41,000 people!

This year all visiting students were provided an opportunity to enter the "Name the Bald Eagle" contest by submitting a suggested name and a short, persuasive essay. The contest brought more than 250

entries and four winners were chosen: one in each of three age-group categories and one overall winner. A ceremony honoring the winners was covered by several TV stations and a full-page article about the event appeared in the local newspaper. The positive media exposure was excellent, and perhaps more important, the contest offered an opportunity for student involvement on several levels.

The first Habitat Improvement Project allowed us to work with schools and scouting groups from across the Treasure Valley to restore native plant species to the World Center's grounds. More than 1,000 plants were planted during the event by 158 students from eight schools, including a Boise State University service learning group.

During the summer, two new events were established. The 2005 Summer Lecture Series took place one night a month for three months. The lectures presented were Beat the Heat, Vulture Culture, and Winging it with the Red-tailed Hawk. The presentations lasted approximately 90 minutes and included an in-depth discussion on each of the topics. The Summer Program for kids, entitled Painting Peregrines and Other Artistic Endeavors, ran for four days during the second week in August. The program, open to students ages 6-14, was quite popular and we intend to continue the program during 2006.

Many of our education programs are facilitated by volunteer docents, for whom a workshop was given on the topic of school presentations. The workshop, titled "Basics on Leading a School Program," was designed for those volunteers with limited teaching or program-leading experience and for those needing to refresh their school program skills. Volunteers learned to define and follow the school program IMAGE (Interactive, Multimedia, Age-Appropriate, Group Dynamics, Explicit Expectations) and we discussed teacher expectations, how to facilitate learning through hands-on activities, inquiry-based teaching methods, and defining program expectations.

Our Raptor Specialist also conducted five separate bird handling workshops for volunteers, during which individuals from beginner to intermediate learned the proper techniques to work with our education birds. Skills learned included showing birds on the glove, interpreting perched birds in the courtyard, feeding on the glove, assisting in husbandry duties, and maintaining raptor equipment. In total, 73 volunteers attended these workshops. A chart system was instituted tracking the progress of each volunteer bird handler and the birds they are qualified to handle.

Jack Cafferty

A male Golden Eagle and a male Peregrine Falcon are among the many raptors that make regular appearances for visitors in the Interpretive Center's courtyard when weather permits.

Contributions of volunteers to The Peregrine Fund are immeasurable, and volunteers remain the heart and soul of all aspects of the education program. A total of 93 volunteers contributed 7,313 hours to help implement the program and operate the Interpretive Center this past year. Based on industry standards, it is estimated volunteers contributed more than $125,000 worth of service to the program this past year. Activities conducted by volunteers ranged from conducting presentations to adults and school groups to greeting visitors and ringing up sales in the gift shop, cleaning bird chambers, feeding birds, assisting with outreach programs, and fulfilling many needs at the facility on a day-to-day basis. As a result of these efforts, the program is able to continue to keep operating costs low and admission fees at a reasonable level. Thanks to the support of our financial supporters we were able to once again waive all admission fees for students visiting on school-endorsed visits, a sign of The Peregrine Fund's commitment to ensuring that every student has the opportunity to participate in our program, regardless of financial constraints.

Future Plans

The general public plays a vital role in the overall success of this environmental education initiative and we will continue to raise awareness about the facility and strive to increase general visitation and participation in student programs. As winter months are typically slower visitation months, school programs and outreach presentations will be encouraged during this time to expand the overall impact of the program. We plan to enhance the education component of our web site and make more activities available for educators and students interested in our education program nationally and internationally. Additional special events and summer programs will also be considered, as the facility and its activities become more involved within the local community. The Interpretive Center's displays, multimedia presentations, and facilities will continue to be updated as needed and plans for future renovations and expansions put into place as funding permits.

Staff

Program and facility director, Jack Cafferty; Volunteers and Gift Shop, Nick Piccono; Raptor Specialist, Trish Nixon; Education Programs Coordinator, Cathie Nigro; and Facility Maintenance, Brian Gloshen.

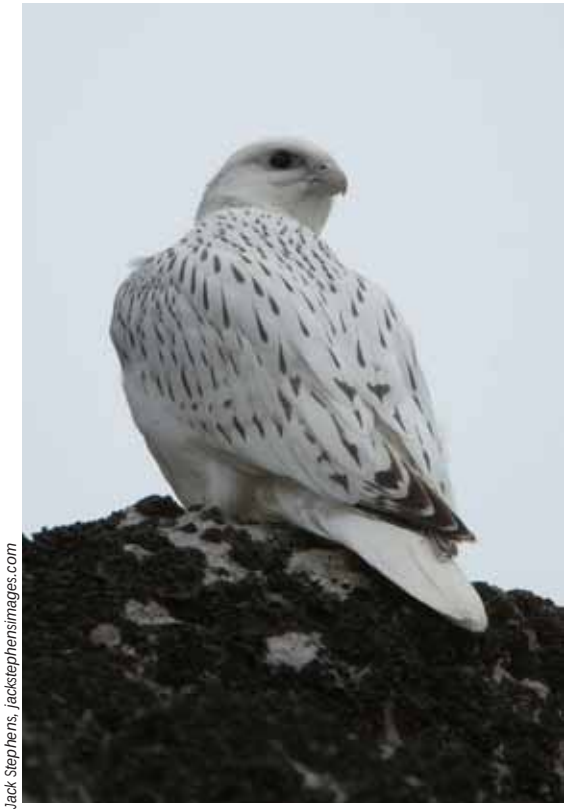
Cooperators

Financial partners this year include the Laura Moore Cunningham Foundation, Inc., The Harry W. Morrison Foundation, Inc., U.S. Bancorp Foundation, Islands Fund, Gannett Communities Fund/Idaho Statesman, Bank of America Foundation, Ada County Association of Realtors Foundation, Wells Fargo Foundation, Key Foundation, Tesoro Petroleum Companies, Higgins and Rutledge Insurance, The ConAgra Foods Foundation, Weyerhaeuser Company Foundation, and numerous individual donors.

Volunteers Contributing Over 50 Hours of Service in 2005

Craig Althen, Deb Anderson, Jane Anson, Denise Bittner, Karen Brender, Ray Brucks, Bert Cleveland, Louis Dewitt, Corki Duncan, Julie Ekoff, Leo Faddis, Claudia Fernsworth, Don Fox, Joni Frey, Angela Frith-Gomez, Bill Gehring, Connie Gifford, Martin Greitzer, Kathryn Hampton, Kathryn Hobson, Ann Jones, Ruth Kassens, Connie Leavitt, Pam Lowe, Kip Malone, Paul Malone, Mike McSweeney, Milton Mezian, Dave Oliver, Jack Osgood, Brit Peterson, Ron Price, Fred Pugh, Cathy Quam, Randy Rasmussen, Nikki Sartin, Ellen Shaw, Michael "Mags" Shaw, Chan Springer, Charlie Stone, Diann Stone, Janie Stubson, Dick Thatcher, David Wells, and Allyson Woodard.

Arctic Program



Immature Gyrfalcon, northwest Greenland.

Jack Stephens, jackstephensimages.com

Biologist Brian Mutch scans a cliff face in search of falcons.

Jack Stephens, jackstephensimages.com

Current scientific research has documented a significant warming trend throughout most of the Arctic, if not all. However, the real effects this warming trend has had on local organisms, specifically Peregrine Falcons and Gyrfalcons, is much less understood and documented. Only through long-term monitoring of these falcon populations can small changes be detected and possible correlations made with changing environmental conditions.

Starting in 1993 The Peregrine Fund began working in Greenland, continuing a tradition of falcon research first begun in 1972 in Kangerlussuaq (West Greenland) under the leadership of Bill Mattox (Greenland Peregrine Falcon Survey). Since 1993 both the biological and geographical scope of our research has increased. This past summer marked the 34th consecutive year data has been collected in Kangerlussuaq, the 13th consecutive year we have collected data in Thule (Northwest Greenland), and our second year working in Scoresbysund (East Greenland). Additionally, in past years we have also worked in both Alaska and Iceland collecting genetic samples for comparisons with our Greenland study areas. Further information has been collected on current population levels of a number of seabird species in Greenland, specifically in Uummannaq, from which the results have received significant press coverage in both Denmark and Greenland and will hopefully help lead to important changes in both wildlife management and hunting laws within Greenland.

Goal

Conserve and understand Gyrfalcon and Peregrine Falcon populations and their environments in Greenland and other arctic areas.

Results

West Greenland—During the 2005 field season all 66 known Gyrfalcon nests sites were surveyed by helicopter with nine being found occupied and all producing young. DNA samples, either molted feathers or blood samples, were collected from all nine eyries for genetic analysis. Limited surveying of Peregrine Falcon eyries occurred with nine eyries being checked for occupancy. An adult female Peregrine captured and fitted with a PTT in 2003 was re-captured and the unit removed.

North Greenland—The 2005 field season provided us with the best weather conditions we have had in many years, enabling the entire survey area to be covered.

Gyrfalcons were found breeding at 10 eyries, four of which were new in 2005. Peregrines were found at six eyries with successful breeding attempts occurring at five. Genetic samples were obtained from all 10 Gyrfalcon and all six Peregrine eyries.

East Greenland—From early September through mid-October we operated a trapping station in the Scoresbysund area, capturing 87 Gyrfalcons and one immature female Peregrine Falcon. This is the first Peregrine Falcon ever captured (alive or dead) in central-east or northeast Greenland. Researchers trapped a total of 379.5 hours, capturing a falcon approximately every 4.3 hours. Biometric measurements and blood samples were obtained from all individuals.

Jack Stephens, jackstephensimages.com

Kurt K. Burnham

Left: Navigating pack ice in Greenland is a challenge unique to conducting research in the higher reaches of the Arctic.

Above: Recently-banded Peregrine chicks.

Future Plans

The primary emphasis for 2006 will be finalizing the write-up of results from previous years and submitting them for publication. Only through continued publication of meaningful results can governmental agencies and wildlife managers make informed scientific decisions regarding the conservation and management of both Gyrfalcons and Peregrine Falcons and their prey. Within Greenland, field work in 2006 will include continued monitoring of both Gyrfalcon and Peregrine Falcon populations in the West and Northwest, and if possible, the expansion of our Northwest study area further north. Genetic samples and other information will continue to be collected when visiting eyries and handling falcons. A fall trapping station will again be established in East Greenland to monitor seasonal migration of falcons.

Staff

Program direction is accomplished by Kurt K. Burnham with the assistance of Bill Burnham, and scientific advice is provided by Ian Newton and Bill Mattox. Jack Stephens manages our field station, the High Arctic Institute, at Thule Air Base. Jack Cafferty assists with travel authorizations and other critical logistical needs, particularly while field work is being conducted. Participating in field work in 2005 were Bill Burnham, Kurt Burnham, Jack Cafferty, Bill Heinrich, Jeff Johnson, Brian Mutch, Cal Sandfort, and Jim Willmarth. Genetic analysis is accomplished in cooperation with Jeff Johnson and David Mindell at the University of Michigan.

Cooperators

Work in Greenland is in cooperation with and authorized by the Commission for Scientific Research in Greenland, Greenland Home Rule Government, the Danish Polar Center, and the U.S. Air Force. The U.S. government sponsor is the Department of the Interior/Bureau of Land Management. Special thanks to the residents of Thule Air Base, the 109th Air National Guard, the United States Air Force, National Science Foundation, VECO Polar Associates and Robin Abbott, Ed Stockard, Earl Vaughn, and Susan Zager, and Basse Vaengtoft and Kate Bahr Friis of KISS. We value the longstanding cooperation with Kaj Kampp and the Copenhagen Zoological Museum.

Financial support was provided by Ruth and Brian Mutch, Comer Science & Education Foundation, Peter Pfendler, Vetlesen Foundation, Peregrine Financial, and NSF/VECO Polar Resources.

NEOTROPICAL RAPTOR CONSERVATION PROGRAM

GOAL

Conserve Neotropical raptors, their habitats, and biodiversity through research, conservation interventions, public education, and development of local capacity for science and conservation.

Angel Muela

Students Laura Dominguez and Luisa Cardenete counted migrating raptors from the Neotropical Raptor Center as part of the Ocean to Ocean Project. In six weeks over 573,000 raptors passed overhead.

The Peregrine Fund has a long history of research and conservation in the Neotropics. Our involvement began with Orange-breasted Falcon surveys in Ecuador and Guatemala in the 1970s. Since then our Neotropical Raptor Conservation Program (NRCP) has grown to become the largest component of The Peregrine Fund's international programs, dedicated to researching and conserving the roughly one-third of Earth's birds of prey that occur within the Neotropical biogeographic region which encompasses the Caribbean and Central and South America. The headquarters of the NRCP, Fondo Peregrino-Panamá, employs a staff of biologists and managers who direct a diverse array of raptor research and conservation projects. These projects address issues including habitat degradation, persecution and changing negative attitudes toward raptors, and research on the behavior and ecology of secretive and little-known birds of prey. We currently have projects in Panama and Belize in Central America; Dominican Republic, Cuba, and Grenada in the Caribbean; and Brazil, Argentina, and Colombia in South America. Individual projects are described in the following pages.

Angel Muela

Zimbabwe student Tim Kluckow joined our education team in Panama to gain valuable experience while helping enhance our educational Harpy Eagle flight display.

RESULTS

Biologist Mark Watson, who previously worked with us on the New Guinea Harpy Eagle Project, was hired to provide on-site direction and assistance to bolster conservation and research capacity. This newly created position allows us to expand our student education and research efforts, especially in South America. New projects are being implemented in Colombia, Brazil, and Argentina, all countries with high biodiversity and pressing conservation concerns. Fondo Peregrino-Panamá also hired full-time development director Priscilla Maloney to strengthen our financial and logistical base within Panama and abroad, and ensure that Neotropical programs receive necessary support.

Fondo Peregrino-Panamá and the NRCP had its first-ever direct audit and professional evaluation, both requirements of our cooperative agreement with USAID. Important institutional relationships were established with the Panamanian Ministry of Education (MEDUCA) for the publication of the recently completed educational guide *Raptors*. Fondo Peregrino-Panamá hosted the first-ever Festiarpia, a festival dedicated to Harpy Eagles and celebrating the day the species was proclaimed Panama's national bird. We participated in a second year of the Ocean to Ocean Project, a count of raptors migrating south in the fall that are concentrated in the narrow Panamanian isthmus. This project seeks to detect population trends among species that breed in North America.

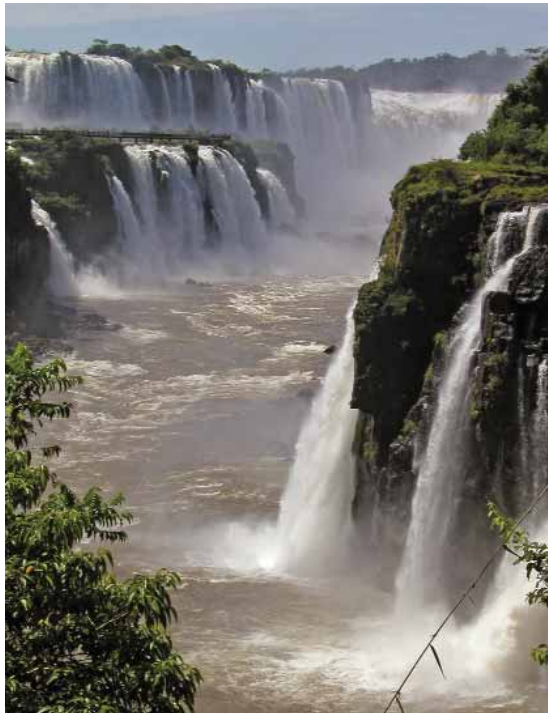
Benefactor's Board—The NRCP's broadening efforts to achieve financial sustainability include the

formation of a Benefactor's Board within the commercial and social communities of Panama. The Benefactor's Board will be a resource for pursuing in-country support and funding. An element of the Benefactor's Board is currently planning a country-wide publicity campaign for Fondo Peregrino-Panamá and the NRCP.

Neotropical Science and Student Education—In 2005 we began to expand our Neotropical Program to include projects on raptors of high conservation concern over a wider area within the region. The aim is to extend research to those species and habitats where the need is urgent as well as to provide funding assistance and supervision to students. This achieves the dual outcomes of building local capacity and providing information for species and area management. Those trained students will go on to play a prominent role in conservation in their own countries.

In Argentina we are supporting Juan José Maceda from the University of La Pampa who is conducting Ph.D. research into the habitat use of the endangered Crowned Solitary Eagle. This is a large eagle of woodland savannas at sub-tropical latitudes in South America. Much of this unusual landscape has been lost to conversion to arable farming and the remainder degraded by intensive cattle ranching. The eagle has a specialized diet, eating mainly armadillos and snakes and probably forages over a wide area in a landscape that changes from year to year owing to fire disturbance.

In Brazil we are supporting Marcus Canuto who will soon begin fieldwork on the White-necked Hawk. This is one of a group of 10 hawk species that lives in forest and edge habitats found only in the Neotropics. The White-necked Hawk has never been studied before, and 93% of the Atlantic Forest where it lives has been lost already. Marcus has spent six months as an attendant at our Harpy Eagle release site in Soberania National Park in Panamá. He is one of an ever-widening group of people whom we have trained in our core projects who has then gone on to do further work in raptor conservation.



Rick Watson

The spectacular Iguazu Falls National Park, Argentina, is the venue of the Second Neotropical Raptor Conference in June 2006. Details can be found on the web site http://www.neotropicalraptors.org.

The third project, still under development, seeks to conduct surveys of the distribution and abundance of raptors in montane forest in Colombia. Within Colombia there are 76 species of raptors and the tropical Andes have the highest biodiversity of any terrestrial environment on the planet. This promises to be an exciting and worthwhile addition to our knowledge of Colombia's amazing diversity.

New Guinea student Leo Legra is currently visiting Panama for six months' training to learn methods for studying forest eagles. He will take the knowledge back to Papua New Guinea to continue working on the New Guinea Harpy Eagle. Spanish students Laura Dominguez and Luisa Cardenete received training to conduct migrating raptor counts from the Neotropical Raptor Center as part of the Ocean to Ocean Project. In six weeks over 573,000 raptors passed overhead. Zimbabwe student Tim Kluckow joined our education team in Panama to gain valuable hands-on experience while providing his knowledge in falconry to help enhance our educational Harpy Eagle flight display.

Neotropical Raptor Network (NRN)—In June 2006 the NRN (a project of the NRCP dedicated to promoting communication and collaboration among raptor researchers and other conservationists working in the Neotropics) will convene the Second Neotropical Raptor Conference (II NRC) in Iguazu, Argentina. The conference will include presentations, workshops, and an opportunity for networking on a wide range of subjects in Neotropical raptor research, management, and conservation. Details can be found on the NRN website at http://www.neotropicalraptors.org

FUTURE PLANS

In 2006 we will publish *Raptors—An Educational Guide*, distribute the guide to teachers throughout Panama, and hold teacher training workshops to institutionalize its use in Panama's education system. We will hold the second Festiarpia and continue to strengthen institutional partnerships in environmental education. We will host the Second Neotropical Raptor Conference and assist the Neotropical Raptor Network to become its own independent organization. Research and conservation efforts will be expanded in South America by assisting students to conduct research on little-known raptors or species in jeopardy. The successful captive propagation of Harpy Eagles at the Neotropical Raptor Center will conclude, however releases of eagles into the wild will continue for several more years as we continue to refine methods and follow released birds until they breed in the wild. We will involve the Benefactor's Board in Panama to pursue regional opportunities for funding and support for ongoing conservation and research efforts.

STAFF

The Neotropical Raptor Conservation Program is directed by Rick Watson and Magaly Linares, assisted by Cameron Ellis, Priscilla Maloney, Yanina Guevara, and Margarita Gordon. Mark Watson directs the Neotropical Science and Student Education Projects. Cameron Ellis coordinates the Neotropical Raptor Network. Other project staff members are listed separately under each project in the following pages.

COOPERATORS

The partnership of many organizations and individuals makes this program possible, including Autoridad Nacional del Ambiente (ANAM), Autoridad del Canal de Panama (ACP), Fundación Ciudad del Saber, and the Ministry of Education (MEDUCA). We collaborate with the Ecopolice Department, Instituto Panameño de Turismo (IPAT), The Nature Conservancy (TNC), Audubon Society – Panama, Smithsonian Tropical Research Institute (STRI), Jardín Botánico Summit (Summit Zoo), Rossana Uribe y Asociados (RUA), Alcaldía de Panamá, and Colegio Brader. Jacobo Lacs serves on our Board of Directors and provides invaluable support and assistance in Panama. The Ocean to Ocean Project is conducted in partnership with Hawk Mountain Sanctuary, Audubon Society—Panama, Smithsonian Tropical Research Institute, and the Panamanian Center for Study and Social Action (CEASPA).

Financial support in 2005 was provided by Wolf Creek Charitable Foundation, United States Agency for International Development (USAID), M.J. Murdock Charitable Trust, and Mr. and Mrs. Jacobo Lacs. The U.S. Agency for International Development has provided economic and humanitarian assistance worldwide for more than 40 years.

Harpy Eagle Conservation and Research

Goal

Conserve and restore Harpy Eagle populations through hands-on management, research, and collaboration with local people.

The Harpy Eagle is probably the most powerful raptor of the humid Neotropical forests. It is a large, charismatic eagle that is vulnerable throughout its range in Central and South America to forest fragmentation and loss. Even before habitat destruction, the Harpy Eagle appears to be threatened by persecution from humans. In the wild these magnificent raptors reproduce slowly, one chick every two to three years, so their populations are naturally slow to rebound from declines. The Peregrine Fund's work with Harpy Eagles is focused on establishing methods for captive breeding and release to bolster dwindling populations, along with research into the ecology of wild Harpy Eagles to better understand what factors limit their numbers and how best to achieve their conservation. The Peregrine Fund's propagation and release of Harpy Eagles serves the double function of augmenting wild Harpy Eagle populations that have declined and providing us with a unique study opportunity to learn about the behavior and biology of large tropical forest raptors.

Angel Muela

In the 2005-2006 breeding season one breeding pair of Harpy Eagles laid six fertile eggs in three clutches of two eggs each, all of which hatched. The last chick to hatch (photo) was returned to its parents to be raped for release in 2007.

RESULTS

Captive Propagation and Release—Through our captive breeding program we have gained valuable information on the factors affecting breeding success and reproductive behavior of Harpy Eagles in captivity, as well as data on the growth and development of young eagles. In the 2005-2006 breeding season, through hands-on management, one breeding pair of Harpy Eagles laid six fertile eggs in three clutches of two eggs each, all of which hatched. A new breeding pair this year produced two infertile eggs, a fairly common occurrence for first-year breeders.

A total of 30 Harpy Eagles have been released in Soberania National Park, Panama, and Chiquibul Forest, Belize, since 1998. Several juveniles reached independence in 2005. Two of these independent birds, a male named Urraca and a wild-hatched female that was rehabilitated under our care last year, were released into the forests of La Amistad International Park in the Bocas del Toro region of western Panama. The female, MW, is faring particularly well and the day after release was observed contentedly feeding on a sloth. Three other independent eagles were released into the Rio Bravo area of northern Belize, a protected forest managed by Programme for Belize, bringing the total number of released Harpy Eagles in this region to nine (eight surviving). All of these eagles have adapted well to their new surroundings and have been seen with a wide variety of prey including monkeys, kinkajous, coatimundis, and porcupines. Many of the birds have begun to disperse from the original release site, some traveling as far as Mexico and Guatemala. We monitor the dispersal movements of these far-ranging birds using special transmitters tracked by satellite.

Birds in both countries are almost continuously on the move as they explore the vast forests around the Panama Canal and Rio Bravo area in search of prey. This movement presents a challenge to our staff and volunteers who must trek through dense forest habitat and battle mud, insects, and pouring rain to observe and study these eagles. In addition to making sure they continue to do well, we are studying the released eagles to learn about their diet in relation to prey availability, hunting frequency, and dispersal patterns. Tracking and observing captive-reared and released eagles in the wild provides a unique opportunity to learn about the species' biology and behavior that is normally not possible with wild birds. Information yielded from these studies may help to better manage the remaining tracts of forest where Harpy Eagles and countless other species live.

Angel Muela

Research and Conservation—The research program on wild Harpy Eagles in Darién, Panama, continues to go from strength to strength. We employ nine Embera and Wounaan technicians who participate in daily data collection as well as local public awareness programs. They bring great value to the effort as they possess a combination of traditional knowledge of the landscape and are training in the use of modern scientific methods and equipment to continue the work. Many are prominent members of their communities so they are influential in collective decisions that affect environmental conservation. While project manager José de Jesús Vargas is in Venezuela studying for a Master's degree this year, our most senior technician, Rodolfo Mosquera, is ably deputizing for him.

Our field research is a long-term effort. This eagle probably only breeds in the wild on average once every two to three years, so it takes considerable time to build up knowledge of enough individuals from which we can make generalizations about the population or species as a whole. Now, after many years, we are starting to obtain important results. For example, comparing the landscape of 29 territories using a digital image of the vegetation cover shows that Harpy Eagles can live in places where up to 30% of the forest has been lost or altered due to human cultivation and conversion to grass for cattle. Previously, it had

been thought that eagles were an indicator of continuous intact primary forest. This new finding is positive news for eagle conservation and it means they can live alongside humans if they are not hunted and some forest remains. We believe the situation in our study area is unusual, and that elsewhere in the species' range it is much more typical for eagles to be hunted to extinction long before the forest has been substantially altered or reduced by increasing human density. Comparative studies elsewhere need to be done before firm conclusions can be drawn.

José de Jesús Vargas was the lead author on a paper published in *Ornitología Neotropical* that synthesized current knowledge of the eagle's conservation status. We plan to continue gathering data on wild eagles to find out how they use a fragmented landscape and to assess the impact of different levels of human hunting on prey abundance. We will also continue to train local people and foster community participation in the conservation of their own precious natural resources.

Angel Muela

Summary of Harpy Eagle releases since 1998
(Numbers on 31 January 2006)

Number released	30
Number that reached independence	23
Number still dependent	0
Number surviving	17
Number relocated to Bocas del Toro, Panama (Number surviving)	3 (2)
Number relocated to Rio Bravo, Belize (Number surviving)	9 (8)
Number awaiting relocation to Rio Bravo, Belize	7

Left: Many of our captive-raised and released Harpy Eagles have begun to disperse from the release site in Belize, some traveling as far as Mexico and Guatemala. We track these far-ranging birds using transmitters (PTTs) tracked by satellites.
Above: Marta Curti (left) and Saskia Santamaria (right) carry a captive-raised Harpy Eagle to its release site in Soberania National Park, Panama.

FUTURE PLANS

Fondo Peregrino-Panamá and the Neotropical Raptor Center have successfully developed the knowledge and skills necessary to predictably breed Harpy Eagles in captivity for release in the wild. Having gained this milestone in propagation of large tropical forest raptors, in 2006 we are planning to discontinue our efforts at captive breeding. All remaining eagles able to survive in the wild will be released as they are ready. We will complete a first-ever release of a breeding pair of eagles to determine if the pair will remain together to breed in the wild.

There are seven captive-bred and released Harpy Eagles currently in Soberania National Park, Panama; all are independent of our care and in 2006 will be translocated to release sites in more isolated forests of Rio Bravo, Belize. Four Harpy Eagle chicks hatched in 2004-2005 will be released in Soberania National Park in 2006 at 18 months of age, while six chicks hatched in 2005-2006 are scheduled for release in 2007. As these eagles reach independence, they will be relocated to remote areas of Belize where suitable habitat still exists. Most of the independent birds will be fitted with satellite transmitters to allow us to remotely track their survival and movements over time. This useful technology will enable us to monitor a large number of eagles with minimal personnel in the field. The information obtained from these units will yield important data about the dispersal patterns, mortality rates, and nesting attempts for this species.

STAFF

Field research and conservation is directed by Mark Watson and José de Jesús Vargas, with assistance from Rodolfo Mosquera, Fidel Sabúgara, Gabriel Minguizama, Eloy Aripio, Briceño Flaco, Rogelio Peña, Julio Ovispo, and Calixto Conampia, and volunteers Indalecio Mecheche, Luciano Caísamo, Jerónimo Valdespino, and Rigoberto Aripio. Saskia Santamaría is responsible for captive breeding. José de los Santos López, Noel Guerra, Próspero Gaitán, Bolívar Rodríguez, Omar Fernández, and Edwin Jiménez raise raptor food and provide maintenance of the NRC facilities. Mary Schwartz made important contributions during 2005.

Angel Muela coordinates the release program and is assisted by Marta Curti and Edwin Campbell. Important assistance for the Harpy Eagle release program was provided by the following volunteers in 2005: Hervé Bressaud, Marcus Canuto, Luisa Cardenete, Laura Domínguez, Todd Gillen, Peiter Haghebaert, Phillip Hannon, Chris Hatten, Andrew Hida, Kevin Jablonski, Juliet Lamb, Ken McEnaney, Elisenda Montserrat, Julio Obispo, Ryan Phillips, Andrew Plant, Héléna Renaud, and Monty Wallace.

COLLABORATORS

The Harpy Eagle project depends on the partnership of many individuals and organizations, including Autoridad Nacional del Ambiente (ANAM) and its National Parks (Soberania, Chagres, Camino de Cruces, and Darien), Autoridad del Canal de Panamá (ACP), Fundación Ciudad del Saber, Ecological Police, Comarca Emberá-Wounaan and Tierras Colectivas, Smithsonian Tropical Research Institute, Asociación Nacional para la Conservación de la Naturaleza (ANCON), Summit Zoo, and Patronato Amigos del Aguila Harpia. In Belize we count on the support and partnership of the Ministry of Natural Resources and the Environment, Programme for Belize, The Belize Zoo/Tropical Education Center, Air Wing of the Belize Defense Force, EcoFlight, and Lighthawk.

Major financial support was received from the Wolf Creek Charitable Foundation, United States Agency for International Development (USAID), Disney Wildlife Conservation Fund, Ledder Family Charitable Trust, The Houston Zoo, James and Barbara Cimino Foundation, and Stichting de Harpij.

Neotropical Environmental Education

Goal

Change human attitudes towards birds of prey, especially Harpy Eagles, to reduce persecution and help conserve their habitat and the biodiversity it contains.

The Harpy Eagle, with its powerful talons, piercing eyes, and broad, dark wings, is awe inspiring and its presence, both powerful and humbling, has invoked a myriad of feelings in those who have been lucky enough to see it in the wild. For some, the Harpy Eagle is a symbol of strength and beauty; for others it stands as a representative of large predators in general, and is a living emblem for conservation. For still others, it invokes fear and misunderstanding, due in part to its large size and curious nature. Indeed, human persecution of Harpy Eagles from fear and ignorance has led to the decline of this species throughout much of its former range where forest remains. To combat the myths and misconceptions that surround this magnificent raptor, we began an environmental education program in 2002. Since then, the education component of the Harpy Eagle conservation effort has expanded to focus on the ecological value of this species and the need for habitat protection, while at the same time dispelling myths and misconceptions about raptors in general. This effort, coupled with a strong science-based conservation program, is vital to the long-term survival of the Harpy Eagle and many other large forest predators.

Results

Education focuses on three main target areas within Panama. The first area is Darien, a large expanse of Neotropical forest bordering Colombia where a population of wild Harpy Eagles remains. Here we work in 19 Embera and Wounaan communities, many of which are located in close proximity to Harpy Eagle nesting sites. The second locale, known as the Panama Canal Watershed, includes those communities that surround Soberania National Park, the area in which we are conducting releases of captive-bred Harpy Eagles. The third area, Bocas del Toro, which is close to the border of Costa Rica, is an area rich in biodiversity. Here we have experimentally released Harpy Eagles to bolster a much diminished wild population. In this area we work with the Naso and Ngöbe-Bugle communities that are near our release site. In addition, we continue to work in and around the nation's capital, Panama City, as well as on a national and international scale. This year we directly reached more than 5,500 children and adults in these areas.

In addition to working with community members, we strive to provide appropriate and useful materials to educators whenever possible. To this end, we wrote and submitted a cooperative agreement to Panama's Ministry of Education (MEDUCA) to collaborate with the agency and better provide quality environmental education material focusing on the Harpy Eagle and other raptors on a national scale. We also completed the environmental education guide *Las Aves Rapaces (Raptors)*, and have submitted it for publication. With the help of Panama's Ministry of Education, we hope to distribute these guides to teachers and schools throughout the country. To ensure and facilitate the guides being utilized once in teachers' hands, we are offering teacher training workshops, the first of

Angel Muela

Right: "Luigi," our education Harpy Eagle, is an important ambassador for the species. His spectacular flight display is part of an educational program aimed at improving the public's attitude toward Harpy Eagles and other raptors.

Angel Muela

Below: Children participate in a raptor costume contest during the first annual Harpy Eagle Day, "Festiarpia," in Panama City, April 2005.

Angel Muela

Adrian Benedetti weighs our education Harpy Eagle in a daily routine to train the bird for flight demonstrations to the public.

which occurred in 2005 for regional coordinators within Panama. Teachers learned about raptors and the Harpy Eagle while utilizing activities from the guide, which include using recyclable materials to construct almost life-size Harpy Eagles, conducting bird watching/identification activities, simulating raptor migration in an avian Olympics game, and looking at some of the general causes of extinction in an interactive activity called the Map of Extinction.

In April 2005 we hosted the first annual Harpy Eagle Day, Festiarpia, in Panama City to celebrate the country's national bird. Over 500 people attended the event which included games, flying a live Harpy Eagle, a raffle, face painting, a raptor costume contest, and informational stands from over 18 other organizations in Panama including the EcoPolice, the Panama Canal Authority, and Metropolitan Park. The event was more successful than we had ever imagined!

We continued to work closely with the students from Mission: Harpy Eagle (Colegio Brader) and conducted our first joint presentation with them in the Panama Canal Watershed community of El Giral. Working with fourth and fifth graders from this community, we gave a presentation on raptors and then the Mission: Harpy Eagle students conducted educational games about the Harpy Eagle, including "Harpy Twister" and "Pin the Tail on the Harpy."

Internationally, we made a week-long visit to the Dominican Republic to provide additional environmental education training for Fundacion Moscoso Puello working with the critically endangered Ridgway's Hawk. During this time we developed a pre-evaluation survey, conducted this survey with 23 members from a community near Los Haitises National Park where the Ridgway's Hawk is present, and completed draft text for an informational brochure that will be distributed to local community members.

FUTURE PLANS

Community education efforts will continue in the Panama Canal Watershed, Darien, and Bocas del Toro areas. In the upcoming year, with the help of MEDUCA, we hope to distribute the educational guide, *Las Aves Rapaces*, to all elementary schools throughout the Republic of Panama and continue to train teachers in the use of this guide. Our goal is to conduct workshops for educators that work in our three main target areas in 2006.

We also plan on placing the public education guide *The Nature of Harpy Eagles–Using the Harpy Eagle as a Flagship for Conservation*, on our web site in both English and Spanish to make it available to teachers and environmental educators working in raptor conservation around the globe. Finally, we will host the second annual Harpy Eagle festival which will again be held in April to celebrate the anniversary of the declaration of the Harpy Eagle as the national bird of Panama. We plan to host another drawing contest that will be open to all students on a national level, and as in the past, we hope to use the winning drawings to create calendars and potentially other educational materials.

STAFF

This project is conducted by Marta Curti and Kathia Herrera with assistance in the field from José Vargas and others. Also assisting with the education program were Tim Kluckow, Michele Kim, and Benjamin Montuto. Adrian Benedetti made valuable contributions during 2005.

COOPERATORS

We collaborate with Panama's Ministry of Education (MEDUCA), National Environmental Authority (ANAM), Panama Canal Authority (ACP), Soberania, Chagres, and Camino de Cruces National Parks, Ecological Police, Instituto Nacional de Cultura (INAC), Tierras Colectivas Emberá y Wounaan, Comarca Emberá-Wounaan, Consejo Naso Tjerdi, Smithsonian Tropical Research Institute (STRI), Academy for Education and Development (AED), Parque Metropolitano, The Nature Conservancy (TNC); and Colegio Brader—Misión: Águila Arpía.

Important financial support was received from the United States Agency for International Development (USAID) and Wolf Creek Charitable Foundation. Caribe Stereo provided in-kind donations.

Orange-breasted Falcon Project

Goal

Determine the status of the species and the consequences of population isolation in fragmented landscapes; and develop captive breeding and release methods for future species restoration or management.

Marta Curti

Biologist Angel Muela prepares to descend 120 feet down a cliff to collect Orange-breasted Falcon eggs for artificial incubation and captive rearing.

The Orange-breasted Falcon is a stunning raptor, with a black head, a bluish-black body marked with white striations, and a bright rust-colored breast. Generally these remarkable birds of prey inhabit areas of Neotropical forest providing good nesting cliffs that often jut out of the ground in impressive rock formations. The breeding range of the Orange-breasted Falcon once probably extended from southern Mexico through the tropical forests of Central and South America. Today, it is distinctly absent from many areas within Central America that contain apparently suitable habitat. To increase our knowledge of this species and potentially safeguard it from extirpation in portions of its range through breeding and release, in 2001 we began to establish two separate captive populations, one in Panama and one in Wyoming.

Due to the high instances of nesting failure we have witnessed in the wild in both Panama and Belize, one goal this year was collecting eggs from wild nests and hatching them at the Neotropical Raptor Center (NRC) in Panama to augment our captive breeding population. Collecting eggs early during incubation decreased the probability of breeding failure from natural predation which also increased the chances of securing the additional birds needed for breeding purposes. In addition, it increased the likelihood that the wild pair would lay a second clutch of eggs in the same breeding season, thus potentially doubling annual production. Females resulting from our collection effort were held back to add to our captive breeding pairs; males were released back into the wild.

Angel Muela

Two male Orange-breasted Falcons in the safety of their hackbox prior to release into the wild.

Results

We surveyed all known Orange-breasted Falcon nests in Panama and Belize for the fourth consecutive year to assess breeding activity and success. Four breeding pairs located in the remote forests of Darien, Panama, were surveyed by helicopter twice during the breeding season. Three of the four nests were active, though only two produced two chicks each.

Seven Orange-breasted Falcon nest sites were surveyed in Belize during four visits. We arrived in Belize in early March to find one pair already on eggs. This first clutch of three eggs was collected from the nest by climbing roughly 120 feet down from the top of a high cliff. The eggs were carried by air in a hand-held portable incubator to Panama and placed in incubators in the NRC. All three eggs hatched, producing one female and two males. The female was retained for captive breeding, while the

males were released back into the wild in Belize. This first-ever release of captive-raised Orange-breasted Falcons was an important milestone for the project. The two young birds were released in the Mountain Pine Ridge area of western Belize using techniques that have already proven successful with Peregrine and Aplomado Falcons. After only a few weeks, volunteers observed the birds, known as Black-20 and Blue-D9, chasing and catching insects and small birds. The two falcons were fitted with transmitters that allowed volunteers to better monitor them during the first month of release. The falcons were also banded allowing identification in the future.

We were pleased to find that the wild pair from which we collected eggs this season laid a second clutch of eggs and successfully fledged two young. We were able to confirm the fledging of only one other chick from among the seven nest sites in Belize, supporting the observed trend for poor breeding success in the wild.

In January 2006 we relocated all captive Orange-breasted Falcons from Panama to Robert Berry's Wolf Creek Ranch facility in Wyoming. The pairs will be combined with existing falcons in an effort to increase captive propagation.

FUTURE PLANS

We will continue monitoring wild populations of Orange-breasted Falcons and, as possible, expand the searches to locate nests in new areas. If possible we will install remote cameras in two nest sites to find out more about the breeding behavior of these rare falcons and identify reasons for the high nesting failure in the wild. We will also look for potential future release sites both in Belize and in Panama.

Angel Muela

Adult Orange-breasted Falcon.

Angel Muela

The first-ever release of captive-raised Orange-breasted Falcons occurred successfully in Belize in 2005.

STAFF

Field work is conducted by Angel Muela and Marta Curti. Saskia Santamaría is responsible for captive breeding at the Neotropical Raptor Center (NRC), Panama, while associate Robert Berry is responsible for captive breeding at the Wolf Creek Ranch facility in Wyoming. Mary Schwartz provided valuable assistance to this project during 2005. José de los Santos López, Noel Guerra, Próspero Gaitán, Bolívar Rodríguez, Omar Fernández, and Edwin Jiménez raise raptor food and provide maintenance of the NRC.

COOPERATORS

Robert Berry assists as a research associate in developing captive-breeding techniques for the species. Financial support was provided by Wolf Creek Charitable Foundation.

In Panama we work with authorization of the Autoridad Nacional del Ambiente (ANAM) and Comarca Emberá-Wounaan. Important assistance was provided by Piñas Bay Resorts, S.A. In Belize we work with authorization of the Ministry of Natural Resources and the Environment. The Belize Zoo/Tropical Education Center provided logistical support. Hidden Valley Inn continues to provide valuable in-kind assistance and support. Volunteer hack site attendants who cared for the young falcons during release were Andrew Plant and Monty Wallace.

Financial support was received from Robert Blakely in recognition of Bob Berry's continuing contribution to raptor reproduction, species stabilization, and habitat development.

West Indies Project

Goal

Help prevent the extinction of raptors found only on the islands of the West Indies and conserve native habitats important for North American migrating birds.

The West Indies Project focuses on the Caribbean Islands of the Neotropical region where we first began research and conservation efforts in 2000. These islands are one of the most important biodiversity hot-spots in the world, supporting a variety of vegetation ranging from tropical rainforests to cactus scrub, and many plant and animal species that occur nowhere else. Rapidly growing human populations threaten the islands' unique natural environments and species, including some of the world's most critically endangered raptors. Our first efforts have focused on the Ridgway's Hawk in Dominican Republic, the Grenada Hook-billed Kite, and the Cuban Kite. We aim to better understand the population biology and factors limiting raptor species' distribution and abundance, achieve conservation of the most threatened species, develop the means to study and conserve these species in the long-term by institutionalizing local capacity for conservation through training and support, and increase public awareness.

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Ridgway's Hawk flies overhead with prey, a common lizard.

Results

Dominican Republic–The critically endangered status of the Ridgway's Hawk is based on its estimated population size of no more than 250 individuals, and realistically, this number may be much lower. Current distribution appears to be restricted to the forests, secondary vegetation, and forest fragments surrounding the 1,200 sq km Los Haitises National Park in northeastern Dominican Republic. The park is characterized by undulating limestone hills (mogotes) and valleys, and has a subtropical broadleaf forest that has been highly modified by a long history of agricultural activity. Since the first study conducted on the species in 1976, forested habitat has decreased dramatically. The loss of habitat, along with direct human persecution, appears to be the most significant cause for the decline of the Ridgway's Hawk.

We began this project four years ago with surveys to find as many Ridgway's Hawks as possible to establish a baseline population estimate from which conservation success could be measured. Working with and training local cooperators, we found nine breeding pairs in 2002, 30 pairs in 2003, and 72 pairs in 2004, all in Los Haitises National Park and a few forest fragments surrounding the park. In 2005 our local partners Jesús Almonte (Fundación Moscoso Puello, FMP) and Samuel Balbuena de la Rosa (Dirección Nacional de Parques-Los Haitises) found 74 territorial pairs, of which 66 pairs attempted to breed and produced 83 fledglings. We may be close to knowing the locations of the entire global population of this species, so ongoing monitoring of this small number is extremely important.

A majority of the hawk nests we located were built on top of colonial nests of the Palmchat, an endemic albeit common bird in the Dominican Republic. We identified 10 species of trees selected by the hawks for constructing their nests with the Hispaniola Royal Palm making up nearly three-quarters of the nest trees. Almost half of all nest trees were near or in habitat used for agricultural activities. One note of interest was the first documentation of three-egg clutches for Ridgway's Hawks–five in total and all hatched successfully. Preliminary results from nest observations at several nests recorded the Ridgway's Hawk's diet was made up of 90% reptiles. Three fledglings were radio-tagged in the Los Limones area, and they are currently being monitored to document behavior and dispersal.

The main threats to the species can be summarized as forest alteration, persecution, wildfires, and lack of knowledge by local people about the species. Most nest failures (around 60%) were caused by humans either directly by persecuting the hawks as poultry killers or eating the hawks. Indirect causes were from disturbance and alteration of the nesting habitat.

Recognizing human persecution (both direct and indirect) as a significant cause in the decline of the species, and how little the local people knew and understood about the Ridgway's Hawk, an awareness raising and education campaign was initiated. In February 2005, Marta Curti from Fondo Peregrino-Panamá's Environmental Education Program, having established a similar and highly successful program in Panama for the Harpy Eagle, assisted Jesús Almonte and Pedro Rodriguez (Sociedad Ornitologica de la Hispaniola–SOH) in the start-up of an environmental education and conservation campaign focused on the Ridgway's Hawk and habitat in the Los Limones area of Los Haitises National Park. Jesus and Pedro have since given several presentations to local communities

Jesús Almonte

Russell Thorstrom

bordering the park. A poster describing the hawk and its conservation status was published for use in the education awareness campaign and is being used at meetings and posted in gathering places in the local communities. An article was recently published on Ridgway's Hawk surveys from 2002 and 2003 in the *Caribbean Journal of Science.*

Grenada–In Grenada, locally-trained Desmond McQueen conducted surveys to assess the status and distribution of the remnant breeding population of Grenada Hook-billed Kites. He has located just one nesting attempt and three other pairs showing early signs of breeding activity since catastrophic Hurricane Ivan destroyed 90% of the island in September 2004. Since 2000, only 14 nesting sites for kites have been confirmed.

Cuba–In Cuba, financial support was provided to ornithologist Arturo Kirkconnell to continue his surveys in an attempt to verify the existence of the Cuban Kite in eastern and southeastern Cuba, the most likely area where this poorly-known species may still survive. Although there were signs the species may still exist, no kites have so far been seen.

FUTURE PLANS

We plan to continue surveys and monitoring of Ridgway's Hawks and Grenada Hook-billed Kites until we have enough information to accurately determine their distribution and status, and implement appropriate conservation measures. In Dominican Republic, in collaboration with SOH, FMP, and the National Parks Department, we will continue developing a local and national conservation awareness and education campaign for the Ridgway's Hawk and its habitat. In Cuba, our local partner will continue surveys for the Cuban Kite to determine its existence.

Left: Samuel Balbuena de la Rosa (left) and Peregrine Fund biologist Russell Thorstrom track radio-tagged Ridgway's Hawks to learn about their biology and behavior.

Below: Deforestation, even inside Dominican Republic's National Parks, and human persecution have caused the decline of the Ridgway's Hawk, a critically endangered raptor.

STAFF

This project is managed by Russell Thorstrom.

COLLABORATORS

We work in partnership with the Grenada Dry Forest Biodiversity Conservation Project, Grenada Forestry Department, Alan Joseph, Michael Jessamy, and Desmond McQueen. Independent researcher Bonnie Rusk provided assistance and expertise. In Dominican Republic, biologist Jesús Almonte conducted field work in the Los Haitises region. We collaborate with Dominican Republic National Parks Department and thank them for allowing Modesto (Samuel) Balbuena de la Rosa to assist in the field work in Los Haitises region. Valuable advice was provided by Jim Wiley, United States Fish and Wildlife Service. We collaborate with Angélica María Varela L. and Carlos Garcia of Fundacion Moscoso Puello, Inc., and Kate Wallace, Pedro Rodríguez, and Eladio Fernández of Sociedad Ornitologica Hispaniola. In Cuba, we collaborate with biologists Arturo Kirkconnell and Pedro Regalado. Genetic research is accomplished by Jeff Johnson and David Mindell of the University of Michigan.

Financial support for this project was provided by the United States Agency for International Development (USAID), Wolf Creek Charitable Foundation, and Conservation International.

GOAL

Conserve raptors and their habitats through research, education, development of local capacity for conservation and science, and hands-on intervention.

STAFF

Rick Watson directs the Pan Africa Conservation Program with assistance from Cameron Ellis.

COOPERATORS

Financial support for this program was provided by grants from the Disney Wildlife Conservation Fund, Paul Tudor Jones, II, and important Board support. Genetic research is accomplished by Jeff Johnson and David Mindell of the University of Michigan.

Recent human-induced extinction rates are 100-1,000 times the geological background rate and are predicted to increase another tenfold. In response, 188 countries have committed to slowing global biodiversity loss. Achieving this ambitious goal requires broad, proactive interventions to protect entire ecosystems before their component species become threatened. Protected areas contribute to this goal, but by themselves will likely not be enough; biodiversity must also survive in human-dominated landscapes. By attempting to meet the ecological requirements of wide-ranging, top-of-the-food-chain predators in human-dominated landscapes we can reasonably expect to also save significant portions of biodiversity in the food chain below them. The Pan Africa Raptor Conservation (PARC) Program contributes to this goal. It is an "umbrella" approach to identifying priorities and providing direction and communication for raptor conservation projects in the African region.

Final results of the Cape Verde Kite project and an annual update on the Cape Vulture project are provided below. Results are described separately in the following pages for our East Africa, Madagascar, and Zimbabwe Projects.

RESULTS

Cape Vulture Project, South Africa— Population monitoring of the Kransberg and Manutsa Cape Vulture breeding colonies by Pat Bensen continued in the 2005/2006 season. This was the 25th season of observations at the Kransberg colony and 664 occupied nest sites (where nest building activities occurred and an egg may or may not have been laid) were observed at the colony this year. This is a slight (0.5%) increase over the number of occupied sites in the previous season. Although an increase (1.9%) of active nest sites (where an egg was laid) was also observed, the number of breeding pairs was the third lowest number observed in any season for which complete data are available (23 years). However, the number of young fledged (383) is the fifth highest in the past 12 years. This value represents 57.7% of the occupied and 60.4% of active sites observed during the season.

Munir Virani

A bird of prey watches migrating wildebeest in the Masai Mara National Park in Kenya. Protected areas will likely not be large enough to sustain far-ranging, top-of-the-food-chain predators like large birds of prey. Their ecological needs must also be met in human-dominated landscapes.

The proportion of sites where successful fledging occurred this season was similar and not statistically different from the previous season for occupied or active sites. A marked adult Cape Vulture that had been observed at the same nest site in 11 previous seasons did not return this year. The marked bird and its mate had been unsuccessful for the past two years. The site was occupied this season by a pair of birds which successfully fledged a young.

This was the fifth consecutive season of monitoring the Manutsa Cape Vulture colony over an entire season. Three visits were made to the Manutsa colony: June, August, and October. There were at least 554 active nest sites this season. This is a substantial increase over the previous year when 454 active nests were observed. This is also the highest number of active nests discovered at this colony during the five years of observations. Among the active nests, 395 nestlings fledged. The fledging rate was not statistically different from the previous season when 319 nestlings were known to fledge. The number of nestlings fledged from active nest sites was statistically higher at the Manutsa colony than at the Kransberg colony.

Cape Verde Kite Project— This kite was only recently recognized by some biologists as a species, despite the fact that its nearest congener was found more than 3,000 km away. Biologists' understanding of the species concept has changed in the past decade; therefore, we may increasingly find that animals considered subspecies are, in fact, full and distinct species that need conservation. The aim of this project was to determine the conservation status of the Cape Verde Kite and, as appropriate, help prevent its extinction.

This project provided new information regarding the argument about the value of biological species versus phylogenetic (or evolutionary significant unit) concepts. Using molecular genetics techniques, we found that historical Cape Verde Kites, including the "type" specimen, were non-monophyletic and scattered within a larger Red Kite clade. This means the traditional Cape Verde Kite is not a distinctive evolutionary unit, and the case for species status and special conservation intervention is not supported. Therefore, this project has been concluded. Unexpectedly, during this study we found support for recognition as a distinctive phylogenetic species of at least one clade of Yellow-billed Kites from southern Africa. Traditionally considered a Black Kite subspecies, they are fairly common in human-dominated landscapes and do not warrant conservation intervention.

FUTURE PLANS

We plan to continue supervising existing projects in Madagascar, Kenya, and Zimbabwe as well as evaluate and support small grant projects, as possible, and assess needs and opportunities for new projects. No further work is anticipated in Cape Verde. We will evaluate the potential to survey Niassa Reserve in northern Mozambique as a potential hotspot for Teita Falcons and a vast unstudied area (42,000 km^2) worth research and conservation attention. We hope to expand our conservation, research, and training opportunities to additional countries in Africa, ultimately developing local capacity throughout the continent and its islands.

Zimbabwe Project

The Peregrine Fund's partnership with the Zimbabwe Falconers' Club (ZFC) began 23 years ago with an investigation of the rare Teita Falcon, a species that remains a focus of our program today. Work expanded in the past 15 years to address a wide range of raptor research and conservation issues in the region with inquiries into the effects of DDT on the Peregrine Falcon and other raptors, ecology of little-known species, effects of habitat change on raptors, captive breeding of Teita Falcons, and educational programs for students.

Goal

Develop local capacity for research and conservation of birds of prey through training, support, and hands-on conservation.

Much of this work has been published in scientific and popular journals, and the success of the ZFC in mobilizing falconers, game ranchers, farmers, and others to help with raptor conservation and research in Africa serves as a model to others around the world. One of the dominant features of working in Zimbabwe in recent years, however, has been increasing political and social turmoil within the country and a resulting deterioration in conservation ethic. Land resettlement and its associated activities in Zimbabwe are precipitating a growing list of threats to raptors and wildlife, as well as challenges to accomplishing raptor research and conservation.

The ZFC strives to increase local conservation efforts and research capacity as well as awareness of raptors through training programs that benefit both volunteers and wildlife. Faced with the challenges of a swiftly changing country, the ongoing success of the Zimbabwe Project is testament to the effectiveness of collaboration and investing in local capacity.

Results

The tragic death of Project Manager Ron Hartley in April 2005 necessitated a review of which collaborations with the ZFC and others in Zimbabwe could be sustained, studies continued, and results published to ensure his major contributions are not lost. Meetings with Ron's collaborators showed there exists great capacity, enthusiasm, and interest to continue the work that was being coordinated by Ron and a continued partnership between The Peregrine Fund and ZFC is highly desirable.

We resolved to help catalog and archive Ron's considerable notes and data, publish his recent data, as possible, and preserve his falconry correspondence in The Archives of Falconry. Collaboration between The Peregrine Fund and ZFC will continue with ongoing research in Savé Valley and Malilangwe Conservancies where we are studying the impact of land invasions on raptors, and Triangle Estate where Angus Middleton is studying the effectiveness of habitat corridors for maintaining raptor diversity in an agricultural landscape. Teita Falcon and other raptor monitoring will continue in Batoka Gorge where surveys first began in the late 1980s. Other ongoing projects include Teita and Peregrine Falcon monitoring countrywide; long-term monitoring of Wahlberg's Eagles and other raptors in Esigodini, as possible; pesticide monitoring in raptor populations; and publication of results of breeding Teita Falcons in captivity. New studies that will be evaluated include the potential for raptor community studies involving students in Savé Valley Conservancy; Ayre's Hawk-eagle and Western and Southern-banded Snake Eagle ecology using satellite telemetry; and a survey of Niassa Reserve in northern Mozambique as a potential hotspot for Teita Falcons.

Future Plans

We plan to continue our collaborative studies even during this period of political turbulence in Zimbabwe. The goal is to document and gain insight into the effects of changing land use due to the government's human resettlement program.

Ron Hartley

Ron Hartley

A student climbs a tree to check the contents (inset) of a Wahlberg's Eagle nest in Zimbabwe.

Staff

Rick Watson manages the Zimbabwe Project in collaboration with Neil Deacon and Angus Middleton of the Zimbabwe Falconers' Club.

Cooperators

We collaborate with the Zimbabwe Falconers' Club and the Zimbabwe Department of National Parks and Wild Life Management.

Important financial support was provided by Paul Tudor Jones, II. In-kind support was provided by The Malilangwe Trust, Malilangwe-Marula, Mokore Safaris, and Humani, Chishakwe, Hammond, and Sango ranches in Savé Valley Conservancy. Fin O'Donoghue provided support for studies on falcons and the Ayres' Hawk-eagle. Triangle Ltd. supported work by Angus Middleton. Adrian Lombard presented papers on behalf of Ron Hartley. Angus Middleton, Neil Deacon, Peter Mundy (National University of Science & Technology (Zimbabwe), and Rick Teague provided invaluable professional support.

East Africa Project

Goal

Conduct raptor research in threatened habitats to stimulate interest and conservation, help develop local capacity through student training and support, and increase public understanding about the need to conserve raptors and their habitats.

PAN AFRICA RAPTOR CONSERVATION PROGRAM

Munir Virani

Above: African Crowned Eagle.

Munir Virani

Right: Wildlife areas have been converted into large-scale wheat farms with negative impacts on migrating wildlife and far ranging predators, such as birds of prey.

East Africa's "Cradle of Mankind" supports 83 species of diurnal raptors and 21 species of owls, making it one of the richest raptor areas in the world. The region's unique biodiversity is inextricably linked to a spectacular and diverse array of habitats that harbor a fascinating collage of flora and fauna. Unfortunately, these habitats, along with the raptors they support, are now threatened by human-caused habitat changes such as slash-and-burn agriculture, forest degradation, indiscriminate farming practices, overgrazing by livestock, and desertification. While East Africa's spectacular mega-fauna may be confined safely within the realms of income-generating national parks and game reserves, raptors, in particular, are far-ranging species that do not recognize physical and political boundaries. Ironically, as predators, they fall prey to a variety of human-caused influences. Consequently, the distribution and abundance of many of these raptors have been negatively affected. Given the magnitude of some of these declines, it is becoming increasingly important to monitor raptor populations in all habitats and to re-evaluate their conservation status in East Africa.

Since 1992, we have been conducting raptor research, training, and education programs in the region. Our primary goal is to monitor raptor population trends in threatened habitats and use the information collected to provide a sound measure of the state of the habitat and to contribute toward management and conservation actions. Throughout our work, we have increased our knowledge about little-known species and created opportunities for hands-on raptor research, education, and training of students and others who develop skills in research and enthusiasm for conservation.

Results

***Masai Mara Raptor Project*—**This World Heritage Site harbors an unusually high density of wild ungulates that migrate in the millions from Tanzania's Serengeti National Park each year between July and October. During this period, the Mara's landscape is littered with dead and dying ungulates, causing a feeding frenzy for predators. Despite being one of the most well-studied wildlife ecosystems in Africa, knowledge about its raptors is virtually non-existent. Over the last two decades, the Mara and its environs have undergone rapid changes in land use. Wildlife areas have been converted into pastoral settlements and large-scale wheat farms, with negative impacts on migrating wildlife. In 2005 we completed a second year of surveys to understand (1) how these expanding land uses influence raptor numbers and diversity, and (2) the impact that ungulate migration has on the raptor community. We found that numbers of Martial, Black-breasted, and Long-crested Eagles increased significantly during the migration period when grass cover was reduced through grazing and prey became more visible. In addition, populations of avian scavengers like *Gyps* vultures and Bateleur

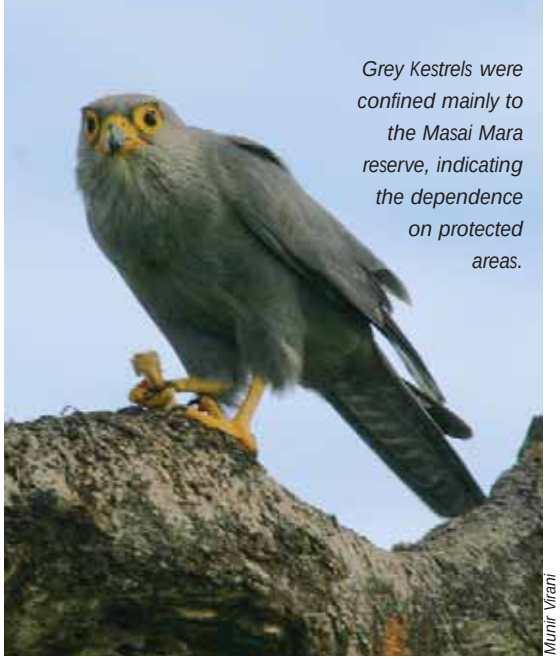
Eagles significantly increased during the ungulate migration when carrion was plentiful. Species such as White-headed Vultures and Grey Kestrels were confined mainly in the Mara, indicating their dependence on protected areas. The more adaptable Augur Buzzards thrived in human-altered habitats such as pastoral areas and wheat farms.

African Fish Eagle Studies—The African Fish Eagle is considered an icon of African aquatic ecosystems. At Lake Naivasha, in the heart of Kenya's Rift Valley, numbers of this species have declined by over 50% since the early 1970s when they were first studied by the late Leslie Brown. Working in partnership with Leicester University (United Kingdom) since 1994, we have been studying the dynamics of this species to understand the factors that have caused their population decline. We have found that fish eagle numbers at Naivasha are dependent on prey abundance, suitable lakeshore habitat, and lake water levels. These factors are influenced by diminishing rainfall patterns and human activities such as over-fishing, horticulture, and unregulated water extraction to provide for Naivasha's rapidly growing flower farms. Given the exponential proliferation of flower farming and associated human-induced environmental problems, survival of the lake's African Fish Eagle population would seem to be in jeopardy. However, the accidental introduction two years ago of common carp into the lake is causing another ecological imbalance that is temporarily benefiting fish-eating birds, including fish eagles. Numbers of carp have increased exponentially, causing an increase in numbers of fish eagles from 100 birds in early 2005 to 130 birds by mid-November, mainly through increased breeding and immigration of fish eagles from other areas. How long this will last and with what long-term effects is unknown. Our studies will continue to obtain a better understanding of fish eagle behavior and population dynamics in a complex and changing landscape.

African Crowned Eagle Release—To develop practical solutions for successful release of forest eagles, we released captive-reared crowned eagles in two different habitat types. The first type was riparian forest in Tsavo West National Park where one captive-bred male paired to breed with a wild female and they have twice successfully raised one chick. Unfortunately, two nesting attempts by a second pair of captive-bred eagles both ended tragically when their chicks were depredated by baboons in 2004 and 2005. We concluded that though African Crowned Eagles are able to survive in this habitat, it is less than ideal due to the presence of nest predators. The second habitat in Kitich Forest was considered to be ideal, being a dense moist tropical forest located in northern Kenya's Matthews mountain range with some wild African Crowned Eagles already present. The area is part of a community-based conservation initiative where forest land is leased by the local Samburu community for ecotourism ventures. Three crowned eagles were experimentally released in 2005 with the blessing of the local community. Early observations indicate the released eagles are being driven out of primary forest by wild eagles into marginal areas. Continued observations will determine whether they survive and breed.

Education, Training, and Awareness—We expanded our raptor biology course this year to include lectures in basic biology and field exercises in raptor identification and trapping. Local and international students studied and handled both captive and wild raptors at our Athi River Raptor Facility and attended lectures in student facilities offered by Game Ranching, Ltd. With the participation of Kenya Wildlife Service staff, we successfully rehabilitated and released five species of raptors that included Martial and African Hawk Eagles, both listed as regionally vulnerable. Darcy Ogada's studies on a highly vulnerable population of Mackinder's Eagle Owls in Central Kenya have shown that human activities and negative attitudes toward owls remain significant impediments to owl conservation in human-dominated landscapes in Kenya.

Bearded Vultures in Kenya now occur only in the Cherangani Hills where the population has declined to just one pair. Human attitudes toward this charismatic species are mixed. However, at the request of the local Pokot community, we will help initiate a minimal-impact tourism venture that will include low-cost traditional accommodation and a vulture observation blind. We hope this income-generating initiative will provide incentive to protect the nesting site of the only known breeding pair of this species remaining in Kenya.



Grey Kestrels were confined mainly to the Masai Mara reserve, indicating the dependence on protected areas.

Munir Virani

FUTURE PLANS

We hope to duplicate our Masai Mara raptor study to include other national parks and community-managed game reserves. This will enable park managers to make decisions based on sound science. We will continue with our studies on African Fish Eagles at Lake Naivasha to understand how natural and human-caused changes influence their population. Monitoring of released African Crowned Eagles will continue at Tsavo and Kitich to understand how these large forest eagles survive after release and adapt to marginal habitats. We will continue to stimulate interest in raptor research through training and publication of popular and peer-reviewed articles. The prevalent insecurity in Kenya will require us to continually review research efforts and priorities.

STAFF

The East African Project is conducted by Simon Thomsett and Munir Virani.

COOPERATORS

We collaborate with the Department of Ornithology at the National Museums of Kenya, Kenya Wildlife Service, Game Ranching Limited Athi River, Hell's Gate Management Committee, University of Leicester (United Kingdom), Lake Naivasha Riparian Association, A Rocha, Nature Kenya, Heritage Hotels, and County Councils of Narok, Baringo, and Koibatek.

Financial support for this project was provided by an important anonymous donor.

Madagascar Project

Goal

Prevent the extinction of endangered raptors, assist in the conservation of essential habitat, and develop local capacity for conservation using Madagascar's rare and endangered birds of prey as a focus.

PAN AFRICA RAPTOR CONSERVATION PROGRAM

"A Place Beyond Imagination" aptly describes Madagascar, truly one of the most remarkable natural areas in the world. This moniker is appropriate considering the island's unique biological diversity evolved from150 million years of isolation from continental Africa. The remoteness of this, the world's fourth largest island, has resulted in the evolution of species that exist nowhere else and has led it to be listed as one of the world's most important biodiversity conservation "hot-spots." The need for land and food for human survival are the most serious threats to Madagascar's biodiversity today. The Malagasy government and people realize that investing in the island's unique nature might be the best way to ensure their country's natural heritage and wealth. Among raptors, Madagascar is home to 24 species, of which 13 are found nowhere else, and three of these are endangered: the Madagascar Fish Eagle, Madagascar Serpent-eagle, and Madagascar Red Owl. The latter two species were rediscovered by our biologists in the rainforests of northeastern Madagascar. The fish eagle occurs in low numbers only on the western side of the island along rivers, lakes, mangroves, and offshore islands.

Russell Thorstrom

Right: Andranobe Field Station, built in 1991 by The Peregrine Fund for rainforest raptor research, now also serves as an outpost for Masoala National Park guards.

The Peregrine Fund began work in Madagascar in 1990 to help conserve endangered birds of prey and their critical habitat. Since then, we have helped create Madagascar's largest national park to protect 210,000 ha of rainforest habitat for the Madagascar Serpent-eagle, Madagascar Red Owl, and species unique to Masoala Peninsula. We pioneered community-based conservation to protect critical wetland habitat shared by Madagascar Fish Eagles and local Sakalava fishermen. We conducted first-ever studies on all of Madagascar's little-known raptors, and we continue to provide important information, training, and assistance to other conservation projects in this region.

Throughout our 15 years of work we have consistently developed local capacity for conservation through personnel and student training, education, and assistance. We have supported 14 Malagasy students and three students from the U.S. and England at M.Sc. and Ph.D. levels, trained 20 local people as field technicians, and involved others as staff, volunteers, and visiting students. Many of these individuals have completed and published studies on Malagasy raptors and other birds, fisheries, lemur ecology, and ethnobotany. This core group of educated and trained Malagasy personnel will help ensure conservation persists in perpetuity. We continue to support a local Malagasy staff of 25—a key component to preserving Madagascar's natural heritage.

Rick Watson

Masoala National Park, created in 1997 with The Peregrine Fund's help, now protects the island's only coastal lowland rainforest, habitat for Madagascar Serpent-eagles, Madagascar Red Owls, and species unique to the peninsula.

Results

The Madagascar Project has two major project sites. One is in the western central part of the country where the Madagascar Fish Eagle and Wetlands Conservation Project is based at three lakes: Befotaka, Soamalipo, and Ankerika. The lakes are inhabited by 11 territorial pairs of fish eagles, about 10% of the global breeding population. In 2005, the government approved the first-ever 10-year local resource management contract with two community associations (FIZAMI and FIFAMA) created and trained by The Peregrine Fund. This was an important accomplishment and an honor for the two associations since they were the first local organizations given the opportunity to manage their own natural resources. We continue to provide training, logistical, and financial assistance to the two associations and local authorities to help manage their wetland and forest resources on a sustainable basis.

Among the Madagascar Fish Eagles inhabiting the three lakes, 10 pairs attempted to nest and fledged seven young in 2005. These, and the eight young fledged in 2004, were the largest number of young fledged per year since we began studies in 1991 and we believe this is a measure of conservation success. In the region immediately around the lakes, we monitored an additional 11 nesting attempts by fish eagles which fledged six young. This year we also conducted an offshore fish eagle survey along the northwest coast of Madagascar from June to July, covering all mangroves, rocky islands, and coastal forest edge. We observed 126 individuals of which 120 were adults, four were sub-adults, and two were immature birds. This number compares favorably with similar surveys in 2000 and 1995, and suggests the fish eagle population is at least stable at this time.

We also investigated a region north of Besalampy-Melaky that is little studied as it is extremely difficult to access. It was identified in our 2004 satellite imagery study as potentially important fish eagle habitat. Our aim was to learn about fish eagle abundance and natural resource use among local communities to assess whether intervention in the region

Lily-Arison Rene de Roland

Madagascar Cuckoo Hawk nestlings, one of several little-known species found only on Madagascar for which we have completed first-ever studies.

would benefit fish eagle and wetland conservation. A reconnaissance trip was made in July to three administrative districts. In Besalampy district we visited two lakes, Amparihy and Sahapy, where we found three fish eagles and one inactive nest. This is down from three pairs in 1995 when the areas were last visited. In Maintirano district we also visited two lakes; each had one pair of nesting fish eagles. This area held the most promise for developing community-based wetland conservation due to the interest from local and regional authorities. In Morafenobe district there were several small lakes, but no fish eagles were encountered and local residents consistently reported their absence from this area.

We continued to provide learning opportunities for our fish eagle project technicians. This year they attended training courses in environmental and educational planning at a workshop held in Maintirano, participated in management planning for Ramsar sites at Moramanga, trained with government fisheries personnel at our fish eagle research camp, and attended a scientific forum in Tamatave.

Our second major site is located in lowland rainforest on the Masoala Peninsula in northeastern Madagascar. This roadless region is one of the largest blocks of intact lowland rainforest remaining in Madagascar. It was here in 1993 that we rediscovered the Madagascar Serpent-eagle and Madagascar Red Owl, and in 1997 helped create Madagascar's largest rainforest reserve. Working from Andranobe field station on the west side of the peninsula, we have continued to gather natural history and ecological information on endangered and poorly-known raptors and assist in conservation efforts. This year our field technicians found one pair of Madagascar Serpent-eagles constructing a nest, however several weeks later the pair abandoned the nest for unknown reasons. Blood samples were collected from the Madagascar Harrier Hawk and the Malagasy Scops Owl in this area for genetic analysis.

We continued to collect Madagascar Harrier distribution and abundance information from throughout Madagascar as part of a survey being conducted by Conservation International to establish baseline data on all threatened species.

Malagasy student Tolojanahary Andriamalala graduated with his M.Sc. degree on the breeding ecology of the Yellow-billed Kite, while Juliot Ramamonjisoa completed his second field season based at our fish eagle camp in western Madagascar studying the Torotoroka Scops Owl and is beginning to write his thesis. Donatien Randrianjafiniasa is completing his second field season studying the nesting ecology of the Madagascar Cuckoo Hawk at Ambatovaky Special Reserve in the eastern rainforest. He has located two nests with four young during the two seasons. The diet of this secretive raptor has consisted predominantly of frogs. Felice Rafarantsoa is the first student from the University of Tulear to work with us. He is near completion of his first field season studying the nesting ecology of the Black Kite in the southern region of Madagascar, where he is currently observing three nests.

We published two papers in 2005 on the breeding biology of Madagascar Kestrels and breeding biology of Banded Kestrels from a study conducted on Masoala Peninsula by one of our M.Sc. students. For a second year, Project Manager Lily-Arison Rene de Roland taught a one-week course on bird ecology at the University of Tulear.

FUTURE PLANS

Our future plans in this region include: (1) continue to assist the two local associations, FIZAMI and FIFAMA, at the fish eagle and wetlands conservation site to help ensure they successfully manage the natural resources they share with Madagascar Fish Eagles; (2) consider expanding the effort for conservation of Madagascar Fish Eagles and wetland community development in the Besalampy area; (3) study Madagascar Serpent-eagles in the Masoala region and other poorly-known raptors in eastern rainforests of Madagascar; (4) provide study opportunities for new Malagasy students, assisting them in their educational experience, and helping them publish research; (5) provide educational opportunities and experience to our field technicians; and (6) continue disseminating results and information through publications, conferences, meetings, and other venues at the national and international level.

STAFF

Russell Thorstrom manages the Madagascar Project with Lily-Arison Rene de Roland, Jeanneney Rabearivony, Marius Rakotondratsima, Jeanette Rajesy, and a staff in Madagascar who are listed in the staff section of this report.

COOPERATORS

We collaborate with the Ministère de L'Environnement et des Eaux et Forêts (MEF/DEF), Ministère de l'Enseignement Supérieur (MinSup), and Ministère de la Recherche Appliquée au Développement (MRAD), Association pour la Gestion des Aires Protégées (ANGAP), Office National pour l'Environnement (ONE), University of Antananarivo, University of Tulear, National Ramsar Committee (CONARAMS), United Nations Educational, Scientific and Cultural Organization (UNESCO), Parc Botanique et Zoologique de Tsimbazaza, World Wide Fund for Nature (WWF-Madagascar), Wildlife Conservation Society, Conservation International, Ranomafana National Park, Projét Masoala, Madagascar Faunal Group, Durrell Wildlife Conservation Institute, and many others.

Financial support for this project was provided by the Liz Claiborne and Art Ortenberg Foundation, Conservation International-Critical Ecosystem Partnership Fund, Conservation International-Madagascar, Little Family Foundation, the Sierra Club of Los Angeles, and several important individuals. In-kind donations were received from Holohil Systems Ltd and the Cornell Laboratory of Ornithology. The Critical Ecosystem Partnership Fund is a joint initiative of Conservation International, the Global Environment Facility, the Government of Japan, the MacArthur Foundation, and the World Bank. A fundamental goal is to ensure civil society is engaged in biodiversity conservation.

GOAL

Conserve species in jeopardy through research, hands-on intervention, and development of local capacity.

STAFF

Rick Watson directs this program with assistance from Cameron Ellis. Bill Burnham serves as a Trustee on the Philippine Eagle Foundation board.

COOPERATORS

In Papua New Guinea we collaborate with the Research and Conservation Foundation of Papua New Guinea, Wildlife Conservation Society, Andrew Mack and Debra Wright, and the people of the Crater Mountain Wildlife Management Area.

With the Philippine Eagle, we collaborate with the Philippine Eagle Foundation and Jim and Joyce Grier. Important assistance was provided by Lucia Severinghaus.

photo courtesy of F.R.E.E. Ltd.

A Philippine Eagle soars over its native tropical forest habitat.

The Asia-Pacific Raptor Conservation Program focuses on raptors that occur in the Oriental and parts of the Australasian biogeographic regions. The islands in this area, roughly between Southeast Asia and Australia, are notable for their species of limited range which are particularly vulnerable to extinction. There still appears to be time to save many of the unique raptors and avifauna in countries like Papua New Guinea where there is some degree of political stability, government and NGO interest in conservation, and relatively low human population density. The New Guinea and Philippine Projects are described below. Additionally, catastrophic declines in *Gyps* vulture populations in South Asia (Indian sub-continent) have resulted in three recently common species being listed as *critically endangered*, accounting for half of all raptors worldwide listed in this most precarious state. The Asian Vulture Crisis Project is described separately in the following pages.

RESULTS

New Guinea Harpy Eagle Project—The New Guinea Harpy Eagle is one of the least-known large raptors in the world. Despite the species' size, neither its basic biology nor population status were known until our studies began in 1999. Our goals are to complete first-ever studies on this mysterious forest eagle and develop local capacity for raptor research and conservation through support and training of New Guinea nationals. This year, field assistants Smith Asoyama and Amos Hatwara continued to monitor 10 pairs of New Guinea Harpy Eagle nests in various stages of the breeding cycle. Student Leo Legra graduated with his B.Sc. Honors degree based in part on his studies of nest-site selection and behavioral biology of the New Guinea Harpy Eagle. He began further hands-on training in raptor field studies with Mark Watson in our Student Education Program based in Panama, and is expected to continue graduate studies thereafter.

FUTURE PLANS

We will continue to provide student support, training, and guidance in the study of breeding behavior and ecology of several nesting pairs of New Guinea Harpy Eagles. Leo Legra will publish his study results, complete hands-on training in raptor research with Mark Watson in Panama and Belize, and possibly begin an M.Sc. program. We will continue supporting local guides in the search for active nests and we will compare the phylogenetic status of the New Guinea Harpy Eagle with other large forest crowned eagles using molecular genetics techniques.

Philippine Eagle Project—The Peregrine Fund assists the Philippine Eagle Foundation to conserve and research the Philippine Eagle and other raptors in the 7,000 islands making up the Philippines. The organization uses a holistic approach to conservation and although it is involved in captive breeding and release of Philippine Eagles, it also monitors wild nests and collects information on other raptors. In some of the poorest communities in the country, the Foundation operates community assistance programs to conserve habitats where the eagles are known to exist.

At its captive breeding facility on the island of Mindanao near the city of Davao the Foundation provides tours for up to 300,000 people annually. Their public education program is focused on the news media, schools, and people to raise awareness and increase conservation efforts.

The Peregrine Fund will continue to support and assist the Philippine Eagle Foundation and encourages others to do so as well.

Asian Vulture Crisis Project

Vultures in the Indian subcontinent have for centuries been icons of devotion, art, and culture and have prospered for millennia throughout the region. From a socio-ecological perspective, vultures function as natural garbage collectors, capable of consuming animal carcasses swiftly before they rot and spread diseases.

Goal

Help prevent the extinction of critically endangered *Gyps* vultures in South Asia.

ASIA-PACIFIC RAPTOR CONSERVATION PROGRAM

Since the mid-1990s, populations of *Gyps* vultures throughout the Indian subcontinent have declined at alarming rates to extremely low numbers, resulting in at least three species, Oriental White-backed, Long-billed, and Slender-billed Vultures, being listed as critically endangered. Our field and diagnostic investigations proved conclusively that a pain-killing drug called diclofenac was the cause of this catastrophic population crash. In South Asia, diclofenac is widely administered to ailing livestock and when vultures feed on carcasses contaminated with the drug, they die from kidney failure within two to three days. It takes just one contaminated carcass out of about 250 to cause the extent of decline observed over the last decade. With so few vultures left in the wild, livestock carcasses are now consumed by a growing population of dogs, rats, and other scavengers that potentially spread rabies and other diseases of human health and economic importance.

Despite our scientific results being presented in early 2004, tangible conservation results have been slow to materialize, and vulture populations continue to decline. Removal of veterinary diclofenac from the environment and collecting nestlings for a captive breeding program are priorities for vulture recovery, but the window of opportunity is closing fast as the last few vultures die from diclofenac poisoning.

Results

***Vulture Population Trends*—**In 2000, we counted nearly 2,400 occupied Oriental White-backed Vulture nests across 13 vulture colonies in Pakistan's Indus River plains. Since then, we have collected an overwhelming 1,900 dead birds from these colonies, of which 11 are now completely devoid of vultures and only two, Toawala and Rangpur Canal, harbor remnant breeding birds. In 2005, vulture numbers continued to decline precipitously at Toawala colony from 418 nests in 2000 to just 40 by the start of the 2005-2006 breeding season. At Rangpur Canal, from 64 nests located during the 2004-2005 breeding season, only 10 now remain. We estimate not more than 100 pairs of this species still exist in Pakistan. This staggering population collapse requires urgent remedial action. With a high adult mortality rate and an average of just one chick produced for every two breeding pairs, the 2005-2006 breeding season is likely the final chance to collect vulture nestlings for a captive breeding and restoration program proposed by Worldwide Fund for Nature-Pakistan.

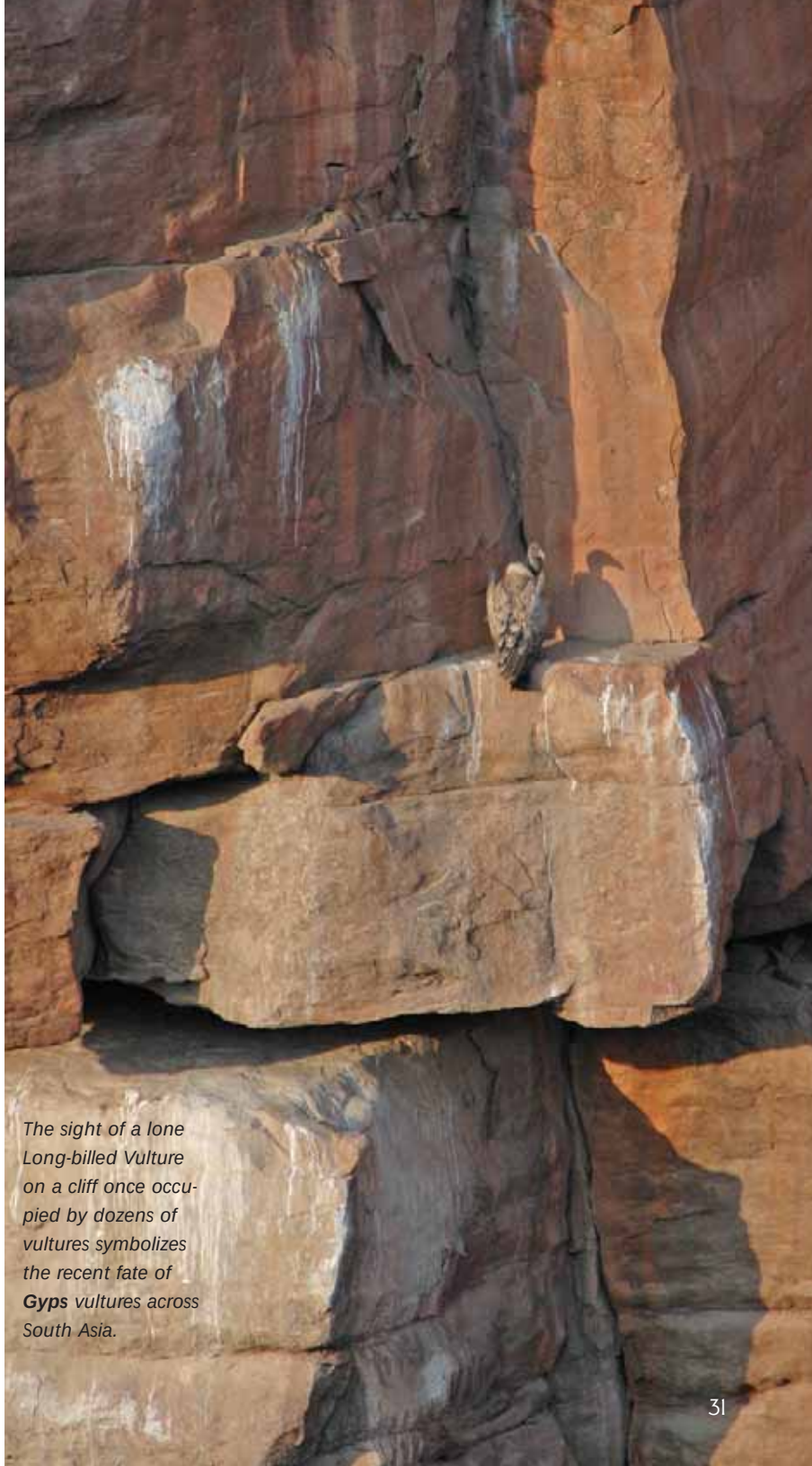
At Nagar Parkar in the remote southeastern tip of Pakistan, we monitored a population of Long-billed Vultures for a third year. Numbers of pairs have plummeted by 64% from 290 in March 2003 to 105 in November 2005, following a trend similar to the Oriental White-backed Vulture.

We have monitored vulture populations for four years in India's tiger reserves to determine whether they have been equally affected by diclofenac poisoning. If vultures in protected areas feed primarily on wild ungulates, for example from tiger kills, then they may be less often exposed to diclofenac poisoning. However, in Ranthambhore and Bandhavgarh National Parks, populations of Oriental White-backed Vultures have become extinct while numbers of Long-billed Vultures have also declined albeit less dramatically.

***Conservation Initiatives*—**Our discovery of diclofenac as the cause of the Asian vulture

continued on page 32

Munir Virani



The sight of a lone Long-billed Vulture on a cliff once occupied by dozens of vultures symbolizes the recent fate of ***Gyps*** *vultures across South Asia.*

Staff

The Asian Vulture Crisis Project is directed by Rick Watson, assisted by Cameron Ellis, and conducted by Munir Virani and Muhammad Asim. The Asian Vulture Population Project website is maintained by Cameron Ellis. Field assistance was provided by Faisal Farid and Jamshed Chaudhry.

Cooperators

Martin Gilbert made important contributions during 2005, and Patrick Benson assisted with the field work.Genetic studies are conducted by Jeff Johnson and David Mindell of the University of Michigan.

We work in partnership with Nature Conservation Pakistan, World Wide Fund for Nature (Pakistan), Punjab Wildlife Department, National Council for Conservation of Wildlife (NCCW), Bird Conservation Nepal, The Royal Society for the Protection of Birds (United Kingdom), Bombay Natural History Society, and the Forest Departments of Rajasthan and Madhya Pradesh (Government of India).

Financial support for this project was received from the Disney Wildlife Conservation Fund.

Munir Virani

Oriental White-backed Vultures have been extirpated and Long-billed Vultures have declined even inside protected areas where natural food is available, such as India's premier tiger reserves. The reserves are too small to save far-ranging vultures from diclofenac-contaminated domestic livestock carcasses found outside their boundaries.

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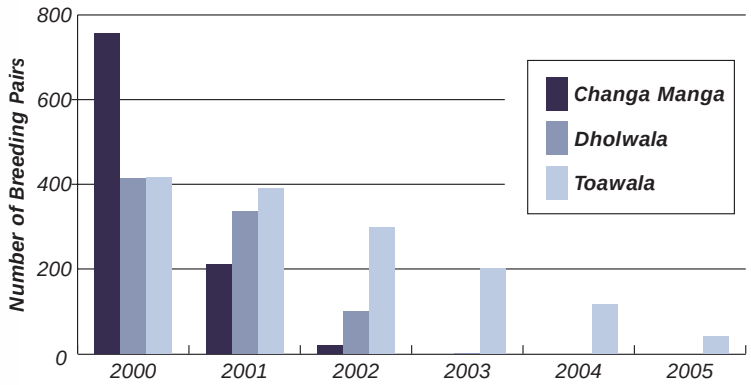
population crash was a vital contribution to the conservation of these species as this knowledge guides all subsequent conservation initiatives. We have used this knowledge to reduce mortality by providing "clean" food to vultures at our Toawala feeding station. "Vulture restaurants" have been used in Europe and Africa as a conservation tool to sustain vulture populations where food is lacking. The vulture restaurant at Toawala, the first of its kind in South Asia, was established to provide vultures with diclofenac-free food to curb their high mortality. We were able to show experimentally that by providing a constant supply of clean food, we could reduce, but not entirely eliminate, vulture mortality from diclofenac poisoning. Vulture restaurants are therefore only a stopgap measure to reduce vulture mortality until diclofenac is removed from the environment and captive breeding for species restoration is reliably established.

An accurate estimate of vulture numbers in the wild is needed to evaluate effectiveness of conservation interventions. Given the vast extent of the Indian subcontinent, it is beyond our ability to monitor every single vulture colony. Instead, we are using the power of the internet to recruit vulture enthusiasts from South Asia to locate and monitor vulture colonies and add to our Asian Vulture Population Project (AVPP) database. Results are regularly posted on our website (http://www.peregrinefund.org/vulture/) and allow users to share current data on the status of Asian *Gyps* vultures. By January 2006, 26 individuals and organizations had contributed data from 107 vulture breeding sites.



Populations of Oriental White-backed Vultures in Pakistan were extirpated by 2003 at two of the largest known colonies (Changa Manga and Dholwala), and reduced by 90% at Toawala by 2005, despite emergency efforts to reduce mortality by feeding diclofenac-free food.

Publications, Capacity Building, and Awareness—Over the last four years, we have published 14 scientific papers in peer-reviewed journals. Additional papers were submitted in 2005 on the effectiveness of the vulture restaurant, population trends, and head-drooping behavior of vultures. These publications should help convince South Asian governments about the urgency for remedial conservation action.

Our work in South Asia has helped shape the lives of many individuals who have dedicated their time and energy toward vulture conservation. With our support, five Master's students have graduated, with some proceeding to doctoral studies abroad. Our Pakistan Project Manager, Muhammad Asim, was the proud recipient of the 2005 Disney Conservation Hero Award for Asia for his unstinting efforts in enabling us to identify the cause of the vulture population crash.

We participated in making a documentary entitled *The Last Flight*, about the Asian vulture population decline and discovery of its cause. This documentary won numerous international awards, was broadcast on Asian television, and catalyzed the Indian government to begin phasing out veterinary diclofenac.

FUTURE PLANS

We will continue, as possible, to help establish vulture conservation and restoration efforts throughout South Asia. Our future work has four aims. We will continue to monitor vulture populations on the Indian subcontinent to evaluate conservation results. We will sustain wild vultures at Toawala by providing diclofenac-free food until sufficient birds have been collected for captive breeding. We will initiate a public awareness campaign to inform users of the lethal effects of diclofenac on vultures. An international meeting organized by the Indian government in February 2006 provides hope that the ban of veterinary diclofenac may be expected to occur soon. Last, we will continue to publish scientific and popular articles to share information with other vulture conservationists worldwide.

The Peregrine Fund *is a not-for-profit organization and can only operate through the support of voluntary contributions. Because no work could have been done without this financial support, the birds truly are in your hands. We are proud to list the individuals, businesses, organizations, foundations, and agencies who have contributed $100 or more, including gifts of goods or services, during 2005. We regret that space limits us to listing only those who have contributed at that level and above. Every donor is very important to us, and your continuing participation makes the programs possible. We thank each and every one of you for your partnership.*

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"I give, devise, and bequeath to The Peregrine Fund, Inc., an Idaho not-for-profit corporation, located on the date hereof at the World Center for Birds of Prey, 5668 West Flying Hawk Lane, Boise, Idaho 83709, the sum of $_____ (or specifically described property)."

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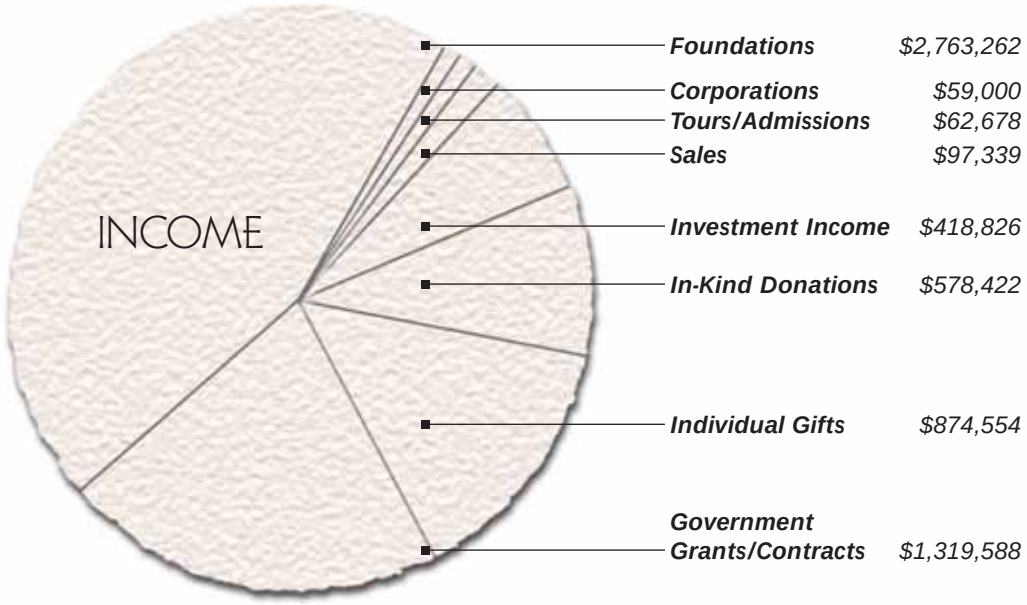
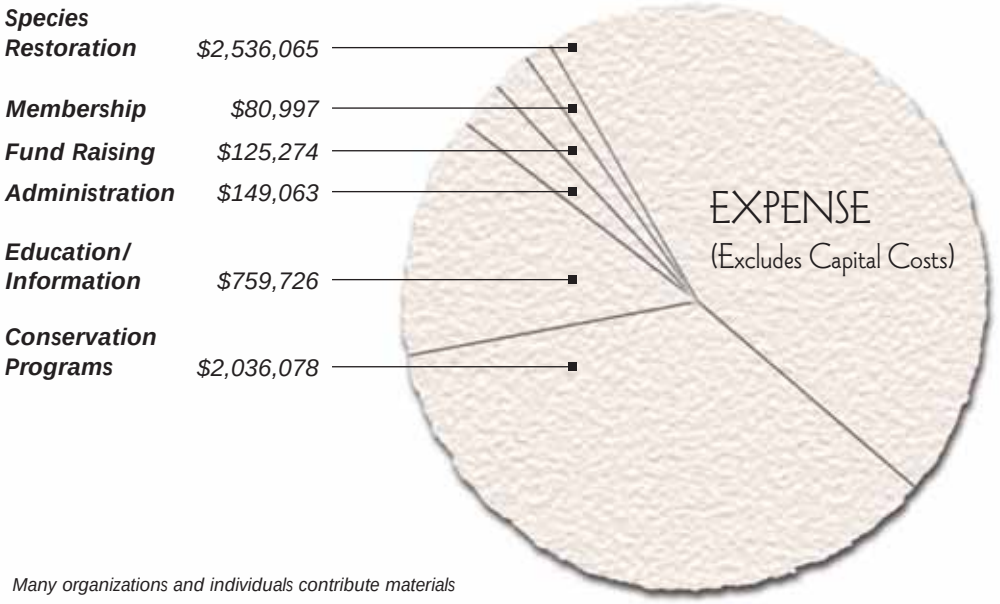
BALANCE SHEETS • 30 SEPTEMBER 2005 AND 2004

ASSETS	**2005**	**2004**
CURRENT ASSETS		
Cash and cash equivalents	$ 1,207,294	$ 1,056,578
Merchandise inventory	30,685	32,094
Grants receivable	113,000	79,750
Pledges and other accounts receivable	60,993	24,821
Prepaids and other current assets	45,061	21,030
TOTAL CURRENT ASSETS	1,457,033	1,214,273
PROPERTY, EQUIPMENT, AND ARCHIVES		
Land	1,513,000	1,513,000
Land improvements	693,045	686,545
Buildings	4,160,061	4,160,061
Trailers	222,396	222,396
Equipment and vehicles	864,979	896,965
Fixtures and displays	699,241	699,241
Construction in progress	3,147	0
	8,155,869	8,178,208
Accumulated depreciation	(3,260,015)	(2,988,122)
	4,895,854	5,190,086
Archives	1,785,916*	741,251
	6,681,770	5,931,337
ENDOWMENT ASSETS		
Cash	13,517	15,949
Investments	8,943,532	8,304,424
	8,957,049	8,320,373
	$17,095,852	$15,465,983

LIABILITIES & FUND BALANCES	**2005**	**2004**
CURRENT LIABILITIES		
Accounts payable	$ 135,451	$ 150,169
Accrued taxes and expenses	15,248	9,933
Deferred restricted revenue	353,985	104,746
TOTAL CURRENT LIABILITIES	504,684	264,848
FUND BALANCES		
Unrestricted operating fund	947,349	949,425
Restricted endowment fund	8,962,049	8,320,373
Investment in property, equipment and archives	6,681,770	5,931,337
TOTAL FUND BALANCES	16,591,168	15,201,135
	$17,095,852	$15,465,983

* Assets were adjusted for Archives not recognized in previous years. The net result was an increase in Archives assets of $584,848.





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The Peregrine Fund's financial statements are audited by Eide Bailly LLP, and the organization received an unqualified opinion for the year ended September 30, 2005. Copies of the audited financial statements are available from The Peregrine Fund.

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