

## Welcome

On behalf of The Peregrine Fund, welcome to the World Center for Birds of Prey and the Velma Morrison Interpretive Center. The Peregrine Fund is honored to have you as a member of our team of volunteers and we appreciate your generosity.

The Velma Morrison Interpretive Center is an extremely unique facility and the opportunities we provide our volunteers are unsurpassed. From captivating multimedia presentations to interactive hands-on exhibits and live bird presentations, the Center remains one of the most popular attractions in the Treasure Valley and the Northwest. The Center receives approximately 30,000 visitors annually and we strive to ensure each visitor's experience is simultaneously informative, educational, and intriguing.

Volunteers remain the heart and soul of the Interpretive Center and our Education Program, and we are indebted to you for your service. Whether you are a gift shop volunteer, tour guide, or chamber cleaner, it is our intent that your experience at The Peregrine Fund is exciting, educational and fulfilling. We take great pride in our volunteers and encourage you to take great pride in The Peregrine Fund and the work that we do.

Welcome to the team; I look forward to working with you!

Sincerely,

Jack Cafferty  
Interpretive Center Director

## **When The Peregrine Fund Began Its Work**

Created in 1970 by Professor Tom Cade at Cornell University, The Peregrine Fund works to conserve birds of prey in nature. We go to work when (1) raptor species become threatened or endangered; or, (2) limited knowledge exists on species of raptors; or, (3) raptor conservation benefits environmental health and conservation of biodiversity; and, (4) when raptors can be used for developing local capacity for conservation in the developing world; and, (5) our efforts can contribute to conservation of habitat and the environment on which raptors depend.

### **Goals**

- Use birds of prey as a focus to conserve biological diversity in key areas worldwide.
- Use birds of prey as a focus to build the capacity of people and organizations to conserve natural resources and promote environmental health.
- Advance the understanding of avian biology, ecology, and conservation through research and education focused on birds of prey.
- Prevent the extinction of raptor species.

### **Guiding Principles of The Peregrine Fund**

- Establish and maintain work priorities consistent with available resources and pursue those priorities with persistence and a positive attitude to a successful conclusion.
- Utilize a sound scientific-based, hands-on, action-oriented approach to achieve specific objectives.
- Work cooperatively with others to magnify results.
- Maintain an informal, team-oriented organization, geared to results while avoiding unnecessary administrative overhead.
- Seek excellence.
- Hire committed people.
- Build credibility through integrity, innovation, and accomplishment.
- Work with local people as they are the key to any realistic solution to environmental problems.
- Cultivate lasting relationships with supporters based on earned mutual respect.
- Operate the organization in an environmentally and fiscally responsible manner.

## **The Peregrine Fund Mission**

Established in 1970, The Peregrine Fund works nationally and internationally, to conserve birds of prey in nature. We conserve nature by achieving results--results restoring species in jeopardy, conserving habitat, educating students, training conservationists, providing factual information to the public, and by accomplishing good science. We succeed through cooperation and hard-work, using common sense, being hands-on and non-political, and by emphasizing solutions. We are also cost effective--100% of all donations go directly to programs. The Peregrine Fund Board of Directors adopted a payout policy for earnings from our endowment which funds our administrative expenses.

## **Summary: The Peregrine Fund**

### *Theme*

Working to Conserve Birds of Prey in Nature

### *Synopsis*

The Peregrine Fund works worldwide to conserve wild populations of birds of prey. Conserving raptors provides an umbrella of protection for entire ecosystems and their biodiversity. We are a non-political, solution-oriented, hands-on, science-based organization. Goals are achieved by restoring and maintaining viable populations of species in jeopardy; studying little-known species; accomplishing research; conserving habitat, educating students, and developing local capacity for science and conservation in developing countries; and providing factual information to the public. Since beginning work in 1970 we have assisted raptor conservation projects in more than 40 countries and on six continents.

### *Summary*

The Peregrine Fund is a non-profit conservation organization created in 1970 at Cornell University by Professor Tom Cade. Since 1984 our headquarters has been the World Center for Birds of Prey in Boise, Idaho. The organization employs the inter-disciplinary principles of conservation biology. We strongly believe in cooperative efforts involving individuals, organizations, corporations, and government--a belief that has been the cornerstone of the successful program to restore the Peregrine Falcon. We are a results-oriented, hands-on organization that works locally, nationally, and internationally in temperate, tropical, and Arctic environments. Preserving visible, charismatic, far-ranging species results in many benefits. By focusing on raptors and other birds and their ecological requirements, and providing sufficient protection to sustain viable populations, we are using birds to provide an umbrella of protection for the diversity of life and the entire ecosystem associated with them.

We are best known for our work to restore the Peregrine Falcon. From three regional facilities in New York, Colorado, and California (Santa Cruz Predatory Bird Research Group), Peregrines were bred and released in 29 states. In 1984 a permanent facility and headquarters, the World Center for Birds of Prey, was built in Boise, Idaho. The New York and Colorado facilities were consolidated to Idaho. At these facilities, research has been conducted on behavior, nutrition, growth, incubation, cryopreservation, and captive breeding, and over 5,000 raptors of 19 species of eagles, hawks, and falcons have been produced. The construction of the Gerald D. and Kathryn Swim Herrick Tropical Raptor Building in FY87 allowed captive propagation of tropical birds of prey at the World Center. Technology for release of captive-hatched raptors and re-establishment of extirpated populations was developed. Over 4,000 Peregrines have been released to the wild; many of them now breed naturally in at least 29 states.

That program has been completed. The species was legally “de-listed” in August 1999 from “endangered.” We hosted an international celebration recognizing those who participated in the restoration in 1999 and published a book documenting the accomplishment in 2003. Additionally, release technology was developed for the Bald Eagle, Harpy Eagle, Bat Falcon, Mauritius Kestrel, Aplomado Falcon, and other species. Since the mid-1970s we have worked on conservation of species in the tropics, beginning with the Mauritius Kestrel which was reduced to only one known pair and now totals over 800 wild birds. Restoration projects with the Aplomado Falcon continue. In FY93 we constructed the Peter and Conni Pfendler California Condor Facility and began participation in breeding and release of California Condors. The facility was expanded in FY96 and FY03. Releases of condors in the Grand Canyon area by The Peregrine Fund began in 1996 and the first successful reproduction of released condors occurred in 2003. In 1997 we accomplished the first releases of captive-bred Harpy Eagles in Panama.

In FY93 we assumed a major role in restoration of the `Alala (Hawaiian Crow), our first restoration effort with a non-raptor species. We later continued breeding and release of the `Alala and have also expanded work to other endangered Hawaiian birds. After signing a 20-year cooperative agreement with the U.S. Fish and Wildlife Service, we began constructing a major forest bird breeding facility on the Big Island of Hawai`i, the Keauhou Bird Conservation Center. In FY96, Phase I construction was completed and Phase II Construction begun on this \$3.5 million state of the art facility. Phase II construction was completed in FY98 and Phase III construction begun and completed in FY00. In FY94, we hatched and hand-raised the first captive-bred Amakihi, as well as worked on several other species. We have also artificially hatched and hand-reared the first “captive” `Iiwi, `Elepaio, Palila, Puaiohi, Akepea, `Akohekohe, Maui Parrotbill, and Hawai`i Creeper, and we accomplished experimental releases of captive-hatched Puaiohi, `Amakihi, and `Oma`o. Released captive-hatched Puaiohi and `Oma`o have bred in the wild. We also propagated `Alala, Nene, and Puaiohi. In FY00 we transferred this project from The Peregrine Fund to the Zoological Society of San Diego to be included under their Center for Reproduction of Endangered Species.

International conservation has been a strong component of our work, and we have cooperated on projects in over 40 countries on six continents. By conserving birds, we work to maintain tropical forests and other environments. We have educated students, trained conservationists, and assisted with the development of local organizations. The Maya Project was a multi-year, community-level program underway in Guatemala, Mexico, and Belize which began in 1989. That project is complete and publication of science results should be mostly complete in FY05-06. Projects were initiated in 1990 in Madagascar and the Philippines to assist in preserving some of the most critically endangered forests and species in the world. In Madagascar we rediscovered the Madagascar Serpent-Eagle and Red Owl, thought to be extinct by some, and are working to conserve the also endangered Madagascar Fish Eagle. We helped establish a key national park and wetland reserve (FY99). Focusing on the Harpy Eagle, an important project was begun to conserve the eagle and its environment in Central and South America. This project involves many Latin American organizations and individuals. In FY01 we constructed a Neotropical Raptor Center in Panama and established a local NGO, Fondo Peregrino-Panamá. Projects are also underway and/or supported in Greenland, Mexico, Belize,

South Africa, Zimbabwe, Kenya, Ethiopia, Pakistan, Mongolia, Nepal, New Guinea, and elsewhere.

Successful conservation programs must be based on good information. Sound scientific research provides the basis for much of what we do and the decisions we make. Over 1,000 scientific articles, reports, and books have been produced by The Peregrine Fund staff and associates, and we have provided hands-on educational opportunities with raptors and their environment to over 2,100 conservationists. We cooperate with a graduate degree program in raptor biology and ecology at Boise State University, and university students from there and other universities are actively involved in our projects. We provide support to both foreign and U.S. students. Fourteen Ph.D. and 44 Master's degrees or Master's degree equivalents have been earned by students receiving support from The Peregrine Fund. We are supporting 12 additional students currently working on graduate degree programs.

The organization has always been involved in public education through lectures, tours, newsletters, popular publications, and film. The World Center for Birds of Prey makes it possible for the general public to learn more about raptors, conservation, and The Peregrine Fund by visiting the Velma Morrison Interpretive Center. About 27,000 people visited the World Center in the last year. Almost all tours/educational presentations are provided by volunteers. Volunteers number over 100 dedicated people. We provide information through the Internet ([www.peregrinefund.org](http://www.peregrinefund.org)) with about 108,000 page views per month.

We have a growing reference library with over 13,500 books, monographs, and technical journal runs and environmental magazines, and about 15,000 catalogued reprint titles. An expanding cataloged specimen collection of over 12,000 eggshells and 250 study skins exists in 28 museum cabinets. In 1986 the Archives of American Falconry was established at the World Center and in FY92 moved into the newly constructed James Nelson Rice Wing of the administration building. Collections are valued at over a million dollars. A new, approximately 10,000 square foot Gerald D. and Kathryn S. Herrick Collections Building was constructed in FY02 for the Archives, library, and specimens.

We employ over 100 full-time staff (half internationally) and about 30 seasonal assistants. Our annual operating budget is over \$5.6 million. Administrative and fund development costs are kept below 10% of budget and funded by a Board-developed endowment so that 100% of all donations go directly to programs. We have a multi-national Board of Directors of about 35 exceptional men and women. Organizational actions are guided by a *Mission Statement*, *A Strategic Plan for the 21<sup>st</sup> Century - Raptor 2100*, and a *Five-Year Administrative Plan* which is annually updated.

## MEET THE STAFF

The Peregrine Fund currently employs approximately 125 full time, part time, and seasonal staff members (61 national and 64 international). Below is a partial list of staff; please visit The Peregrine Fund's web site, [www.peregrinefund.org/staff](http://www.peregrinefund.org/staff), for a complete listing of staff.

### Administration:

President of The Peregrine Fund..... J. Peter Jenny  
Administrator ..... Pat Burnham  
Membership Director ..... Linda Behrman  
Development Coordinator..... Joell Brown  
Art Director ..... Amy Siedenstrang  
Secretary/Receptionist ..... Sherri Haley  
Bookkeeper ..... Cindy Thiel  
Asst. Bookkeeper ..... Donna Daniels  
World Center Maintenance Director..... Sam Davila  
Founder of The Peregrine Fund ..... Tom Cade

### Velma Morrison Interpretive Center:

Education Program and Facility Director ..... Jack Cafferty  
Raptor Specialist ..... Trish Nixon  
Volunteer Coordinator/Gift Shop Manager ..... Nick Piccono  
Education Program Coordinator..... Mark Purdy  
Special Projects ..... Sue Bello  
Facility and Grounds Maintenance ..... Brian Gloschen

### Herrick Collections Building:

Science and Library Director ..... Lloyd Kiff  
Falconry Archivist ..... Kent Carnie  
Archives Administrator..... David Wells

### Food Production:

Food Production Supervisor ..... Amel Mustic  
Food Production Asst..... David Cline

### Field and Propagation Projects:

Species Restoration Manager..... Bill Heinrich  
International Programs Director ..... Rick Watson  
Raptor Propagation Specialist..... Cal Sandfort  
Raptor Propagation Asst. .... Emma Christensen  
Raptor Propagation Asst. .... Travis Rosenberry  
California Condor Propagation Specialist ..... Randy Townsend

Senior Field Biologist ..... Brian Mutch  
 Senior Field Biologist (Aplomado Falcon Project) ..... Angel Montoya  
 Senior Scientist ..... Grainger Hunt  
 California Condor Field Project Supervisor ..... Chris Parish  
 California Condor Assistant Field Manager ..... Jim Willmarth  
 California Condor Field Biologist ..... Thomas Lord  
 Greenland Projects Director..... Kurt Burnham  
 Madagascar and West Indies Project Manager ..... Russell Thorstrom  
 Madagascar Research Biologist..... Lily-Arison Rene de Roland  
 International Research Biologist (Africa and Asia)..... Munir Virani  
 Kenya Project Manager..... Simon Thomsett  
 Asian Vulture Project Manager ..... Muhammad Asim  
 Fondo Peregrino - Panama Director ..... Magaly Linares  
 Neotropical Raptor Biologist (Central and South America)..... Angel Muela  
 Neotropical Education Director ..... Marta Curti  
 Neotropical Raptor Biologist ..... Jose Vargas  
 Neotropical Raptor Propagation Asst. ....Saskia Santamaria

## **Volunteer Program**

*Volunteers are the foundation of our education program.*

The volunteer program at The Peregrine Fund is crucial to the existence of the organization. With the employment of only four full-time staff members, the volunteer program provides the majority of the staffing at the Velma Morrison Interpretive Center.

### **How Volunteers Help The Peregrine Fund Reach Its Goals**

Volunteers are essential to the success of The Peregrine Fund. Over the years, volunteers have been involved in education, administration, food production, exhibit developments, fund-raising, and many other important areas of operation. Currently our volunteer needs are primarily in leading tours (docents), staffing the gift shop, and cleaning bird chambers at the World Center for Birds of Prey. On occasion, administrative, landscaping, or maintenance projects also become available. Because we are a non-profit organization, the use of volunteers helps the public understand and appreciate our financial needs. We could not afford to have the outstanding education program that currently exists without our capable force of volunteers. Approximately 30,000 visitors go through the facility each year, and nearly all of those people encountered a volunteer in some capacity during their visit.

Volunteers help in the gift shop by collecting admission fees and donations, selling items and assisting customers with questions. Volunteers also conduct tours of the Velma Morrison Interpretive Center (VMIC) for the public and pre-scheduled groups such as school field trips. Additionally, volunteers may travel to present programs at an off-site location for those who are not able to visit the VMIC. Volunteers also assist in the maintenance of the chambers of our educational birds.

By spreading The Peregrine Fund's message to the thousands of people who visit the Center, Volunteers are contributing to the success of the organization while also enhancing the education of people in the local communities, as well as other states and countries. Only when the public understands and appreciates the value of birds of prey to the greater environment will The Peregrine Fund succeed in its goal of *working to conserve birds of prey in nature*.

In return for their dedication, volunteers receive benefits for their efforts. We have found that people get out of the volunteer experience what they put into it. While everyone volunteers for different reasons, sharing knowledge with others is often extremely rewarding. Our volunteers enjoy camaraderie with other volunteers and staff and make lasting friendships. Most important, the work is fun!

The Peregrine Fund greatly appreciates its volunteers. The extensive work by volunteers allows the organization to use more of its funds for breeding and conservation projects. We recognize that the success of any organization is due to the people who contribute their time, knowledge, and skills to that organization.

Welcome aboard! We hope this experience is all that you hope it will be!

## Requirements to Volunteer

### Active Volunteers

We use the following definitions:

- An *active* volunteer works at least two shifts per month. Some variance from this schedule is expected, but arrangements should be handled in advance. Active volunteers receive all mailings, including invitations and the volunteer newsletter, *The Peregram*.
- A volunteer is considered *inactive* when three months have passed since his/her last shift. Continuing education programs or social events will not be used to retain an active status, although credit is given for those hours. We are happy to work around specific situations that require a prolonged absence; just notify the Volunteer Coordinator to make arrangements.

### Age

The minimum age to volunteer at The Peregrine Fund (TPF) is 13. Anyone 13-14 who wishes to volunteer is welcome, but must be accompanied by an adult at all times while volunteering.

### Appearance

As representatives of The Peregrine Fund, it is very important that all volunteers meeting the public maintain a professional appearance. Casual wear, including nice jeans, is considered appropriate attire. Shorts are acceptable in the summer, but they should be of a style and length appropriate for the wearer and suitable for a public, professional environment.

### Orientation Session

Anyone interested in volunteering at The Peregrine Fund must complete an orientation session before they may sign up for shifts. Sessions will be offered the third Wednesday of every month. Please contact the Volunteer Coordinator for specific orientation dates. Participants must register with the Volunteer Coordinator the week before the session is to be held.

### Uniforms

Uniforms make it easy for the public to identify Interpretive Center staff; therefore all volunteers must be in uniform when they are meeting the public. This includes docents, gift shop workers, and anyone interacting with the public.

Uniform items are considered to be any shirt, sweatshirt, or vest with The Peregrine Fund logo on it, and a name tag. If preferred, volunteers may borrow a uniform vest during their shift. Vests are on a rack behind the door in the volunteer area.

Permanent name tags are provided to volunteers after 25 hours of service. Until that time, there are temporary name tags provided in the volunteer area.

## **Personal Beliefs**

The Interpretive Center exists only to serve our members' and visitors' needs. We will not tolerate any confrontational or insincere contact with our visitors. ***Do not convey your own personal ethics or beliefs to the public.*** In most cases, you are the only representative of The Peregrine Fund the visitor will ever see. As such, anything you say will be taken by the visitor as the opinion of The Peregrine Fund.

The Peregrine Fund's philosophy is to maintain a hard working, common sense, *non-political* approach to conservation issues. We provide scientific answers to problems, but we do not preach or make judgment calls on issues that need to be decided by each individual. Our job as docents and interpreters is to give visitors all the necessary information with which the visitor can make an informed decision on his/her own.

## **Professionalism**

How our volunteers interact with the public reflects directly on The Peregrine Fund. We require volunteers to behave in a professional manner at all times when dealing with the public. We will attempt to resolve issues in a direct, private manner. Please be aware that to the general public, you *are* The Peregrine Fund.

## **Staying Informed**

It is critical that all volunteers stay current on the activities of The Peregrine Fund. There are several ways to stay or become informed:

- Docent and Gift Shop manuals
- TPF publications, including annual reports, newsletters, e-newsletters and TPF web site.
- Updates posted on the volunteer information board in back hallway, the gift shop manual, and the *What's New?* manual at the help desk.
- Continuing education workshops put on by the Interpretive Center.
- Volunteer library. This is at your disposal and full of helpful books and videos. It is completely free and there for you to utilize. It is upstairs through the door in the rain-forest room. Items may be checked out after 25 hours of service.
- Birds of N.A. Online by Cornell Univ. (Receive membership after 25 hours)

## **Training**

- Attend Orientation Session
- Shadow Multiple Shifts (Everyone will shadow at least one gift shop shift)
- Complete Training Checklist
- Complete appropriate Self Checks
- Read Gift Shop or Tour Guide manuals
- Attend workshops or lectures

## **The Basics for All Volunteers**

### **Emergency Procedures and Telephone Numbers**

*For emergencies, immediately call 911.*

A first aid kit is located in the volunteer office and in all TPF vehicles. If anyone is injured while at the Interpretive Center, offer any assistance for which you are **qualified** and **call 911**. If there is an accident, tell a staff member immediately. Emergency contact phone numbers are listed *on the front of the first aid station in the Volunteer Coordinator's office*.

Write down details of any accident as soon as possible after it happens so as to have an accurate account for the insurance coverage.

If you are current with First Aid, CPR, or are otherwise a certified Professional Rescuer, please tell the Volunteer Coordinator so it is noted in your file.

### **Free Passes**

Volunteers are entitled to one free family pass (good for four free admissions) for every 14 hours of accrued volunteer service. Passes are available from the Volunteer Coordinator.

### **Gates and Doors**

Please leave all gates as found. All doors and gates should be checked at closing to ensure they are locked and cannot be opened by the general public. Gates to check include both gates on either side of the gift shop and the gate past the picnic tables that leads to the Business Office.

### **Hours of Operation**

The Velma Morrison Interpretive Center is open to the public from 9-5, seven days a week March through October. From November through February it is open 10-4, Tuesday through Sunday.

### **Insurance**

Our insurance policy covers volunteers while working at the Velma Morrison Interpretive Center. It will cover accidents that occur at the Interpretive Center. All accidents must be reported to a staff member *as soon as they occur*.

### **Keys**

There are three key rings located next to the back exit door, near the staff offices. These keys are to the building facility and bird mews. Remember to return all keys by the end of your shift. We recommend replacing the keys immediately after each use to avoid misplaced keys.

### **Office Area**

Volunteers should make themselves at home in the office and volunteer area. They are welcome to hang up coats, help themselves to coffee, and make use of the refrigerator and microwave as long as they clean up after themselves.

## **Parking**

Volunteers may park in any space in the visitor's parking lot. Staff parking is available for staff members only.

## **Purchases**

Active volunteers may purchase items for personal use from the gift shop at a 15% discount. After **two years** or **200 hours** of service, volunteers are entitled to a 25% discount. However, another volunteer or staff member should always ring up the purchase for you.

## **Resignation Procedure**

If you need to resign your volunteer position, please notify the Volunteer Coordinator in writing with the reason for departure and an effective date.

## **Schedule**

A clipboard is kept behind the help desk with a minimum of the next four weeks listed. Available shifts are highlighted and volunteers are encouraged to sign themselves up for shifts by writing their name in the desired day/shift slot. This is the primary method of filling the schedule from week to week. To fill shifts that do not get filled in this manner, the Volunteer Coordinator will make calls weekly. The Interpretive Center and the gift shop have two shifts a day. A shift is one morning or afternoon session as follows:

Mornings 8:45 am - 1 pm (summer) 9:45 am - 1 pm (winter)  
Afternoons 1 pm - 5 pm (summer) 1 pm - 4 pm (winter)

We would prefer to have a set schedule for each volunteer. Meaning they work the same day and shift twice a month. To work out a regular schedule, see the Volunteer Coordinator. Some volunteer's schedules are different and we will work around those instances. Likewise, feel free to contact the Volunteer Coordinator anytime if you want to volunteer but are not currently on the schedule.

## **Tax Deduction**

Mileage to and from the VMIC is tax deductible as a charitable contribution, as are any cash donations (including memberships). If you want to deduct your mileage, be sure to record your hours and mileage each time you come to the Center. Consult your tax advisor if you have any questions.

## **Volunteer Hours**

Each volunteer has a folder in a drawer under the help desk. Record the date, job performed and total number of hours on your time chart in your volunteer folder. Accurate records help us keep track of volunteer hours and jobs performed. Accurately kept volunteer hours are crucial for grant writing, funding proposals, and appreciation awards.

## **Volunteer Library**

The Volunteer Library is available for your use while you are in the building, and is located upstairs through the door in the rainforest room. To avoid loss of materials, only those volunteers with over **25 hours** of service are permitted to check out items. Late charges are on the honor system and are \$.10 per day that the book or video is past due. Money collected for late charges will be used to purchase additional materials for the volunteer library. Detailed instructions for checking out materials are posted in the library.

## **Policies of The Peregrine Fund**

### **Drug Free Workplace**

Illegal drugs in the workplace are a danger to us all. They impair safety and health, promote crime, lower productivity and quality, and undermine public confidence in the work we do. The Peregrine Fund will not tolerate the use of illegal drugs here by anyone, and, by law we cannot. The consumption of alcoholic beverages during public business hours, or when on duty, is also prohibited.

### **Safety Notice**

The health and safety of staff, volunteers, contractors, and visitors of The Peregrine Fund's facilities is of utmost importance to the organization. Seat belts must be worn while riding in or operating a Peregrine Fund vehicle. Safety glasses must be used when appropriate along with dust or mist respirators. To ensure these procedures are followed, The Peregrine Fund will always provide such safety equipment. If these items are not provided but are required for safe completion of the project, do not proceed until all personal protective equipment has been provided.

To ensure all precautions are taken to avoid inhalation of dust or fumes, we are mandating anyone working in a dusty area (i.e. deep cleaning raptor chambers, food production, etc.) or using potentially noxious chemicals (i.e. painting, fumigating, etc.) to wear protective equipment including mist and dust or other appropriate respirators. Because of the potential health hazard, lack of compliance could be justification for termination of one's volunteer career with The Peregrine Fund.

## Docent

*Our docents lead tours for the public as well as pre-scheduled groups. They provide information to visitors and ensure the visitor has a positive experience at our facility.*

**Reports to:** Mark Purdy, Education Programs Coordinator  
Nick Piccono, Volunteer Coordinator

### **Position Description:**

- Welcome all visitors and suggest activities for a meaningful visit.
- Guide tours through the Interpretive Center.
- Answer visitor questions about birds of prey, the local area, biology, ecology, etc.
- Guide prescheduled groups.
- Perform opening and closing duties within the Interpretive Center daily.
- Over time, docents may learn to handle some of the birds.

### **Requirements:**

- Minimum age of 15 years.
- Attendance at one orientation session.
- Strong communication skills.
- Must be available for continuing education and training workshops.
- An open mind and willingness to learn.

### **Training:**

- Train with Mark or Nick and two shadow multiple shifts
- Proficient in gift shop operations.
- Must attend at least one workshop per year on any topic.
- Complete Self Checks on TPfund, Bird Biographies, and basic bird biology.
- Continuing education presentations are also given to update volunteers on current projects managed by The Peregrine Fund, provide new information or interpretive techniques, bird handling, and other topics of use to the docent. Attendance at these is not required but encouraged.
- Additional self-study is suggested.

## **Interpretive Center Ambassador**

*Volunteers in our gift shop are our ambassadors to the public. They greet our visitors, collect admissions, and promote sales in the gift shop.*

**Reports to:** Nick Piccono, Gift Shop Manager

### **Position Duties:**

- Open gift shop and prepare area for the public.
- Greet visitors, introduce them to the Interpretive Center, and provide directions to exhibits.
- Ring up purchases in the gift shop.
- Help gift shop manager with various tasks such as tagging items, dusting, etc.
- Assist with catalog orders and manage the gift shop as directed in the operations manual.
- Answer telephone in a professional manner.
- Transfer calls or take messages as needed.
- Help close the gift shop in the evening.

**Commitment:** Two shifts per month (6-8 hours).

### **Requirements:**

- Minimum age of 15 years (or younger with accompanying adult).
- Attendance at one orientation session.
- Ability to learn a multi-line telephone.
- Ability to learn a Windows-based computerized cash register system.
- Attention to detail.

### **Training:**

- At least two shifts of shadowing a current ambassador or enough shifts to gain proficiency in store operations.
- Required to attend at least one workshop per year.
- Stay informed on updates in the gift shop by reading “Updates” section in the Gift Shop Volunteer Manual.

## Chamber Cleaner

*Chamber cleaners work “behind the scenes” to help maintain clean and healthy environments for our education birds. You will be working in the bird’s chambers, but no bird handling is required.*

**Reports to:** Trish Nixon, Raptor Specialist

### **Position Description:**

- Cleans the chambers of education birds; this includes picking up all left over food, providing fresh water in a clean pan, and cleaning and sanitizing the area.
- Some volunteers may be trained to handle the education birds to assist in moving them while chambers are cleaned.

### **Typical Commitment:**

Chamber Cleaning will be performed during the week on days specified by the Raptor Specialist. Volunteer needs to be reliable and committed to a designated shift ever or every other shift.

### **Requirements:**

- Attendance at one orientation session.
- Must be able to work cooperatively with other volunteers.
- Be enthusiastic about The Peregrine Fund and its mission.
- Ability to follow directions and assigned safety guidelines.

### **Qualifications:**

- An open mind and willingness to learn.
- Interest in our bird’s and their well-being
- Ability to work with others.

### **Training:**

- Proficient in gift shop operations.
- Shadow at least two docent shifts.
- Pass quiz on body behavior.
- Pass a quiz on our education birds.
- Get the appropriate training from the Raptor Specialist.
- Must attend at least one workshop per year.
- Must attend at least one bird handling workshop per year.

\*It is recommended that all chamber cleaners read *The Falconer’s Apprentice* and *Don’t Shoot the Dog*.

## **Bird Sitting**

*Those who bird sit are responsible for staying with perched birds in the courtyard and interpreting the birds to the public, as well as ensuring the comfort and safety of the birds.*

**Reports to:** Trish Nixon, Raptor Specialist

### **Position Description:**

- Sits with various education birds on the courtyard lawn.
- Interprets birds to the public and answers questions about The Peregrine Fund, birds and the Interpretive Center.
- Ensures the safety of the birds and the public by constant attention to the birds and its surroundings.
- Bird sitting is not a volunteer shift by itself. Volunteers are also required to volunteer in other areas.

### **Typical Commitment:**

- Two shifts per month. (\*Volunteers cannot only Bird Sit)

### **Requirements:**

- Attendance at one orientation session.
- Must be able to work cooperatively with volunteers and staff.
- Minimum age of 15 unless accompanied by an adult partner.
- Enthusiasm for The Peregrine Fund and its mission.
- Ability to follow directions and assigned safety guidelines.
- Completion of all training assignments.

### **Qualifications:**

- An understanding of the PFund.
- Ability to speak to the public and help them with questions regarding BOP.
- Knowledge of our education birds, including those in the courtyard.

### **Training:**

- Shadow two docent shifts.
- Shadow two gift shop shifts.
- Pass quizzes on bird body language and our education birds.
- Read and know bird fact sheet Raptor specialist has put together.
- Learn falconer's knot and pass inspection on tying the knot.
- Attend one bird handling workshop per year.

*Training will be provided individually for volunteers who express the interest knowledge and willingness to learn to handle birds and who have completed the proper docent training and are willing to add another element to their tours. Anyone interested should be prepared to have time to be consistent with their training, and must be willing to come in on their own. Contact Trish with your interest.*

## **Bird Handling/Presentations**

*\*\*\*This is not a primary volunteer position, but may be added to your docent responsibilities after you possess the proper knowledge and training, and feel comfortable giving tours. If interested in bird handling volunteer must be able to have free time to come in on their own time and be consistent with their training. Contact Trish if interested.*

Several docents choose to add the activity of bird handling/presenting to their experience of guiding visitors through the Interpretive Center. It is not a necessity to learn to handle a bird on the glove to give a great tour; but for those who have the desire to “get closer” to our education birds, bird handling is a great experience.

Basic bird handling involves becoming familiar with each of the birds we commonly use for public presentations and learning how to get them on the glove, handle the leashes and jesses in a way that keeps the bird secure and safe on your hand, and learning what makes the birds more at ease in a presentation setting. In most cases, you will be “showing” the bird on our stage to groups of visitors, but may also be asked to describe the characteristics of a perched bird outside in our courtyard, or attend an offsite with the Raptor Specialist to show various birds. The safety and comfort of the bird are paramount, as is presenting a healthy, well cared for bird to the public. You will learn, in addition to the basics of getting the bird onto your fist, how to tie a “falconer’s knot,” how to operate the equipment we use to tether the birds, and how to perch them on the stage perch. Required reading includes *The Falconer’s Apprentice*, *Don’t Shoot the Dog*, and a fact-filled booklet with frequently asked questions about bird behavior as it relates to our specific education birds. In addition, the Raptor Specialist will hold at least one workshop annually to fine tune bird handling skills and to explore other areas of bird handling/care. If you are a bird handler, we highly recommend that you attend this workshop.

If you are interested in learning more about bird handling, please see the Raptor Specialist and feel free to ask questions about what is expected. Working directly with our birds is an aspect of volunteering at The Peregrine Fund that is highly rewarding for many of our volunteers and we welcome you to inquire about it to find out more.

## Education Bird Biographies

*\*\*\*Although many of our education birds have names, all birds should be called by their species name when talking with the general public. It is important to emphasize that all of our birds are “wild birds,” and to ensure the public understands that these raptors are NOT “pets.”*

### **Female Bald Eagle (Skywalker “Skye”)**

This female sub-adult bird is non-releasable due to a severe wing injury incurred at nine months of age, which left the wing too weak to sustain long periods of flight. Hatched in 2003, this bird will not develop full adult characteristics (white head and tail, yellow eyes, cere, and beak) until she's 4 ½ to 5 years old.

- Bald eagles are the ONLY eagle unique to North America and are our nation's symbol.
- Being a member of the fish eagle family, Bald Eagles are virtually always found close to waterways. They are found coast to coast, with birds from northern areas being larger than those from southern territories.
- In old English, the word “balde” meant white, hence the name of this eagle with a white head.

### **Female Ornate Hawk-Eagle (Fancy)**

This female bird was hatched in captivity in 2000 and is imprinted and very used to being around people. She was raised by a falconer. As she matures, her eyes will change from yellow to amber.

- The Ornate Hawk-Eagle's voice consists of a clear, thin, high-pitched scream. Most of the time they can be heard using a “peep” call. It will also utter a call that alternately accelerates a laughing series of notes and then decelerates with an excited sounding set of notes that rise and fall in small crescendos.
- When hunting, they will perch at medium heights from the ground and utter a unique cry that resembles a snarling wildcat.

### **Red-tail Hawk (Chance)**

Male Red Tailed Hawk, Chance, was hatched in 2000 or 2001. As a nestling, he was shot numerous times with a BB gun and nearly died from infected wounds. A raptor rehabilitator worked with him many months after a veterinarian removed most of the BBs. One BB remains in the bird's neck, - it was too close to his spine to be removed safely. This is a dual imprinted raptor, meaning he was imprinted on his parents, but also on the humans who cared for him for so long. Because of the BB remaining in his neck and his habituation to humans, he cannot be returned to the wild.

### **Female Turkey Vulture (Lucy)**

This imprinted bird was hatched in 2001 and was taken from its nest by people who raised it as a pet. As a result, the bird suffered from a number of malnutrition-related problems and was confiscated from the family. The vulture was transferred to the World Center in December, 2001. Although she is now healthy, she is imprinted and not releasable.

- Vulture, common name for two groups of carrion-eating birds. The American vultures are superficially similar to large birds of prey, but are probably more closely related to storks, with which they share some anatomical and behavioral features.
- Turkey Vultures have an extremely acute sense of smell, and other scavengers often follow Turkey Vultures to carrion.
- Because their diet consists of carrion, vultures remove infected carcasses from the environment before they pose a threat of disease to other animals or humans in the area.

### **Male Bateleur Eagle (Stoffel)**

Hatched in 1963, Stoffel was named after a game warden in South Africa who presented the bird to Dr. Tom Cade, founder of The Peregrine Fund. Stoffel, Kwang, and two other bateleurs were brought to Cornell University for biological and behavioral studies. Stoffel is a human imprint and, as a result, is non-releasable.

### **Female Bateleur Eagle (Kwang)**

Kwang was hatched in 1966. Her name means “good hunting” and she came from the Kalahari-Gemsbok National Park in southwestern Africa. This bird has been in captivity most of her life. In 2003, she was manned for the first time and started being used as an education bird.

- Bateleur Eagles are one of just a few birds of prey that preen one another in the wild.
- These birds are very territorial of kills on which they are feeding, as well as being territorial in regards to their nesting areas.
- Bateleurs hunt snakes and small mammals, as well as scavenging on carrion.
- The skin on their face and feet changes color according to their mood.

### **Female Harpy Eagle (Freedom)**

Freedom was hatched in 1966 and spent most of her life in California as a manned bird. She starred in a television movie with Hugh O’Brien during her time in California, and a photo of them hangs over our water cooler in the lobby. Upon her relocation to The Peregrine Fund, Freedom was part of our breeding program as a foster parent. She is currently retired and considered past her prime for breeding and parenting.

- The Harpy Eagle is one of the world’s most powerful birds of prey, and the largest of the Neotropical raptors.
- When an adult female Harpy hatches a chick, it may be THREE years until she lays another egg.
- Causes of decline in the wild: Forest fragmentation, human persecution, shooting.

### **Female Eurasian Eagle-Owl (Queeny)**

Hatched in 1998 or earlier, this female Eurasian Eagle-Owl was confiscated from someone who did not possess the proper permits to keep her. She was transferred to The Peregrine Fund in 2001.

- Eurasian Eagle-Owls, as all owls, are zygodactile. This means they have the ability to reverse the fourth toe on their foot so that the talon points forward or backward, depending on need.
- The Eurasian Eagle-Owl is the largest variety of owl in the world.
- Eagle-owls can live to be 20 in the wild and up to the age of 60 in captivity.

### **Male Peregrine (Pegasus “Gus”)**

Gus was hatched April 30, 2001. He was bred by a falconer and transferred to The Peregrine Fund for our education program. He’s fully sighted and a perfect specimen of the Peregrine Falcon.

### **Male Peregrine (Jess)**

Jess was hatched in May of 1994, and transferred to the Interpretive Center in June of 1994. He is sight-impaired and would be unable to hunt and survive on his own in the wild.

### **Male Northern Harrier (Potter)**

Hatched in June of 2001, Potter was injured as a fledgling when he was hit by a car. He sustained a skull fracture and has limited vision. Potter is unique because very few harriers are used in education programs/presentations. Northern Harriers have facial disks, as do owls, to help them hear their prey. Female and male Northern Harriers are vastly different in coloring. The male is pale gray and the female is a chocolate brown. Very few birds of prey have this coloration difference between the genders.

### **Aplomado Falcon**

The Male Aplomado Falcon was not a viable breeding bird and was transferred to the education department in November of 2001. He hatched in 1987.

- The Aplomado Falcon is the last falcon on the Endangered Species List.
- Aplomado Falcons are currently being bred in captivity and released by The Peregrine Fund. Release sites are in the state of Texas at this time.
- This falcon can stoop at speeds of 150-175 mph. Its prey includes small insects and birds caught in the air.
- The Spanish word “aplomado” means dark gray.

**Male Gyrfalcon (Morley)**

This Gyr was used for Falconry by Morley Nelson. He hatched at our facility. We believe he is around 14 years old. Later the he was used in our propagation program.

- The Gyr Falcon is the largest Falcon in the world
- They are native to the Artic Tundra area.

**California Condor**

Our California Condor is always rotated periodically since it is a part of our captive propagation stock. Age and sex are not provided by the propagation staff. Staff at interpretive center has no association with the condor. Condor staff feeds and cleans chamber.

- There were once 22 Condors left in total population in 1980's
- These birds are a scavenger and part of the vulture group
- Largest flying bird in N.A.

## Birds of Prey Biology

### Dimorphism

The existence, within a species, of two distinct forms that differ in one or more characteristics such as shape, color, or size.

- Reverse sexual dimorphism
  - Except for condors, in raptor species, females are larger than males.
  - In falcons, the male is typically 1/3 smaller than the female.
- Plumage dimorphism
  - In American Kestrels, males and females are about the same size but differ in their plumage.
  - Harriers also differ in plumage color; females are brown and adult males are gray.

### Feet and Talons

The size and shape of feet and talons reflect the type of prey that a raptor will hunt. Typically the more powerful the bird, the greater the size of the foot in proportion to the size of its body.

- Characteristics of raptor feet
  - Falcons have long, slender toes, especially the middle toe for catching birds; talons are curved with concave, grooved undersurface.
  - Great Horned Owls have short, heavy toes capable of killing mammals as large as skunks. When ready to attack, the owl spreads its toes in order to grab its prey.
  - Fish eagles and sea eagles have rough bumps on the bottoms of their toes to enable them to hold slippery fish.
  - Vultures have feet adapted to walking. They use their feet to hold down carrion, while they use their beak to tear the carrion apart.
- Diurnal birds of prey
  - Toe arrangements are anisodactyl (three toes in front with and one digit pointing to the rear).
- Nocturnal birds of prey
  - Toe arrangements are zygodactyl (two forward-pointing toes and two rear-pointing toes).
  - Osprey have talons curved about one-third of a circle and completely round (not concave and grooved underneath). The toes are of equal length and the bottom pads are covered with spicules to help it hold slippery fish. The outer toe is reversible (zygodactyl) as in owls. This allows the bird to grasp fish with two toes in front and two in back.

### Beaks

The size and shape of a bird's beak, will indicate what the bird eats. Birds of prey have deeply hooked beaks. Owls have the most compressed beaks while Northern Sea Eagles, Harpy Eagles, and Philippine Eagles have large and heavy beaks.

- Falcons have short, strong, deeply hooked beaks for ripping and tearing flesh from bones. Only falcons have a tomial tooth.
  - A tomial tooth is a notched area, located on each side of the upper mandible. These notched areas fit into depressions (one on each side) of the lower mandible. The tomial tooth is believed to be designed to fit between the vertebrae of the prey animal, severing the spinal chord and instantly killing the prey.
- Turkey Vultures have an elongated cere (soft part of upper mandible), conspicuous perforated nostrils, and a short, strong beak to dissect ripe carrion.
- Small raptors have short beaks for eating small animals and insects.
- Bald Eagles have heavy, powerful beaks for tearing apart large pieces of meat.
- The Everglades Kite has a long, curved beak used to probe snail shells.

## **Vision**

Most birds depend on their sight for finding food, recognizing their mate, and avoiding enemies. Raptors have the keenest sight in the animal world.

- Large eyes are important - the more distance (focal length) between the lens (where the light enters) and the retina (where the light is received), the greater the detail that can be seen.
  - In the eye, muscles attached to the lens of the eye move it backwards and forwards changing its shape so that it can focus on objects at different distances. If an object is too close or too far away, the eye cannot focus on it.
  - A raptor's ability to focus is five to ten times greater than a human. Raptors can focus on things much closer and farther away.
  - A human lens can be moved 5-10 diopters. The average bird has a range of 20 diopters; a hawk has 40-50 diopters.
    - A good comparison of eye size: a human's eyes take up about 5% of the skull, a pigeon's eyes 30%, an owl's eyes 50%.
    - To have eyes the relative size of a hawk's eyes, a human's eyes would be the size of tennis balls!
- Greater density of light receptors in their eyes give raptors the ability to see things more clearly than humans
  - More receptors = sharper image
  - Raptors have about five times as many receptors as humans.
  - The fovea is the part of the eye where the concentrations of receptors are the highest.
    - Humans have one fovea; raptors have two in each eye.
    - This means the entire field of vision is in focus for raptors, while humans have to turn their heads from side to side to see an object more clearly.
    - An object to the side is only seen with one eye in raptors. Therefore, a raptor will move its head to achieve good vision and depth perception.
- More nerve fibers make processing information faster.
  - This enables hawks to fly rapidly through forests, or falcons to dive and capture prey at high speeds.
- Binocular vision determines distance between the viewer and the object.

- Binocular vision is the area of overlap the eyes see when looking at an object.
- Humans have better binocular vision than birds because their eyes are facing forward. Bird's eyes are on the side of its head; they have monocular vision.
  - Because birds have monocular vision, they must judge distance by moving their heads.
- Birds of prey have three eyelids
  - Lower eyelid - Most raptors close their eyes by moving their lower lids up.
  - Upper eyelid - Owls move their upper lid down to close their eyes.
  - Nictitating eyelid - a membrane that closes from the front to the back.
    - Translucent (light, milky color)
    - It is used to keep the eye moist and clean.
    - Protects the eye when the bird is feeding young, hunting, fighting, or flying.
- The eyes of birds of prey are fixed in their eye socket because their eyes are so large.
  - They have more neck bones (we have seven, they have 14-21), allowing a hawk or eagle to turn its head more than half-way around. An owl can turn its head 270 degrees and can move its head so quickly from side to side that sometimes it appears as if its head is spinning completely around!

## **Hearing**

Birds depend on their hearing for a variety of activities, such as prey location, navigation, predator avoidance, mate choice, and recognition of individuals. The frequency range heard is about the same for humans and birds; humans possibly hear a slightly greater range. Birds have greater acuity and may hear ten separate tones when humans hear just one. Birds also hear sounds before we do because they process information quickly.

- The avian ear is made up of three sections: the external ear, the middle ear, and the inner ear.
  - External ears are inconspicuous structures located slightly below the eyes.
    - Specialized feathers on the external ear protect the hearing organ from air turbulence during flight, while allowing sound waves to pass inside. These feathers are attached to a muscular rim, and in some birds, forms an enlarged, inconspicuous ear funnel (like harriers).
  - Sound waves are funneled through the first two sections into the cochlea, the fluid filled, coiled section of the inner ear.
- Bilateral symmetrical arrangement of ears enhances reception differences enabling accurate and quick location of prey.
  - Facial disks (like in owls) act like a parabolic reflector, channeling sound waves into the ear openings.

## **Smell**

In most birds, the olfactory bulbs are relatively small compared to brain size. Therefore, it was thought that only birds with large olfactory bulbs such as vultures, kiwis, and petrels had a good sense of smell.

- Nocturnal birds tend to have larger olfactory bulbs.
- Odor detection thresholds are now correlated with the size of the olfactory bulb relative to the size of the cerebrum.
- In general, the sense of smell in birds is about the same as a human's.

### **Hunting Techniques**

At the moment of impact the raptor's legs are stretched to the fullest, the head is tucked into the breast, and the tail and wings act as a brake. Raptors typically strike their prey with their powerful talons and will often "bind" to the prey.

- The Peregrine Falcon preys almost exclusively on birds, which it strikes in flight.
- The Northern Harrier has been observed in flight hunting for half a day. Its roost may be miles away from the hunting area.
- Golden Eagles hunt by partial swoop from above. They prey mainly on rabbits, ground squirrels, and snakes.
- Bald Eagles often locate schools of fish by following sea birds. They systematically rob Osprey of their catch.
- Osprey can and do take fish from the surface of the water (as the Bald Eagle does), but more often they hover and go after the fish with a falcon-like dive.
- Kestrels characteristically hover and pounce on their prey on the ground. Their prey usually consists of small rodents, insects, and small birds.

### **Eyries (Nests)**

The nesting habits of birds of prey vary greatly.

- Many owls and vultures display no instinct at all for building nests.
- Great Horned Owls choose large hollows in old trees of the deep forest, or choose the abandoned nests of Red-tailed Hawks, crows, or other large birds.
- Sharp-shinned Hawks nearly always nest in coniferous trees.
- Golden Eagles usually choose a site inaccessible to people, such as a cave, or steep faces of rock facing the surrounding territory. New nests start off quite small. Year after year, the eagles add new materials to the nest, and they eventually may be up to 6-8 feet across and very deep.
- Bald Eagle nests are a conspicuous part of the landscape, wherever they are found. The nest is usually constructed by both birds, but often the female remains in the structure while the male brings nesting material to her. Nests are built of sticks, seaweed, or any other available material. Materials are added to the nest throughout the breeding season.
- Red-tailed Hawks nest in the highest trees they can find. They typically build a new nest each year. The old nest is usually taken over by an owl.
- Bateleur Eagles build their nests about 30 feet up in trees. The nest is made up of sticks and lined with green leaves. The nest is of modest size for eagles about 30 inches across and 1 foot deep.

- Falcons do not build a stick nest, but instead scrape a depression in the substrate on a rocky cliff or ledge. Peregrines have been known to use high-rise buildings, hotels, and bridges, taking advantage of the concrete ledges and the plentiful supply of pigeons. Peregrines usually return year after year to nest in the same place or in the vicinity.
- Kestrels are cavity nesters, using holes in trees or in specially constructed boxes.

### **Eggs**

The eggs of birds of prey vary in size, shape, color, and texture. Most species lay from one to four eggs. Certain owls may lay up to three clutches of eggs if food is plentiful, or none if food is scarce. Larger birds seldom lay more than two eggs. Usually the female incubates, while the male hunts.

- A “clutch” refers to a group of eggs and the number of eggs incubated at one time.
  - Determinate layers always lay the same number of eggs – a pigeon always lays two eggs.
  - Indeterminate layers are unpredictable and lay more than needed to maintain the clutch, in case a predator destroys eggs.
- Most hole/cavity nesting birds lay white eggs.
- Open nesters lay colored eggs.
- Incubation periods and fledging time varies with species.
  - Larger birds usually have longer incubation periods.
  - Kestrels and other smaller falcons may only incubate their eggs for 22 days, while eagles may incubate their eggs for 45 days or more.
  - Peregrines usually incubate their eggs for approximately 33 days. Fledging usually occurs about 6 weeks or 42 days after hatching.

### **Territoriality**

Birds of prey stake out breeding/nesting/hunting territories that will ensure that their offspring have the greatest chance of survival. This is the driving force among all living things...successfully raising offspring. Depending on the size of the bird and the availability of prey, territories can range in size from an acre or less up to 1,000 acres.

Territories are essential for successful reproduction, because they contain superior nest sites, food resources, and optimally, both. Therefore, it’s not surprising that regardless of the size of a territory, it’s defenders react strongly to intruders. Many birds will spend hours vocalizing or watching over a territory in which they nest and hunt. Newcomers are regularly pursued by birds who have “seniority” in an area, in an attempt to drive them from the area. Resident birds will very often chase an intruder to the edge of the established territory. For example, a pair of ravens may be driven over the distance of a mile or more as they are “escorted” to the edge of the established territory of a breeding Golden Eagle. This type of behavior helps protect young eaglets from becoming prey for the ravens, and also ensures that all food to be found in that territory will benefit the Eagles. If two contestants for the same territory come in contact with one another, all-out fights are possible, though physical aggression is uncommon because most conflicts are resolved without contact between the opponents. More often than not, challenges for territory take the form of ritualized aggressive displays, rather than actual assaults.

## Peregrine Falcon

*Falco peregrinus*

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The family Falconidae includes falcons and caracaras. Members of this family have a conspicuously toothed and notched beak (faintly so in caracaras) and circular nostril openings with a prominent central bony tubercle (in caracaras the nostrils are slit-like and the tubercle is concealed). Their eyes are usually very dark, and their wings are long and pointed, except in caracaras which have long, broad, and rounded wings. Falcons are built for speed. They have short necks, powerful pectoral muscles, short to medium-long, tapered tails, and their feathers are hard and stiff. Their feet are relatively large (especially in the Peregrine Falcon) with long, slender toes, and long, sharp talons. They have excellent eyesight.

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Although the Peregrine Falcon population began declining in the 1950s, it has one of the most extensive natural distributions of any bird in the world, rivaled only by the Osprey and the raven. The name peregrine means wanderer, and the Peregrine Falcon is found on every continent except Antarctica and some oceanic islands. They inhabit arctic tundra, temperate coniferous forests, sea coasts, and desert-like regions. Breeding birds have not been found above 13,000 feet, such as in the Andes or Himalayas, the drier regions of northern Africa, Asia, and Australia, nor in the tropical forests of the Congo Basin, Central and South America, and southeastern Asia. Peregrines prefer open expanses close to palisades or rocky crags, frequently with a water source nearby. They use the rocky crags and palisades for nesting and perching sites. These not only provide them with ledges, potholes, or small caves for nesting, but also afford them an unobstructed view of the surrounding area. There are many subspecies or races of Peregrine Falcons varying in size, color, pattern, breeding season, and migratory behavior.

In North America there are three subspecies of Peregrine Falcons, which inhabit different ranges and also vary in size and plumage. *Falco peregrinus anatum* breeds in North America from the tree line in Alaska south to southern Baja California, and in the Rocky Mountains to southern Arizona, New Mexico, and western Texas. It also breeds in much of the Old World, including Africa and Australia. The northern populations migrate in winter to the Gulf Coast and the southern populations generally are less migratory. *Falco peregrinus peali* breeds from the Aleutian Islands to the Queen Charlotte Islands and is relatively sedentary. Its range in Alaska is sometimes limited to southern Alaska. It is the largest and darkest of all the three subspecies. *Falco peregrinus tundrius* breeds in tundra area of North America and Greenland. This subspecies is migratory, wintering from Baja California and the Gulf Coast south to Chile and Argentina. It is the smallest and lightest in color of the three subspecies.

The adult Peregrine Falcon's back and upperwing coverts are dark slate with blue-gray bars. The head, cheeks, and mustache are dark slate while the throat and sides of the neck are white to buff-colored. The white or buff-colored breast is unstreaked or lightly streaked, and the white or buff-colored belly is barred with dark slate, as are the sides. The adult's orbital ring, cere, and feet are yellow. The tail is narrow, blue-gray, rounded with narrow dark bands (eight or more), and a broad subterminal bar tipped with white. The wings are long and pointed with the underwing surface uniformly checkered and strongly barred – appearing dark when the bird is in flight. The absence of contrasting axillaries and underwing coverts distinguishes the Peregrine

Falcon from the Prairie Falcon. Peregrines are slightly larger than Prairie Falcons with males ranging from 1 lb. 4 oz. to 1 lb. 9 oz. (~600 grams) and females ranging from 1 lb. 14 oz. to 2 lbs. 11 oz. (~1,000 grams). Peregrine Falcons exhibit reverse sexual size dimorphism; males weigh approximately one-third less than females. Males are approximately 15-16 inches in length, with an average wingspan of 43-44 inches. Females are approximately 18-20 inches in length, with an average wingspan of 45-46 inches. Immature Peregrine Falcons are dark brown above, creamy to ochre below with dark brown streaks or spots, and the tail coverts are barred. The iris is dark brown; orbital ring is bluish/white to grayish blue; cere grayish blue to greenish yellow; bill grayish to bluish; and tarsi and toes pale yellow to greenish yellow, or grayish blue.

Peregrines do not build stick nests. They simply scrape a depression in the available substrate and lay their eggs on the rocky ledge. A scrape is the hollow depression in the substrate. The typical clutch size is three to four eggs, and incubation is approximately 32 days. The female does most of the incubating and brooding; the male providing her with food. The chicks fledge in about six weeks or 42 days. Other raptors that may prey on young Peregrine chicks are Golden Eagles and Great Horned Owls.

Peregrines hunt birds such as starlings, pigeons, flickers, Red-winged Blackbirds, meadowlarks, blue jays, and other passerines as well as shorebirds and waterfowl. Peregrines are noted for their tremendous stoops or dives, during which they may attain speeds of up to 200 miles per hour. Falcons may kill using their feet and talons, but if their prey is still alive after the initial strike, the kill will be made by biting the prey at the base of the skull, severing the spinal chord. Falcons have a conspicuously toothed (tomial tooth) and notched beak for this purpose.

Jess, Gus and Haged are our education Peregrine Falcons. Jess was hatched at the World Center in 1994 and is far sighted. Gus hatched in 2001 and was raised by a falconer he is some what imprinted. Haged hatched at our facility in 1993 as part of our restoration program. He was released in Washington where his hack site was discovered by a Great Horned Owl or Golden Eagle. It was thought that none of the Peregrines survived. Ten years later Haged was fought by the U.S. Fish & Wildlife Services with a damaged wing.

Order: Falconiformes

Family: Falconidae

Subfamily: Falconidae

Genus: *Falco*

Species: *peregrinus*

Common Name: Peregrine Falcon

## Frequently Asked Questions

Because our Education Birds are highly visible and one of the main “attractions” for visitors, we field a lot of questions about them every day. Some of these questions are asked frequently, and to help answer them, here are a few facts:

### **Why don't you guys rehabilitate birds?**

The Peregrine Fund is a science-based conservation organization focused on restoring viable populations of birds of prey that are either threatened or endangered. The World Center for Birds of Prey is a state of the art captive propagation facility for birds of prey. We have some of the rarest raptors in the world, bio-security is of the utmost concern and we do not allow sick or injured birds on the property for fear of disease. There are rehabilitation facilities in the area that are better suited to handle sick and injured birds.

### **How are you funded?**

The Peregrine Fund is a registered 501(c)3 non-profit organization. We rely heavily on donations from private individuals, foundations, and corporations. All administrative costs are covered by an annual payout from our endowment, which allows 100% of all donations to go directly to projects. Additional funding information is available in our annual report.

### **What is the difference between types of raptors, i.e. falcons vs. hawks vs. eagles?**

This is best shown in the biology/ecology room on the “different types of birds of prey” chart, as well as in the cases with the mounted birds. Also take a look at the “Kinds of Raptors” display. Below is a brief explanation:

**Eagles:** powerful, medium- to large-sized birds of prey that use soaring or sprinting flight to hunt. They build a stick nest and lay one to three eggs that usually have a green inner lining.

**Falcons:** small- to medium-sized birds of prey that often use fast, strong flight to pursue their prey. True falcons do not build a nest, and they lay eggs that have a reddish-yellow inner lining.

**Hawks:** small- to medium-sized birds of prey that use soaring, sprinting, and slow flight as well as walking on the ground to catch their prey. They usually build stick nests and lay up to six or more eggs with a green inner lining.

### **If you had to rebuild the California Condor population from so few birds, how has that impacted the genetics?**

Genetic variation has been of great concern with all of The Peregrine Fund's captive propagation programs. As the California Condor Recovery Program began, all the breeding facilities worked closely with geneticists to ensure condors were paired with other condors to create the greatest genetic variation possible and ultimately ensure the best “built” California Condor population possible.

**Why can't I take home this Peregrine feather I found on the floor?**

The Peregrine Falcon, as with all birds of prey, are covered under the Federal Migratory Bird Treaty Act making it unlawful to “take...kill...possess...any migratory bird, or any part, nest or egg of any such birds, including feathers...”

**Why can't you guys give me raptor feathers for my (tribe, project, class, etc!)**

Because of the Migratory Bird Treaty Act, all birds of prey, all migrating birds, and all their “parts” are protected by Federal law. The regulations for the MBTA allow certain exceptions including feathers of migratory waterfowl such as ducks, geese, and swans, which are killed according to game regulations. Other migratory bird feathers (not waterfowl) may not be sold even if the birds are killed under the migratory game birds regulations.

The Peregrine Fund operates under a permit issued by the U.S. Fish and Wildlife Service, pursuant to the MBTA, which allows us to possess the feathers from the birds we have. However, we cannot transfer these feathers to anyone else. Anyone possessing a valid permit, such as Native Americans, needs to contact the Federal eagle repository in Ashland, Oregon.

**What is happening at the end of the rainforest show? Why is there a fire?**

This signifies the deforestation due to fire, in which land is cleared for agricultural purposes by cutting, drying, and then burning the rainforest. This is a common practice and often creates a temporary fertile soil base, but causes habitat fragmentation and leads to erosion of the soil.

**So, does that bird just “have to” sit there tied to a perch all day? Doesn't he ever get a chance to “fly free”?**

When we have birds perched in the main entry room for visitors to see, we often get this question. One fact many folks aren't familiar with is that most birds of prey spend up to 70% of their time in the wild perched. They hunt when they are hungry and they rest to conserve energy when they are not hunting. So it is not unusual for a bird to spend the majority of a day sitting in a perched position.

**If the bird were mad at you would it try to peck your eyes?**

No, birds of prey do not peck handler's eyes. All of the birds used within the Interpretive Center have been trained to work with their handlers. Birds of prey use their feet to protect themselves and when given the choice for “fight or flight,” their first inclination is often to flee...their second would be to use their talons/feet to protect themselves. If a bite were attempted, it would be directed at a hand or finger nearest the raptor.

**How do you train the birds?**

All training used at The Peregrine Fund is based on falconry techniques and revolves around food association and rewards. The training program focuses on positive reinforcement with food and a great deal of repetition. All the techniques are proven and safe methods for working with raptors.

**What does it mean when the bird rouses, paddles wings, or vocalizes?**

Rousing is a sign that all is well with the bird. It's a lifting of all the feathers, then shaking and having all the plumage settle back into place. If you have a bird on your glove and it rouses while you are working with it, it usually indicates a relaxed bird. Paddling is a way of using excess energy, in most cases. Basically, it is "flying in place." The wings move as if the bird were in motion, but the bird is perched either on a perch or on the fist. When our Peregrines paddle on the glove or on a perch on stage, they are usually just exercising. They have a high metabolism and a release of stored-up energy relaxes them. Before it fledges a bird will also make use of paddling.....it is an excellent way to get the wings in shape for first flights. Often a bird nearly ready to fledge will start paddling, and lift just a few inches off the branch, ledge, or wherever it is perched. Vocalizing can mean many things, depending on the circumstance under which the bird is vocalizing. Birds use their voices to communicate to one another as well as to express fear, territoriality, alarm, or aggression. Learning to discern the sounds that birds make and what they mean will help you understand what type of vocalization you are hearing.

**What do you feed the birds? Why?**

The birds are fed a varied diet, depending on the species and what their normal diet in the wild would be. A large portion of the food fed at the facility is small feeder quail, Coturnix or Japanese Quail. The quail are raised on the property and fed a special diet, which basically "super charges" their muscle mass, making them ideal prey for our birds. Birds of prey eat meat and therefore this is our best option for feeding them meat in captivity. All food is dead, prior to being fed to the birds.

**How many birds are on the property total?**

Usually about 200, give or take a few.

**Do you use artificial insemination in your breeding programs?**

Yes, we do strip semen from males and artificially inseminate females in our falcon propagation program. These sophisticated techniques allow us to maximize our output of young falcons and return as many young falcons to wild in the shortest amount of time possible.

**Why will other birds "foster parent" or incubate eggs that are not theirs?**

First and foremost, "foster parenting" is limited to incubation and we never allow different species of birds to feed young from a different species. In nearly all cases, we use foster incubation. Foster parents are incubating because they "think" the eggs are theirs. We will often pull eggs from Peregrine Falcons and Aplomado Falcons known to be infertile, and replace them with fertile eggs laid by a different pair.

**Why/when (in the breeding programs) do you use natural incubation and for how long?**

Natural incubation is critical to ensure the high hatchability rates we see here. Frequently, eggs are pulled and chilled as they are laid until an adequate group or "clutch" of eggs is obtained, usually 3-4. The clutch is then placed under a pair of either Aplomado Falcons or Peregrine Falcons for natural incubation. The eggs are typically left with the pair for 7-10 days of natural incubation and then brought into the artificial incubators.

**How are breeding pairs matched up?**

Breeding pairs are matched up according to their genetic make-up, to ensure the greatest genetic variation possible.

**What is the biggest bird of prey? The smallest?**

Largest: Andean Condor      Smallest: Pygmy Falcons and Pygmy Owls are two of the smallest birds of prey, each weighing approximately 50-60 grams.

**What happened to all the Mauritius Kestrels? How many are there now?**

The Mauritius Kestrel only exists in the wild on the island of Mauritius, the former home of the extinct Dodo Bird. As a result of habitat loss and pesticide contamination this small falcon was reduced to only four known wild birds in 1974. As a result of captive breeding in Mauritius and at the World Center, releases in Mauritius, and management of wild pairs, the population increased to about 100 pairs in 1996 with an estimate of 400 kestrels in the overall population. Today there are believed to be more than 1,000 Mauritius Kestrels!

**Is DDT still used in other countries and what is the impact on nature?**

Yes, DDT is still used in some countries around the world. It has been documented that DDT can have a negative effect on birds of prey, however, the severity of the impact is dependent upon how widespread the pesticide is used.

**What is the legal status of the Peregrine Falcon?**

The Peregrine Falcon was officially de-listed from the Endangered Species List on August 20, 1999. The Peregrine Fund supports this action.

**How will the Peregrine Falcon be protected now that it has been removed from the Endangered Species List?**

The Peregrine is still protected under the Migratory Bird Treaty Act which prohibits the killing, possession, etc. of most birds, unless such activities are in accordance with regulations, such as game bird hunting and captive breeding.

**What is the difference in the protection level offered by the Endangered Species Act and the Migratory Bird Treaty Act?**

The ESA not only prohibits the killing of listed birds (as the MBTA does) but provides additional measures to enhance species' recovery and limits land use in critical habitats. These measures include the requirement that federally permitted projects review the potential impact on these species and the ability to designate critical habitats which may then be regulated to protect the species.

**\*\*\*Caution:**

Always refer people to the responsible government agency for specifics on the laws and their interpretation. The agencies we deal with are the U.S. Fish and Wildlife Service and Idaho Fish and Game Department. The Peregrine Fund is not the entity to interpret the law. The above list of questions and answers is for guidance on

## **Federal Laws Affecting Birds of Prey**

### **Migratory Bird Treaty Act - 1918**

This Act provided protection for birds traversing both state and national boundaries. Pursuant to the act, it is unlawful to “take...kill...possess...any migratory bird, or any part, nest or egg of any such birds...” The Secretary of the Interior is authorized to issue regulations allowing certain permitted activities such as game bird hunting, falconry, zoos, education, and captive bird breeding.

### **Lacey Act - 1926 (amended in 1935)**

The impetus for enactment was the extinction of the once numerous passenger pigeon, and the drastic reduction in numbers of other birds due to market hunting. The act prohibited interstate commerce of wild animals, birds, and their eggs, if they were killed or captured contrary to the laws of the state, federal, or foreign government.

### **Federal Insecticide, Fungicide, and Rodenticide Act - 1947**

Frequently amended since passing in 1947. In 1972, as a result of a court case concerning the act, the use of DDT was banned.

### **Bald Eagle Act - 1940**

It was believed that the Bald Eagle was threatened with extinction and the act was passed to protect our national symbol. The act made it illegal to take or possess any part of an eagle egg or nest. It is legal to possess birds or parts for scientific use by museums, scientific societies, and zoos, only if this possession is compatible with preservation of the species. The act was amended in 1962 to include the Golden Eagle, to help protect immature Bald Eagles (often mistaken for Golden Eagles). There are exemptions to the act which allow taking of eagles by Native Americans for religious purposes, and the use of Golden Eagles for falconry, but both of these activities require permits. Penalties for violating the act can be severe. Maximum penalty for the first offense includes a \$5,000 fine and a year in prison. Subsequent offenses call for a \$10,000 fine and two years in prison. The act also allows for a citizen’s bounty on half of the fine up to \$2,500, for information leading to a conviction.

### **Endangered Species Act - 1973**

The Endangered Species Act, combined with precursory laws (the Endangered Species Preservation Act in 1966 and the Endangered Species Conservation Act of 1969) was enacted to create a stronger more comprehensive law. That same year the Convention on International Trade of Endangered Species of Wild Fauna and Flora (CITES) was signed to restrict international commerce of certain plants and animals and their products. The ESA’s goal is to maintain the natural diversity of plants and animals and the ecosystems upon which they depend. The ESA provides land purchases for critical habitat through the Land Water Conservation Fund, which allows funding for recovery for species, requires all Federal agencies to undertake conservation programs for listed species, and has two categories of listings, endangered or threatened. “Endangered” species are likely to become extinct in the foreseeable future throughout all or a significant portion of their range. “Threatened” species are likely to become endangered within the foreseeable future throughout all or a significant portion of their range. Species are listed by approval of a petition to the Secretary of Commerce or Secretary of the Interior. The petition must show why listing is necessary.

## Resources

Visit [www.peregrinefund.org](http://www.peregrinefund.org) for further information on The Peregrine Fund and the World Center for Birds of Prey.

Take advantage of the Volunteer Library. There are many great resource books with a large amount of information. All of the resources below can be found in the volunteer library.

### **Birds of Prey Resources:**

Cade, Tom J. The Falcons of the World. 1982. New York: Cornell University Press.

Cade, Tom J. and William Burnham. Return of the Peregrine: A North American Saga of Tenacity and Teamwork. 2003. Boise: The Peregrine Fund.

Ferguson-Lees, James and David A. Christie. Raptors of the World. 2001. Boston: Houghton Mifflin Company.

Grossman, Mary and John Hamlet. Birds of Prey of the World. 1964. New York: Clarkson N Potter Inc.

Newton, Ian. Birds of Prey. 1990. New York: Facts on File Inc.

### **Birds of Prey Biology:**

Baicich, Paul J. and Colin J.O. Harrison. A Guide to the Nests, Eggs, and Nestlings of North American Birds. 1997. San Diego: Academic Press.

Burton, Robert. Bird Migration: An Illustrated Account. 1992. New York: Facts on File Inc.

Gill, Frank B. Ornithology. 1995. New York: W.H. Freeman and Company.

Lynch, Patrick and Noble Proctor. Manual of Ornithology. 1993. New Haven: Yale University Press.

### **Other Areas of Interest:**

Cade, Tom and James Weaver. Falcon Propagation. 1991. The Peregrine Fund.

Marti, Carl. Enhancing Raptor Populations. 2002. The Peregrine Fund.

Tilden, Freeman. Interpreting Our Heritage. 1977. Chapel Hill: University of North Carolina Press.