

# Conservation Programs Research Apprentice Intern

## Brandywine Zoo

DELAWARE STATE PARKS INTERNSHIP PROGRAM



**DELAWARE STATE PARKS**  
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### DESCRIPTION

The Brandywine Zoo manages two in-situ conservation programs in Delaware. One monitoring endangered American kestrels and the other is a passive wildlife monitoring project focusing on urban areas, scavengers, and carnivores, which falls under the program umbrella Urban Wild. This position will also coordinate volunteers for a peregrine falcon nest box fledgling watch program, contribute to native plant sale efforts, and other additional projects may be added during the 2021 year, as time allows.

#### Kestrel Project:

The American kestrel is North America's smallest falcon species. Since the 1960s, kestrels have seen a decline of 88% in their population and in 2013 they were listed as Endangered in Delaware. More research is necessary to determine the cause of decline in this small, insect-eating bird, but evidence suggests that pesticide accumulation, increased predation by more urban-adaptable raptors, as well as habitat loss may be primary factors.

The Brandywine Zoo is the project coordinator for the Delaware kestrel Partnership, an American kestrel nest box monitoring program that works with various nonprofit and Delaware Fish and Wildlife partners to study kestrels in the state. Research apprentices will be responsible for the maintenance and monitoring of kestrel nest boxes across the state of Delaware, logging data, and creating research parameters. The goals of this research at this point in time is to identify where kestrels are nesting, presence and absence, impact of habitat and invasive species pressures, and other baseline information for future research. Active kestrel nests with chicks will be banded, as well as banding of adults on nests.

#### Urban Wildlife Monitoring:

Cities provide a unique opportunity for science. They are the fastest growing ecosystem on the planet and the high number of people living in them provides an untapped and valuable opportunity to engage the public in the process of ecological research and connect people to nature. Most Delawareans are unaware of the diversity of wildlife that call this state home, particularly in the highly urbanized area where this project takes place. Awareness of the species revealed in these studies may bring a predictable mix of emotions from the public, from fear and concern to curiosity and wonder. Understanding the local wildlife sharing our urban areas will allow us to mitigate human-wildlife interactions, make recommendations to urban planners and land managers for least-impactful human activities for sensitive species, and contribute to a variety of additional research or plans that will benefit the local population as well as wildlife. The data collected in this project are ultimately helping us understand wildlife behavior, the impacts human development and activity has on the wildlife we share our cities with, as well as how that wildlife adapts to life with us.

The Brandywine Zoo has been conducting an urban wildlife monitoring project in Delaware since Fall 2017. This project uses passive monitoring techniques to survey wildlife populations across New Castle County, Delaware. Our project is primarily a camera trapping project, but also focuses on detecting carnivores (coyotes), carnivore guilds, scavenging guilds, as well as small mammal ecology and may include other technologies, such as acoustic monitoring devices.

Data from the main camera trapping project is shared with the Urban Wildlife Information Network, a collaborative research group of more than 35 cities across North America, coordinated Lincoln Park Zoo's Urban Wildlife Institute. Additional projects are conducted year-round or at specific seasons, such as participation with eMammal's project Snapshot USA.

#### Peregrine Falcons

Since the early 1990s, downtown Wilmington Delaware has had a pair of nesting peregrine falcons. In cooperation with Delaware Ornithological Society, we help coordinate volunteers for a 10-14 day window each spring to monitor fledgling falcons and assist with recovering any injured or grounded fledglings.

#### Other Projects:

Other projects may be started in 2021, including bird-strike awareness campaigns, pollinator garden and native plant sales, and more, including projects of the intern's own design.

#### **LEARNING OBJECTIVES**

- Research techniques; research methodology
- Bird of prey and terrestrial mammal identification; Plant identification
- American kestrel natural history knowledge
- Carnivore and scavenger ecology and natural history, trophic dynamics
- GPS applications; use of appropriate equipment including but not limited to GPS, motion-sensored cameras, GoPro cameras, etc.
- Program uses: GIS, R, Bandit, Google Earth
- Grant writing opportunities
- Educational programming experience (teaching and writing); and data recording, analysis, and presentation.
- The position is physically demanding at times, requiring outdoor work in a variety of temperatures and sometimes challenging conditions. Candidates must be able to carry and climb a 12 foot ladder.
- Must have a valid driver's license and at times provide own transportation to field sites.
- Must be able to lift at least 50 lbs.

<b>Location</b>	Brandywine Zoo – Wilmington, DE <a href="https://brandywinezoo.org">https://brandywinezoo.org</a>
<b>Term</b>	<b>Year Round</b> – Full Time 30-37.5 hours per week January - January

#### **REQUIRED SKILLS**

- At least 18 years old with valid driver's license and reliable transportation
- Provide proof of negative TB Test within the last 12 months before start date
- Good physical condition: able to stand/walk for extended periods of time, kneel, crouch, and able to work in all weather conditions
- Able to lift up to 50 pounds
- Able to use various power tools and equipment
- Must be fluent in the English language (verbal and written communication)
- Overall GPA must be 2.5 or higher
- Good organizational skills
- Able and willing to read and follow verbal and written work instructions and work independently
- Willing to assist with administrative, customer relations, and housekeeping tasks and possibly animal care
- Able to commit to upholding all Zoo safety and personnel policies, and support the overall mission
- Able to professionally represent the Brandywine Zoo in all interactions with visitors, staff, and other members of the community
- Complete a project of the intern's own design, and approved by zoo staff, during the internship period

#### **RESPONSIBILITIES**

- Maintenance of currently installed kestrel boxes in various state parks in DE (currently 60+ installed around the state, with more added each season).
- Site location identification and installation of new kestrel boxes, including digging holes for nest box posts.

- Deployment of cameras and other monitoring equipment, site identification. Installing wildlife cameras, analyzing camera trap photographs, and tagging data after deployments using databases.
- Conducting other passive monitoring surveys, such as small mammal footprint track tube surveys, coyote calling audio surveys, transects, and data input.
- Outreach to potential partners for kestrel or wildlife monitoring sites.
- Coordination of volunteers for monitoring programs (camera deployment, peregrines, kestrels). Recruitment of volunteers to assist in monitoring or data analysis.
- Forming partnerships with DE-based governmental bodies and nonprofits.
- Regular, weekly check-ups on kestrel boxes during nesting season (Feb -July). European starling abatement.
- Banding activities for adult kestrels and kestrel nests, with some opportunistic opportunities for banding with other raptors or raptor researchers.
- Logging data, data analysis, uploading data to, and communicating with program partners including American kestrel Partnership, Urban Wildlife Information Network, eMammal/Wildlife Insights.
- Work within program objectives for AZA North American Songbird and North American Monarch SAFE programs, such as native plant sales.
- Production of weekly content for social media on conservation programs.
- Creation of reports on monitoring programs.
- Communication with landowners and project partners.
- Development of educational resources. Delivery of conservation programming to groups and the public.
- Grant writing for continued support of research programs

#### BENEFITS

- **Housing:** Limited co-ed housing is available, at no fee, for interns providing full-time hours (30 or more per week). If selected for housing, an intern will share a house, duplex or dorm facility with other interns.
- **Activities:** Interns will have the opportunity not only to visit ALL Delaware State Parks at no fee, but also participate in many of the tours, programs, and associated events for free. Delaware State Parks span the length of the state and whether it be canoeing at Trap Pond State Park, surfing at Delaware Seashore State Park, attending a concert at Bellevue State Park, or touring the living history facility at Fort Delaware, there is certainly something for everyone.
- **Stipend Available:** Interns are not employees of the State of Delaware- they are considered volunteers and are not paid for their service. Interns may elect to receive a stipend to help cover expenses incurred during their volunteer intern service. The stipend is a fixed amount of \$100 per week for service of 30 or more hours per week or \$50.00 per week for service of between 20 – 29 hours/ week paid biweekly as a direct deposit into the Intern’s bank account.
  - The stipend is not a wage, but does count toward the total income on which the intern’s tax obligation is based. Interns electing to receive the stipend will complete IRS Form W-9 Request for Tax-Payer Identification as self-employed and will receive a Form 1099 at the end of the year that reports the amount of income from the stipend. No taxes are withheld from the stipend.

All Delaware State Parks Interns are required to undergo and successfully complete a background check performed by the Division.

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The Department of Natural Resources and Environmental Control is committed to affirmative action, equal opportunity, and the diversity of its workforce.

