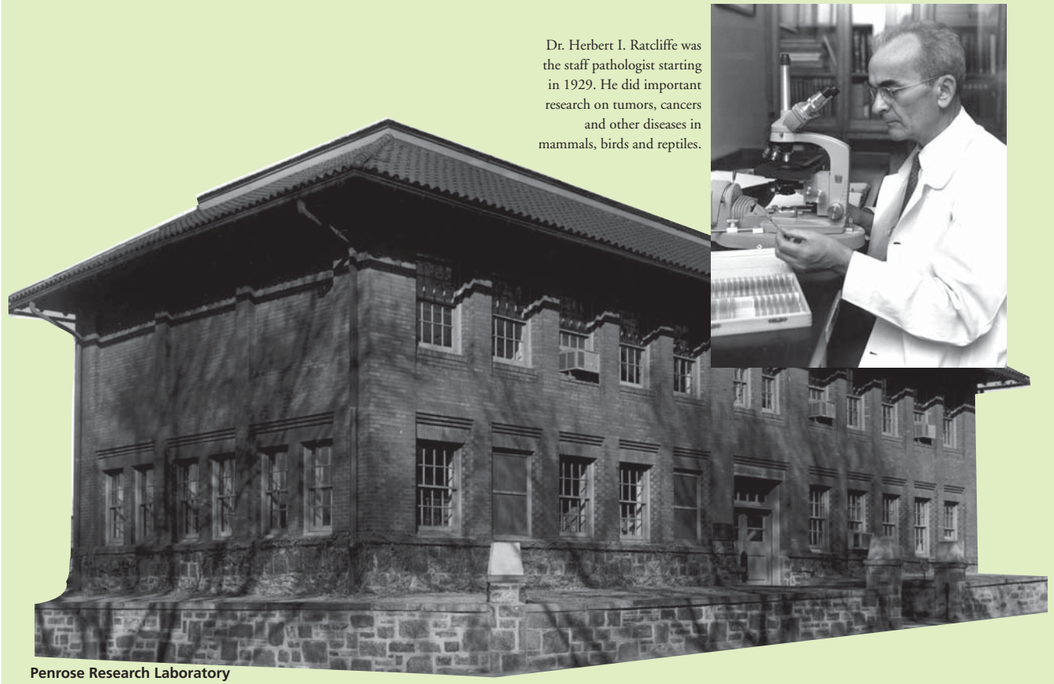


Penrose Research Laboratory

Dr. Herbert I. Ratcliffe was the staff pathologist starting in 1929. He did important research on tumors, cancers and other diseases in mammals, birds and reptiles.

After the Penrose Research Laboratory opened in 1901—the first of its kind to study animal health—researchers here made critical discoveries about animal nutrition and disease.

Pioneering Animal Medicine

We were among the first to begin to understand how people give diseases to animals. Early Zoo staff learned that tuberculosis (TB) contracted from Zoo visitors was a major killer of Zoo primates, and a test for TB was developed based on Zoo research. Other discoveries included the first documented cases of cancer in animals. Today, Philadelphia is one of only a handful of zoos to employ a full-time pathologist, who studies and diagnoses diseases in animals.

ABOVE: Dr. Herbert Fox, who directed the Penrose Lab in the early 1900s, wrote the world's first textbook on animal pathology (disease).

LEFT: Dr. Fox's research included examining X-rays of animals.

Rachael DeCaro, Animal Records & Library Services Manager (left), oversees volunteers like Doris Williams (right). Doris has entered over *25,000* animals into the Zoo's database from fragile historic ledger pages dating back to the Zoo's founding, making the records available and searchable for staff here and at other zoos around the world.

Founded on Good Science

LEFT: Long-time mammal curator Fred Ulmer examines a rhinoceros skull.

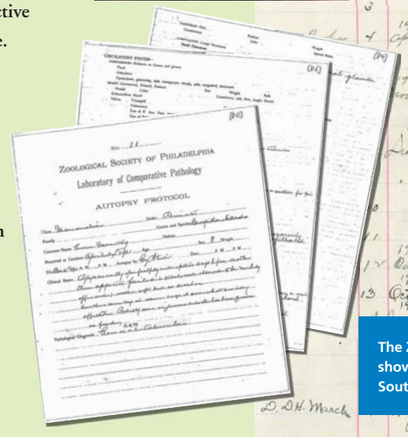
BELOW: Philadelphia Zoo records indicate that a colony of 28 prairie dogs received in August, 1873 were among the first animals at the Zoo.

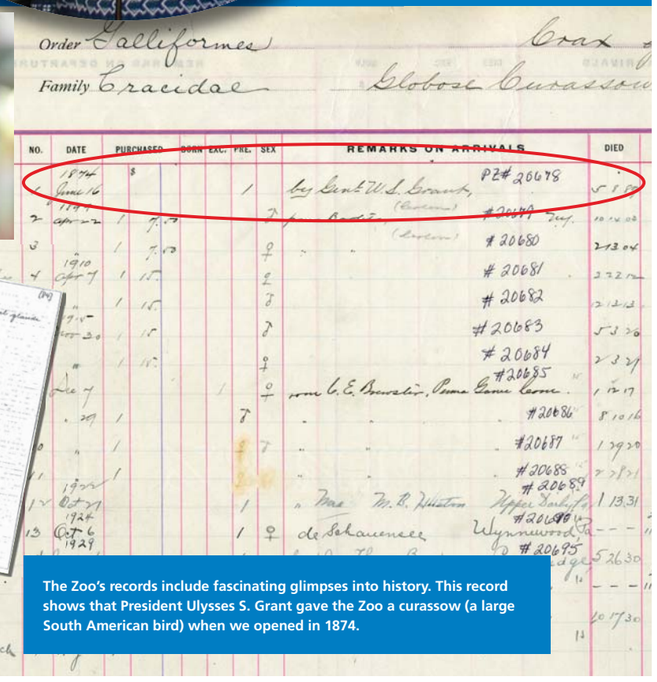
Keeping Track: The Zoo's Record Animal Records

Good records are critical to good science. From our founding, we've kept records on origin, arrival dates, departure or death dates and reproductive history for every animal that's ever lived here.

Our records go back further than those of any other zoo in the country. We've begun a pioneering project to digitize our massive collection of historic paper records as part of a worldwide database. In fact, the London Zoo recently asked for our advice on how to address their own historical records.

photo by Mangesh Bhide

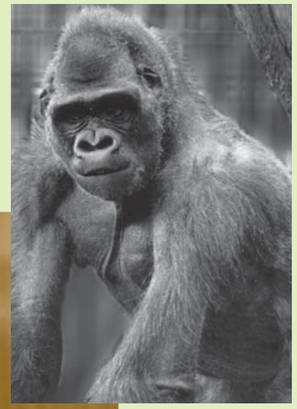




The Zoo's records include fascinating glimpses into history. This record shows that President Ulysses S. Grant gave the Zoo a curassow (a large South American bird) when we opened in 1874.

Good Diets = Good Health

Our history of research and attention to good animal nutrition are important factors in the number of longevity records set by animals at the Philadelphia Zoo.



ABOVE: Massa the gorilla arrived at the Zoo in 1935, and lived to the ripe old age of 54. Until recently, Massa was the oldest gorilla on record.

LEFT: Guas the orangutan lived at the Zoo from 1931 to 1977. Over 59 years old when he died, Guas holds the longevity record for his species to this day.

BELOW: A ball python that lived at the Zoo for over 47 years, from 1945 to 1992, holds the longevity record for all snakes.

Barbara Toddes is the Zoo's full-time nutritionist—our animals' own dietitian. Barbara's daily duties include formulating routine diets, but also developing special diets for geriatric animals or those with particular health issues, such as diabetes. Keeping track of each animal's weight helps her to adjust each individual's diet.

A Philadelphia Zoo First: Keeping Flamingos Pink

For years, flamingos in zoos would lose their brilliant color and gradually turn white. Philadelphia Zoo staff suspected that the natural color came from the flamingos' diet in the wild. In 1948, the Zoo's bird staff began adding carrot juice to the birds' diet and—presto!—their feathers became pink again. The juice replaced the carotenoids the birds would get in the wild from eating algae, crustaceans and mollusks.

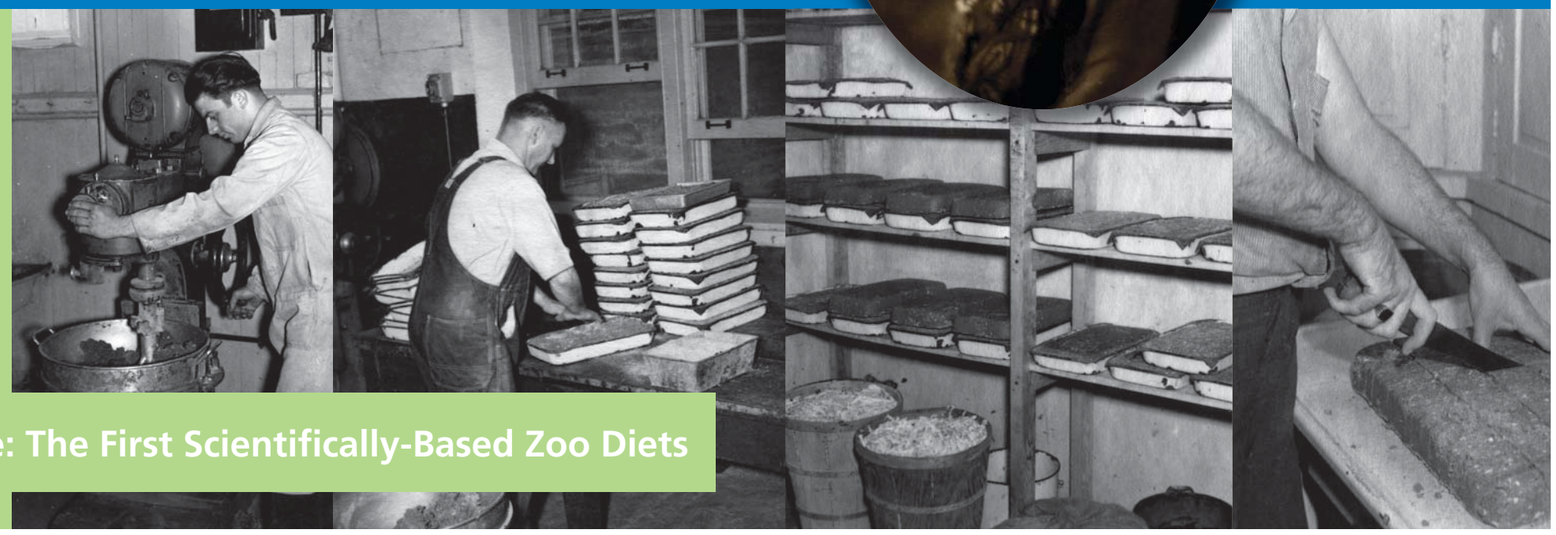
Zoo Grocery List (partial, for 1 month)

1,077	pounds of apples
491	pounds of grapes
923	pounds of romaine lettuce
358	pounds of beef
31	bales of alfalfa hay
173	pounds of acacia leaves
120	catfish
119,214	crickets
127,542	mealworms
3,456	mice and rats

Zoo researcher Dr. Ellen Corson-White created Zoo Cake in the 1920s and changed the way we feed zoo animals.

Our Animals Probably Have Healthier Diets Than You Do!

A hundred years ago, zoos mostly fed their animals "people food," including lots of bread, and had little information about the animals' true nutritional needs. But in the 1920s, a researcher at the Zoo's Penrose Laboratory named Dr. Ellen Corson-White began pioneering work on the science of zoo animal diets. She believed that zoo animals were suffering from diseases caused by poor nutrition. In order to give the animals more protein, calcium and other minerals, she developed a concoction called "Zoo Cake"—a vitamin-rich blend of cornmeal, cooked meat, fresh vegetables, eggs, melted fat, salt and baking powder. It took a decade for the broader Zoo staff to accept such a big change, but once Zoo Cake became the staple diet for many animals in the mid-1930s, the animals' overall health improved dramatically, and they lived longer. Similar formulas were adopted and used for decades by zoos around the world.



Zoo Cake: The First Scientifically-Based Zoo Diets

Saving Endangered Species Here and Around the World

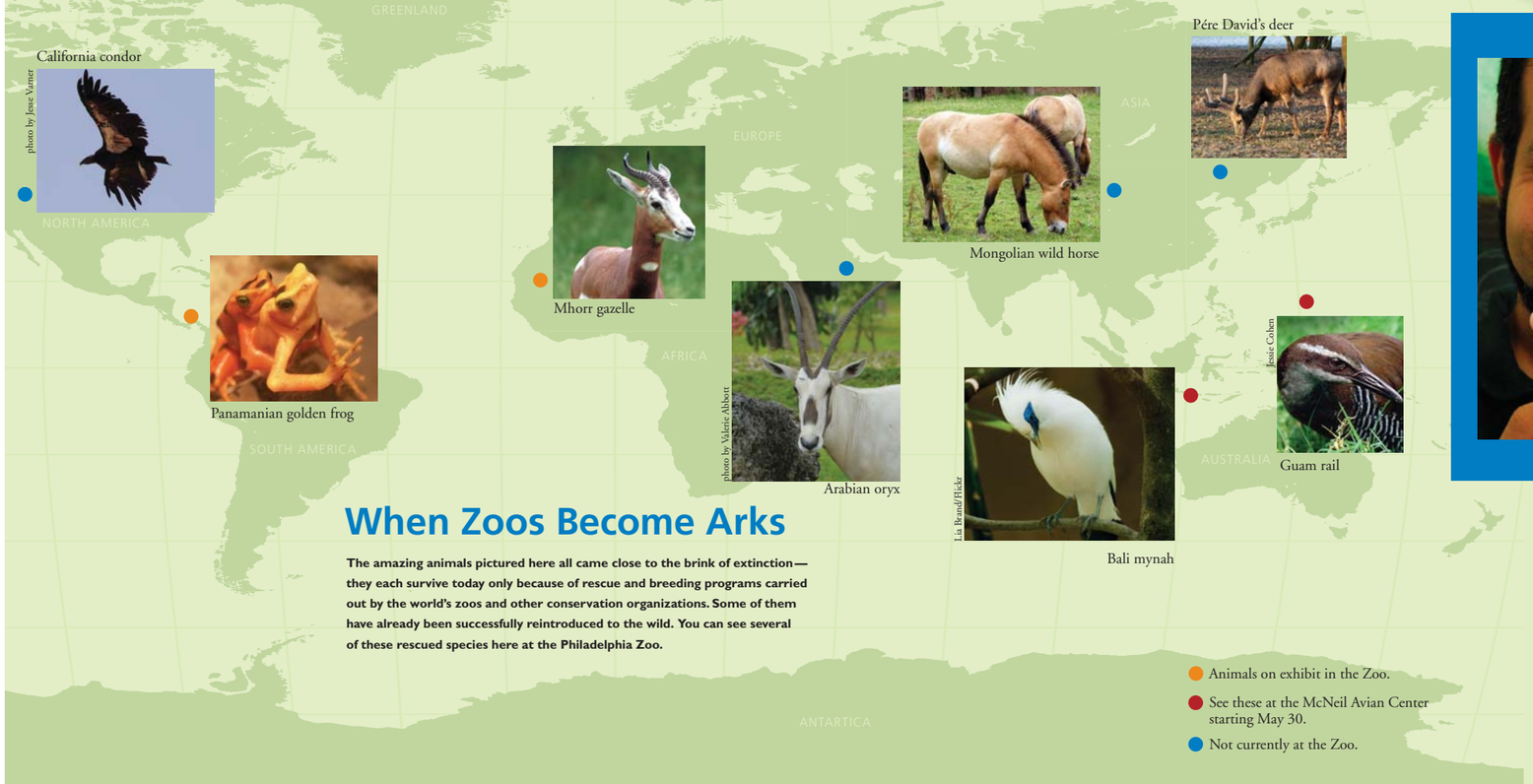
Rescuing a Bird from Extinction

In the 1980s, the Micronesian kingfisher was on the brink of extinction on the Pacific island of Guam. The Philadelphia Zoo was a leader in a dramatic rescue of the last individuals. Since then, the Zoo's Beth Bahner has led a program to breed these birds here and at other U.S. zoos. In 2003, she made a trip to return several kingfishers to Guam. For now, they live (safely!) in aviaries on the island, with the goal of full reintroduction into the wild.

The Villain

Brown tree snakes, not native to Guam, were accidentally introduced on the island around World War II. Within a few decades, the population had exploded. Most native birds became extinct, but zoos arrived in time to rescue the kingfisher and the Guam rail.

Beth Bahner is the Zoo's expert on the Micronesian kingfisher. A 27-year Zoo veteran, she coordinates the national zoo breeding program. Starting with just 29 rescued individuals, the number of kingfishers has grown to over 100.



California condor

photo by Jesse Varner

Panamanian golden frog

Mhorr gazelle

photo by Valerie Abbott

Arabian oryx

Mongolian wild horse

Lia Brand/Flickr

Bali mynah

Père David's deer

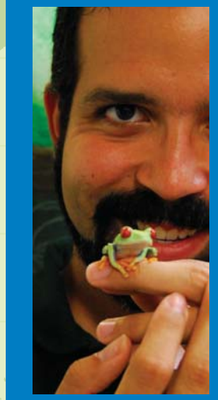
Jesse Cohen

Guam rail

When Zoos Become Arks

The amazing animals pictured here all came close to the brink of extinction—they each survive today only because of rescue and breeding programs carried out by the world's zoos and other conservation organizations. Some of them have already been successfully reintroduced to the wild. You can see several of these rescued species here at the Philadelphia Zoo.

- Animals on exhibit in the Zoo.
- See these at the McNeil Avian Center starting May 30.
- Not currently at the Zoo.



Right now, amphibians, and especially frogs, are the most endangered animal group in the world. Many species have already disappeared. The Zoo's Amphibian Conservation Biologist Dr. Carlos Martínez-Rivera is studying critically endangered frogs in Peru and Ecuador, and collaborating with local scientists there to rescue them. Carlos is also leading Zoo staff in plans for an "Amphibian Ark," to set up breeding programs here at the Zoo for endangered frog species, as safeguards against extinction in the wild.

Now Frogs Need Saving

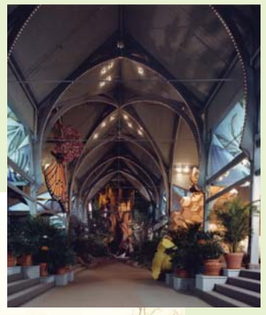
Why Do Frogs Need Help?

Factors contributing to the world's current "frog crisis" include an amphibian disease caused by a kind of fungus called chytrid, which has spread around the world in recent decades.

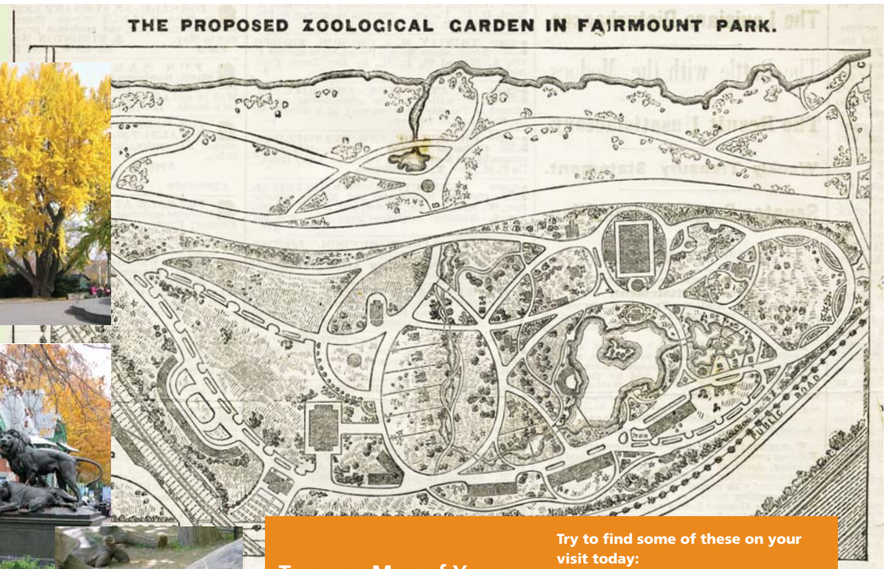
ABOVE: The Zoo's North Entrance gatehouses were created for the Centennial Exposition in 1876 by the firm of illustrious Philadelphia architect Frank Furness. They replaced the original gatehouse (left), built for the Zoo's opening in 1874, was replaced just two years later.

150 Years All Around You

The Zoo's location and setting are a unique part of its history. Many of the buildings, statues, trees and animals you can see today have their own stories to tell, some going back more than a century.



Today's Treehouse (above), with larger-than-life habitats for exploring, was originally the Antelope House (completed in 1877).



Treasure Map of Your Grandparents' Zoo?

The photographs here show some of our "oldest" places and things. Your grandparents—and maybe even your great-great grandparents!—might have seen and experienced some of them as children themselves.

Try to find some of these on your visit today:

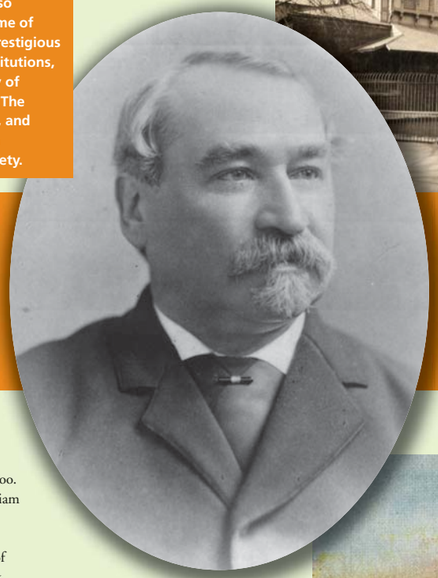
One of the Zoo's oldest trees is the ginkgo at Impala Plaza, planted in 1876.

The "Dying Lioness" statue came from the Centennial Exposition in 1876.

Mommy, a Galapagos tortoise, arrived at the Zoo in 1932.

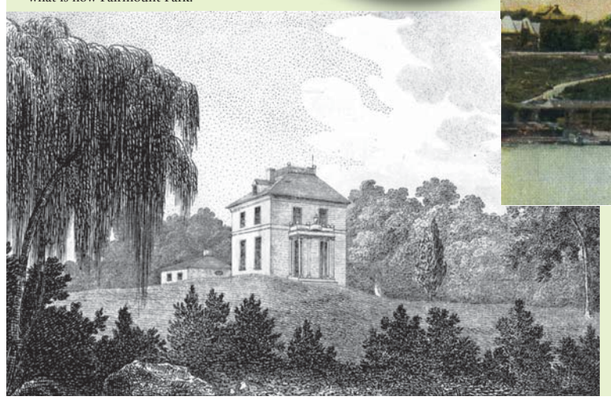
Our Andean condors arrived in 1956 and are more than 50 years old.

The Zoo's founder William Camac was from a prominent Philadelphia family. He was also involved with some of the city's other prestigious early cultural institutions, like The Academy of Natural Sciences, The Franklin Institute, and The Pennsylvania Horticultural Society.



A Window into History:
The Zoo Grounds

The Solitude predates the Zoo. It was built in 1785 by William Penn's grandson as a retreat from the capital city of the young nation, in the wilds of what is now Fairmount Park.



You probably came to the Zoo in a car or bus today, but visitors in the 1870s could arrive by steamboat.

An Animal Garden and Retreat from City Life

When William Camac decided to found a Zoological Society in Philadelphia, zoos were a brand new concept in America, although some already existed in major European cities. Camac and his influential Philadelphia friends sought to create a retreat that celebrated animals and "for the instruction and recreation of the people." Today, you are an important part of this tradition, 150 years later.

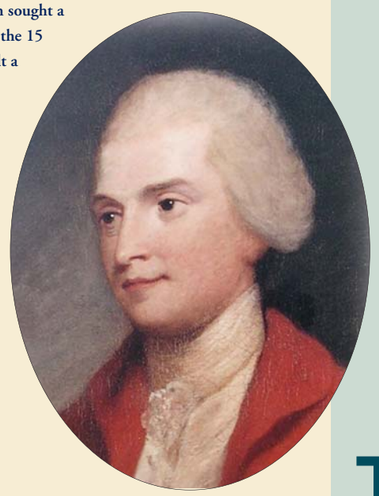
You are standing on the site of the original Carnivora House (shown below), built for the Zoo's opening in 1874. It stood here until 1963, when it was demolished to make room for today's Rare Animal Conservation Center.

The House of John Penn, William Penn's Distinguished Grandson

John Penn, grandson son of Pennsylvania Founder William Penn, inherited his Pennsylvania land—some 20 million acres—when John's father passed away in 1775. At 23 years of age, John first came to the Commonwealth in hopes of recovering his inheritance. Given the radicals in the Pennsylvania Assembly who distrusted his establishment family, John Penn sought a site outside the young nation's capital in 1784. He purchased the 15 acres above the western banks of the Schuylkill River and built a house inspired by the serenity of its location.

Following a Family Fortune

England's Divestment Act of 1779 guaranteed the Penn family compensation for losses for American land it owned after Independence. English Parliament ultimately granted the Penns 4,000 pounds sterling per year (roughly $80,000 today). Entitled to three-quarters of this grant, John Penn returned to England to see to the details in 1788 and never returned.



"In the spring of '84 left Philadelphia to find a spot to build… Earlier in the year I made a dear purchase of 15 acres, costing 600 pounds sterling, and on the banks of the Schylkill [sic.]. *I named it, from the D[uke] of Wurtemburg's, The Solitude, a name vastly more characteristic of my place."*

A Lasting Legacy

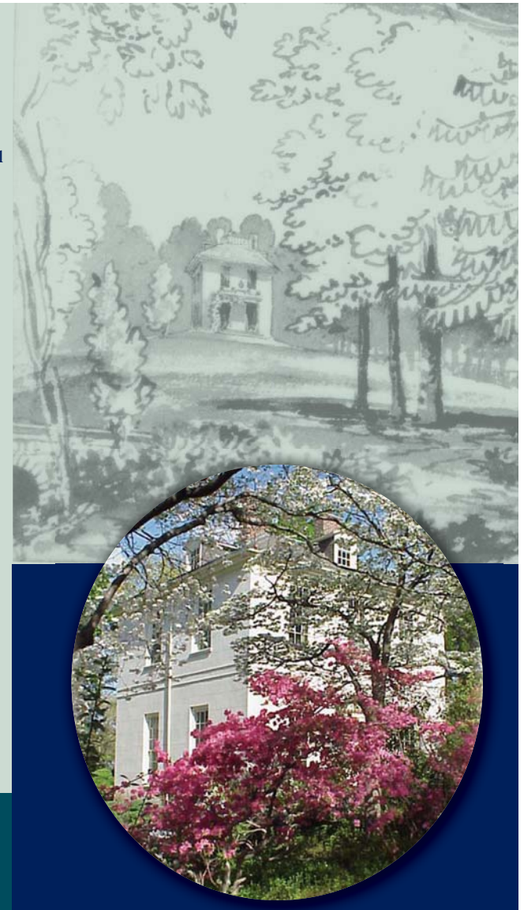
The Zoo is home to a historical site linked to one of the most historic families of the young nation. The Solitude remains the sole surviving residence in the U.S. that was once owned by a member of the Penn family. A house with considerable architectural significance, its designer and original occupant, John Penn, chose the location for the grace and dignity of the site.

John Penn's departure in 1788 did not, however, signify the end of his family's ownership of The Solitude:

- His brother Granville Penn inherits the house upon John's death (1834).
- Upon Granville's death (1844), the house went to John's nephew Granville John Penn, who visited it twice.
- Upon Granville John's death (1867), The Solitude went to John's nephew Rev. Thomas Gordon Penn (d. 1869), who was also the last direct male descendent of William Penn.

Edmund Physick—an officer of the British government who managed the Penn estates and colonial interests during the Revolutionary War—lived at the house for some time.

The Solitude



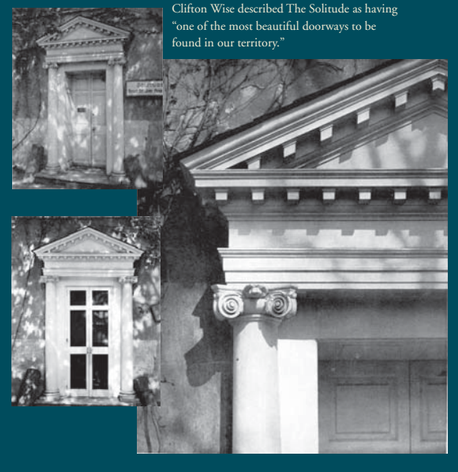
Restoration and Modern Use

Since its function as an administration building when the Zoo opened in 1874, The Solitude has served a number of purposes, including as offices for executive staff, as a residence for a Zoo keeper, exhibit space for snakes (in the parlor), and most recently as a space for meetings and events.

A Refined Design

It is likely that John Penn served as his own architect, based on sketches he made that survive today. He chose to emulate the style of Scottish architect Robert Adam (1723–1792). One of the first neo-classical houses in America, the design set a trend for other architecture in the region.

Parlor Ceiling
The plaster ceilings in the parlor remain the best example of the Adam style in Philadelphia.



Doorway
In 1913, architectural historian Herbert Clifton Wise described The Solitude as having "one of the most beautiful doorways to be found in our territory."

Late 1860s |
This earliest-known photograph shows the detached kitchen in the foreground. The kitchen was 25 ft. square, 1 ½ stories high with a center chimney. Servants' quarters were in the loft above the kitchen. The tunnel connecting it with the main house still exists; it is the only apparent example of an underground passage built just for servants. The house was acquired in 1868 by the City of Philadelphia's Fairmount Park Commission.

1890

1879 |
The young Zoological Society receives a lease on the land in 1874, which makes it the Zoo administration building. For many decades this protects the house from substantive changes.

1920

1926 |
The Solitude is decorated and furnished for the nation's 150th celebration of Independence.

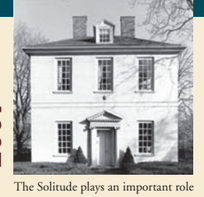
1950

1976 |
The Zoo and the Philadelphia Museum of Art undertake substantial improvements in preparation for the U.S. Bicentennial Celebration.

1980

1991 |
The Friends of The Solitude is formed to preserve the building and teach its history.

2009



The Solitude plays an important role in Zoo history upon the occasion of celebrating its 150th anniversary.