



Great White Pelican, Eastern White, Rosy, European White Pelican

Pelecanus onocrotalus

FAMILY: Pelicanidae

ORDER: Pelicaniformes

AZA MANAGEMENT: Studbook

GEOGRAPHIC RANGE

- EUROPE
- ASIA
- NORTH AMERICA
- NEOTROPICAL
- AFRICA
- AUSTRALIA
- OTHER

Breeds- E. Europe to Western Mongolia.
 Winters- NE Africa and Iraq to N. India. Also resident in Africa S. of the Sahara and at single sites in NW India and S. Viet Nam.

HABITAT

- FOREST
- DESERT
- GRASSLAND
- COASTAL
- RIVERINE

Rivers, Lakes, Deltas, Estuaries.

TEMPERATURE TOLERANCE



From 30° F to 110° F

Indoor housing recommended in freezing temperatures. Access to shade and water.

DIET

- FRUGIVORE
- NECTIVORE
- CARNIVORE
- OMNIVORE
- PISCIVORE
- FOLIVORE
- INSECTIVORE
- OTHER

Fed thawed, frozen fish which are supplemented with vitamin E and thiamin. Feeding more than one species of fish is recommended. Commonly fed fish are trout, smelt, capelin, sardines, mackerel, and herring. The birds are hand-fed their diet in a catch pen. Adults with chicks are fed extra small fish, typically trout and smelt, which increase in size as the chicks grow. Access to live fish encourages natural foraging behaviors. At the Safari Park they have access to Gambusia (a small fish they also feed to their chicks the first few days), perch, and catfish. See management challenges regarding live fish.

LIFE EXPECTANCY

Median Life Expectancy Maximum Longevity

Within AZA X ~50-60 Years

MONTANE

OTHER

CIRCADIAN CYCLE

DIURNAL

CREPUSCULAR

NOCTURNAL

OTHER

In the Wild X ~50-60 Years

Within AZA X ~50-60 Years

In the Wild X ~50-60 Years



BREEDING INFORMATION



AGE AT SEXUAL MATURITY



Males: Typically 3-4 years



Females: Typically 3-4 years

Incubation period: 29-36 days
(Typically 29-31 in captivity)

Fledgling Period: Approximately 65-75 days.
At 20-25 days the chicks gather into "pods".
They



CLUTCH SIZE, & EGG DESCRIPTION



Average 2 eggs (1-3); Oblong chalky white. The eggs get dirty from muddy feet and fecal material during incubation.

CAPTIVE HABITAT INFORMATION



SOCIAL STRUCTURE

In the wild: Gregarious

Within AZA: Gregarious



COURTSHIP DISPLAYS

Group display, setting to partners, strutting walk and head-up and bow



NEST SITE DESCRIPTION

Colonial nesters. Nest is usually a pile of reeds, sticks, etc. May also nest on bare ground or rocks. In captivity, they have been observed nesting on old Dalmatian Pelican nests. The male collects leaves, small sticks, and dirt by side-shoveling with his bill and presenting the material to the female sitting on the nest



CHICK DEVELOPMENT

Chicks are altricial. If two chicks hatch, siblicide is common. See additional comments for suggestions. See References- Sedgwick County Zoo Eastern White Pelican Protocols - 2011 for hand-rearing protocols.



PARENTAL CARE

Both male and female share incubation and chick rearing duties.



MIXED SPECIES EXHIBITS

Compatible in mixed species exhibits? YES

NO

Comments: Best if they have an area they can retreat to where the mammals cannot go. Horned mammals may impale birds



OPTIMAL HABITAT SIZE

Large pond with island.

Minimum Group Size: 4.4 individuals for breeding.
4 for nonbreeding.

Maximum Group Size: Only limited by space
but keep male to female ratios even.



MANAGEMENT CHALLENGES

Bumble foot can be a challenge.

There are several breeding challenges such as low breeding success, nest disturbances, siblicide, and aggression towards other pelican species during nesting. Their ability to fly even when pinioned is amazing, depending on the exhibit, regular clipping of the pinioned wing may be required to keep them in their enclosure. Live fish such as large catfish may cause severe damage to the pouch.

Another challenge is the fish can carry worms which will live in the stomach of pelicans.

ADDITIONAL COMMENTS

More research is needed to increase the breeding success of this species in captivity.

At the San Diego Zoo Safari Park, Great White Pelicans and Dalmatian Pelicans are housed together. Both species are similar in size and nest in the same area at the same time. Nest material choices and nest building activities are different but incubation and chick rearing is very similar. Hand-raised Dalmatian Pelicans are the most successful breeders in the mixed flock at the Safari Park. They sit through most nest disturbances in which the parent raised birds flee the nest area. When keepers process chicks, the birds stay sitting on the nest and the eggs/chicks are easily removed, processed, and replaced. It is likely that hand-raised Great White Pelicans will respond in the same way, possibly increasing breeding success.

With the Great White Pelican, siblicide is common if two chicks hatch. We had one instance of sibling aggression from a 3 day old Dalmatian Pelican chick to its newly hatched sibling. Keepers noticed bruising on the chicks head and back and observed the older chick biting the younger chick. We successfully placed the newly hatched chick back in a cleaned, capped shell and placed it under a foster pair of Dalmatian Pelicans whose egg was infertile. They accepted the egg/chick. It is likely this would also work with Great White Pelicans possibly increasing chick survivability and giving additional pairs experience raising chicks.

In 2014, a Dalmatian Pelican family was being aggressed by other nesting pelicans, they were moved to a holding pen with a small pool to raise their 7 day old chick. Keepers made a nest with sticks on top of a small pallet. The parents were hand-raised birds and adjusted well to the small enclosure. They successfully raised their chick and the family was moved back with the flock. This may also be an option for hand-raised Great White Pelican pairs.

With Great White Pelicans, the breeding knob starts to deflate and the facial skin goes back to pinkishpurple in both the male and female of the pair after the first egg is laid. If they lose their clutch, they will both color up and the knob inflates again which is very helpful to keepers to know when a nest has failed. When the first egg of the new clutch is laid the knob deflates and facial color changes again.

Hand-feeding the flock in a catch pen gives the keeper a good look at each bird daily and the opportunity to get hands-on if necessary without causing disturbance to nesting birds.



REFERENCES

Del Hoyo, J., Elliot, A. & Sargatal, J. eds. (1994). Handbook of the Birds of the World- Vol 1. Ostrich to Ducks. Lynx Edicions, Barcelona.

Paul A. Johnsgard, (1993). Cormorants, Darters, and Pelicans of the World, The Smithsonian Institution.

Koen Brouwer, Bart Hiddinga & Catherine E. King (1994). Management and Breeding of Pelicans in Captivity.

L. H. Brown & Emil K. Urban (1969). The Breeding Biology of the Great White Pelican *Pelecanus onocrotalus roseus* at Lake Shala, Ethiopia. *Ibis* 111: 199-237.

Marva Shmueli, Ido Izhaki, Ami Arieli & Zeev Arad (2000). Energy Requirements of Migrating Great White Pelicans *Pelecanus onocrotalus*. *Ibis* 142: 208-216.

Dionyssia Hatzilacou (1996). Feeding Ecology of the Great White Pelican (*Pelecanus onocrotalus*) Nesting at Lake Mikri Prespa (Northwestern Greece). *Colonial Waterbird*, Vol. 19, pp. 190-206.

Sedgwick County Zoo 2011- Eastern White Pelican Protocols - 2011. See link below.
www.avianrearingresource.co.uk/species/documents/161.pdf

Roy McClements, Sue Crissey, Walter Jansen, (2003). Pelican & Cormorant Husbandry Manual Nutrition Section- February 2003.

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