



ZSL London Zoo penguins 'chill out' in purpose-built pool

Waterco filter system significantly reduces ongoing maintenance



Good clarity water for a healthy environment for the penguins.

ZSL London Zoo's penguin colony is reveling in its 'new' home in ZSL London Zoo, with the opening in early 2011 of Penguin Beach. And Waterco played a key part in the solution to keep the pool clean.

In the heart of London, England is the world's oldest scientific zoo. ZSL London Zoo opened in London in 1828 and was originally intended as a collection for scientific study. It was later opened to the public in 1847 and today holds 755 different animal species.

Since then, one of the most popular exhibits has been the penguin pool, with the recognizable Lubetkin pool built in 1934. As time moved on and different needs for the animals were recognized, ZSL London Zoo moved the penguins into a new pool, leaving the Lubetkin exhibit as an iconic statement of the Zoo's history. Plans were also made for a new, purpose-built enclosure called 'Penguin Beach.'

Ongoing maintenance

With overhanging trees dropping leaves into the previous enclosure and the unfiltered pool needing to be emptied every two weeks and then refilled from the water mains, ZSL London Zoo needed a long-term solution that would be built from the ground up, providing a larger pool and good clarity water for a healthy environment for the penguins, as well as enabling them to be viewed through underwater viewing panels.

Building a new enclosure was also key to providing the penguins with a larger space, so that ZSL London Zoo could increase the number of nest boxes to encourage the breeding of the endangered birds.

In addition, Penguin Beach was designed to best meet the environmental needs of the species, rather than simply serve the viewing requirements of the public.

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says Tony Fisher,
managing director of
Waterco Europe.



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At 13,000 sq ft (1200sqm) and holding 100,000 gallons (450,000 litres) of water, Penguin Beach is four times larger and three times deeper than the previous enclosure, with the pool being the largest in England.

The £2 million Penguin Beach has room for a 150-strong breeding colony, as well as a new pool and viewing area that includes a paddling pool for chicks, in addition to landscaping based on the penguins' southern hemisphere habitats, such as a stretch of rocky shore. The large underwater viewing platform enables zoo visitors to watch the penguins diving for food. ZSL London Zoo hopes that having the penguins in this environment will enable them to breed and raise their young in a space that best reflects their wild habitat.

Quality and reputation

ZSL London Zoo went to tender and considered companies from mainland Europe for the new Penguin Beach filtration system. Working closely with specialist group Marine Aquaculture, Waterco was selected for its reputation, consistent quality of products, and reliability. Additionally, Waterco has provided a range of filtration systems to ZSL London Zoo for different enclosures.

To meet the zoo's specific requirements, Waterco recommended an integrated solution. This encompassed a chlorinated filtration system using four Waterco Hydrostar pumps, which are designed for large commercial pools; and Hydro commercial strainers and Supa skimmers – large capacity skimmer boxes – for managing leaves and other debris. The water is then fed into the pool using eight MultiCyclones plus six Micron SMD deep bed fiberglass media filters, before chlorination using two ElectroChlor salt chlorinators.

“Given the issues faced by the previous penguin pool plus the obvious heavy usage of the new pool, using ElectroChlors are ideal, as they enable the chlorine level to be automatically maintained, thus eliminating problems associated with periods of very high or low chlorine levels,” says Tony Fisher, managing director of Waterco Europe.

“Fewer fluctuations in chlorine levels mean fewer fluctuations in pH levels, which ensures more stable, balanced water.”

Massive time savings

The Waterco installation has significantly reduced ongoing maintenance, and there's no longer any need for costly and time intensive fortnightly water changes. In the first year that Waterco carried out monthly maintenance, it resulted in only minor modifications, such as stainless steel bolts replacing galvanized bolts on the commercial strainers.

By moving away from a labour intensive system that saw staff spend a significant amount of time on the enclosure rather than the penguins themselves, the Waterco system has meant staff are now able to focus on the core purpose of ZSL London Zoo – conservation.

Lasting results

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‘Penguin Beach’ opened in the Northern summer of 2011 with 60 penguins moving into their new home. Since the opening, visitors have enjoyed the crystal clear underwater and over-ground viewing of the flightless inhabitants.

FACT FACTS

- Penguin Beach is located in the central hub of ZSL London Zoo in Regent's Park
- It recreates a South American Beach Landscape
- It is home to two species of penguins:
 - ◆ The Rockhopper Penguins, which come from the rocky coasts of the sub-Antarctic islands
 - ◆ The Humboldt, a South American penguin which breeds in coastal Peru and Chile
- Penguin Beach Live is one of the most popular events on the Zoo's daily schedule, with hundreds of visitors flocking to see the flightless birds diving and splashing for their daily snack of fish