

Cincinnati Zoo, Ohio, U.S.A.

The polar bear has become an icon for global warming in political and public arenas. Because sea ice is an essential component of their ecosystem, a change in its distribution and longevity could profoundly affect the species' future.

Polar bears have always been popular with zoo visitors, but now more than ever these charismatic ambassadors are needed to help educate visitors about global warming and wildlife conservation, while serving as both an insurance population and a research population for studies that directly help wild bears. However, despite diligent efforts by the Polar Bear SSP to develop a robust breeding program, high neonatal mortality and poor reproductive success threaten the genetic health and long-term viability of this species in zoos.

In response to these challenges, the AZA Conservation Endowment Fund supported a study conducted by Cincinnati Zoo's Center for Conservation and Research of Endangered Wildlife (CREW) to establish non-invasive hormone monitoring methodologies for tracking the reproductive status of female polar bears. Partnering with 19 AZA zoos, CREW scientists have generated 30-year-long hormone profiles on bears in different management situations (breeding, non-breeding, contracepted), and can now determine if a female bear is exhibiting reproductive activity and if she might be pregnant entering the denning season.

Interestingly, it is the analysis of testosterone metabolites (not estrogen) that yields the most useful information about female polar bear reproductive cycles. Study results are increasing our knowledge about the species' basic biology while assisting our partner zoos and the SSP with animal husbandry and population management decisions respectively.

There are still challenges ahead, such as accurately distinguishing pseudo-pregnancy from true pregnancy and/or embryo loss, but thanks to the grant

that served as a catalyst for this project, CREW has secured funding from the Shumaker Family Foundation of Kansas to support this research for the next three years.

Terri L. Roth and Monica A. Stoops in *Connect* (Association of Zoos and Aquariums), November 2010

Edinburgh Zoo, Scotland, U.K.

An historic agreement was signed on 10 January 2011 which will bring two giant pandas to Edinburgh Zoo, the first giant pandas to reside in the U.K. for 17 years. Witnessed by Deputy Prime Minister Nick Clegg and Vice Premier of China Li Keqiang, the agreement was signed at Lancaster House in London by Donald Emslie, Chairman of the Royal Zoological Society of Scotland (RZSS), which owns Edinburgh Zoo, and the Chinese Wildlife Conservation Association (CWCA).

The pandas, Tian Tian and Yangguang, a breeding pair born in 2003, will be on loan to the U.K. from China and will be under the custodianship of RZSS at Edinburgh Zoo. The project represents the culmination of five years of political and diplomatic negotiation at the highest level and it is anticipated the giant pandas will arrive in their new home as early as September 2011.

Speaking about the gift, Chief Executive Officer of RZSS David Windmill comments: 'This is a landmark day for RZSS, Edinburgh Zoo, the U.K. and China. It represents the beginning of a programme of research, education and partnership, and the project has huge benefit for the U.K. and Scotland, both in supporting giant panda conservation and in enhancing our programmes in education, science and conservation.'

Speaking about the arrangements for the giant pandas, Director of Animals, Conservation and Education Iain Valentine comments: 'This marks the start of a long relationship with CWCA in which we hope to bring the expertise that exists

with RZSS and within the U.K. to the conservation efforts of the captive and wild populations of giant pandas. These wonderful animals will be housed in a specially refurbished enclosure which was formerly home to our gorillas. The enclosure will offer a good mix of comfort and visibility so the public can see the couple as they settle into their new home. We are looking forward to welcoming a delegation from the CWCA to Edinburgh later this week to view the zoo and discuss our plans in detail.'

Welcoming the announcement, Culture and External Affairs Minister Fiona Hyslop said: 'Edinburgh Zoo has a world-leading reputation for animal conservation, and I am delighted that Scotland has been chosen to take part in China's breeding programme for giant pandas. The agreement gives Scotland an important role in securing the future of this endangered species. As well as supporting China's work to protect these animals, the arrival of the pandas is expected to bring significant economic benefits for Scotland in terms of tourism, attracting hundreds of thousands of additional visitors to the zoo. Edinburgh Zoo has demonstrated that it has world-class expertise to breed and care for these rare animals and this announcement reflects our continuing work to strengthen the cultural, educational and economic links between Scotland and China.'

RZSS press release

Great Plains Zoo, Sioux Falls, South Dakota, U.S.A.

On 21 August 2010, the zoo celebrated the grand opening of its new Rare Rhinos of Africa exhibit, which engages visitors about Africa, rhinos and conservation through a number of interactive and immersive experiences.

'This is really a transformative exhibit for the Great Plains Zoo,' says Elizabeth A. Whealy, the zoo's president and CEO. 'We are moving our zoo from the old

model of simply seeing an animal in an exhibit, to an immersive engaging experience for both our animals and our guests.' The new exhibit offers numerous hands-on experiences to help visitors learn about rhinos and the natural world. It features interactive kiosks that offer a behind-the-scenes look at the training keepers do with the rhinos, touch panels where kids can feel rhino skin and horns, rhino ears visitors can put on to learn about a rhino's super sense of hearing, and a viewing point where visitors can watch the rhinos cross right in front of them to enter their new exhibit.

The exhibit also helps communicate the importance of eastern black rhinos, and how they fit into the world. Eastern black rhinos (*Diceros bicornis michaeli*) are extremely endangered; fewer than 4,000 live in the wild, and poachers seek their horns because on the black market a rhino horn is worth about three times its weight in gold.

The zoo is a critical player in the captive-breeding program, having a breeding pair out of only 60 eastern black rhinos in the United States. The new exhibit includes two outdoor exhibit yards and an outdoor holding yard. Large exhibit areas will allow both rhinos – or a family of three – to roam and run outside in the grass, wallow in mud, and snack on browse at the same time. The rhinos' indoor living space includes night-time holding and breeding areas, and the innovative 'day room' which allows guests to see the training zookeepers do with the rhinos. This exhibit offers year-round viewing opportunities.

(Just three months after the opening, on 17 November, a healthy male calf was born at the zoo.)

Connect (Association of Zoos and Aquariums), December 2010

Halle Zoo, Germany

A tiger at the zoo has become the world's first to be given an artificial hip after