

# 新展示館區與工程

## New Exhibits and Engineering Projects



### 旗艦保育動物「大貓熊」開展

本園運用社會資源的挹注興建特展館，作為大貓熊保育展示之場館，於97年12月完工。97年12月23日大貓熊「團團」和「圓圓」抵達動物園，進駐特展館檢疫，98年1月26日（年初一）開展，當年入館參觀人數計3,056,275人次。

大貓熊為世界自然保育聯盟（IUCN）所公告之瀕臨絕種野生動物。本園引進大貓熊計畫，牽動兩岸關係、國際公約相關行政程序等，不僅複雜度為歷來首見，且受到全球高度關注，國際媒體（朝日新聞社、路透社、澳亞衛視、法新社、中國英文郵報、德國通訊社...等）及國內媒體持續追蹤報導。

為突顯引進大貓熊的保育價值，本園除依循此物種之國際保育規範進行動物照管、推動保育教育與研究之外，還必須提供參觀遊客適切的服務與教育解說資訊。有鑑於大貓熊開展適逢歷年參觀人潮壓力較大的傳統春節長假期間，本園遂運用大貓熊保育網站（97年12月5日啟用）、大貓熊數位影像分

享、限時參觀票券措施搭配網路即時資訊宣導、文山地區交通運輸動線調整等策略，順利紓解春節及後續假日期間遊客大量湧入參觀的壓力，有效改善98年年節動物園周邊交通壅塞、為民服務品質的負面衝擊。相關配套措施，促使遊客經由調整參觀不同館舍之歷程，得以充分享受遊園樂趣，並節省特展館排隊等候時間，提升整體大貓熊展示與遊客體驗之品質。（依本園大貓熊館遊客滿意度調查統計結果98年特展館入館等候時間少於10分鐘的達54%【2月】、88%【9月】）

此外，本園設計大貓熊圖像標識，並應用於相關保育教育活動的識別，讓民眾能輕易辨識並認同動物



### Exhibit Starts for Flagship Conservation Animal – the Giant Pandas

Construction of the Special Exhibit House, built using social resources dedicated to the Giant Panda's conservation and exhibition, was completed in December 2008. Giant Pandas "Tuan Tuan" and "Yuan Yuan" arrived on December 23 and entered the House began quarantine. Exhibit started on January 26, 2009 (Chinese lunar January 1). A total of 3,056,275 visitors came to see the special exhibit in the year.

The Giant Panda is listed as endangered in the World Conservation Union's (IUCN) Red List of Threatened Animals. Taipei Zoo's purported introduction of this species was subjected to cross-strait relation issues as well as related Convention on International Trade in Endangered Species administrative procedures. Not only was the level of complication never before seen, this historical breakthrough generated extremely high medial attention globally too, and produced non-stop coverage and follow-ups on both international and domestic fronts (Asahi Shimbun, Reuters, MASTV, AFP, China Post, Deutsche Presse Agentur, etc.)

Aside from providing animal management and care in accordance to international conservation protocols, as well as promoting conservation education and researches, in order to highlight the conservational significance introducing the Giant Pandas to Taiwan the Zoo had to assure visitors appropriate services and educational information too. In light that the Panda Exhibit was opened during the peak Chinese New Year's holiday period, strategies included the Giant Panda in Taipei website (online since December 5, 2008), digital Panda imagery, limit time-periods via a ticketing system, real-time Internet updates and promotions, and traffic control around the WenShan District were implemented to remedy the pressure of huge crowds pouring into the zoo all at once, relieve congestions around the Zoo, and to lessen the negative impact expected with service quality. These related measures ensured visitors a more pleasant experience on the whole for they arrived at different time schedules, and therefore reduced queuing time waiting to see the special exhibit. (According to the 2009 Taipei Zoo Visitor's Satisfaction Survey, less than 10-minute wait-time at the Special Exhibit was 54% (February), and 88% (September).

Moreover, signs bearing different Panda images were designed into various conservation educational activities for identification purposes, so that the public may have an easier time recognizing the animals, and could relate to the contents better. The educational activities and special minority-benefit events the Zoo coordinated as tie-ins to the Giant Panda Exhibit included: "Design a Postcard for Giant Panda Conservation" (2008), "100 Peoples, 100 Drawings of Bears Exhibit" (2008), "Donation Ceremony of the Shin Kong





園所推動的保育教育活動。動物園更配合大貓熊之展示，辦理相關教育活動及關懷弱勢活動，例如：「大貓熊保育名片設計大賽」（97年）、「百人繪百熊」（97年）、「特展館捐贈及關懷弱勢之夜」（98年）、「團團圓圓一圓夢之旅」...等。另結合中小學校、團體預約導覽解說，傳遞大貓熊所面臨的保育議題，發揮保育教育的成效；透過數位資訊整合後，提供參觀者良好的參觀品質與豐沛的保育資訊。



本園同時援引國際動物園界之作法推行動物認養，結合社會資源推動保育與研究工作。大貓熊引進後，本年度計有裕隆日產汽車公司、中華電信公司等16家企業因之而參與動物認養，並藉該動物認養資源強化本土野生動物保育行動。例如本園透過動物認養之支援，辦理「2009亞洲黑熊保育國際研討會」（15國專家學者參與，250人與會）...等。

Panda House and Special Preview Benefit Night” (2009), and “Tuan Tuan and Yuan Yuan – Dream Come True Journey”. The Zoo also gave guided tours to primary and middle schools as well as to group reservations, conveying conservation issues currently confronting the Giant Pandas, so as to enhance the efficacy of conservation education. Integration of digital information was also completed, thus improved viewing quality and information content about conservation for the public.

Taipei Zoo also developed Animal Adoption Project, a practice commonly employed by zoo parks worldwide

to pool social resources to promote conservation and research works. After the Giant Pandas were introduced, sixteen enterprises such as the Yulon Nissan Motors and Chunghua Telecom became corporate sponsors this year through their involvements making this happen, dedicating their resources in the advancement of endemic wildlife conservation actions. With the backing and support received from Animal Adoption, the Zoo was able to organize the 2009 International Symposium on Conservation of the Asiatic Black Bear (attended by experts and scholars from 15 countries and 250 attendees).



## 營建與修繕

### 1. 動物欄舍整修

完成大鳥籠立柱龜甲網補強工程，改善大鳥籠現有龜甲網破損問題，避免鳥類逸逃；特展館鐵件改善工程，加強設施安全性，增加動物活動空間，提升動物福祉及繁殖率，並強化動物展示環境，提升展示服務品質；完成雨林區及鳥園部分展示場鋼琴絲更新及維護工程；非洲區零星修繕工程及雜項工程，整修全區之老舊欄舍及破損設備，維持現場飼養展示安全與景觀品質。



### 2. 展示場館規劃與更新

為提升展示環境品質及提供更優質之服務，年度內有多項展示場館工程進行規劃設計與施工：「熱雨館新建工程」、「河馬展示場更新工程」、「鳥園大鳥籠、水鳥池網籠更新工程」等案設計中，「臺灣區鹿科展示場更新工程」、「黑猩猩展示場更新工程」、「獅子展示場仿岩圍籬更新工程」等案完工。

#### ● 臺灣區鹿科展示場更新工程

臺灣區臺灣梅花鹿和山羌舊有之半開放展示方式，動物與遊客以壕溝分隔，動物容易躲避於離遊客最遠的位置，觀察不易。更新後的鹿科動物展場於98年12月完工，其融合人、動物、人文、藝術等元素，營造人與動物和諧共處之參觀環境及符合動物福利之飼養場所，期讓民眾有全新的視覺感受與參觀體驗。除此之外其中新山羌展示場地之佈置，以展現完整之鹿科動物生活史環境，如求偶、交配、懷孕、育幼、採食

## Construction and Renovation

### 1. Repair and Maintenance of Animal Enclosures

Completed the reinforcement project of protective hexmesh jacket surrounding the vertical column inside the Big Bird Cage, and improved tears in the existing hexmesh so as to prevent birds from escaping. Completed the improvement of ironworks inside the Shin Kong Special Exhibit House, reinforced facility safety, increased animal activity space, enhanced animal benefits and reproductive rate, strengthened the display environment, and improved the service quality in the exhibit. The project to replace and repair piano wires inside the Asia Tropical Rainforest Area and the Bird World was finished; sporadic repairs and miscellaneous works, systemic renovation of old enclosures and damaged facilities, exhibit safety and landscaping-quality maintenances, also were carried out inside the African Animal Area.

### 2. Planning and Renovation of Exhibits

To improve the quality of exhibit facilities and to provide

more quality services, multiple planning and designs as well as construction projects began during the year in many exhibits and display areas. Projects on-gong include: “Asian Tropical Rainforest Area construction project”, “renovation project of the Hippopotamus Exhibit”, “renovation of wire nettings at the Big Bird Cage inside the Bird and around the Aquatic Bird Pond”. Projects completed included: “renovation project for the Cervidae Exhibit at the Formosan Animal Area”, “renovation project of the Gorilla Exhibit”, and the “renovation project of rock-wall fence around the Lion Exhibit”.

#### ● Renovation Project for the Cervidae Exhibit at the Formosan Animal Area

The old semi-open Formosan Sika Deer Exhibit and Formosan Reeve's Muntjac Exhibit at the Formosan Animal Area used ditches to separate animals from the public. Often animals hid inside the ditches as far away from the visitors as possible, which made observation difficult. Completed in December 2009, the renovated Cervidae



等群體生活，場地中的參觀小徑可提供動物自由選擇與參觀民眾進行親近的接觸，民眾也可在小徑上靜靜的欣賞動物悠閒的舉止，培養民眾愛護野生動物的觀念。梅花鹿展示場及參觀環境之設計，係將原住民建築及人文等元素和動物展示，做一完整呈現，即在參觀面設置一座西拉雅族之房舍，遊客可在房舍玻璃面近距離的欣賞、觀察梅花鹿的形態及生活，未來並將該處所規劃為「臺灣鹿科動物與原住民文化」及「動物園參與墾丁家公園的復育計畫」之教育解說場所，期以喚起民眾重視本土動物的保育行動。

#### ● 黑猩猩展示場更新工程

本案針對黑猩猩之需求，於不對外展示之作業區域新增1個大型的戶外活動場地與4間大空間的室內欄舍。除新增開放式之戶外活動空間(高8公尺以上)，讓動物可用之面積與立體空間大幅增加外；新增場地亦與舊有場地連結，增加19隻黑猩猩活動的整體使用空間，可更靈活地調度展示黑猩猩族群，提升動物福祉及輪流展示效益。

#### ● 企鵝館空調系統汰換工程

本園企鵝館舊有空調設備原已使用11年，效能不佳且無法有效調控溫度(最低僅達 $14^{\circ}\text{C}\pm 2^{\circ}\text{C}$ )，本工程設置滴水式冰水主機，可提高運轉效能並有效調控溫度，不僅達到節能目的，且新系統平時溫度可設定於 $10^{\circ}\text{C}\pm 1^{\circ}\text{C}$ (最低可降溫至 $5^{\circ}\text{C}$ )，接近文獻上國王企鵝之最適飼育溫度 $7^{\circ}\text{C}$ 。

### 3. 國際無障礙環境建設

由於園區位處山坡地，無障礙設施改善工程係針對遊客參觀步道環境，並依營建署「建築物無障礙設計規範」進行地坪及設施改善，提供遊客更安全、舒適的休閒環境。年度內改善重點如下：

- 參觀步道部分路段坡度改善，使其坡度儘量低於1:15，甚至達1:20之緩坡度(營建署「建築物無障礙設計規範」規定為1:15)。
- 部分參觀通道地坪鋪面更新，提高步行安全性。



Exhibit harmonized human, animal, humanity and art factors into one, to create a display environment agreeable to all. The improved enclosure also better met animal welfare standards too. This new exhibit aims to bring the public a brand new visual experience. The new Muntjac Exhibit is now set up to display the entire life history of the Cervidae Family, for instance courtship, breeding, reproduction, rearing, and feeding as a herd. The small paths inside give animals the freedom to choose if they want up-close contact with the public or not, at the same time allow visitors quiet appreciation of animal behaviors in leisure to bolster the concept of wildlife conservation. The display area and observation environment inside the Sika Deer Exhibit have designs incorporating aboriginal architecture and humanity elements with animal factors as a complete presentation. The Siraya-style dwelling inside the exhibit permits the public to see the animals intimately through the glass panes and to observe Sika Deer behaviors and lifestyle with minimum distance. This dwelling has been slatted to become the future "Taiwan's Cervidae Species and Aboriginal Culture", and "Taipei Zoo's Participation in the Kenting National Park's

Reintroduction Plan" Educational Facility, serving to remind the public to take actions protecting endemic animals.

#### ● Renovation Project of the Chimpanzee Exhibit

This project aimed to meet the needs of the chimpanzees. One large outdoors activity area and 4 spacious indoor chamber houses were added to the work area inside the exhibit not opened to the public. In addition to the new open outdoors activity area (more than eight meters tall), which sharply increased the physical and spatial space to the animals, the addition was purposely annexed to the existing enclosure so as to expand the overall space usable to the 19 Chimpanzees. By doing so, the Chimpanzees' display schedule became more flexible, and both animal welfare and display rotation were enhanced.

#### ● Project to Replace Air Conditioning Unit at the Penguin House

The old air conditioning unit inside the Penguin House had been in use for eleven years. Not only was the unit performing poorly, it couldn't effectively control the temperature (the lowest the unit could go was  $14^{\circ}\text{C}\pm 2^{\circ}\text{C}$ ). This engineering project installed a brine chiller with improved air conditioning performance and better temperature control as well as energy efficient. The new system allowed routine temperature to be set at  $10^{\circ}\text{C}\pm 1^{\circ}\text{C}$  ( $5^{\circ}\text{C}$  at the lowest), a temperature much closer to the ideal  $7^{\circ}\text{C}$  according to literatures about Emperor Penguins in captivity.

### 3. Construction of Universal Accessibility

As the Taipei Zoo is situated on hilly land, a project directed at the visitor's observation walkway was carried out to improve disable accessibility. Improvements to the ground and facilities were done in accordance to the "Design Specifications of Accessible and Usable Buildings and Facilities" of the Construction and Planning Agency of the Ministry of the Interiors, to provide visitors a safer, more pleasant recreational environment. Major improvements performed in the year were as follows:

- Improved a portion of the observation footpath to below 1:15 in slope gradient, even reaching a gentle 1:20 in some areas (the Design Specifications of Accessible and Usable Buildings and Facilities required 1:15).
- A portion of the surface of the observation walkway was renovated to improve walking safety.