# 環境教育推廣與遊憩服務 Environmental Education and Promotion and Recreation Service



本園致力於推動與落實環境教育,於本年4月通 過行政院環境保護署「環境教育設施場所」認證, 提供環境教育戶外學習之優質場所。規劃有多元的 環境教育主題之解説及展示內容,及年內推出20種 以上之環境教育課程方案,供民眾及學生參與環境 教育,本年計有165,142人次參與本園之環境教育 課程。



環保署環境教育場域認證揭牌儀式

## ■ 多樣性的動物與生態展示管理 ■

#### 1. 兜兜龍-2012龍年特展

介紹這個虛擬的、集多種動物於一身的神話動物,在中國民俗及信仰都佔有一席之地的「龍」。 特展中將神話與實際動物串聯在一起呈現,展出單 元有:運用繪圖和標本表現「龍體大解析」;「龍門 客棧」單元介紹與龍的外形組成相關的動物;賣呼 「龍」單元則是介紹名字裡都有個「龍」字的動物。

#### 2. 水中精靈-水棲昆蟲特展

藉由實體飼育展示方式結合體驗性、娛樂性及教 育性之展示手法,介紹水棲昆蟲的種類、生態及指 標物種、環境保育概念,同時介紹目前臺灣水棲昆 蟲棲地與面臨的危機,傳達如何保育水生昆蟲與環 境永續經營等教育意涵。

在特展中,以臺灣常見的水棲昆蟲-豆娘為代 表,創造出可愛又容易識別的擬人導覽員「豆娘姊 姊」並延伸到教案活動上,透過具象人物的呈現, 帶領參觀的小朋友與親子團體,能夠更活潑、更自 然地認識水中精靈的世界。



兜兜龍一2012龍年特展



### Deep-reaching Environmental Education at the Zoo

The Taipei Zoo is dedicated to implementing and conducting education on the environment. In April, the Taipei Zoo was approved of the Environmental Educational Facility or Venue accreditation by the Environmental Protection Administration, Executive Yuan as a quality venue for the outdoor learning of environmental education. For the general public and

### Diversity in the Management of Animal and Ecology Exhibitions

## 1. Special Exhibit for 2012 – the Year of the Dragon

The exhibit introduced "the dragon" – a fabled, mythical creature that has combined features of numerous other animals and holds a significant place in Chinese folklore and faiths. For the exhibit, the myth was shown together with other real animals, including units such as "The Great Dissection of the Dragon" – utilizing drawings and specimens, "The Dragon Inn" – introducing animals related to the outer appearance



兜兜龍一2012龍年特展

students to participate in environmental education, diverse guided tours and exhibitions related to environmental education were planned, and more than 20 educational programs on the environment were launched in 2012. In all, 165,142 people participated in the Zoo's environmental education programs in 2012.

of the dragon, and "Calling Dragons" – introducing animals with dragon-related names.

### 2. Water Sprites – Special Exhibit of the Aquatic Insects

Through actual feeding displays in combination with an exhibition approach of experience, entertainment, and education, the exhibit introduced various types of aquatic insects, their ecology, indicator species, and environmental conservation concepts, as well as the habitats of and the dangers facing aquatic insects in Taiwan currently, to educate on the conservation of aquatic insects and the sustainable management of environment.

For the exhibit, having the Damselfly – a commonly seen aquatic insect in Taiwan – as the representative species, an adorable, easily-identifiable, personified guide, "Damselfly Sister", was created – a figure that had also been extended to teaching activities. Led by the personified figure, visiting children and family groups could more lively and naturally learn about the world of water sprites. 環境教育推廣與遊憩服務 | Environmental Education and Promotion and Recreation Service |



### ■ 建構節水節能環教園區 ■

在節水節能教育推廣方面,持續推動園區節水節 能改善工作,並辦理遊客參觀本園「節水節能設施 及雨/中水利用」導覽解説,共計663團11,188人 次。

節約用水改善方面:依環境管理及廁所用水需求 更換省水器材;清理園區雨中水系統,以維護系統 功能正常,增加雨水回收利用率;進行全園水池及 水管查漏,持續改善,減少管線漏水。總用水度數 節約10.99%(83,432度)。

節約能源改善方面:持續進行汰換動物醫院、檢 疫舍及特展館、69KV變電所、車輛保養場等館舍 之T8燈管改為T5燈管,及更換消防逃生方向指示 燈、進出口燈為LED燈具;汰換69KV變電所之配 電盤,增加全園用電轉換效率;汰換爬蟲館空調設 施,提升主機效率並改善空氣品質,預計可節約該 館之空調用電25%以上、總用電10~15%以上,並 定期進行空調系統保養,維持用電效能。總用電度 數節約2.17%(268,120度)。

■ 推展主題教育活動 ■

#### 1.2012動物夏夏叫

於暑假辦理「動物醫生體驗營」、 「夜訪黑森林」、「熊狀威武」、「蝙蝠 家族大集合」及「夜宿動物園」5種研 習營活動。在研習營活動中,帶領學 員勇闖黑森林、探訪蝙蝠、了解獸醫 的工作、學習動物的照養、了解熊科 動物生態及保育等。另於夜間開放的 週六晚間辦理一系列的音樂演奏、生 態影片欣賞等活動。





### Established a Campus of Environmental Education That Conserves Water and Energy

With regard to the educational promotion of water and energy conservation, the Taipei Zoo continued to work on improving water and energy conservation on its campus. We also led zoo visitors through guided tours of facilities for water and energy conservation and the utilization of rain water at the Zoo. A total of 663 groups (11,188 visitors) toured the facilities in 2012.

In terms of water conservation improvements, water-efficient equipment were renewed according to environmental management and restroom water usage demands; the Zoo's rain water system was cleaned to maintain normal functioning and to increase the percentage of rain water recycled and utilized. In addition, leakage checks and improvements were conducted on all pools and pipes in the Zoo to reduce water leakage from pipelines. A 10.99% (83,432 units) reduction in water usage was achieved in 2012.

### Implementing Themed Educational Events

#### 1. Animals Screaming 2012

The Zoo hosted 5 workshop camps during the summer vacation, including "Animal Doctor Experience Camp", "Night Visit to the Black Forest", "Bear Mighty", "Great Assembly of the Bat Family", and "Sleepover at the Zoo". During these events, participants were

In terms of energy conservation improvements, the Zoo continued to replace T8 light tubes used in the Animal Hospital, Quarantine House, Special Exhibit House, 69KV Substation, and Vehicle Maintenance Area with T5 light tubes and changed fire escape indicator lights and exit/entrance lights to LED lights. Moreover, the Zoo replaced the switchboard of the 69KV Substation to increase the Zoo's electrical power conversion efficiency and renewed the air conditioning equipment at the Reptile House to improve machine efficiency and air guality, expecting to cut more than 25% in the Reptile House's air-conditioning power consumption and more than 10-15 units off the overall power consumption. Finally, the Zoo also regularly carried out maintenance of air-conditioning systems to maintain energy efficiency. Overall, a 2.17% (268,120 units) reduction in power usage was achieved in 2012.

led to explore the Black Forest, to visit the bats, to gain an understanding of the work of veterinarians, to learn about the caring of animals and to know about the ecology and conservation of bears. In addition, the Zoo organized a series of musical performances and showed a series of ecological films on Saturday nights.



2012動物夏夏叫「熊壯威武營」—動物保母請大家仔細看熊熊會爬樹喔







量量臺灣黑熊窩的大小

學員擁有自己獨特的黑熊結業證書

2012動物夏夏叫「夜訪黑森林」

#### 2.2012農村生態體驗活動

辦理種植水稻、茭白筍、芋頭3種農作系列體驗 活動,採親子共同參與,配合節氣,提供學員從年 初到年底,由種植、除草和施肥、收成、成品製作 一系列完整之體驗感受。供現代人及都市學童認識 農村自然生態水生農作物的耕作方式及生長過程, 並了解農地扮演濕地的角色及重要性。

#### 3.「兜兜龍ABCDE一兜出我的寶藏龍」活動

以神話「龍」的樣貌特性,轉化為生物多樣性的 觀點,以考古及拼圖的概念,結合傳統文化中認知 的龍,由文化連結生物多樣性。透過引導遊客有目 標的探索路線參與園區尋寶遊戲,藉由藏寶任務的 提示與尋覓,增進了解動物知識、觀察動物棲息的 需求原因。





2012農村生態體驗活動一種水稻



#### 2. 2012 Rural Ecological Experience Event

The Zoo conducted a series of experience activities for parents and children to jointly participate, involving the planting of rice, water bamboo, and taro. In keeping with the solar terms, participants were allowed to go through and experience a complete series of activities throughout the year from planting, weeding, applying fertilizer, harvesting to making finished products. The Zoo provided opportunities for modern individuals and urban children to find out about the



natural ecology of rural areas and the cultivation methods and growing processes of aquatic crops and for them to understand the importance of the farmland' role as wetland.

#### 3. Dragon ABCDE – My Treasure Dragon

For the event, features of the mythical dragon were transformed as biodiversity standpoints for which

archaeological and puzzle-piecing concepts were adopted to link up culture and biodiversity by incorporating the well-known creature in the traditional culture - the dragon. The Zoo guided visitors through their targeted exploration of routes on a treasure hunt in the Zoo during which, through clues and searches for the treasure-burying mission, visitors were motivated to increase their understanding of animal knowledge and their observation of animal habitats.



4.「Zoolloween」萬聖節系列活動 將節慶活動及保育概念進行趣味整合,藉以 讓參與民眾認同動物園的保育理念。本年以「環 境變遷」為主軸,持續辦理萬聖節系列活動: 「Zoolloween跨越末日特展」、「Zoolloween方舟 派對一園慶保育暨萬聖節變 裝秀」、「ZOO-O'-LANTERN動物南瓜





### ■ 遊客數及入園門票統計 ■

本年度遊客量2,967,234人次,門票收入100,834,619元;特展館入館參觀遊客1,852,103人次;遊客列車 購票乘車人次達2,118,038人次。

■ 遊憩服務品質提升 ■

### ●編製遊客列車安全維護手冊、辦理遊客列車事故發 生處理演練,以降低遊客列車無預警發生機械故障 等風險,提升事故處理因應熟悉度及遊客安全。 參考國內外動物園或主題樂園之寵物同遊做法與 妥善解決動物防疫及動物福利問題,籌設寵物臨

時寄放服務處,並自3月起提供試辦服務,迄12 月止,共服務191隻次寵物臨時寄放服務。

學生來園公共服務線上報名系統啟用對外提供社 會學習服務,自6月2日至12月31日,線上報名 共服務1,691人次,實到1,385人次。



<sup>「</sup>Zoolloween跨越末日特展

## Visitor Number and Admission Ticket Statistics

In 2012, the number of visitors reached 2,967,234 people, and the ticket revenue totaled NT\$100,834,619. In all, 1,852,103 people visited the Special Exhibition House, and 2,118,038 people purchased tickets to ride on the shuttle train.

### Improvements in the Quality of Recreation Services

- The shuttle train safety maintenance handbook was produced and the shuttle train accident handling drill was conducted to reduce the risk of a mechanical malfunction occurring to the shuttle train without warning to become more familiar with the proper response in dealing with an accident and to better ensure the safety of visitors.
- Having referred to measures adopted by foreign and domestic zoos or theme parks regarding accompanying pets and to properly solve animal epidemic prevention and animal welfare issues, the

#### 4. "Zoolloween" Halloween Activity Series

The celebration of Halloween and the concept of conservation were put together in a fun combination to have participants identify with the conservation ideals of the Zoo. With the focus on "environmental changes", the Zoo continued to hold a series of

Halloween activities in 2012, which included "Zoolloween Cross-End of the World Special Exhibit", "Zoolloween Ark Party - Conservation Celebration and Halloween Masquerade" and "Zoo-O'-Lantern Animal Pumpkin Week".



Zoo had established the Temporary Pet Keeping Service Center, which began trial operation in March. As of the end of December, a total of 191 pets had been temporarily kept at the center.

The online registration system for students doing public service at the Zoo had been launched, providing students with social learning service. Between June 2<sup>nd</sup> and December 31<sup>st</sup>, 1,691 people had signed up online of which 1,385 people had actually reported.