

Wildlife Reserves Singapore Yearbook 2005/2006

wildlife conservation





**“The least of learning is
done in the classrooms.”**

*– Thomas Merton
US religious author, clergyman, & Trappist monk*

our corporate philosophy

Vision

To be the foremost institution in the world.

Mission

To inspire an appreciation of nature through exciting and meaningful wildlife experiences.

'People, Animals and Community – One is no greater than the other'

We recognise People, Animal and Community as ONE entity in our efforts of Conservation, Education and Recreation.

Conservation

Our organisation is not just a home to the animals, but a home that promises the protection of animals. In the long run, our efforts will help to protect animals in their natural habitat, especially endangered species facing extinction.

Education

Educating the public in appreciating and protecting wildlife to secure the future for the most valued asset in our organisation – ANIMALS.

Recreation

We provide a fun, interactive and wholesome experience for our visitors so that they come back again and again.

Core Values – Respect and Care for Wildlife

We love our flora and fauna, and treat our animals in a dignified manner.

Commitment to Excellence

We are always increasing our level of standards with changing times and are not easily satisfied with the status quo.

Creative and Innovative Thinking

Our creative and innovative thinking adds value to the interest of our people, animals and community.

Focus on the Guest

We regard all our visitors as guests in our home and go all out to make sure they have a memorable wildlife experience.

Pride of a Professional

We walk the talk for Conservation, Education and Recreation.

Welcome To WRS	4
<i>Message From The Executive Chairman</i>	
Board Of Directors	6
Windows On Wildlife	8
<i>The Year In Review</i>	
Reeling In The Crowds	14
<i>Marketing, Publicity And Communications</i>	
A Personal Touch	18
<i>Service Excellence</i>	
Waving The Wildlife Flag	20
<i>Wildlife Conservation</i>	
Endless Possibilities	26
<i>Education</i>	
A Whirl Of Wild Cuisine	28
<i>Food And Beverage</i>	
Supporters Of The Wild	30
<i>Sponsors And Donors</i>	

MESSAGE FROM THE EXECUTIVE CHAIRMAN

I am delighted to report that last year the Singapore Zoo, Night Safari and Jurong BirdPark continued to set new record visitor arrival and financial results whilst undertaking major upgrades to each of our attractions.

The Group's NPAT rose 21% to \$13.99 million with an 8% increase in visitors to Wildlife Reserves Singapore (WRS) totaling 3.17 million. Visitors to the Night Safari for the first time exceeded 1 million and the Zoo was conferred the Best Leisure Attraction Experience Award at the 20th Singapore Tourism Awards. This accolade is the Zoo's 8th and the 13th year in a row that a WRS attraction has won this important award.

Developments extended from exhibits and F & B facilities to animal health and back of the house facilities. President Nathan opened the new Wildlife Healthcare and Research Centre, which provides state-of-the-art dedicated wildlife healthcare, research and training facilities and a public educational and viewing gallery for visitors to view treatment and surgical procedures.

New exhibits developed include the World's only free ranging orang utans, the Australian Outback, new Giraffe arrivals, Asian Otters and Malayan Tapir in the Zoo and the new Bush baby and Giant Anteaters in the Night Safari. Together with the new Ben & Jerry's outlets at all attractions, Pizzafari at the Zoo and the new Bongo Burger and new retail outlets at the Night Safari, they all added to enhance visitors' enjoyment and experience at our attractions.

The offices of the Zoo, the Night Safari and keepers' facilities at Jurong BirdPark were renovated and upgraded to provide comfortable, efficient and modern facilities during the year and the new Night Safari entrance plaza was completed during a year of record visitors.

We have many more projects underway in the current year and are optimistic that results for all 3 attractions will continue to improve.



Mr Robert Kwan
Executive Chairman



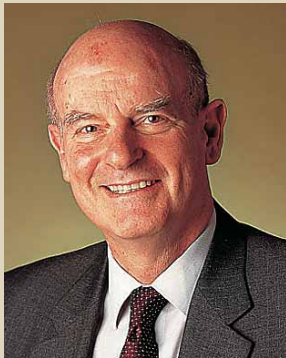
**“In all things
of nature
there is
something
of the
marvellous.”**

*– Aristotle,
Greek philosopher*

BOARD OF DIRECTORS



Mr Robert Kwan
Executive Chairman



Mr Richard Hale



Mrs Kelyna Chan



Dr Ngiam Tong Tau



Ms Yeo Lian Sim



Dr Chan Tat Hon



Mr Benson Puah



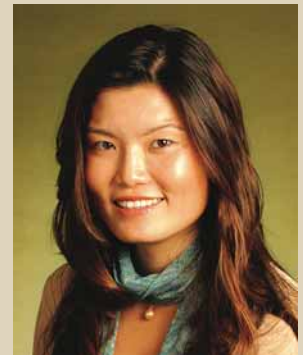
Mr Soo Kok Leng



Mr David Tan



**Mr Smola Stefan
Joachim**



Ms Melissa Kwee
(Till 29/09/05)

WRS Senior Management

Dr Ho Yew Kee

Executive Director, WRS

Ms Fanny Lai

Executive Director, SZG

Dr Wong Hon Mun

Executive Director, JBP

Mrs Daisy Ling

Deputy Executive Director, JBP

Dr Chris Furley

Director, Zoology & Veterinary

Ms Thang Koon Tee

Director, Finance

Ms Isabel Cheng

Director, Marketing

Ms Chan Seow Yang

Director, Human Resources

Mr Chua Teow Hock

Asst Director, F&B

Honorary Legal Advisor

Mr Lee Kim Shin

Allen and Gledhill

Animal Welfare & Ethics Committee

Chairperson

Prof Tommy Koh

Committee Members

Dr Ngiam Tong Tau

Dato Mikhaail Kavanagh

Mr Bernard Harrison

Ms Carla Barker

Dr Geh Min

Dr Jean-Paul Ly

Dr G. Agoramoorthy

Dr Peter K L Ng

Dr Ho Yew Kee

Ms Fanny Lai

Dr Wong Hon Mun

Dr Chris Furley

Secretary

Mr Biswajit Guha

Experts Committee On Zoonoses

Chairperson

Dr Hilda Loh

Committee Members

Dr Ho Yew Kee

Dr Ooi Eng Eong

Dr Chan Kwai Peng

Dr Chris Furley

Dr Ng Fook Kheong

Dr Charlene Fernandez

Mr Er Jwee Chiek

Dr Tan Ai Ling

Honorary Consultants

Assoc Prof Yap Eu Hian

Dr Ong Leong Boon

Dr Tan Hwa Luck

Dr Myra Elliott

Dr Zainal Zainuddin

Prof Soon-Chye Ng

Assoc Prof Francis Seow-Cheon

Dr Ooi Eng Eong

Dr Yap Chin Kong

WRS' attractions continued to carve novel paths in their quest to become premier learning facilities. Exceptional milestones were achieved during the year in review as the three parks introduced guests to even more inclusive and integrated adventures in the wild.

windows on wildlife



After 11 years bereft of the world's tallest animals, giraffes made a welcome return to Singapore Zoo. 'Lucy' and 'Roni', two female Angolan giraffes, and 'Growie', a male Baringo giraffe have settled comfortably in their new enclosure in Wild Africa. The exhibit was officially opened by High Commissioner of the South African embassy, Ms Zanele Makina, on 26 May 2005.

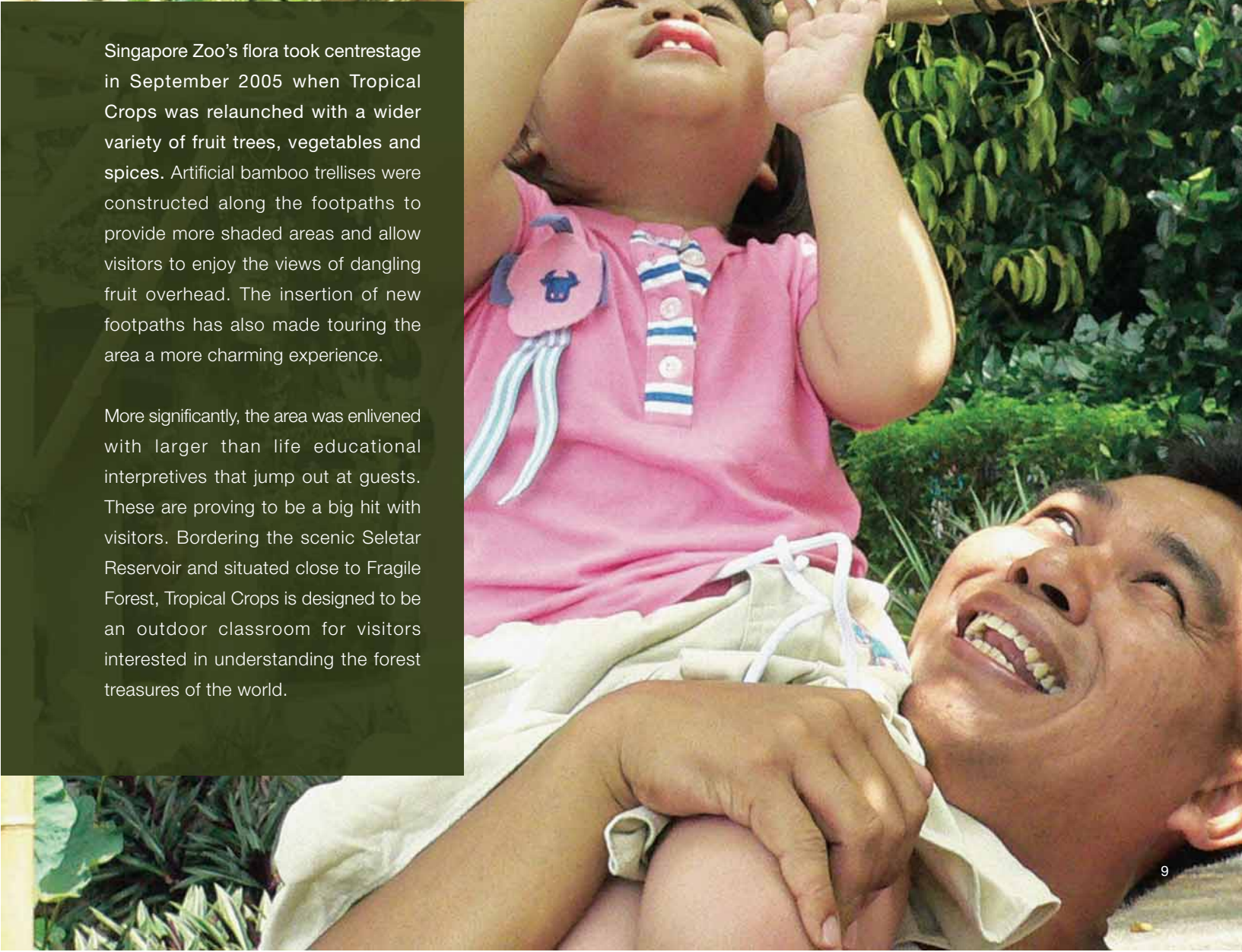
August 2005 was a busy month for Singapore Zoo. A new 'Wonders of the Wild' show was introduced. This half-hour, twice daily presentation highlights animals' natural behaviours in the wild. It aims to educate visitors about wildlife and conservation in an entertaining manner, using a varied cast of primates, reptiles and other small mammals.

Fragile Forest, a showcase for the delicate balance of ecosystems was also given a much-needed re-theming, and emerged sparkling with new interpretives and interactive features designed to reel in the younger crowd. To increase the biodiversity and density of the forest vegetation, a massive infusion of plants was added. Within the biodome, an artificial Rafflesia, the world's largest flower, took up residence and a mini garden, containing a collection of epiphytes and carnivorous plants was created just outside the biodome.



Singapore Zoo's flora took centrestage in September 2005 when Tropical Crops was relaunched with a wider variety of fruit trees, vegetables and spices. Artificial bamboo trellises were constructed along the footpaths to provide more shaded areas and allow visitors to enjoy the views of dangling fruit overhead. The insertion of new footpaths has also made touring the area a more charming experience.

More significantly, the area was enlivened with larger than life educational interpretives that jump out at guests. These are proving to be a big hit with visitors. Bordering the scenic Seletar Reservoir and situated close to Fragile Forest, Tropical Crops is designed to be an outdoor classroom for visitors interested in understanding the forest treasures of the world.



September 2005 also saw the opening of the babirusa exhibit, at the plot of land between Tiger Trek and the Malayan tapir exhibit. From a raised viewing shelter themed to resemble a longhouse, visitors can watch these curious wild pigs from Sulawesi, with their impressive tusks that grow upward through their muzzles. Interesting interpretives and a video display in the shelter make for a complete educational experience. The introduction of the babirusa exhibit marked the beginning of what will eventually become a Southeast Asian trail. The new otter and binturong exhibit was opened in November 2005. The otters and binturongs have been rehoused in a more stimulating and prominent environment near the Zoo entrance. Apart from a small waterfall and shallow stream, the exhibit also features an underwater viewing gallery that offers visitors a glimpse of the otters' underwater behaviour.

In December 2005, the pygmy hippo exhibit was given a makeover to provide a rustic African ambience. New interpretives were also installed to spruce up the place.

Singapore Zoo's little piece of Down Under came alive on 9 March 2006, with the launch of Australian Outback. Opened by Australian High Commissioner, Mr Miles Kupa with special guest Steve Irwin, well-known show presenter and owner of Australia Zoo in Queensland, the exhibit is home to an indigenous tribe of Australian animals including grey kangaroos, wallabies, cassowary, emus, shingle-backed skinks, frill-necked lizards, sugar gliders and carpet pythons. In addition, three inland taipans, the world's most venomous land snakes, are also on display. Mr Irwin also received a cheque donation of S\$20,000 on behalf of Australia Zoo from the Wildlife Conservation Fund. This donation aims to contribute to Australia Zoo's conservation and education programmes.

Australian Outback reflects the rugged beauty of Down Under, with its flanking entry and exit points resembling farmhouse sheds, and a dried red mud track winding through the walk-in section of the exhibit. This middle area, where kangaroos, wallabies and emus roam, is interspersed with semi-arid and marginally fertile ground. Educational interpretives are located throughout the exhibit, with the more interactive ones showcased in the farmhouse sheds.





The Elephants of Asia exhibit was revamped in December 2005. All the seating pavilions were transformed into representations of Asian countries where elephants can still be found. The walkways were lined with nuggets of information and sensory displays such as elephant dung, elephant dung paper and a cast of matriarch elephant Komali's footprint. One of the existing huts was converted into an ele-fun area, with colourful interpretives and sensory devices for children to explore.

By March, Singapore Zoo's entrance was transformed into a more bustling hub to augment visitors' experience and improve the flow of traffic. A variety of mature jungle trees, palms, shrubs and groundcovers were added to the various planters to reflect an authentic jungle theme. The entrance fountain was reconstructed to form a shallow pool to display a family of three bronze elephant statues. Within the plaza, bronze statues of a hippopotamus, rhinoceros, bearded pig and crocodile were also strategically placed. In addition, large clay vases containing aquatic plants and timber log benches were added to provide cosy resting areas for visitors. A new Pizzafari counter, serving homestyle Italian pizza, provided guests a wider culinary choice. The opening of a Cheers outlet added to the convenience of guests hankering for snacks and last-minute necessities such as film, slippers or a tote bag.



Perhaps the most impressive achievement of the year was the opening of the S\$3.6 million Wildlife Healthcare and Research Centre, which will greatly enhance the research and conservation capabilities of Singapore Zoo and Night Safari. The 1,600 square metre, double-storey facility was officially opened by Guest-of-Honour President S R Nathan on 13 March 2006. This state-of-the-art veterinary centre boasts purpose-built facilities such as a fully-equipped operating theatre, a hoist which can lift weights of up to 1,000kg and animal wards with motorised walls to better

control potentially dangerous animals. Modern equipment enable staff to better diagnose and treat the animals. A new ultrasound machine helps to detect pregnancy and illnesses in animals more accurately. The vets are now also able to conduct autopsies of large animals such as big cats in the new pathology and post-mortem room. The well-equipped laboratory allows the technician to carry out analysis of animal secretions and medicinal serums. The centre has a total of three wards for various types of animals – small mammals, reptiles and larger mammals.

An interesting feature for visitors is a viewing gallery with a glass panel which allows them to witness first-hand surgical procedures in the operating theatre; and displays of surgical instruments, taxidermised animal parts, specimens of common animal parasites and Chinese herbs used in treatment of animals.

The new centre is home to a 12-man team, which comprises zoo vets, a vet nurse, a vet keeper and a laboratory technician. Together, they handle more than 120 cases and perform in excess of 12 anaesthesia and five surgeries in an average work week.



Beginning 12 June 2005, visitors were able to enjoy the sight of lesser bushbabies leaping from tree to tree as they walked from Night Safari's East Lodge tram station toward the Leopard Trail. The three males are active and exhibiting well in their new habitat.

Night Safari's entrance also underwent a major facelift in FY05/06. A replica SPAD plane loomed above the new stylised ticketing counters. Five retail shops were added in the inner courtyard with each offering enticing souvenirs. Alongside them stands a Ben & Jerry's ice cream scoop shop. An outer courtyard featuring a water cascade and an orang asli house on stilts were also added. The resonant sounds of a gamelan group bring the area to life every night. The newly constructed toilet block was landscaped and a ranger station, furnished with expedition tools and map sketches, was set up near Tram Station 1.

By early August 2006, the BirdPark will complete an impressive line-up of new offerings which will include the new Palm Plaza entrance, the Birds 'n Buddies show, The African Wetlands exhibit, an avian hospital, a retail outlet called Feathers Concept Boutique and F&B outlets like Bongo Burger and Ben & Jerry's ice cream parlour.

The new entrance will feature a close-to-nature experience photography session with birds. It will also include a new coach alighting cum boarding bay easing up traffic at the entrance. Asia Pacific's first avian hospital aims to be a leader in both research and resource centre for avian information. The hospital will also cover diagnostic clinical works, rehabilitation of ailing and injured birds, post mortem studies. The world famous All Star BirdShow will be called Birds 'n Buddies with Las Vegas Creative Director Pieter Grove adding 12 costumed, bird-inspired characters in colourful costumes. The African Wetlands Exhibit is a gentle reminder of how man, water, birds and nature co-exist. Visitors will be spoilt for choice with a wide variety of bird mementos and creative gifts which boasts a lineup of major brands which include Harley Davidson, National Geographic, Penguin Books, and others found at Feathers Boutique.



A new photo mound cum dance stage was constructed beside the revamped Bongo Burgers in Night Safari. Each night the stage comes alive as Bornean tribal dancers and fire-eaters enthrall a captivated audience.



Visitorship for all three parks totalled 3.17m, a healthy 8% growth over FY04/05. The marketing arm was kept busy throughout the year with a whirlwind of initiatives and publicity campaigns both international and local.

Singapore Zoo was bestowed Best Leisure Attraction Experience during the 20th Singapore Tourism Awards 2005. This accolade is its eighth win since the inception of the awards in 1985. It also affirms Singapore Zoo's status as the nation's foremost leisure venue.

Local and tourist visitorship for Singapore Zoo totalled 0.98m and 0.32m respectively, representing a growth of 4% and 27% in the respective segments. Night Safari received 10% more visitors compared to last financial year. Its attendance totalled 1.01m, of which 81% were tourists. MICE functions held at Singapore Zoo and Night Safari brought in \$1.5m in revenue, posting an 85% increase over FY04/05. Our guests included International Swaps Derivatives Association (ISDA), CMG Oracle, Amway and Bausch & Lomb. We also contributed to the International Olympic Committee (IOC) Spouse Programme, hosting 70 persons to an unforgettable experience in our parks.

reeling in the crowds



A 'Lunch with Lions' ad creative was initiated by Singapore Tourism Board's (STB) India office to position and promote Singapore Zoo as part of a Uniquely Singapore experience.

The e-ticketing system for Singapore Zoo and Night Safari was launched as a value-added service to both local and foreign visitors. Sales through the system have been encouraging, as it affords visitors the ease and convenience of purchasing tickets to the parks online.

To add to the glitz and glamour, parts of Singapore Zoo were transformed into a Bollywood film set on 22-23 September 2005, as legendary director Rakesh Roshan filmed his new movie 'Krrish', starring top actors Hrithik Roshan and Priyanka Chopra.

A cache of events celebrating various festivities punctuated the parks' premises through FY05/06. Value-added activities were also organised to complement the opening of new and relaunched exhibits, in line with its transformation to become a learning zoo.

To commemorate the official opening of the new giraffe exhibit in May 2005, Singapore Zoo introduced numerous 'African elements'. These included African performances, décor, artefacts and cuisine. There was also a series of free talks for visitors to learn more about the graceful giraffes.

Following the relaunch of Fragile Forest in August 2005, younger audiences were treated to storytelling sessions, behind-the-scenes and guided tours, and conservation talks during the one-week September school holiday period.

The revamp of Elephants of Asia in December 2005 paved the way for yet another blitz of cultural and educational activities. These included a contest to guess the weight of an elephant tusk, cultural performances by various ethnic communities, top spinning demonstration and workshop, and a wildlife art display and demonstration by renowned artist Mr Chew Choon.



Chinese New Year 2006 was celebrated with gusto at Singapore Zoo with the 'Mighty Dog Show' heralding in the Year of the Dog. This energetic performance showcased the unique traits and capabilities of Man's best friend, and provided an educational background on the behaviour and ecology of dogs in an entertaining format.



In March 2006, Singapore Zoo switched to Down Under mode, when Australian Outback was opened. A string of educational activities perpetuated an Australian atmosphere, such as a special appearance by well-known animal presenter Steve Irwin, guided tours, aboriginal art sessions and stalls, and didgeridoo performances.

The festivities were accentuated by a breathtaking display of eight dog-shaped topiaries at the Singapore Zoo entrance. Standing at more than 1 metre tall each, the plants were trimmed to represent dogs of different breeds and in various poses. Singapore Zoo's horticulture department spent a year creating the designs, sculpting the plants and maintaining their shape.

Other lunar offerings included the ever-popular Zodiac Trail (a tour involving the various habitats of the zodiac animals), dog ceramics sessions, lion dances and cross talk performances.

Christmas light-up took on a new meaning at Night Safari with enormous animal-shaped lanterns. Life-sized elephants, giraffes and leopards illuminated the lawns outside Night Safari, captivating visitors with their novelty.

Together with the People's Association, Night Safari launched an elaborate display of 12 Chingay floats in April 2005. Visitors were allowed to view and photograph the floats, and don Chingay costumes for further photographing pleasure.



Jurong BirdPark received a total of 0.86m visitors, representing an increase of 4% over FY04/05. The tourist segment made up 75% of the total visitorship and a 6% increase over last financial year.

Jurong BirdPark, together with STB, undertook several ventures within the year in review. It also played host to a group of Malaysian media and travel agents in May 2005, in the pilot experience for relaxation tours.



Jurong BirdPark participated in the Korea and India sales missions, with Pamela Wildheart as show host and performer at the overseas consumer shows.

The Park participated in the STB organised Korea and India sales missions, with Pamela Wildheart as invited celebrity show host and performer. The consumer shows were held in Hyderabad, Kolkata, Ludhiana and Bangalore in India, and Seoul in South Korea. The Indian market was especially sought after and wooed, through joint collaborations with various entities. In June 2005, Zee Telefilms Limited (Zee), India's largest vertically integrated media and entertainment company used Jurong BirdPark as a romantic backdrop for a television series. Advertorials and numerous joint promotions with STB and travel agents in Taiwan and China featured famous heartthrob Ah Du to push family vacation travel to our parks during their summer holidays, giving us prominent publicity.

Overseas student groups in key markets such as India, China and Malaysia were also targeted. Many international groups also held their incentive programmes there. They included, among others, STB Korea and Kepin Travel Publishing Incentive Group, TradeWinds STB IOC spouses, LG Incentive Group, KPMG Thailand, Dunlop Group, Servier Group Philippines, Herbal Life Korea, Richard Furlong Group from the United Kingdom and Samsung Group.



Jurong BirdPark's 'Black and White' award-winning incentive dining programme wowed international tourists with 'Pinky' the Park's star Humboldt Penguin. Guests came in black and white outfits as part of the theme.

In Jurong BirdPark, the Children's Parrot Show turned into a Christmas spirited bonanza featuring Santa Claus and his quirky elves. The Park's snowy owls, Evita and Tundra were on hand for photography and interactive sessions. A Ball for Conservation programme attracted visitors who wrote their wish list on a Christmas ball after donating a dollar.

Following soon after, its Chinese New Year show introduced two German pointers named Batman and Robin and featured dog care and special dog related programmes. Both pointers were adopted by Solid Gold.

A variety of other unique activities brought Jurong BirdPark into the media spotlight. Taiwan star Jacky Wu visited the park with the crew from Shi Zi Lu Kou Part III. The programme has an estimated eight million viewers in Taiwan and has other TV coverage for the US, Canada, New Zealand and China. The programme was telecast from end of May to early June 2005.

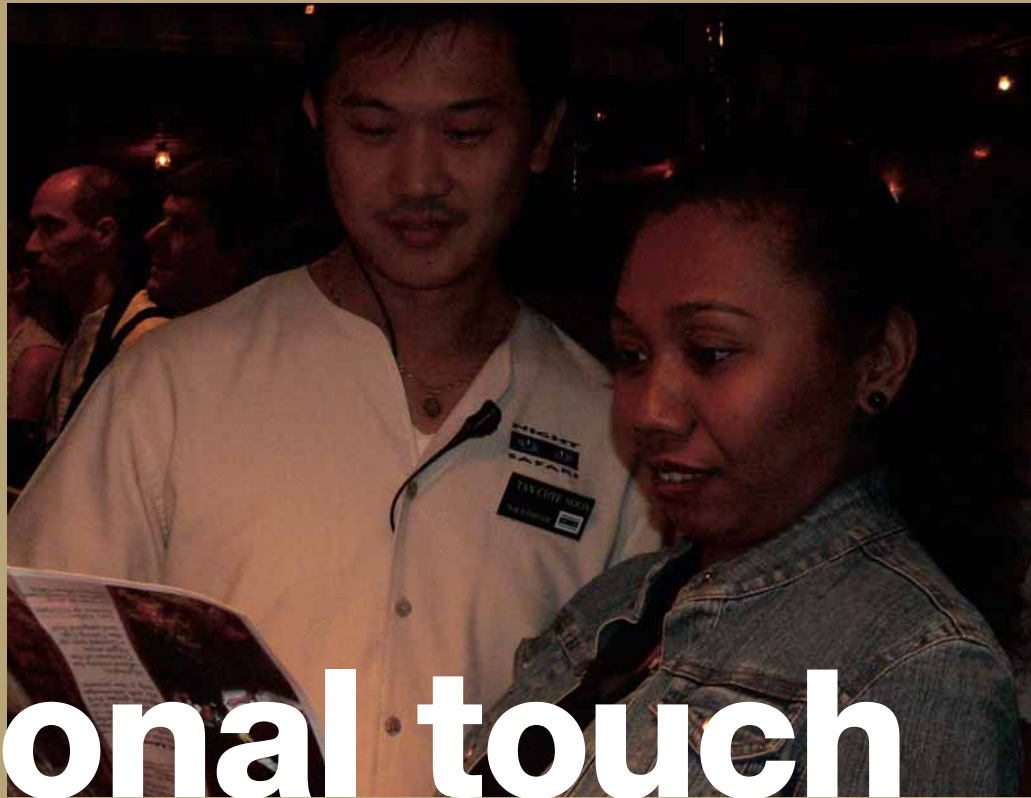
In July 2005, the BirdPark was invited to showcase the birds featured in the book 'Birds Seen at the Istana' at the Istana grounds. Sassy, the park's cockatoo flew the inaugural scroll to His Excellency President S R Nathan to symbolise the Gala Charity Launch, which was held at the Istana. The book celebrates the birds that make the Istana culturally and historically rich and also inspires appreciation for natural environment.

'March of the Penguins', the highly acclaimed film by Luc Jacquet and considered the most successful commercial documentary to date, premiered at Jurong BirdPark in August 2005. Proceeds from the premiere were donated to the Jurong BirdPark's penguin conservation effort.

The BirdPark participated in the Singapore Fashion Festival 2006 in 'The Fiera' Spring Summer Collection to raise funds for conservation. Parrots, flamingos and an albino snake were the highlights of the wildlife-inspired fashion showcase.

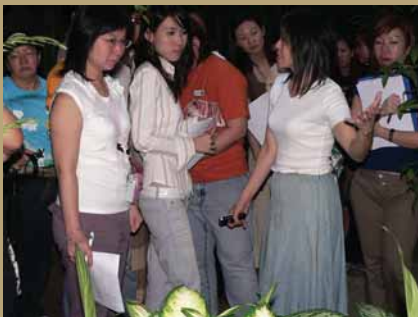
MediaCorp featured Singapore Idol Taufik Batisah and other popular idols in a shoot at Jurong BirdPark in July 2005. The impressive Lory Loft, with its suspended bridges was used to symbolise the many obstacles and challenges that await aspiring idol champions.





a personal touch

As WRS endeavours to be among the top zoological institutions in the world, the core competencies and professional image of the staff are constantly being evaluated and enhanced to ensure high quality service delivery that has come to be expected.



New and improved programmes such as the Windows on Wildlife! (WOW!) Training for non-zoology staff, Corporate Service Culture workshops, supervisory skills modules training, Singapore 2006 Customer Service Training, language classes and information technology (IT) courses were implemented company-wide to enhance/upgrade the knowledge and skills of our workforce.

Critical programmes for the year in review included First Aid, Ropes and Knots Management, Signaller and Rigger and the revised Animal Management – Zoo Biology course. Keepers and veterinarians were also given the opportunity to participate in overseas field trips and training for international exposure, benchmarking and exchange of best practices.

WRS' human resource department continuously strives to provide a resourceful environment to facilitate learning. In line with the learning and development activities planned for the staff, the Training Directory was launched on the intranet in mid-March 2006. This is intended to provide staff with unlimited access to training information when they analyse their training needs.

As an indication of the level of service excellence that can be expected at WRS' attractions, 85 staff received the Excellent Service Award (EXSA) 2005. This is a national award that recognises individuals who have delivered outstanding service.



In October 2005, there was an unexpected and happy discovery: Night Safari's resident female giant anteater, Evita was confirmed pregnant by ultrasound examination and duly gave birth on 18 November. This is the first ever recorded birth of an anteater in Southeast Asia, and the most significant for Night Safari this year. Both Evita and her offspring, a female, are in good health, and are now on display. Our giant anteater collection stands at five.



waving the wildlife flag

WRS continues to demonstrate its credibility as a committed conservation citizen of the zoological world by consistently providing the highest standards in animal husbandry, veterinary services, and exhibit and collection management. This can be conveyed through our dynamic participation in noteworthy conservation projects, both in-situ and ex-situ, with global counterparts in the zoological field, and the significant births of endangered species in all three parks.

Activities undertaken by the research and conservation department are guided by the criteria that projects have to be beneficial and of direct conservation value for wildlife and/or their habitats. There was also a focus on Southeast Asian wildlife and animals in our collection.

The year started off with a long-term effort to monitor the reproductive cycles of the female elephants and anteaters in Singapore Zoo and Night Safari, to enable better management of these species. The National University of Singapore (NUS) generously processed the samples for us and are keen on expanding the study to include other species.

Singapore Zoo also collaborated with the Zoological Society of San Diego (ZSSD) for three leaf-eating monkey projects. The first was a study on the development of douc langur infants in our collection, from birth to 18 months of age. The second project was a state-wide census of proboscis monkeys in Sabah, Malaysia, carried out by John Sha from the Universiti Malaysia Sabah. Singapore Zoo and ZSSD jointly funded this project. Lastly, funds were received for the construction of a second off-exhibit holding facility designated for a breeding pair of proboscis monkeys. In total, US\$53,293 was received from ZSSD for these projects.

Funding and assistance were rendered to several other projects. A total of S\$16,500 and veterinary advice were given to a study on the habitat preference and spatial ecology of the Malayan pangolin. This project is undertaken by Norman Lim, from NUS. Although the Malayan pangolin is found locally and in the region, very little is known about it. However, it is highly traded for its meat and scales. This study has already made some interesting discoveries, which may possibly guide Night Safari's captive pangolin maintenance.

The Malayan flying lemur or colugo was another local species that was focused on. Although not represented in our collection, the colugo can frequently be seen in the environs of Singapore Zoo and Night Safari. Using these sites, Greg Brynes, from the University of California, Berkeley studied its behaviour and ecology through radiotracking. A sum of S\$1,600 was also provided.

A sum of S\$15,000 was contributed to a study on the effects of logging on Malayan sunbears and bearded pigs in Borneo, carried out by Wong Siew Te of the University of Montana. Tropical rainforests are rich in biodiversity and are also important sources of timber. These two species play important roles in the ecosystem, yet little is known about them. The results of this study will aid greatly in the revamping of our upcoming sunbear exhibit.

A further \$12,000 was set aside for a study that examined land snail endemism at limestone karsts for conservation priorities, that was carried out by Reuben Clements from NUS. Limestone is an ingredient that is widely used in everyday life, and limestone karsts are heavily mined for this reason. However, these ecosystems support a wide variety of wildlife, many of which are found nowhere else. The biodiversity in these areas is highly threatened, and in some cases has already gone extinct.

Other initiatives included one with World Wildlife Fund (WWF) that took place in a village in Jeli, Malaysia to reduce the human-tiger conflict through better cattle management. Here, tigers are hunted and poached as they predate on free-ranging livestock. This conflict can be reduced by managing the cattle in predator-proof pens. A sum of S\$12,160, of which \$7,000 were raised by Gongshang Primary School, was donated to the project.

A protection unit for the Tonkin snub-nosed monkey in Tuyen Quang province in Vietnam was also presented with \$10,388. This monkey is one of the world's top 25 most endangered primates. By supporting this unit, all the other wildlife in the patrolled area is also protected and a steady source of income is available to the members in the protection unit.

To celebrate World Animal Day on 4 October, Singapore Zoo produced an endangered animal poster for sale at a nominal fee, and invited visitors to declare their support for animals on pledge boards at its entrance. An advertisement and contest were featured in the main newspapers for the public to identify various endangered animals found in Southeast Asia. The Zoo also launched a website (www.zoo.com.sg/endangeredanimals) to inform and educate the public about endangered animals.

Additionally, our commitment to preserving biodiversity extends to nurturing the oft-neglected world of flora. This is evidenced by the launch of the new plant tour on 22 April 2005, to commemorate Earth Day. This 45-minute tour, targeted at school children, brings visitors to various parts of Singapore Zoo. It highlights the importance of plants to humans and emphasises Man's role in protecting the plants for a better place on Earth.



Dr Geh Min, President of Nature Society (Singapore) and Nominated Member of Parliament, officiated the launch of the plant tour. She also planted a Hopea sangal tree sapling of the felled 150-year-old tree from Changi, as a symbolic gesture to promote environmental conservation.

Singapore Zoo welcomed the birth of three douc langurs on 22 April, 19 July and 20 August. Unfortunately, we lost the first infant. The other two are doing well, bringing our collection to a healthy 12 specimens. Anita, our Bornean orang utan gave birth to a healthy baby girl on 29 October 2005. She has been adopted by celebrity singer Anita Sarawak, who has named her Atina. Other significant births in Singapore Zoo included that of five Nubian ibex, a pygmy hippo, five cotton-top tamarins, two falabella foals and two ring-tailed lemurs.

Singapore Zoo also experienced an exciting year in animal transactions. On 14 April 2005, we received two young female Angolan giraffes, 'Lucy' and 'Roni' from the Tisch Family Zoological Gardens in Jerusalem, Israel, in exchange for a male red panda. Five days later, 'Growie', a male Baringo giraffe from Burger's Zoo in Holland joined them. They were all successfully mixed and quarantined. All three giraffes were released into their new exhibit on 16 May 2005 upon completion of their quarantine period. The three lanky newcomers are displaying very well in their fairly large enclosure with a group of nyalas and a pair of ostriches.

'Charlie', a handsome male Sumatran orang utan arrived from Zoo Negara, Kuala Lumpur, Malaysia on 8 June 2005. He was kept in the primate holding quarantine until 31 July 2005, when he was brought to the orang utan house. He will eventually be introduced to 'Sayang' and 'Chomel', two of our female Sumatran orang utans.

A total of 49 agile wallabies were sent to four zoos; this being a record number for the transfer of a single species in one year. A male white rhinoceros, two male Eastern bongo antelopes and a pair of pumas were sent to Taman Safari, Indonesia. Five Nubian ibex (a wild goat species) were sent to Jordan as part of a conservation programme involving the reintroduction of this species to the wildlife reserves in Jordan.



For the first time in our history, a marine mammal was exported. The male Caribbean manatee was sent to Zoomarine in Portugal. This shipment was very challenging in that the animal had to be placed in a foam padded crate without water and the freight arrangements involved flying the animal to Luxembourg and then transferring it onto a chartered aircraft for its flight to Faro in Portugal. Other exports included two striped hyenas and three capybaras to Zoo Negara; a pair of binturongs and a male fishing cat to Taronga Zoo in Sydney, Australia; 12 barasinghas to Thailand, two ocelots and four Bengal slow lorises to South Africa; two Indian wolves and two leopard cats to India; and a female Malayan tapir to Copenhagen Zoo on a breeding loan.

The Night Safari celebrated the birth of a golden cat kitten, a noteworthy milestone for us as the species co-ordinator. We now have seven golden cats in our collection. Another momentous event at Night Safari was the birth of five Himalayan tahrs, all of which were conceived through artificial insemination. We have 15 Himalayan tahrs in our collection.

Night Safari received three barking deer from Taiping Zoo, Malaysia in exchange for a pair of African Lions. A female giant anteater from Dortmund Zoo, Germany was sent on a long term breeding loan. She has since been paired with our young male and they are on display at the Night Safari. An unrelated male Malayan tapir from Zoo Melaka was exchanged for two of our male tapirs.

WRS' parks also double up as rehabilitation centres and this role was put to good use several times this year. On 14 October 2005, a young pangolin was left at Night Safari. Initially, keepers fed it termites, ants and ant eggs. As these food items are not easily available, minced meat, mealworms, eggs and honey have been gradually introduced to its diet. This is the first time a pangolin has been successfully kept in captivity in Night Safari. Three Himalayan griffon vultures went off course during migration and were found weak and exhausted in Singapore's city areas. They were rescued and nursed back to health at Jurong BirdPark.

Jurong BirdPark successfully bred 10 out of a total 17 hornbill species in its collection. Some of the captive-bred birds have been sent to other zoos worldwide to improve the bloodlines of their hornbills. This is in line with our contribution in global ex-situ conservation programmes for the endangered birds.

To further in-situ research, Jurong BirdPark is a part of the Singapore Hornbill Project, a joint effort with National Parks Board, Nature Society Singapore, Asian Geographic and others on the study of oriental pied hornbill, the remaining species of hornbills native to Singapore. The Park supports the study of this hornbill species on Pulau Ubin by donating nestboxes and a video recording system to monitor the nesting trees. Three oriental pied hornbill pairs were set-up in the hornbill and toucan exhibit as part of an ex-situ and in-situ research project on this species. The female hornbill in one of the aviaries laid its first egg on 27 February 2006, the second and the third egg were laid 3-4 days apart. Pictures and data collated indicate that their breeding behaviours seem to mirror those in the wild.



The gathering and correlating of data collected in Pulau Ubin and the Jurong BirdPark ensures advanced knowledge in oriental pied hornbill and enhances the breeding success of this species in captivity, thereby reducing the pressures of taking birds from the wild. The results of this project can potentially set the stage for conservation and research work in other tropical species of hornbills, which are also in need of help and support.



The highly endangered palm cockatoo has been breeding well in Jurong BirdPark.

Jurong BirdPark welcomed 156 chicks hatched from 48 species of birds of which 33 species are endangered or protected. These included the Nicobar pigeon, the Bali mynah, the Moluccan cockatoo and the highly endangered palm cockatoos in Lory Loft, a welcome sign that the birds have settled down nicely in the exhibit. Other hatchings included the African crowned crane, red-shouldered macaw, black-headed caique and greater flamingo. The barn owls in the World of Darkness exhibit bred with the female, a prolific breeder. A volunteer set up a monitoring system in the exhibit to enable the staff to observe the nesting owls.

New inhabitants of Jurong BirdPark included an ostrich and a pair of blue peacocks from Pulau Ubin, courtesy of the Agri-Food and Veterinary Authority (AVA). The transfer of the ostrich, christened 'Ubin', from the island to the mainland attracted much media attention. Fourteen owls arrived from the Owl Conservatory, Italy on an open exchange while 12 roseate spoonbills and two milky storks headed north to Taiping Zoo in Malaysia. Two Dalmatian pelicans, two Australian pelicans and four great white pelicans also went to a zoo in the Republic of Georgia. An emu and a cassowary were sent to Singapore Zoo.

The veterinary team was kept active every day through the entire year. The staff expanded with the addition of a veterinary nurse and a keeper, who quickly settled into the daily routine of caring for sick animals in the wards and assisting the vets with all the different types of cases present in a zoological collection. The department saw on average 120 cases per month ranging from lameness in an elephant to pneumonia in a parrot.

Some new techniques were tested out on our animal collection: in February a new long-acting tranquilizer was used for the first time on bearded pigs and worked very well. After some refinement, we are now in a position to be able to control nervous and flighty animals for treatment, which might otherwise hurt themselves while being confined for veterinary attention. This is a major step forward in improving the survival rate of animals under stress – a shipment of 14 agile wallabies was tranquilised and sent to the USA without a single animal being accidentally injured or traumatised.

Another new technique was the use of a combination of powerful sedative drugs to sedate animals such as antelope and deer so that they would stand perfectly still for examination and treatment. Several standing sedations were successfully carried out on Night Safari's female bongo, 'Ramba' for treatment of a dew claw wound on her right forelimb.

The largest animal sedated was 'Ingozi', the male rhino who was given a full sedation for examination and treatment of an injured nail on the left hand leg. The procedure was successful.

Avian influenza (bird flu) loomed large on our horizon and we conducted a thorough vaccination programme of birds in the three WRS attractions against avian flu. Sentinel chickens were distributed around the three parks to monitor the presence or absence of bird flu in accordance with the recommendations of the AVA. As a result we believe we are more prepared for an outbreak than any bird park or zoo in the region. In early January, the three attractions participated in a bird flu simulation exercise witnessed by AVA officers. The teams were rated 'very impressive' in the bird flu preparedness, personal protective equipment skills and decontamination measures.

As at 31 March 2005, Singapore Zoo had a total of 3,050 animals representing 290 species. Night Safari had a total of 920 animals representing 130 species. Jurong BirdPark's collection stood at 9,000 birds representing 610 species.



'Charlie', the recently acquired male Sumatran orang utan from Malaysia's Zoo Negara had to be sedated for some delicate dental work soon after his arrival. This was carried out by our consultant dentist Dr Myra Elliot.

The year has been a fruitful one for the Education Department as it went full swing to reach out to students, educators and the general public through various platforms including interactive outdoor activities, teachers' workshops, talks, conducted tours, new publications and student volunteer programmes. The three attractions hosted a total of 165,000 school visitors in FY05/06.

With the support from SPH Foundation, the SPH Conservation Ambassadors and Wildlife Buddies programme was launched at the Zoo on 14 June to offer students from primary to tertiary levels avenues to serve the community, do their part in wildlife conservation, and gain confidence in public speaking and social experience. Under this programme, student volunteers undergo training by Education staff and subsequently, share their knowledge with the community by acting as guides at Fragile Forest, Hamadryas Baboons and Tropical Crops, or as buddies for younger students. A total of 135 junior college and tertiary students took up the Conservation Ambassadors programme while 120 primary school students acted as buddies for their younger schoolmates.

endless possibilities



The inaugural Zoolympix held in June enjoyed resounding success. Visitors were invited to pit their strength, agility and speed against the animal champions. The event provided opportunities for visitors to learn more about wildlife through a fun and inclusive manner. A total of 1,900 visitors participated in Zoolympix and \$11,000 was raised through sales of the Zoolympix booklet and various activities such as face painting and balloon sculpting.

July saw the implementation of WOW! Staff Training Programme for non-zoology staff. This initiative, conducted mainly by Zoology and Education Departments, aims to open the 'windows on wildlife' to staff and enhance their product knowledge to contribute to the 'wow' experience of visitors.

Wildlife Galore, a one-week school and public outreach programme was presented in November to generate awareness for Singapore's flora and fauna with emphasis on conservation of the long-tailed macaque. The activities involved Show and Tell sessions, Singapore Wildlife Trail, and recycling, craft and storytelling stations.

The Ministry of Education demonstrated their support and endorsement for the Zoo with the inclusion of a three-day workshop titled 'Outdoor Learning @ The Zoo' as one of their training courses for teachers. Under this scheme, MOE sponsors the course fee for the participating teachers. A total of 22 teachers attended the training held in November. All the participants felt that the workshop was effective in helping them plan enthralling learning journeys for students. Judging from the positive feedback, 'Outdoor Learning @ The Zoo' is expected to gain popularity among educators.





Apart from the wide variety of outreach programmes organised to engage school visitors and members of the public, more publications were also produced and distributed to generate conservation awareness. Three volumes of 'Wildlife Wonders Animal Series' on tigers, giraffes and elephants were published to tie in with the various A&P activities on these animals. A special issue to commemorate the opening of Wildlife Healthcare and Research Centre was also released. The crowning achievement had to be the completion of the 170-page comprehensive guidebook on the animal collection at Singapore Zoo in December.

To encourage school visits at Night Safari, 'Critters of The Night', a free programme that focuses on adaptation of nocturnal creatures, was introduced in September. Packaged with a special appearance of a nocturnal animal, the programme is also available to companies and other organised groups for a fee.

At Jurong BirdPark, workshops with fresh contents to reach out to educators were introduced. BirdPark Trail Workshop was held in collaboration with Teachers Network (TN), Ministry of Education to show teachers how to integrate the MOE's initiative 'Teach Less Learn More' and adapt worksheets in the BirdPark Trails for primary students. For teachers who do not have science background and little knowledge about birds, the Pre-School Educators Workshops are a boon to them as these workshops provide interesting insights and help them use the Park effectively as a teaching resource.

The first quarterly Education electronic direct mailer (EDM) was posted on Jurong BirdPark's website and sent to various schools and education providers. The EDM will allow us to reach a wider audience and keep educators and providers regularly updated on events and new education programmes in the Park.

Tours were conducted for foreign media, school principals and members from China and Thailand and Hong Kong School groups. We worked with STB in the SIN EDU offerings for overseas school trips from Thailand, Korea, Malaysia and China.

Since the launch of 'Zoo Goes To Schools' in early 2005, Dr Ooz visited 81 primary schools and kindergartens and enthralled some 52,000 students with her interactive Show and Tell sessions on wildlife conservation. Dr Ooz dropped by old folks' homes, children's homes and shopping malls too.





a whirl of wild cuisine

WRS' Food & Beverage Department continued to focus on creating more opportunities for revenue and profit growth for all three parks. Operationally, the strategy for maximising returns during weekends and public holidays has shown an improvement in overall revenue of \$2.31 million (12%) over the previous FY. This constituted 15% of WRS' total revenue.

This financial year saw some major changes being carried out at the entrance areas. At Singapore Zoo, KFC's side counter was converted into Pizzafari on 28 October 2005. This takeaway outlet serves homestyle Italian pizza, allowing guests an additional culinary choice. A month after Pizzafari's debut, Cheers convenience store opened its doors at the former Konica photo shop. To date, the revenue and bottom line for Cheers has been encouraging even as our offerings are modified to suit our different clientele.

Night Safari's old Bongo kiosk was converted to a proper Ben & Jerry's ice cream scoop shop, which resulted in a tripling of the revenue for the location. Working in tandem with the Night Safari entrance project, Bongo Burgers was given a half a million dollar facelift to transform the fast food outlet into a quick casual dining facility with a distinctive safari theme. Response is encouraging, with an increase in patronage even from the local community! A final change to Night Safari's dining landscape is the Ulu Ulu Restaurant, which is set to replace Safari Restaurant towards the end of 2006.

The Weddings in the Wild programme, which was launched the previous year, saw a 170% increase in total numbers of weddings and solemnisations held at Singapore Zoo.

With regard to banqueting and event organisation, major inroads were made with more MICE dinners, Gourmet Safari Express and family days conducted at all three parks with an overall increase of 45% in number of functions and a 39% increase in total revenue.

To cope with popular demand for Gourmet Safari Express, the capacity of our gourmet trams was increased from 36 to 72 persons. Response has been encouraging to date, with a 30% increase in revenue to \$260,000 compared to the previous financial year. Our guests included Ministry of Trade and Industry, Ministry of Transport, Singapore Police Force and Ministry of Foreign Affairs with BG George Yeo as host. There was also the inaugural gathering of the Attorney General Chambers for ASEAN countries.

The Jurong BirdPark enjoyed an impressive patronage of weddings for both local and international couples from Scotland, Australia and England who solemnised and held their wedding banquets here. The star attraction was Sassy, the officio ring bearer, who flew wedding rings to the couples. The couples released Mandarin ducks, lovebirds or doves to add meaning to their ceremony.

Television and print media featured the BirdPark's banquet setting at the Lakeview Room surrounded by the Flamingo Lake with 1,001 flamingos.

Jurong BirdPark will also experience new frontiers in dining the coming financial year. An air-conditioned Ben & Jerry's ice cream scoop shop will grace the retail shop area, and a Bongo Burgers outlet will take over the former McDonald's site at the park.



supporters of the wild

Singapore Zoological Gardens Fund (the 'Fund') is a registered charity and an Institution of Public Character with the primary objectives of promoting education, conservation, research, protection and improvement of endangered wildlife. Donations and sponsorships to the 'Fund' are given tax-exempt receipts.

Zoo Adopters – FY 05/06

Name of Adopters	Adopted Exhibit
Abbott Laboratories (S) Pte Ltd	Growie, The Giraffe
The Australian International School, Singapore	Banjo, The Orang Utan
Baxter Healthcare SA, Singapore Branch	Free-Ranging Peafowl
Borneo Motors (S) Pte Ltd	Cheetah Exhibit
DBS Bank Ltd	Animal Friends Show
DFS Venture Singapore (Pte) Limited	Jamilah, The Elephant
Epson Singapore Pte Ltd	Flamingo Exhibit
E D & F Man Asia Pte Ltd	Cocoa Tree
Ecolab Pte Ltd	Chomel, The Orang Utan
F&N Coca-Cola (Singapore) Pte Ltd	Omar, The White Tiger
General Motors Overseas Distribution Corporation of Singapore	JJ, The Gibbon
Haw Par Corporation Limited	Leopard Exhibit
Hess Education Centre	Anita, The Orang Utan
Hotel Properties Ltd	Snake House Exhibit
Imation Singapore Pte Ltd	Satria, The Orang Utan
International Researchers Club	Mandrill Exhibit
ITIS Pte Ltd (Sony's Distributor)	Sayang, The Orang Utan
Lady Y P McNeice	Brazilian Tapir Exhibit
Lee Foundation Singapore	Tropical Crops Plantation
Malayan Motors	Jaguar Exhibit
McDonald's Restaurants Pte Ltd	Zebra Exhibit
Mitsubishi Corporation	Lucy and Roni, The Giraffes
MobileOne Ltd	Amhara Stone Village Exhibit
Mr Ian Peter Windle	Cannonball Tree
Mr Michael John Martin	Binte's Baby, The Orang Utan
Mrs Christina Ong, Club 21 Pte Ltd	Binte, The Orang Utan
Ms Jennifer McNeice	Sokki, The Chimpanzee

Zoo Adopters – FY 05/06

Name of Adopters	Adopted Exhibit
Nokia Pte Ltd	Otter Segment - Wonders of the Wild Show
Northern Territory Tourist Commission	Safari Jeep at Australian Outback Exhibit
Philips Electronics Singapore Pte Ltd	Binturong
Razer (Asia-Pacific) Pte Ltd	Diamondback Rattle Snake
Reef Holdings Pte Ltd	Snake House Exhibit
SembCorp Environmental Management Pte Ltd	Tree Frog Exhibit
Singapore Food Industries Ltd	Pot-Bellied Pig Exhibit
Singapore Petroleum Company Ltd	Penguin Exhibit
Singapore Press Holdings Foundation Ltd	SPH Conservation Ambassadors
Singapore Press Holdings Limited	SPH Conservation Centre
Singapore Press Holdings Limited	Inuka, The Polar Bear
Singapore Technologies Aerospace Ltd	Sealion Show
SMRT Corporation Ltd	Cotton Top Tamarin Exhibit
Starhub Pte Ltd	Red Langur Exhibit
Tanglin Trust School Ltd	Labu, The Orang Utan
The Cheng Kim Loke Foundation	Brazilian Tapir Exhibit
The Hongkong And Shanghai Banking Corporation Limited	Ah Meng, The Orang Utan
The Shaw Foundation Pte	The Shaw Foundation Amphitheatre
The Shaw Foundation Pte	Manatee Exhibit
The Singapore Police Co-Operative Club	Sang Wira, The Elephant
Tiger Airways Pte Ltd	Winnie, The White Tiger
Unilever Singapore Pte Ltd	Squirrel Monkey
Wuthelam Holdings Pte Ltd	Rabbit

SUPPORTERS OF CONSERVATION

Jurong Bird Park Friends of the Birds' Scheme Fund (the 'Fund') is a registered charity and an Institution of Public Character with the primary objectives of promoting education, conservation, research, protection and improvement of endangered birdlife. Donations and sponsorships to the 'Fund' are given tax-exempt receipts.

Night Safari Adopters – FY 05/06

Name of Adopters	Adopted Exhibit
American International Assurance Company, Limited	Porcupine Exhibit
Bedok Police Division	Giant Flying Squirrel
Chemical Industries (Far East) Limited	Malayan Tiger Viewing Shelter
DFS Venture Singapore (Pte) Limited	Thamin and Mouflon Habitats
F&N Coca Cola (Singapore) Pte Ltd	Lesser Bushbaby Exhibit
Goodwood Park Hotel Ltd and Khoo Foundation	Fishing Cat Trail
Haw Par Healthcare Limited	Tiger Habitat
International Researchers Club	Kinkajou Exhibit
JTB Pte Ltd	Sambar Deer and Elephant Habitats
Millward Brown Asia Pacific	Mousedeer
MobileOne Ltd	Giraffe Habitat
Mr and Mrs Lim Soo Peng	Sarus Crane
Mr Martin Storey	Babirusa Habitat
Nokia Pte Ltd	Pedro, The Otter
Singapore Prison Service	Forest Eagle Owl
Singapore Prison Service	White-Bellied Sea Eagle Habitat
Singapore Refining Company Pte Ltd	Marshbird Habitat
Singapore Telecom Mobile Pte Ltd	Ankole Exhibit
Standard Chartered Bank	Otter Habitat (Leopard Trail)
Starhub Pte Ltd	Serval Segment – 'Creatures of the Night' Show
The Shaw Foundation Pte	Slow Loris Habitat
Unilever Singapore Pte Ltd	Tarsier Habitat
Wuthelam Holdings Pte Ltd	Waterbuck

Jurong BirdPark Adopters – FY 05/06

Name of Adopters	Adopted Exhibit
Lee Foundation Singapore	Penguin Parade Exhibit
The Stewart Family Foundation Inc	African Grassland
Sunbear Publishing Pte Ltd	Snowy Owl
Hong Leong Foundation	24 Flamingos at All Star BirdShow
Honeywell (Singapore) Pte Ltd	Carlos, the Dalmatian Pelican
United Overseas Bank Limited	Lancer, the Brahminy Kite
FUJI Photo Film (Singapore) Pte Ltd	FUJI World of Hawks Show + FUJI, the White-Bellied Sea Eagle
Singapore Food Industries Limited	Sasha, the Red-Legged Seriema
MobileOne Ltd	White Bellied Sea Eagle
Thai Airways International Public Company Limited	Panorail Trains
Singapore Technologies Aerospace Ltd	Kings of the Skies Show
Singapore Press Holdings Limited	All Star BirdShow
Singapore Press Holdings Limited	Flamingo Pool
Singapore Press Holdings Limited	Samson, the Golden Eagle
The Shaw Foundation Pte	Fly-Pass Macaws
Lady Yuen Peng Mcneice	Bali Mynah Exhibit
Carl Zeiss Pte Ltd	Happy, the Hyacinth Macaw
Network for Electronic Transfers (S) Pte Ltd	Mr. Horn, the Toco Toucan
Solid Gold Pets (S.E.A.) Pte Ltd	Batman & Robin, the 2 German Pointer Dogs + Dog Kennel



80 Mandai Lake Road Singapore 729826 Tel: 65 6269 3411 Fax: 65 6362 0163