



YEARBOOK 2012-2013

WILDLIFE RESERVES SINGAPORE

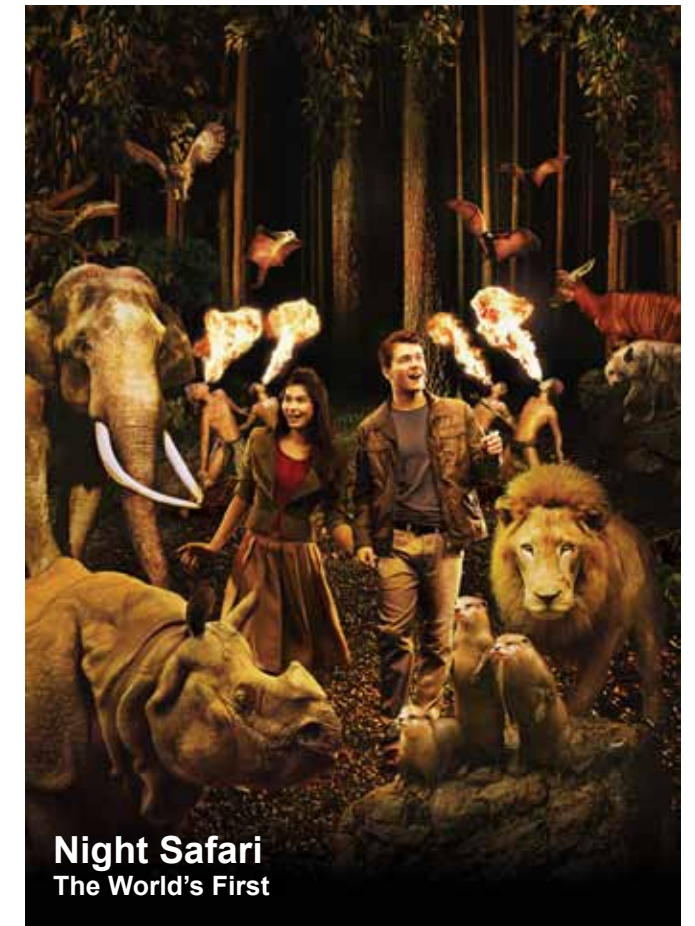


ABOUT WILDLIFE RESERVES SINGAPORE

Wildlife Reserves Singapore (WRS) is the holding company of award-winning attractions Jurong Bird Park, Night Safari, Singapore Zoo and the newly opened River Safari. WRS is dedicated to the management of world-class leisure attractions that foster conservation and research while educating visitors about animals and their habitats.

A self-funded organisation, WRS also collaborates with various partners, organisations and institutions aimed at protecting local and global biodiversity. Each year, Jurong Bird Park welcomes over 900,000 visitors, Night Safari 1.1 million, and Singapore Zoo 1.7 million.

Wildlife Reserves Singapore Group



WILDLIFE RESERVES SINGAPORE
YEARBOOK 2012/13

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CHAIRMAN'S MESSAGE

The moment that everyone was waiting for finally arrived on 6 September 2012. Giant pandas Kai Kai and Jia Jia touched down at Changi Airport on board a Singapore Airlines Cargo Boeing 747 freighter at 8.20am after a five-hour flight. Three years of careful planning and intense hard work culminated to this momentous occasion, which emphasised the strong bilateral ties between China and Singapore. On 28 November, Mr Iswaran, Minister in Prime Minister's Office and Second Minister for Home Affairs and, Trade and Industry officially opened Giant Panda Forest, which is Southeast Asia's largest giant panda exhibit. The child-like innocence and gentle demeanour of giant pandas captures our heart, making them potent symbols for wildlife conservation. We hope that our black and white conservation ambassadors, Kai Kai and Jia Jia will tug the heartstrings of the people and spark their curiosity about the natural world and the desire to protect it. Giant pandas have long been recognised as an umbrella species. By moving people to save the giant pandas, we are also helping to conserving a wide range of animals and plants that share their natural habitat.

Kai Kai and Jia Jia will be in Singapore for 10 years as part of a joint collaboration between China Wildlife Conservation Association and WRS to promote public awareness on wildlife conservation and develop a breeding programme for these endangered bears. Within four months of the opening of Giant Panda Forest, 250,000 visitors came to learn about the world's most loved bears through the interpretives at the exhibit, various educational programmes, guided tours, a specialist talk and an exhibition. Two children's story books, one in Chinese, were published to engage and educate pre-schoolers.

We eagerly awaited the soft opening of our fourth park, River Safari, in April 2013. In March, River Safari was unveiled for a sneak preview to the media and invited guests. As Asia's first and only river-themed park, River Safari plays a pivotal role in raising awareness of the gravely threatened freshwater ecosystems and related environmental issues, which directly or indirectly impact the survival of all life forms, including ours. The new park will take visitors on a wildlife journey to discover over 5,000 unique aquatic and land animals, representing 300 species, from the world's major river habitats. We hope that the immersive experience will inspire people to take positive actions in caring for freshwater ecosystems, which are facing more serious threats than terrestrial and marine ecosystems.

As an organisation that focuses on conservation, we diligently embedded concepts of environmental sustainability in all aspects of the development of River Safari, and minimised the impact of the development through intensive reforestation efforts to create suitable habitats to support native wildlife. This holistic and studied approach found endorsement and we are proud to receive the BCA Green Mark Platinum Award for River Safari.

We are heartened to see good progress in the conservation of local biodiversity. Since the inception of Wildlife Reserves Singapore Conservation Fund (WRSCF) in 2009 to support preservation of native wildlife, five projects have been completed, with four in this year alone. The research results deepen the knowledge of the nature conservation community and serve as an important tool for future development and implementation of effective conservation measures. Separately,

we stepped up efforts in supporting conservation work in the region where its immensely rich biodiversity is among the most threatened in the world. Key focus is on the research and conservation of Asian elephants, and critically endangered species such as the Tonkin snub-nosed monkeys, Delacour's langur, Bali mynah and river terrapin.

Conservation education is the key to cultivating generations of environmentally-conscious individuals who are moved by the sincere desire to impact the natural world with positive actions. Apart from educating some 168,000 school visitors, we engaged the members of the public with numerous interactive activities and outreach programmes, ranging from mobile trails for the IT-savvy visitors, overnight family camps and junior keeper days to the off-site PS21 Excel Conference. We could not have been able to achieve so much without meaningful partnerships with the Ministry of Education, various educational institutions, educators and volunteers who unselfishly sacrificed their leisure hours for the cause.

Our Zoology, Avian and Veterinary staff were kept extremely busy with animal acquisitions, exchanges, acclimatisation and transfers in preparation for the opening of River Safari. As usual, they came up top and delivered the best possible care for the animals, many of which added bundles of joy to our living collection. We welcomed 822 births and hatchings, a significant number that reflects a high standard of animal husbandry.

We were bestowed the honour of hosting the 4th International Congress on Zookeeping, the first to be held in Asia. We are delighted to have played a significant part in the pursuit of zoological excellence and providing a platform for discussion for zoo professionals from 32 countries.

In the competitive landscape of the leisure industry, we have to continuously strive to deliver the best service and experience to our visitors. Wallaby Trail is the fourth walking trail added to Night Safari to offer visitors a close encounter of wallabies in a naturalistic walk-through habitat. At Jurong Bird Park, we launched the High Flyers Show to thrill visitors with a spectacle of natural bird behaviours while delivering the conservation message to a captive audience. The newly upgraded Breeding and Research Centre opened its doors to members of public who can now learn about chick development, watch our bird nannies care for the chicks and appreciate the importance of breeding rare birds as part of avian conservation.

We are proud that Night Safari and Jurong Bird Park were nominated as two of the three finalists in the "Best Visitor Attraction Experience" category at the Singapore Experience Awards 2012 by Singapore Tourism Board. Night Safari eventually bagged the award, lauded as the most prestigious in Singapore's tourism sector. Our staff Ms Divine from Retail, Ms Letchmi from F&B and Mr Chandramohan, Trainer and Show Presenter of Jurong Bird Park were finalists for Best Customer Service in Visitor Attraction category. Mr Chandramohan beat strong contenders and clinched the coveted award.

The year 2013 marks a significant milestone for Singapore Zoo, which turns 40. Over the years, Singapore Zoo has established itself as a key recreational and educational centre, and enjoys the position of being a focal point in tourism for Singapore. Upon reaching this landmark moment, we must continue to improve by remaining a significant conservation hub and giving our guests an extraordinary experience in our parks.

It has been an exhilarating year with great achievements, attained through the hard work of our passionate and professional team. I would like to thank our Board Members, shareholders, members of various committees, honorary consultants, sponsors, donors, volunteers and friends whose support has made the journey a fulfilling and humbling one.

Chairman
Wildlife Reserves Singapore



**CLAIRE CHIANG,
CHAIRMAN
WRS & WRSCF**

Ms Claire Chiang, Senior Vice President, Banyan Tree Holdings, is a co-founder of Banyan Tree Hotels and Resorts and chairs China Business Development for the group. The group has 23 Banyan Tree and 13 Angsana hotels and resorts in Asia and beyond, and a pipeline of 35 new properties under development. She also pioneered the group's retail business in 1996 and has since overseen the launch of more than 80 retail outlets worldwide.

Ms Chiang is also the chairperson of Banyan Tree Global Foundation

which was established in early 2009 by Banyan Tree Holdings. Her role involves directing and guiding the evolving process of the group's commitment to corporate social responsibility and its mission to "Embrace the Environment, Empower the People".

She co-authored the book "Stepping Out: The Making of Chinese Entrepreneurs". The publication garnered a National Council Book Award.

Ms Chiang was one of the first two women in 89 years to be elected to the Board of the Singapore Chinese Chamber of Commerce and Industry and was awarded in 1998 as a "Woman of the Year" for her

contribution to the community. She served as a Singapore Nominated Member of Parliament for two terms (1997-2001) where she raised many policy issues related to the social service sector, women, family, education and the disadvantaged. In 2009, she was recognised by The International Alliance for Women "World of Difference 100" Awards for championing village-based entrepreneurship.

Her government portfolio includes chairing the Employer Alliance and being a member of the Tripartite Committee on Work-Life Strategy. She was also the Co-Chairperson for the Pro-Family Business Council under the charge of the Ministry of Community Development, Youth and Sports (2005 - 2011),

the Partner Connection Fund (2006 - 2011), and an Advisor for Romancing Singapore (2003 - 2005) under the charge of the Ministry of Community Development, Youth and Sports.

Ms Chiang is a member of the Board of Governors of Raffles Girls' Secondary School. She is also a Board Member of the National Arts Council. She is the patron and advisor to Help Every Lone Parent (HELP), the past President of Rotary Club of Suntec City and a member of People's Association (PA) in Singapore. She is a member of the Singapore General Hospital Medifund Committee, and serves as a mentor for the Young Women's Leadership Connection mentorship programme.

In 2008, Ms Chiang was awarded a Pingat Bakti Masyarakat (Public Service Medal) during Singapore's National Day Awards and the inaugural Singapore Innovation Park Fellow Award. In the same year, she was formally appointed as a Justice of the Peace by Singapore President SR Nathan to exercise such powers and to perform such duties as may be conferred on them by any law. This was followed by her appointment to the Board of Visiting Justices in 2010.

In April 2009, Ms Chiang, together with Mr. Ho Kwon Ping, was a joint recipient of the Hospitality Lifetime Achievement Award at the annual China Hotel Investment Summit.

In 2011, Ms Chiang introduced her biography, "My Journey and After," a 768-page book in Chinese that profiles her journey as a woman from childhood through adulthood, marriage, motherhood, community engagement, politics and business. Following the initial print run which promptly sold out, the book was re-printed in early 2012. All proceeds go to the National Book Development Council of Singapore to support the Asian Festival of Children's Content (AFCC), which encourages Asian writers and publishing professionals from first-time authors to seasoned professionals.

**BOARD OF
DIRECTORS**



MR PHILIP TAN
Mr Tan was in the commerce and industry sector for 11 years prior to joining the banking and finance sector. He joined the Overseas Union Bank in 1979, holding various senior positions prior to his retirement in 2002 as Executive Vice President.

He holds a Bachelor of Accountancy from the University of Singapore and a Bachelor of Laws from the University of Wolverhampton, UK. He also holds a post-graduate diploma in Business Administration from the Manchester Business School, UK. He is a Fellow of the Institute of Singapore Chartered Accountants, CPA (Australia), the Association of Chartered Certified Accountants, UK and an Associate of the Chartered Institute of Management, Accountants, UK.

Mr Tan is currently a director of Guthrie GTS Limited, Union (2009) Limited, Alliance Financial Group Berhad, Alliance Bank Malaysia Berhad and National Kidney Foundation.



MR CHIA NGIANG HONG
Mr Chia Ngiang Hong has over 30 years of experience in the real estate industry. He obtained his Master in Business Administration with Distinction from the University of Hull, UK.

Mr Chia was with the DBS Group before joining City Developments Limited (CDL) in 1981 where he is currently its Group General Manager.

He has been serving as the Vice President of the Real Estate Developers' Association of Singapore (REDAS) for many terms. He is also a fellow in the Singapore Institute of Surveyors & Valuers (SISV).

Mr Chia has also served as a former Board Member and subsequently as Deputy Chairman of Building and Construction Authority. He is currently a Board member of the Singapore Green Building Council (SGBC) as well as a member of the Charity Council, Ministry of Culture, Community and Youth (MCCY).

He also chairs the Consultative Committee to the Department of Real Estate at National University of Singapore and is a member of the Advisory Panel of the BCA Academy.



MR KAVIRATNE NIHAL VIJAYA DEVADAS CBE
Mr Kaviratne's career with Unilever spanned 40 years in Asia, Europe and Latin America. He now serves as an independent, non-executive Chairman/Director in various companies in India, Singapore and Indonesia. These include StarHub, SATS, DBS Bank, AkzoNobel, GSK and TVS.

Half his time is spent on societal work as a Governing Board Member of The Bombay Mothers & Children Welfare Society, and Founder of St. Jude India ChildCare Centres to provide holistic care for needy children suffering from serious diseases. He was the Founder President of the International Wine & Food Society, Bombay Branch, and is a Chevalier du Tastevin.

An Economics graduate from Bombay University, he attended the AMP at Harvard and the AEP at North Western. Cited in the Queen's 2004 New Year Honours List in the UK he was awarded the CBE for services to UK business interests and to sustainable development.



MR RAYMUNDO A YU JR
Mr Yu has 30 years of experience in the financial industry. He is currently Chairman of Asia Pacific at Threadneedle Investments. Before this, he spent 27 years in Merrill Lynch & Co and was the Chairman of the Merrill Lynch group in Asia Pacific. He is the founding chairman of Abilities Beyond Limitations and Expectations (ABLE), a charity aligned to the physically challenged community in Singapore.

He also serves on the Board of Rickmers (RMT), is a member of the Asia Pacific Advisory Committee of Australian Super and a member of the Global Advisory Committee of Bank Julius Baer & Co Ltd.

Mr Yu is also a Board of fellows at the Thunderbird School of Global Management in Glendale, Arizona, U.S.A.

He obtained his degree in Business Administration from Ateneo De Devao University and has an MBA in International Management from the American Graduate School of International Management (Thunderbird).



MR LEE KIM SHIN
Mr Lee holds a Bachelor of Laws, LLB (National University of Singapore) and was called to the Singapore Bar in 1986.

Mr Lee has been a Partner of the law firm of Allen & Gledhill LLP since 1991 and is currently the Managing Partner of the Firm. He practises corporate law, and his experience encompasses mergers and acquisitions and providing general corporate advice to companies across a broad spectrum of industries.

Mr Lee is a board member of the Accounting and Corporate Regulatory Authority. He is a member of the Board of Trustees of the NCC Research Fund and the Wildlife Reserves Singapore Conservation Fund. He also sits on the Boards of SIA Engineering Company Limited and Singex Holdings Pte. Ltd.



MR LIONEL YEO
Lionel Yeo is the Chief Executive of the Singapore Tourism Board. He was formerly the Dean & CEO of Singapore's Civil Service College, and Deputy Secretary (Development) in the Public Service Division of the Prime Minister's Office.

Lionel has been an officer of the Singapore Administrative Service since 1996. He has previously served in the Ministry of Trade & Industry, the Ministry of Finance, the Ministry of Information and The Arts, and the Ministry of Community Development. Lionel also serves on the boards of the Urban Redevelopment Authority, Sentosa Development Corporation, National Healthcare Group Pte Ltd, Wildlife Reserves Singapore Pte Ltd and on the Board of Governors of Raffles Institution.

He has a BSc in Economics from the London School of Economics and an MBA from the Massachusetts Institute of Technology's Sloan Fellows Program.



MR LEE MENG TAT
Mr. Lee Meng Tat is the CEO of Wildlife Reserves Singapore (WRS). Prior to joining WRS, he was the Chief Corporate Development Officer, Food & Beverages of Fraser and Neave Group (F&N) and he sat on the boards of a number of F&N's F&B subsidiaries.

Before returning to F&N (Singapore) in 2009, Mr Lee was on secondment to Asia Pacific Breweries Ltd (APB) where he was APB's Regional Director in China and concurrently held the position of Chief Executive Officer of Heineken-APB (China) Management Services Co., Ltd.

Mr. Lee had held various positions with Singapore Tourism Board, Singapore Economic Development Board, Sembawang Leisure Pte Ltd, and DBS Bank Ltd.

Mr. Lee holds a Bachelor's degree in Mechanical Engineering (National University of Singapore), and an MBA from Imperial College (London), and had completed the Advanced Management Programme at Harvard Business School.



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Director Sales
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Director Organisational Learning & Service Excellence
Director Education
Director Finance
Director Horticulture
Director Animal Presentation
Director Conservation & Research
Director Food & Beverage
Assistant Director Retail
Assistant Director Veterinary
Head Marketing

* Joined on 26 August 2013

** Joined on 22 July 2013

MR CHANDRAMOHAN
TRAINER & SHOW PRESENTER OF JURONG BIRD PARK
STB SINGAPORE EXPERIENCE AWARD,
BEST CUSTOMER SERVICE IN VISITOR ATTRACTION CATEGORY
PHOTO: DAVID TAN



YEAR IN REVIEW

- River Safari bagged the BCA Green Marks Platinum Award for its environmental-friendly development.
- Jurong Bird Park celebrated 30 years of bird shows.
- Launch of Jurong Bird Park's upgraded Breeding & Research Centre.
- Opening of Wallaby Trail at Night Safari
- Mr Chandramohan, Trainer and Show Presenter of Jurong Bird Park awarded STB Singapore Experience Award, Best Customer Service in Visitor Attraction category.
- Night Safari clinched STB Singapore Experience Award, Best Visitor Attraction Award.
- Kai Kai and Jia Jia, two VIPs (Very Important Pandas) arrived from China on 6 September 2012.
- Grand opening of Giant Panda Forest on 28th November 2013 by Mr S Iswaran, Minister in the Prime Minister's Office, Second Minister for Home Affairs and Second Minister for Trade and Industry.
- Launch of High Flyer Shows at Jurong Bird Park
- Singapore Zoo launched its year-long 40th anniversary celebration on 1 March 2013.
- Opening of River Safari Tea House
- Preview of River Safari

PANDA-MONIUM HITS SINGAPORE

Bringing the world's most loved bears to Singapore had been a huge task. Apart from the WRS team, Capitaland, the presenting sponsor and conservation donor, Singapore Airlines, the official airline sponsor and many other partners were involved every step of the way to ensure that Kai Kai and Jia Jia, the two Very Important Pandas have a panda-stic time during their stay with us.

Kai Kai and Jia Jia will be in Singapore for 10 years as part of a joint collaboration between China Wildlife Conservation Association and WRS to raise public awareness on wildlife conservation and develop a breeding programme for these endangered animals. There are fewer than 1,600 giant pandas left in the wild. The pair of giant pandas also emphasises the close diplomatic relations between Singapore and China. Singapore is the ninth country to receive giant pandas from China since 1994.



From China To Singapore

After three years of intense preparations, which started in 2009, WRS finally received Kai Kai and Jia Jia on 6 September 2012. The giant pandas touched down at Changi Airport on board a Singapore Airlines Cargo Boeing 747 freighter at 8.20am after a five-hour flight. Upon landing, they were greeted by Mr Teo Ser Luck, Minister of State, Ministry of Trade and Industry and representatives from the Embassy of the People's Republic of China in Singapore; State Forestry Administration of the People's Republic of China; CapitaLand Limited; CapitaLand Hope Foundation; Singapore Airlines; Temasek Holdings; Singapore Tourism Board; and Wildlife Reserves Singapore. Subsequently, Kai Kai and Jia Jia were whisked away in a temperature-controlled truck to their quarantine enclosure in River Safari.

Over at River Safari, a crowd of close to 1000 guests and WRS staff were waiting expectantly at the driveway. They cheered enthusiastically as the truck transporting the precious pandas approached, led by an escort jeep, six lion dancers and two panda mascots in the likeness of Kai Kai and Jia Jia.

To create a sense of involvement for all during this momentous occasion, WRS worked with VioCorp, SingTel and Infocus Asia to broadcast a 'live' webcast to allow Singaporeans and viewers from all over the world to watch Kai Kai and Jia Jia's arrival at Changi Airport,



1. Kai Kai and Jia Jia touched down in Singapore at 8.20am on 6 September 2012 after a five-hour flight.
2. Panda mascots in the likeness of Kai Kai and Jia Jia delighted the 1,000 guests who were at River Safari entrance to receive the two Very Important Pandas.
3. Kai Kai settled down quickly in his quarantine den soon after arriving in River Safari.

their journey to River Safari and their first steps into their dens. During the four-hour live streaming, there were a total of 254,614 connections made to the streaming server, indicating the immense popularity of the webcast. The efforts not only created tremendous excitement among members of the public but also garnered a nomination as a finalist for the Marketing Events Awards 2012 under the category of "Best Technology".

Infocus Asia also filmed 'Panda's Wild Move', a documentary which chronicled the move of Kai Kai and Jia Jia from China

to Singapore. This documentary would be telecast on National Geographic Channel.

Within three hours of landing in Singapore, Kai Kai and Jia Jia were transferred smoothly into their quarantine dens with careful coordination by the Chinese giant panda specialists and WRS' Zoology and Veterinary teams.

The giant pandas were quarantined for a month before being released into their exhibit to explore and familiarise themselves with their new surroundings.

Giant Panda Care

Kai Kai and Jia Jia's 1,600m² home is the largest of its kind in Southeast Asia. It is modeled after the giant pandas' natural habitat in the rugged highlands of China. Giant Panda Forest is climate-controlled at 18° to 22°C and 50 to 60% humidity. The habitat features a roof constructed with double pane glass alternated with insulated metal to allow plenty of sunlight into the exhibit.

The landscape includes boulders and climbing structures to allow Kai Kai and Jia Jia to exercise, and shallow pools for them to take a dip. Weather permitting, the pair is also able to enjoy the great outdoors in a special yard adjacent to their indoor habitat. A food preparation

area with an observation window allows visitors to learn about the pandas' diets while the endocrine laboratory provides the facilities to study the bears' reproduction cycles and monitor different types of enrichment activities to best reduce their stress levels.

The WRS team of vets, zoologists and keepers have made a few study trips to Ya'an base of China Conservation and Research Centre for the Giant Panda (CCRCGP) since April 2010 to learn from the Chinese keepers. During the trips, they found out more about Kai Kai and Jia and Jia's unique personalities and habits, and gained insights into the mating behaviour of giant pandas. They also understudied nursery keepers and learnt how to hand raise giant panda cubs.

To ensure that Kai Kai and Jia Jia settle in well, four members of China's panda team remained in Singapore for six months to train WRS staff in giant panda husbandry.

Since early 2009, the horticulture team at WRS has been converting available space in its parks to plots of land for bamboo cultivation. Each day, Kai Kai and Jia Jia are given a total of 60kg of bamboo from which they selectively consume 40kg. To meet their dietary requirements, over 3,000 clumps comprising four species, namely Buddha's belly, Ougon-Kou Chiku bamboo, hedge bamboo and Siamese bamboo have been planted. When the giant pandas first arrived, they were fed bamboo imported from China, and slowly introduced to the bamboo grown here.



1. Kai Kai is nicknamed 'Onion Head' because of the small tuft of fur on his head. He has an easy-going personality.
2. Jia Jia is shy and retiring. She has a very narrow black bend on her back.
3. The endocrine laboratory and food preparation area are designed with viewing areas to allow visitors to have a peek at what goes on 'behind-the-scenes'.



Giant Panda Forest Grand Opening ribbon-cutting ceremony (from left): Mr Stephen Lee Ching Yen, Chairman, Singapore Airlines; H E Wei Wei, Ambassador, Embassy of the People's Republic of China in the Republic of Singapore; Mr Zhao Shucong, Administrator, State Forestry Administration of the People's Republic of China; Mr S Iswaran, Minister in Prime Minister's Office and Second Minister for Home Affairs and Trade & Industry; Ms Claire Chiang, Chairman, Wildlife Reserves Singapore; Mr S R Nathan, former President of Singapore; and Chairman, CapitaLand Hope Foundation; Mr Liew Mun Leong, President and CEO, CapitaLand Limited; Mr Lee Meng Tat, CEO, Wildlife Reserves Singapore



Hello, Kai Kai & Jia Jia!

By early November, Kai Kai and Jia were ready to meet small groups of guests for special corporate events. WRS also hosted 150 disadvantaged children and the elderly, and 1,810 staff family members and volunteers who enjoyed a sneak preview of the two bears and learnt more about giant pandas through conducted tours.

Giant Panda Forest, which is featured as part of the Yangtze River journey in River Safari, was officially opened by Mr S Iswaran, Minister in the Prime Minister's Office, Second Minister for Home Affairs and Second Minister for Trade and Industry on 28 November 2012. The long wait to meet Kai Kai and Jia Jia was finally over for members of the public. Within four months of the opening of

the Giant Panda Forest, 250,000 visitors came to admire and learn more about the world's best loved bears.

4. Wildlife Reserves Singapore Chairman Ms Claire Chiang and Minister S Iswaran present a cheque of \$20,000 to Asian Women's Welfare Association Welfare Fund. The contribution came from profits of special corporate events that were held for WRS partners and sponsors at River Safari's Giant Panda Forest before the public debut of Kai Kia and Jia Jia.
5. Mr S Iswaran, Minister in the Prime Minister's Office, Second Minister for Home Affairs and Second Minister for Trade and Industry.



The Face of Conservation

Giant pandas charm the world with their child-like innocence and bring hope to wildlife by simply being the most charismatic face of wildlife conservation. As an umbrella species of the Yangtze Basin, conserving these black and white bears benefits other threatened species such as snow leopards and golden monkeys that share their habitat.

At WRS, Kai Kai and Jia Jia play an important role as ambassadors in promoting wildlife conservation. Two pre-school story books titled 'A New Home For Kai Kai and Jia Jia' and '凯凯嘉嘉对你说' were released to complement a host of educational programmes

featuring giant pandas and related conservation issues. The pair also has special stamps and coins issued by SingPost and Singapore Mint respectively to commemorate their arrival in Singapore as well as to highlight the plight of giant pandas as an endangered species.

An exhibition and an awareness booth offering opportunities to learn about giant pandas through hands-on activities were immensely popular with visitors, especially the little ones. A special talk organised for the public on giant panda conservation was delivered by Dr Zheng Dehui, Division Chief, Department of Wildlife Conservation and Nature Reserve Administration, State Forestry Administration, P.R. of China.

Within four months of the opening of Giant Panda Forest, 250,000 visitors came to learn about the world's most loved bears through the interpreters at the exhibit, various educational programmes, guided tours, a specialist talk by Dr Zheng Dehui and an exhibition. Two children's story books, one in Chinese, were published to engage and educate pre-schoolers.



All Things Panda

To enjoy an absolutely panda-stic experience, visitors can savour the signature panda pau and a variety of Szechuan-inspired dishes such as bamboo rice at Mama Panda Kitchen. The House of Kai Kai and Jia Jia offers great retail experience for giant panda fans who can take home a wide range of apparels, plush, stationeries and toys featuring the precious pair of black and white bears.



THE RIVER IS CALLING

Five years of planning and hard work finally came to fruition with the completion of River Safari construction. By end March 2013, WRS staff were putting the finishing touches and getting ready to open Asia's first freshwater-themed wildlife park to the public the following month.

The year saw the WRS team working relentlessly to complete the River Safari animal collection, reforestation effort, interpretive installation, retail product line development and menu creation for River Safari Tea House, which serves local dialect delights.



Amazon Flooded Forest is the world's largest freshwater aquarium and home to 11 manatees, arapaima and other South American fish species. PHOTO: DAVID TAN

BCA Green Mark Platinum Award

As an organisation that focuses on conservation, WRS diligently embedded concepts of environmental sustainability into all aspects of the development

of River Safari. Besides minimising the depletion of natural resources and using environmentally-friendly products in construction, the development also included green features such as biowales, a water and energy efficient management

system, preservation of existing wildlife habitats and creation of new ones to support a greater biodiversity of flora and fauna. These efforts found endorsement and WRS is proud to receive the BCA Green Mark Platinum Award.



Giant Siamese Carps, and Mekong giant catfish in the background.



Giant Salamander



Giant Freshwater Stingray

Creatures Big & Small

River Safari takes visitors on a wildlife journey to discover over 5,000 unique aquatic and land animals, representing 300 species, from the world's major river habitats. It is hoped that the immersive experience will

generate greater awareness of freshwater ecosystems, which are facing greater threats than terrestrial and marine ecosystems. It offers an awesome encounter of highly endangered river giants such as the giant river otters, Chinese giant salamanders, Mekong giant

catfish and giant freshwater stingray. Such encounters may well touch the hearts of visitors and inspire them to take positive actions in caring for freshwater ecosystems, which are closely linked to the survival of all living creatures, including that of ours.

The Big Move

As the opening of River Safari drew closer, the Zoology team busied themselves with the final phase of animal acquisition, acclimatization and quarantine

of new arrivals and finally, transfer of the animals to their respective exhibits. Transferring delicate fish and other aquatic animals such as the manatees was no easy task. It took two days, more than 20 keepers and

veterinarians, cranes and trucks to move 11 manatees from Singapore Zoo, where they were originally housed, to Amazon Flooded Forest of River Safari. Eva, the largest of the manatees, weighs in at about 1,200kg.



Creating Green Homes For Local Species

During the planning phase of River Safari development, WRS commissioned a Biodiversity Impact Assessment to ensure that the issue of environment impact was comprehensively addressed. The assessment suggested that the ecology of the site has the potential to support a greater diversity and population of native wildlife, and encouraged WRS to roll out

an ambitious plan to bring this to fruition.

Adopting a studied approach, the Horticulture team took pains to relocate many trees to Singapore Zoo and Night Safari instead of felling them when the site was cleared for construction. Once construction works had completed, the team swung into action to nurture 100,000 plants representing 400 species throughout River Safari. The reforestation strategy focused on

native dipterocarps, understorey shrubs and herbaceous plants. The purpose is to allow the tall trees to eventually emerge naturally from the surrounding vegetation. The distribution of planting varies as much as possible to mimic the disorder nature, variety and character of the natural tropical forest. The end result is a great green home for the native species that roam wild in the grounds of River Safari, and the neighbouring Singapore Zoo and Night Safari.

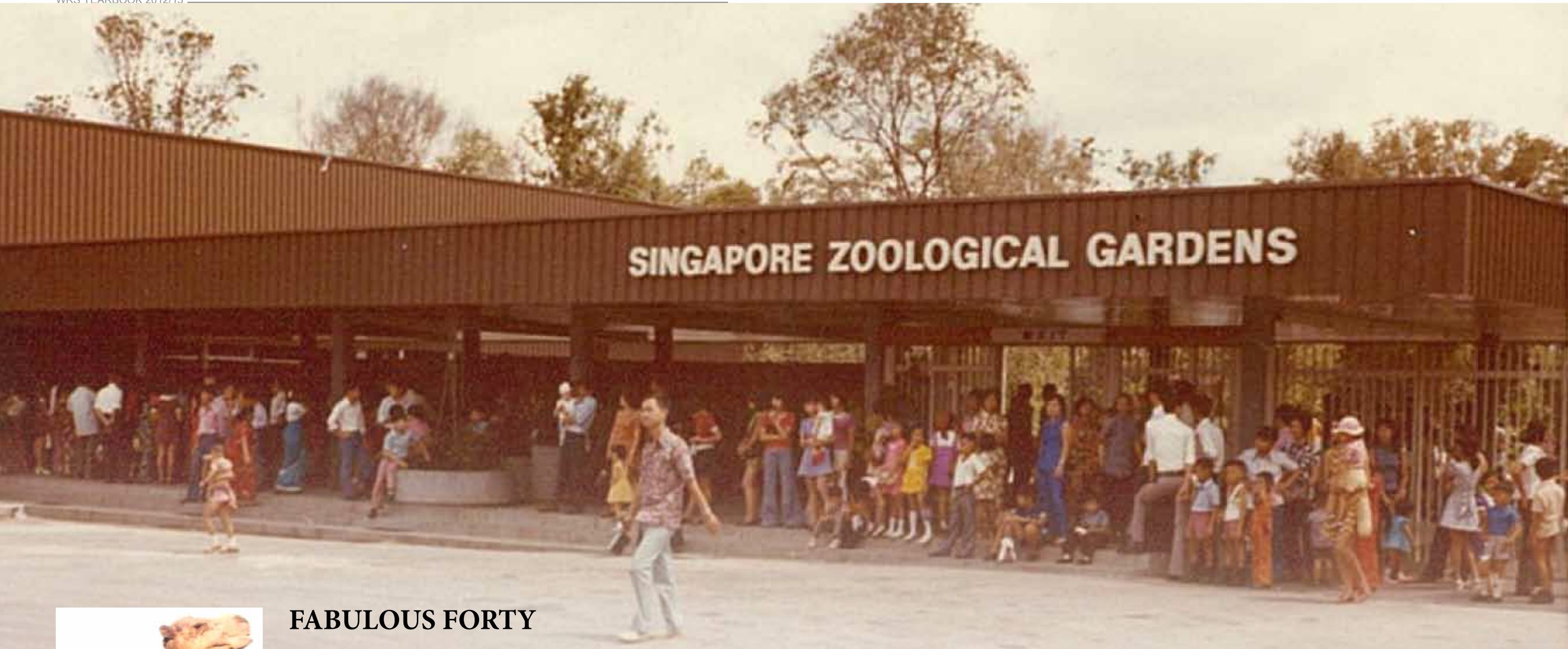
Our Horticulture team nurtured some 100,000 plants representing 400 species throughout River Safari. The planting mimics the disorder nature, variety and character of the natural tropical forest. The end result is a great green home for the native species that roam wild in the grounds of River Safari, and the neighbouring Singapore Zoo and Night Safari.



A Sneak Preview

On 25 March 2013, River Safari opened its gate to the media for a sneak preview. The days that followed, leading up to the soft opening on 3 April, were filled with more previews for invited guests from Temasek Holdings, STB, government agencies, tour agents and schools. With each preview, excitement and anticipation built up at a quickened pace as the WRS team awaited eagerly for the momentous event on 3 April.





FABULOUS FORTY

The year 2013 marks the 40th anniversary for Singapore Zoo. Founded by the late Dr Ong Swee Law and built in the budding years of Singapore's independence, Singapore Zoo has been a major recreational and educational centre that grew up alongside the nation and her people. Many Singaporeans visited the Zoo as children with their parents or during school learning journeys, re-visit as parents with their own little ones, and eventually return as grandparents with their grandchildren. Millions of tourists, having heard about Singapore Zoo through relatives and friends, had visited to enjoy the wonderment of nature.

Left: A member of the public sharing her memory of a zoo visit through 'I ♥ Singapore Zoo' fan photo contest as part of Singapore Zoo's 40th anniversary celebrations.

The Year-Long Birthday Celebration

At fabulous forty, Singapore Zoo is hailed as one of the top zoos in the world, renowned for its open concept, free ranging exhibits, immersive and meaningful wildlife experience and service excellence. To share the joy, Singapore Zoo kicked off a year-long celebratory promotion on 1 March by offering Singaporeans

and Permanent Residents who turn 40 in 2013 a 40% discount on admission ticket prices for themselves and four other friends when they visit during their birthday month.

"I ♥ Singapore Zoo" fan photo contest was organised to encourage members of the public to share their memory of zoo visits through photo submissions. During the school

holiday weekend, the young (and young at heart) took part in the 40th Birthday Bash Zoo Hunt to complete a trail that takes them through some of the Zoo's most historically significant sites.

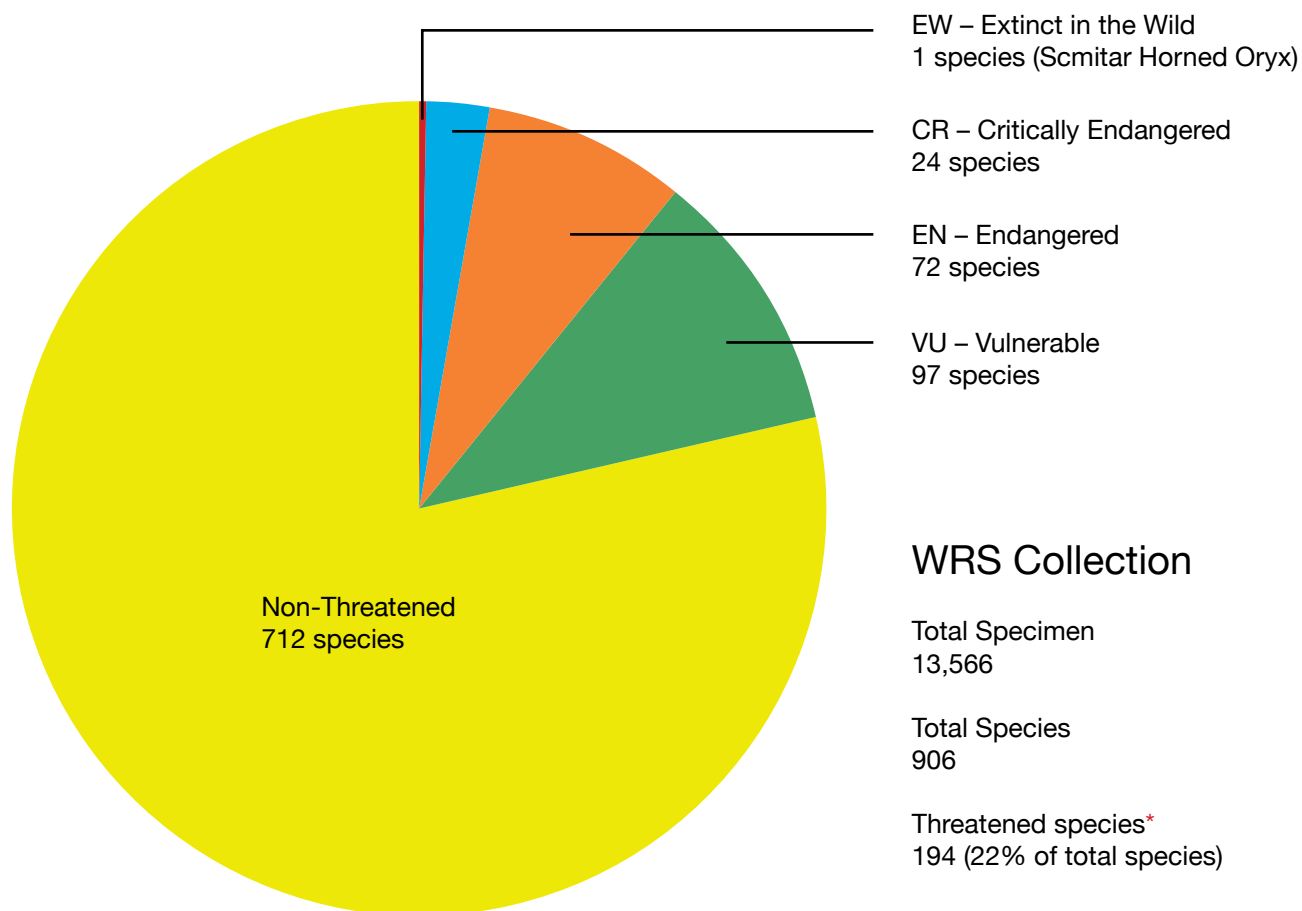
The celebratory promotions and activities would continue and culminate to a big birthday bash in June, the birthday month of Singapore Zoo.

OUR LIVING COLLECTION

The living collection at WRS stood at 13,556 specimens (excluding invertebrates) represented by 906 species, of which 22% are **threatened*** with extinction. The valuable collection includes the largest captive population of the critically endangered black winged starling among ISIS institutions, scimitar-horned oryx, which is extinct in the wild, and the critically endangered Asian lion and Sumatran orang utan, among others.

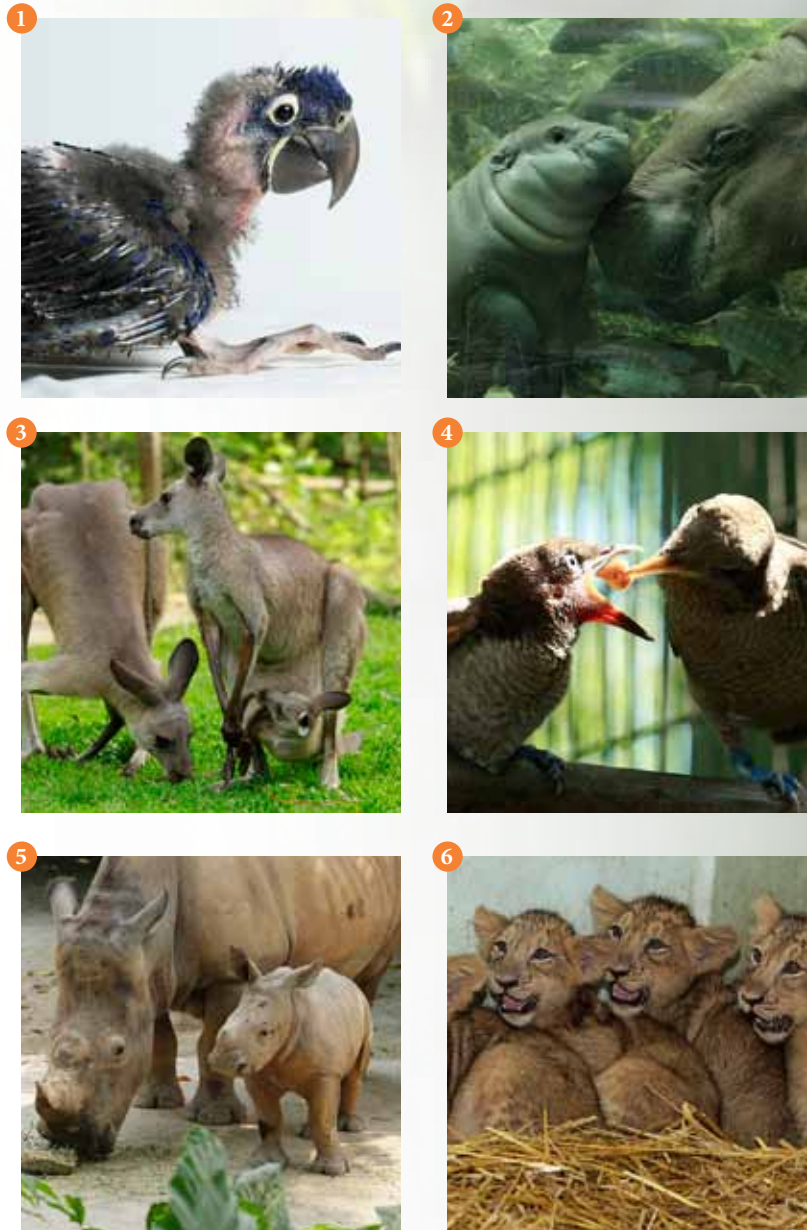
In preparation for the upcoming River Safari, WRS has been expanding its living collection over the last two years with animal acquisition and exchange with other zoos. Caring for one of the largest and most valuable animal collections in the world is no mean feat but the Zoology, Avian and Veterinary staff are undaunted, carrying out the mammoth task with a deep sense of pride, professionalism and passion to provide the best for their charges.

**threatened species include animals that are extinct in the wild, critically endangered, endangered and vulnerable, classification is based on IUCN Red List of Threatened Species.*



Breed & Conserve

Breeding threatened and rare animals remains a key focus for WRS as part of its ex-situ conservation effort. During the reporting year, there were 822 vertebrate births and hatchings in all four WRS parks. Many rare species bred well and most noteworthy were the hatching of a critically endangered river terrapin, and the birth of a critically endangered Sumatran orang utan, three Asian lions and three clouded leopards. For the first time, Jurong Bird Park was successful in artificially incubating the locally threatened oriental pied hornbill and the endangered African penguin.



Featured here are a few of the babies WRS welcomed during the year, which saw a total of 822 vertebrate births and hatchings.

- Hyacinth Macaw
- Pygmy Hippo
- Eastern Grey Kangaroo
- King Bird of Paradise
- White Rhino
- Asiatic Lion
- Black Howler Monkey



Positive Reinforcement Training (PRT)

Going beyond food and shelter, WRS places strong emphasis on providing holistic veterinary care and enrichment activities for its living collection. To reduce the stress of the animals during husbandry and veterinary routines, WRS invests a great deal of resources in positive reinforcement training (PRT), which is a technique that conditions the animals to cooperate during such routines. The desired behaviour is reinforced by rewarding the animals with their preferred food. The training is a long process that involves various steps and teaching the animals one step at a time until the desired behaviour is achieved.

Positive reinforcement training helps to facilitate daily husbandry routines such as transfers to enclosures, holding dens or crush cages. Veterinary and research procedures such as body part presentations for treatments and sample collections can be conducted without the need of physical/chemical restraint. The training aims at reducing the stress level of the animals, keepers and vets.



Above: A family group of pygmy marmosets undergoing a training project to ease husbandry and management. They were trained to enter the crates voluntarily or on cue in preparation for their transfer to the River Safari. The group was also trained to accept juice or preferred drinks from a syringe for future oral medication purposes and to remain in position for weight taking. The training started with only the breeding pair and had progressed to include the entire family group of three males, four females and two babies.

Below: Ring-tailed lemurs being trained to enter crates, present their body parts eg. thigh, for syringe desensitisation, and to accept spraying on desired parts of their bodies for wound treatments.



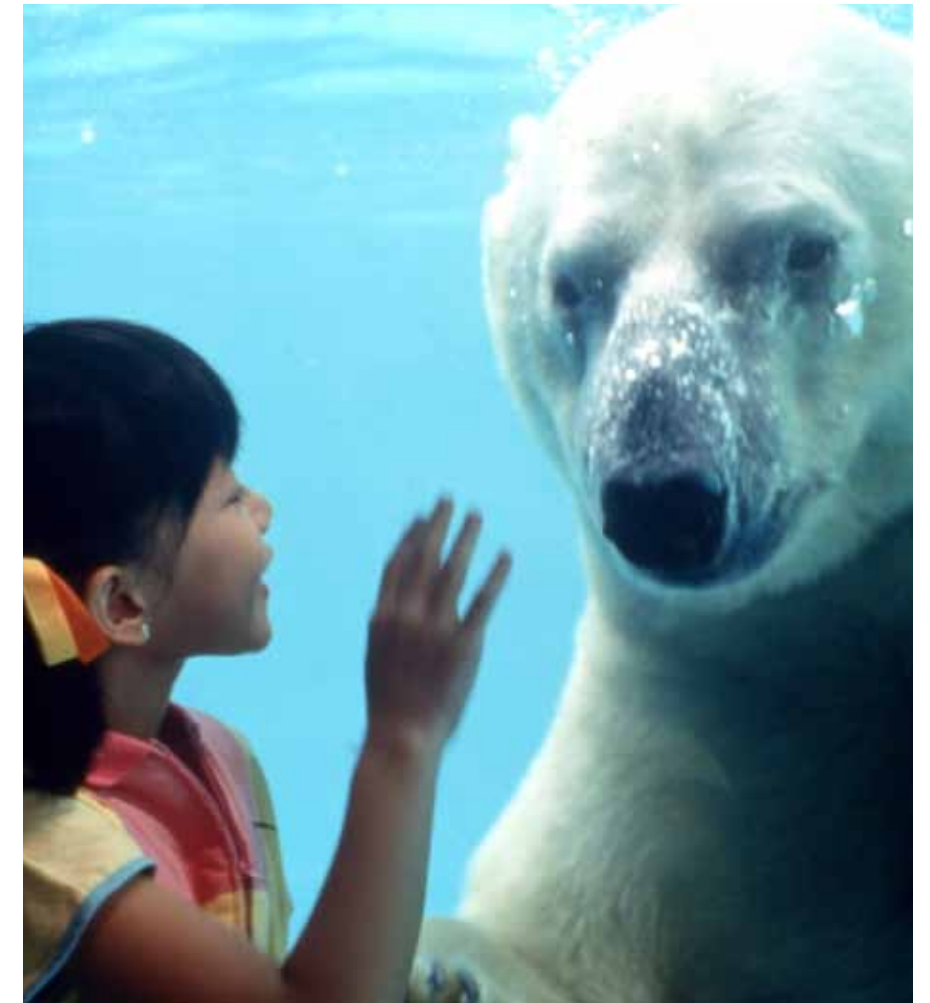
4th International Congress on Zookeeping

WRS hosted the 4th International Congress on Zookeeping from 9 to 13 September 2012. This is the first time the global congress, organised in conjunction with the International Congress of Zookeepers (ICZ) was held in Asia. Themed “Many Voices, One Calling”, the conference brought together over 240 zoo professionals from 32 countries to share best practices in animal husbandry, promote the welfare of the animals in their care, and to raise awareness that will contribute to the preservation of wildlife.



Above: Congress delegates trying out enrichment toys and devices that are used to keep boredom at bay for zoo animals.

Below: Sharing best practices in animal husbandry during a poster presentation by a congress delegate.



Goodbye, Sheba

Many visitors to Singapore Zoo have fond memories of Sheba, the polar bear. She came to Singapore Zoo in April 1978 when she was only 14-month old and grew up with many Singaporeans. She delighted the audience during the popular feeding shows with her signature waves, and often swam right up to the glass to enthrall visitors with her awesome beauty and grace. On 26 December 1990, she gave birth to Inuka, the first polar bear to be born in the tropics – a wonderful Boxing Day gift for Singaporeans.

Sadly, on 15 November 2012, WRS had to bid Sheba goodbye and euthanised her. She was 35 years old, one of the oldest

and most-loved residents of Singapore Zoo. The average life span of polar bears in zoos is 25 years. Since 2011, Sheba had battled with a loss of strength in her hind legs as a result of arthritis, a sign of old age. She was placed on glucosamine treatment and pellets for joints (Hills J/D) were added to her diet. She was also placed on a liver supplement but there was no sign of improvement. By early November, her condition turned critical - she could not stand up and lost her appetite.

Sheba lives on in another way – she was taxidermised and will continue to educate school visitors to Singapore Zoo on natural history, adaptations, and threats such as climate change, faced by polar bears.

CONSERVATION & RESEARCH

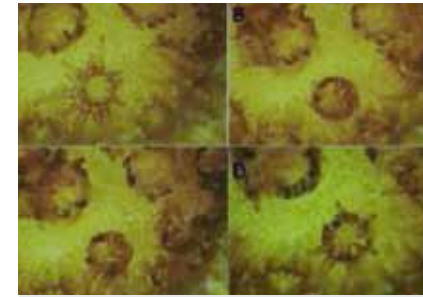
The year saw tremendous resources deployed by WRS to propel itself towards its vision to be the foremost wildlife institution in conservation, research and education. Staying on track, much has been achieved, particularly in the conservation of native species through the support from WRSCF (Wildlife Reserves Singapore Conservation Fund). Apart from WRSCF, WRS also stepped up its efforts in supporting conservation work in the region where its immensely rich biodiversity is among the most threatened in the world.

OLIVE-BACKED SUNBIRD
PHOTO: DAVID TAN



Preserving Our Natural Heritage Through WRSCF

As Singapore becomes increasingly urbanised, there is a great urgency to protect native wildlife so that future generations of Singaporeans can enjoy our natural heritage the way we have been privileged to. Responding to this urgency, WRS set up WRSCF in 2009 to support conservation and research projects, workshops and awareness initiatives to promote preservation of local biodiversity. This year, one new project grant was awarded for reef restoration while four projects saw successful completion, bringing the total completed projects to five since WRSCF's inception. WRSCF also funded the Elephant Conservation Seminar to raise awareness of the plight of the gentle giants.



Corals feeding on brine shrimp (*Artemia nauplii*) of different densities.



Indo-Pacific humpback dolphin sighted in Singapore waters.
Photo by Mr Jason

NEW PROJECT

Rearing coral larvae for reef restoration by Mr Toh Tai Chong, National University of Singapore

It is estimated that Singapore has lost 60% of her reefs to coastal development since the 1950s. This project aims to better understand the science underlying restoration of reefs. The scope includes determining and comparing the growth and survival rates of coral juveniles reared in captivity and monitoring their survival rate after transplantation to the reefs.

COMPLETED PROJECTS

Singapore wild marine mammal survey by Dr. Elizabeth Taylor

This study yielded 25 sightings of wild marine mammals like the Indo-Pacific Humpback Dolphin, Bottlenose Dolphin and the Finless Porpoise. Brochures, posters, an identification chart, talks and a website created for the public to report sightings of wild marine mammals made considerable headway towards increasing awareness of the wild marine mammals in Singapore waters.

Reintroduction of rhinoceros hornbill by Prof. Ng Soon Chye and Mr Marc Cremades

This project set the groundwork for the potential reintroduction of the rhinoceros hornbill. The species' range, status in the wild and captivity were evaluated and potential birds for re-introduction were selected and monitored. Aviaries were also successfully constructed to house birds in preparation for a soft-release.

Ecology of long-tailed macaques in relation to natural and artificial food resource preference and availability by Mr John Sha

This study showed that macaques in Singapore still retained their natural diet despite feeding on human food sources. Their activity and ranging patterns were however highly influenced by foraging behaviour on provisioning and refuse in human habitats. These are the main drivers for increased interaction with humans, resulting in conflicts.



Red-tailed green ratsnake (*Gonyosoma oxycephalum*) found at 35m in the rainforest canopy of Singapore

Effects of habitat disturbance on canopy amphibians and reptiles in Southeast Asia by Mr. Brett Scheffers

This project found 11 species of frogs and 20 species of reptiles occurring between ground level up to a height of 35 meters. Desiccation rates were found to be high in the Singapore rainforests. The effect of habitat disturbance and global warming is predicted to ‘flatten’ the biodiversity in Singapore rainforests by pushing arboreal species toward the ground, where temperatures were cooler and moisture higher.

Elephant conservation seminar

Elephant Parade was an event that culminated to fund-raising through the auction of elephant sculptures. Wildlife Reserves Singapore (WRS) and Wildlife Reserves Singapore Conservation Fund (WRSCF) were among the beneficiaries and received funding for regional and local elephant conservation projects.

The Elephant Conservation Seminar, sponsored by WRSCF with funding from the Elephant Parade, was held on 11 Jan 2013 to showcase four major elephant projects in the region. Projects by ElefantAsia, Laos; Wildlife Conservation Society (WCS), Sumatra; Veterinary Society for Sumatran Wildlife Conservation (Vesswic), Sumatra; and Management & Ecology of Malaysian Elephants (MEME), Malaysia, were chosen due to their commitment to the conservation, welfare and healthcare of the Asian elephant. A total of 69 WRS staff, invited guests and members of the public attended the seminar to learn more about the plight of Asian elephants and on-going field conservation work.



Left to right: Mr Ahimza Campos-Arceiz, MEME, Mr Christopher Stremme, VESSWIC, Mr Mike Spits, Co-founder of Elephant Parade, Mr Martin Tyson, Wildlife Conservation Society, Ms Claire Chiang, Chairman, Wildlife Reserves Singapore, Dr. William Thomas, ElefantAsia, Lee Meng Tat, CEO, Wildlife Reserves Singapore

Field Conservation Projects Supported by WRS

Apart from conserving native wildlife through WRSCF, WRS expanded its conservation efforts beyond the shores of Singapore to the region where some of the world’s most threatened species are found. Working with conservation partners and like-minded individuals, WRS not only hopes to make a positive difference in the preservation of threatened wildlife but also to deepen the knowledge of its staff, and student researchers through these learning journeys.



1. Mitigating human-elephant conflict in Way Kambas National Park. Guards keeping watch at a tower at night to ensure that wild elephants do not get into plantations to eat and damage crops.
2. Patrol vehicle and a watch tower to monitor elephant movements.
3. Chilli fences and spacers are one of the ways to deter elephants from entering plantations.

Elephant conservation in Way Kambas National Park (WKNP), Sumatra

Lack of information on the level of threat posed by poaching of the elephant populations in Lampung hampers effective protection of the animals in that area. WRS supports Wildlife Conservation Society (WCS) in helping the Indonesian authorities manage WKNP and its elephant population effectively by reducing illegal killing and other threats to the park’s elephants and their habitat through the development and evaluation of a local intelligence gathering network.

Population genetics of colobine primates in Vietnam by Ms Andie Ang, University of Colorado, Boulder

Nearly 90% of the primates in Vietnam are threatened. At least 10 of the 12 species of leaf and odd-nosed monkeys are either critically endangered or endangered. WRS funds Andie Ang from University of Colorado Boulder to study the genetic variability of small and isolated populations of the Tonkin snub-nosed monkeys, silvered leaf monkeys and black-shanked doucs to assess the viability and conservation status of these species. The data gathered will contribute to the conservation management strategies.

Reintroduction of Delacour’s langur into Van Long Nature Reserve, Vietnam by Endangered Primate Rescue Centre

The Delacour’s langur is a critically endangered primate species and listed as one of the world’s 25 most endangered primates. The whole population is now estimated to be fewer than 200 individuals, which occur in some 10 completely isolated subpopulations. In 1993, Frankfurt Zoological Society established the Endangered Primate Rescue Centre (EPRC) for captive breeding programmes of highly endangered primate species in Vietnam. The Delacour’s langur now kept at the EPRC accounts for about 10% of the world’s population. The aim of the captive breeding programme is to strengthen the threatened wild populations through reintroduction of captive-bred animals. WRS is supporting the EPRC in the second phase of the reintroduction programme to monitor the behaviour and contact among the released animals.

Human-elephant conflict mitigation by Veterinary Society for Sumatran Wildlife Conservation (VSSWIC), Sumatra

VSSWIC, founded in 2003, is a non-profit organisation aimed at providing veterinary expertise and services to Sumatran wildlife. Funding from WRS will be used by its Conservation Respond Unit (CRU) in Tangkahan to develop sustainable, eco-friendly tourism as an alternative income for the local community, to promote elephant welfare and reduce human-elephant conflict.



Using trained elephants to drive wild elephants out of a rubber plantation and back to the forest.



The local community enjoys an alternative income from eco-tourism activities such as elephant trekking.

Development of conservation drones by Management & Ecology of Malaysian Elephants (MEME), Malaysia

The challenges in observing and studying elephants in tropical rainforests prompted MEME to develop conservation drones, a relatively cheap and highly effective new conservation tool. WRS funds MEME in the development of the conservation drones, which offer the visibility that traditional GPS-satellite collars lack, and will potentially allow scientists to better study elephant habitat utilisation patterns and social behaviour.



Preparing a conservation drone for flight



Releasing a conservation drone



Photo of a oil palm plantation taken by a conservation drone

Promoting the well-being of captive elephant population in Laos By ElephantAsia

ElefantAsia is committed to promoting the health and well-being of the captive elephant population in Laos. WRS funds are used to provide free veterinary care for elephants working in remote areas and to microchip the captive elephant population for the maintenance of Laos' elephant database.

Conservation of the critically endangered Tonkin snub-nosed monkey (*Rhinopithecus avunculus*) in Vietnam by Le Khac Quyet

WRS, spurred on by the encouraging outcome of past conservation efforts, continued its support for Vietnamese Le Khac Quyet's team on researching and protecting the critically endangered Tonkin snub-nosed monkey for the fourth consecutive year. Results show that the population of Tonkin snub-nosed monkey in Khau Ca is growing and at least three groups with a total of at least 73 individuals were observed. In 2012, there was only one case of selected timber logging.

The focus of the project during the reporting year was to monitor the Tonkin snub-nosed monkey population, and poaching and illegal logging activities in Khau Ca.



An adult female and its offspring recorded on 4 August 2012. Photo by Le Khac Quyet.



Only one case of timber logging was recorded on 25 December 2012 in Khau Ca, Vietnam. Photo by Le Khac Quyet.



Juvenile Southern river terrapin. The wild terrapin population in Cambodia has been decimated by overhunting and fishery by-catch.

Conservation of river terrapins in Cambodia

WRS and Wildlife Conservation Society (WCS) have joined efforts to conserve endangered turtles in Southeast Asia. The first phase of this project centred on the critically endangered southern river terrapin *Batagur affinis* in Cambodia. Fewer than 10 nesting females are estimated to remain in the wild, while a captive population of approximately 130 individuals exists in Cambodia under WCS care. The terrapin is under serious threat from over-exploitation, by-catch and habitat degradation. In 2012, on-going satellite tracking of a female southern river terrapin provided valuable data on habitat usage and nest site choice in the river. In October 2012, WRS and WCS staff, including world turtle expert Dr Brian D Horne, travelled to Cambodia to take tissue samples of the captive terrapins for genetic analyses. A founder group of unrelated individuals will be selected based on the analyses to form the assurance colony to be established at Singapore Zoo in 2013. It is hoped that this colony will provide offspring for reintroduction into the wild. WCS works closely with the Cambodian Fisheries Administration to protect turtle nest sites, reduce incidental catches by fishermen, and reduce targeted hunting. WRS provides funding, staff support and housing facilities for the project.



Tokay Gecko

Illegal trade in tokay geckos in Malaysia by Dr Chris Shepherd

The tokay gecko, a large nocturnal lizard found throughout Southeast Asia, is erroneously thought to have incredible healing properties for ailments such as AIDS. This belief has led to extensive hunting and illegal trade of the lizard throughout the SE Asia. WRS continued to fund Dr. Chris Shepherd, Deputy Regional Director of TRAFFIC Southeast Asia, to carry out a study of the trade in this species. Information gathered to date suggests that the tokay gecko is one of the most heavily traded non-CITES listed species in Asia, mainly for Traditional Chinese Medicine. TRAFFIC Southeast Asia worked with the Philippines Government to propose that tokay geckos be listed in CITES Appendix II at the CITES Convention of the Parties in March 2013. This will hopefully allow for greater monitoring and regulation of the tokay gecko trade and thus conservation of this species.



Bali Mynah

Bali mynah conservation

The Bali mynah, or Bali starling, is endemic to the Bali islands of Indonesia. Its wild population is critically endangered due to habitat loss and illegal trapping for the pet trade. To prevent the extinction of this beautiful bird, WRS has been in partnership with the Bali-based Begawan Foundation to conserve the species. With the support of other conservation partners i.e. Chester Zoo and Green School, Sibang, Begawan Foundation released four pairs of Bali starlings into the wild in Central Bali. The release site, which is in the vicinity of the Green School, was assessed to ensure that there are abundant food sources for the birds and suitable trees for hanging artificial nest boxes. The next step would be to focus on finding new habitats for future releases of the Bali starling and continuing the fieldwork conducted on both Nusa Penida and Nusa Lambongan.



Field team collecting water samples in a non-buffered stream. Photo by Giam Xingli.

Ecology and conservation of fishes in peat swamp forests of Southeast Asia by Giam Xingli, Princeton University

Peat swamp forests in Southeast Asia are one of the most unique but also among the most critically imperiled ecosystems on Earth. They are rich in fish species, many of which are strict endemics found nowhere else. The study aims to examine the environmental factors that structure the fish communities and the biodiversity patterns in peat swamp forests, and the impact of plantation establishment on these habitats. Preliminary results suggest that river and streams which are buffered with native plantation have higher fish species richness than non-buffered streams.



Dragonfly



Peacock Pansy



Common Palm Civet

Dragonfly survey

Wildlife Reserves Singapore collaborated with a school, Madrasah Al Arabiah Al Islamiah to conduct dragonfly surveys at the Night Safari to raise conservation awareness in the local student communities and cultivate an appreciation for nature. The students were educated on dragonfly identification and species that can be found in Singapore before they carried a total of eight surveys at Night Safari.

Butterfly conservation

WRS staff and volunteers have been conducting surveys to monitor the number of butterfly species in Singapore Zoo. In 2007, 22 butterfly species were recorded, including the vulnerable common birdwing and common rose. However, in 2010, the number of species decreased to only three, resulting from the increased use of adulticide to control pests like mosquitoes. To revive butterfly populations in Singapore Zoo, several areas have been designated as biocontrol areas where no fogging or adulticide spraying is to be carried out. More aquatic plants are grown in the ponds and water moats to encourage dragonflies, which feed on mosquitoes, to breed. In other parts of Singapore Zoo, only biological larvicides that specifically target mosquito larvae are used. More host plants of the butterflies were also propagated and planted in the grounds. Butterflies have since made a comeback and a survey conducted in July 2012 found 18 species, including the metallic cerulean which had disappeared from the Zoo grounds for many years. The biocontrol measures are used as an on-going effort to enhance the butterfly populations in Singapore Zoo.



Common palm civet conservation and research project

The common palm civet is thought to be the last wild carnivore in Singapore. Owing to rapid development, the civet has adapted well and can be found in urban area such as Siglap and Opera estates. Some residents consider them a nuisance as they patter on rooftops, nest under roofs and eat the fruits from trees in gardens. WRS has been involved in mitigating the human-civet conflict for the past four years. During the reporting year, a total of 71 common palm civets were donated to WRS, many of which were trapped by the residents. A total of 43 of the donated civets were released back into the wild where 19 underwent rehabilitation. A public outreach talk was held at Bedok Community Centre on 30 Sep 2012 to generate greater awareness and encourage residents to live alongside the common palm civet, which is as part of our natural heritage.

One-horned Asian Rhino



Giant Flying Squirrel



Malayan Tapir



Student Projects

Wildlife Reserves Singapore supervised and facilitated 12 students from Nanyang Technological University in their Final Year projects in 2012, reflecting its dedication to conservation research and nurturing future scientists.

The projects included :

- Primary observations on courtship and estrous behaviours of captive Malayan pangolin (*Manis javanica*)
- Activity pattern of captive greater one-horned Asian rhino (*Rhinoceros unicornis*) at the Night Safari
- Activity time budget of the red and white giant flying squirrel
- Activity time budget of South African giraffes
- Behaviour of male rhinoceros in response to oestrus
- Estrous cycle behaviour of Malayan tapirs in captivity
- Monitoring rescued and released Sunda colugos at the Singapore Zoo
- Finding a substitute nesting material in order to increase reproductive success in captive Humboldt penguins
- Activity pattern, spatial use and social interaction of a mixed group of captive West Indian manatees
- Maximising survival potential of Malayan horned frog tadpoles
- Temperament traits in captive non-human primates and the potential consequences on reproductive success
- Feeding enrichment of marmosets and tamarins at the Singapore Zoo
- Sex and rank differences in agonistic and affiliative behaviour in spider monkeys and Celebes macaques

Sharing Best Practices

To inspire members of the public, and to empower staff members and like-minded partners, WRS held workshops and talks regularly to share knowledge and best practices in wildlife conservation.

Chimpanzee



1st Asian primate conservation & behavioural research workshop

Singapore Zoo is home to one of the world's largest collections of primate species, including great apes like the chimpanzee, Sumatran orang utan and Bornean orang utan. From 1 to 15 May 2012, WRS, WRSCF and San Diego Zoo Global teamed up to organise the first Asian Primate Conservation & Behavioural Research Workshop to share technical skills and knowledge, and provide hands-on training for zoo professionals and primate conservationists. Intensive lectures on primate taxonomy, behavior, conservation and primate welfare were conducted by expert lecturers Dr Chia Tan, Dr Sylvia Atsalis and Dr Lance Miller from San Diego Zoo Global. The workshop was attended by more than 30 participants from Indonesia, Malaysia, India, Thailand, Laos, Vietnam, Nepal, China and Taiwan, together WRS staff and students from National University of Singapore and Nanyang Technological University.

Conservation Perspectives:

Ivory trade in Africa by Dr. James Deutsch

Dr. James Deutsch presented a talk on the Ivory Trade in Africa at the Singapore Zoo on 8 May 2012. The event was jointly organized by Wildlife Reserves Singapore Conservation Fund and Banyan Tree Global Foundation.

In the talk, Dr. Deutsch discussed the growing demand for ivory and its impact on the continued survival of elephants in Africa. In 2011, the highest number of illegal ivory was seized in more than two decades. Consequently, steep declines in African elephant population had been observed, with probably fewer than 20,000 African elephants remaining in the Congo basin. Dr. Deutsch also shared with the audience what Wildlife Conservation Society and other organisations are doing worldwide to address the issue.

Talks For WRS Staff

To inspire the public on wildlife conservation, WRS understands that it must first inspire its staff and deepen their knowledge. Guest speakers who are specialists in their own field were invited to present latest conservation issues so that WRS staff can keep abreast with current development. The talks include :

- Tortoises and freshwater turtles – The crisis continues by Dr. Chris Shepherd
- The Management & Ecology of Malaysian Elephants (MEME) — moving towards an evidence-based conservation of Malaysian wildlife by Dr. Ahimsa Campos-Arceiz
- WCS's Asian elephant program: evidence-based conservation in Indonesia and across Asia by Dr. Martin Tyson

TOUCHING HEARTS, INSPIRING ACTIONS

“In the end, we will conserve only what we love, we will love only what we understand, and we will understand only what we are taught.”

This famous and timeless quote from Baba Dioum’s speech in 1968 to the general assembly of the International Union for Conservation of Nature embodies the spirit of conservation education in WRS. The year saw tremendous amount of resources poured into engaging visitors on the wonderment of nature and the need to preserve biodiversity through immersive educational initiatives.



River Safari features the major rivers of the world. Being able to enjoy such a close encounter with the rare Indian gharial is likely to leave a lasting impression in this young visitor.

The River Stories Unfold

Freshwater ecosystems are among the most threatened environments in the world, and the species that they support are disappearing faster than those living on land and in the oceans. Yet, unlike colourful marine animals, which are a ‘visual feast’ to people, freshwater species are a cryptic lot and very few aquariums in the world have taken the bold step to use them as a vehicle to highlight the plight of freshwater ecosystems. With increased human activities to harness the resources from freshwater ecosystems, there is a pressing need to raise awareness on these fragile ecosystems and this urgency is the single most powerful

motivation behind the birth of River Safari.

Understanding the role of River Safari in promoting conservation of freshwater ecosystems, WRS invested in interpretives with engaging and yet simple messages to inspire visitors to learn more about the world’s major rivers and to protect freshwater biodiversity. ‘River Talk’, an interactive show that tells the story of water and freshwater species, would be an additional platform for WRS to spread the conservation message.

Working with educators from Ministry of Education, WRS designed multi-disciplinary learning journeys to excite students about the river stories.

Through these journeys, it is hoped that the younger generation will be moved by a sincere desire to take ownership and positive actions in preserving nature. Some 250 educators were invited to several sharing sessions during which feedback was sought to ensure that River Safari learning journeys are relevant to schools’ learning outcomes while enhancing WRS’ positioning as Living Classrooms.

Training of Docents and Conservation Ambassadors geared up in preparation of the opening of River Safari. Volunteers are ‘the faces’ to the exhibits and their presence is essential in bringing the interpretation of the river stories to a high level of engagement.

Partners In Conservation

WRS recognises that cultivating naturalistic intelligence in young children is the key to developing generations of environmentally-conscious individuals. With this in mind, it constantly seeks strategic partnerships with the Ministry of Education (MOE), training institutions for teachers, educational institutions, schools and like-minded educators to deliver learning experiences that inspire a love for nature and wildlife.

During the Kindergarten Learning Forum organized by MOE, WRS interacted with some 2,000 teachers through talks and workshops offering insights into creating meaningful learning journeys at WRS parks for pre-schoolers.

WRS also collaborated with the Pre-School Branch of

MOE to develop curriculum, using animals as ambassadors, to enhance learning areas highlighted in the Kindergarten Curriculum Framework. The collaboration culminated to Innweek at Singapore Zoo in March, during which 556 pre-schoolers learnt about the world around them, and social and emotional awareness through the *Panda and Pal* programme.

Apart from the partnership with MOE, WRS worked with lecturers delivering early childhood degree and diploma courses to conduct wildlife education workshops for trainee teachers so that they can be empowered to execute meaningful learning journeys for their students eventually.

On 9 November 2012, a Memorandum of Understanding was inked between WRS and Republic Polytechnic (RP). The three-

year partnership paved the way for training and work opportunities at WRS' parks for RP students in applied science for environmental, conservation, veterinary and animal husbandry fields, information and communications technology, and leisure. Another possible area of collaboration would be training RP students as ambassadors and facilitators for public learning and enrichment activities such as talks and workshops on environmental and conservation awareness.

WRS' conservation education efforts gained greater visibility through participation in Ngee Ann Polytechnic's annual open house and PS21Excel Conference during which Singapore Zoo's phone app 'Education@Zoo', developed together with Fajar Secondary and Nanyang Polytechnic, was showcased.

WRS constantly involves students to engage one another on nature appreciation, often with the help of phone app Education@Zoo and mobile trails to enhance interactivity.



Wildlife Learning Goes Hi-Tech

Contribution to wildlife conservation can take many forms. Generating awareness through education is a powerful tool for the noble cause and it works even better when there is a strong sense of involvement from the community. The inaugural mLearning@Zoo competition was organised primarily to empower students to do their part for conservation education. Participants were required to use specific software to design innovative multi-

disciplinary mobile learning journeys. The response was unexpectedly good with entries received from 44 schools. The competition, organised jointly by WRS and LDR Pte Ltd, and sponsored by Samsung, encouraged teamwork and offered self-directed learning opportunities for the student participants. River Valley High and Zhonghua Primary School came in top in their respective categories. The winning entries are made available as mobile learning journeys to any schools that wish to take up the programme, and by so doing,

WRS empowered the students (the winners) to shape these mobile learning journeys for their peers and do their part for wildlife.

During the year, WRS deepened partnership with mobile learning journey designers and completed the development of mobile trails for pre-schoolers. Some 1,500 pre-schoolers from the Cherrie Heart were the first to embark on the mobile trails, which offered greater interactivity and functionality than the conventional paper and pen trails.



Above: Students from Zhonghua Primary School (left) and River Valley High School came in top in their respective categories for the inaugural mLearning@Zoo competition. Getting students to design and shape the learning journeys of their peers is a powerful empowerment to contribute to conservation education.

Below: WRS stays ahead in engaging the IT savvy generation to discover more about wildlife through self-directed mobile learning platforms.



Conservation Through Volunteer Community

WRS is fortunate to enjoy the strong support of the volunteers who embrace its green ethos and are willing to dedicate their time, the most precious resource, to sharing the wonderment of the natural world with the members of the public. The volunteer community has a good mix of individuals from different age groups and professions who are brought together because of a common mission to inspire nature appreciation in people.



Student volunteers acting as Wildlife Buddies for the little ones. Apart from learning about wildlife, these students gain social experience through interacting with the young children.

A total of **1,744** volunteers served at WRS' parks during the reporting year:

VOLUNTEER GROUP	NO.	REMARKS
Docents	154	<ul style="list-style-type: none"> Adults (21 yrs & above) Two-month training Mainly ranger station activities & guided tours at three Parks.
Conservation Ambassadors	212	<ul style="list-style-type: none"> Youth (15 yrs & above) Two-day training Serve as guides at various exhibits in three Parks
Wildlife Buddies	1,163	<ul style="list-style-type: none"> Students (organised school groups led by teachers) One-day training Serve as guides or station masters for fellow students, international students on exchange programme, disadvantaged kids, the elderly and physically-challenged.
School Exposure Programme	121	<ul style="list-style-type: none"> Students, at least 15 years old Attached to Education, C&R, Zoology, Veterinary, Avian
Teacher Volunteers	3	<ul style="list-style-type: none"> A collaboration with Singapore Teachers Academy Attachment To Education Department Duration two to ten weeks
Zoology Volunteers	63	<ul style="list-style-type: none"> Candidates of Corrective Work Order. Collaboration with Ministry for Community Development, Youth and Sports
Vet Volunteers	28	
Total	1,744	

Throughout the year, WRS parks organized various in-park and outreach activities to generate awareness on wildlife conservation and these would not have been possible without the generosity of the volunteers who unselfishly sacrificed their leisure hours for the cause. Some 650 volunteers, many of whom are already on other regular volunteer duties, came forward to assist in these activities :

- Children's Day
- Christmas Animal Enrichment Day
- Eco Trail in celebration of Earth Day
- Istana Open House
- Jurong Bird Park Breeding & Research Centre guided tours during the launch month
- Panda Awareness Booth
- Sungei Buloh clean-up
- 23rd International Biology Olympiad - 300 local student volunteers did Singapore proud by hosting 850 youth delegates at three WRS parks and delivering meaningful wildlife experience to them.
- Wild Cats @ Night Safari
- Year of The Snake Awareness Booth at Singapore Zoo and Jurong Bird Park
- WAZA biodiversity survey
- Zoolympix, a popular June holiday activity

Without the monetary handle, WRS constantly seeks to motivate its volunteers through recognition, and opportunities to learn and network. The volunteer community grew more cohesive with the many events organized to promote learning and bonding, such as keeper talks, photography workshops, behind-the-scenes tours, cross-park visits and overnight camps.

In-park and outreach public awareness activities are well-supported by WRS volunteers who unselfishly sacrificed their leisure hours for conservation education.



DELIVERING GREAT WILDLIFE EXPERIENCES

Guided by its mission to inspire an appreciation of nature in visitors through exciting and meaningful wildlife experience, WRS spares no effort in revitalizing exhibits, improving infrastructure and offering innovative and immersive activities to enthrall visitors. At the same time, it works hard to ensure that every staff member embraces its service excellence culture, paying attention to the tiniest details to deliver visitor experiences that exceed expectation.



A Double Win

WRS had much to celebrate when it took home not one but two of the Singapore Experience Awards, which are lauded as the most prestigious in Singapore's tourism sector.

Jurong Bird Park and Night Safari were two of the three finalists for the STB Singapore Experience Award, Best Visitor Attraction category, and Night Safari eventually clinched the coveted award.

Frontline staff Ms Divine from Retail Department at Singapore Zoo, Ms Letchmi from F&B, Night Safari and Mr Chandramohan, Trainer and Show Presenter of Jurong Bird Park were finalists for STB Singapore Experience



Award, Best Customer Service in Visitor Attraction category. Mr Chandramohan beat strong contenders and bagged the award. The STB Experience Awards honour outstanding organisations and individuals

that deliver holistic and extraordinary visitor experience of both product and service. The double win is a powerful testimony to the level of visitor experience delivered by WRS, spurring it on to do even better.



Above: Ms Divine, Retail Department at Singapore Zoo, finalist of STB Singapore Experience Award, Best Customer Service in Visitor Attraction Category.

Left: Mr Chandramohan, Trainer and Show Presenter of Jurong Bird Park, Winner of STB Singapore Experience Award, Best Customer Service in Visitor Attraction Category.

Below: Ms Letchmi from F&B, Night Safari, finalist of STB Singapore Experience Award, Best Customer Service in Visitor Attraction Category.



Revitalise and Refresh

Faced with increasingly fierce competition in the leisure industry and the need to provide new experiences for repeat visitors, WRS constantly revitalises its parks with refreshed or new animal exhibits, programmes, activities and visitor amenities to stay in the race.

NEW WALLABY TRAIL AT NIGHT SAFARI

A walk in a forest at night is a magical experience that connects one with nature. On 17 August 2012, a fourth walking trail at Night Safari was opened to allow visitors to enjoy the magical moments and to have a close encounter with the unique nocturnal creatures

that roam the Australian outback, and the forests of New Guinea and New Zealand. The highlight of the trail is the wallaby walk-through habitat where Parma and Bennett's wallabies roam freely. Other creatures featured along the trail include the sugar glider, brush-tailed possum, white-lipped python and tawny frogmouth.



Wallaby Trail at Night Safari begins with a ranger station to introduce visitors to the unique flora and fauna of Australasia.



Parma wallaby



Sugar glider



Tawny frogmouth

BREEDING & RESEARCH CENTRE AT JURONG BIRD PARK

The Breeding and Research Centre (BRC) was built 24 years ago to focus on conservation of rare birds through a rigorous breeding and research programme, which has seen impressive results. However, the centre was only accessible to a handful of visitors (mainly organised school groups) and therefore missed out on the opportunity to educate most visitors on avian conservation. To ensure that the breeding and research programme continues with the same rigour and to offer visitors an insight into Jurong Bird Park's conservation work, BRC was upgraded. In May 2012, the new facility opened its door to members of the public who are now able to view the different stages of chick development, and watch bird nannies feed and care for the chicks. More importantly, it allows visitors to appreciate breeding rare birds as one of the approaches to avian conservation. Free guided tours conducted by volunteers during the June school holidays received very good response.



Above: Observation windows at the Breeding and Research Centre allow visitors to watch the daily feeding of chicks and the various stage of chick developed.

Below: The Breeding and Research Centre allows visitors to appreciate breeding rare birds as one of the approaches to avian conservation.



NEW 'HIGH FLYERS SHOW' AT JURONG BIRD PARK

With the support of Singapore Press Holdings, Jurong Bird Park launched the new 'High Flyers Show' to replace the Birds n Buddies Show. While showcasing the beauty of bird flight and interesting natural bird behaviours, the new show tells of the alarming rate of deforestation and how it affects birds' breeding patterns in the wild.





Participants of Zoo Hoo having fun mimicking the sounds and movements of rainforest animals.

Immersive Wildlife Experiences For All

Throughout the year, WRS parks organized interactive activities to celebrate Nature, and spread the conservation message in a fun and immersive manner. Earth Day Eco Trail, Primate Affairs, Zoolympix, Zoo Hoo and Mystica were primarily aimed at educating families on wildlife while Safari Zoo Run captured a different segment of the public who enjoyed a healthy workout in the midst of wildlife and a natural environment.

As part of its ongoing Corporate Social Responsibility (CSR) programme, WRS extends free admission throughout the year to holders of the Developmental Disability Registry (DDR) Identity Card issued by the National Council of Social Service. DDR ID cardholders from 88 programmes run by Voluntary Welfare Organisations (VWOs) are allowed to visit WRS' parks for free. Up to two accompanying caregivers can also enjoy 20% discount off admission. During the reporting year, WRS hosted

4,048 elderly and visitors with special needs.

Nature has always been a great source of inspiration for artists and photographers. WRS parks, with one of the world's most valuable animal collections, offer some of the best subjects for photography. To celebrate 30 years of bird show, Jurong Bird Park invited photographers to capture the highlights of the shows and submit their entries for 'Picture the Colour' photo competition, which drew close to 900 entries.

During the year, WRS accorded free admission to 4,048 elderly and 'special needs' visitors to its parks. It adopts a 'by the community for the community' approach by regularly involving students as guides for these visitors.



1: Winning picture in the professional category 'Picture The Colours' photo competition by Gan Ai Lee, taken with a Nikon D5100. Titled 'Pelicans Feed,' it was taken during the daily 2pm Pelican Chitchat feeding session, featuring more than 50 birds from seven pelican species.



2: First runner up in the professional category by William Heng Ser Kheng, taken with a Canon 7D. Titled 'A Falconer On His Steed', it was taken during the daily 10am and 4pm Kings of the Skies Show, featuring 28 birds from 15 species.

3: Second runner up in the professional category by Oliver Kau, taken with a Nikon D90. Titled 'Synchronised Flight', it was taken during the daily 11am and 3pm Birds n Buddies Show, featuring more than 80 birds from 14 species.

The People Behind

WRS' delivery of great wildlife experiences is made possible because of a team of dedicated staff who understand that engaging visitors is the key to the organization's survival in the competitive landscape of the leisure industry. A total of 157 staff members were awarded Excellent Service Award (EXSA) with 81

receiving the silver award, 50 gold and 26 star. EXSA is a national award by Association of Singapore Attractions and SPRING Singapore to recognize individuals who deliver quality service in the attractions sector.

Staff can only shine if they are well-trained and empowered. WRS has in place a training plan to provide continuous training for its staff. It worked

very closely with the Workforce Development Agency (WDA) to develop 16 modules of WSQ courses in tourism and F&B to upgrade staff members' functional skills in animal management, service excellence and operations. Overseas study trips and attachment to various wildlife organisations were also made by some staff to learn from the experts in their field.

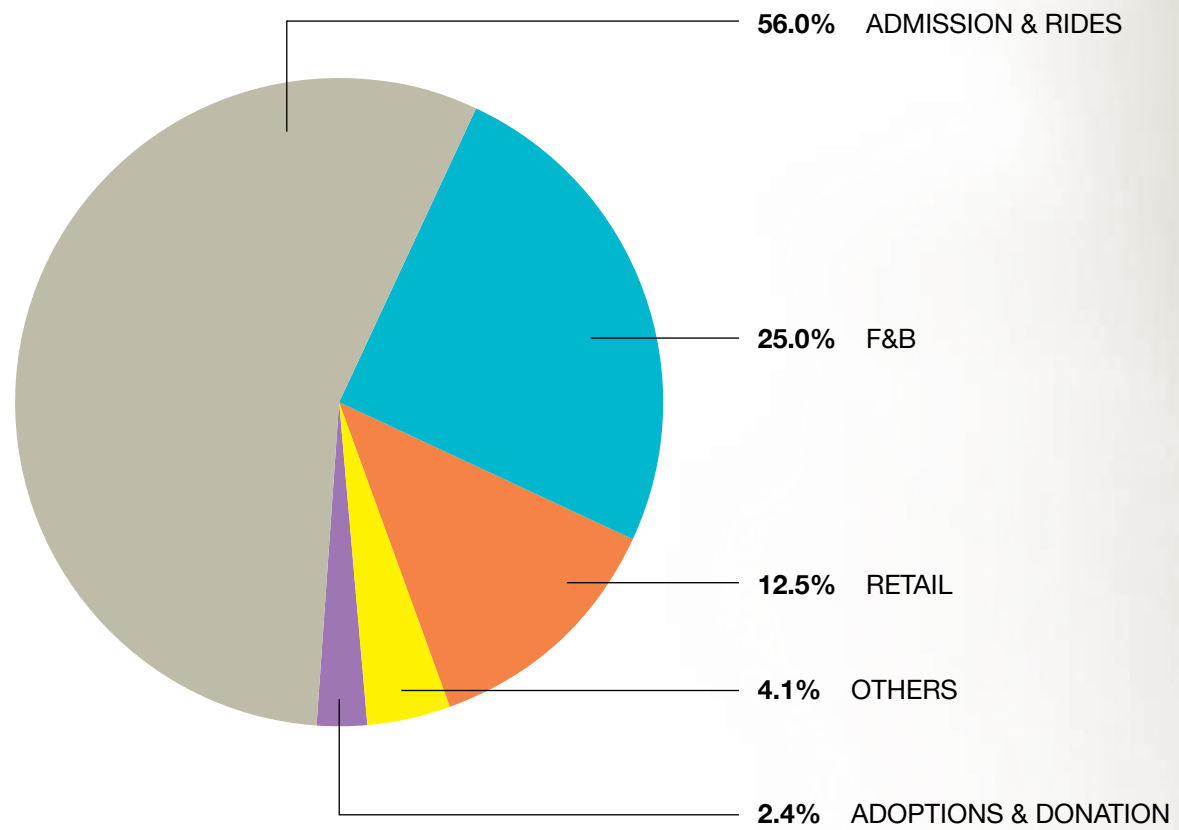
ADOPTERS & DONORS

PARK	ADOPTER	ADOPTION	
JURONG BIRD PARK	Adept Learning Pte Ltd	Kingfisher Exhibit	
	American Express International, Inc.	Kings of the Skies Show	
	Borden Company (Private) Limited	American Bald Eagle, Sue Allen & Eagle Statue	
	Coca-Cola Singapore Beverages Pte Ltd	Malayan Fish Owl, Belang	
	Coca-Cola Singapore Beverages Pte Ltd	Pair of Scarlett Macaws from the High Flyers Show, Vega & Patina	
	Digipho Entertainment Imaging Pte Ltd	Macaw Island	
	Goodwood Park Hotel Limited	Brahminy Kite, Ronnie II	
	SMRT Corporation Ltd	Great Pied Hornbill Exhibit	
	Hong Leong Foundation	24 Flamingoes from the High Flyers Show	
	Lady Yuen Peng McNeice	Bali Mynah	
	Lee Foundation Singapore	Penguin Coast	
	M1 Limited	Malayan Fish Owl, Tupa	
	Nikon Singapore Pte Ltd	Sponsor of "Picture The Colour" Photography Competition	
	Protek Chemicals & Engineering Pte Ltd	White-collared Kingfisher	
	Puro Coffee Singapore Pte Ltd	Toco Toucan, Miko	
	SPH Foundation Ltd	High Flyers Show	
	StarHub Mobile Pte Ltd	Scarlet Ibis Exhibit	
	State Bank of India (Singapore)	Flamingo Lake	
	Sutera Harbour Resort	Lesser Bird of Paradise Exhibit	
	The Shaw Foundation	Fly Pass Macaws from the High Flyers Show	
	Unilever Singapore Pte Ltd	Harris Hawk, Angel	
	NIGHT SAFARI	American Express International, Inc.	Creatures of the Night Show
		Ang Mo Kio Police Division	Free Ranging Axis Deer
		Apple South Asia Pte Ltd	Leopard Exhibit
		Changi General Hospital	Free Ranging Axis Deer
		Chemical Industries (Far East) Ltd	Malayan Tiger Viewing Shelter
		Coca-Cola Singapore Beverages Pte Ltd	Asian Golden Cat Exhibit
		DSO National Laboratories	Free Ranging Axis Deer
		EDB Recreation Club	Free Ranging Axis Deer
		Foreign Manpower Management Division	Free Ranging Axis Deer
		Khoo Teck Puat Foundation & Goodwood Park Hotel Limited	Fishing Cat Trail
		Haw Par Healthcare Limited	Malayan Tiger Exhibit
		Inland Revenue Authority of Singapore	Free Ranging Axis Deer
		Institute of Electrical & Electronics Engineers	Free Ranging Axis Deer
		JTB Pte Ltd	Sambar Deer & Elephant Exhibit
		M1 Limited	Giraffe Exhibit
		Mr Martin Storey	Babirusa Exhibit
		Mitsubishi Pencil Co Pte Ltd	Hippopotamus Exhibit
		Mr & Mrs Lim Soo Peng	Red-crowned Cranes
		Singapore Management University	Clouded Leopard Exhibit
		Singapore Prison Service	Forest Eagle Owl Exhibit
		Singapore Refining Company Pte Ltd	Marsh Bird Exhibit
		SingTel Mobile Singapore Pte Ltd	Ankole Exhibit
		Standard Chartered Bank	Greater Asian Rhinoceros Exhibit
		StarHub Mobile Pte Ltd	Serval Segment- Creatures of the Night Show
		Thai Beverage Private Company Limited	Asian Elephant, Chawang
		The Shaw Foundation	Slow Loris Exhibit
		Transcom	Free Ranging Axis Deer
Unilever Singapore Pte Ltd		Tarsier Exhibit	
United Overseas Bank Limited		Night Safari Trams	

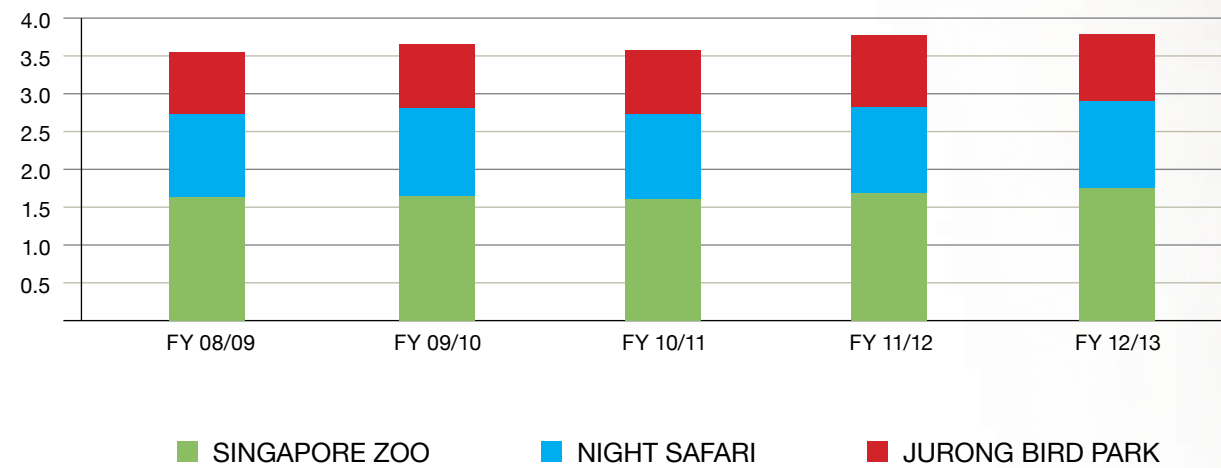
PARK	ADOPTER	ADOPTION
RIVER SAFARI	CapitaLand Limited	Presenting Sponsor & Conservation Donor of Kai Kai & Jia Jia
	Singapore Airlines	Official Airline of the Giant Panda Programme
SINGAPORE ZOO	Abbott Laboratories (Singapore) Pte Ltd	Giraffe, Growie
	Adept Learning Pte Ltd	Spotted Mousedeer Exhibit
	Akzonobel Paints (Asia Pacific) Pte Ltd	Orang Utan, Merlin
	American Express International, Inc.	Splash Safari Show
	Asia Pacific Breweries (Singapore) Pte Ltd	White Tiger Exhibit
	Australia and New Zealand Banking Group Limited	Australian Outback
	Australian International School Singapore	Orang Utan, Banjo
	Borneo Motors (Singapore) Pte Ltd	Cheetah Exhibit
	Cheng Kim Loke Foundation	Malayan Tapir Exhibit
	Coca-Cola Singapore Beverages Pte Ltd	White Tiger, Omar
	ED & F Man Asia Pte Ltd	Sugar Cane Plant At Tropical Crops
	Future Electronics Inc. (Distribution) Pte Ltd	Chimpanzee, Zanter
	Galborg Pte Ltd	Chimpanzee, Nkosi
	General Motors Overseas Distribution Corporation (Singapore)	Agile Gibbon, Gangsa
	Glaxosmithkline Pte Ltd	Sponsors of "Zoolympix 2012"
	Haw Par Corporation Ltd	Leopard Exhibit
	Henkel Singapore Pte Ltd	Chimpanzee, Gangga
	Hong Leong Foundation	Fragile Forest Exhibit
	Interbev (Singapore) Limited	Wildlife Healthcare & Research Centre
	Ms Kay Kuok	Asian Elephant, Aprila
	Kentucky Fried Chicken Management Pte Ltd	Zebra Exhibit
	Lee Foundation Singapore	Orang Utan, Chomel
	Lee Foundation Singapore	Tropical Crops
	M1 Limited	Amhara Stone Village Exhibit
	Malayan Banking Berhad	Chimpanzee, Natty
	Mitsui & Co. (Asia Pacific) Pte Ltd	Penguin Exhibit
	Mitsui & Co. (Asia Pacific) Pte Ltd	Elephants at Work & Play Show
	Mrs Christina Ong	Orang Utans, Binte & Saloma
	Ms Isabella Loh	Orang Utan, Ishta
	Ms Serene Law	Chimpanzee, Akinyi
	Nicola Barrett	Memorial Bench
	Pink Apple Pte Ltd	Orang Utan, Ah Meng Jr
	Primary Industries Pte Ltd	Babirusa Exhibit
	Protek Chemicals & Engineering Pte Ltd	Chimpanzee, Susie
	Renesas Semiconductor Singapore Pte Ltd	Pelican Exhibit
	Singapore Petroleum Company Ltd	Lion Exhibit
	SMRT Corporation Ltd	Cotton-top Tamarin Exhibit
	SPH Foundation Ltd	Proboscis Monkey Exhibit at SPH Conservation Centre
	SPH Foundation Ltd	Polar Bear, Inuka
	StarHub Cable Vision Ltd	Rainforest Fights Back Show
	StarHub Mobile Pte Ltd	Red Langur Exhibit
	State Bank of India (Singapore)	Asian Elephant, Gambir
	The Shaw Foundation	The Shaw Foundation Amphitheatre
	True Heritage Brew (Singapore) Pte Ltd	Chimpanzee, Togo
	Unilever Singapore Pte Ltd	Squirrel Monkey Exhibit
	United Overseas Bank Limited	Singapore Zoo Trams
	Walter AG Singapore Pte Ltd	White Tiger, Winnie
	Wearnes Automotive Pte Ltd	Jaguar Exhibit
	Wuthelam Holdings Pte Ltd	Rabbit Exhibit

FINANCIAL & ATTENDANCE HIGHLIGHTS

TOTAL REVENUE FY 12/13 \$117M



TOTAL VISITORS (IN MILLION)



WHITE RHINO
Wild Africa, Singapore Zoo
PHOTO: DAVID TAN

YEARBOOK 2012-2013

WILDLIFE RESERVES SINGAPORE

Wildlife Reserves Singapore Group



www.birdpark.com.sg

www.nightsafari.com.sg

www.riversafari.com.sg

www.zoo.com.sg