



# Wildlife Reserves Singapore

YEARBOOK 2008/2009









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# Message from Chairperson, WRS

In an era where the global green conscience has found new voice, Wildlife Reserves Singapore's (WRS) anthem to champion wildlife, natural resources and habitats gives the conservation chorus added timbre. Over the years, we have proved faithful to a philosophy of demonstrating leadership in animal conservation, education and sustainability, and this year was no exception.

In commitment to this mission of responsibility and sustainability, WRS implemented the Environmental Management System ISO 14001 and Occupational Health and Safety Management System OHSAS 18001. With the successful adoption of these processes, I am proud to say we have achieved ISO 14001 and OHSAS 18001 certification, the first Southeast Asian zoological institution to have done so.

As guardians of a green future, we have continued to invest in the research and science behind wildlife conservation, and educating the public through exciting recreational programmes and dynamic displays. WRS has donned the mantle of leadership in all these areas, and its parks are great community assets which have anchored Singapore on the global tourism map.

The introduction of vibrant facilities such as the Rainforest KidzWorld at Singapore

Zoo, and the Bird Discovery Centre at Jurong Bird Park have improved the quality of life for families in Singapore. Alongside Night Safari, Jurong Bird Park and Singapore Zoo have cemented their positions as premier venues for family outings, offering an unbeatable combination of education and outdoor activity in recreational pursuit.

No serious discussion of the past financial year could ignore the global financial downturn. The budget squeeze hit tourist arrivals and impacted negatively on incentive group business to major attractions. With our eyes focused firmly on financial viability, we are carefully embarking on new projects, with emphasis on core activities such as wildlife conservation, research, capacity building and revitalization plans for the three parks. This ensures that we are in a strong position for the economic turnaround and to harvest spillover from the upcoming integrated resorts. Accordingly, work on the River Safari has begun. Located between Singapore Zoo and Night Safari, River Safari is to be Asia's first river-themed animal attraction that showcases freshwater fish and other aquatic animals. Targeted for completion in 2012, it is expected to draw 750,000 visitors annually when finished.

We want to protect our standing as one of the unsurpassed nature-based

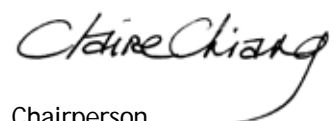
attractions in the world. To do this, we are not taking shortcuts, and have been combing through our processes to do our job better and inspire our customers. We are contemplating ways to engage businesses in the community to support current and future exhibits, and by doing so, they would vouch for the important role animals play in the balance of our ecosystem. We hope to seek broader partnerships with schools, corporations and non-profit entities in the future, expanding on our important role as a community asset.

Furthermore, by instituting measures to improve service levels, we hope to make our staff true examples of what it means to be a tourism ambassador.

WRS cherishes its stewardship of nature through the creatures in its care. We hope our work will continue to inspire the public and fan its passion for wildlife.

I would like to thank our shareholders, sponsors, donors, supporters and friends for believing in our work and contributing to our conservation and rehabilitation efforts. It is indeed a truism, that you do not deserve what you do not defend. We must do our bit to restore, rehabilitate and respect our ecology.

Yours sincerely,



Chairperson  
Wildlife Reserves Singapore

# Message from Group CEO, WRS

Wildlife Reserves Singapore had another excellent year, capped with Singapore Zoo and Night Safari being awarded three stars each from the Michelin Singapore Green Guide, while Jurong Bird Park garnered two. The three-star rating puts the attractions in the company of famous attractions such as New York's Empire State Building and the Eiffel Tower in Paris and aptly speaks for the stellar quality of our zoological parks.

This year, we built on our strengths externally and internally, and visitors voted with their feet. The WRS group of three attractions welcomed almost 3.6 million guests, comparable to last year despite difficult economic conditions.

Our breeding programme recorded tremendous success with 111 births and 321 hatchings, representing 93 species, including many endangered birds and primates such as the critically endangered red ruffed lemur.

New features made their debut, the most popular of which had to be the Rainforest Kidzworld at the Singapore Zoo. Attendance at the Zoo has surged ever since its opening in October 2008.

Singapore Zoo also added an exciting new show in keeping with the rainforest theme - Rainforest Fights Back. This is staged at the revamped Shaw Foundation Amphitheatre, which has had its seating capacity increased to 1,720 seats and a newly installed Teflon tension structure weatherproofing the venue. In addition, the popular proboscis monkeys have bred so successfully that we were able to create

a new habitat for a troop of bachelors. Also featuring hornbills and barking deer, the mixed exhibit located near the Zoo's entrance has been creating a striking first impression on our guests.

The Jurong Bird Park made great strides towards its goal of being a living classroom with the opening of the Bird Discovery Centre and Dino Descendants exhibit. The waterfall aviary featuring the world's tallest man-made waterfall, was revamped with an African theme. These additions allow students to journey into the avian world both current and prehistoric. As befitting its reputation for beautiful flora and landscaping, Jurong Bird Park also introduced Heliconia Walk, which is also one of just 11 germplasm repositories for conservation of heliconias in the world.

At the Night Safari, we were thrilled to be the first in the world to inaugurate a Sunda pangolin habitat, bringing to a higher level our efforts in conservating this endangered native species. The pangolin's diet of ants and termites had made previous efforts to maintain them too much of a challenge. The ability to surmount these difficulties is testament to the skills and innovation of our zoology department.

Service standards were another area of focus, and Wildlife Reserves Singapore is proud to say its staff undertook more than 1,500 training places in the reporting year. Through performance coaching, grooming and frontline service workshops, we improved professionalism and made our staff true examples of tourism ambassadors.

WRS attractions achieved ISO 14001 and OHSAS 18001 certification within a short period of ten months, all through the dedicated team effort of the staff members. As part of a concerted effort to operate in a sustainable manner wherever possible, paper made from sugarcane fibre is now used for photocopying and printing, staff lunches are now packed in biodegradable boxes made of corn and yam fibre, and metal cutlery used in place of disposable plastic ones. The formation of a green team to push for sustainable practices within the company has brought us another step closer to being a green institution.

Recognition must also be given to our ongoing educational initiatives, husbandry methods, and conservation programmes. These continue to be the most meaningful pursuits of the WRS attractions. Through efforts such as the 1st Asian Pangolin Conservation Workshop, the 5th International Hornbill Conference and the launch of Singapore Zoo Chinese Story Book Series II, we have engaged among others, zoologists, avian experts and educators in the common goal of wildlife preservation and awareness.

We aim to generate wonderful memories for our visitors. Our attractions are geared towards fostering a sense of ownership in protecting the planet's green jewels, and a wish to see the natural world conserved. We will continue to do what we can to enrich visitor experiences through our service and to stimulate their desire to protect biodiversity through our work.

Yours sincerely,



Group CEO  
Wildlife Reserves Singapore

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# YEAR IN REVIEW >





## GREAT NEW HAPPENINGS

WITH its foot firmly pressed on the development accelerator pedal over most of the 2008/09 reporting period, Wildlife Reserves Singapore unveiled an exciting lineup of new attractions, exhibits and events at all three parks. As always, a strong focus on conservation reinforced the foundation of every development, percolating through each experience to educate the public and promote the love for nature.

### SINGAPORE ZOO

Singapore Zoo led the way in activity, keeping public interest constantly high with thrilling plans, events and new features. It rolled out something for every segment of the customer demographic, from children and adults, to tourists and locals.



Ms Ho Ching, Executive Director and CEO, Temasek Holdings, being greeted by a falabella at Rainforest KidzWorld, which she officially launched.

### RAINFOREST KIDZWORLD

The most popular attraction unveiled in the year was undoubtedly Rainforest KidzWorld. The mega attraction, officially opened by Ms Ho Ching on 14 November 08, occupies the former Children's World Animal Land. It incorporates a carousel, water play area, obstacles and challenging play equipment, a maze, domestic animal habitats and a Kampung House .

The horse carriage ride takes a leisurely circuit around the periphery of Rainforest KidzWorld, with picturesque views of the Upper Seletar

Reservoir. Falabella grooming and goat feeding sessions led by keepers are immensely popular with visitors.

The Kampung House is an interactive exhibit, inviting visitors to open cupboards, drawers and enter rooms to discover their inhabitants which include stick insects, crickets, chicks and rats. If you are lucky, you might get to chat with a keeper preparing food for the animals at Rainforest KidzWorld.

Those with energy to burn can head for the "Rainforest Challenge" corner, equipped with a flying fox course and a



water raft ride which encourages children to work as a team to pull themselves across a pool, pitting their team against a competing raft. Or they could let off steam on the ornate, endangered animal-themed carousel at the entrance of the Rainforest KidzWorld.

The water play area is, however, the star draw of the Kidzworld. An animal wonderland theme prevails, making it one of the main hubs of the zoo's family-focused activities. A massive bucket of water is continuously filled and tipped over, engulfing those below in an exciting



waterfall. Toddlers, in particular, enjoy the plethora of water-spouting points dotting this playground.

The Rainforest KidzWorld retail shop, Ben & Jerry's and KFC outlets certainly please the young ones with merchandise and menus specially catered for them, a cheerful ambience and animal-shaped kid-sized seats and table.

Over the December school holidays, young visitors were thrilled to meet their favourite Nickelodeon characters, SpongeBob and Patrick. Numerous activities including art sessions and jungle challenges were also held to engage and entertain the year-end crowd. The opening of Rainforest KidzWorld saw 200,000 visitor during the school holidays, 25% jump as compared to the attendance during the same period last year.

#### 'RAINFOREST FIGHTS BACK'

Of the 34 biodiversity hotspots in the world, 13 are in Southeast Asia. During the Climate Change Conference in Bali last year, a

report from the United Nation's Economic and Social Commission for Asia and the Pacific indicated that countries in South and Southeast Asia were among the most vulnerable to climate change and approximately 28,000 sq km of forests are disappearing each year, contributing to this global catastrophe. Ecological damage such as soil erosion, droughts and floods could be reduced if countries reverse the trend of deforestation, which may also help restore biodiversity.



Climate change and deforestation are the result of human actions like urbanisation and development. But humans could also be protectors of wildlife.

Through its "Rainforest Fights Back" show, launched on 9 August 08, Singapore Zoo kicked off a fresh effort to bring home the urgent message that everyone has a part to play in conservation, and ultimately ensuring our own future existence. The 20-minute "Rainforest Fights Back" show tells the story of Kai, a member of an indigenous tribe, who helps the forest animals in their battle against the scheming villain. About 15 species of animals tell the story of creatures that 'fight' back to restore their rainforest home to its full splendour, when the serenity is disturbed by a greedy developer. While the story is a novel take on how animals strive to save their habitat, and how human beings have a role to play in maintaining the future of rainforests, Singapore Zoo also hopes that guests will realise that all too often, the creatures of the wild do not have a champion for their cause.



#### NEW SHAW FOUNDATION AMPHITHEATRE

The Shaw Foundation Amphitheatre was given a make-over with a new tensile teflon membrane to weatherproof the shows. Massive planting works were undertaken to recreate a jungle setting as a themed backdrop for the new 'Rainforest Fights Back' show.

#### BOATRIDE

The scenic Upper Seletar Reservoir provides a backdrop to an immersive new experience at Singapore Zoo. Since the official launch on 1 October 08, four boats have been plying the reservoir's waters between two docks, one located across from the white tiger exhibit and the other beside Rainforest Kidzworld. The boats

have been named after animals, namely Pedro the otter, Omar the tiger, Komali the elephant and Ah Meng the orang utan.

At the boat docks, visitors interested in flora get to see coastal vegetation such as *Phyllanthus*, *Melastoma*, *Cocloba* and *Melaleuca*.

A guide aboard each vessel shares information on Singapore's reservoirs and native wildlife. Native animal species highlighted include flying lemurs, long-tailed macaques, monitor lizards, kingfishers, white-bellied sea eagles, herons and green-crested lizards.



Interpretives at the docks also educate on the negative impacts of introduced species, such as fence lizards and luohan fish on native wildlife



and the ecosystem. Hopefully the awareness generated will reduce the number of non-native animals released into reservoirs and natural areas by irresponsible pet owners.

### THE SWEET SMELL OF SUCCESS

With a total of 17, Singapore Zoo has the largest breeding group of proboscis monkeys, outside their native countries of Indonesia and Malaysia.

The Zoo's proboscis monkey breeding programme has been so successful that six of these pendulously-nosed males were transferred into a new habitat on 1 September 08. They were previously housed at the SPH Conservation Centre with the breeding group of proboscis monkeys but as the population grew, it became obvious that a separate habitat was necessary.

In the wild, male proboscis monkeys are evicted from their family groups once they reach sexual maturity. Evicted males form loose bachelor coalitions before they establish family groups. The new exhibit at



Singapore Zoo provides an environment for the monkeys akin to their natural habitat. Built over an area of 515 m<sup>2</sup>, the new enclosure uses numerous vines in an arboreal network simulating the mangroves and rainforests of Borneo and offers the active males a large space to explore.

Besides these bachelors, the exhibit is also home to a pair of rhinoceros hornbills. Visitors get a first-hand opportunity to observe how proboscis monkeys co-exist with these other animals as they would in the wild. The careful introduction of the proboscis monkeys and hornbills had been successfully carried out under close observation by

the keepers. Sufficient roosting and climbing areas as well as separate off-exhibit holding facilities were provided for both species. The animals have settled down well without any aggression or obvious dominance in this fascinating habitat. A series of educational interpretives lining the habitat's gallery tells of the plight of the proboscis monkey and other Bornean rainforest animals in the wild. Habitat destruction and hunting continue to threaten these already endangered monkeys. Singapore Zoo has supported in-situ research on the population and distribution and of proboscis monkeys in Sabah, Borneo, as well as ex-situ research on infant development and dietary needs.





## NIGHT SAFARI

### SUNDA PANGOLIN EXHIBIT: THE WORLD'S FIRST

It was a proud moment for the Night Safari on 27 February 09, when it unveiled the world's first Sunda pangolin exhibit. The Sunda pangolin or scaly anteater is one of the few fairly large mammals that can still be found in Singapore. Home to two scaly anteaters, the new exhibit brings to fruition much research and effort to conserve and maintain this species in captivity.

Pangolins have no teeth and cannot chew. They feed mostly on ants and termites using their

long saliva-coated tongue to scoop up these insects. They are nocturnal creatures and are known to be good climbers and burrowers, making it extremely challenging to design a suitable habitat in which to house them.

The Night Safari's Sunda pangolin exhibit boasts an area of 17m<sup>2</sup> in addition to two separate viewing galleries. The generous viewing space gives visitors ample room to view the pangolins going about their nightly routine. The exhibit has a burrow which allows the pangolins to forage for food as they would in the wild. The habitat has been landscaped



with mature forest trees, palms, shrubs and groundcover to create a mature tropical forest setting.

In Singapore, Sunda pangolins are becoming extremely rare because of habitat destruction. Within Asia, illegal trade of pangolin meat and scales is rampant. To protect this endangered species, parties to the Convention on International Trade in Endangered Species (CITES) called for a complete ban on international trade of pangolins in 2000. Through our gallery of informative displays and interpretives describing the pangolin's natural history and the illegal wildlife trade of its meat and scales, we hope to create conservation awareness for this native species.

Very little is known about pangolins worldwide, and Wildlife Reserves Singapore (WRS) is at the forefront of those seeking to protect this species. Last year WRS and TRAFFIC Southeast Asia jointly organized an Asian pangolin conservation workshop to discuss the threats faced by pangolin populations in Asia.



### SCINTILLATING SERVAL EXHIBIT

A new serval habitat was completed at the Equatorial Africa region of the Night Safari in mid-March 2009. The serval, a slender, long-legged African cat with large ears and tawny black-spotted coat, was off display while its inhabitat was being redeveloped.

This elegant cat has always been prominently featured as a charismatic resident of Night Safari and we are glad to have it back on display again. The new habitat features a glass-fronted viewing gallery within an African-inspired hut. The neighbouring bat-eared fox habitat has also been relandscaped to provide a more refreshing experience for both animals and guests.





## JURONG BIRD PARK

## BIRD DISCOVERY CENTRE

Below: The Bird Discovery Centre was officially opened on 4 April 2009 by Ms Ho Ping, Director General of Education, Ministry of Education (third from the right).

The WRS Education Department scored a fantastic hat trick with the opening of the Jurong Bird Park's Bird Discovery Centre. Besides finding new use for the discontinued hummingbird exhibit, the Discovery Centre also showcases the many fascinating avian artifacts in our collection and provides a comfortable, appropriate environment for students visiting the park to learn about their feathered friends.



At this living classroom, one learns how birds have conquered the land, sea and sky. A technicolour display of feathers in one exhibit illustrates how birds depend on feathers for flight, waterproofing, warmth, courtship and species identification. Another must-see is the collection of eggs featuring more than 250 different bird species. Visitors also get the chance to peek into the various stages of a bird's life from an embryo within an egg to a full-grown adult.

In the nests display, a cleverly-curated selection of birds' nests demonstrates how the strangest materials can be gathered and incorporated into the most creative and unique of bird homes for breeding and raising young.





An amalgamation of fun, education and life, the Bird Discovery Centre is the vehicle through which the Jurong Bird Park hopes to enrich the public with avian knowledge and inculcate appreciation for the uniqueness of birds. It is also a centre for budding ornithologists to learn even more about the avian world. By adding a new dimension to the live avian exhibits throughout the park, this new centre allows guests to receive and digest a deeper knowledge and understanding of birds.

### DINOSAUR DESCENDANTS

While the actual physical appearance of dinosaurs is often a topic for speculation and debate, many palaeontologists agree that birds, having theropod ancestors like the famous *Tyrannosaurus*, are living examples of avian dinosaurs. As they are such a critical and revelatory link to the world's prehistoric past, the Jurong Bird Park created a Dinosaur Descendants exhibit to educate visitors on the similarities and intriguing facts linking ratites to dinosaurs.

The 425m<sup>2</sup> habitat of simulated grassland and forest showcases four of the five tupes of ratites, namely ostriches, emus, cassowaries and rheas.

The four lookout huts within Dinosaur Descendants are decked out with interactive interpretives for adults and children to learn and have fun. With fossils and relics hidden in the sand for visitors to discover, a simulated palaeontological dig encourages visitors to try out some hands-on learning.



On 22 May 2008, the Dinosaur Descendants exhibit was officially opened by WRS chairperson, Ms Claire Chiang. Three newly weaned rhea chicks stole the limelight during the opening, as they paraded in their own paddock within the rhea habitat.

The last time rheas were bred at Jurong Bird Park was in the 1980s.



### HELICONIA WALK

There were many horticultural highlights at WRS this reporting year, and the three parks continued to delight visitors with their lush landscaping and innovative use of plants, not just to beautify but to demarcate ecological zones. The crowning achievement for the horticulture department, however, was the completion of Heliconia Walk at Jurong Bird Park in January 2009.

Heliconias are plants native to Central and South America and certain South Pacific Islands. Wild heliconias are fast disappearing as deforestation depletes their



PHOTO: WILLIAM NAI

natural habitat. The Heliconia Society International, established in 1985, set out to combat this loss by working with botanical gardens and other nature organisations. The Jurong Bird Park was selected for the set up of its 11th conservation repository for the protection of heliconia species. Functioning as banks to collect and maintain germplasm of the plants, the repositories respond to the need for ex-situ conservation and provide the expertise and material required to support the interest of nurseries and collectors. Jurong Bird Park maintains accurately labeled and

documented collections of over 108 heliconia species.

At the Heliconia Walk, the Jurong Bird Park cultivates the public's interest in these beautiful plants by providing an opportunity for immersion in a profusion of flowering heliconia. With wild splashes of colour from the showy blooms of the 62 species of heliconia grown, this breathtaking tunnel weaves its way through bird enclosures. The remaining 46 heliconia species are planted around the grounds of Bird Park. Other closely-related plants such as costus, gingers and bananas, are also planted throughout Heliconia Walk.

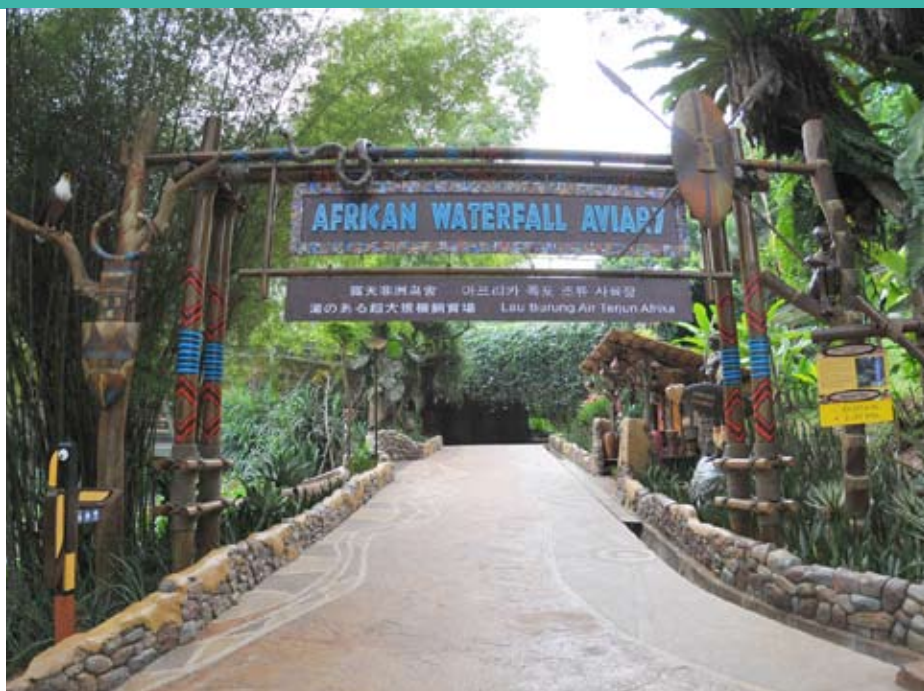
#### AFRICAN WATERFALL AVIARY

The Waterfall Aviary, boasting the world's tallest man-made waterfall, was given a makeover. It is now replete with African-themed artifacts, and has been renamed African Waterfall Aviary. Intensive replanting at the entrance and interior of the aviary has seen the inclusion of African flora for added lushness. Visitors are greeted by African motifs throughout the aviary and at the entrance, life-size models of an African warrior in full regalia, village folk and a canoeist in the lily pond make a lasting and wonderful impression.



PHOTO: WILLIAM NAI





To celebrate the relaunch of African Waterfall Aviary, over 200 birds, comprising red and yellow bishops, bee-eaters, red-collared widow birds, rollers and starlings were released into this habitat.

A temporary aviary featuring suspended coconut husk nests was also erected adjacent to the panorail platform to house about 100 African black-masked lovebirds. These birds were released into the waterfall aviary and can be seen nesting beside the panorail platform. Constantly pecking and "kissing", lovebirds pair for life and make adorable guests at wedding ceremonies

and solemnisations held at African Waterfall Aviary. Other birds that were added to the aviary to enhance the experience include the blue-winged geese, Cape shelducks, white-faced tree ducks and black cormorants.

'Out of Africa', a themed event, was held during the 2008 year end school holidays to add activity and vibrancy to the new African Waterfall Aviary. Nigerian tribal dancers, a contemporary African drum performance, West African Djembe performances and other activities made a resounding impact during the five-week festival.

## WORLD OF DARKNESS

"World of Darkness" showcasing different species of owls and other nocturnal birds, was revamped with improved lighting effects simulating moonlight. Themed landscaping and new interpretives were added as part of the makeover. The September school holidays featured activities centred around the "World Of Darkness". The Owl Encounter together with celebrity appearance by Mediacorp artiste, Edmund Chen, kept guests entranced and entertained.







## KEY EVENTS



Above: Young visitors learnt about frogs and other amphibians through origami and interactive station games manned by student volunteers.

### 2008 - YEAR OF THE FROG

2008 was not only a leap year for humans, but also for amphibians globally. The year was designated the “Year of the Frog”, putting amphibians in the spotlight internationally. Zoos and wildlife institutions around the world took giant leaps to generate public awareness, in particular burning issues concerning the future survival of frogs, many of which are facing threats from a fungal disease called chytridiomycosis, habitat loss and climate change. It is estimated that over one-third

of all known frog species may vanish in the near future - the biggest mass extinction since the disappearance of dinosaurs.

Students from Raffles Institution helped Singapore Zoo leap into the Year of The Frog on 29 February 2008 with a ‘froggy croak’ rendition of The Rainbow Connection, while students from Woodlands Primary School did a leapfrog race and created frog-friendly habitats around the Zoo. New frog displays were set up at Fragile Forest as a platform to educate visitors about amphibians, their importance and conservation.

Year of the Frog was packed with activities such as Froggy Fun Weekends involving amphibian-related game stations located at the Restaurants In The Wild and Fragile Forest. Through these games, participants learnt about amphibians and their plight. Stations were manned by student volunteers from Raffles Institution, Cedar Girls’ Secondary School as well as our SPH Conservation Ambassadors, who also doubled up as ‘tattoo’ artists at our froggy face

painting booth. There were also behind-the-scenes Fabulous Frog tours, night tours and talks by amphibian experts.

Students from Raffles Institution conducted a survey at Singapore Zoo on the public perception of amphibians and results showed that public awareness of the amphibian crisis was close to zero. To heighten this public awareness, the students created a website, <http://library.thinkquest.org/07aug/00948/resource/lite/home.html> and also produced a two-minute video of dark humour about a mother frog and her offspring. The video was screened during the Raffles Alumni Day as one of their public outreach initiatives.

### WORLD ANIMAL DAY AND ENRICHMENT ACTIVITIES

The Singapore Zoo's inaugural Animal Enrichment Day, coinciding with World Animal Day, took place on 4 October 2008. Aiming to educate guests on training, conditioning and husbandry methods employed to keep Singapore Zoo's animals behaviourally occupied and

healthy, the programme took things a step further by sharing tips on how the methods could be applied to visitors' pets at home.

Activity stations were setup throughout the Zoo, at which guests of all ages could participate in enrichment games and trails such as a foraging game at the Malayan Sun Bear Exhibit.



WRS has long had a tradition of sharing best practices with colleagues internationally, and in 2008, the first enrichment articles written by keepers from the Zoo and Night Safari were published in "The Shape of Enrichment", the official publication for the International Conference on Environmental Enrichment since 1995.

In addition to these accomplishments, a webpage

on Singapore Zoo's website was also launched explaining to on-line visitors the concept of environmental enrichment and how it improves the quality of lives of animals at the zoo.

### SAFARI ZOO RUN

To further encourage the fitness craze sweeping across the nation, Singapore Zoo and Night Safari opened their gates to members of the public on 7 February 2009 for the very first Safari Zoo Run. The event was a huge success attracting some 6,000 participants. Families were encouraged by the non-competitive billing, and many parents took part with their children, including toddlers and babies in prams! It was an excellent event for families to bond and spend time together, and also to encourage a healthy lifestyle through walks, jogs and runs.

The 6.2 km run spanned the tram route across both parks. Participants first had to complete 3.2 km within the Night Safari before crossing over to the Singapore Zoo to finish the rest of the route.

Mr Teo Ser Luck, Senior Parliamentary Secretary for Community Development, Youth and Sports, and Transport, and Ms Fanny Lai, Group CEO, WRS flagging off the Safari Zoo Run.



Singapore Zoo and the Night Safari both received three-star ratings, the highest rating within the grading system, while Jurong Bird Park received a two-star rating. This puts our parks in the company of the Eiffel Tower in Paris or the Empire State Building in New York.

"The rating is testament towards the team's dedication to conservation and providing unique wildlife experiences. We will continue to do our best to bring engaging wildlife encounters to visitors and to leave an everlasting impression as they learn more about endangered animals from their visit," said WRS CEO, Ms Fanny Lai.

The Safari Zoo Run was a tribute to the memory of Ah Meng, Singapore Zoo's iconic orang utan who passed on in February 2008. Part of the event proceeds was directed towards the care of endangered animals at Night Safari and Singapore Zoo. WRS CEO, Ms Fanny Lai, said: "We are glad that through the run, we will not only remember Ah Meng but also aid in conservation causes."

#### MICHELIN RECOGNITION FOR WRS

12 September 2008 was a proud day for the three WRS parks, when it was announced they

had been accorded a grand total of eight Michelin star ratings in Michelin's Green Guide for Singapore.

Michelin's Green Guides are designed to help travellers discover, at a glance, a destination's most outstanding attractions using a star-rating system. A two-star rating is awarded to attractions which are recommended and three-stars standing for must-see stops. The three WRS parks were graded by Michelin's representatives based on a set of criteria which included convenience, visitor-friendliness, quality of experience, authenticity and charm.





FOR FUTURE  
GENERATIONS >



## WILDLIFE CONSERVATION

Collaborative conservation efforts were particularly productive in the 2008/09 reporting year, with the completion of several successful projects in partnership with local, regional and international conservation organizations. These projects underscored Wildlife Reserves Singapore's continued high level of commitment to preserving wildlife.

Continuing our tradition of cooperation and sharing of best practices, three workshops - the Asian Pangolin Conservation Workshop, Slow Loris Identification Workshop, and 5th International Hornbill Conference were organised and conducted at the parks. It was also an active year by way of research programmes, animal births, transactions and operant training and conditioning.

### ASIAN PANGOLIN CONSERVATION WORKSHOP

The inaugural Workshop on Trade and Conservation of Pangolins Native to South & Southeast Asia was jointly organised by TRAFFIC Southeast Asia and Wildlife Reserves Singapore from 30 June to 2 July 2008. The three-day international workshop, held at Singapore Zoo was officiated by Dr Mohamad Maliki Bin Osman, Parliamentary Secretary for National Development. Over 60 delegates from 15 Southeast

Asian government and non-governmental organizations, research institutions and facilities managing pangolins in captivity participated in the event. Despite a complete ban in 2000 by the Convention on International Trade in Endangered Species of Wild Fauna and Flora (CITES) on their trade, pangolins are still the most numerous mammal species found in confiscated cargoes throughout Southeast Asia. The majority of shipments are bound for China, for use in traditional medicines and for consumption



PHOTO: BJORN OLESEN





as wild exotic meat and tonic food. WRS hosted and funded the workshop which focused on conservation of pangolins, in particular, ways to combat the rampant illegal trade.

WRS funded the attendance of 22 participants from the various regional wildlife trade enforcement and regulatory agencies at the workshop, to ensure full participation from ASEAN countries.

Key presentation and discussion topics included platforms to increase public awareness of the magnitude of the pangolin trade; addressing the regional demand for wildlife-derived traditional medicine and bushmeat and the detrimental impact of these practices on wild pangolin populations.

Findings and recommendations resulting from this workshop have been published and circulated to CITES signatories, International Criminal Police Organization (ICPO)-Interpol, World Customs Organisation (WCO) and national focal points of the ASEAN Wildlife Enforcement Network (ASEAN-WEN) to facilitate a coherent approach to information and intelligence sharing at a regional level.

### **SLOW LORIS IDENTIFICATION WORKSHOP**

The Night Safari and Singapore Zoo jointly hosted a slow loris identification workshop on 13 June 2008, funded by the International Primate Protection League and conducted by researchers from Oxford

Brookes University. The slow loris, with its soulful eyes and furry coat, is one of the most sought after illegal pets. By equipping participants with slow loris identification know how and awareness of common smuggling techniques, this workshop aimed to reduce the illegal slow loris trade and stem the inappropriate release of confiscated slow lorises.

The workshop was especially pertinent to enforcement officers and wildlife management personnel, and was attended by representatives from Singapore government bodies such as NParks, the Agri-Food and Veterinary Authority of Singapore (AVA) and the National University of Singapore.





### 5TH INTERNATIONAL HORNBILL CONFERENCE



Co-organised by Jurong Bird Park, the 5th International Hornbill Conference brought together global experts at the Singapore Botanic Gardens from 22 to 25 March 2009. The conference, themed “Challenges for the Future”, saw these specialists share their work on in-situ and ex-situ conservation and future priorities for hornbills.

Seven presentations were authored and co-authored by WRS officers, including “A Review of Captive Hornbills at JBP - Collection, Management and Conservation”. About 110 international participants attended this conference and visited Jurong Bird Park as part of their post-conference itinerary.

### CONSERVATION AND RESEARCH PROJECT

This reporting year saw the establishment of a field staff-initiated project model at Singapore Zoo and Night Safari to encourage staff participation in research planning and efforts. Under the new model, staff contributed research project ideas, to better understand and manage the animals under their charge. Students, volunteers and external experts were engaged to assist and guide in conducting these initiatives.

Research projects undertaken include:

- *Enrichment of Malayan sun bear to reduce stereotypic behaviour*

This is a study on the effectiveness of enrichment methods used to reduce stereotypic pacing in the sun bear exhibit, assisted by students from Temasek Polytechnic. Several enrichment devices were found to be effective in increasing exploratory behaviour, thus reducing stereotypic pacing. These devices will be

incorporated on a larger scale across the various sun bear groupings, in both their habitat as well as off-exhibit holding areas.

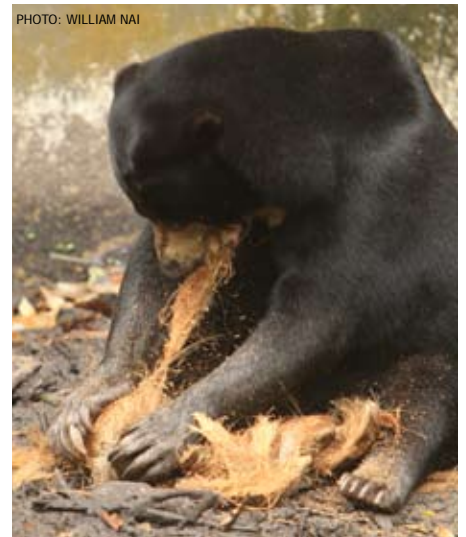


PHOTO: WILLIAM NAI

- *Visitor perceptions on naturalistic versus artificial enrichment used in Singapore Zoo*

A survey of 500 visitors was undertaken to understand their perceptions on the use of naturalistic and artificial enrichment devices for different animals in Singapore Zoo. The survey findings help keepers design better devices that keep the animals behaviourally enriched and at the same time, engage visitors to learn more about the animals.



- *Social compatibility of bachelor group of proboscis monkeys in a mixed exhibit*

This study focused on the compatibility of a bachelor group of proboscis monkeys introduced into a new mixed exhibit of hornbills and barking deer at Singapore Zoo. Observations of the proboscis monkeys included inter- and intra-specific interactions, social aggression and hierarchy in the absence of female monkeys.



- *Free-ranging primates in Singapore Zoo*

This survey-based study gauged the perceptions and reactions of visitors towards the free-ranging primate exhibits, and the interactions between these primates and humans. Singapore Zoo is world-renowned for the free-ranging primate concept that spans species as small as the

cotton-top tamarin to the orang utan, the largest primate in our collection. This study seeks to explore the effectiveness of such displays in evoking an emotional bond between animals and visitors.



- *Observations on stereotypic behaviour of slow loris*

With the assistance of a graduate student from the National University of Singapore, a study was undertaken to observe stereotypic behavior in the slow loris, a nocturnal primate. This was an important process in identifying primers for stereotypic behavior and targeting enrichment to address the problem.

- *Nutrition and behaviour of captive Sunda pangolins*

Comparative studies of the nutritional composition of the diet of wild and captive Sunda

pangolins were carried out with the assistance of a Nanyang Technological University student. The behavioural patterns of the pangolins in Night Safari were also observed to determine peak activities and individual or species traits.

- *Captive breeding of Malayan horned frog for possible reintroduction*

This study was carried out by the keepers in Fragile Forest to investigate the physical parameters that encourage breeding in Malayan horned frogs and to identify factors for optimal tadpole survival. Feasibility studies for reintroduction of this species into the wild are in the exploratory stage.





- *Behavioural development and infant care in captive red-shanked douc langurs and proboscis monkeys*



This is a continued collaboration with the Zoological Society of San Diego on infant developmental milestones, mother-infant interaction and non-maternal infant care in captive red-shanked douc langurs and proboscis monkeys. Two presentations were made based on the study: at the International Primatological Symposium in Edinburgh from 4 to 8 August 2008; and at the Conservation of Primates in Indochina Symposium, Vietnam, from 26 to 30 November 2008.

### THE SINGAPORE HORNBILL PROJECT

Entering its fourth year, the Singapore Hornbill Project made great strides with the completion of the in-situ and ex-situ monitoring of oriental pied hornbill breeding behavior at Jurong Bird Park and Pulau Ubin, as well as the initiation of additional genetic and re-introduction components. A joint initiative by Jurong Bird Park, Singapore National Parks Board and the Singapore Avian Conservation Project team, the project aims to enhance the population of wild hornbills in Singapore.

Artificial "intelligent nests" were used to monitor the oriental pied hornbills at Jurong Bird Park and Pulau Ubin. Apart from cameras, these nests were fitted with a weighing scale and a temperature and humidity analyser. Data gathered will allow better understanding of the nesting and breeding behaviour of the hornbills, as well as physical parameters within the nest cavity. The project has resulted in a

significant increase in sightings of birds at Pulau Ubin and mainland Singapore compared to 15 years ago.

The first hornbill candidates to qualify for a release programme at Bukit Timah were the oriental pied hornbills from Jurong Bird Park, and their tale was an exciting one. The breeding pair was transferred to a temporary holding aviary at Bukit Timah on 12 December 2008. A fortnight later, the female had sealed herself inside the artificial nest provided, and by January 2009, had hatched two of four eggs.





A bold step was taken in February to remove a panel of nylon netting on the holding aviary, which saw the male bird immediately fly off into the wild. However, to observers' excitement, he returned by early afternoon to feed the female and chicks. The male continued to routinely return to feed his family, and supplementary feeding stations were set up around the aviary to assist with his foraging activities. Finally, on 2 April, the female emerged from the nest together with her two chicks and the three hornbills joined the waiting male outside the holding aviary, before embarking on their first family flight into the wilds of Singapore.

In February 2009, we attempted to reintroduce a male rhinoceros hornbill into the Bukit Timah Nature Reserve (BTNR), to lure a long-time free-flying female rhinoceros hornbill, presumably a released pet, for eventual pairing. Rhinoceros hornbills were once found in Singapore but have since become extinct, and this attempt would be crucial in understanding how

the pair adapts to the urbanised Singapore landscape.

Within five hours of the male's presence in the temporary holding aviary at the BTNR, the free-flying female had entered the aviary to acquaint herself with the newcomer. She continued to visit the male regularly for the next few weeks. Finally, on 23 February, the female was trapped and fitted with a GPS harness to monitor her movements and travelling patterns, before being re-released. She ventured back to the aviary for the next two days, after which she could not be located via GPS tracking. The JBP male rhinoceros hornbill continued to vocalise from within the aviary, but was not able to attract the female back. We will monitor the situation and location of the female before deciding whether to continue the reintroduction attempt.

DNA studies were also carried out to investigate the regional genetic diversity of oriental pied hornbills and rhinoceros hornbills. This will further the understanding of subspecies

distribution within the region and will serve as an important repository of information for future avian geneticists and hornbill conservationists.



Taking advantage of technology to enhance our education and conservation outreach, live web streaming of the nesting oriental pied hornbill was made available through the Jurong Bird Park website. This allows for real-time online views of what goes on inside a hornbill's nest as the female incubates her eggs and prepares for the new arrivals. Three oriental pied hornbill aviaries were thus equipped with cameras, allowing the public to chart the development of oriental pied hornbill chicks in captivity.



## STUDENT PROJECTS

WRS continued to support student-initiated projects, working with students from four universities - University of California Berkeley, University of Western Australia, Nanyang Technological University and National University of Singapore.

Notable projects include:

- *Gliding performance of giant flying squirrels*

A postgraduate student from University of California Berkeley studied the comparative gliding performance of *Petaurista*, a large Asian flying squirrel, and smaller North American flying squirrels (*Glaucomys volans*) to determine if actual performance followed biomechanical predictions.



PHOTO: NATURE PHOTOGRAPHIC SOCIETY SINGAPORE



PHOTO: FONG CHEE WAI

- *Social organisation of a colony of captive Hamadryas baboons*

The social structure of captive Hamadryas baboons was compared to wild populations in a study conducted by an undergraduate from University of Western Australia. In another study on hamadryas baboon social structure by an undergraduate student from the Nanyang Technological University, the intensity of aggression between pairs of individuals was charted and examined.

- *Pairwise relationships of zebras*

Observational study was made by students from Nanyang

Technological University to investigate the ways in which the harem social structure of Grant's zebras affects social relationships and group organisation.



PHOTO: FONG CHEE WAI



## OPERANT CONDITIONING

The benefits of operant conditioning through positive reinforcement are becoming more widely recognized by wildlife institutions worldwide. This animal management tool has been employed at the Night Safari and Singapore Zoo for a wide range of animals, including reptiles, hoofed stock, carnivores and primates. Operant conditioning facilitates husbandry and veterinary procedures while improving animal welfare. The procedures are conducted in a safe manner while the animals are fully alert, thus reducing overall stress for the animals, keepers and vets.

Singapore Zoo's first successful big cat voluntary blood draw was performed on its male white tiger, Omar, on 25 August 2008. Blood draws are important in assessing the general health of an animal through blood chemistry values, thus pre-empting any medical conditions. To facilitate this, a training chamber with an in-built weighing scale, was incorporated into the service area of the



habitat. Keepers were able to train Omar using a target, bridge and reward system whenever a desired behaviour was presented. Over time, keepers were able to manipulate Omar's tail, simulating a blood draw, until he was finally desensitized to the procedure, following which they were able to perform the voluntary blood draw.

The second successful training and conditioning session was for a voluntary ultrasound procedure conducted on a sun bear which was suspected to be pregnant.

This allowed close monitoring of the foetus growth and progress without sedation of the animal. Thirdly, a successful veterinary and management procedure using operant conditioning involved drawing blood from the ears of three white rhinoceroses. The rhinos trained for this procedure were the dominant male, Hoepel; a breeding female, Donsa; and a young male, Sudi. By training Sudi, blood draws could easily be taken for health screenings conducted prior to his export to another zoo as part of an animal exchange programme.



## BIRTHS: BLOSSOMING POPULATION

The Singapore Zoo celebrated 111 successful births from 33 species during the year. As in previous years, primates figured large in this list of successes, with births of the white-faced saki, lion-tailed macaque, Javan

monkey was a first for both parents, and the first of this species in Singapore Zoo after a hiatus of about 12 years. The second exciting birth was that of the red-ruffed lemur. This was another first for the Singapore Zoo, as the species had not bred since its arrival in 1991. The birth was of particular importance as

female manatee, black-footed penguins and Burmese tortoises.

With the acquisition of a female Komodo dragon from Ueno Zoo in April 2008, Singapore Zoo initiated a breeding programme with its male dragon acquired from Portugal's Lisbon Zoo in 2007. The lizards were introduced



langur, patas monkey, Sulawesi crested macaque, ring-tailed lemur, squirrel monkey, cotton-top tamarin, black howler monkey, proboscis monkey, douc langur, Bornean orangutan and Goeldi's monkey.

There were three particularly exciting births in our primate collection. The birth of the Eastern black and white colobus

red-ruffed lemurs are listed as "Critically Endangered" by the IUCN. The third significant birth was that of a Bornean orang utan female born on 12 December to Anita. Female newborns have been relatively rare, the last one occurring in 2005.

Other significant additions to our collection were that of a Southern white rhinoceros, a

in the Komodo dragon exhibit in November 2008, and did not exhibit overt aggression towards each other. A clutch of 18 eggs was laid in January 2009. However, none hatched, and the eggs appear to be unfertilised. Efforts will be made to continue the breeding programme in the coming year.

At Night Safari, 27 July 2008 heralded the long-awaited birth





of a female Cape giraffe calf, bringing the park's collection of these popular animals to four. The new addition has been aptly named Kayin, meaning "the long awaited one" in Swahili. The last giraffe calf before Kayin was born in 2000. Mating has again been observed between the adult giraffe pair and should this be successful, another birth might be expected in early 2010.

In August 2008, the Night Safari saw its first babirusa birth of two piglets after a gap of more than 5 years. The decision to breed the animals arose because of interest from zoos in the Europe and North America, as surplus animals can be exchanged with these wildlife institutions. The babirusa is classified as a CITES I species and is listed as vulnerable by IUCN.



Jurong Bird Park set a new record for successful hatching - 321 chicks from 60 species were hatched over the course of the year. Significant hatchings included four king penguins, surpassing the previous number of three chicks in 2004. The blue-eyed cockatoos continued to flourish in numbers and from an initial group of eight birds, the current population now stands at 24.

Following a long hiatus of non-breeding activity, the

Malay fish owls produced four owlets this year. Other long-awaited hatchings included the endangered Dalmatian pelican, spot-billed pelican and American white pelican, which are naturally incubating their eggs and raising their young at the Pelican Cove habitat. A bumper crop of 65 greater flamingo chicks from both the Flamingo Lake as well as the Bird Show flocks were hatched. Successes were also seen with hornbill and parrot breeding, with two chicks emerging from the oriental pied hornbill pair.



The recently-paired black hornbills produced a chick which finally emerged from the nest cavity with its mother on 23 February 2009. Eight scarlet macaw chicks were hatched during the year. Palm cockatoos, blue and gold macaws and green-winged macaws also bred successfully.

PHOTO: WILLIAM NAI



Blue-eyed Cockatoo chick

PHOTO: WILLIAM NAI



Malayan Fish Owllet

### ANIMAL TRANSACTIONS

The animal collection at both Singapore Zoo & Night Safari grew by 156 individuals over the reporting year through exchanges and loans with international partners. The arrivals were of 38 species, including three new species – a pair of cloud rats, two pairs of red river hogs and a female Goodfellow's tree kangaroo. Plans are underway to obtain a male tree kangaroo for the single female.

Notable reptile acquisitions included two pairs of black pond turtles, listed as vulnerable to extinction by IUCN. These were received from Kadoorie Farm and Botanical Gardens Hong Kong.

A male De Brazza's monkey from Poland's Wroclaw Zoo, and a male sun bear from Khao Kheow Open Zoo in Thailand were important acquisitions to improve the genetic diversity of our animal collection, and the continued breeding of the species in the Zoo.

A total of 27 animals representing 10 species were sent to various

zoological institutions across the globe during the year. Significant shipments included two white rhinoceroses, two male nyala and a male eastern bongo exported to Taman Safari Indonesia on 23 July 2008 via a chartered Hercules C-130 aircraft. The animals were accompanied by four Indonesian keepers who had arrived a week earlier to familiarise themselves with the animals.

Also within Asia, a Singapore Zoo born male white-faced saki monkey was exchanged for three pairs of Chinese giant flying squirrels from Guangzhou Panyu Xiangjiang Safari Park, China. Three Asian lions arrived

Keeper Ram crate training a white rhino for shipment to Taman Safari Indonesia.



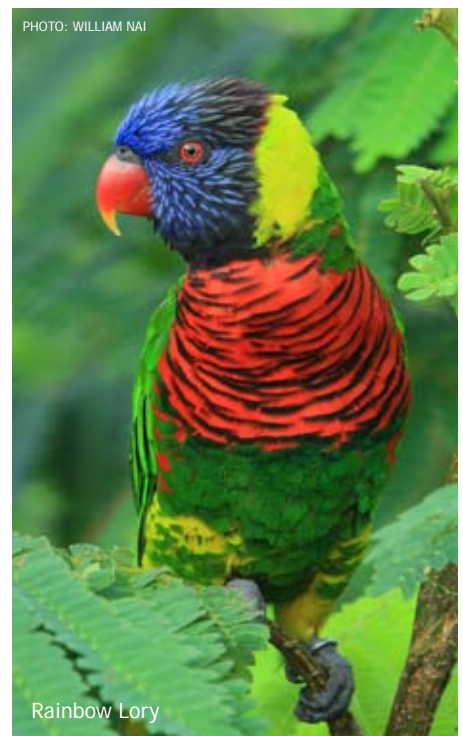


from India's Sakkarbaug Zoo on 25 March 2009, in exchange for two pairs of cheetahs, that were sent to India the following month. A pair of golden cats from Vietnam's Saigon Zoo and Botanical Gardens was also received in exchange for a male golden cat and a male tiger. The above animals are important acquisitions for the Night Safari's overall breeding efforts.

Nine silver langurs were sent in May 2008 to San Diego Wild Animal Park in USA, under a long-term animal exchange programme. With this transfer, Singapore Zoo no longer holds

silver langurs in its collection, and will be focusing attention on breeding the endangered douc langurs, Javan and purple-faced langurs. A female pygmy hippopotamus was also sent to Switzerland's Basel Zoo.

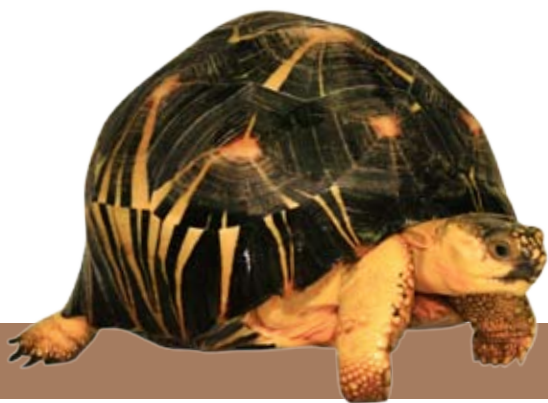
Meanwhile, to establish a reference database for field researchers to identify animal tracks during field surveys, as well as for training and educational material, Singapore Zoo and Night Safari provided WWF Malaysia with reference casts of mammal paw and hoof prints. We also provided photos and measurements of selected



species found in Peninsula Malaysia. These were collected from animals such as the Malayan tiger, clouded leopard, sambar deer, bearded pig, greater and lesser mouse deers, golden cat and leopard cat housed in the WRS parks.

Acquisitions for the year also included 97 lorries of three species, namely the rainbow lory, yellow-bibbed lory and black-capped lory, to augment the population in Lory Loft and increase the genetic diversity for our breeding efforts.





## CONFISCATIONS AND DONATIONS

Donated animals are quarantined upon arrival, to prevent the potential spread of diseases to the rest of the parks' animal collection. During the quarantine period, the animals are cared for by the parks' team of vets and keepers who inspect the animals for signs of injury and illness and provide them with a diet comprising appropriate food, nutritional supplements and medication, if necessary.

The need to feed and care for donated animals is a responsibility that the WRS institutions take in their stride. Designated as Singapore's official wildlife rescue centres, Jurong Bird Park, Night Safari and Singapore Zoo are able to provide expert specialist care to a spectrum of exotic animals that enter the facilities. Over the last three decades, WRS parks have cared for and rescued more than 10,000 animals from all over the world, including Singapore.

The number of confiscated and donated animals fell from 637

animals in the previous year to 385 this year, hopefully a positive trend indicating a decline in illegal animal acquisitions amongst the public. There were three particularly large confiscations by the Agri-Food & Veterinary Authority of Singapore (AVA), consisting of tortoises, turtles, Madagascan lizards, snakes and tarantulas. These included threatened reptiles such as the ploughshare tortoise, Burmese star tortoise, radiated tortoise, Chinese softshell turtle and black marsh turtle.

A unique AVA donation was that of a female dusky langur, which had been trapped by a member of the public in a housing estate and handed over to the Zoo. After conducting health checks and following a quarantine period, she has been successfully rehomed to Twycross Zoo in the UK. All confiscations by AVA are brought to Singapore Zoo and kept in the Small Animal Quarantine area until the pending case is over and the animals can be released from quarantine.

A python release project in collaboration with NParks

is another means by which Singapore zoo is helping to rehabilitate native wild creatures. Pythons brought to the Zoo either by the police or public are anaesthetized, examined, measured and microchipped to facilitate identification of individual animals. The snakes are then released back into nature areas, in collaboration with NParks with release sites for each individual recorded.

Pangolins are also sometimes brought to the Zoo by members of the public and these are given a thorough physical examination. The pangolins are microchipped, measured, dewormed and treated for external parasites. Often, they have ticks, which are removed and kept for a study on pangolin tick identification being carried out with partners in the US. Radiographs are taken to ensure that the animals do not have any fractures, before they are released close to where they were found in the wild, again with the cooperation of NParks.

This year, 123 birds were donated to Jurong Bird Park. The



most notable of these donations came from a member of the public donating his entire pet collection of 20 diamond doves, lovebirds and cockatiels.

#### ELEPHANT EFFORTS

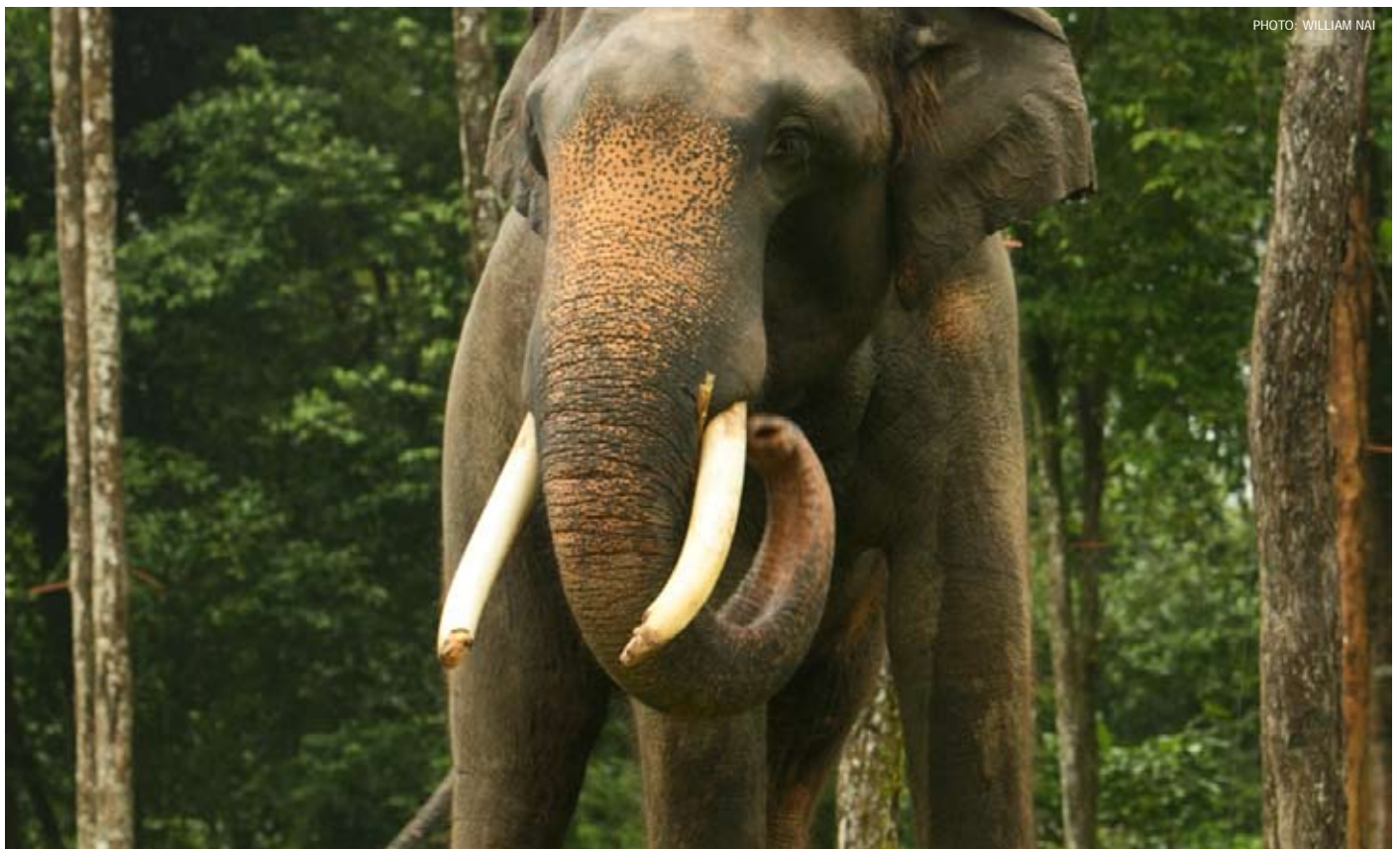
A jumbo effort was made to collect elephant semen over two days in May 2008 from the Night Safari's two resident bulls, Chawang and Wira. The samples were hand-carried to

Sydney as part of a collaborative agreement between Taronga Zoo and WRS to cooperate on the captive breeding of Asian elephants.

On the home front, WRS is continuing its elephant breeding programme. From the Zoo herd, Gambir, our most promising elephant cow reproduction-wise, visited the elephants in Night Safari almost every morning during May and June 2008 to be

mated with Chawang. In February 2009, Night Safari's Nandong, was coupled with Chawang and keepers are waiting to confirm pregnancy.

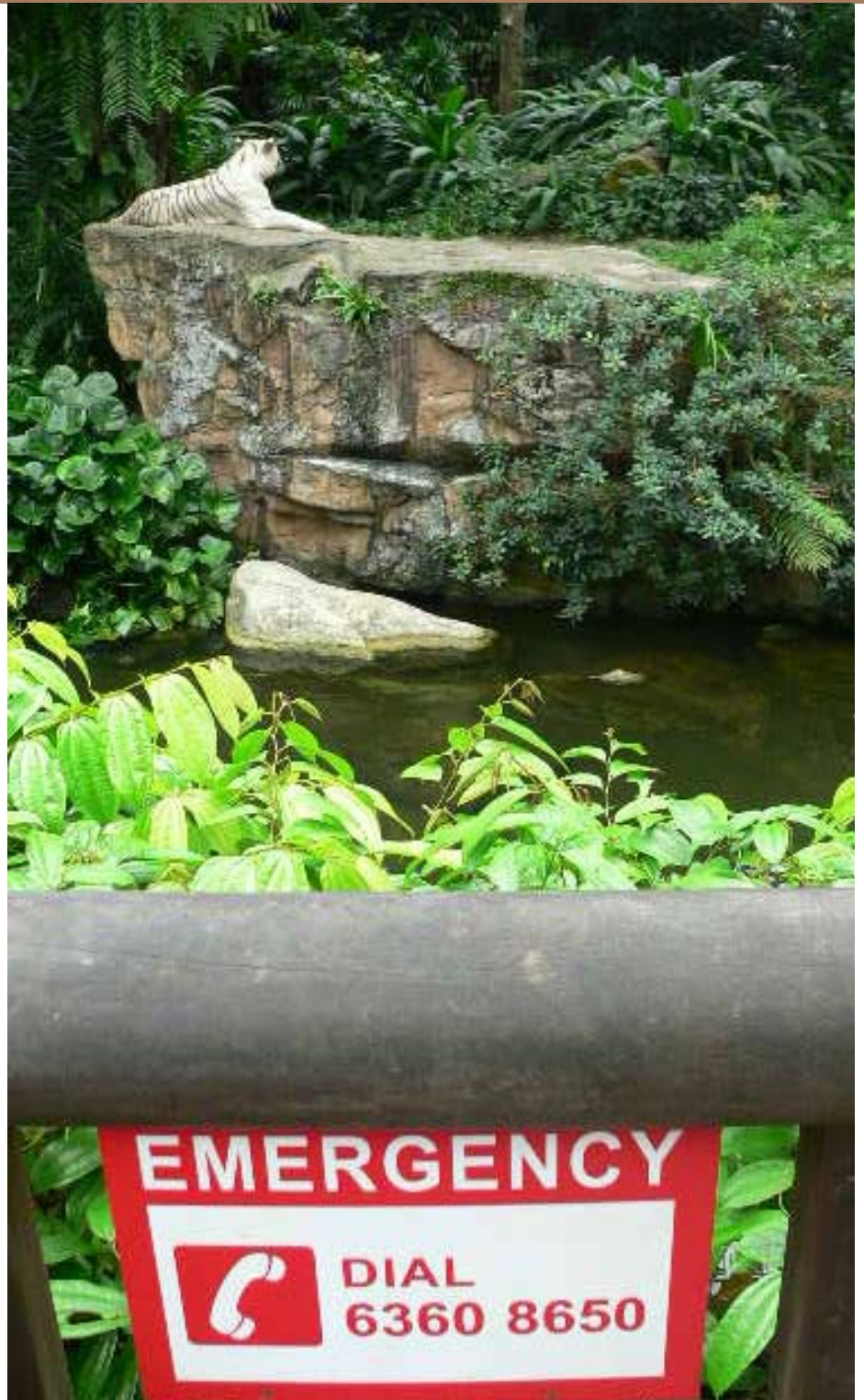
Chawang had an eventful year indeed, and also broke both his tusks when he came on musth in July 2008. Coincidentally, about 57cm was broken off from each tusk, still leaving him with a well balanced and symmetrical pair of tusks.



### WHITE TIGER INCIDENT

A tragic incident occurred at Singapore Zoo on 13 November 2008, when a staff of the conservancy company, thought to be mentally or emotionally troubled, climbed over the railing fronting the white tiger exhibit. He crossed the water moat separating the tigers from visitors, and approached the cats. The worker agitated the tigers, which attacked him. The Zoo promptly activated the Emergency Safety Procedure during this incident but despite swift response by licensed shooters and zoo keepers, the contract worker could not be rescued.

Following this incident, more keepers have been deployed to patrol dangerous animal exhibits throughout the day. In addition, emergency buttons and sirens have been installed at the White Tiger Viewing Gallery which can be activated by any guest or staff on site to raise an alarm for immediate response. WRS has also worked with the Singapore Police Force and Ministry of Defence to review other available munitions and equipment that may be useful in such instances at all our parks.





# GREEN EFFORTS >



# WALKING THE TALK

Wildlife Reserves Singapore has taken a giant leap forward in its efforts to become a safe and an environmentally-conscious organisation. Jurong Bird Park, Night Safari and Singapore Zoo are the first zoological institutions in Southeast Asia to achieve both Environmental Management System (ISO 14001) and Occupational Health and Safety Management System (OHSAS 18001) certifications. These achievements were the result of a deliberate push by WRS to continually improve its overall environmental performance and work place health and safety.

## ISO 14001 AND OHSAS 18001 CERTIFICATIONS

The ISO 14001 is the highest international accreditation for commitment to and adoption of a system of best practices in environmental management while the OHSAS 18001 is the highest international certification awarded for implementation of stringent specifications for occupational health and safety management system. These certifications by Lloyds Register Quality Assurance are the universally recognized standards for environmental, health and safety management systems, and are awarded to companies audited and proven to have implemented such systems. Only two other zoos - Aalborg Zoo in Denmark and Beijing Zoo in China - have had the rare distinction of receiving both certifications, therefore, WRS's three parks have become the third, fourth and fifth zoological institutions to receive these double honours.

WRS strives to be an ecologically-intelligent organisation, and the goal is to achieve world-class



standards in health and safety, reduction of environmental impact, efficient resources management, community engagement, and employee and guest satisfaction. The certifications provided a framework that aids in reduction of wastage, energy and materials which will translate to lower operating costs for the parks.

Consultancy firm, Neville Clarke, helped in training and guiding WRS staff through the process, conducting and documenting risk assessments, and developing safe work procedures and a management manual. Environmental Health



and Safety (EHS) and Green Team committees were set up to spearhead programmes and activities while finding ways to meet EHS targets with the business objectives and enhancement of operational efficiency.

Risk assessments on 93 work activities of various departments were documented, and risk control measures put in place. A risk control register for 43 work activities was developed and 45 safe work procedures drafted. Competency Skills Training to comply with applicable legal requirements and other requirements were conducted.





Resources and provision of safe infrastructure and personal protective equipment were made available to provide a hazard-free working environment for staff .

As strong proponents of conservation, the three parks have continuously supported and promoted conservation and sustainability through public education. Our initiatives include adopting environment management as a business strategy and reduction of pollution by reducing energy and water consumption, and decreasing waste generation. In addition, infrastructure design and operation standards at the parks utilise materials from natural resources efficiently.

With the certification, WRS parks will continue to keep abreast of new environmental legislation. The manner in which WRS conducts its business and daily operations will always be guided by its environmental, health and safety policy, WRS – **Together we CARE**, acronym for:

- Complying with applicable legislation;

- Adopting the best practices and continually improving the environmental, health and safety standard to prevent pollution, injury and ill health, and to conserve nature and protect our wildlife and environment;
- Reducing , reusing and recycling of resources; and,
- Educating on nature conservation.

A surveillance audit will be done every six months and the certifications will be reviewed and renewed every three years.

### WRS RECYCLES, REUSES, AND REDUCES

Ensuring the green message filters all levels, WRS has embarked on numerous environmentally-friendly measures. The Zoology department is doing its part by conducting trials to determine the feasibility of harnessing animal manure (and other organic waste) as biofuel.

Photocopying is kept to a minimum, departmental paper usage is being monitored,

and all paper for printing and photocopying has been changed to recycled sugarcane-pulp paper. Leave applications and pay-slips are processed digitally. To save energy, air-conditioning in offices is automatically switched off during lunch time. All air-conditioners are set at 24°C and all computers are installed with hibernation modes.

F&B department now serves takeaway staff meals in lunch boxes made of biodegradable corn and yam fibre. Plastic bags for staff food takeaways were changed to reusable cloth tote bags. Instead of providing plastic spoons and forks, staff have been encouraged to bring their own cutlery, or to utilise reusable metal ones. These measures have helped F&B department achieve cost savings of \$42,000 per annum.

On Earth Day 2008 (April 22), 85 WRS staff members took the initiative to clean up the Mandai Road and Mandai Lake Road, collecting more than 500kg of trash, while 179 staff members signed the internal Switch Off pledge. Other significant events were World Environment day on



One for the album - WRS staff getting ready for the Mandai Road clean-up.



June 5, when staff planted trees at the Rainforest Kidzworld; and, International Coastal Clean Up on September 20, when a team from WRS assisted in collecting more than 1 ton of trash from the Pandan Mangrove.

### FIGHTING FOR GREEN WITH BIOLOGICAL WARFARE

Taking a biological approach to the control of mosquitoes is yet another way WRS contributes to the environment. Planting aquatic plants to create suitable habitats for amphibians and other insectivores is perhaps the most effective and environmentally safe way of controlling mosquitoes around water bodies. Certain species of frogs, toads and spiders consume mosquitoes and their larvae. Adult dragonflies catch

mosquitoes on the wing and their aquatic nymphs eat mosquito larvae. Apart from helping to control the mosquito population, these natural predators also enhance the biodiversity of the water bodies.

In a survey conducted on 1 December 2008, 13 water bodies at Singapore Zoo, and six at Night Safari were identified as good sites for habitat creation.

Generally, planting was carried out at toilet areas, animal exhibits, water moats and other water features. Some 20 different types of aquatic plant species such as Heartleaf pickerel weed, water canna, umbrella plant, arrowhead and fragrant pandan were used. Some of these plants were vegetatively propagated from

stem cutting and clump division from the existing stock at Singapore Zoo's nursery.

While the biological control programme cannot serve as the sole agent for controlling the population of mosquitoes in the parks, combined with proper housekeeping in the workplace and regular pest control, WRS is another step closer to creating a safe environment for the staff and visitors.





# LIVING CLASSROOM >



## ENGAGE, EDUCATE, CONSERVE

THE Education Department took a studied approach towards educating the public on wildlife conservation over the reporting period, carefully focusing much of its efforts in strengthening the educational backbone of Jurong Bird Park. At Singapore Zoo, the department continued to work closely with educators to widen its range of educational activities and resource materials for a wider audience.



### JURONG BIRD PARK - WHERE LEARNING TAKES FLIGHT

The key focus of the Education Department this year was the transformation of Jurong Bird Park into a living classroom, the backbone of the plan being the conversion of the vacant Jungle Jewel complex into the Bird Discovery Centre. Developed at the cost of about \$400,000, the centre opened its doors to the public on 15 December 2009 and was officially opened by Ms Ho Ping, Director General of Education MOE, on 4 April 09.

The Bird Discovery Centre highlights birds as magnificent and highly successful creatures with amazing adaptive features to conquer the sky, land and water. Twelve thematic displays take visitors on an enthralling journey that unveils the many secrets of the avian world. Filling a long-felt void is an annex to the viewing gallery which has been created to serve as a classroom. It is a particularly useful space in which school groups can gather for show-and-tell sessions, lectures and teachers' workshops. This facility

enhances visitor experience, providing them insights into the avian world in a fun and interactive manner.

The Education Department also sought ways to reach out to teenagers with programmes that created a sense of ownership and empowerment. Inspired by the success of the Conservation Ambassador and Wildlife Buddy programmes in Singapore Zoo, Education Department launched similar programmes in Jurong Bird Park in August 2008.

These programmes provide a platform for students to make a positive difference to wildlife conservation, while serving the community. As Conservation Ambassadors, students learnt to handle assigned ranger duties at Dinosaur Descendants (flightless birds exhibit) and Bird Discovery Centre. Under the Wildlife Buddy programme, students gain social experience by taking on took on a buddy role to help school mates, the elderly or the less fortunate on their visits to Jurong Bird Park.

In March 2009, "Bird Park Flies To Schools", an outreach programme,





PHOTO: BJORN OLFSEN

took flight. Dr Squawk, the “feather-brained” ornithologist, travels to schools to engage school children through light-hearted chats, audience interaction, and meet-and-greet sessions with live birds. Dr Squawk proved such a popular character that she was also deployed to shopping malls to spread the conservation message.



New education programmes were rolled out for members of the public too. Sleep With The Penguins, a unique sleepover in the viewing gallery of the Penguin Expedition enclosure, was introduced during the December 2008 school holidays. The campers had a chance to go behind-the-scenes to meet some of the feathered residents up close.





## SINGAPORE ZOO - LEARNING JOURNEYS CONTINUE

Over at the Singapore Zoo, the second series of the Singapore Zoo Chinese Story Book was released, following the success of the inaugural series which was targeted at Primary One students. The second series targeted at Primary Two students, is another collaboration with Teachers' Network. The series was officially launched on Earth Day 2008 (22 April), by the then Director General of Education, Ms Seah Jiak Choo. The Singapore Zoo Chinese Story Book series one and two have received the stamp of endorsement from MOE and are listed as recommended reading resource in the book list compiled by the Curriculum Planning Division.

Inspired by this success, another panel of teacher-authors has collaborated through the Teachers' Network to develop two interdisciplinary trails taking children on learning journeys through the

new Rainforest KidzWorld. The trails incorporate English, Science and Maths components and add a new dimension in teaching these disciplines outside the confines of a classroom. The completion of these trails allows Singapore Zoo to position itself as the best living classroom in Singapore with a comprehensive collection of resource materials of all genres.



Tertiary-level students are not forgotten either. Singapore Polytechnic and ITE students taking tourism and hospitality courses can participate in a structured one-day programme at Singapore Zoo and Night Safari to observe operational aspects of running the world-class attractions. Some 200 students have participated and judging

from their positive feedback, more are expected to sign up.

The Teachers' Network and WRS also cooperated on a teachers' attachment scheme to provide teachers with opportunities to work closely with Education Department to develop relevant programmes for school groups visiting WRS. The attachments, which last from between one week to ten weeks also allow for rapport building between MOE and WRS.



A teacher on attachment to the Zoo was featured in South China Morning Post.



# REELING IN THE CROWDS >



## MARKETING & COMMUNICATIONS

WRS attractions were buoyed by strong support from the local market, a relatively steady flow of tourists and an amazing response to a newly opened Rainforest KidzWorld, despite the global economic crisis and the downturn of the tourism industry over the past year. The three parks ended the 2008/09 financial year with just a 1% drop in attendance overall, drawing in 3.58 million visitors in all, a strong performance, given the economic meltdown.



Jurong Bird Park took a harder hit from the poor economic conditions than its sister attractions, registering an overall drop of 6% in attendance. A decline in tourist attendance of almost 10% contributed significantly to the overall decrease in attendance. Local attendance remained constant, resulting in a perceptible shift in visitor profile with tourists now forming only 60% of overall visitors compared to 65% in previous years.

Night Safari, traditionally dependent on tourist attendance,

showed some resilience in the face of the economic crisis with a single digit drop of just 7% in overall attendance. Total attendance was buffered very strongly by a 14% increase in local attendance despite an 11% drop in tourist attendance. Night Safari's visitor profile has therefore seen a shift from 85% tourist in the past to 80%, while the local market segment has expanded from 15% to 20% of overall visitors. India has overtaken Japan as the top tourist market for Night Safari with 220,000 arrivals.

Winning the Best Theme Attraction award at the 20th Annual Travel Trade Gazette Travel Awards in October 2008 demonstrated the strong support of the travel trade for Night Safari. The winning attraction is voted by industry players such as travel agents and tour operators.

Singapore Zoo defied all expectations and attendance to the park surged after the launch of Rainforest Kidzworld on 14 November 2008. The total attendance of 1.64 million reflected a 6% increase year on





year, with the strongest growth of 30% from walk-in tourists to 461,350. Arrivals from India, Australia and China remained healthy despite the economic crisis. The spike in walk-in tourist attendance was partly driven by the advertisement 'Journey Into the Lush Rainforest' placed in local tourism publications and a new "Questions" English and Chinese TV commercial.



Celebrity Gurmit Singh graced the launch of the Half-Price Singapore Surprise Campaign at Singapore Zoo.



Marketing activities at all three parks were backed up by entrance deals throughout the year. During the May/June 2008 school holidays, a 3-in-1 Park Hopper bundle (\$40/adult, \$20/child) was launched. A Dino Trail across the three parks was organised to generate greater awareness for the Park Hopper package. The Singapore Tourism Board (STB) introduced a Half Price Singapore Surprise Campaign from 23 May to 30 June, allowing Malaysians to purchase admission tickets at regular prices with Malaysian ringgit, which translated to over 50% discount. This lured 4,825 redemptions at Jurong Bird Park, 8,173 at Night Safari, and 13,843 at Singapore Zoo. WRS parks were

also among the attractions that participated in STB's Christmas in the Tropics promotion from 15 November to 2 January, which generated a total of 12,832 visitors. Jurong Bird Park participated in the STB's Reasons promotion from 14 February to 1 March, which helped its attendance rise 15%.

On 24 May, a National Family Day Out offered free entry for one child with two paying adults. To celebrate Singapore's National Day, Night Safari and Jurong Bird Park participated in a 1-for-1 deal. At the former, a "Back to Old Singapore" theme prevailed while Sassy, the Cockatoo flew the national flag at the latter.





## YEAR OF THE OX CELEBRATIONS

A wealth of A&P events worked to keep the steady flow of arrivals, with Chinese New Year celebrations at WRS parks amongst the most significant.

Jurong Bird Park ushered in the Year of the Ox with Sassy, the Cockatoo flying angpow packets to visitors, Amigo, the yellow-naped Amazon, wishing everyone "Gong Xi Fa Cai", acrobats, jugglers, lion and big head doll dancers, and a brilliant spring flower display. The 18-day period saw an attendance of 40,509, an increase of 10.9% over the same

period the previous year.

At Singapore Zoo, Chinese New Year activities included the auspicious Ox Calves Meet & Greet Sessions, lion and big head doll dancers, fortune telling, a 'Zoo-diac' Trail and a spring flower display. Attendance totalled 98,217 during the period, a 19% increase from the previous year.

Finally, a reunion dinner was held at Night Safari where visitors could dine alongside the ankole cattle. Lion and big head doll dancers added to the atmosphere, and 25 tables were sold.





### MOVIE SCREENING - SING TO THE DAWN

Great Eastern sponsored a movie screening of 'Sing to the Dawn' on 27 September 2008 at the Shaw Foundation Amphitheatre for \$15,000. Tickets were sold at \$9 each, and 1,150 were snapped up. The movie was also shown at Jurong Bird Park, for which 1,032 people showed up, and Ho Min Fong, the author of the book from which the movie was adapted, made a guest appearance.



### EARLY BIRD BREAKFAST SHOW

On 24 May 2008, Jurong Bird Park launched its daily Early Bird Breakfast Show at Bongo Restaurant, creating a platform for visitors to learn more about the macaws and other birds while having a hearty breakfast.



### HALLOWEEN HORRORS

Creative ways to scare Night Safari visitors during the Halloween Horrors event from 10 October to 1 November 2008 shored up attendance, with a record of 8,078 arrivals on the

actual Halloween Night. There was an average of 22,081 visitors per week through the promotional period, a 13% increase from the year before. F&B got in the act too, serving up gory meals like Eyeball Potion and Sundae, and Dead Man's Fingers.



## GREEN EVENTS

Over Christmas, Night Safari organised a Share-a-Gift initiative for children of the Make-a-Wish Foundation, encouraging staff and guests to donate books and toys. Guests admired a Christmas tree made of recycled bottles and enjoyed a performance by percussion artists using reused materials. During December, a Wearable Art exhibition was also hosted at the

park. On display were wildlife-inspired designs fashioned from traditional Chinese medicinal herbs, spices, feathers, industrial scraps and other unusual items.





# SERVING UP A PROFESSIONAL EXPERIENCE >



# TRAINING AND DEVELOPMENT

Visitor satisfaction is a high priority for WRS, and the organisation recognises every staff member has a critical role to play. It continues to invest heavily in the training of every human face behind the animals.

It was an affirmation of WRS's Focus on the Guest core value when 116 staff members received the Excellent Service Award (EXSA) on 10 December 2008, in an annual event by Spring Singapore to recognise individuals who have delivered outstanding services to guests in the service industry. WRS had the most Star

and Gold awardees for the second year in a row, with 20 Star, 25 Gold and 71 Silver Award winners.

## PROMOTING PROFESSIONAL STANDARDS

WRS has been accredited as an approved Training Organization by Singapore's Workforce

Development Agency since 2006, and is continuously building its internal training capability and rolling out specialized training courses for zoology and animal presentation staff. Veterinary students from universities all over the world and veterinarians are also attached to the veterinary department for training in zoo animals and wildlife therapy.

In March 2009, a 20-hour Delivered Trained Animal Presentation course was developed and accredited under the Workforce Skill Qualification (WSQ) tourism framework and rolled out to 15 animal trainers-presenters. This is the 6th WSQ module developed by WRS, and demonstrates its focus on strengthening the technical competencies of the staff.

On another note, the WRS human resources department has been pro-actively identifying training needs of various departments and rolling out corporate-wide training, including performance coaching workshops for managers, grooming workshops for all frontline staff and early childhood workshops for staff who work closely with children. During the financial year, WRS employees had fulfilled more than 1,500 training places, which



Processes at every visitor touchpoint are reviewed and refined constantly to deliver great visitor experience at WRS parks.



or an average of more than 2 training places per employee. This is more than double the number of training places per employee as compared to the previous year and reiterates WRS's commitment towards the training and development of its staff.

#### SYMPOSIUMS, WORKSHOPS AND DRILLS

The 1st Regional Malayan Tapir Symposium in Malaysia on 3 and 4 April 2008, organised by the Malaysian Department of Wildlife and National Parks, was attended by two WRS staff members who gave presentations on tapir husbandry and breeding. Their presence at the symposium was also an effort to strengthen the regional and international collaboration on tapir conservation.

Sam, Zoology Curator attended the International Primatological Symposium in Edinburgh from 4 to 8 August, and presented a paper titled 'The Leaf-eating Primates at Singapore Zoo'. The paper highlighted Singapore Zoo's success with husbandry and management of leaf-eating monkeys such as the rare douc langurs, proboscis monkeys, Javan langurs and silver langurs.



WRS staff at all levels had ample opportunities to enhance their skills in their work area and beyond during our comprehensive training programmes.



Taipei Zoo nutritionist, Dr Yang Ci Wen, returned to conduct another Zoo Nutrition workshop from 8 to 10 October 2008. Dr Yang's workshop this year was expanded with the addition of animal nutrition experts, Dr Ellen Dierenfeld and Dr Michelle Shaw, both from the US. The

workshop was attended by 16 staff from the Zoology, Avian and Veterinary departments. Apart from gaining a better understanding of animal nutrition, the staff took home ideas to resolve shortcomings in the diets of animals under their care.

Recognising that practice makes perfect, WRS has been organising drills to give staff a chance to work through processes should an emergency occur. Ongoing safeguards against avian flu continues at all three WRS parks, with drills for the advent of HPAI incidence in Singapore. This keeps hygiene and procedural requirements top-of-mind, as well as familiarises new staff members on the standard

protocols and policies across all three parks. AVA officers were on hand to advise and review procedures to ensure best practice.

A dangerous animal escape emergency drill was also conducted at Night Safari on 11 February 2009 during operational hours. The drill went smoothly without undue disruption to Night Safari operations.



WRS is well prepared and safe guarded against avian flu with regular drills.



# AN ALL-ENCOMPASSING EXPERIENCE >



## F&B AND RETAIL HIGHLIGHTS

Iconic Ah Meng's memory was celebrated by the F&B department this year when it named a restaurant after the famous orang utan. And on the retail front, Singapore Zoo painted the town green and explored new sales points.

Revenue from F&B totalled \$23.4 million with a net profit of \$2.41 million. Profit had eroded compared to the previous reporting period, as this financial year saw major renovations carried out at four food outlets in Singapore Zoo. Despite the lower profit, F&B revenue still constituted a healthy 26% of WRS total revenue and 14% of net profit.



In October 2008, a new KFC outlet and a Ben & Jerry's café were opened at Rainforest Kidzworld. Ben & Jerry's outlets at Singapore Zoo and Night Safari



achieve a perfect score under Ben & Jerry's Global Standard Operations grading, the only two outlets in the world to have done so. The KFC outlet at Singapore Zoo's entrance is also one of the top 5 stores to achieve KFC's Best Production Management Award 2008, after scoring 95% for its audit result following an anonymous check by KFC Singapore's quality assurance department.

The primary development in the F&B arena was the revamped Restaurants In The Wild complex, which has been renamed Ah Meng Restaurant in memory of Singapore's famous orang utan, who passed on in February 2008.

The 82-seat, themed dining destination has a Kid's Corner, and a private dining enclave, called Ah Meng's Hut, which seats up to 10 persons. There are also al fresco seating, and the entire complex can accommodate up to 420 people.

Launched on 12 November 08, Ah Meng Restaurant also kicked off the Jungle Breakfast with Wildlife programme, featuring a revamped breakfast menu. Visitors dine on an extensive spread that satisfies even the most discerning palate while having a close encounter with orang utans and learning more about them through keepers' live commentary.





The air-conditioned dining area at Ah Meng Restaurant provides a cool respite for visitors.

An a-la-carte menu for all-day dining is offered once the breakfast crowd has had its fill. The selection of food ranges from classic sandwiches and western favourites such as grilled chicken, to must-try Asian dishes such as dim sum. The fragrant Hainanese chicken rice set, fluffy chicken briyani and crispy fish and chips are among the crowd pleasers. Vegetarian options are also available.

Ah Meng Kopi, a new outlet located at the Zoo entrance, was opened on 23 December to dish out local fare such as coffee and kaya toast in traditional style, laksa, nonya curry chicken and nasi lemak.

Night Safari participated again in the World Gourmet Summit from 7 to 26 April this year, with Ulu Ulu Safari Restaurant serving as a host venue during the summit. A champagne brunch featuring Nicholas Feuillatt was repeated following an extremely success launch the previous year. Ulu Ulu Safari Restaurant received the Best Concept Restaurant from Women's Weekly Gold Plate Award and the Singapore Service Star from the Singapore Tourism Board. In addition, the restaurant, together with Bongo Burgers, also attained HACCP (Hazard Analysis & Critical Control Points) certification this year, an international standard

for hygiene in food preparation and presentation.

The F&B team also had an extremely busy year cooking up chef specials on a monthly basis, and special events such as the Lunar New Year reunion dinner and a Singapore Must-Try food brunch during the Singapore Food Festival.

Finally, WRS executive chef, Kelvin Low, went on a two-week Chef Exchange Work Attachment Program while WRS received Bali Safari & Marine Park executive chef, Susi Mahadi. The exchange programme encouraged the chefs to share their respective cuisine expertise through hands-on learning attachments.





## SHOPPING FOR NEW SALES POINTS

Not content to sell its wares at the three Parks, the Retail Department expanded its reach to Singapore Changi Airport and outdoor sales events.

The Terminal 3 airport shop at Singapore Changi Airport is the first retail shop operating outside the WRS's parks. Opened in August 2008, the outlet caters to a much wider customer

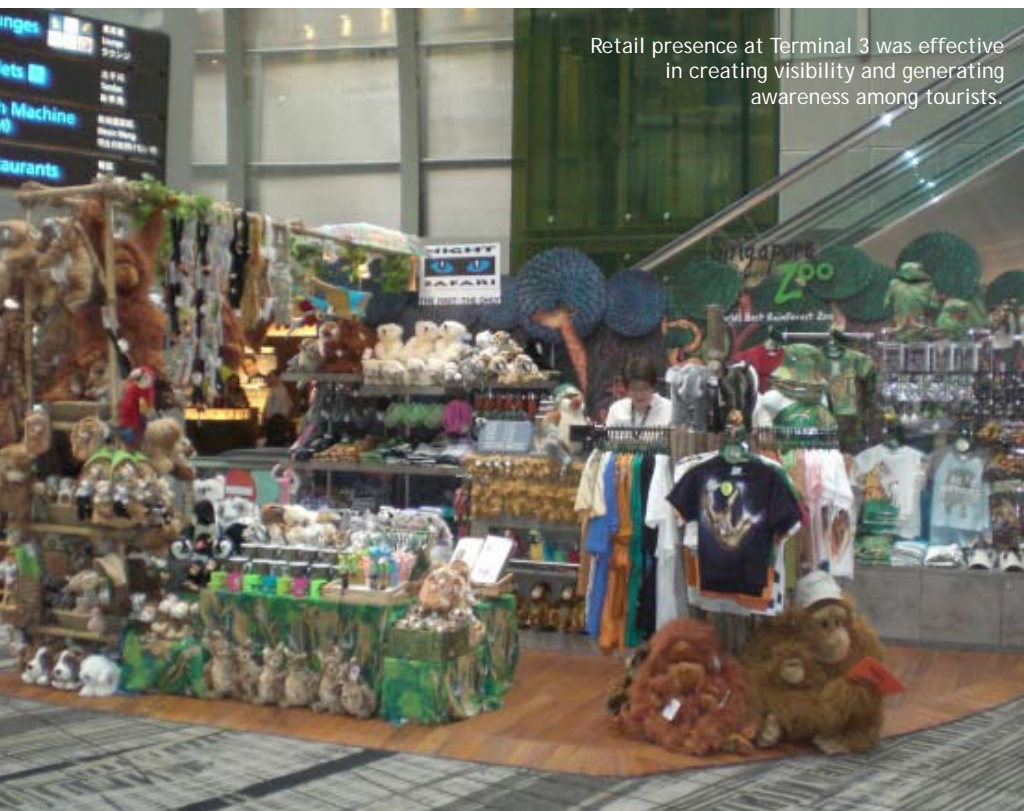
demographic and thus has been stocked with a wide range of merchandise for all ages. The store has been popular with travellers and locals passing through the terminal, affirming the unique designs and excellent quality of the goods.

The Retail Department also brought 'jungle magic' to town with outdoor sales at Orchard Hotel over a 3-week period in June 2008 and to Hougang Mall during the March school

holidays. The sales points not only generated revenue from merchandise and admission ticket purchases but also created visibility for WRS in high traffic areas in town and the heartland.



WRS retail booth at Hougang Mall.



Retail presence at Terminal 3 was effective in creating visibility and generating awareness among tourists.



# JURONG BIRD PARK ADOPTER/DONOR - FY 08/09

## MAJOR ADOPTER/DONOR

## ADOPTED EXHIBIT/ BUILDINGS/ EVENTS

Baxter Healthcare SA, Singapore Branch .....	Harry, the Wreathed Hornbill
Club HDB .....	Parco, the Double Yellow Headed Amazon
DigiPhoto Entertainment Imaging Pte Ltd.....	Macaw Island
Goodwood Park Hotel .....	Ronnie II, the Brahminy Kite
Honeywell (S) Pte Ltd .....	Carlos, the Dalmatian Pelican
Hong Leong Foundation .....	Flamingos (24) at All Star Birdshow
Lady Yuen Peng McNeice & Cheng Kim Loke Foundation .....	Bali Mynah Exhibit
Lee Foundation Singapore .....	Penguin Expedition
Mobile One Ltd .....	White Bellied Sea Eagle
OCBC Limited .....	Heliconia Walk
Pearson Education South Asia Pte Ltd .....	Puffins
Singapore Food Industries Pte Ltd.....	Sasha, the Red Kegged Seriema
Singapore Refining Company Pte Ltd.....	Mac, the Scarlet Macaw
Singapore Technologies Aerospace Ltd .....	The Kings of the Skies Show
SMRT Corporation Ltd .....	Great Pied Hornbill Exhibit
SPH Foundation Ltd.....	Flamingo Pool (Caribbean Flamingo) Exhibit
SPH Foundation Ltd.....	Birds & Buddies Show
Sun City Maintenance Pte Ltd.....	Sun Conure
Sutera Harbour Resort.....	Lesser Birds of Paradise
Thai Airways International.....	Jurong Bird Park Panorail Trains
The Shaw Foundation Pte.....	The Fly-Pass Macaws
Unilever Singapore Pte Ltd .....	Angel, the Harris Hawk
United Overseas Bank Limited .....	Dino Descendants
United Overseas Bank Limited .....	Lancer, the Brahminy Kite

# NIGHT SAFARI ADOPTER/DONOR - FY 08/09

## MAJOR ADOPTER/DONOR

## ADOPTED EXHIBIT/ BUILDINGS/ EVENTS

American International Assurance Co Ltd .....	Porcupine Exhibit
Bedok Police Division .....	Giant Flying Squirrel
Chemical Industries (Far East) Ltd .....	Malayan Tiger Viewing Shelter
F&N Coca-Cola (Singapore) Pte Ltd .....	Asian Golden Cat
Goodwood Park Hotel .....	Fishing Cat Trail
Haw Par Healthcare Limited .....	Tiger Exhibit
International Researchers Club .....	Kinkajou Exhibit
JTB Pte Ltd .....	Sambar Deer Exhibit and Elephant Habitat
Khoo Teck Puat Foundation.....	Fishing Cat Trail
Martin Storey .....	Babirusa Habitat
Mitsubishi Pencil Co Pte Ltd .....	Markhor Exhibit
MobileOne Ltd .....	Giraffe Habitat
Mr & Mrs Lim Soo Peng .....	Red-Crowned Cranes
Network for Electronic Transfers (S) Pte Ltd .....	Free Ranging Axis Deer
Police Coast Guard.....	Free Ranging Axis Deer
Singapore Petroleum Company Limited .....	Lion Exhibit
Singapore Prison Service .....	White Bellied Sea Eagle
Singapore Prison Service .....	Forest Eagle Owl
Singapore Refining Co. Pte Ltd.....	Marshbird Habitat
Singapore Telecom Mobile Pte Ltd .....	Ankole Exhibit
Sony Ericsson Mobile Communications Intl AB.....	Free Ranging Axis Deer
Standard Chartered Bank .....	Otter Habitat (Leopard Trail)
Starhub Mobile Pte Ltd.....	Serval Segment - Creatures of the Night Show
Thai Beverage PLC .....	Chawang Exhibit
The Shaw Foundation Pte.....	Slow Loris Exhibit
The Singapore Police Co-Operative Club (SPCC) .....	Free Ranging Axis Deer
Unilever Singapore Pte Ltd .....	Tarsier Habitat
United Overseas Bank Limited .....	Creatures of the Night Show



# SINGAPORE ZOO ADOPTER/DONOR - FY 08/09

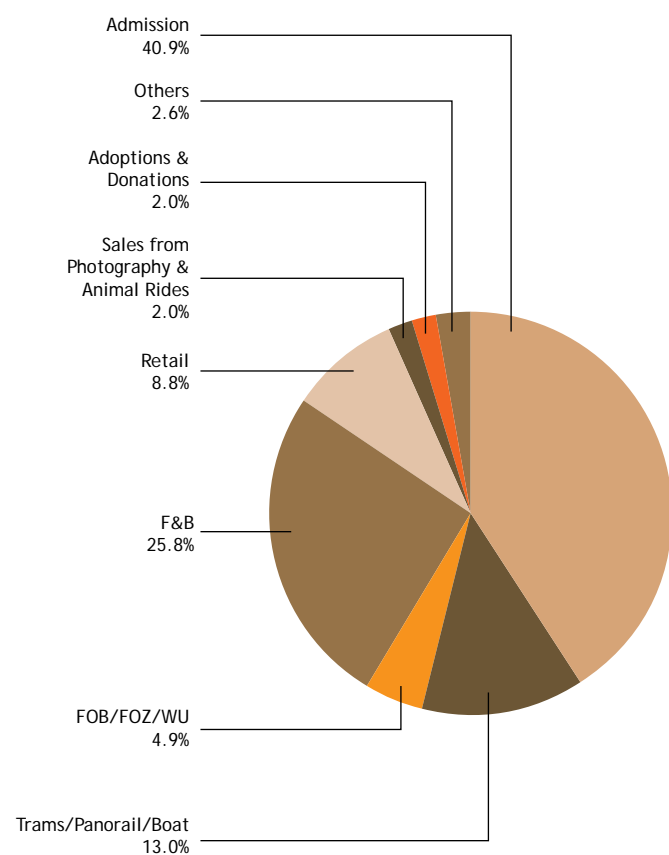
## MAJOR ADOPTER/DONOR

## ADOPTED EXHIBIT/ BUILDINGS/ EVENTS

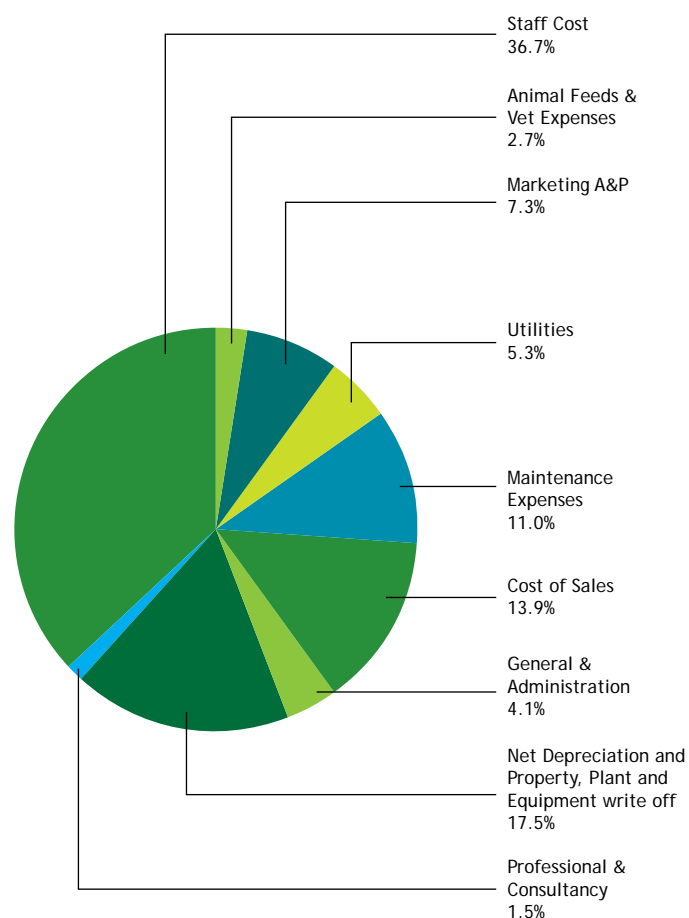
Abbott Laboratories (S) Pte Ltd .....	Zoolympics 2008
Abbott Laboratories (S) Pte Ltd .....	Giraffe, Growie
Australian International School .....	Orang Utan, Banjo
Borneo Motors (S) Pte Ltd .....	Cheetah Exhibit
Cheng Kim Loke Foundation .....	Malayan Tapir Exhibit
Christina Ong .....	Orang Utan, Binte
ED & F Man Asia Pte Ltd .....	Cocoa Tree
F&N Coca-Cola (Singapore) Pte Ltd .....	White Tiger, Omar
General Motors Overseas Dist. Corp.of Singapore .....	Agile Gibbon, Gangsa
Great Eastern Life Assurance .....	"Sing to the Dawn" Movie Screening
Haw Par Corporation Ltd.....	Leopard Exhibit
Henkel Singapore Pte Ltd.....	Chimpanzee, Ganga
Hong Leong Foundation .....	Fragile Forest Exhibit
Ian Peter Windle .....	Cannon Ball Tree
Interbev (Singapore) Limited.....	Wildlife Healthcare and Research Centre
International Researchers Club .....	Mandrill Exhibit
Kay Kuok.....	Asian Elephant, Aprila
Kentucky Fried Chicken Management Pte Ltd .....	Zebra Exhibit
Lady Yuen Peng McNeice .....	Malayan Tapir Exhibit
Lee Foundation Singapore .....	Orang Utan, Chomel and Tropical Crop Plantation
Malayan Motors.....	Jaguar Exhibit
MobileOne Ltd .....	Amhara Stone Village Exhibit
MVCI Asia Pacific Pte Ltd.....	Orang Utan, Budi
National Trade Union Congress (NTUC) .....	Kampung House
NEC Semiconductors Singapore Pte Ltd .....	Pelican Exhibit
Nicola Barrett .....	Memorial Bench
Northern Territory Tourist Commission .....	Safari Jeep at the Australian's Outback Exhibit
OCBC Limited.....	Wild Animal Carousel
Primary Industries Pte Ltd.....	Babirusa Exhibit
Righteous International Subscription Services.....	Righteous International Subscription Services
Royal Bank of Scotland.....	Stable at Rainforest Kidzworld
Singapore Petroleum Company Limited .....	Lion Exhibit
Singapore Police Co-operative Society Limited .....	Elephant, Jati
Singapore Technologies Aerospace Ltd .....	Sealion Show
SMRT Corporation Ltd .....	Cotton-Top Tamarin Exhibit
SPH Foundation Ltd.....	SPH Conservation Ambassadors and Wildlife Buddies at the SZG
SPH Foundation Ltd.....	Proboscis Monkey at SPH Conservation Centre
SPH Foundation Ltd.....	Inuka the Polar Bear
Starhub Cable Vision Ltd.....	Rainforest Fights Back
Starhub Mobile Pte Ltd.....	Red Langur Exhibit
The Shaw Foundation Pte.....	The Shaw Foundation Amphitheatre
The Shaw Foundation Pte.....	Manatee Exhibit
Tiger Airways Pte Ltd.....	White Tiger, Winnie
Unilever Singapore Pte Ltd .....	Squirrel Monkey Exhibit
Wuthelam Holdings Pte Ltd .....	Rabbit Exhibit

# FINANCIAL AND ATTENDANCE INFORMATION

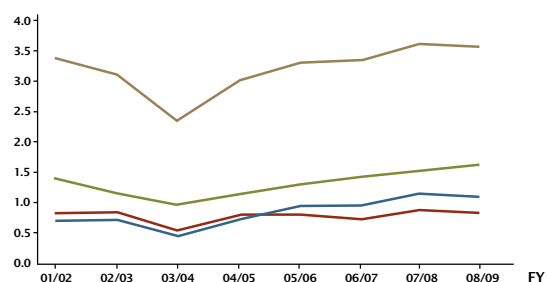
Total Revenue FY 08/09 \$91M



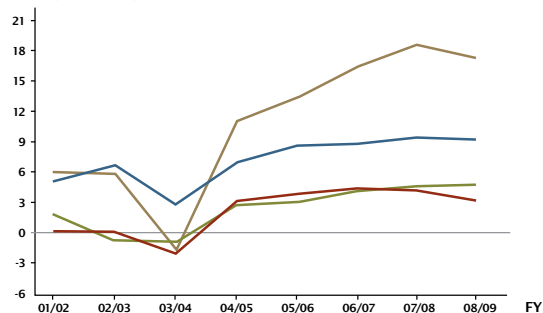
Total Expenses FY 08/09 \$82M



Total Visitors (in million)



NPAT (\$ in million)



● Jurong Bird Park ● Singapore Zoo ● Night Safari ● WRS





## Wildlife Reserves Singapore

YEARBOOK 2008/2009

**SINGAPORE ZOO & NIGHT SAFARI**  
80 Mandai Lake Road Singapore 729826  
Tel: 62693411 Fax: 63672974  
Email: [info@zoo.com.sg](mailto:info@zoo.com.sg)  
Website: [www.zoo.com.sg](http://www.zoo.com.sg)

**JURONG BIRD PARK**  
2 Jurong Hill Singapore 628925  
Tel: 66617809 Fax: 62611869  
Email: [info@birdpark.com.sg](mailto:info@birdpark.com.sg)  
Website: [www.birdpark.com.sg](http://www.birdpark.com.sg)

