

Kadoorie Farm & Botanic Garden

ANNUAL REPORT 2014



To harmonise our relationship with the environment

Contents

About KFBG	02
KFBG Mission and Vision	04
Foreword	05
Sustainable Living	06
Holistic Education	14
Nature Conservation	20
Holistic Estate Management and Minimal Eco-Footprint	36
An Evolving Organisation	40
Members of the Board and Senior Management	45
Appendix	46

Kadoorie Farm and Botanic Garden Annual Report 2014

Publisher: Kadoorie Farm and Botanic Garden Corporation

Date of Publication: September 2015

No article or photograph in this publication may be reprinted or reproduced without the written permission of the publisher. All rights reserved.

Cover photo: On 16 June 2014, four Black Kites were released back to the wild at KFBG after receiving treatment and rehabilitation at the Rescue Centre.

About KFBG

Kadoorie Farm and Botanic Garden (KFBG) is situated in the rural New Territories, on the northern slopes of Tai Mo Shan, Hong Kong's highest mountain. Two steep spurs enclose its deep-set valley. Within KFBG are streams, woodlands, orchards, vegetable gardens, walking trails, live animal exhibits, floral exhibits, sustainable agriculture demonstration plots, art exhibits, a wild animal rescue centre, a native tree nursery, and, other conservation and education facilities.

In the post-war years, Hong Kong was flooded with destitute immigrants. Many had traditional knowledge of crop production and livestock farming but no stock, others had land but no experience. They required support to rebuild their lives. In 1951, in response to these pressing human needs Lawrence and Horace Kadoorie established the Kadoorie Agricultural Aid Association (KAAA), which became a key partner of the Hong Kong Government in devising and implementing a plan to help Hong Kong feed itself. The Kadoorie brothers, part of a well-established business family, saw wealth as a sacred trust to benefit mankind. With such aid, thousands of people received agricultural training; thousands of pigs, chickens and ducks were bred and given to farmers or sold to them on credit; thousands received micro-loans; and numerous wells, irrigation channels, roads, footpaths, bridges, pigsties and farm houses were built. The farm site at Pak Ngau Shek was established in 1956 as a base for livestock breeding and distribution, agricultural research, farmers training, public education and recreation. The barren slopes were terraced and planted with orchards and vegetable gardens. The development of the botanic garden began in 1963 and the plant conservation programme from 1972.

On 20th January, 1995, the Legislative Council of Hong Kong passed an Ordinance (KFBG Chapter 1156) incorporating KFBG as a non-profit corporation designated as a conservation and education centre. It is a unique public-private partnership, for while the KFBG Corporation is a public organisation, it is privately funded by the Kadoorie Foundation (over HKD 80 million per year); these funds are supplemented by small donations from the public and occasional project-related Government grants that enable us to extend our work.

Since 1995, KFBG has been conducting a wide range of nature education, nature conservation and sustainable living programmes both on-site, and, throughout Hong Kong and South China.

In a time of severe global crisis – including the inter-related issues of widespread disconnection from nature, each other and self; the ever-increasing exploitation of, and unwise over-reliance on the world's dwindling resources to support unsustainable lifestyles; climate change; shrinking of natural habitats and species loss – KFBG, as an organisation, raises awareness, undertakes rigorous science-based species conservation and ecosystem restoration, and offers new ways of thinking and living to respond to the world's problems. Hence, our work brings hope and improvement by focusing on nature conservation, sustainable living and holistic education that re-connects people with nature. By working together with the public, Governments, academia, NGOs and businesses, we can protect our common future.

Mission & Vision

MISSION

To harmonise our relationship with the environment.

VISION

A world in which people live sustainably with respect for each other and nature.

VALUES

Sustainable Living

Appreciating the impact of our actions with regard to current and future generations. Having awareness of our connection with the environment. Valuing simple and responsible lifestyles.

Justice

Being fair and accountable. Valuing socially equitable systems that protect the health of the planet, the people and their way of life. Protecting future generations.

Love

Having self-awareness and understanding of the inter-relationship of all things. Having compassion and respect for all life. Recognising that outer discord is a reflection of inner discord. Striving for inner silence.

Participation

Engaging mentally, physically, emotionally and spiritually; fostering respect for different viewpoints, openness, dialogue and teamwork.

Professionalism

Being a role model of caring, integrity, commitment, professional standards and best practices for partners, organisations, individuals and communities.

Learning

Being adaptive and flexible to changing circumstances. Having a holistic outlook. Being practical, objective, creative and insightful.

Happiness

Appreciating that our happiness lies in creating and sharing happiness with others.



Foreword

While reviewing this report I find myself amazed, again, at the breadth of what we have attempted in our programmes in 2014, and at the depth of expertise, dedication and love of our staff. Our teams continue to devise, develop and deliver inspiring, innovative and professional programmes with the aim of benefiting people, animals and plants in Hong Kong, South China and elsewhere across the Indo-Burma Biodiversity Hotspot.

We remain enthusiastic and hopeful, amidst a general atmosphere in society of greed, and denial of the multiple crises that the world is experiencing. Not only is it the duty of NGO's like ours to try to be a beacon of hope and positive change, there are genuine signs that the public are becoming, little by little, more aware of the need to live more simply, reduce consumption, conserve nature, and deepen our relationships with nature, each other and our inner-selves.

There are many challenges for us to deal with, including vested interests and ignorance in society. We are not daunted, we try to focus on the 'here and now', doing the best we can with our limited resources, to the best of our ability, today and every day, with joy and a sense of solidarity.

Please journey with us by engaging with KFBG in whatever way you can; whether by collaborating with us professionally, supporting our work with funding, volunteering, or becoming a Friend of KFBG; visiting KFBG and the new Green Hub to experience what we offer. Together we can make things better.

Andy Brown
Executive Director

Sustainable Living

This year KFBG has been building momentum in our push to promote sustainable lifestyles. We have been working with a diverse range of organisations; and several projects and activities have been fine-tuned to tighten their alignment with our core strategy. Our training courses and workshops continue to be popular, in particular our 'Zero Carbon Pioneer' project was so successful that we have been requested to re-run it. On the policy front, we identified urban agriculture as a key focus for the government's public consultation on a new agricultural policy, launched at the end of 2014. Unfortunately, delays to renovation work pushed back the opening of the new Green Hub facility at the Old Tai Po Police Station, to 2015. We are pleased to report that our trial aquaponics system has been producing Jade Perch throughout the year. The pioneering sustainable agriculture research in Mainland China is yielding some exciting results which has important implications in reducing greenhouse gas.

Raising Public Awareness for Sustainable Living

Our **Sustainable Living and Agriculture Department** hosted a wide range of community activities throughout the year to promote sustainable lifestyles, kicking off in January with a joint media event with the Environmental Association to offer ideas on how to cut down food waste and donate festive food to charities during Chinese New Year.

In March we published a newsletter documenting the **Eat Well Ambassador** project experience, which encouraged waste reduction and low-carbon living. It was well received, with more than half of the project's participants rating the activities 9 or above out of 10.



The "Eat Well Ambassador" Newsletter.

Our **Zero Carbon Pioneer** project, which wrapped up in the second quarter (remarks: It will be rerun for a different organisation). The project aims to raise awareness about peak oil and climate change via community film shows and other activities.

We continued to clock up supporters for our twin online outreach projects. By the end of 2014, the **One Tonne Challenge** website (www.climatechange.hk) had more than 29,000 registered users (adding around 1,000 new sign-ups over the year), making pledges to practise energy saving for carbon reduction, with a cumulative total of 94,418 tonnes, up from 92,500 tonnes at the end of 2013. The **www.lowcarbonliving.hk** website, of which KFBG is a project partner, recorded almost 29,000 hits during the year (that's more than twice the number of hits in the previous year).

Reskilling for sustainable living

We held courses and workshops for new and existing farmers on various aspects of sustainable farming throughout the year. Our learning offerings included training in permaculture design, growing food in Hong Kong, composting and avoiding Genetically Modified Organisms (GMOs). In June, we successfully repeated our two-day beekeeping course that we launched in 2013.

The following month, our Kadoorie Conservation China Department assisted with a farmer training in Deqin County, Yunnan Province on organic grape production. The training, which was taken to five villages, taught farmers about various grape diseases, controlling them with non-chemical methods, pruning techniques, and how to make compost tea.

Sustainable Farming Courses and Workshops Organised in 2014:

Course Title	Date	Number of Courses	Venue	Number of Participants
3-day Sustainable Agriculture Course for City Farmers	Jan-Feb, Mar-Apr, Sep-Oct	3	KFBG	76
1-day Community Farming Course	15 th Jan	1	KFBG	20 Corporate clients
Half-day Farmers' Reskilling Workshop	7 th Aug, 16 th Oct, 4 th Dec	3	KFBG	77
Planting Vegetables in Synchrony with the Seasons of the Year (two-day course)	3 rd & 4 th May	1	KFBG	50
Half-day organic farming course	16 th Apr	1	KFBG	Group of UNHCR volunteers
Beekeeping (two-day course)	21 st & 22 nd June	1	KFBG	16

We also advised Tuen Mun Hospital on developing a low-carbon diet programme for staff and patients and loaned them a set of education panels in March for a two-month exhibition held at the hospital's canteen.

Public Workshops and Talks Organised in 2014:

Event	Date (and number of workshops)	Venue or Organisation	Number of Participants (estimated)
Good Life Sundays	5 th January 2014 – and throughout 2014 (33)	Central Star Ferry Pier	486
growFOOD@HOME workshop	25 th Jan (1)	Hong Kong Baptist University	35
	28 th June (1)	Hong Kong Design Institute & Hong Kong Institute of Vocational Education	21
	6 th -7 th Dec (2)	Hong Kong Girl Guides Association	100
Low-carbon Diet workshop	22 nd Feb (1)	Securities and Futures Commission	20
	28 th June (1)	Chinese Students and Scholars Association of City University of Hong Kong	20
Low-carbon Diet talk	12 th Mar (1)	Otis Elevator Co. (HK) Ltd	20
Environmentally-friendly cleaning methods talk	27 th Jan (1)	Annual carnival organised by Wong Tai Sin District Council	500

Facilities supporting Sustainable Living

The Macau Civic and Municipal Affairs Bureau (MCMAB) formally appointed KFBG to advise on the design and management of its **first community farm** at Coloane, scheduled to open in late 2015. We gave a one-day public workshop on the proposed farm site in March. Also in March, the MCMAB invited us to give a two-day exhibition and educational workshop on urban agriculture as part of Macau's annual Green Week.



Green Week Carnival at Macau on 14th – 15th March 2014.



A farmer shared farming stories with customers of Central Farmers' Market during the *From Field to Table* visit.

Hundreds of people enjoyed our public workshops organised under the **Good Life Sundays** project at Central Star Ferry Pier to promote sustainable living messages. Throughout the year we held 33 of these workshops on a variety of topics from aquaponics to growing food at home. The press gave us good coverage, including a feature in the *South China Morning Post's* Parents Guide.

We continued to hold our successful Sunday **Central Farmers' Market**, a platform for bringing local food producers and consumers together. It was convened 50 times in 2014 and the number of farmers taking part ranged from 12 to 17 for each market day with average market day sales just under HK\$2,600 per farmer – a slight decrease of HK\$200 over last year. Officers from the Sustainable Living and Agriculture Department made 21 visits to local farms throughout the year, to check on their compliance to organic standards.



An installation art exhibition titled *Our Agriculture, Our Future* was organised at the Star Ferry Central Pier from 14th – 28th July to raise public awareness of the upcoming consultation on agricultural policy.

Mobilising the community

This year, we continued to work tirelessly at engaging the community and building sustainable living partnerships with other groups, organisations and government departments. A full list of our activities in this regard is provided in **Appendix 1**.

In the first quarter, KFBG worked with the Shiu-Ying Hu Herbarium of Chinese University of Hong Kong's School of Life Sciences to develop three publications that aim to help people become more aware of their environment by focusing on food security, sustainable harvesting and biodiversity.



Over 70 submissions of Low Carbon Living plans were received in the Champion of Change project.

On the invitation of China's Ministry of Environmental Protection, KFBG was the Hong Kong-based organiser for the annual **1000 Environmental Friendly Youth Ambassadors Action** project. Under the project framework, we launched a **Champion of Change** campaign in March, encouraging young people to come up with green ideas and/or organise teams of volunteers to facilitate low-carbon living in the community. Outstanding entrants joined a delegation of young ambassadors from mainland China in a four-day training camp in Hong Kong in July. The BOCHK Charitable Foundation funded the project.

We advanced our work in aquaponics in January when Steffi Lee, the Director of Avata Aquaponics Farm in Taiwan toured our facilities and we held an interflow session on the future development of aquaponics.

Our volunteer program continues to offer diverse entry-points for interested individuals to learn and play active roles in community transition to low-carbon living. Throughout 2014, volunteers contributed 894 person-days to various outreach and Farm-based programmes.



An aerial photo of the Green Hub.

The Green Hub

Delays to the renovation work to this beautiful historical site of the **Old Tai Po Police Station** meant that we had to postpone the opening to 2015. We have established a team of *Eat Well Ambassadors* to work in the Green Hub's Eat Well Canteen.

The Green Hub will be a focus point for our community-based projects. We spent 2014 preparing a range of programmes to further develop low-carbon living in the Tai Po community and beyond; including Eat-Well cookery classes, Eat-Well Canteen, residential and day workshops, permaculture courses, heritage tours, heritage exhibition, art workshops and more.

In October we organised a two-day course, **Cultivating Competencies and Resilience for Healthy Living** for a group of 19 students from the University of Macau. This was a trial version of the Green Hub two-day residential programme using community resources in Tai Po.



A gathering of the Eat Well team to brainstorm ideas for the future Green Hub Eat Well Canteen.



Students of the University of Macau drafting a plan for food growing at their campus during the two-day course, titled 'Cultivating Competencies and Resilience for Healthy Living' at KFBG.

Working demonstrations of sustainability

In 2014, the Following Agricultural Produce was Harvested at KFBG:

Type of Produce	Yield
Eggs	172,608
Fruit (kg)	10,396.2
Vegetables (kg)	21,935.8
Coffee (kg)	2.7
Green Tea (kg)	32.6
Chrysanthemum (kg)	31.8
Dried Roselle (kg)	8.9
Fruit Tree Seedlings	205
Potted Plants	3,008
Compost (kg)	62,790
Honey (litre)	96

One of the many working examples of sustainable agricultural on the KFBG estate is our **bio-charcoal-making kiln**, installed in late 2010, which we use to recycle our wood waste. Altogether, 1.14 tonnes of woody waste material was fed into the kiln over the course of the year, yielding almost 1/4 tonne of useful bio-charcoal. (Remarks: production is related to the supply of wood waste). We sold the bio-charcoal and wood vinegar -- a by-product of the process -- in the Farm Shop and at the Farmers Market@Central and used the bio-charcoal in our reforestation programme. After a due diligence trip to Australia in November, we decided to purchase a large, container sized bio-char machine with some added technical features. This will be essential in treating the wood waste from our forest enhancement project and enriching depleted soil and should come on-line in the summer of 2015.

Field and laboratory work for our one-year collaboration with **The Mushroom Initiative**, confirmed it is feasible and the mixing formulae for applying food waste compost for mushroom cultivation. Fresh mushrooms were produced for the Farm canteens during the trial.



Chinese medicinal herbs were introduced to the Aquaponics Trial System to study if the system adds value to the medicinal herb production.

Our trial **aquaponics system** is going well and has been providing Jade Perch throughout the year for consumption at our staff canteens. In January, we met with Prof. Leung Ping-Chung and a research team from Chinese University of Hong Kong's Institute of Chinese Medicine and identified three plant species for trial planting in the aquaponics system and assessing product safety. In March, we provided an orientation for a project team from the Chinese Cuisine Training Institute to help them design an aquaponics system.



In January, KCC visited our partners at the Health Culture Revival (HCR) farm in Chongqing. The no-till mulching vegetable production of winter crops is performing well and is an exemplary crop demonstration for farmers.

The Sustainable Agriculture Pioneers (Sap) Scheme:

One particular project funded under SAP by KFBG, the 'Mulch-No Dig System' led by Professor Lu Shihua in Chengdu, Sichuan Province is proving very successful, and the method is being adopted by many local farmers, bringing a range of benefits to the communities. The research has been documented and we are promoting wider adoption of this technique.

We visited the Health Culture Revival project in Chongqing at the beginning of the year and noticed that the no-till mulching vegetable production of winter crops had improved and would be a good example for crop demonstration for farmers. We returned in June and saw that vegetable yields were much higher than conventional plots; we found that one farmer had already converted 60% of his land to no-till farming. We also conducted a one-day training for local and urban farmers on this technique.

By the end of 2014 we had obtained solid evidence after five years of experimenting in Sichuan that that it is viable for farmers to go organic while maintaining yield levels comparable or even higher than chemical farming.

We conducted a seminar on cover crop-mulch-no-dig system in October for the group of farmers based in Nam Chung, Sha Tau Kok and in November farm trials were set up. The farmers are also trying to protect the important wetland habitat of the area.

Holistic Education



The quilt turtle at the entrance of the exhibition was a photo spot for visitors.

We offered a varied and exciting programme of learning events promoting our mission and values to students, teachers, workshop participants and other visitors throughout 2014.

The summer 'Wisdom in a Shell' exhibition in Kowloon, and our annual Good Life Festival at KFBG were very popular with the public.

Two five-day residential workshops lead by visiting teachers and facilitated by KFBG staff, were well-received. We were honoured to, once again, receive Dr. Satish Kumar the co-founder of Schumacher College, at KFBG to teach the 'Small is Beautiful' workshop. Whilst Dr. Shantena Augusto Sabbadini taught the five-day course, 'When Quantum Physics Meets Daoism - Holistic thinking in Caring for Planet Earth'.



Our volunteer Snoopy played the ocarina to a group of primary school students in the turtle exhibition to increase their interest in music and turtles.

Special Programmes

In the summer, our **Wisdom in a Shell Exhibition** ran for two weeks at the JCCAC in Shek Kip Mei, and was attended by over 6,000 people. As part of the programme we ran a seminar on the relationship between turtles, ancient Chinese culture and Traditional Chinese Medicine, which ran to a packed audience.



Professor Xu from the Hong Kong Baptist University gave a talk on Traditional Chinese Medicine in the turtle exhibition seminar on 19th July 2014; more than 140 people attended the talk.

Changes in exhibits

We often need to change our popular live-animal exhibits: sometimes we need to relocate an animal, animals leave and pass away, and new animals are always arriving. We try to release back to the wild as many of the rescued animals as we can, however those that cannot be released or rehomed may be housed at KFBG's public education exhibits.

The new Masked Palm Civet enclosure was opened to the public in March. Sadly, before putting her on show to the public, we had to amputate one of the female's legs because of a bad injury she had sustained before being rescued in the wild. She has adapted well to her new environment and is very active at night.



The Masked Palm Civet, Bo Zi, recovered well and is able to climb around her enclosure.

In August, a young female Barking Deer was put on educational display at the large aviary at the Parrot Sanctuary, she and the parrots are monitored daily and they live happily together.

Visitor activities

KFBG welcomed a total of 166,670 visitors in 2014, that is an increase of more than 9,000 people over the previous year. The busiest month was March with 26,778 visitors.

Our **Animal Keeper Talks** are very popular with young children and are a marvellous way for them to learn about some of the animals living at KFBG, such as birds of prey, pythons, macaques and mules. KFBG's animal keepers delivered 42 informative talks to a total of 1,459 visitors in 2014.

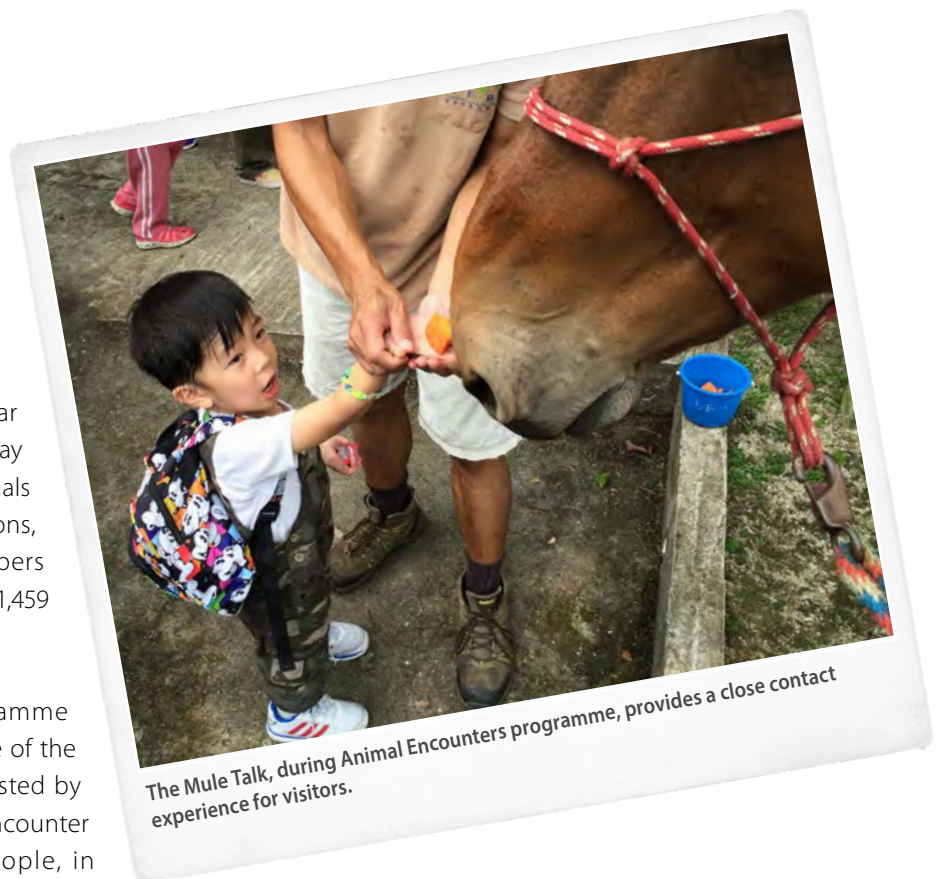
Our Sunday **Animal Encounters** programme allows participants to get up close to some of the animals at KFBG. Our Animal Keepers, assisted by trained volunteers, provided 32 Animal Encounter sessions in 2014 to a total of 2,910 people, in prearranged groups.

Our **Discovery Table** manned by volunteers displayed confiscated bird, reptile and mammal specimens to visitors at a number of sites at KFBG on selected Sundays throughout the year.

Many visitors also joined one or more of our wide range of organised activities. We operated 125 **general tours** over the course of the year, attended by 1,966 people who were able to benefit from meeting and interacting with our knowledgeable education staff and volunteers. Our guided visits covered topics such as animal talks, pot-planting and art.



Dr. Jane Goodall gave a talk to the KFBG staff and some friends of KFBG.



The Mule Talk, during Animal Encounters programme, provides a close contact experience for visitors.



Volunteers demonstrating confiscated animal specimens to the members of the public during the Good Life Festival on 1st November 2014.

There were also formal visits by groups from various community organisations, government departments and local and overseas institutions. We hosted 27 such tours in 2014, for around 390 people. One special guest was Dr. Jane Goodall, who stayed with us for a few days, and gave a talk to the KFBG staff and some friends of KFBG.

A highlight of our public engagement events was the annual **Good Life Festival** held at KFBG on 1st and 2nd November. The event included a wide range of activities including: guided tours, silent walks in the forest, art workshops, pot planting, music and dance performances and classes. All of these helped people to appreciate nature. Some 3,168 visitors, mostly families, attended our Good Life Festival. Our wish is that families who enjoyed our festival will continue to practise low-carbon living at home.



The African Drum Interactive Performance was one of the festival's most popular events.



A young visitor attends our pot-plant workshop at the Good Life Festival.

KFBG in the Media

We maintained a lively dialogue with Hong Kong media over the year.

In Hong Kong 190 articles were published in 22 local newspapers; 28 articles in 15 magazines, 18 television stories and 8 radio programme interviews and 10 on-line media articles were published.

In China, 17 articles appeared in Hainan newspapers; there were two TV stories and an on-line media story.

Stories included: cherry blossoms at KFBG; the history of KAAA and how it helped farmers in the past; 'Good Life Sundays' events; 'Wisdom in a Shell' exhibition; low carbon topics such as eco-friendly pest control, eating less meat, eco-friendly cleaning agents; the Oriental Pied Hornbill conservation project in Guangxi; ploughshare tortoises seized by AFCD transferred to the care of KFBG; over 2,000 Pig-nosed turtles repatriated to Indonesia by KFBG.

Over the year, we added 1,011 new 'Friends of KFBG' bringing the total number to 3,444. These people received special notifications of events and activities.

We also maintained a vibrant KFBG Facebook page, with almost daily posts. During 2014, we received 8,554 "Likes".

We started filming for our six-part TV series that will show much of the work of KFBG to the public. The series should be finished in 2016.



Mindful walking in the Cascade Garden during the 'Little Fish Workshop' on 11th January 2014.

Transformative Workshops and Events

We developed a number of new holistic educational programmes in 2014, as well as continuing with well-proven programmes. We put extra attention on our programmes for educators and school children.

We held seven sessions of our **Little Fish Workshop**, a half-day of silence in nature, an elementary-level transformative workshop, over the year, with a total of more than 70 participants. The intermediate-level **Dragon Workshop** was held just once in January with 15 participants.

Dr Shantena Augusto Sabbadini taught a very stimulating five-day residential workshop, **When Quantum Physics Meets Daoism - Holistic Thinking in Caring for Planet Earth** with 18 participants, including three KFBG staff. Dr Sabbadini also held two open evening talks, **Daoist Wisdom for Our Times**, and **Lao Tzu for the 21st Century** which attracted about 40 people each. Shantena will return in October 2015.



Shantena using yarrow stalks to explain a concept in the Chinese classic Yi Jing.



On the last day of the 'Energy of Nature' Level 1 Workshop, participants presented their favourite trees in creative ways.

We were grateful to have Dr. Claire Elouard with us again in late October to lead two five-day workshops: **Energy of Nature Level 1** and **Energy of Nature Level 2**, which gave participants a very deep and meaningful experience in connecting to nature. A total of 25 people attended, two from Taiwan.

We offered 53 teachers from St. Joseph school a chance to join our one-day '**Mindfulness in Nature**' programme in November. The programme included a brief introduction to holistic education, an Eco-Garden Tour called 'Seeing the Weeds' (appreciating the value and beauty of plants that are often regarded as weeds), and practice of mindful eating. We also held a 90-minute **Mindfulness in Nature** session for nine Heads of Year teachers from the Chinese International School in December.

We once again welcomed **Dr. Satish Kumar** to KFBG at the end of November. Satish, who is the editor of *Resurgence & Ecologist* magazine and co-founder of Schumacher College led a five-day **Small Is Beautiful** residential workshop, where he was joined by local teachers, Mr. Lam Chiu Ying and Mr. Chow Sung Ming. As part of the workshop, as well as lectures and discussions we cooked together, spent time in the forest and gardens of KFBG and visited the Partnership for Eco-Agriculture and Conservation of Earth (PEACE) in Nam Chung to exchange ideas. All of the 19 people who took part in the workshop – again with two from Taiwan – said they were inspired to lead more holistic and sustainable lives as a result of the teaching.



A dynamic and intimate group relationship emerged during the "Small is Beautiful" 5-day Residential Workshop.



Dr Satish Kumar giving a lecture at Nam Chung.

Nature Conservation

2014 was a busy year for turtle conservation, we handled a significant number of confiscated animals, including 10 Ploughshare Tortoises smuggled in from Madagascar (less than 200 remain in the wild). We repatriated 2,250 confiscated pig-nosed turtles to West Papua, Indonesia.

We carried out a spatial analysis of the rare orchid *Bulbophyllum bicolor* in Hong Kong, and raised seeds in the micro-propagation laboratory for planting at KFBG.

KFBG strengthened its regional presence by signing a Memorandum of Agreement with the Laos Government, to conduct floral surveys and capacity-building work.

Our key project partner in Hainan, the Yinggeling Nature Reserve was eventually promoted to the status of National Nature Reserve, which is an important milestone in our decade-long collaboration. We also discovered two nests of the Oriental Pied Hornbill in Xidamingshan, Guangxi and carried out detailed observations of their breeding behaviour, the first ever such study in China.

We rounded off the year by holding a four-day Rescue Centre conference attended by 65 overseas participants from 37 organisations from around the region.



A rare Ploughshare Tortoise being weighed upon arrival.

Protecting Species and Ecosystems

This year the **Fauna Conservation Department**, handled a large number of government-confiscated wildlife. We rehomed many (with AFCD approval and collaboration) for conservation and/or educational purposes. On 16th January, 80 **Radiated Tortoises** (critically endangered), nine **Spider Tortoises** (critically endangered) and 39 **Greek Tortoises** (vulnerable species), were confiscated from two Egyptian passengers on a flight from Doha. On 11th February, 112 **Radiated Tortoises** and 10 **Ploughshare Tortoises** (the world's rarest tortoise) were confiscated from a passenger on an incoming flight from Madagascar. We rehomed one **Ploughshare Tortoise** to Zoo Atlanta to join a captive breeding programme. On 16th January, 2,484 **Pig-nosed Turtles** were confiscated hidden amongst a shipment of live fish cargo originating from Indonesia. The juvenile turtles were held temporarily at KFBG until repatriation efforts were coordinated between Hong Kong and Indonesia. On 4th February, 2,250 turtles were transported to Jakarta. They were released on 13th February to a remote stream in West Papua. Also in the first quarter, we rehomed a **Black-eared Marmoset** to the Singapore Zoological Gardens where it joined a breeding group of these primates.



Confiscated Radiated Tortoises, well camouflaged in their temporary enclosure.

In July, we were handed 46 freshwater turtles of various species (**Golden Coin, Indochinese Box, Bourrets Box and American Wood Turtles**), two **chameleons** and two **Ball Pythons** for temporary holding. The animals were part of an endangered species protection confiscation case; the Customs department intercepted some of the reptiles whilst the rest were confiscated from the consignee's residence.



Confiscated Indochinese box turtles just after being received on 25th July from the Agriculture, Fisheries and Conservation Department.

In the second and third quarter we sent 31 **Greek Tortoises** to the Turtle Survival Alliance Europe after which they joined a captive breeding programme in Spain. We also sent the Alliance 76 **Radiated Tortoises** and 32 **Black Pond Turtles** to join breeding programmes across Europe. Two **Yellow-headed Temple Turtles** were rehomed to Ostrava Zoo in the Czech Republic.



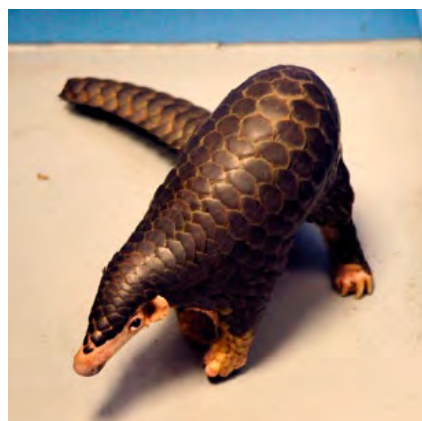
Packing of 2,250 Pig-nosed Turtles at KFBG prior to repatriation.

On the 29th August the AFCD delivered over 1,386 freshwater turtles and tortoises of various species (**Indian Roofed Turtle, Black Pond Turtle and Indian Star Tortoises**). The animals were intercepted at Chek Lap Kok Airport. Two Japanese nationals were arrested for smuggling over 700 hatchling Indian Star Tortoises from Bangladesh and one Indonesian national was arrested for smuggling almost 600 Black Pond Turtles and Indian Roofed Turtles from Indonesia.

The AFCD donated three kilograms of confiscated pangolin scales for educational and research purposes. We now have 10 kg of pangolin scales from both Asian and African taxa; the scales are available for further research and have already been the subject of a scientific paper related to DNA studies, which will be published soon.

The **Wild Animal Rescue Centre (WARC)** had a quiet first quarter with fewer than 50 cases received. Sadly, many of them were badly injured animals that did not survive. These included a large adult male **Barking Deer** with a fractured leg; a female **Rhesus Macaque** with a fractured hip; a **Malayan Porcupine** believed to have been hit by a road vehicle; a **Chinese Leopard Cat** with a fractured spine thought to have been attacked by stray dogs; a **Peregrine Falcon** with a twisted clavicle; a **Northern Shoveler duck** with a fractured bill; and two **Black-eared Kites**, both hit by buses.

The rescue centre got busy in the middle of the year took care of more than 380 animal cases, mostly juvenile birds. We nursed a fledgling **Savannah Nightjar** back to health, and after fitting a permanent identification ring we successfully released it in Kam Tin. In July, the AFCD handed over two **Chinese Pangolins**, one with minor abrasions; it was released a few days later. The second had an infected tail with the tip



A rescued male Pangolin with tail tip removed. Showing good signs of recovery in July 2014.

missing, the victim of a feral dog attack. After it recovered, we fitted it with a radio transmitter and set it free in Tai Lam Country Park.



The successful release of a Peregrine Falcon over Sai Kung in November after recovering from its injuries.

We had further success in mid-October when a Peregrine Falcon, found in a weak condition, with leg lesions, at a housing estate in Tsung Kwan O, responded well to hand feeding and a spell in a special enclosure to help its feet heal. After only three weeks it had made a full recovery and was released in the Sai Kung area on 6th November.

Total Number of Animals Received by the Wild Animal Rescue Centre from 1994 to 31st December, 2014

Mammals	694
Birds	3,111
Reptiles (excluding snakes via HK Police)	25,403
Stray Snakes (via HK police up to 31 st December 2014)	6,671
Grand Total	35,879

The Status of Animals Received by the Wild Animal Rescue Centre, 1st January to 30th December, 2014:

	Total in Collection at 1 st January, 2014	Received/ Captive Bred	Released/ Relocated	Died/ Euthanised	Total in Collection at 30 th December, 2014
Birds	94	383	167	221	89
Mammals	114	68	35	37	110
Reptiles*	663	4,482	2,490	1,152	1,503
Amphibians	29	297	25	297	4
Fish	51	0	0	0	51
Total	951	6,145	3,550	1,786	1,760

* Excluding stray snakes received from the HKSAR Police.

The rescue centre also received two oriental **Turtle Doves** in the last quarter, only the second and third of these species we have ever taken in. The first dove was found in Mai Po in September with injuries consistent with a predator attack, and sadly did not survive. The second was uninjured but thin. It quickly gained weight and was released in Mai Po shortly afterwards.

A **Eurasian Eagle Owl**, handed in on 7th November, also did well. The bird was found on Lantau uninjured but thin. It was rehabilitated and released on Lantau on 20th November.



The Eurasian Eagle Owl from Lantau Island recovering in the Rescue Centre before release on 20th November.



An Oriental Turtle Dove, a winter visitor and the 3rd record of this species received by the rescue centre.

A pilot release of 24 captive-raised Romer's Tree Frogs was made at a conservation area on KFBG land behind the Native Tree Nursery on 3rd July. Currently the species is restricted to a few locations across Hong Kong. If the trial is successful, as a second phase, we will add more individuals and aim to establish a self-sustaining population within a KFBG conservation area. On 28th August a second batch of tadpoles was collected from the wild to begin the process of captive rearing prior to release as froglets.



A Romer's Tree Frog (circled, on leaf to the right) having jumped out of the container at the release site.

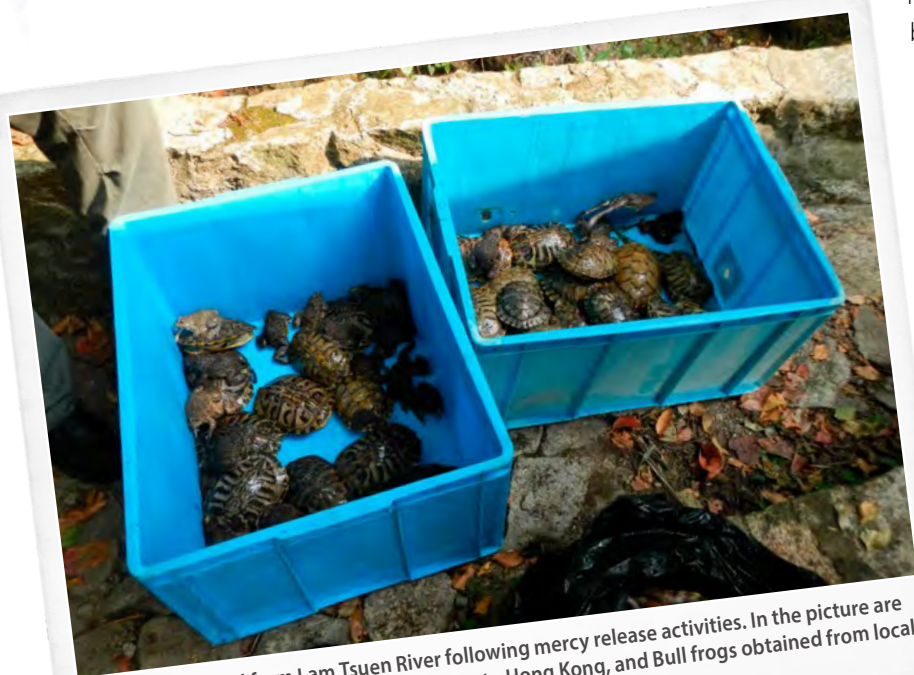
The SPCA handed us a medium-sized bat that was found trapped inside their Wan Chai headquarters in November. Experts suggest that this is a new species for Hong Kong, the **Common Serotine Bat**. DNA analysis conducted by the KFBG Conservation Genetic Lab later confirmed its identity.

Since the establishment of the WARC in 1994, almost 36,000 animals have been accepted and treated.



The new bat species (Serotine Bat) rescued by the SPCA in Wan Chai and passed to KFBG on 18th November.

In 2014, our breeding group of **Golden Coin Turtles** (*Cuora trifasciata*) laid 69 eggs, but only 13 hatched. There was an unusually high failure rate, with many foetuses dying inside the egg. Bacterial swabs were taken for analysis and we sent the results overseas for detailed diagnoses.



Animals recovered from Lam Tsuen River following mercy release activities. In the picture are Red-eared Slider turtles which are not native to Hong Kong, and Bullfrogs obtained from local food markets.

A section of the Lam Tsuen River, on public land, directly opposite the KFBG entrance became the focus of a group of mercy release practitioners during the last quarter of the year. Mercy release is a term that describes letting animal species free as part of a Buddhist ritual. They released two common live food market exotic species — the **Chinese Bull Frog** (*Rana rugulosa*) and the **Red-Eared Slider** (*Trachemys scripta elegans*). As non-native species they pose a threat to local species and there is also a risk that they could spread disease. To date, we have removed 270 frogs and 126 turtles from the stream. The animals' conditions varied from alive and healthy to dead and already in a state of decay. A large number have required euthanasia. For many years we have been raising awareness to stop this practice and have requested the AFCD's help to set up a routine inspection and removal.

Our flora conservation work continued to focus on orchids and forest restoration. The department created maps for Hong Kong temperature and precipitation patterns running from 1998 to 2012, which can be used for species distribution modelling. We carried out a spatial analysis of the occurrence of the rare orchid *Bulbophyllum bicolor* in Hong Kong, with the aim of understanding which environmental factors are most important in determining the species' range. We also continued to study this species' pollination ecology and examine the level of genetic diversity within and among its populations in order to develop recommendations for its conservation. An official Red List Assessor training workshop, organised through the International Union for the Conservation of Nature (IUCN), was held at KFBG for in-house staff and those of affiliated bodies in Hong Kong, in April. The knowledge gained in conducting systematic and quantitative conservation assessments is already being put to use in the Hong Kong BSAP process.

Kadoorie Conservation China Department (KCC) maintained its projects at a number of sites in seven provincial divisions of China, with special focus on Hainan, Guangxi and Yunnan.



The male Oriental Pied Hornbill brings a fig to the nest, the first confirmed breeding record of the species in Guangxi since the 1970s.



A hornbill chick squeezed out of the same nest and flew to the top of nest tree once it emerged in mid-August.

Two active nests of **Oriental Pied Hornbill** (*Anthracoceros albirostris*) were found in **Xidamingshan Provincial Nature Reserve**, Guangxi in May – the first confirmed breeding record of the species in Guangxi since the 1970s.

KCC staff and volunteers guarded and monitored the nests until the chicks fledged in mid-August. This represents the first study on the breeding ecology of wild hornbill in China and the discovery was broadcast by Guangxi TV News Channel and made the headlines of Xinhua News. It gives a rare opportunity to study the breeding ecology and diet for wild hornbills of China, and the knowledge can help us better protect the species in future. The Oriental Pied Hornbill plays a key role in dispersing large seeds of forest trees. Poaching and habitat loss have decimated the population in China in recent decades. KCC has been involved in hornbill conservation and monitoring since 2009.

In November we revisited Xidamingshan with two volunteer arborists from Hong Kong, to collect information on the hornbill nesting trees. The work was filmed by a Guangxi TV Documentary Channel who is planning to produce a documentary on our pioneering work.

Our **Hainan Gibbon** (*Nomascus hainanus*) protection work has continued apace. KCC reinforced patrols in a forest adjoining the gibbon habitat with staff of **Bawangling National Nature Reserve**, to ensure that the Hainan Gibbon can utilise this empty habitat safely.

While in August we went to Qingsong township to assess the impact of the strongest typhoon in decades on the Hainan Gibbon. We experimented with call playback as a method for our gibbon surveys.

In the Hainan gibbon annual population census in October 2014, 42 people spent 5 days in the forest and 22 individual gibbons were counted. Unfortunately *Laotaitai*, a habituated old female, hasn't been spotted for a year and is now considered to be deceased from old age.

Our **Yunnan Box Turtle** (*Cuora yunnanensis*) conservation breeding programme has had an excellent year, yielding 11 hatchlings out of 24 eggs laid. KCC, with our partner in Kunming Institute of Zoology, are running the only conservation breeding project for this enigmatic and critically endangered species.

The second phase of our camera trap project in **Nonggang National Nature Reserve**, Guangxi ended in October. Preliminary results reveal that more than 20 large mammal species still live in the reserve, including some highly threatened species.

The camera traps installed by KCC and **Tianma National Nature Reserve**, Anhui successfully captured photos of the little-known and endemic Anhui Musk Deer (*Moschus anhuiensis*) in the reserve. The ecology of this species is barely known and our camera trapping helps to determine its preferred habitat for better conservation planning. KCC visited the reserve in November to discuss the conservation of this endangered species with the Reserve Director.



Yang Jianhuan of KCC instructing the wardens of Gaoligongshan NNR, Yunnan to install camera traps in December. A total of 30 camera traps were set up by KCC in the reserve to study mammal and pheasant diversity and status.



Amolops viridimaculatus, a rare and beautiful frog found in Gaoligongshan NNR during a KCC exploratory trip, is listed as 'near threatened' in IUCN red list.

Our KCC team signed an agreement with **Gaoligongshan National Nature Reserve** in Yunnan to launch a biodiversity survey and warden training project whilst the team were on an exploratory trip in April. Gaoligongshan is a 600 km-long mountain range along the border with Myanmar, and is recognised as a global biodiversity hotspot. KCC carried out rapid biodiversity survey in September and December. Some little known or rare animals were recorded during the survey, such as Stripe-backed Weasel (*Mustela strigidorsa*) and Red Panda (*Ailurus fulgens*). Images of **Marbled Cat** (*Pardofelis marmorata*) were also captured by our camera trap. This was the first photo of a wild Marbled Cat from Yunnan, and the first confirmed record of this elusive forest cat in Yunnan in three decades. Potentially new-to-science species have also been found and taxonomic work is underway.

Forest Restoration

Professor Stephen Blackmore, the head of Botanic Gardens Conservation International (BGCI) and the Queen's Botanist kindly visited us to review our plans to rejuvenate our abandoned orchards by converting them to mixed native forest and rare tree seed garden. He endorsed our plans and the project commenced with some trial plots. The wood generated by felling the old, unproductive orchard trees will be turned into bio-char and mulch and used to enrich the soil in the young forest. This is a valuable, long-term research project and the learning will be shared with other institutions in due course.



The Biochar Experimental Tree Planting Plot set up on the upper slopes of KFBG in July.

In managing and restoring habitats we must make sure that the right native plants are available in our nurseries with sufficient genetic diversity. To this end, we extracted DNA from 1,253 plant samples of a number of species over the course of 2014 to help us manage this.

Under license from AFCD our staff made dozens of seed collection field trips into the wilds of Hong Kong, collecting 60,873 seeds of over 110 species for the **Native Tree Nursery**; and over 40,000 seeds of over 34 species for the Native Herb & Shrub Nursery.

Also, over the year we supplied 16,989 native tree seedlings for urban greening and gardening and canopy enhancement within KFBG.

We held a tree-planting event on Earth Day (22nd April) for KFBG staff at the Tai Mo Shan tree planting site, within KFBG land on the upper hillside, and at planters on the newly renovated slope near Orchid Haven. About 140 staff planted 1,280 saplings in four experimental plots on KFBG land on Tai Mo Shan, and 40 staff planted 212 shrubs and climbers in planters near Orchid Haven for slope greening. In the experimental plots, we tested four different types of tree guards to see which were best at improving survival rates of trees. The initial results of our tree planting research are very encouraging, with high survival rates and high growth rates.



Experimental tree planting plots set up by KFBG staff on Earth Day.

This year we completed a genetic screening of key tree species used in our forest restoration project, focusing on genetic diversity of *Cyclobalanopsis neglecta*, an oak species very suitable for montane habitats. Twelve genetic markers were tested and picked for genetic study. Some 447 individuals from 13 wild populations were sampled. This study will show us whether the trees planted in the past represent the genetic diversity of this important tree in natural Hong Kong populations. We also conducted our first tree census for about 5,000 young saplings in the planting plots on Tai Mo Shan.



Collecting leaf samples of *Cyclobalanopsis neglecta* in the country park in HK.

Influencing Policy

In the first part of the year, the Ecological Advisory Programme team, Fauna & Flora Conservation and Kadoorie Conservation China staff participated in a number of focus groups for the **Hong Kong Government's Biodiversity Strategy and Action Plan (BSAP)** meetings on Habitat, Status Trends and Red Listing, as well as Sustainable Use, Ecological Footprint and Ecosystem Services Focus Groups. Our Head of **Sustainable Living & Agriculture** led a Traditional Knowledge Focus Group to explore strategies to conserve and promote traditional knowledge for conserving biodiversity. A final report with recommendations was submitted on 15th September, and the work and priorities of this focus group was discussed with the BSAP Secretariat on 13th December. The head of Fauna Conservation Department was invited to sit on the BSAP Terrestrial Biodiversity Work Group, which provided reports to the BSAP Steering Committee.

A senior staff member attended meetings of the Country and Marine Parks Authority over whether to designate six enclaves as part of country parks over the year. In September, the Authority shelved the discussion following a judicial review on the assessment and consultation process. Although the AFCD had agreed in earlier meetings to circulate details of the assessment, it has also put this on hold for the same reason.

We are very aware that development pressure is the main threat to Hong Kong's remaining natural habitats. We work hard to ensure that any development plans, or any new zoning proposals will not have an ecological impact. We raise issues and push for solutions wherever they arise. Over the course of the year, our **Ecological Advisory Programme (EAP)** team made submissions to the HKSAR Government on 290 planning applications, seven draft Development

Permissions Area (DPA) Plans and eight draft Outline Zoning Plans (OZP). The team was active in meeting with officials of various government departments to discuss conservation issues and policies, and maintained its practice of making numerous site visits across the SAR for ecological destruction cases, gathering ecological information for submissions, and making routine site checks. We were also in close touch with Government authorities regarding their implementation of the **Convention on Biological Diversity (CBD)** across the Government, as required by the international convention.

Members of Kadoorie Conservation China Department were selected as China Representative for the Asia-Pacific Chapter of Association for Tropical Biology & Conservation, who was consulted on various policies related to conservation in Asian tropical region.

Engaging Communities in Conservation

Local villagers have a direct interest and impact on the natural environment and so for any conservation effort to be successful, we must engage these communities. A key component of KFBG's conservation work lies in working with local people whose livelihoods depend, to a greater or lesser degree, on the natural resources that surround them and developing conservation practices that enhance the sustainability of these resources. Our Kadoorie Conservation Department (KCC) team is particularly active in this regard in the provinces of Hainan and Guangxi.

KCC was very busy working with the staff at **Yinggeling National Nature Reserve**, Hainan this year. We visited Daoyin village several times to discuss with the villagers the advantages of earth brick construction and alternative livelihood options such as carefully controlled ecotourism over utilitarian exploitation of the surrounding forest. We also monitored an eco-beekeeping project at Gaofeng village in Yinggeling, the project was initiated in 2012 in order to motivate local villagers to protect the natural forest as nectar sources. On our advice, villagers have been planting the seeds of winter and summer crops as additional nectar sources.



A cocoa (chocolate) plant growing vigorously in Daoyin, Yinggeling NNR. It was planted 4 years previously to demonstrate the potential to diversify crops in rubber plantations.



A Yinggeling warden showing his strong local Chinese bee colony in the pagoda-type bee box at Gaofeng village. This bee box was introduced by KCC for an eco-bee keeping project.

With KCC's technical support, over 1,000 cardamom seedlings were planted under 40 mu of rubber plantation in the Maoyang area of Yinggeling in an attempt to introduce agroforestry in monoculture rubber plantation, for the benefit of biodiversity and soil conservation.

At the end of the year, Yinggeling was officially upgraded to a national-level nature reserve, testament to our decade-long dedication to conservation of the largest terrestrial natural reserve of Hainan. We began our work with Yinggeling in 2003 with a pilot survey and were amazed by the extent of primary rainforest and rich biodiversity. We have been closely working with the **Forestry Department of Hainan Province** on conservation of Yinggeling since then, with direct involvement in reserve management.

We also worked with Bawangling NNR, Hainan, to produce a **Hainan Gibbon children's story book**, with cartoons and an interesting narrative, aiming to illustrate the plight of the Hainan gibbon and the urgency of the conservation work. Around 1,300 copies were handed out to schools in the surrounding areas.



KCC sponsored Bawangling NNR in producing a Hainan Gibbon story book. The 1,300 copies were distributed mainly to schools surrounding Bawangling.

We engaged school children in Guangxi by running an **Oriental Pied Hornbill Drawing and Composition event** in late February with the Xidamingshan NR. Ten primary schools took part. The winners were announced at the official Guangxi Bird-Loving Week launching ceremony at Nanning Zoo in March.



Ten primary schools adjacent to Xidamingshan were invited to participate in the Oriental Pied Hornbill Drawing and Composition event. A total of 629 and 608 drawings and compositions respectively were collected.

Meanwhile, in Hong Kong, a team from the Flora Conservation Department ran an educational display on **Ecological Forest Restoration** at the Hong Kong Flower Show 2014 in March. It increased awareness of degradation of natural habitats and suggested ways to restore damaged sites. The Flower Show attracted over half a million visitors.



Children sowing seeds in the 'Sow a seed, Make a wish' activity at the Hong Kong Flower Show 2014.

Building Conservation Capacity

Enhancing Nature Reserves' management capacity is one of KCC's priorities. In addition to direct involvement in managing Yinggeling NNR, at the invitation of the Forestry Department of Hainan Province since 2006, we frequently provide advice and training to improve management effectiveness of Reserves throughout our project areas; these include reserve planning, resource management, research and monitoring, and community-based conservation.

Our skilled and experienced staff helped with a number of diverse capacity-building activities in China over the course of the year. In March, we ran a **Wildlife and Nature Reserve Management Training** at Bawangling National Nature Reserve in Hainan. Over 100 frontline wardens, including the Hainan Gibbon monitoring team and community wardens, and management staff of nine nature reserves from Hainan, Guangxi and Shanxi Provinces, attended. Tailor-made lectures and a half-day field class were delivered by KCC staff and Dr. Boonratana from Mahidol University International College, Thailand.

In 2014, we worked hard to strengthen the skills of our Hainan Gibbon monitoring team; In May we took them on an exposure trip to Guangxi where they exchanged experiences in species protection and monitoring, Reserve management and camera trapping with staff from Nonggang NNR, they also visited several nature reserves along the Sino-Vietnamese border.

We were in that region at the beginning of the year when we accompanied an official from the Forestry Department of Guangxi Zhuang Autonomous Region to visit five nature reserves (Shiwandashan, Enchang, Xialei, Dizhou and Laohutiao) along the Sino-Vietnamese border. The team met the management of the Reserves and assessed the habitat condition and conservation needs of the area.

KCC supported 15 staff and wardens from five Hainan nature reserves to take part in the second bird watching festival and bird race held in Hainan Dongzhaigang National Nature Reserve in November. Field skills were enhanced and exposure to the public through this outreach event was achieved.

We organised anti-hunting patrols with the local reserve staff, in Jiayi Provincial Nature Reserve and Bawangling NNR in Hainan in mid-January. Warning signs were put up along trails where human disturbance was detected. We also kept up regular visits to Jiayi to work on a Monitor Lizard conservation project with an attempt to capture some individuals for radio-tracking ecological study. Two juveniles were captured and tagged in April and May, but sadly their transmitters dropped off.

Prior to the first Gaoligongshan biodiversity survey in September, KCC delivered a one-day training on field survey skills of various taxonomic groups, for 40 management staff and wardens from the Reserve. Staff from PCD Yunnan Office also attended the training and joined part of the survey.

We also focused on building conservation capacity by training dedicated volunteers to assist in our conservation work both at KFBG and in China. At the end of 2014, the Flora Conservation department's **Conservation Volunteer** programme had more than 130 active volunteers participating in conservation activities on the KFBG estate.

The **Rainforest Ambassador Citizen Science Programme** was launched in 2011 to raise public awareness on biodiversity conservation through participatory events, thereby fostering support for biodiversity conservation of Hainan Island. We regularly organise seminars and field trips for members and they assisted in the annual Hainan wintering water bird survey.



KCC with wardens from Bawangling and Jiayi participated in the second bird-watching festival and bird race held in Dongzhaigang NNR, Hainan during 15th – 16th November.



Seven Rainforest Ambassadors were sponsored to participate in the Xishuangbanna Tropical Botanical Garden Bird Watching Festival and managed a booth to introduce KCC's work during 1st to 2nd January.

Our **Rainforest Ambassador** programme organised 34 nature-based activities in Hainan and Guangxi during the year. We also sponsored seven of our volunteers to take part in the Xishuangbanna Tropical Botanical Garden Bird Watching Festival in the early part of the year. We

recruited 18 Rainforest Ambassadors to participate in the Exianling Biodiversity Conservation Training Camp at the end of August. Training covered species identification, wildlife photography and outreach skills. In October, we recruited 20 Rainforest Ambassadors to participate in phase two of the training camp. Together with the wardens they conducted a preliminary biodiversity survey in the limestone forest. A conservation fun fair was organised in four neighboring villages during the October visit. The event was popular among local children and adults alike, with a total of 500 villagers taking part.

Yinggeling NNR invited us to spearhead the master planning of Yinggezui substation, which will serve as both an environmental education centre and research field station. Together with some volunteers, a master plan was drafted and agreed upon by the Reserve and the provincial officials.

Back in Hong Kong, in February, the Rescue Team of the Fauna Conservation Department gave a full-day workshop for a group of 20 Society for the Prevention of Cruelty to Animals (SPCA) inspectors and cadets on wildlife rescue. Following on from this, the SPCA were invited to work alongside staff to get some hands-on experience from April to June. The collaboration was very successful.



On 18th February, Rescue Team staff provided a full day workshop for a group of 20 SPCA inspectors and cadets.



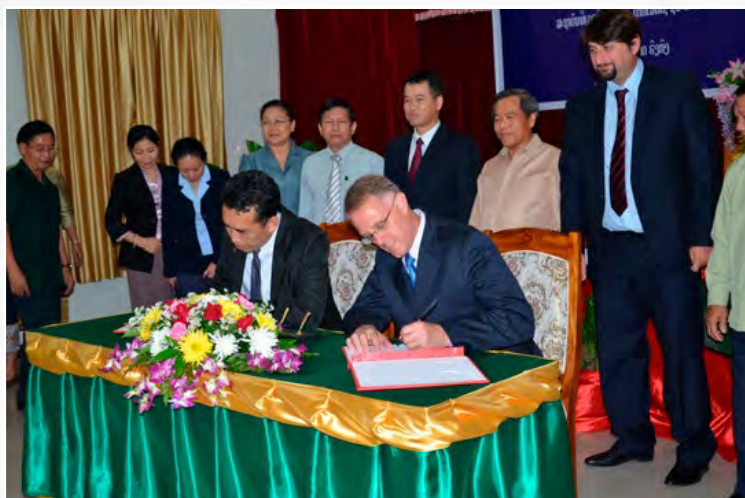
On 9th March, KCC held the closing ceremony of the year-long Yangshan Wetland Ecological Survey in Haikou, with Lu Gang presenting the results.

To encourage grassroots conservation NGOs in Southern China to work more closely together and share their experiences, KCC organised a local conservation NGO forum in March in Haikou, Hainan. Our goal was to build bonds and share knowledge. At the end of the forum we also held a closing ceremony for the Yangshan Wetland survey, which we completed after a year with public support. The wetland is on the southern edge of Haikou city and KCC has been working towards an eco-friendly land-use of the whole area since 2012.

Our work on Northern Chinese Leopard conservation also progressed well when KCC visited Jinzhong County in Shanxi to meet with our partner the Chinese Felid Conservation Alliance in July to discuss conservation initiatives for the species.

We met with the Director of Bangxi Provincial Nature Reserve in Hainan, Wang Yunpeng, to discuss ways of helping with Reserve management and **Eld's Deer** conservation. The Hainan Eld's Deer (*Rucervus eldii*) is highly threatened and endemic to the island.

In October, KFBG staff travelled to Laos to sign a Memorandum of Agreement (MoA) with the Government in the capital, Vientiane. KFBG's Flora Conservation staff will be working with staff from the Laos Ministry of Science and Technology. The MoA sets out a three-year collaboration on joint field surveys in Laos and capacity building of local staff. During the trip, KFBG's Stephan Gale and Pankaj Kumar trained staff at the National Botanic Garden in Vientiane in conservation, orchid propagation and nursery management practices.



A Memorandum of Agreement was signed by KFBG Executive Director, Andy Brown, and the Ministry of Science and Technology of the Lao People's Democratic Republic in Vientiane.

Channelling Knowledge into Conservation Planning

Our various conservation initiatives require us to share ideas and information with scientists and scholars in Mainland China, the region and in some cases world-wide. One of our focus areas is the protection of orchids. In March, three Flora Conservation Department (Flora) officers attended the **10th International Symposium on Diversity and Conservation of Asian Orchids**, at Chenshan Botanical Garden in Shanghai. Dr. Lisa Li presented a talk there on 'An examination of the utility of DNA barcodes in the management of a living collection of orchids in a tropical botanic garden'. Dr. Stephan Gale gave a talk entitled 'Mistaken identities, mismatched shoots and cryptic taxa: resolving species boundaries in the genus *Nervilia* (Orchidaceae) in tropical Asia', at the **16th Flora of Thailand Meeting** at the Royal Botanic Gardens, Kew, in September.

On more general environmental protection topics, Flora officers in January attended the **3rd Xishuangbanna International Symposium on Botanical Gardens and Climate Change** organised by Xishuangbanna Tropical Botanical Garden. Also in March, Dr. Gunter Fischer gave an invited talk on watershed restoration at a conference on **Ecosystem functions and services for food security in the face of biodiversity loss and globalization in Southeast Asia**, organised by the Georg-August University of Göttingen, Germany and hosted by the Faculty of Agriculture, Chiang Mai University, Thailand.

Dr. Bosco Chan and Jay Wan attended the **International Conservation Planning Workshop for the Hainan Gibbon** during 17th to 20th March. Nearly 100 participants including international and national experts and officials from the State Forestry Administration, Hainan Forestry Bureau and county governments attended the workshop. The purpose was to gather ideas on a new conservation plan for the Hainan Gibbon, which is the world's most critically endangered primate. Our Hainan Gibbon story book was distributed during the workshop.

In August, Bosco Chan gave a presentation on the Hainan Gibbon at the **25th Congress of the International Primatological Society** held in Hanoi, Vietnam.

Dr. Michelle Wong from the Zoological Society of London visited KCC in June to discuss collaboration and follow-up actions for the conservation of the Hainan Gibbon.

In 2014 we worked closely with a German conservation NGO, ZGAP and the EAZA Deer Taxon Advisory Group on a project to reintroduce the Vietnamese subspecies of Sika Deer back to the Guangxi Region. This subspecies has been wiped out throughout its range in northern Vietnam and south western Guangxi, and this project will be the first attempt to reintroduce it back into the wild.

Towards the end of the year, Dr. Gunter Fischer and Andy Brown gave talks at the International Conference on Climate Change in Hong Kong on 27th November and 28th November.



The Flora Conservation team joined the canopy walk during the 3rd Xishuangbanna International Symposium.



KCC staff and partners attending the International Conservation Planning Workshop for the Hainan Gibbon during 17th to 20th March.



The 6th WARN Conference was held at Kadoorie Centre from 24th to 27th November. Nearly 80 overseas and local partners from 37 organisations attended this annual event.

The Critical Ecosystem Partnership Fund (CEPF) National Advisory Committee meeting was held in Kunming on 25th November to select grantees; six small grant projects were selected, from a list of 24 applications, to be supported by CEPF under the management of KCC.

KCC met with 41 NGOs while taking a CEPF road show to Hainan, Yunnan and Guangxi in May and June to publicise CEPF's work and opportunities for funding.

Over the year, experts from the IUCN/SSC Deer Specialist Group worked with KCC on the taxonomy and Red List assessments of various barking deer species in China. Meanwhile, experts from the IUCN/SSC Small Carnivore Specialist Group worked with us on the reassessment of badgers and ferret badgers for the **IUCN Red List**.

We gave recommendations to Dr. Kathy Traylor-Holzer of IUCN Conservation Breeding Specialist Group in a viability analysis of the Hainan Gibbon.

We are working with two well-known mammalogists in Indochina, Dr. Will Duckworth and Robert Timmins, on taxonomy and the conservation status of overlooked mammals in the region. Dr. Timmins visited the Kunming Institute of Zoology in December to study mammal specimens and discuss future collaboration.

Bosco Chan was invited to Assam, India in early December for a conservation strategy workshop for the Critically Endangered White-bellied Heron (*Ardea insignis*), which is marginally found in Yunnan's Gaoligongshan. A post-workshop trip to the world-famous Kaziranga National Park was organised allowing useful exposure to management of megafauna and exchanges with international experts.

To round off the year, FAU hosted the **6th Wild Animal Rescue Network (WARN) Conference** at Kadoorie Centre from 24th – 27th November. Some 65 overseas and local partners attended. The keynote speaker was Dr. Sal Renshaw, an Associate Professor from Nipissing University, Canada. There were 25 presentations, three of which were given by KFBG staff. The conference included a trip to Mai Po Nature Reserve and a night walk at KFBG.

Research for Conservation

Our Conservation Laboratories (Plants) continued to analyse different samplings collected from

the wild for research work. DNA extraction is crucial to assist identifying the species and their biological details.

In combining thousands of short DNA fragments, a draft chloroplast genome of *Bulbophyllum bicolor* was compiled. This can help to find markers to identify different populations and even individuals of this endangered orchid, and it will also be used to understand the phylogenetic relationship between this species and other orchids.

Genetic marker evaluation and field work on the important restoration tree *Cyclobalanopsis neglecta* was finished. Twelve genetic markers were tested and picked for genetic study. Some 447 individuals from 13 wild populations were sampled. This study will show us whether the trees planted in the past represent the genetic diversity of this important tree in natural Hong Kong populations.

Since *Aquilaria sinensis* is heavily threatened by illegal logging in Hong Kong and at KFBG, we have started a trial in extracting DNA from newly felled Aquilaria found on-site. DNA was successfully extracted from wood and bark and the species was identified in Genbank's database.

Two market surveys were conducted by Flora conservation staff on 16th January and 19th February in Sheung Wan to survey and purchase samples of traditional Chinese medicine materials and dry food for DNA testing.

FLO staff completed an analysis of more than half of all the cultivated orchid species at KFBG using DNA barcodes. The analysis has shown there are important gaps in the collection, and therefore highlights what is needed to protect priority species in Hong Kong and the wider Indo-Burma region as an insurance against extinction in the wild.

DNA was extracted from a Chinese Pangolin of Hong Kong origin. This will help Helen Nash, a member of the IUCN SSC Pangolin Specialist Group, to study pangolin taxonomy at the National University of Singapore in a project which aims to establish a pangolin genetic database for Asia.

DNA was also extracted from 26 animals used in traditional medicine, for genetic identification.



A Black Pond Turtle sample for analysis.

The Genetics Laboratory received another two samples of confiscated Black Pond Turtles (*Geoclemys hamiltonii*) for analysis during the report period. Based on DNA analysis, these two samples had very similar genetic variation to four samples analysed in March 2014, although these six samples came from three different confiscation operations. This indicated that the seized turtles originated from the same source (although the whereabouts of that source is currently unknown). This work was carried out to help provide information that would aid any planned repatriation to India.

Yang Jianhuan of KCC has been undertaking a study on the taxonomy, distribution and conservation status of a group of highly specialised large ground gecko in the genus

Goniurosaurus (commonly known as cave gecko) throughout South China. His study has revealed hidden diversity in China and new-to-science species have been discovered. Work is underway to scientifically describe these geckos, which are under threat from collection for the pet trade, and from habitat destruction for quarry development.



Leptolalax laui, a new frog species described by KCC team and collaborator in 2014. This species had been long recorded in Hong Kong and regarded as another congeners; but molecular and morphological studies revealed that it is actually an undescribed species endemic to Hong Kong and Shenzhen. This new species is named after, Dr. Michael Lau, a Hong Kong herpetologist and KFBG former colleague.

Of particular note was the description of new-to-science species from field surveys conducted by KCC in China. A new freshwater fish from Guangxi was described in July by Bosco Chan and co-workers. The specimens were collected during KFBG's South China rapid biodiversity survey back in 1998. On amphibians, KCC's Yang Jianhuan together with co-workers described a total of four new stream toads, including three in the genus *Leptolalax* and one in the genus *Brachytarsophrys*. All of these new-to-science species live in forested areas with clean water, and the continued preservation of such pristine habitats is vital for their survival.

Scientific publications of KFBG staff and partners for 2014 are listed in **Appendix 3**. Our services were also sought for peer reviews of papers submitted to many scientific journals, including *Kew Bulletin*, *Journal of Threatened Taxa*, *Molecular Phylogenetics & Evolution*, *International Journal of Image and Data Fusion*, *Phytotaxa*, *Biodiversity and Conservation*, *Biological Conservation*, *Botanical Journal of the Linnean Society*, *Journal of Herpetology*, *Journal of Ecology*, *Phytotaxa*, *Journal of Threatened Taxa*, *Taxon*, *Journal of Plant Research*, *Plant Genetic Resources*, and *Nordic Journal of Botany*. We also helped review the draft of a book, *Biodiversity and Biogeographic Patterns in Asia-Pacific Region I: Statistical Methods and Case Studies*.

Holistic Estate Management and Minimal Eco-Footprint

Major security measures were carried out during the report period to protect the flora and fauna in the Farm area. We installed stainless steel wire mesh on the trunks of the remaining wild incense trees (Aquilaria) to protect them from poachers. We improved the chain-link fence along the western boundary of the Main Grant land. We upgraded the security system and installed extra CCTV cameras at the Wild Animal Rescue Centre and its extension.

Installation of self-contained solar floor lights along the footpath leading to the Piggery was completed and its performance is satisfactory. A small shed has been built behind the mule stable to accommodate the compost toilet and unit.

We are on schedule to upsize our bio-charcoal production facilities with a large, state-of-the-art bio-char machine from Australia.



A new sail was set up at the Piggery to increase UV protection.

Land Management Plan

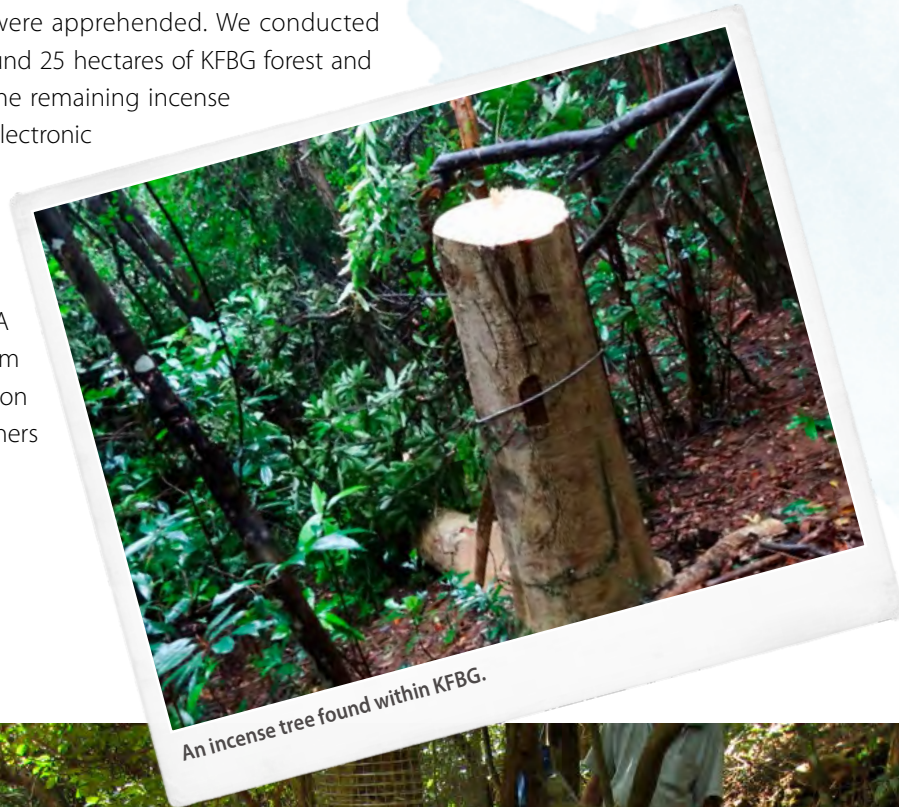
As mentioned earlier in this report we began our long-term project to rejuvenate abandoned orchards into native forest and native tree seed gardens.

The site mapping, using our Global Information System software continued. Using this data we updated the KFBG zoning map, and made land-use change decisions for several areas. KFBG zoning modification maps and an updated KFBG boundary file were created during the first quarter of 2014. We made arrangements for Professor Stephen Blackmore of Edinburgh Botanical Garden to provide consultation on the forest restoration programme.

After surveying the upper boundary of the KFBG site we made plans to install fencing to protect our tree planting experiment area from feral cattle. We also mapped the terraces in the Magnolia Garden and Seed Garden for use in future tree planting and surveying.

Ecological Integrity of the KFBG Estate

In May we discovered that there had been illegal felling of a large number of mature incense trees, *Aquilaria sinensis*, at KFBG and nearby. We reported this to the Police and AFCD and strengthened our own robust security programme. Despite some close pursuits, no criminals were apprehended. We conducted tree mapping surveys on around 25 hectares of KFBG forest and erected steel cages around the remaining incense trees and installed additional electronic and human surveillance. We also began a trial in the last quarter of the year to extract DNA from newly felled *Aquilaria* found on-site. DNA was successfully extracted from wood and bark. This information may help in prosecuting poachers in the future.



Setting up a steel cage to protect an *Aquilaria sinensis*, incense tree from poachers.

A visitor-friendly estate

We are dedicated to caring for our beautiful and unique estate so that it is always a safe and attractive place for our visitors and staff. The **KFBG Tree Management Team** is at the forefront of these efforts, charged with the duty of pruning or removing old or unhealthy trees that may become a safety hazard. In 2014, we carried out 110 tree operations, removing 51 hazardous trees and pruning another 126 trees.



The tree team working on the crown reduction for a Acacia with a cherry picker at Monkey Haven.

We commenced a study examining the effect of trimming exotic plants, and the spontaneous growth of native plants, on naturalised green roofs. The green roof of the Male Public Toilet near the Plaza was beautified with 607 pots of native plants and ferns planted in May, while that of the Female Public Toilet was beautified with 289 pots of native ferns in July. Exotic plants were trimmed to encourage growth of native species.

In December we installed a set of six memorial plaques with a musical score in the Kadoorie Brothers Memorial Pavilion, in memory of the late Lady Muriel Kadoorie.



Staff planting native plants and ferns on the green roof of the Female Public Washroom.

Energy descent at KFBG

KFBG is committed to energy saving and fuel reduction as much as we are able. Our Mule Team help to transport compost to the agricultural terraces of the Upper Farm and remove visitor waste. In 2014, our mules transported 11,244 kg over a total distance of 586 km as calculated using a Garmin GPS satellite navigator unit.

New ceiling-mounted LED panel lights were installed in the Facilities department (FAC) office for a trial. We are satisfied with the performance and we will incorporate them into the design in future renovation work.

FAC has completed the installation of self-contained solar floor lights along the footpath between the FAC office and the Piggery to provide basic illumination for late-working staff. The PV panel of the existing solar power system at the Mountain Lodge toilets was upgraded and realigned to give better sunlight reception.



A sample bio-char machine inspected during an exploratory visit to Victoria, Australia.

Water and resource use

Monthly testing of stream water and waste water are ongoing. A one-off measurement of the fluoride content in the stream water was conducted. The fluoride concentration ranged from 0.20-0.65 mg/litre which is below WHO's guideline of 1.5 mg/litre.

Frequent chipping of wood logs and branches produced during tree maintenance operations produced wood chips for mulching. Wood mulch is very suitable for improving soil properties and significantly enhances plant growth. We are monitoring for any negative effects such as termite infestations or fungal attacks caused by using wood mulch.

In order to recycle the large amount of wood waste that will be generated from the forest rejuvenation project we have identified a large bio-char machine, manufactured in Australia, as suitable for our needs. This will be manufactured to our specifications and installed in fall 2015.

An Evolving Organisation

Strategic goals, key responsibility areas, initiatives and the planned actions that bind the organisation to its shared vision, mission and core values were monitored and discussed in meetings and Forums throughout the year.

We developed and implemented a new equal opportunities policy; presented several stimulating film shows and discussions; held an 'Open Space' session where staff from different departments shared their work and experiences.

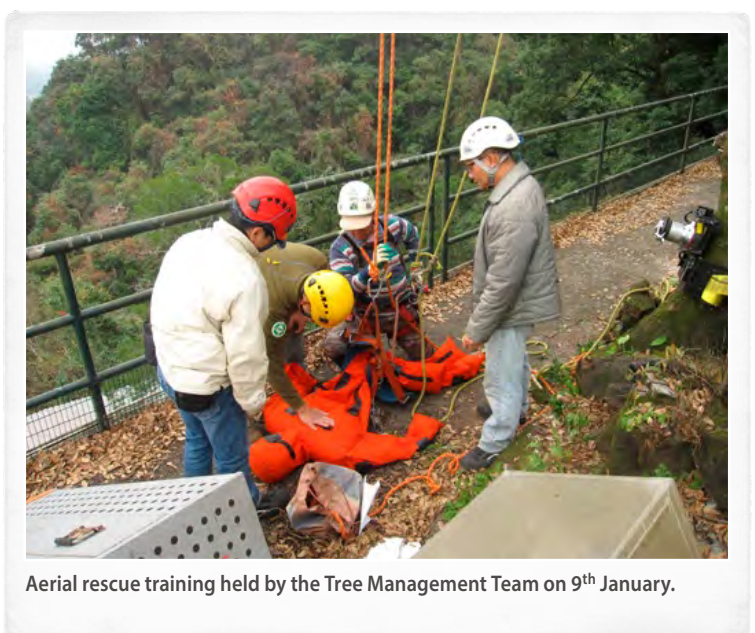
As an indication that the Farm as a whole is flourishing we enjoyed a sizeable increase in the number of visitors over the previous year.

KFBG has a large and dynamic workforce of around 230 people. In 2014 we recruited 33 new members of staff, while 41 existing members left the Farm.

Over the year, the Education Department trained and selected 75 Nature Education volunteers to help with environmental education at KFBG. Training involved a series of experiential activities, a nature walk, mindfulness exercises and evaluation sessions. We are grateful to these volunteers and the many other volunteers in all Departments.

A huge number of internal and external training sessions, refresher courses, talks and workshops were offered to new and existing members of staff. Topics were varied and included tree management, IUCN Red List Assessments, aerial rescue, urban greening in Hong Kong, first aid, video editing, orchid micro-propagation and tree climbing.

Two of our KCC staff attended an Apple-approved training centre at the end of year to improve skills in producing publicity and educational materials.



Aerial rescue training held by the Tree Management Team on 9th January.

Good Governance

We operate in compliance with the regulations of Hong Kong and the People's Republic of China, as well as the Kadoorie Farm and Botanic Garden Ordinance (CAP. 1156), and periodically update our internal policies and actions to ensure compliance and best practice.

To support our new Equal Opportunities policy, an Officer from the Equal Employment Commission (EEC) gave four briefing sessions on **Equal Employment Opportunities** on 6th and 13th October 2014 to all staff members inside the Farm.

The audit for the year ending 31st March 2014 was carried out by auditors in August.

We thank the KFBG Board for their continued selfless support and wise advice.

We thank the Trustees of the New Kadoorie Foundation for their trust and support of the work of KFBG. We also thank our public donors and the Government for their grants and other contributions to our programme.



Staff from FLO, FAU & KCC and others attending an IUCN Red List Assessor Training Workshop in April 2014.

Number of Visitors to KFBG over the Past Five Years

	2010	2011	2012	2013	2014
School groups	42,543	48,430	47,385	49,212	44,611
Commercial groups	19,321	22,283	13,032	9,834	10,347
NGO groups	12,875	19,373	19,154	18,809	16,748
Individuals	55,078	66,281	76,070	79,752	94,964
Total	129,817	156,367	155,641	157,607	166,670

Financial Figures (excluding depreciation)

Expenditure (HK\$)	*Year Ended 31.3.14 (audited)	**Year Ended 31.3.15 (unaudited)
Capital	61,211,687***	19,979,000
Operating	74,626,747	79,455,000
Total	135,838,434	99,434,000

Income (HK\$)	Year Ended 31.3.14 (audited)	Year Ended 31.3.15 (unaudited)
New Kadoorie Foundation	96,500,000	89,000,000
Shop Sales	2,073,896	2,221,538
Government and other funding (see breakdowns below)	13,496,543	28,719,231
Entrance fees	1,346,940	2,653,950
Workshop fees	653,687	1,198,522
Public donations	55,076	54,231

Breakdown 1. Government Funding

Government Funding	Year Ended 31.3.14	Utilised by KFBG to provide	Year Ended 31.3.15	Utilised by KFBG to provide
Tai Po District Council	95,497	Eat Well Workshops	Nil	N/A
AFCD	96,936	N/A	Nil	N/A
Development Bureau (Green Hub)***	12,868,449	Revitalising Old Tai Po Police Station	28,056,642	Revitalising Old Tai Po Police Station
Macau Government	270,000	Snake Seminar, Art Workshops and Community Garden Consultation projects in Macau	228,000	Community Garden Consultation, Bat Book and Natural Education projects in Macau
Total	13,330,882		28,284,642	

Breakdown 2. Other Funding

Other Funding	Year Ended 31.3.14	Utilised by KFBG to provide	Year Ended 31.3.15	Utilised by KFBG to provide
Bank of China Charitable Trust	90,000	Annual Mainland China national youth education project	215,000	Annual Mainland China national youth education project
Critical Ecosystems Partnership Fund	75,661	For providing administration of small grants for conservation projects in China	196,189	For providing administration of small grants for conservation projects in China
Andrew Sabin Family Foundation	Nil	N/A	23,400	For camera traps to carry out a security role on our stream at KFBG
Total	165,661		434,589	

Breakdown 3. Public Donations to our General Conservation Fund and usage

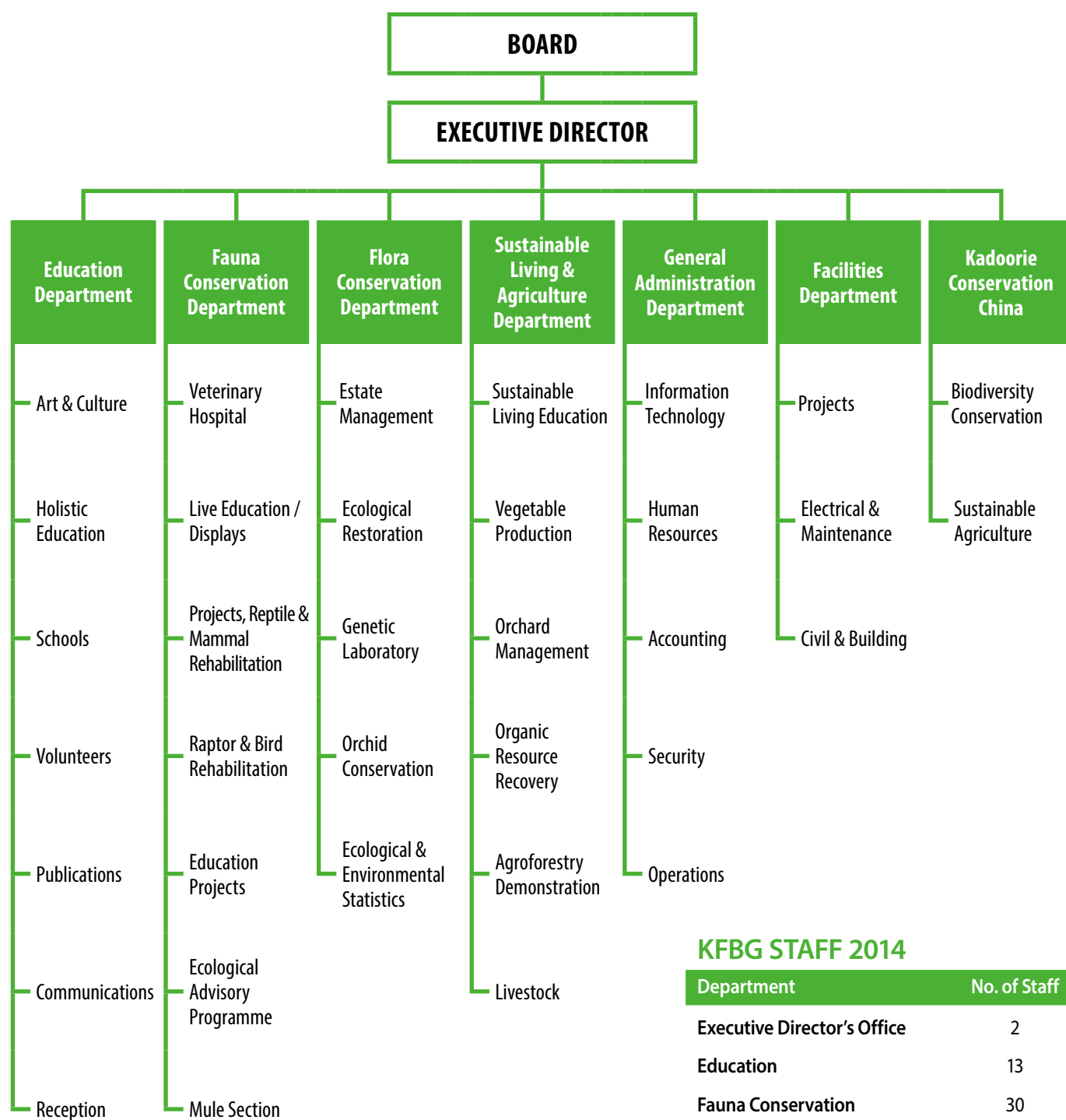
General Conservation Fund	13/14
Utilised funds:	12,215
- Purchase of Raptor cellular with security enclosure	
Public donations in 13/14	55,076
General Conservation Fund	14/15
Utilised funds: (From previous year)	79,000
- Sponsorship for Project: Facilitating reproduction for the last pair of captive refetus in China and searching for wild specimen in Yunnan Province 2014	33,460
- Committed to a long-term gibbon survey at Jiayi Nature Reserve, Hainan	
Public donations in 14/15	54,231

* From Audited Accounts (expenditure includes commitments accrued and not yet settled).

** From Management Accounts (expenditure includes commitments accrued and not yet settled).

*** Includes some of the costs of renovating the Old Tai Po Police Station into the Green Hub.

KFBG Organisation



KFBG STAFF 2014

Department	No. of Staff
Executive Director's Office	2
Education	13
Fauna Conservation	30
Flora Conservation	61
Sustainable Living & Agriculture	46
General Administration	29
Facilities	19
Kadoorie Conservation China	8
Total Number of Staff	208*

Note: *As at 31st December, 2014.

Members of the Board

of the Kadoorie Farm and Botanic Garden Corporation

Andrew McAulay (Chairperson)

Dr Lawrence Lee

Deborah McAulay

Ruy Barretto, S.C.

Daniel R. Bradshaw

Andrew Brandler

Senior Management

of the Kadoorie Farm and Botanic Garden Corporation

Executive Director

Andy Brown

Heads of Department

Education Department

Joshua Chan

Facilities Department

Denis Ng

Fauna Conservation Department

Dr Gary Ades

Flora Conservation Department

Dr Gunter Fischer

General Administration Department

Florence Au

Kadoorie Conservation China

Dr Bosco Chan

Sustainable Living & Agriculture Department

Idy Wong

Appendix 1

The following table lists KFBG activities through 2014 aimed at building capacity in community organisations and partnerships for sustainable living.

Partner Organisation	Date	Programme Title	Location
Yan Oi Tong	15 th Feb and 7 th Mar, 2014	Two One-day staff training on sustainable living	KFBG
Chinese University of Hong Kong (CUHK) Green Buddies	1 st Mar	Half-day orientation of KFBG's sustainable agriculture models	KFBG
HK Theatre Work	March	Training for professional artists and student-artists about sustainable living and agriculture	KFBG
I You She Community Culture Development Centre (Chengdu, China)	7 th April	A half-day workshop on sustainable living	KFBG
St James Settlement	10 th April and 28 th April	Two staff training sessions on sustainable living	
Chinese Ministry of Environmental Protection's (MEP) Center for Environmental Education and Communication	15 th July	One-day <i>Transition to Sustainable Living</i> training course	KFBG
'Bridge to China' Charitable Foundation	11 th Aug	A half-day programme on organic resource recovery	KFBG
A project team from the University of Science and Technology's Department of Environmental Management and Technology and Sustainability Unit	14 th Nov	Farm tour and offering technical advice for establishing an edible landscape (vegetable and orchard) on their campus	KFBG
Kaohsiung First Community University	2 nd Nov	We shared experiences on edible landscape design and community engagement.	KFBG
Beijing Forestry and Park Department of International Cooperation	23 rd Oct	Presentation on application of permaculture design on sustainable living programme management	5 th Beijing Forestry Forum

Appendix 2

Specialist scientific publications from **KFBG staff** and collaborators/project executants for 2014 are listed as follows:

Title	Authors	Journal / Publication
New host record for <i>Tritetrabdella taiwana</i> (Hirudinida: Arhynchobdellida: aemadipsidae) from the Asian Painted Frog <i>Kaloula pulchra</i> (Anura: Microhylidae) in Hong Kong, China, with a taxonomic note on <i>T. taiwana</i> .	Takafumi Nakano, Yik-Hei Sung	<i>Journal of Comparative Parasitology</i> 81(1):125-129
Notes on the butterflies “described” in 1929 by Prof. Woon-Young Chun from Hainan Island, China (Lepidoptera, Papilionoidea)	Song-Yun Lang, Gerardo Lamas, Yik Fui Philip Lo	<i>Zootaxa</i> 3765 (1): 095–097
Natural History Note: <i>Hylarana guentheri</i> .	Jian-Huan Yang , Yik-Hei Sung , Ying-Yong Wang	<i>Herpetological Review</i> 2013 44(4): 655
A community-led fish sanctuary initiative on Hainan Island, China	Bosco P.L. Chan	<i>Newsletter of the IUCN SSC/WI Freshwater Fish Specialist Group</i> 2014 Issue 4: 23-25
<i>Calidris melanotos</i> observed at Dongzhaigang, Hainan.	Lu Gang , Lin Jian, Li Fei , Roger Lee , Chole Ng , Bosco Chan , Sung Yik Hei	<i>Chinese Journal of Zoology</i> 49: 232
Neotypification of <i>Zeuxine agyokuana</i> (Goodyerinae, Orchidoideae, Orchidaceae) with a new synonym.	Tian, H.Z., A. Bhattacharjee, P. Kumar , T.C. Hsu and H.Æ. Pedersen	<i>Annales Botanici Fennici</i> 51: 10–105
<i>Gastrochilus kadooriei</i> (Orchidaceae), a new species from Hong Kong, with notes on allied taxa in section Microphyllae found in the region.	Pankaj Kumar , Stephan W. Gale , Alexander Kocyan, Gunter A. Fischer , Leonid V. Averyanov, Renata Borosova, Avishek Bhattacharjee, Ji-Hong Li , Kuen S. Pang	<i>Phytotaxa</i> 164 (2): 091–103
<i>Bulbophyllum ambrosia</i> .	Stephan W. Gale , Pankaj Kumar , Gunter A. Fischer	<i>Curtis's Botanical Magazine</i> 31 (4): 302–313
Taxonomic notes on <i>Didymoplexiella siamensis</i> and <i>Gastrodia peichatieniana</i> , two fully mycoheterotrophic orchids new to the flora of Hong Kong.	Ai Q. Hu, Stephan W. Gale , Pankaj Kumar , Gunter A. Fischer , Kuen S. Pang.	<i>Annales Botanici Fennici</i> 51: 177–184
<i>Thunia Rchb.f</i> (Orchidaceae): A new generic record for Eastern Ghats in Andhra Pradesh, India.	K.N.Reddy, Srikant Ingalhalikar, Pankaj Kumar , C.S.Reddy.	<i>National Academy of Science Letters</i> 37: 199–201
Studies in Asian <i>Nervilia</i> (Nervilieae, Epidendroideae, Orchidaceae) IV: <i>N. umphangensis</i> , a new species from the Thai–Myanmar border	Stephan W. Gale , Sukid Rueangruea, Somran Suddee	<i>Phytotaxa</i> 166: 139–144.

Title	Authors	Journal / Publication
Flora of Thailand, Volume 12(2) – Orchidaceae 2	Henrik Pedersen, Hubert Kurzweil, Somran Suddee, Ed de Vogel, Phillip Cribb, Sahut Chantanaorrapint, Santi Watthana, Stephan W. Gale , Tosak Seelanan, Chalernpol Suwanphakdee	<i>The Forest Herbarium, Department of National Parks, Wildlife and Plant Conservation, Bangkok</i> . Pp. 303–670
A Guide to Orchids of Hong Kong	Stephan Gale , Abdelhamid Bizid, Liu Kwok Wai, Kinson Chan	<i>Natural History Publications (Borneo), Kota Kinabalu</i> . Pp.1-168.
Morphology, Molecular Genetics, and Bioacoustics Support Two New Sympatric <i>Xenophrys</i> Toads (Amphibia: Anura: Megophryidae) in Southeast China	Ying-Yong Wang, Jian Zhao, Jian-Huan Yang , Zhi-Xin Zhou, Guo-Ling Chen, Yang Liu	<i>PLoS ONE</i> 9(4): e93075.
A new species of <i>Leptolalax</i> (Anura: Megophryidae) from Southern China	Yik-Hei Sung , Jian-Huan Yang , Ying-Yong Wang	<i>Asian Herpetological Research</i> 4(2): 80–90.
<i>Acrossocheilus multistriatus</i> , a new species of barbine fish (Teleostei: Cyprinidae) from the Zhujiang River basin, South China	Zhao-Jun Lan, Bosco P.L. Chan , Jun Zhao	<i>Zoological Systematics</i> , 39(3): 433–441.
Altitudinal range and reproduction of the Hainan endemic tree frog <i>Rhacophorus yinggelingensis</i> Chou, Lau & Chan, 2007	Chang-Le Liao, Bosco P.L. Chan , Yik-Hei Sung , He-Sheng Wang	<i>Herpetozoa</i> 27 (1/2), 91-94.
<i>Cyornis poliogenys</i> and <i>Phylloscopus cantator</i> Discovered in Guangxi	Fei Li , Bo Wang	<i>Chinese Journal of Zoology</i> 49 (5): 706
<i>Bubo nipalensis</i> Found in Nonggang, Guangxi	Yik-Hei Sung , TB Chan, Fei Li , Pak-Ho Wan , YJ Meng, JianHuan Yang	<i>Chinese Journal of Zoology</i> 49 (6): 903
Description of a New Species of the Genus <i>Brachytarsophrys</i> Tian and Hu, 1983 (Amphibia: Anura: Megophryidae) from Southern China Based on Molecular and Morphological Data	Jian Zhao, Jian-Huan Yang , Guo-Ling Chen, Chun-Quan Chen, Ying-Yong Wang	<i>Asian herpetological research</i> 5(3): 150–160



Kadoorie Farm and Botanic Garden

Address: Lam Kam Road, Tai Po, New Territories, Hong Kong

Tel: (852) 2483 7200 Fax: (852) 2488 6702 Email: info@kfbg.org Website: www.kfbg.org

