

Kadoorie Farm & Botanic Garden

ANNUAL REPORT 2019



'TO HARMONISE OUR RELATIONSHIP WITH THE ENVIRONMENT'



Children created natural instruments with the materials and inspiration they found during the guided animal and nature walk. The nature art-making session encouraged them to welcome and make use of everything nature offers



ABOUT THE COVER

The painting we have chosen for this year's annual report cover is of the Centipede orchid, *Thrixspermum centipeda*. This orchid is native to the Indo-Burma Biodiversity Hotspot, including Hong Kong, as well as parts of Malaysia and Indonesia. In Hong Kong, it occurs at low elevation and is almost invariably found clinging to cliffs and shrubs close to the sea shore. Plants bloom in several bouts through the summer, with their bright yellow, fragrant flowers opening for just a few hours at dawn before withering by mid-morning. Because of this, it is one of the most difficult native orchid species to see in flower, and is correspondingly difficult to paint.

ABOUT THE ARTIST

Mark Isaac-Williams is KFBG's botanical artist-in-residence. He first worked at KFBG as a horticulturalist in the 1970s. This gave him a grounding in the science of taxonomy and an appreciation for the beauty of orchids, among other plants. He now applies his eye for detail by carefully transcribing the diversity of our living collections onto paper in watercolour and pencil. Mark's portfolio is curated and maintained in our herbarium, and his work is used by our botanists in reports and papers.

Kadoorie Farm and Botanic Garden
Annual Report 2019

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MISSION, VISION AND VALUES

MISSION To harmonise our relationship with the environment.

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

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.



ABOUT US

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.

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.

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 with a new mission. 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 100 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.

KFBG's three core programmes - Nature Conservation, Holistic Education and Sustainable Living - are constantly evolving as they address different aspects of the challenge to live in harmony with nature. In addition to the many on-site courses, workshops and special events that have been developed for the education and upliftment of visitors, KFBG's activities extend throughout Hong Kong and into South China and other parts of the region.



FOREWORD

In spite of all the challenges, 2019 saw KFBG achieve success on multiple fronts. The Wild Animal Rescue Center received and released its 50,000th patient; the Flora Department discovered 10 plant species not previously known to be present in Hong Kong; and many years of hard work by Kadoorie Conservation China bore fruit in promising increases in Hainan gibbon and Eld's deer populations. At the same time, in the areas of sustainable living and holistic education, new collaborations were formed in both Hong Kong and Guangzhou and powerful transformative workshops held with renowned global teachers.

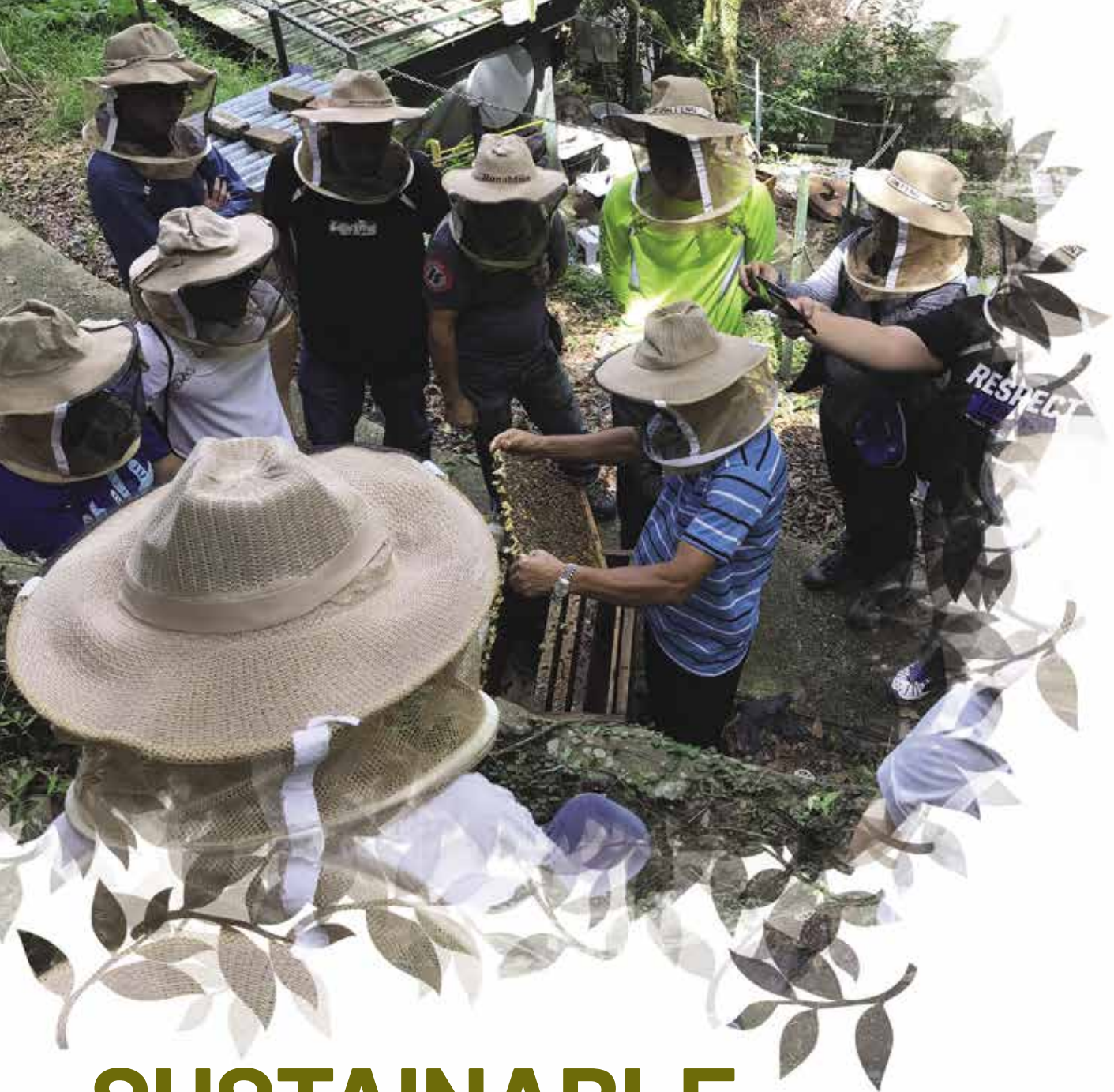
Another milestone in KFBG's development was reached with the ground-breaking ceremony for the Jockey Club Nature Conservation Centre, whilst steps were taken to address our future funding gap by establishing the new Partnerships Department. These are just some of the recent developments in our programmes – and in this time of great uncertainty, KFBG remains committed to serving Hong Kong, Mainland China and the Earth as a whole, to bring about a transformation in humanity's relationship with the rest of nature.

Change is essential for us to survive and thrive and genuine change is often preceded by a crisis; thus we are eager to embrace the opportunities that the current situation presents: to help rebuild our local communities and economies and rediscover the wonders of nature that exist on our doorstep. May we all become aware of the joy of simply being alive and know that all beings are our family. It is with much gratitude to all of KFBG's staff, Board members, partners, friends and other stakeholders, that I write this Foreword to the 2019 annual report.

Andrew McAulay
Chairperson







SUSTAINABLE LIVING AND AGRICULTURE

2019 was a busy year for the Sustainable Living and Agriculture Department (SLA). Apart from continuing the highly anticipated Central Farmer's Market for the 12th year, a number of training courses were held for farmers, farmers-to-be, and the general public. These activities helped increase awareness of our connection with the environment, organic agricultural practices and enjoyment of simple and responsible lifestyles.

PROMOTING SUSTAINABLE AGRICULTURE

Central Farmer's Market

The Central Farmers' Market, held at the Star Ferry Pier every Sunday, continues to attract strong public support for local organic produce. It is also a fair-trade platform for farmers, social enterprises and the public. Despite frequent social events on Sunday since mid-2019, a total of 49 weekly market days were held in the year as an alternative market for the benefits of both the consumers and the producers.



Open workshops featuring crops in season and edible wild plants on farmland were held at the Market in May and June for consumer education and promotion of local production.

In-service Farmers Reskilling

With capacity building and promoting exchange between in-service farmers in mind, three farmers' reskilling workshops were held on 8th August, 3rd October and 5th December. These were attended by 158 people. This year our workshop focused on fruit tree and orchard management aimed to enhance farmers' resilience by increasing crop diversity at their farms.

Sustainable Farming Apprenticeship Scheme

The 6-month scheme was launched in November 2018 to offer a part-time on-job training to people who are interested to become farmers. Six apprentices successfully completed the training - two of them joined us as full-time farmers and others devoted themselves to promoting sustainable agriculture in different ways. In June, the scheme was finetuned and relaunched as a full-time programme. Three apprentices and the two recruited young farmers participated in the new scheme and started a one-year on-job training programme from July 2019.



A public workshop featuring edible wild plant farming was held at the Farmers' Market @ Central

Apprentice farmers learn essentials of agriculture with SLA's Yip Tsz Lam



SLA's Carol Fung delivered a Sustainable Urban Farming Workshop for staff and students of the University of Hong Kong



Participants of the Certificate Course of Sustainable Agriculture held in March

Sustainable Agriculture Certificate Courses

A 36-hour certificate course on sustainable agriculture, co-organised with the Academy for Sustainable Communities of HKU, was held from February to March. The course attracted 18 participants of diverse background ranging from educators, farmers and social workers who were interested to explore integration of sustainable agriculture in their professional fields.

SLA supported the Hong Kong Organic Association to implement a structured Farmers' Training Course by providing seven technical workshops from 26th January to 23rd February featuring sustainable farming principles, soil and crop management, pest control, nursery operation, and planting strategies to diversity crop production in our climatic region. 13 people attended.

Aquaponics Workshop

SLA delivered a two-day Aquaponics Workshop in May, attended by 14 persons. This included a study tour to Aquaponics Ping Che at Sheung Shui to deepen participants' understanding of a commercial aquaponics operation and challenges.



Chinese University of Hong Kong students experienced no-dig farming during the one-day Permaculture Workshop held in November



Participants of the Aquaponics Workshop learnt about the running of an aquaponics operation

Beekeeping Training

SLA delivered a two-day Beekeeping Training Course on 8th and 9th June, attended by 14 people. The course introduced basic knowledge and technique for native bee keeping, which covered nectar source, apiary operation and sustainable practices for honey production. A new beehive display was designed to let participants closely observe bee behavior with minimum disturbance to the animals.

Community Farming

A one-day Permaculture Workshop was organised for the CUHK General Education (GE) Section in November. This drew 20 participants who learnt about principles and design approaches for permaculture and joined a practical session to prepare a no-dig garden.

In collaboration with the General Education Section of the Centre of Development and Resource for Students, and the Sustainability Office of the University of Hong Kong, SLA delivered a Sustainable Urban Farming course to 20 staff and students on 19th January, 16th February and 23rd February. The workshops aimed to enhance participants' capacity to maintain a community farming area that was set up at the campus.

FARMING COURSES AND WORKSHOPS IN 2019

City Farming Training



Month	Programme Nature	Organisers	No. of Participants
23rd March, 20th and 26th April	Introductory Course on Sustainable Agriculture for City Farmers	SLA	21
13th April	Organic Resource Recovery Workshop	SLA	16
27th April and 4th May	Planting Vegetables in Synchrony with the Seasons of the Year	SLA	15
18th August	Mini-farming Workshop	Green Hub/SLA	22
28th September, 12th and 26th October	Introductory Course on Sustainable Agriculture for City Farmers	SLA	14
10th November	Herb Planting Workshop	SLA/Green Hub	22

Demonstration Projects

In the Orchid Valley of Yingjian County, Yunnan, Kadoorie Conservation China (KCC) helped to improve the deep-litter chicken house of a private wildlife sanctuary and eco-farm which we have been supporting. The chicken house is designed to facilitate natural behaviours of chickens.

High-yield vertical beehives designed by KCC for native Hainan honeybee were tested by farmers at Qingsong Township, near our Hainan Gibbon project site. These are a part of the rubber agroforestry systems developed by KCC.

INTERNATIONAL AND LOCAL EXCHANGE

SLA's Yip Tsz Lam participated as one of the speakers in the Food and Farmer Forum titled "In Search of the Local Agricultural Economy, Food Movement and Sustainability" which was organised by the Department of Asian and International Studies of City University on 26th October.

Idy Wong, Head of Sustainable Living and Agriculture, was a key presenter at the International Conference on Ecological Civilization Education & Communication held in Nanjing in August. This event was organised by the PRC Ministry of Ecology and Environment. Idy spoke on 'Food Education and Ecological Civilisation' and joined a roundtable discussion at the conference.



A Mini-farm workshop was held at the Green Hub on 24th March

THE GREEN HUB FOR SUSTAINABLE LIVING

The Green Hub continued to promote sustainable living and operational practices in partnership with government departments and community organisations. New collaborations were established to explore wider replication of the Green Hub's low carbon living programmes within Hong Kong and to the Mainland.



A new thematic dinner programme was trialed at the Eat Well Canteen at Green Hub during summer

PROMOTING SUSTAINABLE LIVING

Number of Visitors

In 2019, 46,211 persons visited the Green Hub, and Outreach Workshops attracted an additional 3,469 persons. A number of programmes and activities were held, increasing participants' awareness of their impact towards current and future generations.

Self-guided Visitors	Heritage Tours	Eat Well Workshops	Courses	Canteen Customers	Co-op Market	Guesthouse (excluding course participants)	Outreach Workshops
35,600	5,783	3,504	1,324	26,502	11,301	353	3,469

Eat Well Programme

The Green Hub extended its regular **Eat Well Workshop** for primary and secondary schools to kindergartens in 2019. A new version of Eat Well Workshop for kindergartens, titled "Food Detective Workshop", has been test running since April 2019. The workshop was relaunched as a regular "Eat Well Workshop" programme for the new academic year in September. A total of 108 workshops were organised in 2019.



Children explored crop in season at the new Food Detective Workshop

Apart from the regular **Eat Well Cookery Courses** for organised groups, a wider variety of thematic cookery programmes were held. These cater to individuals who wish to explore a joyful transition to a diet that is more friendly to people and the environment. For example, a new thematic dinner programme "ExtraBeanary" was trialed in June and July as to arouse awareness of the nutritional and environmental benefits of eating pulses. A total of 45 workshops were organised in 2019.

The **Eat Well Canteen** continues to demonstrate the best sustainable practices to bring food from field to table; and recovering food waste to resource. Five local women were admitted for on-job training through the Canteen's Eat Well Ambassador Scheme in 2019.

Reskilling Workshops and Courses

Apart from supporting the KFBG Education Department's transformative education courses, the Green Hub organised 5 two-day public **residential courses** in 2019 for individuals. With an emphasis on hands-on experience, participants deepened their understanding of our relationship with food system through the themes of edible landscaping, tea culture and agroforestry.

The Green Hub organised over 40 **day courses and workshops** featuring wildlife conservation, organic resource recovery, local food production, community supported agriculture and sustainable living practices in 2019. Examples include the Lion International Youth Exchange Day Camp, Community Soap workshop, environmental education training and heritage interpretation.



In August, we tested a new Green Hub **summer camp programme** designed for children under ten. Following positive feedback, two winter day-camps were successfully held in December.

In collaboration with conservationists from the Fauna Conservation Department, the Green Hub organised **four Summer Night Walks in 2019** for 80 people to appreciate nocturnal wildlife and biodiversity conservation at KFBG. Participants were impressed by the rich biodiversity and treasured this unique experience to deepen their connection with nature. The following is some of the feedback:

'I had no deep interest to wildlife and even dislike moth and frog before attending the Night Walk. The activity transformed my perception about biodiversity in Hong Kong. Now I am really keen to learn more about wildlife and nature conservation.'

'Unforgettable experience.'

'The professional staff and enthusiastic helpers are greatly appreciated.'



Participants of the Summer Night Walk experienced close encounters with nocturnal creatures



Photo credit: Alan Yuen

Community Collaboration

28 days of **open days and co-op markets** were organised in 2019 at the Green Hub. This provided a platform to engage community organisations, eco-friendly producers, folk artists and institutions. The events offered a wide range of activities featuring different aspects of sustainable living.

In February, together with the CUHK Jockey Club Institute of Ageing, an event was held to discuss integrated approaches to conservation. Entitled "Our Everyday. Our Borders", architectural consultants and KFBG staff who led the Green Hub project shared their experiences on designing accessible facilities for senior citizens. They also explored ways to transfer Green Hub's experience to the design of public space in Hong Kong. The event was well attended by retired architectural professionals as well as university students.

In August, the Green Hub, together with CNEX HK, hosted a community screening of the film "Demain" (Tomorrow). This was followed by an introduction of the Green Hub project and a barter activity to facilitate deeper discussion on the Transition Movement in Hong Kong.

Support was provided to Les Beatitudes to organise a travelling exhibition for capacity building of women from low income families in March to December. The Old Tai Po Police Station was featured in the exhibition.

Support was also provided to the Commissioner for Heritage's Office to organise an Instagram Competition to promote heritage conservation in April to June.

The Green Hub delivered a 'train the trainers' workshop to the Hong Kong Girl Guide Association's Smart City Ambassadors in April and supported the trained guiders to organise a public education day at the Zero Carbon Centre in September.

WORKING DEMONSTRATION

In July, in collaboration with the Hong Kong Institute of Architects for the "Co-Vitalise Our Heritage" project, a public engagement event on heritage conservation was organised at the Green Hub to highlight its conservation work.

The Green Hub continues to support institutions using its premises for heritage conservation education. Jointly organised with Antiquities and Monument Office, a workshop featuring integrated heritage conservation was held for 60 CUHK students.

Local and International Exchange

In 2019, special workshops engaging overseas speakers included the 'Awakening Education for Sustainability and Positive Change' workshop by Pracha Hutanuwatr on 10th April, and a Chao Dao Tea Ceremony hosted with tea master Wu De on 25th April. In November, Hide Enomoto, a founder of the Transition Movement in Japan, visited and stayed at the Green Hub.

In January, a one-day training course was jointly organised with the Guangzhou's Association for Advancement of Environmental Education (GAAEE) for a delegation of eighteen educators and school heads from Shenzhen and Guangzhou. The training focused on design of low carbon living programmes and discussed implementing SLA's Zero Carbon Pioneer project in Mainland China.

In June, a special workshop on sustainable operation of a social enterprise was held for 12 conference delegates from the Global Research Forum on Sustainable Production and Consumption 2019.

Idy Wong attended a one-day conference organised by the UNESCO in October in Penang, Malaysia. This event included the Asia-Pacific Awards for Cultural Heritage Conservation for which the Green Hub Project was recognised. She also attended the 7th Asia-Pacific Urban Forum on October, with discussion focused on the UN's Sustainable Development Goals.



HOLISTIC EDUCATION

We welcomed Jhon Kwano and Colin Beard to KFBG again for their enlightening talks and workshops.

Summer camps for children were further developed into 3 different themes - "In Touch with Nature", "Play in the Woods in Summer" and "Let's Create with the Forest".

Popular transformative and art workshops such as "Energy of Nature", "Zentangle in Nature" and "Forest Immersion Walk" were held for the general public. We also invited a local wood-working artist as our artist-in-residence.

NUMBER OF VISITORS TO KFBG OVER THE PAST FIVE YEARS

	2015	2016	2017	2018	2019
School Groups	35,749	34,056	39,815	35,355	28,296
Commercial Groups	7,616	4,004	7,806	6,905	5,453
NGO Groups	8,868	11,474	10,688	12,007	11,563
Individuals/Walk-in	107,786	95,509	82,843	89,914	65,654
Total	160,019	145,043	141,152	144,181	110,966

SCHOOL AND UNIVERSITY – PROGRAMMES AND TALKS

Programme	Total Participants
"Talk to Plants" 1-day / Half-day Programme	952
"Soil and Us" 1-day / Half-day Programme	313
"A Secret World of Wild Animals" 1-day / Half-day Programme	1,656
Natural Wood Workshop for secondary school	61
Woodland Ecology 1-day Field Study Programme	78
"Play in the Woods" Half-day Programme	69
EDB English Programme	167
Guided Tours for Students	2,929, from kindergartens to tertiary institutions
Guided Tours for Visitors	3,034, from non-school groups



DIY with recycled wood cookies in creating unique family nature story in "Play in the Woods" Summer Camp



Campers and counselors reached the summit of Kwun Yum Shan after a morning hike



"In Touch with Nature" Summer Camp - Hiking through upper area forest



"Let's Create with the Forest" Art Camp - Children creating collaborative painting using patterns and colours found in KFBG to celebrate diversity of nature



Summer Camps

Eleven Children's Summer Camps were held throughout July and August, with three different themes - "In Touch with Nature", "Play in the Woods in Summer" and "Let's Create with the Forest". Over 400 participants joined the summer camps. We continued our intern recruitment from Hong Kong universities and these students assisted us in delivering the following programmes:

"In Touch with Nature"- a 5-Day Summer Camp for Children for children ages 6- 8 led by our interns. The programme included a range of activities such as hiking, recycled wood carnival, animal and plant treasure hunt and picnic in nature.

"Play in the Woods in Summer"- 2-day Summer Camp for children aged 3-5 and their parents, included a range of activities such as story sharing, sensory exploration, insect hunt and creating their own nature stories.

"Let's Create with the Forest" Summer Art Camp - The camp introduced children aged 9-11 to a wide variety of activities to deepen their relationship with various aspects of nature, including Soil to Sprout (explore), Sound of the Land (music), Under the Sky (colors and pattern), Move with the Trees (dance) and The Gratitude Mountain (gratitude and appreciation).





Parent and child looking for treasures in nature on insect treasure hunt during "Play in the Woods" Summer Camp

TRANSFORMATIVE WORKSHOPS

"Awakening to Nature – Waking the Mother"

Tribal Messenger Jhon Kwano returned to KFBG to lead various events including the "Simple is Sweet" public talks and a 3-day residential workshop "Awakening to Nature – Waking the Mother". Jhon also shared his messages to younger generations for the first time in Hong Kong through outreach school and university talks.

Breathwork Events 2019

At the beginning of the year, KFBG's Chairperson, Andrew McAulay held a breathwork event, the "Open your Heart to the New Year with Ecstatic Breath" at the Kadoorie Centre of the Hong Kong University to welcome the new year.

In March, Jhon Kwano and KFBG's chairperson, Andrew McAulay held a breathwork event, the "Opening the Heart – A Transformative Breathwork Workshop" at the Maggie's Cancer Centre.

Breathing with Trees, co-facilitated by Dr. Claire Elouard and KFBG's Chairperson, Andrew McAulay was held in April. Participants were guided to explore multiple dimensions of our relationship with the plant world.

Breathwork sessions also took place in September. The Breathwork for Green Hub's Community was led by Andrew McAulay. "Breathing with Tea" began the day with a breathwork ceremony at the Kadoorie Centre, then followed by a tea ceremony in KFBG. Participants experienced some quiet time in the forest to integrate and reflect. The session was co-led by Andrew McAulay and KFBG's Board Member Deborah McAulay.

Energy of Nature 2019

Dr. Claire Elouard once again hosted different levels of Energy of Nature workshops at KFBG and the Green Hub. Over 80 people participated in her workshops, connecting to the energy of trees and nature.

School Programme

The "Soil and Us" 1-day or half-day programme was designed for secondary school students. It guided students through immersive activities and reflection to gain an understanding of the role of soil, and to see first-hand the sustenance soil provided. Students learnt to appreciate their relationships with soils, and to reflect on human impacts on nature.

The "Woodland Ecology" 1-day Field Study Programme targeted senior secondary school students studying Biology, Geology or Environmental Systems and Societies. The programme let students understand the native forest restoration project in KFBG and its significance. They visited the Native Tree Nursery and carried out tree surveys at the Tree Planting Site.

Teacher Training Workshops

We carried out several whole day training workshops for teachers. A whole day teacher workshop was held for teachers from Christian Family Service Centre Cheerland Kindergarten with several objectives: learning about native plants and animals; using natural recycled wood to create teaching materials; and deepening nature connection and insights on how nature education is closely connected to the early years curriculum and development.

Experiential Education Residential Workshop by Prof. Colin Beard

A two-day residential experiential education retreat for university staff, school teachers and trainers was held in January 2019. Prof. Colin Beard, one of the world's leading experts on experiential learning, was the guest speaker. The workshop took place in KFBG and the Green Hub. During the 2 days, Colin showcased different ways in experiential education and led participants to explore new experience mapping and modelling methods.



Visitors participated in the "planting trees" art project through stamping and drawing in the "Tales of Native Trees" programme in the Art House



Visitors were encouraged to reflect on their relationships with trees in their lives, and to "plant" a tree in support of the community



VISITOR EXPERIENCE

Our Sunday Animal Encounter programme is popular with young children and is a marvellous way for them to have a safe close encounter with some of the animals living at KFBG, such as raptors, pythons, mules and native mammals. Visitors also learn about some of the human-caused impacts that have led to wild animals entering captivity at the centre. KFBG's animal keepers and trained Fauna Outreach Volunteers provided 23 Animal Encounter sessions in 2019 for 2,543 walk-in visitors.

Our Discovery Table, run by trained volunteers, displayed confiscated bird, reptile and mammal artifacts to visitors on selected Sundays throughout the year. 3,028 visitors joined this activity which provided the opportunity to touch items like snake skins, and bird feathers generating nature related questions.

Our Animal Keeper Talks allow participants to get up close to some of the animals, such as mules, macaques, raptors and pythons. KFBG's animal keepers delivered 61 insightful and informative interactive talks to a total of 1,431 visitors in prearranged groups.

ARTIST-IN-RESIDENCE WORKSHOP

A local artist **Leung Cheuk-yui** was invited to present the **"Making-of: Wood Stamp from Log"** in the Art House for 3 consecutive weekends in August. The Artist demonstrated wood-cutting and carving techniques; and created four sets of wood stamps of different tree species. Visitors were invited to observe the creation process and create a piece of their own artwork. Eight wood stamp workshops with hands-on activities for participants were also held in November.

The four native tree species used were *Cinnamomum camphora* (Camphor), *Celtis sinensis* (Chinese Hackberry), *Liquidambar formosana* (Formosa Sweet Gum), *Ficus microcarpa* (Chinese Banyan).

NATURAL WOOD WORKSHOPS

Our wood working activities increased this year, with natural wood workshops spread out through the year in March, June and November for the general public. We also worked with schools so students could participate in wood workshops.



Animal Supervisor, Elton Mok, showing a Ball Python to visitors during the Animal Encounters activity

City Nature Challenge

The City Nature Challenge, an international citizen science project to record urban biodiversity, took place in April. Volunteers from the Fauna Conservation and Education departments manned the reception area, while experts from Flora and Fauna Conservation departments helped identify the species. At KFBG, over 680 observations, covering over 300 species were recorded by 61 public observers.



Live Displays

A new exhibit displaying turtle hatchlings was developed at the Amphibian & Reptile House. The species on display include the Giant Asian Pond Turtle and the local Chinese Pond Turtle (also known as the Reeves Turtle).

Sasa, one of the captive female Barking Deer was transferred from the Piers Jacobs Wildlife Sanctuary back to the Parrot Sanctuary as she was being harassed by the other Barking Deer, Didi. Both deer have settled well in to their new living arrangements.

Rosie, one of our oldest Rhesus Macaques, was recently euthanised due to age related complications. Rosie was estimated to be around 29 years old when she passed. She had been part of the macaque troop since 1996.

COMMUNITY PROGRAMMES

Group Tree Planting

522 employees from 17 organisations and commercial companies participated in tree planting at KFBG from May to July. During the activity, participants hiked high up to the tree planting site and planted native tree species, making significant contributions to the reforestation project.

STUDENT INTERNSHIPS

Fauna Conservation Department

Six students were engaged with the Fauna Conservation Department for 6 weeks between June and August. Their projects this year required that they design and implement environmental enrichment techniques to increase the activity levels and physical fitness of our captive animals.

Flora Conservation Department

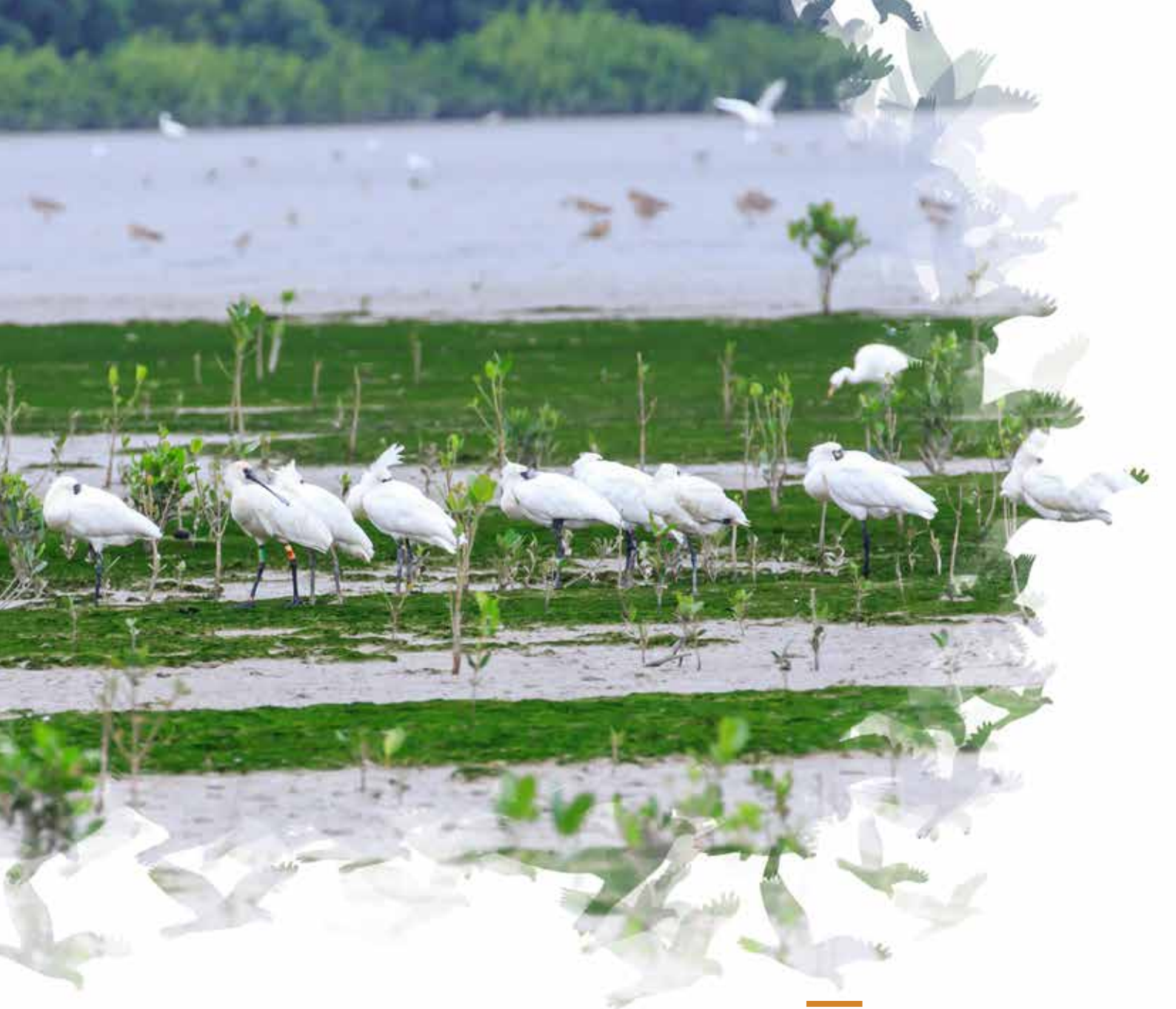
A student in landscape architecture joined Flora Conservation Department for training in nursery management and horticulture from May to June. He spent two weeks with the Orchid Conservation Section.

Kadoorie Conservation China

KCC launched the first conservation internship programme for outreach activities in Yunnan, lasted from late May to early September. Two interns were engaged; both of them being involved in organizing the water bird conservation outreach programme in Yingjiang, and the Northern Chevrotain programme in Xishuangbanna.

Education Department

23 students joined the Education Department internship programme in 2019. The internship period was from June to July during which they were involved with Summer Camp Programmes as camp counsellors, preparing and leading themed camps for different age groups.



Nature Conservation – **FAUNA CONSERVATION**

2019 marked a significant milestone for KFBG as we celebrated the receipt of our 50,000th wild animal in the Wild Animal Rescue Centre. Our conservation work continues with the Golden Coin turtle programme preparing for re-introduction of these rare animals into their natural habitats in future, and the rehabilitation of increasing numbers of animals, including native species and seized exotics from illegal trade.

A Black-faced Spoonbill, rescued and released by KFBG with the leg ring number A40, was spotted in February at Mai Po by our dedicated volunteer Walter Ma. The spoonbill looked healthy and that marked a success of the rescue work

Photo credit: Walter Ma

PARTNERSHIP FOR CONSERVATION

Department of Justice Learns about FAU's Wildlife Crime Enforcement support work

On 25th May, the Fauna Conservation Department (FAU) hosted thirteen judges and judicial officers of the Department of Justice's Judicial Institute. They were introduced to the wildlife crime enforcement support work of the FAU Department. Open sharing took place related to the challenges faced by the judiciary in dealing with wildlife crime cases. The ongoing Covid 19 pandemic has demonstrated how important it is for all countries to tackle the illegal wildlife trade and subsequently reduce or eliminate the chance of zoonotic diseases finding their way from wild animals to humans. The One Health concept is also critical involving the partnership between academics, medical experts and conservation biologists sharing knowledge regarding disease origin and possible vectors of transfer. KFBG's ongoing support and collaboration with the Government's endangered species enforcement teams and with local academics and virologists will contribute toward efforts to stop future pandemics originating as a result of the wildlife trade.

CITES authority visit from China led by AFCD

FAU hosted a visit of 14 China CITES authority representatives on the 27th June. The visit was to understand our collaborative work with the Agricultural, Fisheries and Conservation Department (AFCD) and work with CITES listed fauna, including animals seized from illegal trade by the authorities.

THE 50,000th ANIMAL RECEIVED

On June 14th, a celebration was held to commemorate a significant milestone, the 50,000th wild animal received at the Wild Animal Rescue Centre (WARC) and 25 years of wildlife rescue service. Invited guests included members of the KFBG board of directors, partner representatives of Government Departments, SPCA and past FAU staff members who were instrumental in the early set-up of the WARC. The 50,000th animal received was a native Burmese Python on the 22nd May 2019 from the Tai Po Industrial Estate. A rescued Collared Scops Owl was released by our Chairperson Andrew McAulay to celebrate the occasion.



Burmese Python (*Python bivittatus*) – the 50,000th rescued animal

Photo credit: Tan Kit Sun

Representatives of Government Departments and SPCA were guests at the milestone celebration

WILDLIFE RESCUE

Reptiles

- After a long habituation process, an endangered female Earless monitor lizard, which was transferred from KFBG to the Prague Zoo in Czech Republic in 2017, produced 5 healthy hatchlings in November. The species has only been successfully captive bred by a handful of zoos and is still little known to science. The Bornean lizard was discovered loose on an aircraft at HK International Airport before being passed to KFBG and subsequently rehomed.
- Two Madagascar Big-headed Turtles were sent to the Durrell Wildlife Conservation Trust (DWCT), Jersey, UK in August. The turtles were confiscated by the AFCD in April 2018 and transferred to KFBG for temporary holding. Madagascar Big Headed Turtles are classified as a Critically Endangered Species. The turtles will enter a captive breeding programme with DWCT which runs an in-situ conservation programme in Madagascar as well.
- Twenty-four local Big-Headed Turtles were successfully released in January into closely monitored local streams after isotope testing proved they were of native origin. The turtles were seized at the Shenzhen border, and there is growing concern about the local poaching activities that are removing our endangered species. The release was a collaborative effort with a leading turtle biologist and Assistant Professor of the Lingnan University Science Unit.
- 55 juvenile Radiated Tortoises and 2 Ploughshare Tortoises were received in November. Both species are classified as critically endangered with the Ploughshare endemic to the island of Madagascar. The tortoises, believed to have been wild caught, were found in a passenger's luggage en-route from the Comoros Islands. The trafficker received a 2 year jail sentence for this crime in April 2020.



Moment of hatching of one of the Earless Monitor lizards at the Prague Zoo

Photo credit: Prague Zoo

Birds

- An adult female Crested Serpent Eagle was rescued from a drainage channel in March in nearby Pat Heung. She received a clean bill of health and was released from the KFBG hilltop a few days later. It was also suspected that this female could be one of the resident pair frequently seen and heard in the Lam Tsuen valley.
- A mother Collared Scops owl along with her 3 chicks were removed from an apartment exhaust fan in Wong Tai Sin and transferred to KFBG in July. The mother and her young chicks looked healthy on arrival. The chicks grew well and the family were moved to our woodland 'hack cage' enclosure until the chicks were ready for release.
- A Short eared Owl was found with restricted flight ability in a muddy field in Lut Chau near Mai Po in December. The owl is considered an unusual record for HK and was successfully released close to the rescue point after full recovery.



Short eared Owl originally discovered covered in pond mud



Avocet in improvised body frame to help leg recovery and Shoveler ducks recovering from suspected botulism



Rescued Chestnut Bulbuls prior to release

Waterbirds

- A number of water birds with suspected botulism were received in November and December. This included a Black faced Spoonbill, four Northern Shovelers, a Eurasian Wigeon, a Eurasian Teal and a Pied Avocet. A small number of birds affected by botulism are received annually with many making a full recovery and being returned to the wild.

Notable Records

- A record 11 Chestnut bulbuls were received during the months of November and December. According to local experts there was an unusually high number of Chestnut Bulbuls passing through the territory in 2019.

Glue Trap Casualties

- A total of 44 birds and a small number of native snakes including a Taiwan Kukri snake were received this year, trapped on a variety of glue traps being used to catch rats and other pests. It is thought that the birds may be attracted to the trap's bright colours and perhaps the insects that were accidentally trapped on them became an easy food source. Removal of the animal from the trap and then the cleaning of the glue itself is a delicate process requiring great care. We have advised the public against using such traps, including website and Facebook coverage, and we see this issue as a long-term campaign to eventually ban these cruel products in Hong Kong.

Mammals

- Five wild boar were received in June and July. Only three were suitable for re-release. One young boar was found swimming in the harbour near Quarry Bay. After 6 days of recuperation and evaluation, it was released on the KFBG hillside. The second was a young boar picked up in Aberdeen. The third had fallen from a height after being darted by the AFCD during a wild boar population control exercise and was rescued. Both the second and third boar were released together by staff of the AFCD in Lion Rock Country Park.



Glue-trapped Magpie Robin, demonstrating the cruel mode of action by this device

FAUNA CONSERVATION PROJECTS

Wild Snake Rescue Project

This Project reached its 20-year milestone in July and is the only such rescue and mitigation project in Hong Kong. The project fulfils an important community service, with an ever-increasing number of reptiles received each year. Through collaboration with the Hong Kong Police force and AFCD the project serves the purpose of mitigating the snake and human conflicts, relocating healthy snakes and conserving some of the rarer local snake species.

By the end of 2019, 14,083 reptiles had been received since the establishment of the project of which 88.5% were released back into the wild and 2.5% were rehomed non-native species. In 2019 alone we received 1,405 reptiles, of which 90% were released back to the wild. Throughout the history of the project KFBG has been actively involved in raising awareness of snake conservation and contributing to scientific study through external collaboration projects.

Connected to the snake project, expert staff are registered with the Hospital Authority to be on call by medical staff to help with animal identity in bite patient cases. In 2019 five approaches were handled.

Golden Coin Turtle Conservation Project

34 hatchlings were successfully produced this year, all of which were in stable and healthy condition after hatching. With this encouraging progress, FAU have been preparing for the future release of Golden Coin Turtles. A proposal to undertake a Disease Risk Analysis (DRA) study is currently being finalised in collaboration with Dr. Tony Sainsbury from the Zoological Society of London (ZSL). The DRA is recognised globally as an important pre-release analysis, including the assessing the possibility of accidentally introducing disease to existing wild populations.

Romer's Tree Frog Conservation Project

Monitoring of the Romer's Tree Frog Phase 2 translocation site took place between March-September. This was the first targeted monitoring to take place since 2015 and the results are pivotal in determining whether the translocations in 2014 and 2015 have been successful. Romer's Tree Frog was heard calling next to one of the ponds on 2nd May 2019, with further calls recorded in late May. Through continued and long-term habitat maintenance we hope to see successful breeding in the coming years.



Himalayan Leaf-nosed bats observed during a monitoring visit

Lam Tsuen Community Bat Project

This long-term project is a model for local conflict resolution involving wild animals. Ten site visits took place in 2019, during which a total of 256.7kg of bat guano plus substrate was collected, with a maximum of 196 bats counted in June. Through collaboration with SLA the guano is composted at KFBG and sold as potting soil at the Farm Shop, with an educational message about its origin and bat conservation. Moving forward, we will strive to continue to foster a good relationship with the villagers to safeguard the bat colony and raise awareness of the many benefits bats bring to us.

Environmental Enhancement

On 31st May Fauna staff hosted AFCD on a monitoring visit of our artificial bat roosts in the lower farm area. Japanese Pipistrelle *Pipistrellus abramus* were found roosting in five of the roosts, two of which had baby bats present. The roosting features were installed as part of our Environmental Enhancement Project. This project recognises the ecological importance of KFBG and investigates ways to mitigate man-made structures and enhance the ecology.

FAUNA SCIENCE

A genetic survey was conducted by the FLO Conservation Genetics Laboratory for small-sized shark fins sold in bulk in Hong Kong. Preliminary genetic analyses indicated a large number of species, including those protected under CITES were found in the sample. In addition, many fins found were juveniles, which raised a serious concern that population of endangered species are highly threatened.

RAISING AWARENESS FOR CONSERVATION

In July, Huarong Zhang of FLO gave a presentation on DNA Forensics of confiscated pangolin scales at the International Congress for Conservation Biology meeting in Malaysia.


In October, KCC organised a series of events to celebrate the International Gibbon Day, including "The Forgotten Apes" exhibition at the Plaza, 2 paper-mache workshops at Green Hub, and a documentary screening of "Cao Vit Gibbon's Ark" at HKU co-organised with the University's Sustainability Office and Lung Fu Shan Environmental Education Centre. Bosco Chan and the film's director Ding Quan shared their experiences on gibbon conservation to about 150 attendees.

KFBG donated its ant collection to the new Natural History Museum in the School of Biological Sciences at HKU. This collection, which includes ants collected from both Hong Kong and Mainland China, will provide a valuable opportunity for scholars and students to readily access and learn from the specimens.

On 12th to 16th August, 4 visitors including 2 from Chinese Felid Conservation Alliance (CFCA) and 2 from a Shanxi local NGO received a 5-day on-site training from the FAU and SLA teams. They are supporting local needs in Shanxi to build a wildlife rescue and rehabilitation centre. The trainees were interested to learn about the rescue operations and facility design.


STATISTICS

Total number of animals received, released or rehomed through the rescue programme during the period 1994 to 31st December 2019



	Received	Released	Rehomed
Birds	8,425	3,444 (41%)	71 (1%)
Mammals	1,173	412 (35%)	86 (7%)
Reptiles	27,812	1,325 (5%)	10,129 (37%)
Stray Snakes	14,083	12,456 (88%)	345 (2%)
Amphibians	634	19 (3%)	9 (2%)
Grand Total	52,127	17,656 (34%)	10,640 (20%)

Total collection figures for the period 1st January to 31st December 2019



	Total in collection 1st Jan	Received/ Captive Bred	Released/ Relocated	Died/ Euthanised	Total in collection 31st Dec
Birds	107	1,429	525	887	124
Mammals	102	92	48	62	84
Reptiles	978	304	146	314	822
Stray Snakes	0	1,405	1,302	103	0
Amphibians	3	73	0	76	0
Fish	226	100	1	255	70
Total	1,416	3,403	2,022	1,697	1,100

*includes animals that are part of our permanent collection



Nature Conservation – **FLORA CONSERVATION**

Our botanists discovered at least ten plant species not previously known in the flora Hong Kong, including a relic population of the mighty Chinese swamp cypress. Our research continues to shed light on the ecology of native plants and the complex process of forest regeneration. By marrying horticulture and science, we are not just learning about plant community assembly, we are actively engaged in rewilding. Efforts to confront the illegal wildlife trade and to restore plant populations in Hong Kong, South China and neighbouring countries continue.

CONSERVING RARE PLANTS IN THE WILD

We seek to conserve threatened plants in their natural habitats wherever possible. This involves conducting botanical surveys and collecting plant specimens to establish which plants occur naturally at project sites and, by then making similar observations elsewhere, to infer which species are rare and in need of protection. We then research the ecology of those species found to be most at risk of extinction, so that we can devise and implement action plans for them.



A flower and leaf of *Camellia semiserrata*, a tree newly discovered in Hong Kong in 2019

Exciting plant discoveries

During the course of routine botanical surveys conducted in 2019, our botanists documented at least ten plant species in Hong Kong that were not previously known to occur here. These new records include the showy tree *Camellia semiserrata* and the handsome shrub *Buxus megistophylla*. Several individuals of the oak *Lithocarpus glaucus* were also confirmed, bringing hope for the conservation of this rare tree, which was only described in 2004 and is known from just five locations in Guangdong and Guangxi Provinces. We welcomed the enthusiastic input of eagle-eyed citizen scientists in helping us locate populations of the ferns *Metathelypteris adscendens* and *Leptochilus decurrens*, the daisy *Blumea aromatica*, and the impressive climber *Amydrium hainanense*.



The attractive foliage of *Amydrium hainanense*, a climber newly record in Hong Kong

A small, naturally regenerating stand of the mighty Chinese swamp cypress, *Glyptostrobus pensilis*, was discovered by chance at Fanling Golf Club in February. This prehistoric survivor was once widespread in swamps and on floodplains throughout South China, Vietnam and Laos, but sadly it has declined due to logging and land use change. The species was almost certainly present in Hong Kong prior to human impact, and so these trees could represent the last remaining local individuals. Our botanists are now conducting a study to confirm this hypothesis.

Surveys help build an inventory of the entire flora of Hong Kong by enriching our scientific collections. Over 150 plant specimens were deposited in our herbarium in 2019 and the scientific names for a further 11,659 herbarium records were standardised in our database. Curation of Mark Isaac-Williams' complete archive of artwork produced during his ongoing botanical artist-in-residence consultancy at KFBG was completed in November. So far, Mark has produced 243 watercolour plates, serving as a permanent, botanically accurate reference of our living collection of plants, primarily orchids.



Mark Isaac-Williams' watercolour plate of *Paphiopedilum callosum*, a slipper orchid native to the Indo-Burma region



The conch-like inflorescence of *Amydrium hainanense*

Intriguing ecological insights

An investigation of the pollination biology of two native woody climbers in the legume genus *Mucuna* was completed in 2019. The curious flowers and dangling beans of *M. birdwoodiana* and *M. championii* are commonly seen in the canopy of forests across Hong Kong, but little was known about how they reproduce. Camera trapping of individuals growing wild in KFBG and at a site in Sai Kung provided exciting glimpses into an unusual plant-mammal interaction. Civet cats and squirrels were caught feeding on the flowers of *M. birdwoodiana*, and fruit bats and chestnut spiny rats were seen visiting flowers of *M. championii*. These lianas are clearly an important food source for native mammals, with their network of spreading stems providing a crucial highway through the treetops for these animals. This was a collaborative project between researchers at the University of the Ryukyus and KFBG.

Rewarding plant reintroductions

KFBG's long-running project on the reintroduction of the threatened orchid *Phalaenopsis pulcherrima* in Bawangling National Nature Reserve, Hainan, China, was successfully concluded in late 2019. More than 1,700 nursery-raised seedlings were planted out at three secret locations in 2017 and 2018, and these plants were monitored by nature reserve wardens over the ensuing months. Flora Conservation staff made their final visit to the newly established populations in July to assess overall performance, with around 800 seedlings confirmed to be surviving after two years; 45 of these flowered last year and one plant set fruit. These figures compare favourably to those reported for other orchid reintroduction studies conducted worldwide. A completion workshop was held in Haikou in late November. This was attended by more than 50 participants representing the Hainan Wildlife Conservation Bureau (HWCB), 18 nature reserves throughout the province and Hainan University, as well as an invited speaker from South China Botanical Garden.

After several years of ongoing propagation, the first plants of the protected *Begonia hongkongensis* were planted out at various locations in KFBG. In the long run, we hope to establish new populations of other locally rare and endangered plant species within KFBG. The knowledge gained will help us to facilitate reintroductions of such species on a larger scale in Hong Kong's countryside. The task is a huge one because a large proportion of Hong Kong's plants have restricted and very small populations, of which many are in need of urgent conservation action.

Deepening roots in Indo-Burma

KFBG's Memorandum of Agreement (MOA) with the Lao Ministry of Science and Technology to undertake plant surveys and provide capacity building in horticulture and conservation was renewed in February.



This new three-year MOA will build on our previous collaborative programme in the country, which saw the establishment of a permanent ex-situ plant conservation facility, the training of over 20 local government staff and field surveys in 12 of the country's 17 provinces. Our long-term aim is to assist in ensuring robust measures are put in place to better protect the plant diversity of Laos and the wider Indo-Burma region.



An individual of the vine *Mucuna birdwoodiana* flowering copiously in Sai Kung



A reintroduced nursery-raised seedling of *Phalaeopsis pulcherrima* flowering for the first time in Bawangling National Nature Reserve

A group photo of some of the participants of the Completion Workshop held in Haikou



Second phase MOA between KFBG and the Lao Ministry of Science and Technology was signed by Andy Brown and Dr. Souroudong Sundara in Vientiane in February

CULTIVATING NATIVE DIVERSITY ON OUR HILLSIDE

Ecologically informed horticulture underpins our ambition to transform the gardens and natural areas of KFBG's hillside into features of outstanding conservation value. We focus our attention on native species and invest in the development of nursery facilities for the propagation of rare plants. All of the plants that we establish in our nurseries or plant out into our gardens and nature reserve are databased and of known provenance.

Increasingly comprehensive collections

Our field staff collect propagules (such as seeds, cuttings or wildings) from the wild under permission from the government of Hong Kong SAR, and these are grown on in our nurseries. Last year saw the addition of over 15,000 accessions representing 220 species to our collections, including trees, shrubs, climbers, ferns and other herbaceous plants. Many of these species are noteworthy from a conservation perspective, such as the rare trees *Ixonanthes reticulata*, *Manglietia fordiana* and *Michelia maudiae*. This stock is now being carefully nurtured to provide plants to enrich our public displays and native woodland.



Orchids maintained in our nurseries are hand-pollinated to produce seed capsules for micropropagation. During 2019, over 8,500 orchid seedlings representing almost 100 species were produced for education, research and conservation purposes.

Rare plants repatriated

In August 2017, we learned of an individual of the rare conifer *Amentotaxus argotaenia* in cultivation at the Royal Botanic Garden Edinburgh (RBGE). This majestic tree occurs naturally only in South and Central China and northern Laos and Vietnam, but it is a slow-growing species that has declined due to deforestation and felling for furniture and tool making. The specimen in Edinburgh had apparently been collected from Tai Mo Shan in 1976. To maximise the gene pool in its native range, a plan was devised to repatriate offspring. A request was made to the collections manager in Edinburgh and, in November last year, we received 40 rooted cuttings. These are now being taken care of in our mist house to encourage root and shoot growth.

RBGE also kindly provided eight cuttings of the very rare climber *Aristolochia westlandii*, a spectacular Birthwort native to Hong Kong that has been grown in their collection since 1969. Regarded as Critically Endangered in the wild, we hope to use horticulture and reintroduction for its recovery.

Molecular insights into forest recovery

Human-caused forest destruction and fragmentation have severe effects on the genetic make-up of tree populations. However, it remains largely unknown whether such genetic erosion is reversible. Findings of a genetic survey of the oak *Quercus bambusifolia*, an important canopy tree in Hong Kong, indicated that wind-pollinated species such as this can maintain some genetic exchange between individuals by pollen flow, but that a lack of acorn-dispersing animals (such as large squirrels) can cause long-lasting negative impacts on the health of remaining populations. Our results show that, even after 70 years of natural regeneration, some populations cannot recuperate healthy levels of genetic diversity, making them vulnerable to pathogenic attack and climatic extremes. Only by enriching genetic diversity through forest restoration projects will it be possible to overcome the legacy of historic forest destruction.



The extraordinary flowers of the extremely rare vine *Aristolochia westlandii*

CONFRONTING THE WILDLIFE TRADE

Challenging the woeful status quo that sees millions of individuals of threatened plants and animals traded internationally for commercial gain remains one of our top priorities. In the Indo-Burma region, species are traded as pets or ornamental plants, for food or purported medicinal value, and for other cultural uses. For some species, poaching and trade represent the single greatest threat to their survival.

What do sharks, pangolins, orchids and incense trees have in common?

Agarwood is the fragrant balm extracted from incense trees (*Aquilaria sinensis*) that have been infected by a particular strain of fungus. It is used to make incense and joss sticks for religious and therapeutic purposes. Demand for the increasingly rare trees in China has caused a rash of poaching in Hong Kong. To help understand the potential of our populations to recover, a PhD student co-supervised at KFBG has collected samples from

more than 700 individuals scattered across Hong Kong. DNA analysis is ongoing. Data on tree size and distribution are being cross-referenced with CITES and customs seizures records to monitor trade and understand drivers of illegal felling.

A landmark KFBG analysis of the diversity, volume and value of wild collected orchids being traded for horticulture across South China was published in the journal *Biological Conservation* in August. More than 1.2 million individuals belonging to up to 440 different species were documented in one year at five market sites in Hong Kong and Yunnan, Guangxi and Guangdong Provinces.

This trade is estimated to be worth more than US\$14.6 million annually. The article puts forward recommendations for how this extremely deleterious trade can be curtailed.

In our ongoing monitoring of the international shark fin trade, in 2019 we focused on small-sized fins sold in Hong Kong's seafood markets. DNA testing suggests that a significant proportion of these small fins are sourced from juvenile individuals of CITES-listed species. We contributed to an article published in the journal *Animal Conservation* that profiles the small-sized shark fin trade so as to highlight the need for enhanced enforcement and greater trade regulation.

We are also applying DNA forensic techniques to track the illegal pangolin trade. Pangolin scales seized by the authorities in Hong Kong are analysed in our Conservation Genetics Laboratory to identify particular species and poaching hotspots in Africa.

We use this data to inform the development of law enforcement and conservation measures for better protection of pangolins in the wild.



Hundreds of individuals of wild-collected orchids on sale in Hong Kong's Mong Kok Flower Market



Sample scales from the four African pangolin species seized by Hong Kong customs



KCC teamed up with Yunnan Tongbiguan Nature Reserve to conduct the first focused survey for the highly threatened River Tern in China

Nature Conservation – **CONSERVATION IN CHINA AND OVERSEAS**

Kadoorie Conservation China (KCC) successfully convened the 14th International Otter Congress with IUCN and mainland partners in April. Our continuing conservation effort has contributed to significant population recovery of Hainan Gibbon, Hainan Eld's Deer and River Tern in China. The newly established Khmer forest patrol team at our Eastern Cambodia project site has been combating illegal logging and poaching to protect the megafauna of this threatened forest.



The concerted efforts by KCC and local partners successfully helped double the tiny population of River Tern from 7 to 13 individuals in China

PARTNERSHIPS

Dr. Bosco Chan of KCC elected as Chair of ATBC Asia-Pacific Chapter

Dr. Bosco Chan of Kadoorie Conservation China (KCC) was elected as the Chair of the Asia-Pacific Chapter for the Association for Tropical Biology and Conservation (ATBC) in September 2019. He will lead the Chapter Board as well as members to foster the scientific understanding and conservation of tropical ecosystems in the region.

Critical Ecosystem Partnership Fund

Critical Ecosystem Partnership Fund (CEPF) is a joint programme of many international donors to empower civil society to protect the world's biodiversity hotspots. As part of the Regional Implementation Team for the Indo-Burma Regional Program, KCC had been overseeing and supporting the small grants in China since 2015. With the programme coming to an end in November, KCC supported the Final Assessment Workshop held in Siem Reap in May and invited two NFGA senior officials to attend.

Contribution to IUCN

The KCC team has been working with IUCN for years to provide input in conservation strategies of different fauna groups of the region. At the invitation of the IUCN/SSC Butterfly Specialist Group, Philip Lo contributed to Red List assessments for 13 species of Indomalayan swallowtail butterflies. Yang Jianhuan, as one of the 34 experts, took part in the IUCN Red List Assessment Workshop on Chinese Amphibians held in Chengdu in June. Population status of about 470 amphibian species in China had been updated in the workshop. Dr. Bosco Chan was commissioned by the IUCN/SSC Primate Specialist Group Small Apes Section to coordinate and draft the conservation action plan for all Chinese gibbon species.

KFBG Helps in Xishan Forest Development

We have been invited by the National Forest and Grassland Administration (NFGA) to assist in the development of the Beijing Xishan Experimental Forest Farm, one of China's United Nations Forest Instrument demonstration sites. Andy Brown, Executive Director and Dr. Bosco Chan, Chief Representative of KFBG Beijing Office and Head of KCC, visited NFGA offices and Xishan in early September and met Senior NFGA, Beijing Forestry and Parks Department, and Xishan Farm officials. Xishan is one of Beijing's most important forest parks, receiving over two million visitors per year, and is ten times the size of KFBG. We will provide zoological, botanical, forest restoration and nature education advice in the long-term.

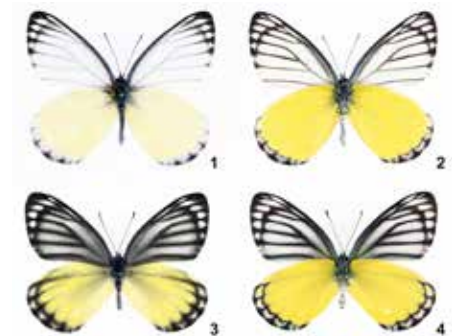
DISCOVERY OF NEW TAXA

A new-to-science frog species from Gaoligongshan, Yunnan called 'Tengchong Lazy Toad *Scutiger tengchongensis*', was discovered and formally described by Yang Jianhuan of KCC.



Tengchong Lazy Toad (*Scutiger tengchongensis*), a new frog species discovered and described by KCC from Yunnan Gaoligongshan

Philip Lo of KCC described a new subspecies of butterfly, *Delias agostina sushii*, from Hainan. The name is derived from Su Shi (Su Dongpo) of the Song Dynasty.



Delias agostina sushii, a new butterfly subspecies described by Philip Lo of KCC from Hainan



ANIMAL CONSERVATION PROJECTS

Otters

In early 2019, KCC invited 7 wardens from 3 partner reserves – Yunnan Gaoligongshan National Nature Reserve, Hainan Exianling Nature Reserve, Sichuan Tangjiahe National Nature Reserve to take part in an otter survey in Chuanshan Islands, Guangdong Province as field training on otter survey techniques.

KCC successfully convened the 14th International Otter Congress with the IUCN/SSC Otter Specialist Group (OSG) and Sichuan Tangjiahe National Nature Reserve in April. A total of 132 delegates from 29 countries/regions participated. The event was highly praised by delegates and the Management Team of the OSG. It was acknowledged that the challenge, skill and work involved in running such events in a remote nature reserve was huge.

KCC conducted an otter survey in Chuanshan Islands, Guangdong Province from 22nd to 25th January



The 14th International Otter Congress attracted 132 delegates from 29 countries/regions. It was held from 8th to 13th April in Sichuan Tangjiahe National Nature Reserve with the theme "Ensuring the future of otters"

Eld's Deer

KCC organised a population survey for Hainan Eld's deer in Hainan Bangxi Provincial Nature Reserve. Staff from four other nature reserves were also engaged for capacity building and networking. The deer population has doubled in three years since the start of our project; impacts of our conservation measures are significant.

With the aim to expand Eld's deer habitat on Hainan Island, KCC proposed to the Forestry Department of Hainan Province a plan to enhance the wild and semi-wild habitats in Hainan Houmiling Provincial Nature Reserve. The proposal was adopted and funding was provided to the nature reserve for implementation.

KCC also designed and constructed additional waterholes and wallows at Hainan Bangxi Nature Reserve to help wildlife cope with drought and allow expression of their natural behaviours in this arid region of the island.

KCC organised an exposure trip to eastern China for seven key forestry officials from Hainan in September. The group visited Zhejiang Qingliangfeng Sika Deer National Nature Reserve, Jiangsu Dafeng Milu National Nature Reserve and Yancheng Wetland National Nature Reserve to learn and exchange about deer conservation and habitat management.

A genomic study was initiated by KCC with technical support of FLO on the phylogenetics of the Siamese Eld's deer (*Rucervus eldii siamensis*) in China, Cambodia and Laos. Preliminary result indicated that the Hainan population is genetically distinctive and should be given a new taxonomic status.



Dr. Michelle Wong of KCC training the reserve staff to conduct a population survey for Hainan Eld's Deer in Hainan Bangxi Provincial Nature Reserve

Hainan Gibbon

KCC and Hainan Bawangling National Nature Reserve co-organised the annual Hainan Gibbon population survey in late October. Seven wardens from three nature reserves in Hainan and Yunnan were invited to take part in field training on gibbon monitoring skills.



An exciting news came from Bawangling soon after the survey, when the fifth family group of Hainan Gibbon was confirmed by our community wardens in November. This discovery represents the largest family group number known in recent history and is a milestone for the conservation of this critically endangered primate.



A female Hainan Gibbon and her 5-month-old infant were observed by the KCC team during the annual Hainan Gibbon population survey in October



Gaoligong Gibbon

In November, KCC and Yunnan Gaoligongshan National Nature Reserve and forestry station of Houqiao Township co-organised the first comprehensive Gaoligong Gibbon population survey in Houqiao community forest. The survey identified at least 5 family groups, providing the first scientific gibbon population estimate for this remote forest adjoining Myanmar.

Dr. Bosco Chan and Yang Jianhuan of KCC delivering a training on gibbon ecology and survey method prior to the Gaoligong Gibbon population survey at Houqiao community forest, Tengchong County, Yunnan Province

River Tern

In March, KCC and Yunnan Tongbiguan Nature Reserve jointly organised the first systematic field survey for the highly threatened River Tern in China. A survey team of 30 members searched all potential habitats in Dehong County, and 7 individuals and 3 nests were found. To safeguard these nests, KCC employed 3 local villagers as nest guardians. One nest was protected by fences. Education materials such as billboards, posters and pamphlets were distributed in villages close to the River Tern habitats.

The KCC team monitored the tiny River Tern population between April and August, and found that the population had increased from 7 to 13 birds as a result of the concerted conservation actions by KCC together with local partners. A formal scientific paper was drafted and accepted for publication soon.



KCC organised 2 funfairs in Yingjiang, Yunnan Province to promote River Tern and other waterbird conservation. More than 450 children participated

Immature River Terns born in Yunnan Yingjiang in 2019

CAMBODIA PROJECTS

Habitat Enhancement

In April, KCC constructed 16 artificial bird perches at an irrigation reservoir at our project site in eastern plain landscape of Kratie Province, which is home to large waterbirds like Grey-headed Fish-eagle, Woolly-necked Stork, Oriental Darter and Asian Openbill.

The Khmer Patrol Team

With funding and training from KCC, our project partner recruited two local conservation officers in June to lead a community forest patrol team and implement KCC's conservation actions in the project site. The four community rangers are local villagers.

Since June, the team performed daily patrols to curb illegal logging and hunting activities. As of December, over 160 illegal loggers or poachers were intercepted and expelled by the team, in addition over 17 camps, 250 snares and other trapping tools were found and destroyed.



KCC established a Cambodian forest patrol team composed of two young Khmer conservationists and four community rangers at our project site to tackle the rampant illegal logging and hunting activities

	Illegal loggers	Camps	Snares	electro-traps	Fishing nets	Mist nets
Jun to Aug	86	17	99	0	0	0
Sep to Dec	76	0	160	200 meter	20	30

Wildlife Rescue and Law Enforcement

In October, KCC facilitated the transfer of four globally threatened Asian Woollyneck rescued by our project partner to Phnom Tamao Wildlife Rescue Centre (PTWRC), the largest wildlife rescue centre in Cambodia. These birds were chicks when rescued from a wildlife trader in 2018.

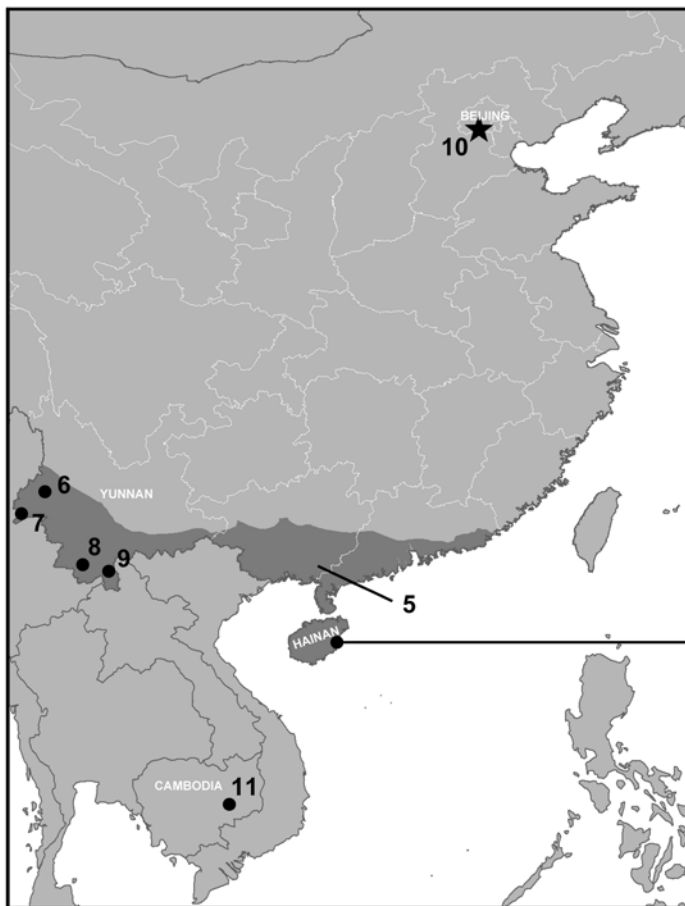
In November, the KCC team and project partner met with the Deputy Director General of Forestry Administration, Ministry of Agriculture, Forestry and Fisheries, Kingdom of Cambodia to discuss collaboration on law enforcement at the project site.

In December, a group of eight government officials from the Cambodian Forestry Administration, including Deputy Director General Mr. Sie Ra, visited the project site. They showed great interest in our conservation work and were willing to help tackle forest crimes at the site and beyond.



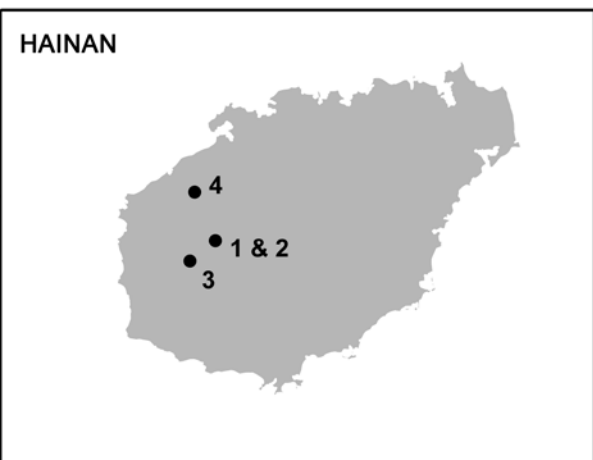
KCC facilitated the transfer of four globally Vulnerable Asian Woollyneck rescued by our Cambodia project partner to Phnom Tamao Wildlife Rescue Centre for rehabilitation

KCC PROJECT SITES



1. Hainan Gibbon Conservation
2. Sustainable Agriculture Promotion
3. Exianling NR Biodiversity Conservation
4. Hainan Eld's Deer Conservation
5. Critical Ecosystem Partnership Fund (shaded area)
6. Gaoligongshan NNR Biodiversity Conservation
7. Tongbiguan NR Biodiversity Conservation
8. Gaur Conservation in Xishuangbanna
9. Chevrotain Conservation in Xishuangbanna
10. Xishan Experimental Forest Farm of Beijing
11. Cambodia Biodiversity Conservation

★ Beijing Representative Office





Old Hakka-style houses in
Pak Sha O, Sai Kung

Nature Conservation - **GIVING ADVICE TO PROTECT LOCAL ECOLOGY**



In 2019, the Ecological Advisory Programme (EAP) made submissions for more than 150 planning applications, five Project Profiles and one Environmental Impact Assessment. Three technical reports regarding the local conservation status of 22 native fish species were also produced and published; nine of these species are considered to be Endangered/ Critically Endangered, based on assessments following the IUCN Red List Categories and Criteria.

Numerous site visits were conducted across the SAR to investigate ecological destruction cases, to gather ecological information for submissions and for general or routine checking of sites of ecological concern. Suspected unauthorised ecological destruction cases at many sites were reported to the relevant authorities. We also attended many meetings with various Government departments with regard to some high-profile conservation issues and policies. Some highlights are briefly described below.

The Hong Kong Government proposed in the 2017 Policy Address to improve several remote piers in the New Territories. Many of these piers, however, are within ecologically sensitive areas (e.g., Marine Park). EAP was invited to attend some consultation meetings for these projects in 2019. We met with the Civil Engineering and Development Department (CEDD) several times; they finally agreed to reduce the scale of some of the proposals and amend the location of at least one proposed pier, in order to reduce the potential ecological and visual impacts.

Lok Ma Chau Loop will be developed into an 'Innovation and Technology Park' and thus the extensive reedbed inside would be affected. This reedbed has been considered to provide important habitats for the Eurasian Otter, which is a species of high conservation importance in Hong Kong. EAP and some other local environmental NGOs have been actively engaged in providing comments on the Ecological Area (EA) of this project. In addition, EAP also linked up a Ph.D. student from The University of Hong Kong (who studied Eurasian Otter in Hong Kong) with the authorities, in order to fine-tune the design of the EA. Finally, some key designs within the EA were improved based on our comments. We hope that this would increase the chance of survival of the Eurasian Otter in Hong Kong.

In November 2019, a trip to the river restoration sites in Singapore was organised by the CEDD and the Drainage Services Department (DSD). In the meantime, EAP was also organising a duty visit to Singapore (also for river restoration and associated infrastructures), and thus we joined the trip organised by the above Government departments. We had a meeting with the Public Utility Bureau of the Singapore Government at their most successful river restoration site – Bishan Ang Mo Kio Park. During the site meeting, we exchanged views with this Bureau and we gained some useful knowledge from them.

The CEDD is also responsible for the design and construction of the Tung Chung River Park, and EAP was invited by this department to join their working group, which was set up to provide advice on this project. Under this working group, numerous meetings were carried out in 2019, and fortunately, some key issues were resolved. River restoration has been considered as a key action under the local BSAP. EAP will keep monitoring the situation and liaising with all relevant works departments for this BSAP action.

There was a planning application for two New Territories Exempted Houses at Pak Sha O, Sai Kung, in 2019. Pak Sha O is a Country Park enclave with extremely high conservation importance and cultural heritage value. The houses were proposed to be built within the existing village cluster which contains many old Hakka-style houses and also some historical buildings. After reviewing the information provided for the application, we considered the proposal would greatly impact on the existing village setting, and thus we submitted our comments to the Town Planning Board to urge them to reject the application. Finally, the application was withdrawn.



Fish survey carried out by a volunteer of the EAP team



HOLISTIC ESTATE MANAGEMENT

Construction of KFBG's Jockey Club Nature Conservation Centre got under way following an inaugural ground-breaking ceremony in April. Ecological enhancement of our site continued with the removal of hundreds of diseased and ageing exotic trees and their replacement with a diverse array of native saplings. All of the wood waste generated has been fed into our on-site Wood Recycling Programme. Thousands of individuals of native species were planted to enrich our native woodland and theme gardens.

THE JOCKEY CLUB NATURE CONSERVATION CENTRE

We 'broke ground' for the new Nature Conservation Centre on 9th April with a ceremony that included speeches from Sir Michael Kadoorie, Secretary for the Environment K.S. Wong, and Steward of the Hong Kong Jockey Club Silas Yang.

Construction is now well underway but delays in obtaining statutory approvals and inclement weather have pushed the target completion date back six months to November 2021.



REDUCING WASTE, SAVING ENERGY

Harnessing natural horse power

Dennie, one of our two mules, sadly passed away on 28th August. He had been diagnosed with terminal cancer in mid-2018 but did not show any signs of suffering until more recently. Dennie was buried beneath a grassy dell in between KFBG and the Kadoorie Centre.

Duffy, our surviving female mule, is still vigorous but ageing. Duffy transported 1,260 kg of compost over 81 kilometres during the year, but she was not worked through the summer months. We will carefully assess her working role going forward. The mules joined us in 2005, after helping to build the 'Nong Ping 360' cable car on Lantau.

Upcycling our wood waste

KFBG implements its very own Wood Recycling Programme to recycle all woody debris generated on-site. Through pyrolysis, a thermal decomposition process under low oxygen, we convert woody biomass into biochar, a highly porous form of charcoal. During the year, our biochar machine was operated 16 times, producing 18 tonnes of biochar from 123 tonnes of logs and large branches. The biochar is applied to our slopes as an organic amendment that benefits plant growth by improving the structure, fertility and water retention capacity of the soil. Meanwhile, smaller branches and twigs were collected and chipped to form mulch, and fallen leaves were harvested from our road network to make compost.

RESTORING NATIVE FOREST



Experiments to help shed light on forest community dynamics continued high up on Tai Mo Shan. We augment natural forest regrowth with silviculture and enrichment planting to recreate healthy secondary woodland as a home for local plants and animals and to supply running water and fresh air to the slopes below. In 2019, we initiated a new phase of forest rehabilitation by opening the canopy and planting out hundreds of trees and understorey species in a patch of low diversity *Machilus* forest to increase its resilience to climate change.



Learning as we rewild

Machilus trees are a common component of secondary woodland in Hong Kong, but their success in reverting open grassland to closed forest can mask an inability of native diversity to recover unaided. Many trees that require particular birds or mammals for seed dispersal, and many herbs and shrubs that grow in dappled shade cast by the canopy of mixed natural forest, fail to return by themselves. A 3 hectare section of secondary ridge forest that has regenerated along the Grassland Path in the Upper Farm is living proof of this: even after many decades, the canopy here is essentially made up of just one species, *Machilus chekiangensis*. This monodominant stand is very vulnerable to pathogenic attack and climate extremes. In order to improve the health of the forest, a management plan was devised to reduce the number of stems of *M. chekiangensis* and increase the diversity of other species.

Thinning was completed by our tree team in the first half of 2019 to allow more light to penetrate to the forest floor, and enrichment planting ensued. By September, we had planted out 1,280 saplings of 40 native tree species and 220 seedlings of 90 native herbs and shrubs. All of these plants had been propagated in our nurseries from locally collected propagules. The planting is being done in a block design so that we can collect data and statistically assess patterns of recovery. Drone and hemispherical canopy photos have been taken to track gap light transmission in order to assess the effect of different light regimes on the growth of the different species.

To gain insights into how epiphytic orchids can re-establish in secondary tropical forest, we set up a novel orchid reintroduction experiment in these plots in August. Nursery-grown stock of four native orchid species were planted out onto the *Machilus* trees. Survivorship, growth and reproduction will be monitored regularly for the next three years.



A drone photograph of *Machilus* forest on our upper hillside that has been thinned for enrichment planting



Bulbophyllum bicolor, a rare orchid planted out in regenerating native woodland at the top of KFBG, flowering for the first time in 2019

Managing our trees for safety and ecological resilience

More than 400 dead, hazardous and diseased trees were felled through the year, almost all of them individuals of the non-native species *Acacia confusa* and *Pinus elliottii*. A large number of native saplings were planted to facilitate forest recovery in the wake of their removal, including ivy tree (*Schefflera heptaphylla*), Lingnan mangosteen (*Garcinia oblongifolia*), glossy leaved *Elaeocarpus* (*Elaeocarpus nitentifolius*), Chinese *elaecarpus* (*Elaeocarpus chinensis*), Hance's syzygium (*Syzygium hancei*), hog plum (*Choerospondias axillaris*) and Chinese whitewood (*Endospermum chinense*). The condition of many other trees situated along our main carriageways and footpaths were assessed for potential hazard, and hundreds more across our site were pruned to remove failing limbs and to ensure strong future growth. Seedlings planted out to rejuvenate old, unproductive orchards were tended to through pruning, weeding and mulching.



Weeding out invasive aliens

Hundreds of sack-loads of the pernicious weeds *Mikania micrantha* and *Bidens alba* were dug up from abandoned terraces throughout KFBG and incinerated. Dealing with these fast-growing non-native invasives is an ongoing task, but an essential one to allow native diversity to flourish.

Planting resilience

During our annual Earth Day tree-planting activities on 23rd April, more than 1,000 saplings representing 65 native species were planted on our upper slopes and along the main road from the Kadoorie Brothers' Memorial Pavilion to the Mountain Lodge. Species including *Viburnum hanceanum* and *Rhododendron simsii* will bring flashes of colour to planters that were newly created after Typhoon Mangkhut tore through Hong Kong in 2018. A complete revamp of the Sun Garden, which is situated adjacent to the Plaza, was completed in late 2019, with the new design providing more space for both native plants and visitors. Highlights include the rare *Camellia hongkongensis* and *Platycodon grandiflorus*.



The brilliant display of *Rhododendron simsii* brings colour to our hillside in spring



AN EVOLVING ORGANISATION

Despite uncertainties in the community, the Kadoorie Brothers Memorial Run was successfully held place in December. Selected staff participated in the Outward Bound team building training. The Partnerships Department was formed with the aim of developing additional income sources.



DIVERSIFICATION OF FUNDING

Earlier in 2019 we learned that the Agricultural Fisheries and Conservation Department (AFCD) intended to provide the native wildlife rescue work with an annual subvention of HKD1 million. In August we completed a proposal to AFCD and wait for Legislative Council endorsement for the concurrent funding. Also, in early August the Fauna Department responded to two Government Contract Service proposals and were successful with both bids that will provide funds of over HK\$1 million for the Wild Snake Rescue project and Golden Coin Turtle Conservation project.



A new department, Partnerships, was formed in April and will begin fundraising projects from Foundations, Corporations, High Net Worth Individuals and the General Public. A Membership scheme is being put in place to garner support from individuals interested in the works of KFBG.

VIBRANT CULTURE EXPERIENCE

In November, 82 staff from Assistant Officer up to Executive Director grade attended a one-day team building programme at Outward Bound Hong Kong in Sai Kung. This programme helped staff to bond, get out of their comfort zone and try things that they have never done before, with the encouragement of their team members.



A couple of youngsters were part of this year's 5.7km race uphill

THE KADOORIE BROTHERS MEMORIAL RACE

The 25th Kadoorie Brothers Memorial Race was held on 15th December. It received over 150 applications and 110 runners joined the race. The champion of women's section completed the race in 42'51", while the champion of men's section took 29'25".

Race Results

	Men's	Women's
Champion	Wan Ho YUEN 29 min 25 sec	Yan Yin WONG 42 min 51 secs
First Runner-up	Kwok Hang CHAN 30 min 54 sec	Kara CASEY 44 min 39 secs
Second Runner-up	Wai Po CHAU 34 min 46 sec	Catherine CAO 45 min 22 secs

GOVERNANCE

Number of Visitors to KFBG over the Past Five Years

	2015	2016	2017	2018	2019
School Groups	35,749	34,056	39,815	35,355	28,296
Commercial Groups	7,616	4,004	7,806	6,905	5,453
NGO Groups	8,868	11,474	10,688	12,007	11,563
Individuals/ Walk-in	107,786	95,509	82,843	89,914	65,654
Total	160,019	145,043	141,152	144,181	110,966

Total number of visitors to KFBG sites: 157,177

Number of Visitors to the Green Hub

	2018	2019
Self-guided Visitors	45,351	35,600
Eat Well Workshop Participants	2,455	3,504
Course Participants	1,985	1,324
Heritage Tour Participants	7,648	5,783
Total	57,439*	46,211

Note: From 2018, we have closed the Green Hub on Tuesdays to enable staff days off and maintenance work. This directly led to a reduction in the Green Hub's visitor numbers.

Financial Figures (excluding depreciation)

Expenditure (HK\$) (see Breakdown 4)	*Year Ended 31.3.19 (audited)	**Year Ended 31.3.20 (unaudited)
Capital	23,946,441	22,407,640
Operating	111,135,537	114,737,406
Total	135,081,978	137,145,046
Income (HK\$)	*Year Ended 31.3.19 (audited)	**Year Ended 31.3.20 (unaudited)
The New Kadoorie Foundation	122,404,344	122,265,044
The Green Hub	6,805,735	6,786,000
Shop Sales	1,651,408	1,180,399
Government and Other Funding (see below)	836,436	6,296,043
Entrance Fees	1,718,876	1,085,740
Workshop and Guided Tour Fees	883,490	1,139,343
Public Donations (see Breakdown 3)	116,241	53,198
Total	134,416,530	138,805,767

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

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

Note: Expenditure includes the commitments of previous years which are settled during the year.

Breakdown 1 - Government Funding

Government Funding	Year Ended 31.3.19	Utilised by KFBG to provide:	Year Ended 31.3.20	Utilised by KFBG to provide:
Tai Po District Council	45,558	Low Carbon Living promotion	30,098	Low Carbon Living promotion
HKSAR Gov't (Anti-epidemic fund)	Nil		280,000	Eat Well Canteen and Guest House services
HKSAR Gov't (AFCD)	Nil		1,233,120	Services provision for snakes and Golden Coin turtles
HKSAR Gov't (AFCD) Subvention	Nil		1,000,000	Wildlife Animal Rescue Central
Development Bureau (The Green Hub)	540,000	Old Tai Po Police Station revitalisation	Nil	

Breakdown 2 - Other Funding

Other Funding	Year Ended 31.3.19	Utilised by KFBG to provide:	Year Ended 31.3.20	Utilised by KFBG to provide:
Critical Ecosystems Partnership Fund	98,008	In-country administration of small grants for conservation projects	84,606	In-country administration of small grants for conservation projects
Rainforest Trust	Nil		28,128	In support of a feasibility study to establish a community protected area around the Tongbiguan Provincial Nature Reserve in Yunnan, China.
The International Union for Conservation of Nature	Nil		15,860	To coordinate a review of gibbon species in China for a global gibbon action plan.
Hong Kong Jockey Club Charities Trust	138,000	Jockey Club Nature Conservation Centre	4,047,689	Jockey Club Nature Conservation Centre
Oriental Bird Club	14,870	Yingjiang biodiversity conservation	Nil	

Breakdown 3 - Public Donations to our General Conservation Fund and Usage

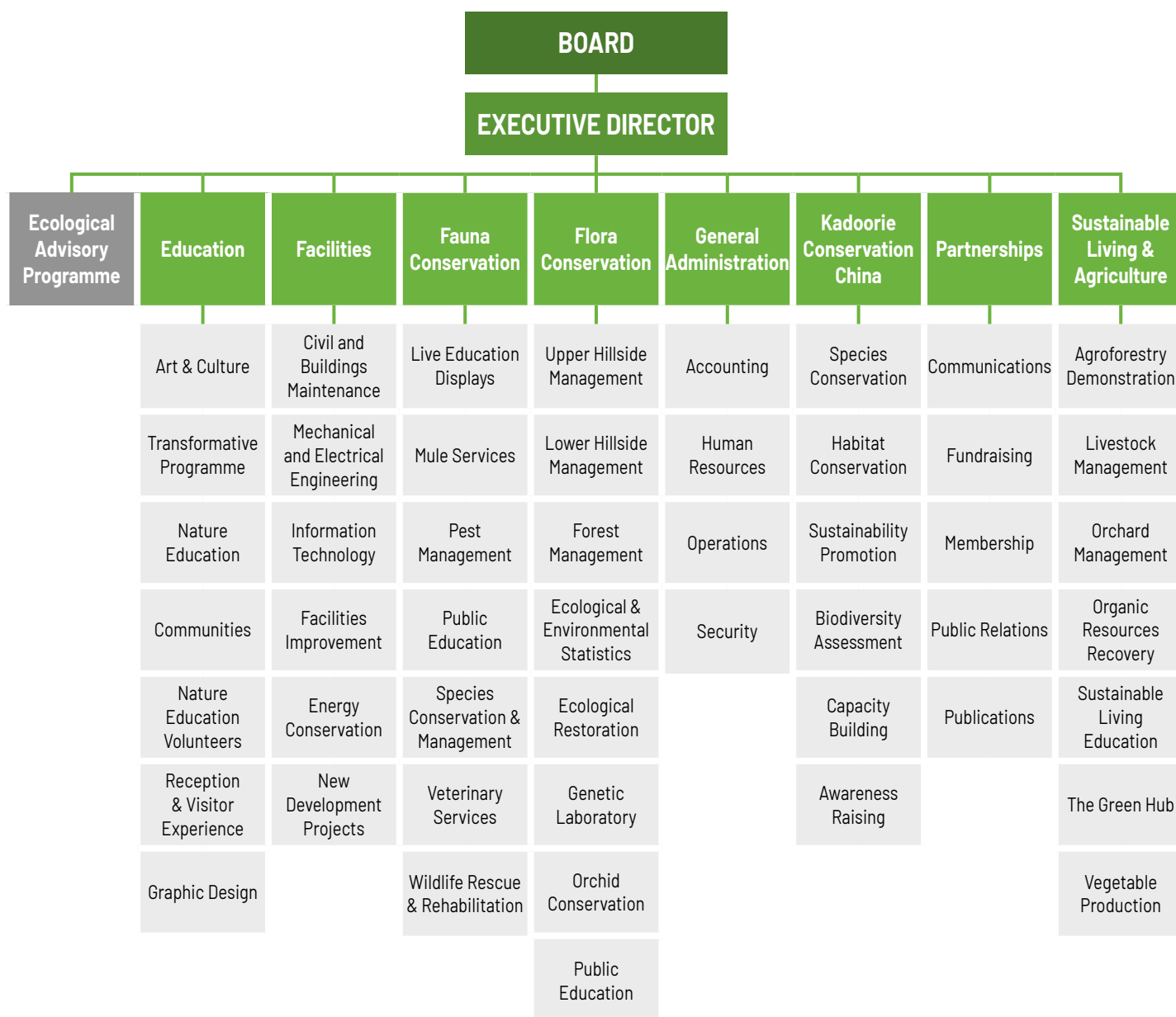
General Conservation Fund	Year Ended 31.3.19 (audited)	Year Ended 31.3.20 (unaudited)
Opening Balance B/F	153,365	210,269
Utilised Funds		
- Pig-nosed Turtle repatriation	(51,142)	
- Eye surgery fee for captive Black Kite Ella	(8,195)	
- 24 Hour Drop Off Building (replacement) for rescued animals		(214,500)
Public Donations	116,241	53,198
Closing Balance C/F	210,269	48,967

Breakdown 4 - Expenditure

Expenditure (HK\$)	Year Ended 31.3.19 (audited)	Year Ended 31.3.20 (unaudited)
Capital		
Kadoorie Conservation China	26,300	60,000
General Administration	3,204,308	2,210,000
Education	477,695	340,000
Facilities	15,252,580	5,882,000
Fauna Conservation	685,712	403,000
Flora Conservation	2,708,075	1,151,000
Sustainable Living & Agriculture	720,990	164,000
The Green Hub	65,435	7,000
Jockey Club Nature Conservation Centre	805,346	12,190,640
Total	23,946,441	22,407,640
Operating		
Kadoorie Conservation China	5,028,047	5,758,503
KFBG Mainland China	2,082,573	2,974,922
General Administration	19,207,229	20,043,017
Education	12,473,431	11,612,798
Facilities	9,737,119	9,045,929
Fauna Conservation	11,777,860	11,985,462
Flora Conservation	28,193,478	30,160,596
Sustainable Living & Agriculture	15,883,148	16,337,179
The Green Hub	6,752,652	6,819,000
Total	111,135,537	114,737,406
Grand Total	135,081,978	137,145,046

Note: The Green Hub's expenditures were covered by its income and the government's funding upon claims made and the government approved.

ORGANISATION CHART



Number of Staff as at 1 April 2020

Department	Number of Staff
Executive Director's Office	3
Education	12
Facilities	21
Fauna Conservation	31.5 (1 part-time staff)
Flora Conservation	67
General Administration	29
Kadoorie Conservation China	10
Partnerships	3
Sustainable Living and Agriculture & The Green Hub	54
Total	230.5

BOARD MEMBERS

Andrew McAulay
(Chairperson)

Andrew Brandler

Christine Chau

Daniel R. Bradshaw

Deborah McAulay

Dr Lawrence Lee

Ruy Barretto, S.C.



MANAGEMENT TEAM

Andy Brown
(Executive Director)

HEADS OF DEPARTMENT

Dr Bosco Chan — Kadoorie Conservation China

Denis Ng (to August 2019) / Ada Ng (After August 2019) — Facilities

Florence Au — General Administration

Dr Gary Ades — Fauna Conservation

Dr Gunter Fischer — Flora Conservation

Idy Wong — Sustainable Living & Agriculture

Joshua Chan — Education

Dr Michael Wong — Partnerships



APPENDIX 1

KFBG Activities Aimed at Building Capacity in Community Organisations and Partnerships for Sustainable Living

Partner Organisation	Date	Location	Content
Guangdong Association for the Advancement of Environmental Education (GAAEE)	19th January	The Green Hub	A group of in-service teachers and school heads from Guangzhou attend one-day training programme on low carbon living.
Hong Kong Organic Association	26th Jan, 2nd, 16th, 23rd Feb	KFBG	Provide technical farmers' training workshops on sustainable farming principles, soil and crop management, pest control and nursery operation.
CUHK Jockey Club Institute of Ageing	15th February	The Green Hub	Event named "Our Everyday. Our Borders" engaged the architectural consultants and Green Hub staff to share the vision of integrated conservation approach with elders with professional background to explore ways to transfer Green Hub's experience to the design of public space.
AFCD NTE Country Park Management Team	15th February	The Green Hub	Special visit for AFCD NTE team and six Taiwanese consultants engaged by AFCD for nature trail design project focused on ecological design and low carbon living.
Tai Po District Office	18th February	The Green Hub	Special visit for district officers featuring the holistic conservation approach of the Green Hub project.
Secretary for the Commerce and Economics	21st February	The Green Hub	Special visit featuring the holistic conservation approach of the Green Hub project.
University of Hong Kong's Academy for Sustainable Communities	21st, 28th Feb, 3rd, 10th, 16th, 24th, 31st Mar	University of Hong Kong, KFBG	Delivered a 36-hour certificate course of "Sustainable Agriculture". Both theoretical lessons and outdoor workshops included.
Shatin District Community Centre	25th February	The Green Hub	Special tour featuring the integrated conservation approach of the Green Hub project was provided to a group of senior citizens to promote active learning to realise their potentials.
Shenzhen's People Congress	25th February	The Green Hub	Special visit was arranged for the delegation featuring the holistic conservation approach of the Green Hub project.
International Culinary Institute (ICI)	26th February	ICI	Site meeting to provide advice on management of edible garden and food waste was made.
Les Beatitudes Foundation Limited	February to March	The Green Hub and Central	Site visit of the Green Hub was provided to assist the charity to develop an exhibition featuring old police stations in Hong Kong. An exhibition at Central was launched in March.
Hong Kong Institute of Architect (HKIA)	March to August	The Green Hub	Served as a supporting organization for HKIA's "Co-Vitalise Our Heritage" project to provide special visits for promoting public engagement in heritage conservation.
The Hong Kong Girl Guides Association	9th April, 6th July and 7th September	Zero Carbon Center	Delivered a train the trainer workshop jointly with the Imperial College Alumni of Hong Kong and guided the planning for a Girl Guides SMART City Day. Outreach programme was organised as part of the 'SMART City for Sustainability' to public audiences.
Commissioner for Heritage's Office	May to August	The Green Hub	Supporting the Commissioner for Heritage's Office to promote participation to the project "Revitalised Historic Buildings Instagram Photo Competition".
Hong Kong Tourism Board	24th June	The Green Hub	Special visit to introduce the conservation design for transforming the Old Tai Po Police Station to the Green Hub for sustainable living.
Hong Kong University of Science and Technology	26th June	The Green Hub	Jointly organised workshop with the HKU of Science and Technology to the Global Research Forum on Sustainable Production & Consumption to introduce the sustainable social enterprise operation of Green Hub heritage revitalization project.
Education Bureau	26th June	The Green Hub	Special visit about the Green Hub's education programme for teachers from mainland engaged in school-based professional support programme.
Order and Medals Research Society (OMRS) - HK Branch	30th June	The Green Hub	Special visit for OMRS members to study policemen lived and worked at the Old Tai Po Police Station in the past.
Ministry of Ecology and Environment (MEE)	18th July	The Green Hub	Special visit featuring education program of the Green Hub was provided for delegation led by the Department of Communications and Education of MEE
Community universities of Taiwan	3rd August	The Green Hub	Special visit and sharing session featuring community engagement for sustainability living was organised for a delegation from four community universities of Taiwan.
Les Beatitudes Foundation Limited	September to December	The Green Hub	Art exhibition themed on historic police stations produced by women from low income families.
Chinese University of Hong Kong	20th October	The Green Hub	Organised special visit to CUHK master course students to explain integrated conservation approach on the Green Hub.
CUHK General Education	9th November	KFBG	One-day workshop to introduce Permaculture design principles with no-dig garden practice.

APPENDIX 2

Technical & Scientific Publication

Title	Authors	Journal/ Publication
The accumulation of species and recovery of species composition along a 70-year successional gradient in a tropical secondary forest.	Abbas, S., Nichol, J.E., Zhang, J.L., Fischer, G.A.	<i>Ecological Indicators</i> . (DOI: 10.1016/j.ecolind.2019.105524)
Wildlife Crime: Case Study – Post seizure care and repatriation costs for a consignment of Indonesian Pig-nosed Turtles (<i>Carettochelys insculpta</i>).	Ades, G.W.J., Crow, P., Wong, Y. K., Fok W. L., Rose-Jeffreys. L.	Publication Series No. 17, Kadoorie Farm & Botanic Garden, Hong Kong SAR.
Small fins, large trade: a snapshot of the species composition of the trade in small, low value shark fins	Cardeñosa, D., Shea, S. K. H., Zhang, H. , Feldheim, K., Fischer, G.A. , Chapman, D. D.	<i>Animal Conservation</i> DOI:10.1111/acv.12529
Evaluating the feasibility of pangolin farming and its potential conservation impact	Challender, D.W.S., t Sas-Rolfes, M., Ades, G.W.J. , Chin, J.S.C., Sun, N.C.M. Chong, J.L., Connelly, E., Hywood, L., Luz, S., Mohapatra, R.K., de Ornellas, P., Parker, K., Pietersen, D.W., Robertson, S.I., Semiadi, G., Shaw, D., Shepherd, C.R., Thomson, P., Wang, Y.F., Wicker, L., Wu, S.B., Nash H.C.	<i>Global Conservation</i> 20 (2019)
Two sighting records of Stripe-backed Weasel <i>Mustela strigidorsa</i> in Yunnan Province, China	Chan, B.P.L., Li, F. , Ban, D.Y.	<i>Small Carnivore Conservation</i> (2020) Vol. 58, e58001.
New record of the Critically Endangered Javan Blue-banded Kingfisher <i>Alcedo euryzona</i> in Central Java, Indonesia	Chan, B.P.L. , Setiawan, A.	<i>BirdingASIA</i> 31(2019): 24-27
Introduction to a four-year biodiversity survey of Tengchong Section of Gaoligongshan National Nature Reserve, in the footsteps of pioneering naturalists in western Yunnan, China	Chan B.P.L. , Bi, Z., Duan, S.Z.	<i>Journal of Threatened Taxa</i> 11(11), 14391-14401
A New Record of Bird (<i>Phylloscopus intermedius</i>) in Hainan Island.	Chen Z.J., Li, F. , Lu G., Huang H.Y., Zhang Q	<i>Sichuan Journal of Zoology</i> , 38(2)
Quantifying the trade in wild-collected ornamental orchids in South China: diversity, volume and value gradients underscore the primacy of supply.	Gale, S.W., Kumar, P. , Hinsley A., Cheuk, M.L. , Gao, J., Liu, H., Liu, Z.L., Williams, S.J.	<i>Biological Conservation</i> 238: doi.org/10.1016/j.biocon.2019.108204
Molecular phylogenetics and floral evolution of the Cirrhopetalum alliance (<i>Bulbophyllum</i> , Orchidaceae): Evolutionary transitions and phylogenetic signal variation	Hu, A. Q., Gale, S.W. , Liu, Z. J., Suddee, S., Hsu, T.C., Fischer, G.A. , Saunders, R.M.K.	<i>Molecular Phylogenetics and Evolution</i> 143: 106689
Acoustic Characteristics of Male Calls of <i>Leptobrachium tengchongense</i> in Breeding Season	Huang, X.Y., Zhang, X.C., Yang, S.P., Yang, J.H.	<i>Chinese Journal of Zoology</i> , 54 (2): 189-195
Molecular phylogenetic species delimitation in the aquatic genus <i>Ottelia</i> (Hydrocharitaceae) reveals cryptic diversity within a widespread species.	Ito, Y., Tanaka, N., Anders, B., Bognor, J., Li, J., Yano, O., Gale, S.W.	<i>Journal of Plant Research</i> 132: 335-344
Labellar anatomy of the <i>Nervilia plicata</i> complex (Orchidaceae: Epideroideae) in tropical Asia.	Ketjarun, K., Traiperm, P., Suddee, S., Watthana, S., Gale, S.W.	<i>Kew Bulletin</i> 74: doi.10.1007/S12225-018-9788-8

Title	Authors	Journal/ Publication
First molecular insights into the evolution of <i>Eriocaulon</i> (Eriocaulaceae, Poales)	Larridon I., Tanaka, N., Liang Y., Phillips, S., Barford, A., Cho, S.H., Gale, S.W. , Jobson, R.W., Kim, Y.D., Li, J., Muasya, A.M., Parnell, J., Prajaksood, A., Shutoh, K., Souladeth, P., Tagane, S., Tanaka, N., Yano, O., Mesterházy, A., Newman, M., Ito, Y.	<i>Journal of Plant Research</i> 132: doi.org/10.1007/s10265-019-01129-3
Pollen-mediated gene flow ensures connectivity among spatially discrete sub-populations of <i>Phalaenopsis pulcherrima</i> , a tropical food-deceptive orchid.	Zhang, Z., Gale, S.W. , Li, J.H. , Fischer, G.A. , Ren, M.X., Song, X.Q.	<i>BMC Plant Biology</i> 19, no. 1 (2019): 597
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