

Nature. Restored.

ANNUAL REPORT 2021 - 2022

NATIONAL PARKS

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NATURE. RESTORED

Nature provides – habitats for flora and fauna to flourish, ecosystem services for biodiversity to thrive, as well as green spaces for the community to relax and play.

NParks' efforts to restore nature into our living environment is key to our mission of transforming Singapore into a City in Nature. We achieve this by working with the community to intensify nature in our parks, integrate greenery into the built landscape and conserve native biodiversity for future generations. To build up our capabilities, we adopt science and technology to improve the skillsets and knowledge in the fields of animal management, arboriculture, and horticulture.

Together, these initiatives work to incorporate greenery into the urban fabric while utilising nature-based solutions to tackle challenges such as climate change. Ultimately, we want to grow a population that benefits from nature's therapeutic effects that rejuvenate our minds and bodies. When we restore nature, nature restores us.

CHAIRMAN'S MESSAGE



"This positive value that our Nature spaces afforded to our people is one of two branches in the silver lining that NParks officers and volunteers found amidst the pandemic. The other is learning that large numbers of Singaporeans discovered or re-discovered a love for Nature during this time of adversity."

On 20 October 1995, Senior Minister Lee Kuan Yew launched the opening of the National Orchid Garden. In his speech, Mr Lee, our founding Prime Minister, recalled:

"Even in the sixties, when the Government had to grapple with grave problems of unemployment, lack of housing, health and education, I pushed for the planting of trees and shrubs. I have always believed that a blighted urban jungle of concrete destroys the human spirit. We need the greenery of nature to lift up our spirits. So in 1967, I launched the Garden City program to green up the whole island and make it into a garden."

Evidence-based research has found that urban nature contributes positively to the health and well-being of residents. These studies indicate that one's mental health can improve even if one just sits and admires the surrounding Nature landscape.

In my mind, Mr Lee Kuan Yew's faith and the 'investment' in Nature to transform Singapore through his Garden City programme is affirmed and 'repaid' palpably in the experience of many Singaporeans clearly in the last two years. Facing daily the silent strain and stress of a severe global pandemic, many Singaporeans took to visiting our outdoor green spaces to exercise, de-stress and find relief and comfort in Nature.

A friend of mine – a retired civil servant – walked each day for hours along the Rail Corridor. He told me that these long walks in Nature boosted his spirits and kept him 'sane'. I strongly believe that he is not alone in having this view or experience.

Whether it was just walking in our parks and green spaces or growing edibles with one of the 860,000 seed packets which NParks distributed as part of its Gardening with Edibles programme during this time, people found a boost to their mental wellness and psychological resilience from such simple exposure and contact with Nature.

This positive value that our Nature spaces afforded to our people is one of two branches in the silver lining that NParks officers and volunteers found amidst the pandemic. The other is learning that large numbers of Singaporeans discovered or re-discovered a love for Nature during this time of adversity. The key findings from our Park Usage Satisfaction Survey showed significant increases in park use and appreciation of them. The Singapore Botanic Gardens, East Coast Park and Bishan-Ang Mo Kio Park continued to receive a steady flow of visitors, while newer parks like Lakeside Garden saw a significant increase in visitors. Overall, there was not only a significant uptick in visitorship during the last two years, but the numbers have continued to stay higher and significantly exceed pre-pandemic visitor levels.

The greenery and biodiversity we enjoy today is the result of sustained and dedicated effort over many decades. At the start, the aim was to just quickly green up the island to provide shade and give residents across all social classes free access to green spaces. The vision grew from a Garden City to a City in a Garden with biophilic and naturalistic designs and a strategic map of networked community parks connected to each other. Even with our already extensive connector networks and parks, we are not done yet – the bold ambition is to have a park within 10 minutes' walk of every household by 2030.

Like all modern cities in the world, we are faced with the challenges of urbanisation to create a liveable, sustainable and climate-resilient home for our people. The Singapore Green Plan 2030 seeks to address this.

NParks' vision of a City in Nature is a key part of this overall national Plan. We aim to incorporate not just more and more greenery into our urban fabric but to do so in a purposive manner that taps on nature-based solutions to address the challenges of climate change.

Today, over 31,000 members of the community have planted over 390,000 trees as part of the OneMillionTrees movement. The ground-led support from the Friends of the Parks community has helped promote stewardship and responsible use of our green spaces. Feedback from Singaporeans and pet owners, garnered through regular reviews and focus groups, has informed policy making on how best to raise standards for pet breeders and boarders as part of a holistic review of the pet sector.

We are confident that as Singaporeans become more informed and more engaged in the various efforts to create and shape our City in Nature, they will, in the course of it, nurture and foster a society with biophilic values, compassion and care for each other and for the environment and its denizens within, that we must learn to live with.

Mr Benny Lim
Chairman, National Parks Board

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MEMBERS
OF THE BOARD

(As of September 2022)



Benny Lim
Chairman

Mr Lim was Permanent Secretary of the Ministry of National Development from 2011 to 2016, and held concurrent appointments as Permanent Secretary in the Prime Minister's Office and for National Security & Intelligence Coordination. Prior to that, he was Permanent Secretary of the Ministry of Home Affairs from 2005 to 2011. He retired from the Civil Service in 2016. Mr Lim is presently Chairman of Temasek Foundation, and also serves as a special advisor to the Centre for Liveable Cities (MND) and to the National Security Studies Programme, RSIS (NTU). He was awarded the Meritorious Service Medal in 2010 and the Distinguished Service Order in 2021.



Guy Harvey-Samuel
Board Member
Until 31 July 2022

Mr Harvey-Samuel was formerly the non-executive Chairman of HSBC Bank (Singapore) Limited, following his retirement as Group General Manager, Chief Executive Officer of The Hongkong and Shanghai Banking Corporation Limited (HSBC), Singapore. A member of HSBC's Asian Executive Committee, Mr Harvey-Samuel was directly responsible for all HSBC operations based in Singapore. He is currently Chairman of the Capella Hotel Group Pte Ltd, ESG Tech Private Ltd and National Youth Achievement Award's Board of Trustees. He also sits on the boards of Mapletree Industrial Trust Management Ltd, M1 Limited, Wing Tai Holdings, Clifford Capital Holdings Pte Ltd and Clifford Capital Pte Ltd.



George Huang
Board Member
Until 31 July 2022

Mr Huang is Managing Director of Amoy Canning Corporation (S) Ltd, a pioneer in the food processing industry in Asia. He is presently Chairman of the Singapore Agro-Food Enterprises Federation Limited. An active leader and contributor in business and the community, he serves on the boards and committees of various organisations including the Singapore Business Advisors & Consultants Council and Singapore Manufacturing Federation. Mr Huang is also an advisor of the Consumer Association of Singapore's Consumer Products, Standards & Testing Committee and a member of the Resource and Environmental Sustainability sub-committee of the Future Economy Council.



Cheng Hsing Yao
Board Member

Mr Cheng is Chief Executive Officer of GuocoLand Group and a director of Eco World International Berhad. Prior to that, he held leadership positions at the Centre for Liveable Cities and Urban Redevelopment Authority. He is a member of URA's International Panel of Experts, as well as its Design Advisory Committee and Heritage and Identity Partnership. He also co-chairs the Building and Construction Authority's Integrated Digital Delivery Steering Committee and Central Procurers Panel. In addition, he sits on the executive committee of the Urban Land Institute Singapore and the management board of the Institute of Real Estate and Urban Studies, National University of Singapore. In January 2021, Mr Cheng was appointed as a Nominated Member of Parliament.



Ms Shantini Ramachandra
Board Member

Ms Shantini is the Singapore Tax & Legal Leader for Deloitte Private. In addition to her role as Business Tax Partner, Ms Shantini leads the Law Firm Services practice. She has a Bachelor of Laws degree from the National University of Singapore and a Master of Laws degree from the University of London, King's College. She has been admitted as an Advocate and Solicitor of the Supreme Court of Singapore and is also an Accredited Tax Advisor (Income Tax) with the Singapore Institute of Accredited Tax Professionals Limited. Ms Shantini practised law in the area of commercial and corporate law before joining a Big Four accounting firm and has about 25 years of international tax experience.



Musa Fazal
Board Member

Mr Musa is a Senior Director of the Futures, Strategy and Plans Division in the Ministry of Trade & Industry where he oversees strategic planning activities, from sensing and sense-making, to strategy development, work planning, strategic resourcing, and inter-agency coordination to transform Singapore's economy. He is currently a member of the Industrial Arbitration Court's Employer Panel. Prior to this, he served in various agencies in the public service, including SkillsFutureSG, Ministry of Manpower, Ministry of Finance and Monetary Authority of Singapore.



Professor David Chan
Board Member

Mr Chan is Lee Kong Chian Professor of Psychology and Director of the Behavioural Sciences Initiative at the Singapore Management University as well as Adjunct Principal Scientist and Scientific Advisor at A*STAR. To date, his works have been cited over 13,500 times in various disciplines. A 2020 study by Stanford University on researcher impact among all scientists across all disciplines named him in the top one percent worldwide. He is Elected Fellow of six international psychological associations. He has received numerous international achievement awards and he is the first Asian to receive the prestigious Raymond Katzell Award from the Society for Industrial and Organizational Psychology. He has served on numerous national councils and boards, and is currently a member of the Social Science Research Council.



Ms Tham Loke Kheng
Board Member

Ms Tham is CEO and Board Director of Mediacorp. A media industry veteran, she has held leadership roles in broadcast, media and telecommunications services in leading Asian companies. In September 2017, Ms Tham returned to Mediacorp as CEO, coming full circle to the organisation where she started her career. Prior to that, she was Head of Content and Marketing at StarHub, President of Taiwan Broadband Communications and Head of NOW TV, the largest Pay TV operator in Hong Kong. Ms Tham is also a Board Director of the Singapore Chinese Cultural Centre, a member of the SG Cares Steering Committee, and a member of the Yellow Ribbon Singapore Board.



Gerald Tan Kwong Ming
Board Member

Mr Tan is the Head of Reputational Risk, Asia-Pacific for Credit Suisse (Singapore) Ltd. He has over 20 years of international experience in legal private practice, banking and risk management. He is a member of the Advisory Board of the National Museum of Singapore. He has also previously served as a board member of Gardens by the Bay and Credit Counselling Singapore, and as Co-Chair of the Asia Pacific Commodities Committee of the International Swaps and Derivatives Association, Inc.



Ms Nur Hidayah Abu Bakar
Board Member

Ms Nur Hidayah is Dean of the Faculty of Design at LASALLE College of the Arts, Singapore. She is a member of the Museum Education Advisory Panel at National Gallery Singapore, the Monetary Authority of Singapore's Singapore Note and Coin Advisory Committee, the Design Education Review Committee Workgroup and DesignSingapore Council (Ministry of Communications and Information). She believes in the interconnectedness of design aesthetics, education and industry/community, and has initiated several partnerships with Asian communities to develop design capability programmes and support social enterprises that promote a more inclusive design culture. She has also led the research and study of design cultures in contemporary Asian cities such as Singapore, Seoul and Shanghai.



Kenneth Er
Board Member and Chief Executive Officer

Mr Er joined NParks in 1997 and was actively involved in the planning, implementation and management of our parks and streetscapes. In 2003, he was posted to the Ministry of National Development's Infrastructure Division where his work included overseeing policy formulation and review of legislation pertaining to greenery infrastructure as well as issues in the agri-veterinary and building and construction sectors. On his return to NParks, he took on the concurrent roles of Assistant CEO (Corp Dev and Services) and General Manager for the development of Gardens by the Bay. In 2012, Mr Er took on the role of Chief Operating Officer of Gardens by the Bay. He was appointed Chief Executive Officer of NParks in February 2014.



Lee Chee Koon
Board Member (from 1 August 2022)

Mr Lee is Group CEO of CapitaLand Investment, one of Asia's largest list real estate investment managers with a global presence across over 30 countries. Prior to this, Mr Lee was President and Group CEO of CapitaLand Group from 2018. His previous appointments since he joined CapitaLand Group in 2007 include Group Chief Investment Officer and CEO of The Ascott Limited. Mr Lee also served in the public sector, namely in the Ministry of Trade & Industry and Ministry of Finance. Mr Lee is also a Board of Director of EDBI Pte. Ltd. and a member of the Future Economy Council.



Ms Eu Chin Fen
Board Member (from 1 August 2022)

Ms Eu is Chief Executive Officer of Frasers Hospitality Trust. She is responsible for the overall business, investment and operational strategies of Frasers Hospitality Trust. She has more than a decade of working experience with Frasers Property Group. Prior to her current appointment, she was Chief Investment Officer of Frasers Hospitality International Pte. Ltd and Senior Vice President at DBS Bank Ltd. A Chartered Financial Analyst, Ms Eu holds a Bachelor of Business degree in Financial Analysis from Nanyang Technological University, Singapore.

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MANAGEMENT TEAM

(As of September 2022)



FROM LEFT TO RIGHT

Dr Adrian Loo
GROUP DIRECTOR
SENIOR DIRECTOR
Community Projects

Ms Ang Wei Ping
GROUP DIRECTOR
Policy & Planning

Dr Leong Chee Chiew
EXECUTIVE DIRECTOR
National Parks, Gardens & Nature Reserves Cluster and Commissioner of Parks & Recreation

Dr Kiat W Tan
ADVISOR TO NPARKS

Kenneth Er
CHIEF EXECUTIVE OFFICER



FROM LEFT TO RIGHT

Chuah Hock Seong
GROUP DIRECTOR
Parks West
ASSOCIATE DIRECTOR
CUGE

Bin Hee Jum
GROUP DIRECTOR
Finance & Procurement

Oh Cheow Sheng
GROUP DIRECTOR
Streetscape

Dr Yap Him Hoo
DEPUTY CHIEF EXECUTIVE OFFICER
Professional Development & Services Cluster
DIRECTOR-GENERAL
Animal & Veterinary Service Cluster

Dr Lena Chan
SENIOR DIRECTOR
International Biodiversity Conservation

Dr Tan Puay Yok
GROUP DIRECTOR
Singapore Botanic Gardens

Ms Lee Pin Pin
GROUP DIRECTOR
Communications & Community Engagement

Tang Tuck Weng
ASSISTANT CHIEF EXECUTIVE OFFICER
Park Management & Lifestyle Cluster

Dr Chang Siow Foong
GROUP DIRECTOR
Professional & Scientific Services



FROM LEFT TO RIGHT

Dr Chua Tze Hoong
GROUP DIRECTOR
Industry & Biosecurity Management

Ms Kartini Omar
GROUP DIRECTOR
Parks Development and Jurong Lake Gardens
SENIOR DIRECTOR (COVERING)
Design

Yeo Meng Tong
SENIOR DIRECTOR
Design Research & Development
ASSOCIATE DIRECTOR
CUGE

Tan Chong Lee
ASSISTANT CHIEF EXECUTIVE OFFICER
Corporate Development & Services Cluster

Ms Sophianne Mohd Araib
GROUP DIRECTOR
Parks Central and Horticulture & Community Gardening

Lim Teck Lee
GROUP DIRECTOR
Industry/CUGE

Ryan Lee
GROUP DIRECTOR
National Biodiversity Centre and Fort Canning Park & Istana
SENIOR CURATOR
Istana



FROM LEFT TO RIGHT

Ms Tan Lai Kheng
SENIOR DIRECTOR
Lifestyle Business

Francis Lim
GROUP DIRECTOR
Corporate Services

Lim Liang Jim
GROUP DIRECTOR
Conservation

Kong Yit San
EXECUTIVE DIRECTOR
Jurong Lake Gardens

Chia Seng Jiang
GROUP DIRECTOR
Parks East

Ms Chua Yen Ling
GROUP DIRECTOR
Corporate Strategy & Planning

The Management Team photos were taken at the Singapore Botanic Gardens, Jurong Lake Gardens, Bishan-Ang Mo Kio Park, and Sungei Buloh Wetland Reserve.
Not in picture: Ms Jessica Kwok, Group Director, Industry Standards & Regulatory

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ORGANISATION STRUCTURE

(As of September 2022)

Kenneth Er
CHIEF EXECUTIVE OFFICER

Dr Kiat W Tan
ADVISOR TO NPARKS

Tan Choon Lin
DIRECTOR
Internal Audit

Paul Chia
DIRECTOR
Prosecution

Tan Chong Lee
ASSISTANT CHIEF EXECUTIVE OFFICER
Corporate Development & Services Cluster

- **Ms Lee Pin Pin** (Concurrently as QSM) — GROUP DIRECTOR, Communications & Community Engagement
  - Ms Tracy Won — DIRECTOR, Communications
  - Ms Ng Li-San — DIRECTOR, Communications
  - Ms Gina Leong — DIRECTOR, Community Engagement
  - Ms Ng Hui Bing — DIRECTOR, Community Engagement
  - Ms Jacqueline Teo — DIRECTOR, Garden City Fund
- **Francis Lim** — GROUP DIRECTOR, Corporate Services
  - Lew Chee Keong — DIRECTOR, Facilities Mgt & Facilities (Singapore Botanic Gardens, Fort Canning Park & Jurong Lake Gardens)
  - Ms Chang Siau Hoon — DIRECTOR, Human Resource
  - Foong Chee Leong — DIRECTOR, IT
  - Ms Elaine Phua — DIRECTOR, Legal
  - Ms Dawn Lin — CHIEF RECORDS OFFICER, Office Administration
- **Ms Chua Yen Ling** — GROUP DIRECTOR, Corporate Strategy & Planning
  - Ms Trina Chua — DIRECTOR, Corporate Policy & Planning
  - Lim Kian Loo — DIRECTOR, Emergency Planning & Risk Management
  - Ong Chong Ren — ACTING DIRECTOR, Science & Technology Planning
- **Bin Hee Jum** — GROUP DIRECTOR, Finance & Procurement
  - Ms Lim Bee Peng — FINANCIAL CONTROLLER, Finance
  - Danny Tan — DIRECTOR, Procurement
- **Dr Adrian Loo** — SENIOR DIRECTOR, Community Projects
  - Thomas Lee — DIRECTOR, Community Projects
  - Ms Jeanine Tan — DIRECTOR, Community Projects

Dr Yap Him Hoo
DEPUTY CHIEF EXECUTIVE OFFICER
Professional Development & Services Cluster

- **Lim Teck Lee** — GROUP DIRECTOR, Industry/CUGE
  - Chuah Hock Seong — ASSOCIATE DIRECTOR, CUGE (Concurrently CEO, Singapore Garden City Pte Ltd)
  - Yeo Meng Tong — ASSOCIATE DIRECTOR, CUGE
  - Chong Whye Keet — DIRECTOR, CUGE (Industry Development)
  - Shamril bin Jamil — DIRECTOR, CUGE (Manpower Development)
  - Jeff Seow — DIRECTOR, CUGE Research
- **Dr Lena Chan** — SENIOR DIRECTOR, International Biodiversity Conservation
  - Ms Wendy Yap — DIRECTOR, International Biodiversity Conservation
- **Ryan Lee** — GROUP DIRECTOR, National Biodiversity Centre
  - Dr Karenne Tun — DIRECTOR, Terrestrial
  - Ms Cheryl Chia — DIRECTOR, Biodiversity Information & Outreach
  - Dr Karenne Tun — DIRECTOR, Coastal & Marine
- **Ms Ang Wei Ping** — GROUP DIRECTOR, Policy & Planning
  - Ms Emelyne Looi — DIRECTOR, Greenery & Development Planning
  - Ms Stephanie Ng — DIRECTOR, Park Planning Central
  - Vacant — DIRECTOR, Park Planning East
  - Cheong Kok Hwee — DIRECTOR, Park Planning West
- **Oh Cheow Sheng** — GROUP DIRECTOR, Streetscape
  - Abdul Hamid bin Mohd — DIRECTOR, Arboriculture
  - Lee Jia Hwa — DIRECTOR, Streetscape (Landscape)
  - Chan Chung Leong — DIRECTOR, Streetscape (North East)
  - Vacant — DIRECTOR, Streetscape (South East)
  - Bryan Yeo — DIRECTOR, Streetscape (North West)
  - Ms Ow Siew Ngim — DIRECTOR, Streetscape (South West)
  - Lu Jilun — DIRECTOR, Streetscape (Central North)
  - Eric Ong — DIRECTOR, Streetscape (Central South)
  - Ms Ow Siew Ngim — DIRECTOR, Ops Tech
- Lim Kian Loo — DIRECTOR, Enforcement
- **Ms Kartini Omar** — SENIOR DIRECTOR (COVERING), Design
  - Jason Matthew Wright — DIRECTOR, Design
- **Yeo Meng Tong** — SENIOR DIRECTOR, Design Research & Development

Tang Tuck Weng
ASSISTANT CHIEF EXECUTIVE OFFICER
Park Management & Lifestyle Cluster

- **Ms Sophianne Mohd Araib** — GROUP DIRECTOR, Parks Central
  - Ms Nanthini d/o Elamgovan — DIRECTOR, Parks (Central North)
  - Mervyn Tan — DIRECTOR, Parks (Central South)
- **Chia Seng Jiang** — GROUP DIRECTOR, Parks East
  - Ms Kalthom bte Abd Latiff — DIRECTOR, Parks (North East)
  - Tan Jun Chao — DIRECTOR, Parks (South East)
- **Chuah Hock Seong** — GROUP DIRECTOR, Parks West
  - Tay Boon Sin — DIRECTOR, Parks (North West)
  - Yee Chung Yao — DIRECTOR, Parks (South West)
  - Joseph Chua — DIRECTOR, Parks (Special Projects)
- **Ms Kartini Omar** — GROUP DIRECTOR, Parks Development
  - Ms Ang Chiean Hong — DIRECTOR, Development Management 1
  - Ms G Kannagi — DIRECTOR, Development Management 2
- **Ms Tan Lai Kheng** — SENIOR DIRECTOR, Lifestyle Business
  - Ms Claire Ng — DIRECTOR, Lifestyle Business
  - Ms Lee Yi Yinn — DIRECTOR, Lifestyle Business
- Vacant — COORDINATING DIRECTOR, Programming & Events

Dr Leong Chee Chiew
(COMMISSIONER OF PARKS & RECREATION)
EXECUTIVE DIRECTOR
National Parks, Gardens & Nature Reserves Cluster

- **Lim Liang Jim** — GROUP DIRECTOR, Conservation
  - Ms Sharon Chan — DIRECTOR, Bukit Timah Nature Reserve
  - Ling Han — DIRECTOR, Central Catchment Nature Reserve
  - Robert Teo — DIRECTOR, Pulau Ubin
  - Ms Yang Shufen — DIRECTOR, Sungei Buloh
- **Ryan Lee** — GROUP DIRECTOR, Fort Canning Park & Istana
  - Ng Boon Gee — COORDINATING DIRECTOR, Development Management (Nature Parks, Gardens & Nature Reserves)
  - Koh Poo Kiong — DIRECTOR, Fort Canning Park
  - Ryan Lee — SENIOR CURATOR, Istana
- **Ms Sophianne Mohd Araib** — GROUP DIRECTOR, Horticulture & Community Gardening
  - Ms M Pungkothai Kay — DIRECTOR, Community In Bloom & Skyrise Greenery
  - Ms Lilian Kwok — DIRECTOR, Nursery & Horticulture Outreach
  - Ms Shirley Ling — DIRECTOR, HortPark
  - Ms Jenny Yap — DIRECTOR, Plant Science & Health
- **Dr Tan Puay Yok** — GROUP DIRECTOR, Singapore Botanic Gardens
  - Dennis Lim — COORDINATING DIRECTOR, Festivals, Events & Exhibitions and Visitor Management & Security
  - Dr Thereis Choo — COORDINATING DIRECTOR, Living Collections and Facilities Management and Centre Director/Forest Discovery Centre
  - Dr David Middleton — COORDINATING DIRECTOR, Research & Conservation and Keeper of Herbarium
  - Ms Terri Oh — DIRECTOR, Education
  - Ms Leong Cheng Yee — DIRECTOR, Events & Exhibitions
- **Dr Adrian Loo** — GROUP DIRECTOR, Wildlife Management
  - Dr Anna Wong — DIRECTOR, Wildlife Trade
  - How Choon Beng — DIRECTOR, Wildlife Management & Outreach
  - Dr Benjamin Lee — DIRECTOR, Wildlife Management Research
  - Dr Anna Wong — DIRECTOR, Centre for Wildlife Rehabilitation

Kong Yit San
EXECUTIVE DIRECTOR
Jurong Lake Gardens

- **Ms Kartini Omar** — GROUP DIRECTOR, Jurong Lake Gardens
  - Ms Nah Bee Luan — DIRECTOR, Jurong Lake Gardens Development
  - Koh Soon Kiong — DIRECTOR, Jurong Lake Gardens Operations

Dr Yap Him Hoo
DIRECTOR-GENERAL
Animal & Veterinary Service Cluster

- **Dr Chang Siow Foong** — GROUP DIRECTOR, Professional & Scientific Services
  - Dr Diana Chee — DIRECTOR, Animal & Veterinary Programme Office
  - Dr Audrey Chen — DIRECTOR, Centre for Animal Rehabilitation
  - Dr Charlene Judith Fernandez — DIRECTOR, Centre for Animal & Veterinary Sciences
  - Ms Irene Liu — DIRECTOR, Planning & Quality Assurance
- **Dr Chang Siow Foong** — GROUP DIRECTOR, Community Animal Management
  - Dr Lin Anhui — ACTING DIRECTOR, Veterinary Science Programmes
  - Joshua Teoh — DIRECTOR, Community Animal Management Operations
  - Wayne Gui — ACTING DIRECTOR, Education & Engagement
- **Ms Jessica Kwok** — GROUP DIRECTOR, Industry Standards & Regulatory
  - Poh Yew Kwang — DIRECTOR, Compliance Management
  - Joshua Teoh — DIRECTOR, Investigation
  - Wang Ming Yuan — DIRECTOR, Licensing
- **Dr Chua Tze Hoong** — GROUP DIRECTOR, Veterinary Health
  - Dr Kelvin Lim — DIRECTOR, Biorisk & Biosurveillance
  - Dr Kelvin Lim — DIRECTOR, Quarantine & Biosecurity Services

* Internal Audit reports functionally to the Audit Committee

ENRICHED

The transformation of Singapore into a City in Nature is a key pillar of the Singapore Green Plan. In 2021, we intensified efforts to integrate nature into our urban landscape so as to enrich the lives of all residents.



01 Minister for National Development and Minister-in-Charge of Social Services Integration Desmond Lee joins a young gardener in planting a tree as part of the OneMillionTrees Clean and Green Singapore 2021 event.

SCAN TO LEARN MORE ABOUT SINGAPORE'S GREENING JOURNEY

OneMillionTrees Movement Flourishes

The nationwide OneMillionTrees movement is a significant way nature is being integrated into our environment. Launched in 2020, the movement is on track to achieve its target of planting one million more trees by 2030. This is thanks to the contributions of over 31,000 members of the community and corporate partners, who have planted over 338,800 trees in our nature reserves, gardens, parks and streetscapes, as of 31 March 2022.

Urban trees provide shade and add greenery and colour to Singapore. They mitigate the effects of climate change by reducing urban heat island effect and air pollution. A carefully curated planting palette of native species in a naturalistic structure also provides food and shelter for our wildlife.

Planting trees is symbolic of one generation laying the foundations for the future. In March 2022, the FamilyTrees initiative was launched for Singaporean families with newborns to plant a tree within three years of their child's birth date, to leave a living legacy for the next generation.

A joint collaboration between NParks and Families for Life, this initiative also kicked off the Year of Celebrating Singapore Families, as designated by the Ministry of Social and Family Development.

Strengthening Our Tree Planting Legacy

Tree planting has been integral to Singapore's development since the 1960s. In June 1963, then Prime Minister Lee Kuan Yew planted a Mempat tree (*Cratoxylum formosum*) at Farrer Circus, kick-starting Singapore's greening programme. This was followed by mass tree planting along new roads, traffic circuses, housing estates, schools and car parks. To support the greening efforts, an annual community tree planting activity was inaugurated on 7 November 1971 with Singapore's first Tree Planting Day.

This Day has since been included as part of the annual Clean and Green Singapore campaign and continues to be a significant tradition for residents to come together to plant trees, reflecting our commitment to, and support of, climate resilience efforts, the City in Nature vision and the Singapore Green Plan. These efforts have been intensified by the strong community support for the OneMillionTrees movement.



The planting of a Mempat tree by Mr Lee Kuan Yew in 1963 marked the start of an islandwide greening movement that has continued for nearly 60 years. These beautiful trees are a reminder that our City in Nature exists because of Mr Lee, who believed that greenery can lift our spirits.

Naturalistic Landscapes at Bukit Gombak Park

The opening of Bukit Gombak Park exemplifies NParks' efforts to intensify nature in our parks and bring the health and wellness benefits of greenery closer to residents. The landscape of the park features the naturalistic planting of about 1,500 trees, including the native Keruing Gombang Merah (*Dipterocarpus kunstleri*) and Pianggu (*Horsfieldia irya*), which enhance the surrounding verdant greenery. The park is also a node in the Bukit Batok Nature Corridor that forms an important ecological corridor between the Central Nature Park Network and the Tengah Forest Corridor in western Singapore.

Visitors get to enjoy nature up close in the park situated on a hill. They can enjoy panoramic views of the surrounding lush greenery from an inclined 400 m hill trek and admire over 20 species of butterflies in the Butterfly Garden at the highest point of the park, some 45 m above sea level. For families with young children, the park has a new nature-inspired play area including a slide and balancing beams set amidst rustic greenery as well as an outdoor fitness area, a café and a dog run featuring a sloped terrain for pets to run unleashed.





Elegant Enhancements at the Istana

In addition to rustic landscapes in the heartlands, the Japanese Garden at the Istana, originally constructed in 1967, has also been sensitively enhanced in the past year. This serene green space now includes a rock garden, water cascade and pine forest.

02 Residents contributed ideas for the design of Bukit Gombak Park such as a Butterfly Garden where the young can learn about nature up close. Other features and amenities in the park were also fitted with the diverse recreational needs of the community in mind.

03 Situated in the heart of downtown Singapore, the Japanese Garden within the Istana grounds provides visitors with relief and respite from busy urban life.



Therapeutic Effects of Greenery in Jurong Lake Gardens

NParks opened Singapore's largest Therapeutic Garden in Jurong Lake Gardens, and this is another example of how nature can enrich the lives of residents. At 3,100 sqm, the garden was designed using science-based principles and is the first to feature dedicated sections for seniors with dementia and for children with conditions such as mild autism and attention deficit hyperactivity disorder.

Sensory zones, musical play equipment and a garden featuring common edible plants were incorporated into the garden landscape to create a rehabilitative environment. A Butterfly Maze complements the Children's Discovery Area and provides more opportunities for young visitors to experience the therapeutic effects of greenery. Visitors can also attend therapeutic horticulture programmes conducted in this space to improve their physical and mental well-being.

The Gardens serves as a living lab to test-bed innovative proposals that contribute to a more sustainable future. Under the Built Environment Living Laboratory Framework initiative by the Building and Construction Authority and Ministry of National Development, selected projects are currently being trialled in the Gardens.

Jurong Lake Gardens continues to reach out to the community through a series of online and on-site events. In the past year, highlights included Explore Jurong Lake Gardens, a series of online programmes catering to seniors and students with special needs; SustainableFest 2021 which drew more than 10,000 participants with its greenery and gardening-related online talks, workshops and activities; and Mid-Autumn Festival in the Gardens, a hybrid programme that included interactive online activities, an on-site lights display and a concert.



01 Planted up with butterfly-attracting plants such as the Giant Milkweed (*Calotropis gigantea*), the Butterfly Maze provides an immersive experience for visitors.

02 Minister in the Prime Minister's Office and Second Minister for National Development & Finance Indranee Rajah (centre) and NParks CEO Kenneth Er (left) admire the winning entries of the Community Garden Edibles Competition at the 2021 Singapore Garden Festival held in Jurong Lake Gardens.

Rejuvenating the National Orchid Garden

Visitors can enjoy more than 1,000 orchid species and hybrids found in tropical montane forests, which are among the most threatened ecosystems in the world, at the Tropical Montane Orchidetum located in the National Orchid Garden at the Singapore Botanic Gardens.

The Orchidetum comprises three display houses – Sembcorp Cool House, Tan Hoon Siang Mist House, Yuen Peng McNeice Bromeliad Collection, as well as surrounding outdoor areas that showcase orchids found in lowland forests and stream habitats. In addition, there is a Secret Ravine that emulates habitats found in deep, narrow valleys of tropical mountains.

Visitors can also explore the Singapore Botanic Gardens' vital role in conservation, breeding and research, at on-site exhibitions. The Botanical Art Gallery, home to Singapore's first permanent display of botanical art, is where visitors can discover the key role of art in the scientific documentation of plants while a nine-month exhibition themed "Change the Present, Save the Future" at the CDL Green Gallery was a means to engage the public on Singapore's efforts in mitigating the effects of urbanisation and climate change.





(Top) A staff guides Prime Minister Lee Hsien Loong during the opening of the Tropical Montane Orchidetum. (Bottom) Visitors to the Sembcorp Cool House will experience temperatures of 16 to 23 degrees Celsius. This emulates a high elevation montane forest environment where orchids not naturally found in a tropical climate can grow.

SCAN TO EMBARK ON A VIRTUAL TOUR OF THE TROPICAL MONTANE ORCHIDETUM



03 Gardening is a great activity to bring people together. Everyone can enjoy the fruits of their hard work caring for the garden. This can be in the form of beautiful flowers to admire, actual fruits to harvest, or the opportunity to get closer to wildlife that may visit your garden.

Strengthening Bonds through Gardening

Another way nature is being integrated into our City in Nature is through the Community In Bloom (CIB) programme. Since 2005, residents have been enjoying the benefits of gardening such as improved physical and mental health and the building of community bonds. In the reporting year, nearly 90 new community gardening groups joined the programme. Almost half of these came from the school sector, exemplifying the growing love for gardening, even among the young.

To enable more people to garden closer to where they live and work, NParks continues to support the Housing Development Board (HDB), Town Councils and other organisations in adopting the allotment gardening scheme. To date, NParks has worked with 17 resident committees to implement the allotment gardening scheme within Town Council-managed areas with more than 500 such plots being made available for residents to garden closer to their homes. These efforts complement the more than 2,000 allotment garden plots found in 23 parks islandwide. Allotment gardens have also been included in HDB's Green Town Programme, allowing residents' networks



01 The Nano Tank Aquascaping Competition held during the Singapore Garden Festival Horticulture Show was a good platform for participants to showcase the beautiful world of underwater gardens. Here, aquatic plants and accessories are creatively curated to create a pristine rainforest or scenic mountain range display.

to convert previously concretised car park rooftops with low car parking utilisation, into verdant allotment gardens for residents.

To recognise excellence in these community gardening efforts, the CIB Garden of the Year Award was presented to 10 garden entries, from educational to organisational categories, in 2021. The awards attracted more than 350 entries. For the first time, the gardening community was encouraged to make digital submissions of their community gardening efforts through videos or photo montages. The strong participation despite the Covid-19 pandemic reflects the burgeoning interest in gardening among the young and working adults.

Another highlight of the gardening calendar was the second Singapore Garden Festival Horticulture Show held in October 2021. The hybrid event attracted over 145,000 people, of whom 126,000 participated virtually. Through talks, demonstrations, videos and Facebook Live panel sessions, participants picked up tips on growing edibles and learnt about Nano Tank Aquascaping and Balcony Gardens. For the first time, the retail component of the event moved online, allowing for even more people to purchase products from over 20 vendors selling plants, horticultural products and nature-based arts and crafts.



Greening Our Corridors

NATURE. RESTORED

To enable more people to garden at home, a second corridor gardening programme was launched in Boon Lay in September 2021. Each household was given a Corridor Gardening Playbook produced by NParks and the Boon Lay Environmental Workgroup, together with a gardening kit, for residents to start growing edibles literally steps from their front door.

CIB Ambassadors, volunteers and staff showcased leafy vegetables such as Caixin and herbs and spices like Basil and Coriander, suitable to be grown along corridors for budding gardeners. The pilot initiative saw about 60 households enjoying their corridor gardens and sharing their experiences on a Facebook community page. This complements the Gardening With Edibles initiative launched in June 2020. In total, 860,000 free seed packets have been distributed to encourage Singaporeans to grow edibles at home and bring nature indoors.



Corridor gardens take advantage of the sunlight that such common spaces receive and soften the harsh concrete facade typical of flats by introducing greenery into our urban environment.

Enjoying Connections with Nature

NParks continued to open park connectors, enabling residents to enjoy more connectivity between green spaces. There are now over 370 km of park connectors for recreation, bringing us closer to our goal of every household being within 10 minutes' walk from a park, a key target of the Singapore Green Plan. New routes in the Park Connector Network (PCN) include Sungei Simpang Kanan, Pasir Panjang, Stagmont, Singapore River and Kranji-Mandai.

The first phase of the Round Island Route was opened in January 2022, with a 75 km green corridor connecting park users from Rower's Bay in Seletar all the way to the Singapore River and Berlayer Creek near Labrador Nature Reserve. The route, planted with some 5,100 native trees, includes nodes at Sengkang Riverside Park, Jalan Kayu and Changi Bay where park users can rest and take in the sights and sounds of the surrounding greenery as they explore Singapore. Species such as the Seashore Mangosteen (*Garcinia celebica*) and Sea Lettuce (*Scaevola taccada*) were carefully selected to provide food and nectar for small mammals and insects.

In other PCN initiatives, the Villa Verde cycling bridge was opened in April 2021, providing residents with another route to access major recreational green areas such as Pang Sua Park Connector, Villa Verde Park, Rail Corridor and Choa Chu Kang Park. Outreach activities were also launched this past year, to improve the user experience and promote more gracious behaviours, such as cyclists giving way to pedestrians, while using the PCN.







Improving Our Quality of Living with Greenery

NParks continued to boost rooftop greenery across the island and stepped up tree planting especially in industrial estates, restoring nature into the urban landscape. These greenery intensification efforts help alleviate the urban heat island effect, cool ambient temperatures, reduce storm water run-off and improve overall air quality in heavily built-up environments. Beyond contributing to climate and ecological resilience, greenery beautifies the landscape and enables people to enjoy its therapeutic effects.

The skyrise greenery footprint grew to 143 ha across the island in the reporting year. To highlight rising interests in skyrise greenery, the second Vertical Greenery Competition was held at the Singapore Garden Festival Horticulture Show in October 2021. This featured unique creations that fit within just 35 sqm, designed by professionals from Singapore's landscape industry. In addition, a demonstration project on naturalised rooftop greenery was

02 Visitors can take in unobstructed views of the Singapore Strait along the eastern-most cycling trail in Singapore, part of the Round Island Route.

03 Vibrant flowering shrubs like the Kock's Bauhinia (*Phanera kockiana*) planted along our streets are a visual treat for pedestrians and cyclists. Birds, butterflies and bees can often be seen nestled amongst the foliage.

04 Etiquette banners have been put up to encourage safe and courteous use of our park connectors. Such messages were developed with input from users and the Friends of the Park Connector Network community members.

SCAN TO EXPLORE THE ROUND ISLAND ROUTE

implemented at HortPark to showcase technologies that sustain rooftop greenery installations, while a second edition of the Skyrise Greenery Showcase, first published in 2020, was released. Such measures demonstrate how good planning and execution of greenery can help to strengthen Singapore's climate, ecological and social resilience.

As for the greening of other areas of our built environment, NParks completed landscape works for 10 Thomson-East Coast Line MRT stations in 2021, bringing the total number of stations greened to 85. Colourful flowers of the trellis climbers planted along some 64 km of covered linkways greet busy commuters as they enter and exit these stations.



01 Garlic Vine (*Mansoa hymenaea*) planted on covered linkways adds beautiful pops of colour to our urban landscape, providing visual and mental relief to pedestrians.



02 Due to limited land resources, skyrise greenery has increasingly become an integral component of sustainable urban development. The multi-level sky terraces at Kampung Admiralty mimic the natural layers of a tropical rainforest and add a new dimension of integrating greenery into our built environment.

Partnering the Community for a Greener Future

Community involvement underpins Singapore's successful transformation into a City in Nature, a key pillar in the Singapore Green Plan, which is our national movement to advance sustainable development and combat climate change. Integrating nature into our city strengthens Singapore's distinctiveness as a highly liveable city and improves residents' health and well-being. NParks continues to engage all sectors of the community through various platforms and programmes.

Residents contributed to the development and management of our green spaces, through the Friends of the Parks (FoTP) Programme.

A new Friends of Clementi-Ulu Pandan Nature Corridor community was formed this past year. Members met in September 2021 to brainstorm ideas and plan for forest restoration and habitat enhancement works to help strengthen the area's ecological resilience.

The Friends of Bishan-Ang Mo Kio Park have also been involved in updating NParks on wildlife sightings and sharing measures on human-wildlife encounters in the park.

The public was able to share their thoughts and feedback during a range of community engagement sessions held throughout the year. For example, online townhall conversations gathered suggestions for the development of the upcoming Bukit Timah-Rochor Green Corridor, while focus group discussions generated good ideas for the redesigning of Raffles Place and Telok Ayer Parks.

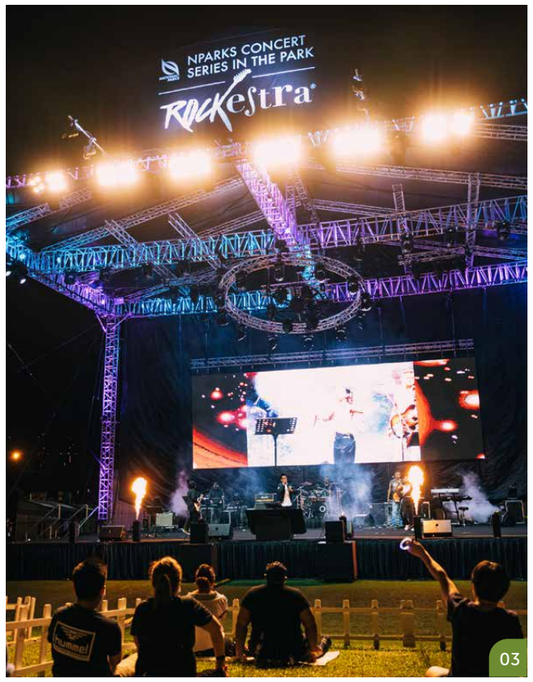
Multiplying Our Outreach

While the Covid-19 pandemic restricted some face-to-face engagement, NParks continued to reach out to the community digitally. In the reporting year, NParks produced over 90 videos and 40 webinars, livestreamed 11 Facebook and Instagram events and 10 concerts. Collectively, our digital assets received over 2 million organic views across NParks' YouTube and social media platforms.

Viewers picked up useful gardening tips and knowledge during the Facebook Live sessions while the Human-Wildlife Encounters in our City in Nature and the OneMillionTrees webinar series on Zoom and NParksSG YouTube channel were also well received. The second online Singapore Symphony Orchestra City in Nature Concert held in November 2021 achieved over 10,000 live views on Facebook and YouTube.

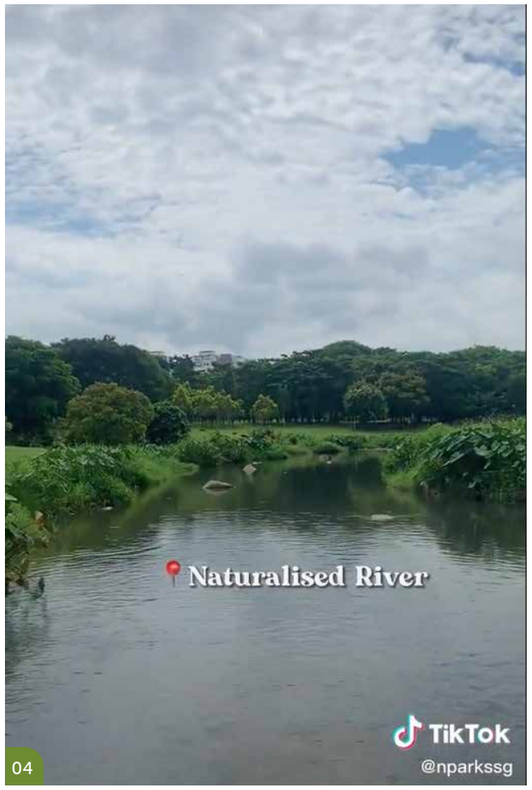
As the Covid-19 situation evolved, selected NParks' signature programmes adopted a hybrid format. Residents enjoyed the Singapore Garden Festival Hort Show 2021 virtually, viewing the more than 20 videos produced to support this event. These included clips on DIY gardening tips, show highlights and tours of gardens. Six Facebook Live sessions and webinars featuring NParks and local experts on gardening topics were also well received with over 160,000 views across our social media platforms.

SCAN TO VISIT NPARKSSG YOUTUBE CHANNEL



Another highlight was the NParks Concert Series in the Park: Rockestra®. In addition to those who attended the concert live at Fort Canning Park, hundreds more participated in the livestream, enjoying a night of music and fun from the comfort of their homes.

This past year, we worked with content partners and social media influencers across Instagram and TikTok to share initiatives on how we can build a City in Nature and how these benefit Singaporeans. Through these efforts, we have reached out to over 2 million people. To communicate directly with younger audiences, NParks created experimental content on a new TikTok channel. The page has grown steadily since it was started in November 2020 and had over 9,000 followers by March 2022. And to better engage professionals, an NParks LinkedIn page was started in January 2022 with content that speaks about our efforts to transform Singapore into a City in Nature and the science behind our work.



03 NParks Concert Series in the Park: Rockestra® returned to Fort Canning Park after two years since the pandemic hit Singapore. The audience safely enjoyed song, dance and good cheer from the energetic performers.

04 NParks TikTok channel features light hearted snippets of our City in Nature such as parks to explore and the top spots to catch the sunset.

REVITALISED

Biodiversity conservation efforts undertaken in close collaboration with the community help ensure that Singapore achieves a sustainable balance between nature and development.

Strengthening Ecological Connectivity

NParks intensified efforts to enhance Singapore's biodiversity and strengthen ecological connectivity islandwide. Some 21 km of Nature Ways were completed in areas such as Upper Changi, Punggol Central, South Buona Vista and Kranji.

Nature Ways are multi-tiered plantings with specially selected trees and shrubs to create a forest-like structure and to facilitate the movement of fauna between green spaces. They not only help to sustain healthy natural ecosystems across the island, but also give residents more opportunities to connect with nature.

SCAN TO FIND OUT MORE ON HOW SINGAPORE IS ENHANCING ECOLOGICAL CONNECTIVITY

As part of rewilding efforts, NParks also naturalised 10 sites with the planting of native trees to boost ecological connectivity along Pasir Panjang Road and several of our expressways. Native species are a treasured part of our natural and cultural heritage as they provide many indispensable benefits to our living environment.

The community was able to learn more about native species at learning workshops on invasive species management (ISM). If not managed properly, invasive species threaten the survival of native flora and fauna. Volunteers were involved in ISM efforts at the Rail Corridor as well as in Dairy Farm and Windsor Nature Parks. Schools, corporations and grassroots groups participated in hands-on sessions to help remove such invasive species from our regenerating forests, to ensure native species can thrive. Volunteers were also involved in habitat enhancement works at eight parks including Ang Mo Kio Town Garden West and Changi Beach Park.

Enhancing Ecological Connectivity with Clementi Nature Corridor

NParks has conducted an Ecological Profiling Exercise (EPE) with input from a scientific Advisory Panel. This science-based approach maps out the ecological profile of green and blue spaces across the island to better understand their role as biodiversity refugia and for ecological connectivity supporting Singapore's commitment to balancing development with nature conservation in the stewardship of land.

Derived from the results of the EPE, NParks is establishing the Clementi Nature Corridor which includes forested sites at Clementi, Toh Tuck, Maju and the Rail Corridor. NParks will work with the community to continue habitat enhancement and reforestation efforts to enhance connectivity for wildlife between the nearby core nature areas. A sizeable nature park will also be safeguarded in the western side of the greenfield site at Ulu Pandan and will serve as a stepping-stone habitat between Clementi Forest and the Southern Ridges.



NParks continues to study the primary spine of ecological connectivity in the Toh Tuck, Maju and Clementi areas, taking reference from baseline biodiversity studies that have been conducted for these areas. There are no immediate development plans for the Toh Tuck and Maju sites, and no immediate plans for residential developments at the Clementi site.





Restoring Coastal Beach Forest at Labrador Nature Reserve

NParks unveiled habitat restoration plans for Labrador Nature Reserve that will carry on up to 2030. The Reserve is home to the unique coastal hill forest that houses rare species tolerant to salt exposure and poorer soil conditions. To protect the forest, its slopes will be replanted with suitable native species, including the Critically Endangered Broad-leaf Fern (*Dipteris conjugate*). The edges of the forest are also being extended with the planting of native coastal plants.

These measures are part of the Forest Restoration Action Plan, introduced in 2019. This seeks to strengthen the resilience of our native rainforests by restoring ecological processes and enhancing the biodiversity and ecological connectivity in these areas. This will improve the habitats for native biodiversity. In the reporting year, a total of 1.7 ha of enhancement planting was carried out in several of our Nature Parks and reservoir parks.

These greenery enhancements extend to the West Coast area too. In September 2021, NParks announced plans to work with residents to roll out more nature-based amenities such as community and allotment gardens and corridor gardening opportunities. Residents can also look forward to a better living environment thanks to new Therapeutic Gardens, nature playgardens and inclusive playgrounds, Nature Ways, recreational routes and the greening of the upcoming Jurong Region Line, a major upcoming infrastructure development in the area and nearby industrial estates.

01 A coastal beach forest area between the coastal hill forest and the sea will be restored, as part of the Forest Restoration Action Plan for Labrador Nature Reserve. This will provide an ecological buffer for the coastal hill forest, as well as increased sources of food and shelter for fauna.

02 Visitors can soon enjoy a new trail that runs along the Old Jurong Line, a disused railway track that ceased operations in the early 1990s and runs through Clementi Forest. The Old Jurong Line Nature Trail will be part of the 62 km Coast-to-Coast Southern Trail.

03 The one-hectare coastal arboretum on Pulau Ubin will act as a nursery for plant species that can help rejuvenate the island's coasts. NParks leverages nature-based solutions such as mangroves and reforestation to enhance Singapore's climate resilience.



Protecting Ubin's Coastlines

Using nature-based solutions to build up Singapore's climate resilience, NParks will carry out a series of habitat enhancement efforts at Pulau Ubin. This includes protecting about 2.2 km of the northern coastline of the island as well as mangrove restoration at Sungei Durian, along the southern coast.

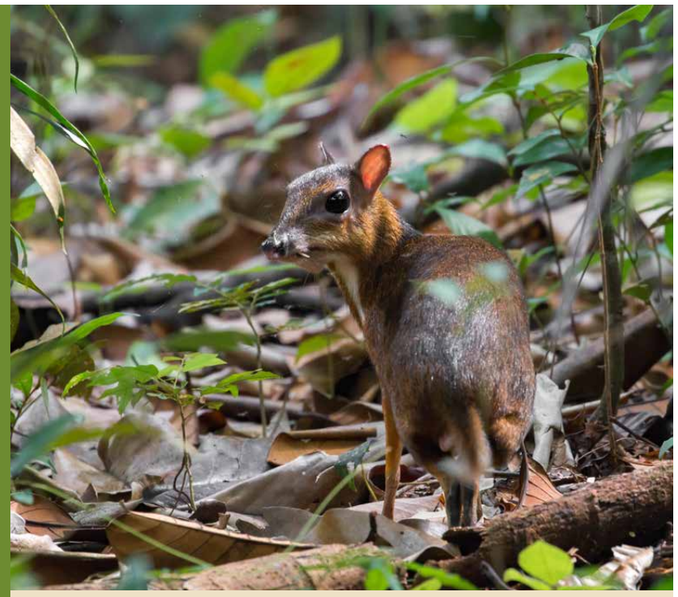
In addition, a coastal arboretum showcasing 500 trees from over 70 native coastal species was opened in September 2021. It acts as a nursery for plant species that will eventually be re-introduced to Pulau Ubin's coasts. Reforestation efforts on the island have also expanded, from three to the current 12 sites, with some 3,500 trees to be planted to enhance the island's unique biodiversity and ecosystems.

These initiatives were shared with the public during Pesta Ubin, a three-week festival featuring virtual tours, talks and programmes about Pulau Ubin's rich cultural and natural history. The festival culminated with the celebration of Ubin Day on 11 September 2021. The public can also receive updates about the happenings of the island via Ubin Tides, an e-newsletter put together with help from the Friends of Ubin Network community.

Biodiversity Conservation Efforts Bear Fruit

Habitat enhancement and species recovery efforts under the NParks Nature Conservation Masterplan are bearing fruit. Several species such as the Lesser Mousedeer (*Tragulus kanchil*) and Sunda Slow Loris (*Nycticebus coucang*) have been assessed to have an improved conservation status in the latest update of the Singapore Red List in September 2021. This suggests that the resilience of these animals has improved with the support of our biodiversity conservation efforts.

A study on the ungulate population in 2020 showed that the Lesser Mousedeer population has recovered since the 1990s. Large ungulate species like the Wild Boar (*Sus scrofa*) and Sambar Deer (*Rusa unicolor*) can co-exist with the Lesser Mousedeer, likely due to these species being active and feeding at different times of the day.



The population of the Lesser Mousedeer has increased four-fold since the 1990s to over 200 living in Singapore today. Keeping the nature reserves closed to the public at night enables animals to forage and move around freely without human disturbance.

Partnering the Community in Biodiversity Studies

NParks has added 13 plant and 13 animal species to its Species Recovery Programme, bringing the total number to 80 plant and 40 animal species. The programme has been expanded to include species monitoring efforts by stakeholders, including members of the scientific and nature communities.

At Pulau Satumu, staff, academic partners and volunteers gathered in May 2021 to document an annual mass coral spawning event in Singapore's waters. This was part of efforts to build up long-term data on the corals' reproductive capacity and better understand their spawning patterns so that sea-based activities can be managed to minimise impact to the corals.

Under the Plant-A-Coral, Seed-A-Reef Programme, NParks will be assessing the efficacy of CoralAID Mineral Accretion (CAMA) units in enhancing coral growth in Singapore's waters. For the first time in Singapore, the new initiative will trial the use of mineral accretion technology to stimulate the growth of hard corals by subjecting them to low-voltage electricity. The trial is supported by seed funding through the Garden City Fund.



01 The mass synchronous spawning of corals, where millions of coral sperm and eggs are released into the sea, occurs only once a year. The fact that corals are able to reproduce and safeguard their next generation bodes well for the long-term sustainability of Singapore's marine biodiversity.

Celebrating Conservation Successes

Singapore's significance as a stopover and wintering ground for migratory shorebirds along the East Asian-Australasian Flyway was celebrated once again on 9 October, or World Migratory Bird Day. The community was invited to participate in a Wader Watch online workshop to learn more about shorebirds and their arduous journeys to our island. More than 230 species of birds have been recorded at Sungei Buloh Wetland Reserve alone.

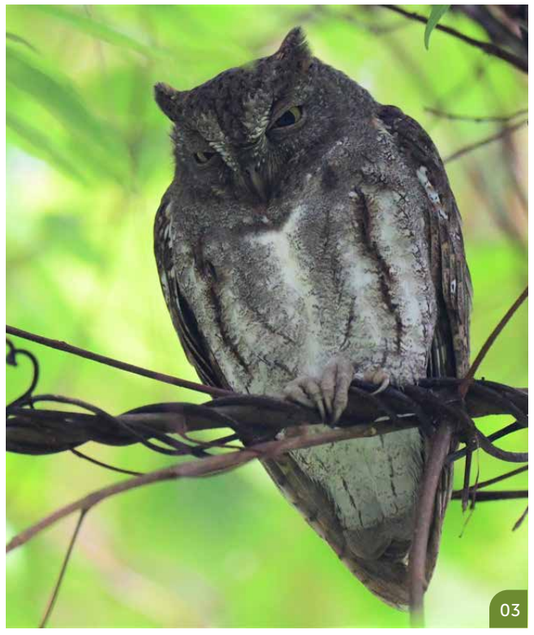
Birders also enjoyed a wealth of sightings of visitors to our City in Nature with as many as 12 new sightings in Singapore in 2021, more than double the usual number. These rare and first-time sightings include the Fairy Pitta (*Pitta nympha*) at Hindhede Nature Park, the Oriental Scops Owl (*Otus sunia*) at Thomson Nature Park and the Spotted Flycatcher (*Muscicapa striata*) at Kent Ridge Park.

The 10th Festival of Biodiversity was held in September 2021 to celebrate the community's efforts in conservation and to commemorate the International Day for Biological Diversity. The number of partners involved in the Festival has grown, from under 30 in 2011, to 67 in 2021, exemplifying the broad-base support conservation enjoys in Singapore.

The contributions of nature groups, schools, youths, work groups comprising academics and other stakeholders, as well as members from the Friends of the Parks community continue to drive programmes to enable even more Singaporeans to become active stewards of our biodiversity and environment.

SCAN TO LEARN ABOUT SHOREBIRD MIGRATION









02 President Halimah Yacob (right) and Minister for National Development and Minister-in-Charge of Social Services Integration Desmond Lee (centre) visit activity booths at the Festival of Biodiversity to engage with passionate volunteers and learn more about Singapore's native biodiversity.

Interest in bird watching in Singapore reached new heights in the last year, with sightings of the (**03**) Oriental Scops Owl, a rare migrant to Singapore that was unusually spotted—no less than four times; the extremely rare (**04**) Fairy Pitta that was sighted at Hindhede Nature Park and the first record of the (**05**) Spotted Flycatcher in Singapore.

Strengthening Community Stewardship of Nature

Over the years, the number of citizen scientists has grown to over 9,000, forming a significant part of NParks' current volunteer base of over 56,000. Some 1,800 citizen scientists were involved in Community in Nature Biodiversity Watches, which were held across 99 sites in Singapore between January and October 2021.

Another 150 citizen scientists were involved in the annual Nationwide BioBlitz, conducting surveys on birds, butterflies, bees, and dragonflies across 20 sites. Volunteers for the twice-yearly Heron Watch helped spot species of conservation importance such as the Great-billed Heron (*Ardea sumatrana*) and Black-crowned Night Heron (*Nycticorax nycticorax*). Data collected from these surveys contribute to long-term population monitoring and provide guidance for conservation and management programmes.

Young Singaporeans continued to express their passion for conservation and greenery issues. About 600 schools and 48,000 students participated in Biodiversity Week for Schools, held in July 2021, by planting trees and conducting biodiversity surveys, among other activities.

Under the Youth Stewards for Nature programme, a select group of 80 youth leaders took part in biodiversity, conservation and horticulture projects under the mentorship of NParks staff. A capacity-building programme, the Biodiversity Friends Forum Challenge, was held for youths to gain exposure to biodiversity conservation in Singapore through field trips and activities, and to learn how they can contribute towards such efforts.

In another youth initiative, two Green Friends Forum (GFF) programmes were established to engage young people on horticulture and urban greenery issues in Singapore. The GFF Experience kicked off in April 2021 and involved participants in the science behind greening Singapore through hands-on horticulture, arboriculture and landscape design activities. The GFF Sandbox, held in September, provided youths with a valued platform to meet and discuss topics on greenery and gardening with like-minded individuals.

As part of an ongoing collaboration, NParks is conducting training for Outward Bound Singapore instructors under the Youth@SGNature initiative. This is to support activities that can help start conversations on issues related to the environment.

As part of attachment programmes, youths from tertiary to university institutions have been working in NParks to gain real-world experience. Guided by staff, these students get invaluable firsthand exposure to the fields of botany and horticulture, wildlife management, community engagement and nature conservation. After their stint with NParks, many continue to be nature ambassadors and advocates, inspiring their peers to become stewards of nature too.

In the reporting year, NParks produced and shared new educational resources to more than 1,900 pre-school centres focusing on the topic of appropriate behaviour towards animals around us. Using these resources, teachers are educating children about civic responsibility and sharing the environment with community and companion animals and wildlife.


01

01 Youth participants of the Green Friends Forum programme get hands-on practice using a resistograph that drills into a tree and measures the resistance of the wood. By comparing the measured resistance profile to a reference profile for the species of tree, they can determine whether the tree is structurally sound.

02 A preschooler builds a 'park' in a City in Nature diorama, part of NParks' educational resources specially created for the young. Through play, children can learn about the importance of behaving responsibly towards animals in our green spaces.



02


03

03 The home set-up in the Centre for Animal Rehabilitation, complete with sofa set, television and roving vacuum cleaner, was designed to assimilate pets to a typical home environment.

04 Senior Minister of State for National Development & Communications and Information Tan Kiat How interacts with a resident of the Centre for Animal Rehabilitation, where companion animals that have previously been abandoned or rescued, are rehabilitated and rehomed.

Enhancing Animal Care and Welfare

NParks rolled out new regulations and guidelines aimed at improving animal health and welfare standards. From 1 April 2022, pet breeders and boarders are required to comply with an improved set of licensing conditions that prohibit them from breeding pets with known harmful heritable conditions or from carrying out in-breeding practices. Licensing conditions for commercial pet boarding facilities have also been tightened.

New guidelines have also been established to standardise dog rehoming and adoption practices, as well as for dog training and behaviour rehabilitation. These were developed by the multi-stakeholder Rehoming and Adoption Workgroup that included veterinarians, dog trainers and Animal Welfare Groups (AWGs), and in consultation with the public.

The Animal & Veterinary Service (AVS) continues to collaborate with AWGs, veterinarians and other relevant stakeholders on the Trap-Neuter-Release-Manage (TNRM) programme, which is a humane, science-based approach to managing Singapore's stray dog population. Close to 3,000 strays have been enrolled under this programme since 2018.

Launched as a pilot project in 2019, Project Rehab supports the TNRM programme by training and rehabilitating stray dogs to be more comfortable around humans and in a home environment. To date, a further 70 dogs have been rehabilitated. Under Project ADORE (ADOption and REhoming of dogs), AVS and AWGs successfully rehomed about 2,000 local mixed-breed dogs in HDB flats since the programme was launched in 2012.

Opened in March 2022, the Centre for Animal Rehabilitation is Singapore's first dedicated facility for animal behavioural rehabilitation. Equipped with specially designed features for effective science-based canine rehabilitation, trained professionals there assess and address dog behaviour problems in a calm and spacious environment. AVS is also partnering with the Society for the Prevention of Cruelty to Animals to refine the post-rehabilitation process for stray dogs and improve their successful integration into homes and the community.


04

The Centre for Urban Greenery and Ecology (CUGE) rolled out new workshops on animal welfare, animal health and conservation to enhance the skillsets of NParks staff and the industry. These included a Fauna Identification – Parrots & Bird Trade Workshop and a Coral Identification Workshop. Meanwhile, AVS also arranged for international experts such as Ms Trish McMillan and Mr Michael Shikashio, who are well renowned in the field of animal behaviour, to speak during specially curated webinars on understanding the science behind animal behaviour.

As NParks continues to enhance our green spaces, pets are not forgotten. Several dog runs were opened this past year, including at Bukit Gombak Park, Punggol Waterway Park and Mayfair Park. Such facilities provide safe spaces for dogs to run freely and play with other dogs. They are also areas where visitors can exercise responsible pet ownership over their animal's behaviour and health.

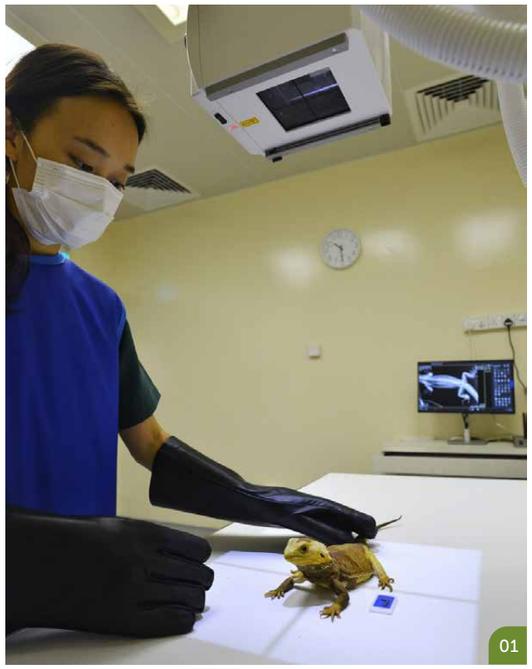
SCAN TO EXPLORE THE CENTRE FOR ANIMAL REHABILITATION

Advancing Wildlife Management

By conducting regular wildlife surveys and employing ecological modelling tools, NParks studies the movement and distribution of wild animals in Singapore to advance our wildlife management strategy. To support these efforts, a Centre for Wildlife Rehabilitation was established in early 2022 to provide veterinary care and rehabilitation for injured or distressed wild animals, building up NParks' expertise in the rescue, treatment and release of wildlife. The Centre also enhances NParks' existing biosurveillance capabilities.

Wild animals brought to the Centre are routinely screened for zoonotic diseases and the results are then used to guide risk assessments and management measures, such as vaccination programmes, to protect ecological and public health. NParks' stepped-up capabilities will enhance the work done in collaboration with local wildlife rescue partners such as ACRES and Mandai Wildlife Group.

NParks launched a new series of monthly webinars for the public to promote responsible behaviour towards wildlife commonly encountered in urban and natural settings. These include the Long-tailed Macaque (*Macaca fascicularis*), Wild Boar (*Sus scrofa*) and Smooth-coated Otter (*Lutrogale perspicillata*). The webinars were done in collaboration with our wildlife working groups. Participants were able to learn about NParks' science-based approach to manage these encounters and picked up tips on how to co-exist with wildlife in our urban ecosystem through simple actions such as keeping a safe distance from them and not feeding them.



01



02

01 A staff member operates an x-ray machine to diagnose injuries such as fractures and medical conditions such as pneumonia in animals brought to the Centre for Wildlife Rehabilitation. Such capabilities enhance the treatment and rehabilitation of the rescued animals.

02 Park Connector users keep a safe distance and wait for the Smooth-coated Otter to cross the path. Simple actions such as this enable us to co-exist responsibly with our wildlife neighbours.

SCAN TO WATCH AN ADVISORY VIDEO ON LIVING WITH NATURE



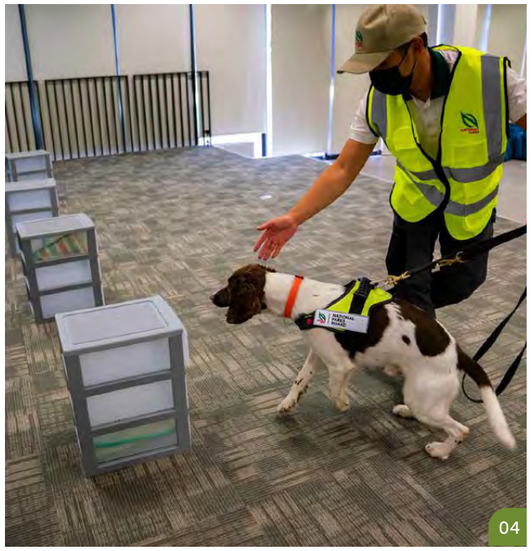
03

Tackling Illegal Wildlife Trade

From 1 September 2021, a nationwide ban on the sale and public display of elephant ivory and ivory products took effect. As a member and signatory of the Convention on International Trade in Endangered Species of Wild Fauna and Flora (CITES), these new regulations and the setting up of the Centre for Wildlife Forensics reinforce Singapore's resolve in the fight against illegal wildlife trade. Further amendments are being proposed to Singapore's Endangered Species (Import and Export) Act to ensure the legislation remains effective in tackling illegal wildlife trade and protecting endangered species.

To complement efforts, a new K9 unit of detector dogs was established. Tapping on these dogs' keen sense of smell, the animals have been deployed at various checkpoints into Singapore to enhance efforts in detecting trafficked wildlife and wildlife products such as pangolin scales and elephant ivory.

NParks partners other public agencies nationally and internationally to target and destabilise illegal wildlife trade networks. This past year, working with authorities from China, NParks together with the Immigration & Checkpoints Authority and Singapore Customs, successfully intercepted an elephant ivory ornament that transited in China and arrived in Singapore, identifying the seller and buyer through the process.



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03 A researcher at the Centre for Wildlife Forensics sorts out seized pangolin scales according to size and shape to be processed for further DNA tests that can reveal illegal wildlife trade networks. As a major trading hub, Singapore plays a key role in intercepting illegal shipments of wildlife products.

04 One of the dogs in the NParks K9 unit demonstrates its ability to sniff out and detect concealed illegal wildlife products such as elephant ivory and pangolin scales.

By studying the DNA in seized wildlife parts and products, our scientists worked with renowned biologist Professor Samuel K Wasser from the University of Washington, to better understand their geographical origins. This enables us to identify potential linkages and syndicates involved in the illegal trade in wildlife and support enforcement and prosecution efforts.

UPLIFTED

NParks continued to uplift standards across the landscape and animal industries and to leverage science and technology in our work, ranging from biodiversity conservation to park and greenery management and research.

Intensifying the Science Behind Our City in Nature

There are currently more than 100 ongoing research projects under the NParks Science and Technology Masterplan.

One such initiative is the Flora of Singapore project, which seeks to build a complete profile of Singapore's forests and plant diversity through a variety of genomic, taxonomic and ecological studies. NParks has carried out the genomic sequencing of 500 plant species in Bukit Timah Nature Reserve and the findings will inform flora conservation efforts by contributing to the understanding of the full range of plant diversity in Singapore and the status of the different plant populations here.

In the past year, NParks has led the publishing of nine plant, fungal and algae species in Singapore as new records or rediscoveries. These include a liverwort species that is new to science (*Gaolejeunea hoi*) in a genus previously only known from China; a new record of the first and only known freshwater red algae species in Singapore (*Visia cylindrocellularis*); as well as the rediscovery of an orchid (*Hetaeria oblongifolia*) that has not been sighted for over 120 years.



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01 While *Visia cylindrocellularis* was thought to only exist in West Malaysia, the discovery of the freshwater algae in Bukit Timah Nature Reserve suggests its distribution is not as restricted as initially thought.

02 The *Hetaeria oblongifolia* was last collected in 1897 before its recent rediscovery in Tengah Forest. The orchid will now be propagated and successful species will be planted into our nature reserves and other green spaces.

03 Research done under the Marine Climate Change Science programme helps develop solutions to address challenges faced by the coastal and marine environment arising from climate change. These include sea level rise, increasing sea surface temperatures, and extreme storm events.

SCAN TO LEARN MORE ABOUT THERAPEUTIC GARDENS



03

Deepening Nature-driven Research

City in Nature is a new research vertical formed under the Cities of Tomorrow R&D Programmes in Research, Innovation and Enterprise 2021. Led by NParks, it seeks to provide a scientific foundation for Singapore's transformation into a City in Nature, in alignment with the national push to create a greener, more liveable and sustainable home for residents. The research vertical will build on existing R&D efforts in greenery and biodiversity to strengthen Singapore's ecological and climate resilience, as well as inform nature-based solutions for social resilience.

NParks continues to be the implementing agency for the Marine Climate Change Science programme (MCCS), a S$25 million research funding initiative supported under the national Research, Innovation and Enterprise 2025 Plan. The multidisciplinary MCCS programme seeks to develop scientific evidence-based interventions to address the impact of climate change on Singapore's marine environment and ecosystems.

NParks is working with members of the MCCS programme to develop a series of research plans in Blue Carbon Science, Eco-Engineering, Ecological Resilience, Climate Impact Science, and Community-Driven Climate Resilience Planning. The plans will guide upcoming research efforts in these areas.

Improving Mental Well-being through Nature Therapy

Several evidence-based research studies conducted by NParks with research partners found that urban nature contributes positively to the health and well-being of residents. In one study conducted in collaboration with the Department of Psychological Medicine at the Yong Loo Lin School of Medicine in the National University of Singapore (NUS), it was found that viewing landscapes in Therapeutic Gardens could provide support for treating depression. The findings pave the way for developing therapeutic landscapes, which can function as a self-care practice for citizens to maintain their mental well-being.

New Therapeutic Gardens were opened in Pasir Ris Park and Bedok Reservoir Park, keeping NParks on track to establish 30 such gardens across the island by 2030. To complement these gardens, seven therapeutic horticulture nodes were successfully set up to benefit patients and residents of medical facilities such as Dover Park Hospice and Geylang East Home for the Aged.

Another study with the Saw Swee Hock School of Public Health found that participants who visited parks during the day were less stressed on the same evening than those who did not visit parks.

Another study found that there was heightened demand for cultural ecosystem services provided by urban green spaces like parks and nature areas in Singapore during the pandemic, with an increased appreciation for less manicured urban green spaces. This validates the central role that parks play in people's lives, especially during the pandemic.

The last study, which compared participants of the Gardening with Edibles programme with a general online community, found that the mental resilience of those who gardened was statistically significantly higher. Further analysis on the gardening group showed that more than one hour of weekly gardening time was associated with better scores.

To extend the positive effects of gardening to students, NParks introduced its Garden in a Classroom Programme in collaboration with the Ministry of Education's UPLIFT initiative. This integrates social-emotional learning with gardening-related activities. Close to 70 workshops were held, reaching out to 1,200 students. Surveys to measure psychological well-being found that participants overwhelmingly benefited from gardening.

The findings are among the first few studies done globally that demonstrate the relative importance of different types of urban nature, including their role during the Covid-19 pandemic.



While there is universal agreement that urban nature provides a suite of benefits to people, NParks and partners conducted research to better understand the benefits of different forms of urban nature, and how landscape design can be used more effectively.

Monitoring Marine Life with New Acoustic Technologies

NParks is working with NUS to develop an acoustic monitoring system to improve the detection of marine megafauna in their underwater habitats. Marine megafauna such as dolphins, dugongs and sharks play an important ecological role as apex predators or habitat modifiers and are thus good indicators of habitat health.

Passive acoustic monitoring (PAM) technology is used to monitor soniferous animals such as dolphins. Through this project, NParks and NUS will also explore modifying a PAM system that can be used to detect and locate non-soniferous animals in local waters. Looking ahead, this data will facilitate regional management strategies and conservation of native megafauna, especially by protecting areas frequently visited by these animals.

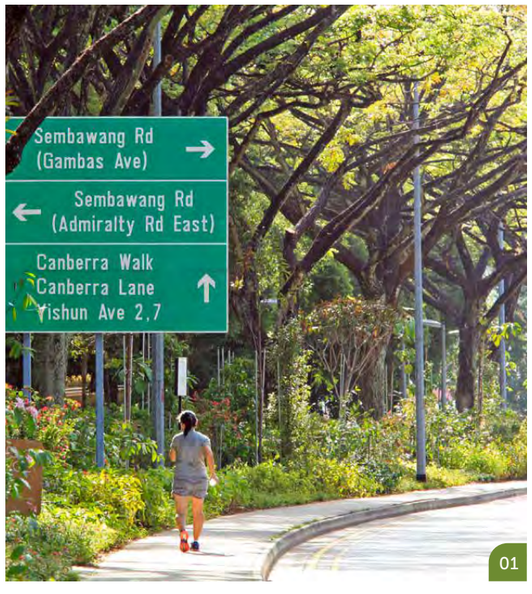
Upskilling the Workforce

As efforts to transform Singapore into a City in Nature gather steam, the landscape workforce has also been adopting higher-level skills in greenery and landscape management. In September 2021, NParks organised a webinar on Landscape Design for our City in Nature for members of the Singapore Institute of Landscape Architects to share knowledge of the important role of landscape design in the restoration and interconnection of habitats.

In the past year, NParks rolled out 10 new Workforce Skills Qualification (WSQ) courses that reference the Skills Framework for Landscape, as well as two new non-WSQ certification programmes in Basic Plant Recognition and Field Epidemiology. A total of 10 new workshops and webinars were also conducted to upskill the industry.

The Centre for Urban Greenery and Ecology (CUGE) exceeded its target of 4,000 training places for FY 2021, with more than 1,000 training and assessment places for WSQ programmes and more than 3,500 training places for non-WSQ programmes. CUGE will continue as the sole Continuing Education and Training Centre for the landscape sector after being reappointed by SkillsFuture Singapore for a three-year period starting 1 August 2021.

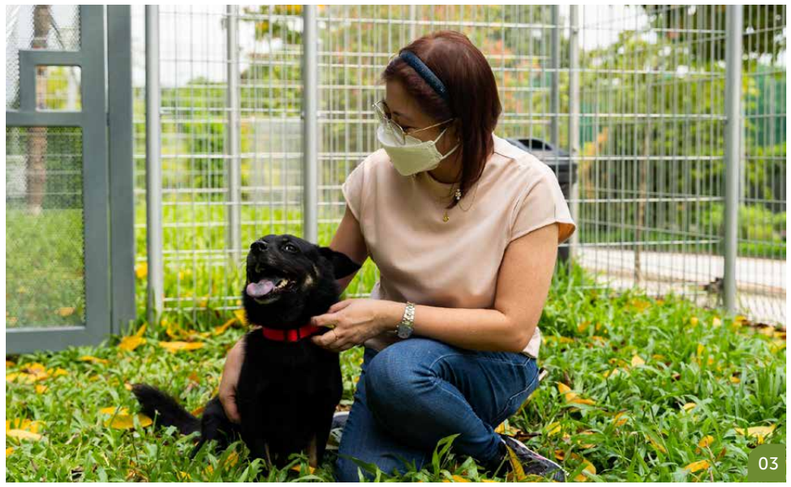
SCAN TO LEARN HOW NATURE WAYS ARE ENHANCED WITH NATIVE TREES AND FLOWERING PLANTS



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During the webinar on Landscape Design, participants learnt how green corridors, such as (**01**) this Nature Way at Canberra Link, help connect areas of high biodiversity to urban communities. They also learnt how native plants, like (**02**) the critically endangered *Kopsia singapurensis*, have been introduced to our streets and green spaces to enhance biodiversity.


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03 Pet owners can use the segregated dog runs at the Animal Quarantine Centre to spend time with their dogs outdoors while socially distanced from other animals, to reduce the risk of diseases being spread.

04 To strengthen our ability to prevent infectious diseases from entering Singapore, AVS inspects imported pigs before they are cleared for entry into Singapore. This is done using in-ship vessel CCTVs with live transmission and drones fitted with thermal cameras.

Harnessing Technology to Safeguard Human and Animal Health

As part of efforts to strengthen biosurveillance and resilience of Singapore's animal health system, AVS is leveraging technology to enhance the management of animal diseases that may pose threats to human and animal health. Controls implemented at pre-border, border and post-border stages help to detect, contain, and manage diseases early.

To boost surveillance capabilities, AVS is employing the use of in-ship vessel CCTVs with live transmission and drones fitted with thermal cameras to inspect imported pigs before they are cleared for entry into Singapore. AVS is also building up an animal health information system that integrates animal health-related data, licensing, and inspection records. This information will be incorporated into NParks' overall Geographic Information System platform, MAVEN II, allowing for integrated data analysis so as to better anticipate and manage biosecurity risks.

The Animal Quarantine Centre, opened in November 2021, leverages technologies to better safeguard animal health and welfare. This includes employing technology that will detect potential pathogens in the kennel and cattery environment, rapid point-of-care diagnostic test kits as well as CCTVs to monitor the conditions of the animals in their kennels or catteries. The Centre also expands AVS' quarantine management system to manage the operations of all other quarantine facilities across Singapore including those designated for imported wildlife, horses and laboratory animals.

AVS is employing the use of smart collar tags for animals eligible for home quarantine, making Singapore one of the first countries to do so. Some animals, such as those with pre-existing medical conditions that require around-the-clock care by their owners, can serve their post-arrival quarantine at home. Taken together, these enable AVS to react expeditiously if there is a disease outbreak.



04

Undergirding this biosurveillance system is the Centre for Animal & Veterinary Sciences, which houses animal health laboratories equipped with advanced diagnostic capabilities to identify animal and zoonotic diseases and sequence the genome of the disease agents. Staffed by a multidisciplinary team including veterinarians, animal health inspectors and laboratory scientists, this biosurveillance system has kept Singapore's rabies-free status since 1953 and continues to ensure the nation is free from other major transboundary animal diseases such as Highly Pathogenic Avian Influenza, African Swine Fever, Foot-and-Mouth Disease and African Horse Sickness.

NParks' expertise is recognised nationally and stretches beyond our borders. Amidst the Covid-19 pandemic, close collaborations with the Mandai Wildlife Group enabled nine lions infected with the SARS-CoV-2 virus, to be nursed back to health. Staff also joined their peers in Thailand to research and deduce solutions to combat the spread of the fatal African Horse Disease.

Raising Professional Standards for the Veterinary Sector

NParks has been engaging veterinarians, vet paraprofessionals and users of vet services to better understand the key challenges faced by the sector, and to identify areas for growth and development. Focus group discussions have highlighted the need to better define the scope of veterinary activities and to recognise the critical role of veterinarians and veterinary paraprofessionals. They also emphasised the importance of upholding professional standards in the veterinary sector, along with the need to encourage continuing education in the veterinary profession. One new initiative being explored is the formation of a veterinary professional body to advance the standards and practices for the sector.

In line with the development of standards for the veterinary industry and the national initiatives to stem the development and spread of antimicrobial resistance (AMR), AVS launched the Guidelines for the Prudent Use of Antimicrobials in Companion Animals in November 2021. These guidelines were developed by a working group comprising veterinary professionals from both AVS and Singapore Veterinary Association (SVA), and include inputs from veterinary species experts.

The guidelines serve as a resource for veterinary professionals to supplement clinical decision making on the appropriate use of antimicrobials in companion animals, and raise awareness and understanding of AMR locally.

In 2020, SVA worked with AVS to develop the Singapore Vaccination Guidelines for Dogs and Cats to raise awareness of the importance of vaccination in safeguarding animal health and combating AMR.

Sharing Our Expertise Internationally

Over the past year, NParks was involved in several multi-stakeholder initiatives in the areas of biodiversity and sustainability. A key collaboration was the consultative effort with international stakeholders and experts to develop an updated version of the Singapore Index (SI) on Cities' Biodiversity.

The SI was developed to help cities worldwide evaluate and monitor the progress of their biodiversity conservation efforts over time. Taking into consideration the escalating challenges of biodiversity loss and climate change, the updated index added new indicators for habitat restoration, biodiversity and health, climate change, nature-based solutions, and natural capital assessment, amongst others.

Visitors to the Gold Award-winning Singapore Pavilion at the 2020 World Expo were welcomed by a display highlighting our City in Nature vision and treated to a showcase of innovations used to manage Singapore's greenery. These included tree inspection microdrones

01 Over the years, the veterinary community has played an important role in safeguarding public health. Vets assist with disease control efforts, help to protect Singapore against zoonotic viruses and care for our companion animals, as well as educate pet owners on responsible pet ownership.

02 The Singapore Pavilion at the 2020 World Expo showcased to the world what it means for Singapore to be a City in Nature. Visitors admired native plants and flowers growing on the walls of the pavilion, simulating the environment of a tropical rainforest.



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and climbing robot prototypes that traverse vertical green walls to monitor plant health and collect environmental data. NParks worked closely with the Urban Redevelopment Authority and architecture studio WOHA to conceptualise the design and plant selection for the event held from October 2021 to March 2022 in Dubai.

In September 2021, NParks and the ASEAN Centre for Biodiversity co-organised a webinar on therapeutic horticulture. Some 130 participants, including officials from the environment and health sectors of ASEAN member states, learnt from subject matter experts from academia and the industry who shared perspectives on the role and implementation of green spaces as venues for therapeutic horticulture in cities. The capacity-building event was supported by the European Union.

At the 7th World Cities Summit held virtually in June 2021, attendees experienced Singapore through a series of virtual site visits to locations such as Tanjong Pagar and Jurong Lake Gardens, where they learnt about the various smart technologies and sustainability initiatives being trialled there. Over 4,700 delegates from 556 cities participated remotely.



03

Celebrating Excellence

To celebrate outstanding greenery and biophilic design, 27 developments were awarded the Landscape Excellence Assessment Framework (LEAF) certification by NParks in the assessment year for 2020. To achieve this recognition, the projects were evaluated on various factors with emphasis placed on ecology, biophilic design and park management. In all, 58 local public and private developments have received the LEAF certification since its launch in 2013.

Jurong Lake Gardens was awarded the LEAF Award (Platinum) and the ABC Waters Certification (Gold) for its integration of greenery with scenic waterscapes and display of innovative design, such as in Clusia Cove, a children's water play area which together with the nearby eco-pond, share a closed-loop water cleansing system. Water from the water playground enters the eco-pond that simulates a freshwater wetland ecosystem. Here it is filtered and cleansed by the sand beds and plants in the pond, before being channelled back into the children's playground.

Jurong Lake Gardens was also recognised by the Urban Land Institute (ULI) Asia Pacific where it picked up a 2021 Award for Excellence for outstanding development and efforts in promoting environmental sustainability, stewardship and resilience that have positively impacted the community. The Gardens won from a pool of 79 nominees assessed by a jury of real estate leaders from different countries. The ULI highlights outstanding urban development projects in the private, public and non-profit sectors located in Asia Pacific.

SCAN TO VIEW A VIRTUAL TOUR OF JURONG LAKE GARDENS

03 Jurong Lake Gardens has received several awards since its opening. This past year, it was recognised with the LEAF Award (Platinum) and the ABC Waters Certification (Gold) award as well as the 2021 Award for Excellence from the Urban Land Institute Asia Pacific.

Building Up Staff Knowledge

Hort Champs are staff who participate in workshops and field trips and then share this knowledge with other staff or visitors. Workshops were held on topics such as the cultivation of heritage edible plants, introduction to medicinal and toxic plants and the identification of mangrove trees.

The Hort Champs also conducted the basics of growing edibles indoors and in high-rise settings. To overcome restrictions imposed by the Covid-19 pandemic, Hort Champs led virtual tours for staff to learn more about Heritage Trees as well as native species found in our green spaces. Such exchanges remain integral in facilitating knowledge flow and learning amongst staff within the organisation.

In FY 2021, NParks awarded three undergraduate scholarships to external candidates and three postgraduate scholarships to staff to grow the talent pool in Singapore. To celebrate the work done to realise our vision of becoming a City in Nature, over 1,000 staff attended the virtual NParks Staff Conference held on 5 August 2021. This was a good opportunity for staff to better understand the role they play towards enhancing Singapore's resilience to climate change, as well as how digitalisation initiatives can help them work more efficiently.

GARDEN CITY FUND

Message from the Chairman

The evolving Covid-19 situation has presented new challenges to us; yet we have come together even stronger to build our City in Nature. We are grateful for the unwavering support from our partners and the opportunities to engage with individuals and corporations through various platforms.

Support remains strong for the Plant-A-Tree programme, which underpins the OneMillionTrees movement. I would like to acknowledge the contributions of AIA which committed S$5 million to plant more than 16,000 trees over the next five years, as well as the efforts of new partners including retailers, event companies and many others, that embarked on fundraising campaigns for the Garden City Fund.

Our partners recognised the importance of our natural heritage and have stepped forward to support our park enhancement efforts. KPMG Singapore generously donated towards a new wellness garden in East Coast Park; Micron supported the Water Lily Pond project in Jurong Lake Gardens; and Keppel Corporation contributed to a new Keppel Coastal Trail at Labrador Nature Reserve.

I am also encouraged to note an increased interest in marine conservation among corporates and individuals. New partnerships were established with Marine Stewards, Aramco Asia, and many others who contributed generously to the research and restoration of corals under NParks' Plant-A-Coral, Seed-A-Reef Programme.

Besides organisations, individuals also played a significant role in contributing to the City in Nature vision. I would like to highlight the contributions of Mr Leslie Tan to support conservation, research and outreach work at the Singapore Botanic Gardens; Dr Tan Hwa Luck who donated towards animal rehabilitation work at the newly-opened Centre for Animal Rehabilitation and Mr Tan KH who donated to various projects in NParks and also served as a Singapore Botanic Gardens Ambassador.

Singapore's transformation into a City in Nature is only made possible by the contributions of all who play a part in safeguarding our natural heritage and help to foster stronger ownership of our local flora and fauna. In the year ahead, we will be embarking on projects including the development of more Therapeutic Gardens, the introduction of new outreach and educational features at Sisters' Islands Marine Park, research on the benefits of nature-based interventions on park visitors, and new initiatives to encourage responsible pet ownership.

I invite all of you to work alongside the Garden City Fund as we continue on our journey to transform Singapore into a City in Nature.

Professor Leo Tan
Chairman, Garden City Fund



About the Garden City Fund

Charity Registration Number/ Unique Entity Number: **T02CC1634C**

Charity Registration Date:
19 November 2002

IPC Number:
IPC000104

Auditor:
Foo Kon Tan LLP

The Garden City Fund (GCF) is a registered charity and an Institution of a Public Character (IPC), with its registered address at National Parks Board, Singapore Botanic Gardens, 1 Cluny Road, Singapore 259569.

It seeks to enhance the enjoyment of our City in Nature by working with corporations and individuals to support the development of amenities and special features in Singapore's green spaces; community activities and programmes that promote and enhance nature and ecology, art and culture, landscape and horticulture, animal and greenery management, animal health and welfare, conservation; and citizen involvement to encourage greater ownership of our City in Nature.

The National Parks Board serves as the trustee of the GCF and has appointed the GCF Management Committee to plan, develop, promote and manage the GCF in accordance with its Trust Deed.

The GCF Management Committee comprises mainly non-executive members except for the GCF Secretary Dr Leong Chee Chiew, who is also the Executive Director, National Parks, Gardens & Nature Reserves and Commissioner of Parks & Recreation.

Between 1 April 2021 and 31 March 2022, the total amount of cash donations through the GCF was about S$14 million.

The 10th GCF Management Committee

NAME	CURRENT APPOINTMENT	PAST APPOINTMENTS	OCCUPATION	ATTENDANCE AT MANAGEMENT COMMITTEE MEETINGS IN FY 2021
Professor Leo Tan*	Chairman 1 November 2020	Chairman since 1 November 2006	Director (Special Projects), National University of Singapore	4/4
Mr Daren Shiau	Treasurer 1 November 2020	Member since 1 November 2016	Partner, Allen & Gledhill LLP	4/4
Dr Leong Chee Chiew*	Secretary 1 November 2020	Member since 1 November 2012	Commissioner of Parks & Recreation and Executive Director of National Parks, Gardens and Nature Reserves, NParks	3/4
Mr Gerald Tan	Member 1 November 2020		Head of Reputational Risk for Asia, Credit Suisse Singapore	4/4
Mr Goh Kong Aik	Member 1 November 2020	Member since 1 November 2014	Retired	4/4
Mr Han Jok Kwang	Member 1 November 2020		Business Development Advisor, Schneider Electric	4/4
Mrs Kirtida Mekani*	Member 1 November 2020	Member since 1 May 2005	Director, CISTECH International Pte Ltd	4/4

* These members have continued to serve for more than 10 consecutive years. Their wealth of knowledge, services and expertise have guided the charity to reach out to corporates and individuals for funding support, and ensured sound governance of the charity. As professionals in their own right, they have also contributed to a balanced composition in the committee, with a diverse mix of backgrounds and experience to meet the growing needs of the charity.

Conflict of Interest Policy

The GCF Management Committee members are required to comply with the charity's conflict of interest policy. The charity has put in place documented procedures for committee members to declare actual or potential conflicts of interests on a regular and need-to basis. Committee members also abstain and do not participate in discussion or decision-making on matters where they have a conflict of interest.

Whistle-blowing Policy

GCF follows NParks' whistle-blowing policy for reporting improper conduct and to address concerns about possible wrong-doing or improprieties in financial or other matters within the charity.

01 Members of the community give two horn bollards, once used at the Tanjong Pagar Terminal, a fresh coat of paint. The opening of Pasir Panjang Park marked the launch of NParks' citizen park programme, where the community comes together to develop, design and manage new parks.

02 Labrador Nature Reserve is home to Singapore's last rocky shore habitat and rare species in its coastal beach forest. Habitat enhancement will strengthen Singapore's ecological resilience. Visitors will get to enjoy new recreational facilities and learn about unique habitats through educational signboards.


01

Developing our Green Spaces

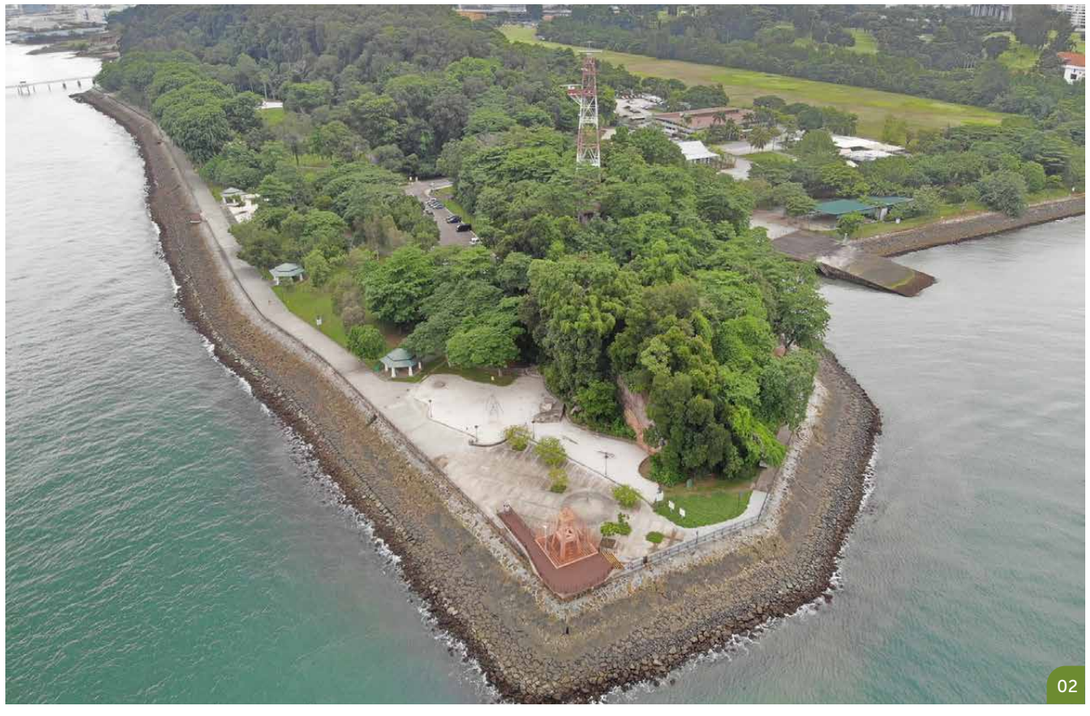
In the past year, NParks continued to develop and expand Singapore's green spaces with the support of corporations and individuals.

PSA contributed S$3.5 million towards the development of the new Pasir Panjang Park, the first section of which was opened in September 2021. When fully ready in 2026, the park will feature several of the agency's marine artifacts.

A pledge of S$1 million was made by Keppel Corporation to develop the new Keppel Coastal Trail under the Forest Restoration Action Plan for Labrador Nature Reserve. This ties in with an earlier donation of S$3 million by the organisation to plant 10,000 trees, half of which will be at Labrador Nature Reserve to help restore the coastal beach forest.

At the Jurong Lake Gardens, a donation of S$1 million from Micron Technology went towards the development of the Water Lily Pond, supporting the Gardens' sustainability efforts through the implementation of a smart water management system. Separately, Micron also contributed S$175,500 to plant 585 trees under the Plant-A-Tree programme.

NParks also received strong support for its enhancement of the National Orchid Garden, which included the opening of the Tropical Montane Orchidetum. The contributions included a S$10 million donation by Sembcorp Industries, as well as donations by the family of the late Lady Yuen Peng McNeice and by Mr Tan Jiew Hoe, family of the late Tan Hoon Siang.


02


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03 Trees of the World returned to the Singapore Botanic Gardens, bringing festive cheer to all. The fundraiser supports conservation and research at the Gardens, as well as the nationwide OneMillionTrees movement.

04 The Therapeutic Garden at Bedok Reservoir Park features scenic views of the reservoir and an interactive rock garden.

Give to the Gardens Programme

More than S$174,000 was raised through the Singapore Botanic Gardens' Trees of the World 2021 initiative held in December 2021. Apart from monetary contributions, individuals, corporations, embassies, schools, hospitals and non-profit organisations also participated in the project to decorate native trees in the Gardens with special messages of hope and inspiration. All funds raised from the event went to the Give to the Gardens programme, which supports the Gardens' work as a leading botanical institution in the region.

Therapeutic and Wellness Gardens

Three new Therapeutic Gardens were set up in the past year with the support of Landscape Engineering Pte Ltd and CT-Art Creation Pte Ltd as well as contributions from various donors including Mr Peter Lim, with matching donations from the Tote Board.

Singapore's largest Therapeutic Garden, which opened at Jurong Lake Gardens, features a Butterfly Maze as well as dedicated sections for children and adults, expanding horticulture therapy to children as well. The other new gardens are located at Pasir Ris Park and Bedok Reservoir Park.

A first-of-its-kind inclusive multi-generational Wellness Garden is also being developed in East Coast Park, thanks to support from KPMG Singapore. The project was planned in conjunction with the company's 80th anniversary in Singapore in 2021.


04

Marine Conservation

Aramco Asia contributed US$150,000 towards habitat enhancement efforts under the Plant-A-Coral, Seed-A-Reef Programme. The organisation also supported another US$50,000 for a new educational programme on local marine biology and marine conservation efforts for schools and the public.

Singapore Garden Festival Horticulture Show

Qian Hu Corporation Limited came on board as presenting sponsor for the Singapore Garden Festival Horticulture Show 2021, providing support for the Nano Tank Aquascaping Competition and displays at the event. Other companies that provided donations-in-kind for the show included Fishy Business Elements and Oriental Aquarium Pte Ltd.

Plant-A-Tree Programme

In the largest contribution to the Plant-A-Tree (PAT) programme by an organisation to date, AIA has pledged S$5 million to plant 16,666 trees over five years. This was in support of the OneMillionTrees movement and also to celebrate the company's 90th anniversary in Singapore. The first planting of 90 trees took place at Rower's Bay.

New partnerships were also forged with corporations and individuals who helped to raise funds for the programme. They included retailers such as C2C Plus, GreenDot and OVOL Singapore, event platform Space Bib, and also Shopee which enabled customers to make donations directly to GCF under its Giving Tree initiative.

Other supporters included Raffles Institution which pledged to raise funds for 1,823 trees to mark its founding in 1823 and to celebrate its 200th anniversary in 2023; and Great Eastern which raised funds for more than 1,400 trees in conjunction with its 113th anniversary.

Since the inception of the Plant-A-Tree programme in 2007, over 55,000 trees have been donated by more than 740 corporations and some 3,900 individuals.



01

01 Senior Minister of State, Ministry of Foreign Affairs & Ministry of National Development Sim Ann (right) planting a tree with Great Eastern Financial Advisors Chief Executive Officer Jesslyn Tan to mark the company's 113th anniversary.

02 Mr Leslie Tan outside the Botanical Art Gallery, where a curated selection of the Gardens' collection of botanical artworks are displayed. The gallery highlights the vital role that art plays in the scientific documentation of plants in Singapore and the region.



02

Support from Individuals

The support of individuals has played a significant role in Singapore's greening efforts, the conservation of biodiversity and animal health and management.

A frequent visitor to the Singapore Botanic Gardens, Mr Leslie Tan and family donated more than S$1 million to support botanical art exhibitions and the cataloging, digitisation and restoration of the Gardens' Library, one of the oldest specialised libraries in Southeast Asia.

Some S$800,000 was donated by the estate of the late Mrs Gertrude Mary Looi to support projects including the digitisation of the Singapore Botanic Gardens Library; a Therapeutic Garden at West Coast Park; the Plant-A-Tree programme at Thomson Nature Park; species recovery of native plants; and various initiatives at the Singapore Botanic Gardens.

In another significant contribution, Dr Tan Hwa Luck made a donation in support of activities at the newly-opened Centre for Animal Rehabilitation. The centre focuses on several areas of animal well-being including animal training and behavioural rehabilitation, animal socialisation, animal husbandry and health, along with the rehoming of animals and post-adoption support.

Reaching Out to the Next Generation

GIC supported the Every Child a Seed programme for two years in a row (2021 and 2022), enabling Primary 3 students across Singapore to have a chance to grow their own plants. In addition, they donated tokens of appreciation (micro greens grow kit bags) to encourage students to submit photo reflections of their plants. GIC staff also showed their support for the OneMillionTrees movement by planting 900 trees through the Plant-A-Tree programme.

Dedicating Heritage Trees as a Mark of Appreciation

Five Heritage Trees were dedicated to individuals and organisations as a mark of appreciation for contributing S$1 million or more towards our City in Nature vision. At the Singapore Botanic Gardens, a Tahitian Chestnut (*Inocarpus fagifer*) was dedicated to Dr Rosslyn Leong Sou Fong while Mr Leslie Tan's late mother and sister, June and Janet Tan, were honoured with a Kapur tree (*Dryobalanops aromatica*). A Longan tree (*Dimocarpus longan*) in Sembawang Park was dedicated to Micron; a Sea Almond (*Terminalia catappa*) located near Pasir Panjang Park to PSA; and a Penaga Laut tree (*Calophyllum inophyllum*) at East Coast Park to KPMG Singapore.



03

03 Mature Heritage Trees are part of Singapore's natural heritage and serve as important green landmarks in our City in Nature. Found all around Singapore from Nature Reserves, streetscapes to urban parks, Heritage Trees are noted for their botanical, social, historical, aesthetic and/or cultural significance. This Tahitian Chestnut (*Inocarpus fagifer*) is dedicated to Dr Rosslyn Leong Sou Fong.

The Year Ahead

In the coming year, GCF remains committed to working with corporations and individuals to support the development of Singapore's green spaces such as more Therapeutic Gardens as well as enhancements at Sisters' Islands Marine Park; community activities and programmes related to nature and animal welfare, conservation and research efforts; as well as outreach and educational programmes like the Plant-A-Tree Programme. Through these efforts, GCF strives to strengthen corporate and citizen involvement and encourage greater ownership of our City in Nature.

Visit www.gardencityfund.gov.sg for more information.

GARDEN CITY FUND DONORS' ACKNOWLEDGEMENT
FY 2021

We acknowledge and thank the following donors who have generously supported our City in Nature efforts, including those who wish to remain anonymous.

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- Savills Investment Management Pte Ltd
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- Sim Chun Fong
- Sim Soo Ying Serene
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- Zhao Hong

Donations listed above are of a minimum amount of $1,000.

We thank all other individuals and organisations who have given to the charity, including in-kind donations.

SUSTAINABILITY REPORT

Our Sustainability Commitment

NParks is committed to conserving nature and biodiversity, nurturing greater community stewardship, and building capabilities within the organisation and industry to uphold Singapore's reputation and standing as we transform into a City in Nature.

In February 2021, the Government unveiled the Singapore Green Plan 2030, a whole-of-nation movement to advance the national agenda on sustainable development. City in Nature, as one of the five key pillars of the Green Plan, will create a green, liveable and sustainable home for Singaporeans.

2021 Achievements	Key Sustainability Targets by 2030
Park Provision Ratio of 0.83 ha/1,000 population*	Park Provision Ratio of 0.8 ha/1,000 population
143 ha of skyrise greenery	200 ha
370 km of park connectors	500 km
170 km of Nature Ways	300 km
93% households within a 10 min walk to a park	100%
1,700 Community in Bloom Gardens	3,000
338,800 trees planted	1 million more trees

* This figure is largely due to the decrease in Singapore's total population in 2021

Our Sustainability Strategies



Sustaining our City in Nature

Creating the best possible living environment through excellence in nature conservation, greenery and recreation.



Nurturing Communities

Strengthening Singapore's greenery and biodiversity in partnership with the community.



Creating a Great Workplace

Developing our staff and taking care of their well-being.

Sustaining Our City in Nature

Conserving and Extending Singapore's Natural Capital

NParks is responsible for maintaining and enhancing Singapore's greenery for future generations. Our Nature Reserves safeguard primary and secondary rainforests which are core habitats for native biodiversity. They are also primary providers of ecosystem services like clean air and water. Nature parks have been established on the margins of the Nature Reserves, serving as complementary habitats and buffers. These buffers provide expanded habitats for Singapore's native flora and fauna beyond the Nature Reserves, and also provide spaces for nature-based recreation.

Over the past two years, we have announced new nature parks such as the Khatib Bongsu Nature Park – a rich mangrove and mudflat habitat – and the Rifle Range Nature Park, a key buffer for our Bukit Timah Nature Reserve. NParks will continue to grow its network of nature parks, which will help preserve and enhance natural carbon sinks across the island.

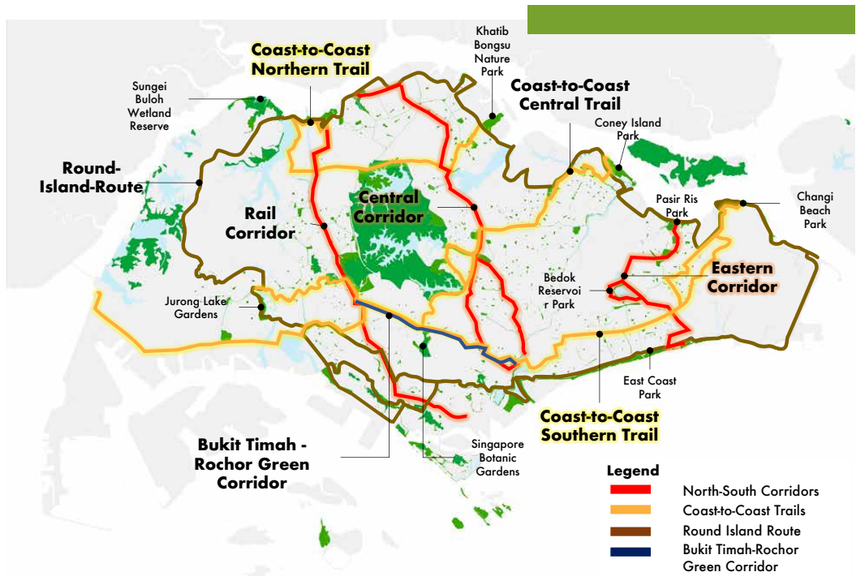
Strengthening Connectivity between Green Spaces

NParks will continue to expand our islandwide connectivity networks so that Singaporeans will have greater access to green spaces near their homes. Today, over 370 km of park connectors have been established – more than seven times the length of Singapore from east to west. The eastern half of Phase 1 of the Round Island Route was launched in January 2022, covering a total of 75 km from Rower's Bay to Berlayer Creek.

More islandwide recreational routes will be curated to provide more opportunities for Singaporeans to enjoy nature. In addition to the existing Coast-to-Coast (C2C) Central Trail, two new C2C trails running from east to west will be created: a 25 km C2C Northern Trail, from Khatib Bongsu to Sungei Buloh Wetland Reserve and a 62 km C2C Southern Trail, the longest cross island trail to date, from Changi Beach to Tuas.

Two new corridors running from north to south will also be added: a 34 km Central Corridor from Woodlands to the city, and a 18 km Eastern Corridor from Pasir Ris to East Coast Park via Bedok Reservoir. These islandwide routes will enhance the ecological connectivity between natural habitats and provide Singaporeans with a more immersive experience with nature. Over 9 in 10 households are now within a 10-minute walk from a park, and we aim to reach 100% by 2030.

An Ecological Profiling Exercise (EPE) was launched in 2021 to study the ecological profile of green spaces in Singapore, and to better understand their role in strengthening ecological connectivity. As part of the EPE, Clementi Nature Corridor was identified as an important ecological connector between Bukit Timah Nature Reserve and the Southern Ridges. NParks has also completed 170 km of Nature Ways, which mimic the multi-tiered structure of a natural forest to better connect our green spaces for animals like birds and butterflies and also beautify our city, provide shade, cool our surroundings, and improve our air quality.



Map of recreational connectivity showing islandwide routes.



01 Children can traverse a bamboo tunnel trail at East Coast Parks' Coastal PlayGrove, planted in a way to evoke a sense of mystery and adventure. Nature playgardens like these encourage the young to explore and be comfortable in nature.

02 Visitors can enjoy sweeping vistas of the waterfront at the boardwalk and lookout pavilion at Changi Bay. This is part of the Round Island Route that covers the eastern half of Singapore and is the island's longest recreational connection that encircles Singapore in the east.



Intensifying Nature in Gardens and Parks

More than 40 percent of Singapore is covered in greenery, in the form of nature reserves, parks, gardens, roadside greenery, skyrise greenery and vacant statelands. NParks will be developing and redeveloping more than 300 ha of new and redeveloped parks which will feature more lush vegetation and natural landscapes by 2026, allowing Singaporeans to benefit from greater access to nature and its associated benefits on health and well-being.

The waterbodies within our gardens and parks will also be naturalised where possible, like how we have done so in Bishan-Ang Mo Kio Park and Jurong Lake Gardens. In addition, NParks is restoring mangroves in parks along Singapore's coasts, such as Kranji Coastal Nature Park. These mangroves will function in tandem with engineering solutions to serve as coastal protection measures, to mitigate the effects of erosion brought about by storm surges and rising sea levels. NParks will continue to incorporate nature-based solutions in its coastal and riverine parks, to help build resilience against sea level rise and inland flooding.

Beyond these, NParks will establish more therapeutic landscapes in gardens and parks, which can be programmed for seniors and children as well as cater to diverse conditions such as dementia and mood disorders. More Nature Playgardens with biophilic elements and natural materials will be introduced, for the young to engage in child-directed spontaneous play.

NParks also expanded the Species Recovery Programme in 2021 from 94 to 120 species and this will be increased to 160 species by 2030 as a key part of NParks' efforts to strengthen the conservation of Singapore's native flora and fauna. Ongoing habitat restoration and species recovery efforts have enabled Singaporeans to encounter and enjoy once-rare species of plants and animals in our green spaces, such as the Singapore Ginger (*Zingiber singapurense*) and the Sunda Slow Loris (*Nycticebus coucang*).

Restoring Nature into the Urban Landscape

We will continue to promote the implementation of skyrise greenery (including vertical green walls, green roofs, and rooftop gardens) to building owners and continue to green up covered linkways with trellis plantings, while enhancing landscape plantings at MRT stations.

We will intensify our greening efforts in Singapore's industrial estates as well, which are currently among the hotter areas on the island. NParks is working with various stakeholders to increase the total number of trees across industrial estates, including Jurong Island, to almost three times as many, from nearly 90,000 trees to about 260,000 trees by 2030.

Nurturing Communities

Strengthening Community Stewardship

The support and involvement of the community is key to the success of our City in Nature vision. Amidst existing restrictions during the Covid-19 pandemic, NParks continued to engage the community via digital platforms to overcome the restrictions on physical events and to reach out to a wider audience. Examples include holding large-scale events like concerts virtually and curating hybrid festivals and programmes.

In November 2021, NParks also launched a new series of City in Nature Conversations webinars and workshops to further engage the public and increase mindshare of the City in Nature vision. More webinars and workshops are being planned for 2022 to further promote this vision and identify potential ground-up projects.

Since the launch of the OneMillionTrees movement in 2020 to plant a million more trees across Singapore by 2030, NParks has worked closely with key partners including the Friends of the Parks communities, Community in Nature (CIN) schools, Community in Bloom (CIB) gardeners, volunteers, nature groups, corporate partners, other organisations, as well as members of the public to champion initiatives surrounding tree planting efforts.

More than 31,000 members of the community have joined us in tree-planting activities across the island, some of whom have also been involved in the processes leading up to and following tree planting. For instance, over 600 native tree saplings and 1,500 native seeds have been delivered to community nurseries in 43 schools. These plants will be nurtured within school compounds and planted across Singapore when matured.

The nationwide CIB gardening movement aims to bring residents together to foster community spirit and active stewardship of our City in Nature. Today, there are more than 1,700 community gardens across Singapore, set up and managed by our community gardeners. NParks will continue to work towards the target of building 3,000 CIB gardens by 2030.

Under the expanded CIB framework, NParks launched the Gardening with Edibles initiative to encourage Singaporeans to grow edibles at home as part of Singapore's vision of Growing our City in Nature, where the community plays a key role in the ownership and stewardship for nature which will bring forth benefits of health and well-being. This initiative saw an overwhelming response from the public. Free seed packs consisting of a leafy and fruited vegetable variety were distributed to close to half a million households across Singapore in June 2020. This was an innovative way for NParks to introduce greenery into residents' homes at a time where many stayed indoors due to the Covid-19 pandemic. A suite of digital resources and engagement programmes on social media complemented this programme, assisting residents in their gardening endeavours.

In October 2021, NParks made available another 400,000 seed packets to the public as part of the Singapore Garden Festival Horticulture Show. Concurrently, NParks also launched the Social Enterprise Community Urban Farm (SECUF) Grant to facilitate the creation and running of community gardening hubs in the heartlands. SECUFs aim to further promote edibles gardening in the community and also provide micro-employment and volunteering opportunities to residents in the community, especially seniors and the less privileged.





Getting Involved

We have more than 56,000 volunteers who play an integral role in helping to achieve our vision of making Singapore a City in Nature. Our network of volunteers includes community gardeners from the CIB programme, citizen scientists from the CIN initiative, and members of Friends of the Parks, amongst others.

Aged from nine to over 80, they range from students, homemakers and working professionals, to retirees. Many of them volunteer because they appreciate the opportunity to learn about and contribute towards our conservation efforts. Volunteers often become advocates of our messages and our ambassadors to the community, and share with others important biophilic issues, as well as insights and perspectives of living in a city rich in nature and biodiversity.

We will expand NParks' outreach programmes to grow our volunteer base to 70,000 by 2030. NParks will build up its CIN initiative by involving more schools and partners in reforestation efforts and citizen science projects and expand the CIB programme through the provision of more allotment gardens and encouraging the planting of edibles.

03 Established in 2015, the Community Gardens Edibles Competition recognises the abilities of local gardeners and showcases their excellent harvests. Some of the impressive harvests include a 20 kg winter melon and a nearly 50 cm long lady's finger.

04 Deputy Prime Minister and Minister for Finance Lawrence Wong planting a native *Tristaniopsis merguensis* at the opening of Villa Verde Bridge, contributing to the nationwide target to plant one million more trees by 2030.

Creating a Great Workplace

Learning and Development

Staff are encouraged to grow their professionalism, build capabilities and provide service excellence. NParks develops staff through a competency development framework focusing on business, operational and people excellence.

CUGE and professional certification bodies conduct in-depth training for operational staff, including formulating a specialised roadmap to develop professional arborist competency.

Corporate staff can get certified by industry-recognised agencies such as the Institute of Singapore Chartered Accountants and Institute for Human Resource Professionals.

NParks Human Resource branch has also rolled out the refreshed NParks Competency Framework to guide staff in identifying suitable development opportunities for upskilling and reskilling.

Staff with Professional Operational Certifications: (as of 2021)

118 Certified Park Managers

122 Certified Practising Horticulturists

253 ISA Certified Arborists

36 Certified Playground Safety Inspectors

11 Project Management Professionals

Expanded Vocational and Skills Allowance Framework

To encourage officers to deepen their professional expertise in NParks' core job areas and facilitate greater deployability of staff, officers who possess certifications recognised under NParks' Vocational and Skills Allowance Framework are eligible for a monthly allowance.

Additionally, the list of certifications that qualify officers for the allowance has been expanded to encourage officers to deepen their professional development. This includes certifications in Field Epidemiology (Veterinary & Animal Health) and Advanced Animal Welfare & Behaviour (Cat and Dog).

Competency-Based Renumeration

We will continue to professionalise the role of an NParks officer and improve the attractiveness of a career in NParks. Progression and remuneration will recognise officers' skills and competencies and support and encourage continuous movement of officers (horizontal as well as vertical) throughout their career. Officers will be encouraged to pick up additional competencies relevant to NParks' work, which will be supported by the enhanced vocational and skills allowance framework.

Staff Well-Being

The Staff Well-Being Committee (SWBC) works with the Human Resource branch and Staff Union to organise activities that engage our workforce. In FY 2021, SWBC organised a specially curated range of events with a key focus to engage and bring together all staff in the NParks family during the Covid-19 pandemic.

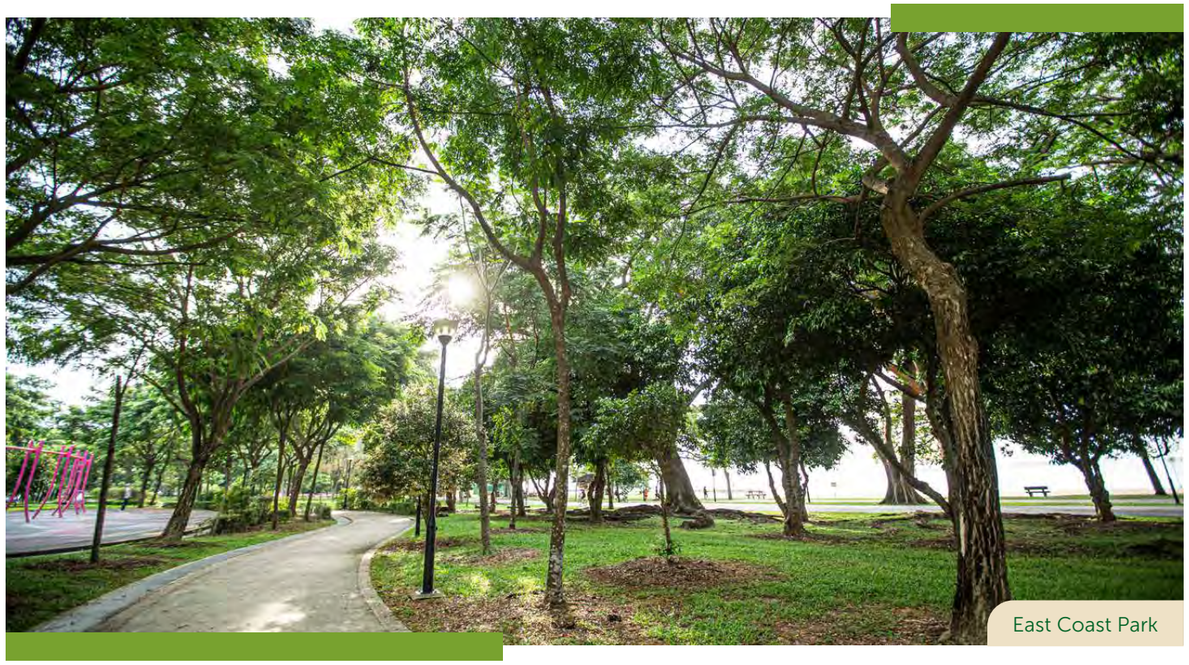
As most staff were telecommuting due to the pandemic, the committee delivered these programmes and activities primarily on e-platforms, which helped to engage staff while they worked from home and for all staff to participate safely. Most of the activities planned were related to ensuring staff mental well-being and included talks/sharing of ideas to manage mental health. The committee will continue to have more emphasis on activities related to staff mental well-being going forward.

Together with the three sub-committees, namely Social & Recreation, Healthy Lifestyle and Kindness, over 30 events have been planned. Some of the events organised, aimed to encourage across the board participation, include decoding stress at work, a hypertension talk by external speakers and the National Steps Tracker NParks Corporate Challenge, among others.

In February 2022, gift packs were delivered individually to all NParks officers, among others



01 A selection of snacks and vouchers was distributed to staff as a token of thanks and appreciation for the work well done in the past year.



East Coast Park

The Staff Well-Being Committee



Healthy Lifestyle
Promotes active and healthy living by encouraging staff to participate in sports interest groups and through lunchtime talks.

Social & Recreation
Provides avenues for self-improvement and learning while networking with others through learning journeys and workshops.

Kindness Movement
Nurtures a culture of kindness, compassion and volunteerism among staff for the less privileged in our society.

NParks Family

For staff who have left or retired from their service in NParks, we continue to engage them by organising activities for them as alumni members – our NParks Family. In 2021, we provided complimentary copies of the book Celebrating our City in Nature to the NParks Family alumni. In September, we also invited ex-staff, Mr Long Seen Hui, now Director for Urban and Landscape Design at Ramboll Studio Dreiseitl, to give a talk on the complex and dynamic relationship between landscape urbanism and engineering for NParks staff at Hort Colloquium, an internal platform to share best practices on horticultural and greenery-related knowledge with fellow colleagues.

Recognition and Awards

Each year, deserving staff are recognised for their exemplary service and work via the Excellent Service Award and Divisional Star Award. In 2021, 37 staff were commended for providing excellent service to internal and external customers.

This past year, 238 staff received their Long Service Award for their contributions towards building and caring for our City in Nature.

FACTS & FIGURES
FY 2021

National Day Awards

Note: Staff appointments indicated on this page are accurate as of when the Awards were announced.

Distinguished Service Order

Mr Benny Lim
Chairman / NParks

Public Service Medal

Mr Guy Daniel Harvey-Samuel
NParks Board Member

Public Administration Medal (Silver)

Ms Ang Wei Ping
Group Director / Policy & Planning
Policy & Planning

Public Administration Medal (Bronze)

Mr How Choon Beng
Director / Wildlife Management & Outreach
Wildlife Management

Mr Ling Han
Director / Central Catchment Nature Reserve
Conservation

Mr Wang Ming Yuan
Director / Licensing & Compliance
Industry & Biosecurity Management

Commendation Medal

Mr Ang Wee Foong
Centre Director / Seed Bank and Deputy Director / Nursery Mgt
Horticulture and Community Gardening

Mr Gui Ming Wayne
Deputy Director / Programming & Events and Engagement & Outreach
Programming and Events & Community Animal Management

Mr Ooi Zong Yu
Deputy Director / Horticulture Gardens Development
Singapore Botanic Gardens

Mr Teo Wei Sheng Michael
Deputy Director / Development Mgt
(National Parks, Gardens & Nature Reserves)
Fort Canning Park & Istana

Dr Tan Heng Liang Alwyn
Deputy Director / Biosecurity & Quarantine Services
Industry & Biosecurity Management

Mr Yang Shihao Kenneth
Senior Manager / Human Resource Mgt
Corporate Services

Mr Lim Choon Poh
Deputy Director / Facilities
Corporate Services

Mr Tau Wen Jun Andrew
Deputy Director / Streetscape
Streetscape

Efficiency Medal

Ms Tay Ee Ling Felicia
Manager / Molecular Bio & Micropropagation
Singapore Botanic Gardens

Mr Muhammad Shadiq Bin Haji
Manager /
Parks Central

Mr Teo Kim Siah
Senior Technical Officer / Biosecurity & Quarantine Services
Industry & Biosecurity Management

Ms Sufiah binte Mohd Salleh
Senior Executive / Marketing
Lifestyle Business

Mr Lim Chor Liang Wilson
Senior Officer / Conservation
Conservation



Thomson Nature Park

Long Service Medal

Ms Alwiyah binte Rasid
Executive / Office Administration
Corporate Services

Ms Chia Siew Wah
Director / Biodiversity Info & Outreach
National Biodiversity Centre

Ms Chin Li Li
Manager / Molecular Bio & Micropropagation
Singapore Botanic Gardens

Mr Joseph Chua Hock Chye
Director / Parks (Special Projects)
Parks West

Dr Chua Tze Hoong
Group Director / Industry & Biosecurity Management
Industry & Biosecurity Management

Mr How Choon Beng
Director / Wildlife Management & Outreach
Wildlife Management

Ms Juliana binte Jumamin
Deputy Director / Greenery & Development Planning
Policy & Planning

Ms Quek Kwui Hor (Guo Guihao)
Personal Assistant

Ms Sharona binte Mohamad
Personal Assistant

Ms Sufiah binte Mohd Salleh
Senior Executive / Marketing
Lifestyle Business

Mr Tan Wee Ching
Manager / Parks
Parks West

Mr Teo Chee Hin Robert
Director / Pulau Ubin
Conservation

Mr Toh Chin Heng
Senior Manager / Streetscape
Streetscape

Awards and Accolades

2021 May Day Awards

Model Worker
Mr Tamzin Bin Talib
Landscape Technician / Jurong Lake Gardens Operations
Jurong Lake Gardens

Public Sector Transformation Awards 2021

Business Transformation Award

Citizen Engagement Excellence Award
Gardening With Edibles

IT Awards

WITSA (World Information Technology & Services Alliance) Global ICT Excellence Award 2021
Digitalisation of Tree Management, Park Management, Conservation and Biodiversity Management

SG:D Techblazer Awards 2021
Finalist for Best Adoption (Public Sector)

MND Minister's Award (Team) 2021

OneMillionTrees Movement

Gardening With Edibles

Lornie Nature Corridor

SHRI (Singapore Human Resources Institute) Awards 2021

Distinguished Award
Best Organisation for Championing Human Capital – Not-for-Profit & Public Sector

HR Practice Awards – Gold Standard
Digital Transformation

HR Practice Awards – Silver Standard
Learning & Development
Employee Engagement

HR Practice Awards – Bronze Standard
Employee Well-Being

SHARE Silver Award 2021

Municipal Services Awards 2021

Team Category
Construction of Park Connector Network Shared Path Along Boon Lay Way

Pigeon Management Plan Pilot @ Four Hotspot Town Councils

Construction of Bridge Across Pang Sua Canal

Waterloo Mall Street Enhancement Project

Community Category
Redhill Gardens Estate – Cats Roaming And Feeding Issue

Individual Category
Mr Aminurashid bin Eksan
Manager / Streetscape
Streetscape
(Removal of Dangerous and Hazardous Trees Behind 95 Onan Road at URA Car Park)

2021 Asia Environmental Enforcement Awards

Gender Leadership and Women Empowerment
Dr Anna Wong
Director / Wildlife Trade
Wildlife Management

Collaboration
National Parks Board
Immigration and Checkpoints Authority
Singapore Customs
Anti-Smuggling Bureau of General Administration of China Customs

Charles A. Lewis Excellence in Research Award

Nature-based activities improve the well-being of older adults
By *Angelia Sia, Wilson Tam Wai San, Anna Fogel, Kua Ee Heok, Kenneth Khoo, Roger Ho*

Land Transport Excellence Award (LTEA) 2022

Finalist for Best Car-Lite Advocate
Park Connector Network

SIA Design Awards

Merit Award
East Coast Park Rejuvenation Project

Singapore Good Design Awards 2021

Architecture
East Coast Park Rejuvenation Project

FACTS & FIGURES
FY 2021

CUGE Training Programmes

The Centre for Urban Greenery and Ecology (CUGE) was established by NParks as a regional centre of excellence to advance an urban and green living environment, and a one-stop training and knowledge hub in urban greenery and ecology.

Workforce Skills Qualification (WSQ) Courses

WSQ Courses for Landscape Workers (Level 1)

- Plant Health Management and Disease Control (Level 1)
- Plant Identification (Level 1)
- Plant Pruning (Level 1)
- Turf Maintenance (Level 1)
- Vegetation Planting (Level 1)

WSQ Courses for Landscape Technicians (Level 2)

WSQ Higher Certificate in Landscape (Horticulture and Turf Maintenance)

- Horticultural Chemical Usage (Level 2)*
- Plant Health Management and Disease Control (Level 2)*
- Plant Pruning (Level 2)*
- Turf Maintenance (Level 2)*
- Hazards and Risk Control, and Policy Management (Level 2)*

WSQ Higher Certificate in Landscape (Arboriculture)

- Chainsaw Operation and Maintenance (Level 2)
- Tree Health Management (Level 2)
- Tree Pruning (Level 2)
- Hazards and Risk Control, and Policy Management (Level 2)

WSQ Higher Certificate in Landscape (Nursery)

- Horticultural Chemical Usage (Level 2)*
- Plant Health Management and Disease Control (Level 2)*
- Soil and Media Assessment and Remediation (Level 2)
- Plant Propagation and Production (Level 2)
- Hazards and Risk Control, and Policy Management (Level 2)*

Tree Climbing and Aerial Rescues (Level 2)*

*Programme also available as Assessment Only Pathway (AOP)

Plant Identification (Level 2)

Refresher (Non-WSQ) Courses for Landscape Technicians (Level 2)

- Chainsaw Operation and Maintenance (Refresher)
- Tree Climbing and Aerial Rescue (Refresher)

WSQ Courses for Landscape Supervisors (Level 3)

- Hazards and Risk Control, and Policy Management (Level 3)
- Plant Health Management and Disease Control (Level 3)
- Plant Identification (Level 3)
- Soil and Media Assessment and Remediation (Level 3)

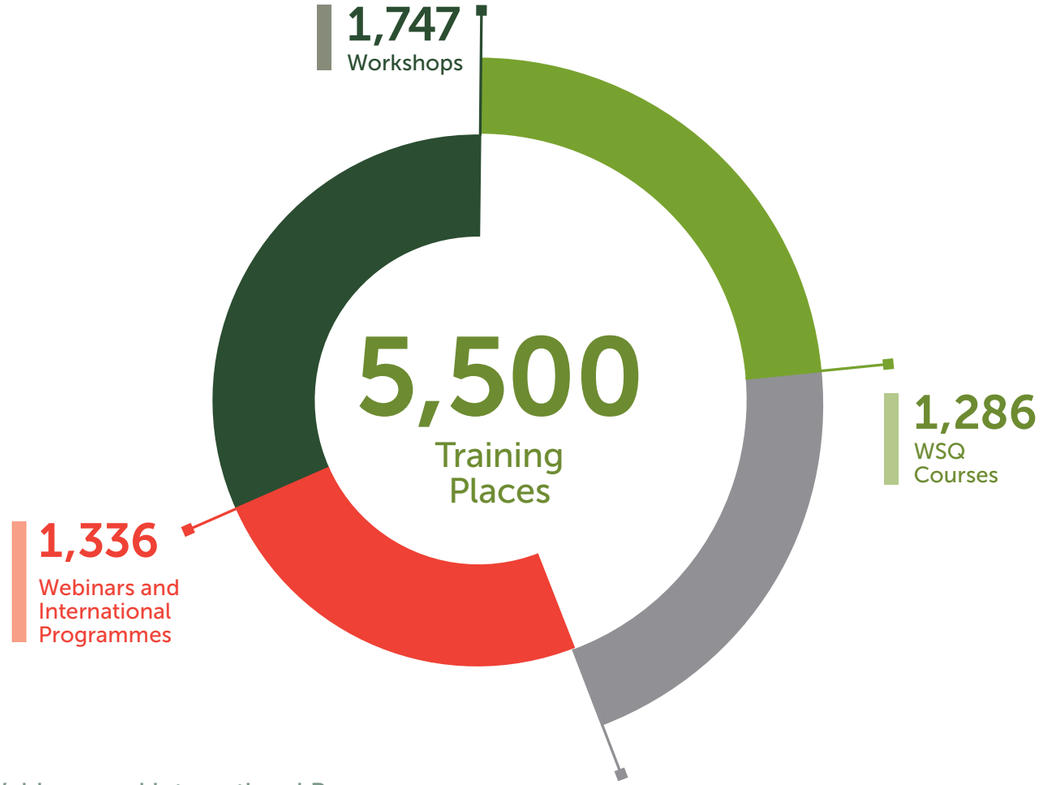
WSQ Courses for Managers (Level 4)

WSQ Diploma in Landscape

- Project Management (Level 4)
- Budgeting (Level 4)
- Environmental Management in Landscape Operations (Level 4)
- Horticultural Chemical Usage (Level 4)
- Plant Health Management and Disease Control (Level 4)
- Hazards and Risk Control, and Policy Management (Level 4)

Certification Programmes

- Animal Management Professional Certification Basic Module
- Animal Management Intermediate Elective Community Animals Cat Module
- Animal Management Intermediate Elective Community Animals Dog Module
- Animal Management Intermediate Elective Mammal Module
- Animal Management Intermediate Elective Reptile Module
- Animal Management Intermediate Elective Wildlife Management in Development Module
- Cat Welfare Assessment Skill Certificate
- Certificate in Basic Plant Recognition (Module 1-12)
- Certificate in Field Epidemiology (Veterinary and Animal Health)
- Certified Practising Horticulturist (CPH)
- Certified Playground Safety Inspector (CPSI)
- ISA Certified Arborist (CA) Preparatory Programme
- ISA Tree Risk Assessment Qualification (TRAQ) Renewal



Webinars and International Programmes

- City EXCEL Programme (CLC-CUGE)
- JICA-MFA Singapore Technical Cooperation Programme (Theme: Urban Development Towards a Smart Nation Vision)
- MFA-SCTP Programme (NEA-CUGE)
- URA-ILUP programme (Theme: Integrated Land Use Planning Course)
- Animal Welfare Webinar
- Managing Nature in Developments (Developing Agencies)
- Managing Nature in Developments (Qualified Professionals)

Workshops

- Advanced Tree Decay Assessment through 3D Scanning and Resistance Drills
- Animal Population Density Modelling Using Random Encounter Model
- Coral Identification Workshop
- Designing a Nature Playgarden
- Fauna Identification – Parrots and the Bird Trade
- Formative Pruning for Young Trees
- Landscape Design for our City in Nature (customised for SILA)
- Landscape Safety Orientation Course (LSOC)
- Resistance Drilling Equipment
- Social and Therapeutic Horticulture – Home Gardening
- Therapeutic Garden Design
- Tree Inspection – Advanced
- Tree Inspection – Basics
- Tree Inspection – Failure Documentation and Analysis
- Tree Decay – The Fundamentals
- Tree Failure Profiling Workshop for 21 Common Wayside Trees
- Tropical Tree Identification

FACTS & FIGURES
FY 2021

Regional Parks Maintained by NParks

REGIONAL PARK NAME	MAINTAINED AREA (HA)
Admiralty Park	25.67
Ang Mo Kio Linear Park	6.24
Ang Mo Kio Town Garden East	4.88
Ang Mo Kio Town Garden West	20.63
Ann Siang Hill Park	0.32
Armenian Street	0.35
Bedok Reservoir Park	40.39
Bedok Town Park	13.66
Bishan-Ang Mo Kio Park	60.58
Bukit Batok Nature Park	35.74
Bukit Batok Town Park - Little Guillin	41.60
Bukit Timah Nature Reserve	162.64
Central Catchment Nature Reserve	455.00
Changi Beach Park	28.85
Chestnut Nature Park	81.00
Choa Chu Kang Park	10.41
Clementi Woods Park	11.48
Coney Island Interim Park	33.30
Coney Island Park	43.50
Dairy Farm Nature Park	75.32
Dhoby Ghaut Green	1.00
Duxton Plain Park	1.28
East Coast Park	179.21
Empress Place	1.52
Esplanade Park	2.40
Fort Canning Park	22.61
Hampstead Wetlands Park	3.23
Handy Road Open Space	0.27
Hindhede Nature Park	9.90
Hong Lim Park	1.28
HortPark	24.04
Istana Park	1.29
Jurong Central Park	7.98
Jurong Lake Gardens	84.69
Kallang Riverside Park	5.16
Kent Ridge Park	48.40
Kranji Marshes Park	56.29
Kranji Reservoir Park	3.78
Labrador Nature Reserve and Park	22.83
Lower Peirce Reservoir Park	10.00
Lower Seletar Reservoir Park	8.49
MacRitchie Reservoir	12.00
Marsiling Park	11.35
Mount Faber Park	58.80
Punggol Waterway Park	12.30
one-north Park	3.39
Orchard Fountain Corner	0.06
Pasir Panjang Park	0.90
Pasir Ris Park	73.39
Pasir Ris Town Park	12.36
Pearl's Hill City Park	8.50
Penang Rd Open Space	0.24
Pulau Ubin	692.19
Punggol Park (including Extension)	16.66
Raffles Place Park	0.88
Rail Corridor	75.27
Rifle Range Nature Park	65.28
Sembawang Hot Spring Park	1.12
Sembawang Park	15.58
Sengkang Riverside Park	21.08
Singapore Botanic Gardens	82.00
Sisters' Islands Marine Park	47.68
Springleaf Nature Park	18.28
Sun Plaza Park	9.60
Sungei Buloh Wetland Reserve	193.31
Tampines Eco-Green	36.61
Telok Ayer Green Park	0.11
Telok Ayer Park	0.49
Telok Blangah Hill Park	36.88
Tiong Bahru Park	3.33
Thomson Nature Park	51.17
Toa Payoh Town Park	4.91
Tras Link Park	0.28
Upper Peirce Reservoir Park	4.00
Upper Seletar Reservoir Park	15.00
War Memorial Park	1.74
Waterboat House Garden	0.07
West Coast Park	50.13
Windsor Nature Park	60.00
Woodlands Town Park East	5.04
Woodlands Waterfront Park	11.22
Yishun Park	13.22
Youth Olympic Park	0.66
Zhenghua Park	17.30
TOTAL	**3,391.59***

* Subject to rounding adjustments

TOTAL NUMBER OF PARKS	
Regional parks	84
Neighbourhood parks	317
TOTAL	**401**

TOTAL AREA MAINTAINED	AREA (HA)
Parks, playgrounds, open spaces, fitness corners and park connectors**	2,935.66
Nature reserves (Gazetted)	3,347
Istana and Parliament House grounds	42
Roadside greenery	2,099.03
State land taken over as at Mar 2022***	4,670.30
TOTAL	**13,093.99**

TOTAL MILEAGE OF THE PARK CONNECTORS MAINTAINED IS 371 KILOMETRES AS OF 31 MARCH 2022

Plant Health

IMPORT, PERMITS AND INSPECTIONS	
Import permits issued	45,449
Post-entry inspections conducted	1,477

Animal Health and Welfare

LICENCES, PERMITS, AND HEALTH CERTIFICATES ISSUED FOR ANIMAL IMPORTS	
Animals (excluding livestock)	4,947
Biologics	295
Birds	133
Eggs for research	0
Products (blood, sera, urine, clinical specimens)	1,371
Ornamental fish (export health certificates)	3,978
Ornamental fish (import permits)	6,168
TOTAL	**16,892**

TYPES OF ANIMAL DISEASE SURVEYED IN LOCAL FARMS	
Captive bird farms • Bird flu • Newcastle disease	3
Ornamental fish farms • *Aeromonas salmonicida* • Chytrid fungus • Epizootic haematopoietic necrosis virus • Infectious haematopoietic necrosis virus • Infectious spleen and kidney necrosis virus • Koi herpes virus • Megalocytivirus • Spring viraemia carp virus • Viral haemorrhagic septicaemia • White spot disease	56

LICENSING VETERINARIANS AND VETERINARY CENTRES	
Number of veterinarians	452
Number of veterinary centres	104

GRADING OF PET SHOPS	
Grade A	247
Grade B	21
Grade C	2
Grade D	0
Not graded****	81

DOG LICENSING AND ENFORCEMENT	
Dog licences issued	~81,000
New licences	~16,100
Renewed licences (includes multi-year licences)	~64,900

ANIMAL DISEASES UNDER NPARKS BIOSURVEILLANCE PROGRAMMES

- *Aeromonas salmonicida*
- African horse sickness
- African swine fever
- Anaplasmosis
- Antimicrobial resistance
- Avian influenza
- Babesiosis
- Bluetongue
- Bovine tuberculosis
- Brucellosis
- Campylobacteriosis
- Canine distemper
- Chytridiomycosis
- Classical swine fever
- Contagious bovine pleuropneumonia
- Coronaviruses
- Cryptococcosis
- Cryptosporidiosis
- *Escherichia coli* O157:H7
- Ehrlichiosis
- Epizootic ulcerative syndrome
- Feline immunodefiency virus
- Feline leukaemia virus
- Foot-and-mouth disease
- Heartworm
- Koi herpes virus
- Leishmaniosis
- Leptospirosis
- Lyme disease
- Newcastle disease
- Nipah virus disease
- Parvovirus
- *Plasmodium knowlesi*
- Psittacosis
- Rabies
- *Salmonella* Enteritidis
- Spring viraemia of carp virus
- Swine influenza
- Toxoplasmosis
- White spot disease

** Excludes Bukit Timah Nature Reserve, Central Catchment Nature Reserve, Sungei Buloh Wetland Reserve and Labrador Nature Reserve which have been computed under "Nature reserves".
*** Greenery on vacant land taken over from agencies.
**** Newly licensed pet shops that have not been graded yet.

CORPORATE GOVERNANCE FY 2021



National Orchid Garden, Singapore Botanic Gardens

Board Members

NParks is overseen by a Board comprising 11 members. All Board members are non-executive members, except the Chief Executive Officer. The Board derives its strength from the extensive and complementary backgrounds, qualifications and experience of its members.

The Board provides strategic direction and guidance on policies and strategies relating to NParks' vision, mission, objectives, and performance of its functions. In addition, it oversees NParks' operating and financial performance taking into account NParks' budget, expenses, assets, transactions and projects.

In discharging its duties, the Board is supported by the following committees:

Audit Committee

The Audit Committee comprises four non-executive Board members. It plays a key role in ensuring a high standard of corporate governance through independent reviews of internal controls, financial reporting processes and financial risks. In addition, the Audit Committee reviews the audited financial statements, as well as the audit plans and observations of external and internal auditors, and reviews the effectiveness of internal audit.

Chairman
Mr Guy Harvey-Samuel *(until 31 July 2022)*

Members
Ms Shantini Ramachandra
Mr Musa Fazal
Mr Gerald Tan

Human Resource and Compensation Committee

The Human Resource and Compensation Committee comprises three non-executive Board members. Its role is to review key human resource policies and provide strategic oversight of related risks.

Chairman
Mr Cheng Hsing Yao

Members
Prof David Chan
Ms Nur Hidayah Abu Bakar

Operations Risk Committee

The Operations Risk Committee comprises three non-executive Board members, including the Chairman of the Board. Its role is to provide strategic oversight of NParks' operations risk management framework and conduct reviews of NParks' operations risks. The Operations Risk Committee also oversees the implementation of risk mitigation plans, policies and practices.

Chairman
Mr Benny Lim

Members
Mr George Huang *(until 31 July 2022)*
Ms Tham Loke Kheng

Garden City Fund Management Committee

The Garden City Fund Management Committee manages and administers the Garden City Fund, a registered charity and an Institution of Public Character, to plan, develop, promote and manage the Garden City Fund in accordance with its Trust Deed.

Please refer to pg 40 for the work of Garden City Fund in the year in review.

Board's Conduct of its Affairs

The Board meets four times a year and as and when necessary to address any significant matters that may arise. To enable the Board to fulfil its responsibilities, the Management Team provides the Board members adequate information during Board meetings and on an ongoing basis. The Board also has direct and independent access to the Management Team if further information and explanation are required.

Code of Conduct

Members of the Board are guided by a set of key principles and guidelines to ensure fairness and impartiality when they carry out their responsibilities, as well as to uphold the integrity and reputation of the Public Service, including adhering to the Public Sector (Governance) Act (Act 5 of 2018).

Accountability and Audit

The Board's accounts are audited by the Auditor-General or such other auditor who may be appointed annually by the Minister in consultation with the Auditor-General. The auditor engaged for the financial year which ended on 31 March 2022 was Foo Kon Tan LLP. The audited financial statements and the auditor's report were submitted to the Board and the Ministry of National Development, and also presented to Parliament.

Internal Control Framework

NParks' internal control system ensures that assets are safeguarded, proper accounting records are maintained, and financial information is reliable. The overall control framework includes:

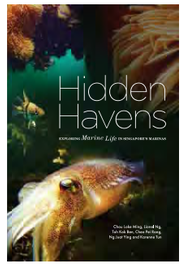
- An organisation structure with clearly defined authority and delegation limits and reporting mechanisms to higher levels of management and to the Board;
- An annual budgeting and quarterly financial reporting system for all operating units that enables progress against annual plans and objectives to be monitored;
- Compliance with the provisions of the National Parks Board Act (Chapter 198A), Public Sector (Governance) Act (Act 5 of 2018), Statutory Board Financial Reporting Standards, Government Instruction Manuals, Finance and PSD Circulars and Minutes for policies and procedures related to operations, human resource management and financial controls and regulations; and
- A risk management framework which ensures close monitoring with proper mitigating measures for all identified high risk areas.

PUBLICATIONS

Books

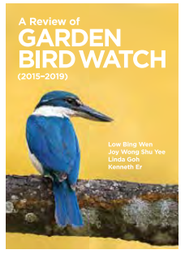


Tropical Plants in Focus – Botanical Illustration at the Singapore Botanic Gardens
By Michele Rodda



Hidden Havens – Exploring Marine Life in Singapore's Marinas
By Chou Lok Ming, Lionel Ng, Toh Kok Ben, Cheo Pei Rong, Ng Juat Ying and Karenne Tun

Published in collaboration with NUS.



A Review of Garden Bird Watch (2015–2019)
By Low Bing Wen, Joy Wong Shu Yee, Linda Goh and Kenneth Er

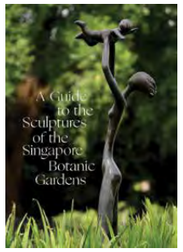


A Guide to the Bees of Singapore
By Zestin W.W. Soh and John S. Ascher

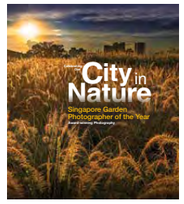
Published in collaboration with NUS.



1001 Garden Plants in Singapore – A New Compendium
By Soh Weijing, Tamako Kobayashi, Dr Jennie Tang, Jessica Teo, Pauline Tay and Low Wei Teng



A Guide to the Sculptures of the Singapore Botanic Gardens
By Grace Lee, Ada Davis, Tan Miao Yuan and Tan Wan Xin

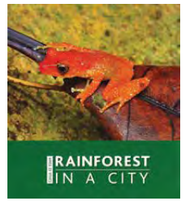


Celebrating Our City in Nature – Singapore Garden Photographer of the Year
Edited by Wong Tuan Wah, Linda Goh, Ada Davis and Victoria Cheong



Singapore Garden Photographer of the Year

Singapore Garden Photographer of the Year won the Grand Award in the 2016 APEX Awards for Publication Excellence under the category of One-of-a-Kind Publication (Green)



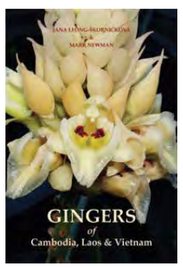
Rainforest in a City
By Chua Ee Kiam

Rainforest in a City won the Bronze medal in the 2015 Independent Publisher Book Awards under the category of Environment/Ecology/ Nature, and the Silver award in the 2015 Nautilus Book Awards under the category of Ecology/ Environment.

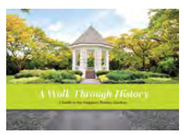


Footprints on an Island – Rediscovering Pulau Ubin
By Chua Ee Kiam, Choo Mui Eng and Wong Tuan Wah

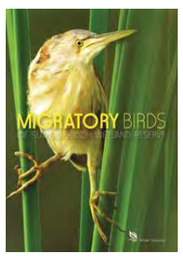
Footprints on an Island – Rediscovering Pulau Ubin won the Nautilus 2016 Silver Award in the Multicultural & Indigenous category, and was recognised in the One-of-a-Kind Publication (Green) category at the 30th Annual APEX Awards for Publication Excellence competition.



Gingers of Cambodia, Laos & Vietnam
By Jana Leong-Škorničková and Mark Newman



A Walk Through History – A Guide to the Singapore Botanic Gardens
By Nigel Taylor and Ada Davis



Migratory Birds of Sungei Buloh Wetland Reserve
By James Gan, Mendis Tan and David Li



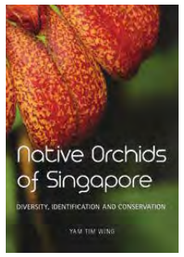
My Green Space: Indoor Gardening
By Lily Chen, Ng Shan Jun, Ang Wee Foong, et al.



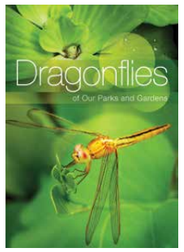
A Guide to the Common Epiphytes and Mistletoes of Singapore
By Jean W.H. Yong, James Wang Wei, Joanne Y.T. Khew, Sheue Chiou Rong and Wong Wei San

SCAN QR CODE TO VIEW FULL LIST OF PUBLICATIONS:

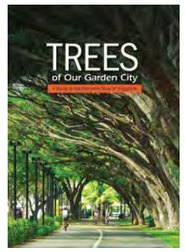




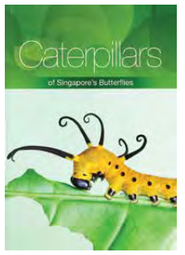
Native Orchids of Singapore – Diversity, Identification and Conservation
By Yam Tim Wing



Dragonflies of Our Parks and Gardens
By Robin Ngiam



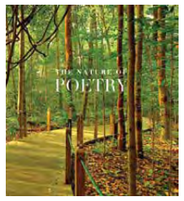
Trees of Our Garden City
Edited by Tee Swee Ping



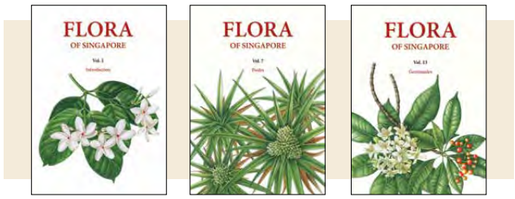
Caterpillars of Singapore's Butterflies
By Horace Tan and Khew Sin Khoon



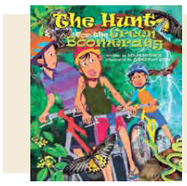
Birds of Our Wetlands – A Journey Through Sungei Buloh Wetland Reserve
Edited by Wong Tuan Wah, Victoria Cheong, Ada Davis, How Choon Beng, David Li, Low Bing Wen, Florence Sim and Yang Shufen



The Nature of Poetry
Edited by Edwin Thumboo and Eric Tinsay Valles



Flora of Singapore, Volume 1 (Introduction), Volume 7 (Poales), Volume 13 (Gentianales)
Edited by David Middleton, Stuart Lindsay and Jana Leong-Škorničková



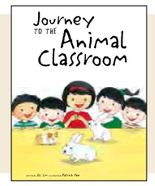


The Hunt for the Green Boomerang, Secrets of the Swamp
By Neil Humphreys and illustrated by Cheng Puay Koon

Secrets of the Swamp won the Best Book award for 6-8 year olds in the 2014 Harper's Bazaar Junior Toy Awards.







A Present for Ginger, My Dog is Not from a Pet Shop, Journey to the Animal Classroom
By Jill Lim and illustrated by Patrick Yee

Journals





The Gardens Bulletin, May 2021 & Dec 2021

Periodicals





Gardenwise, Aug 2021 & Feb 2022



CITYGREEN, Issue 19

The CUGE publication CITYGREEN won APEX Awards for Publication Excellence for 10 consecutive years (2012–2021).

STAFF PUBLICATIONS
APRIL 2021 – MARCH 2022

Books and Reports

Chan, L., Hillel, O., Werner, P., Holman, N., Coetzee, I., Galt, R. & Elmqvist, T. (2021). *Handbook on the Singapore Index on Cities' Biodiversity (also known as the City Biodiversity Index)*, CBD Technical Series No. 98. Montreal: Secretariat of the Convention on Biological Diversity; and Singapore: National Parks Board.

Portner, H.O. et al. [62 authors including **Chan, L.**] (2021). *IPBES-IPCC co-sponsored workshop report on biodiversity and climate change*. IPBES and IPCC: doi.org:10.5281/zenodo.4782538

Book Chapters

Anderson, P.M.L., Potgieter, L.J., **Chan, L.**, Cilliers, S.S. & Nagendran, H. (2021). Urban Plant Diversity: Understanding Informing Processes and Emerging Trends. In: Shackleton, C.M. et al. (eds) *Urban Ecology in the Global South, Cities and Nature*, pp. 145–168. Switzerland: Springer.

Leitgeb, E., Kleine, M., **Ibrahim, H.**, **Mohamed, M.F.**, **Lin**, **D.C.P.**, **Yusof, M.L.**, Michel, K. & **Ghosh, S.** (2021). Soil organic carbon stocks in forests of Singapore. In: *Recarbonizing global soils: a technical manual of recommended management practices. Volume 6: Forestry, Wetlands, Urban Soils – Case-studies*, pp. 45–53.Rome: FAO.

Philip, V., **George, E.R.**, **Ghosh, S.**, & **Yap, M.L.** (2021). Nutrient sufficiency range of soils and plants in Singapore. In: Rakshit, A. et al (eds) *Soil Science: Fundamentals to Recent Advances*, pp. 669–681. Singapore: Springer.

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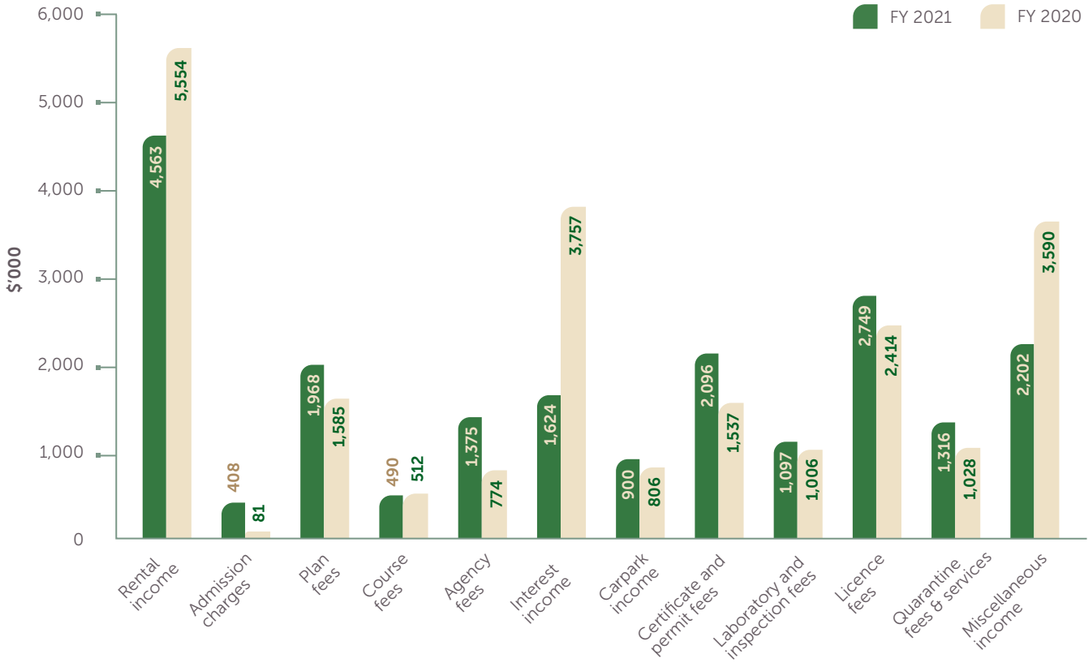
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FINANCIAL REVIEW

Income

The Group's income comprised mainly rental income from souvenir kiosks and food & beverage outlets in Singapore Botanic Gardens and Fort Canning Park. The income for the year was $20.8 million. The decrease from last year's income was mainly due to a decrease in interest income, rental income and miscellaneous income offset by an increase in other sources of income.

Income for FY 2021 & FY 2020

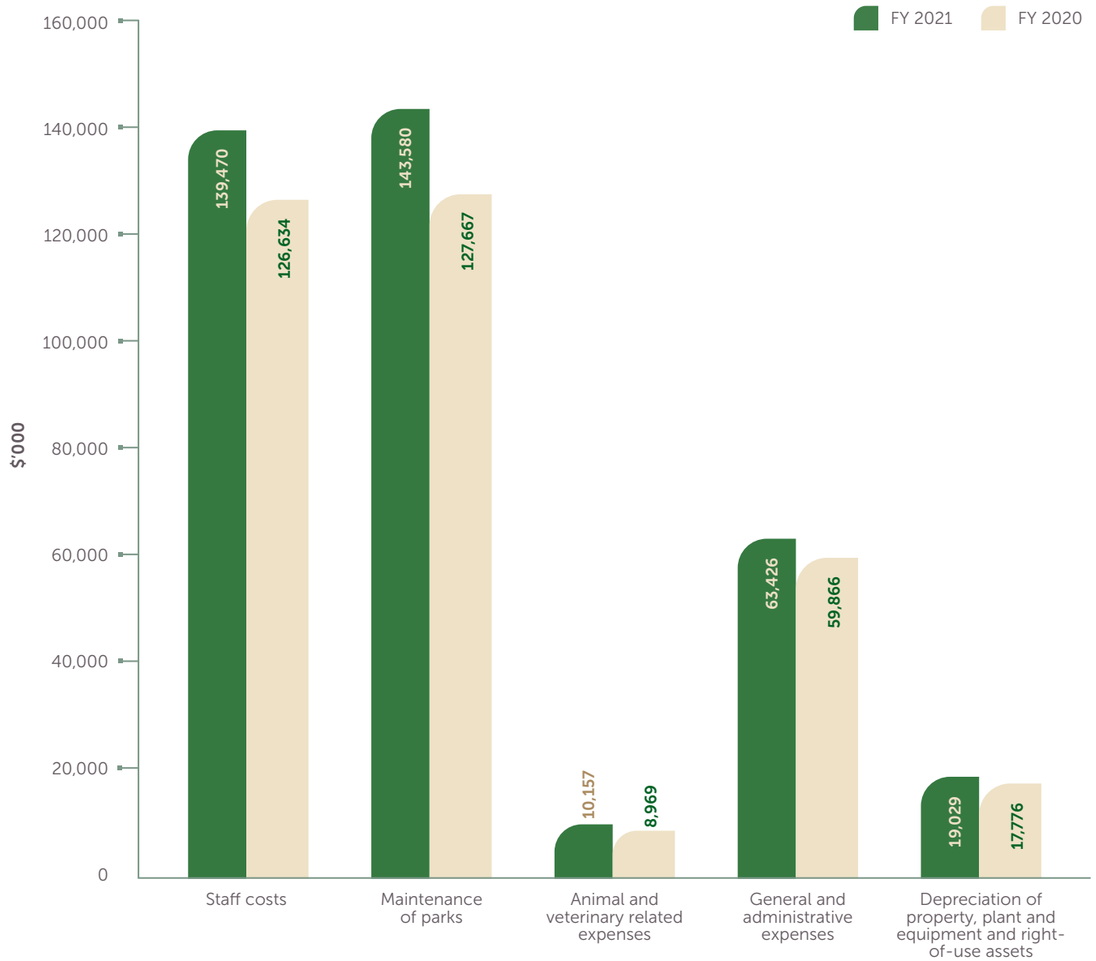


INCOME	FY 2021 $ '000	FY 2020 $ '000	INCREASE/(DECREASE) $ '000	% CHANGE
Rental income	4,563	5,554	(991)	(18)
Admission charges	408	81	327	> 100
Plan fees	1,968	1,585	383	24
Course fees	490	512	(22)	(4)
Agency fees	1,375	774	601	78
Interest income	1,624	3,757	(2,133)	(57)
Carpark income	900	806	94	12
Certificate and permit fees	2,096	1,537	559	36
Laboratory and inspection fees	1,097	1,006	91	9
Licence fees	2,749	2,414	335	14
Quarantine fees and services	1,316	1,028	288	28
Miscellaneous income	2,202	3,590	(1,388)	(39)
	20,788	**22,644**	**(1,856)**	**(8)**

Operating Expenditure

The Group's operating expenditure for the year was $375.7 million. The 10% increase from last year's expenditure was due to the general increase in all categories of expenses.

Operating Expenditure for FY 2021 & FY 2020

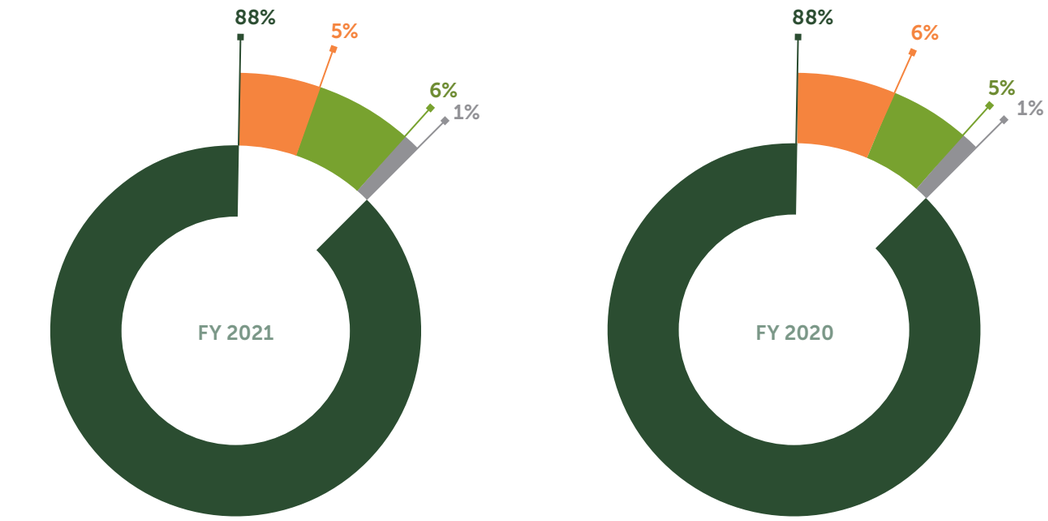


OPERATING EXPENDITURE	FY 2021 $ '000	FY 2020 $ '000	INCREASE/(DECREASE) $ '000	% CHANGE
Staff costs	139,470	126,634	12,836	10
Maintenance of parks	143,580	127,667	15,913	12
Animal and veterinary related expenses	10,157	8,969	1,188	13
General and administrative expenses	63,426	59,866	3,560	6
Depreciation of property, plant and equipment and right-of-use assets	19,029	17,776	1,253	7
	375,662	**340,912**	**34,750**	**10**

Capital Expenditure

The Group's capital expenditure for the year was $22.5 million. The increase in capital expenditure was mainly due to the construction works at Native Plant Nursery, Animal and Plant Health Centre, Pasir Panjang Nursery and increase in the improvement works carried out in Singapore Botanic Gardens.

Capital Expenditure for FY 2021 & FY 2020

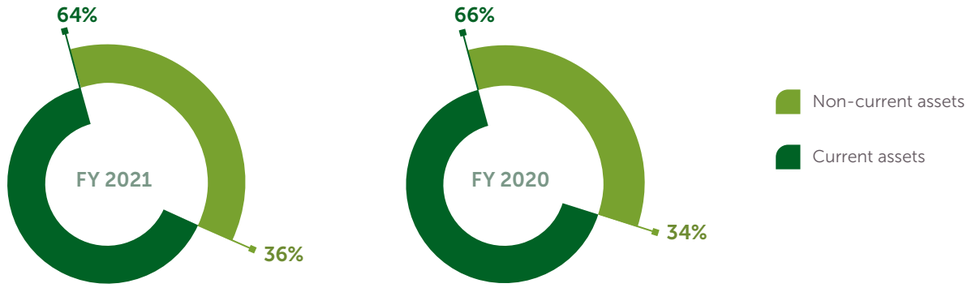


CAPITAL EXPENDITURE	FY 2021 $ '000	FY 2020 $ '000	INCREASE/(DECREASE) $ '000	% CHANGE
Land and other improvements	1,227	923	304	33
Equipment	1,255	824	431	52
Motor vehicles	117	200	(83)	(42)
Development work-in-progress	19,867	14,022	5,845	42
	22,466	**15,969**	**6,497**	**41**

Financial Position

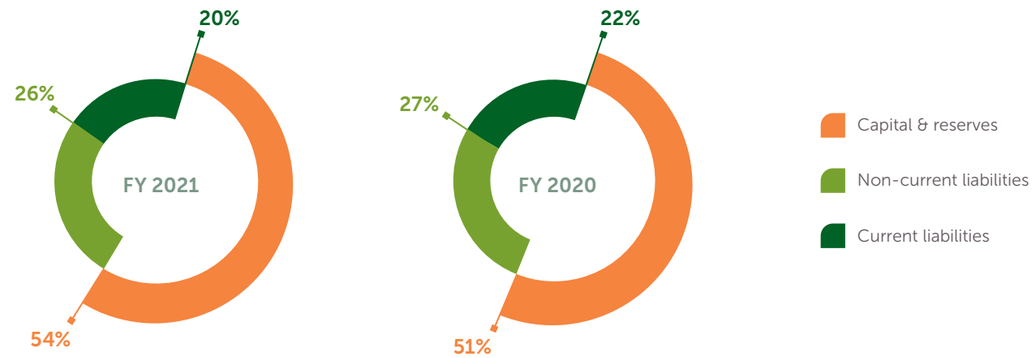
As at 31 March 2022, the Group's total assets stood at $599.5 milion, a decrease of 3% over last year. Non-current assets and current assets represent 36% and 64% of total assets respectively. Non-current assets consisted mainly of leasehold land and buildings and structures at Singapore Botanic Gardens and Fort Canning Park as well as the structures at Animal & Plant Health Centre, Animal Quarantine Station and Animal Management Centre. Capital and reserve stood at $323.7 million, while non-current liabilities and current liabilities stood at $158.0 million and $117.7 million respectively.

Total Assets



ASSETS	FY 2021 $ '000	FY 2020 $ '000	INCREASE/(DECREASE) $ '000	% CHANGE
Non-current assets	214,216	210,261	3,955	2
Current assets	385,246	406,206	(20,960)	(5)
	599,462	**616,467**	**(17,005)**	**(3)**

Total Liabilities & Equity



EQUITY & LIABILITIES	FY 2021 $ '000	FY 2020 $ '000	INCREASE/(DECREASE) $ '000	% CHANGE
Capital & reserves	323,719	318,037	5,682	2
Non-current liabilities	158,026	164,642	(6,616)	(4)
Current liabilities	117,717	133,788	(16,071)	(12)
	599,462	**616,467**	**(17,005)**	**(3)**

Financial Statements

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Statement by the National Parks Board

For the financial year ended 31 March 2022

In our opinion,

a) the accompanying financial statements of National Parks Board ("NParks") and its subsidiary (the "Group"), are properly drawn up in accordance with the provisions of the National Parks Board Act, Chapter 198A (the "Act"), the Public Sector (Governance) Act 2018 and Statutory Board Financial Reporting Standards ("SB-FRS") so as to present fairly, in all material respects, the financial position of the Group and NParks as at 31 March 2022, and the financial performance, changes in equity of the Group and NParks and cash flows of the Group for the financial year ended on that date;

b) the receipt, expenditure, investments of moneys and the acquisition and disposal of assets by NParks during the year have been, in all material respects, in accordance with the provisions of the Act, the Public Sector (Governance) Act and the requirements of any other written law applicable to money of or managed by NParks; and

c) proper accounting and other records have been kept, including records of all assets of NParks whether purchased, donated or otherwise.

The Board has, on the date of this statement, authorised these financial statements for issue.

On behalf of the Board



BENNY LIM
Chairman



KENNETH ER BOON HWEE
Chief Executive Officer

20 July 2022

Independent Auditor's Report to the Members of National Parks Board

Report on the Audit of the Financial Statements

Opinion

We have audited the financial statements of National Parks Board ("NParks") and its subsidiary (collectively, the "Group"), which comprise the statements of financial position of the Group and NParks as at 31 March 2022, the statements of comprehensive income, statements of changes in equity of the Group and NParks and the consolidated cash flow statement of the Group for the year then ended, and notes to the financial statements, including a summary of significant accounting policies.

In our opinion, the accompanying consolidated financial statements of the Group, the statement of financial position, statements of comprehensive income and statements of changes in equity of NParks are properly drawn up in accordance with the provisions of the National Parks Board Act, Chapter 198A (the "Act"), the Public Sector (Governance) Act 2018, Act 5 of 2018 (the "Public Sector (Governance) Act") and Statutory Board Financial Reporting Standards ("SB-FRS"), so as to present fairly, in all material respects, the state of affairs of the Group and NParks as at 31 March 2022 and the results and changes in equity of Group and NParks and cash flows of the Group for the year ended on that date.

Basis for Opinion

We conducted our audit in accordance with Singapore Standards on Auditing ("SSAs"). Our responsibilities under those standards are further described in the *Auditor's responsibilities for the audit of the financial statements* section of our report. We are independent of the Group in accordance with the Accounting and Corporate Regulatory Authority ("ACRA") *Code of Professional Conduct and Ethics for Public Accountants and Accounting Entities* ("ACRA Code") together with the ethical requirements that are relevant to our audit of the financial statements in Singapore, and we have fulfilled our other ethical responsibilities in accordance with these requirements and the ACRA Code. We believe that the audit evidence we have obtained is sufficient and appropriate to provide a basis for our opinion.

Other Information

Management is responsible for the other information. The other information comprises the information included in the annual report and the statement by National Parks Board, but does not include the financial statements and our auditor's report thereon.

Our opinion on the financial statements does not cover the other information and we do not express any form of assurance conclusion thereon.

In connection with our audit of the financial statements, our responsibility is to read the other information and, in doing so, consider whether the other information is materially inconsistent with the financial statements or our knowledge obtained in the audit or otherwise appears to be materially misstated. If, based on the work we have performed, we conclude that there is a material misstatement of this other information, we are required to report that fact. We have nothing to report in this regard.

Independent Auditor's Report to the Members of National Parks Board

Responsibilities of management for the financial statements

Management is responsible for the preparation and fair presentation of the financial statements in accordance with the provisions of the Act, the Public Sector (Governance) Act and SB-FRS, and for such internal control as management determines is necessary to enable the preparation of financial statements that are free from material misstatement, whether due to fraud or error.

A statutory board is constituted based on its constitutional act and its dissolution requires Parliament's approval. In preparing the financial statements, management is responsible for assessing the Group's ability to continue as a going concern, disclosing, as applicable, matters related to going concern and using the going concern basis of accounting unless there is intention to wind up the Group or for the Group to cease operations.

Those charged with governance are responsible for overseeing the Group's financial reporting process.

Auditor's responsibilities for the audit of the financial statements

Our objectives are to obtain reasonable assurance about whether the financial statements as a whole are free from material misstatement, whether due to fraud or error, and to issue an auditor's report that includes our opinion. Reasonable assurance is a high level of assurance, but is not a guarantee that an audit conducted in accordance with SSAs will always detect a material misstatement when it exists. Misstatements can arise from fraud or error and are considered material if, individually or in the aggregate, they could reasonably be expected to influence the economic decisions of users taken on the basis of these financial statements.

As part of an audit in accordance with SSAs, we exercise professional judgement and maintain professional scepticism throughout the audit. We also:

- Identify and assess the risks of material misstatement of the financial statements, whether due to fraud or error, design and perform audit procedures responsive to those risks, and obtain audit evidence that is sufficient and appropriate to provide a basis for our opinion. The risk of not detecting a material misstatement resulting from fraud is higher than for one resulting from error, as fraud may involve collusion, forgery, intentional omissions, misrepresentations, or the override of internal controls.
- Obtain an understanding of internal control relevant to the audit in order to design audit procedures that are appropriate in the circumstances, but not for the purpose of expressing an opinion on the effectiveness of the Group's internal controls.
- Evaluate the appropriateness of accounting policies used and the reasonableness of accounting estimates and related disclosures made by management.
- Conclude on the appropriateness of management's use of the going concern basis of accounting and, based on the audit evidence obtained, whether a material uncertainty exists related to events or conditions that may cast significant doubt on the Group's ability to continue as a going concern. If we conclude that a material uncertainty exists, we are required to draw attention in our auditor's report to the related disclosures in the financial statements or, if such disclosures are inadequate, to modify our opinion. Our conclusions are based on the audit evidence obtained up to the date of our auditor's report. However, future events or conditions may cause the Group to cease to continue as a going concern.

Independent Auditor's Report to the Members of National Parks Board

- Evaluate the overall presentation, structure and content of the financial statements, including the disclosures, and whether the financial statements represent the underlying transactions and events in a manner that achieves fair presentation.
- Obtain sufficient appropriate audit evidence regarding the financial information of the entities or business activities within the Group to express an opinion on the consolidated financial statements. We are responsible for the direction, supervision and performance of the group audit. We remain solely responsible for our audit opinion.

We communicate with the management regarding, among other matters, the planned scope and timing of the audit and significant audit findings, including any significant deficiencies in internal control that we identify during our audit.

Report on other legal and regulatory requirements

Opinion

In our opinion:

(a) the receipts, expenditure, investments of moneys and the acquisition and disposal of assets by the Board during the year are, in all material respects, in accordance with the provisions of the Act, the Public Sector (Governance) Act and the requirements of any other written law applicable to moneys of or managed by NParks.

(b) proper accounting and other records have been kept, including records of all assets of NParks whether purchased, donated or otherwise.

Basis for Opinion

We concluded our audit in accordance with SSAs. Our responsibilities under those standards are further described in the *Auditors' Responsibilities for the Compliance Audit* section of our report. We are independent of the Group in accordance with the ACRA Code together with the ethical requirements that are relevant to our audit of the financial statements in Singapore, and we have fulfilled our ethical responsibilities in accordance with these requirements and the ACRA Code. We believe that the audit evidence we have obtained is sufficient and appropriate to provide a basis for our opinion on management's compliance.

Responsibilities of management for compliance with legal and regulatory requirements

Management is responsible for ensuring that the receipts, expenditure, investments of moneys and the acquisition and disposal of assets, are in accordance with the provisions of the Act, the Public Sector (Governance) Act and the requirements of any other written law applicable to moneys of or managed by NParks. This responsibility includes monitoring related compliance requirements relevant to NParks, and implementing internal controls as management determines are necessary to enable compliance with the requirements.

Independent Auditor's Report to the Members of National Parks Board

Auditor's responsibilities for compliance audit

Our responsibility is to express an opinion on management's compliance based on our audit of the financial statements. We planned and performed the compliance audit to obtain reasonable assurance about whether the receipts, expenditure, investments of moneys and the acquisition and disposal of assets, are in accordance with the provisions of the Act, the Public Sector (Governance) Act and the requirements of any other written law applicable to moneys of or managed by NParks.

Our compliance audit includes obtaining an understanding of the internal control relevant to the receipts, expenditure, investments of moneys and the acquisition and disposal of assets; and assessing the risks of material misstatement of the financial statements from non-compliance, if any, but not for the purpose of expressing an opinion on the effectiveness of NParks' internal control. Because of the inherent limitations in any internal control system, non-compliances may nevertheless occur and not be detected.

Other matter

The financial statements for the year ended 31 March 2021 were audited by another firm of auditors whose report dated 14 July 2021 expressed an unmodified opinion on those financial statements.

Foo Kon Tan LLP
Public Accountants and
Chartered Accountants

Singapore,
20 July 2022

Statement of Financial Position

As at 31 March 2022

	NOTE	GROUP 2021/2022 $	GROUP 2020/2021 $	NPARKS 2021/2022 $	NPARKS 2020/2021 $
ASSETS					
Non-current assets					
Property, plant and equipment	3	195,784,403	189,598,757	195,784,403	189,598,757
Investment in a subsidiary	4	-	-	2	2
Right-of-use assets	5(a)	9,952,191	12,314,726	9,952,191	12,314,726
Lease receivables	5(b)	6,127,745	7,675,751	6,127,745	7,675,751
Trade receivables	6	2,352,000	672,000	2,352,000	672,000
		214,216,339	210,261,234	214,216,341	210,261,236
Current assets					
Lease receivables	5(b)	1,550,298	1,505,204	1,550,298	1,505,204
Trade receivables	6	3,181,460	3,899,264	3,181,460	3,879,764
Other receivables	7	9,557,822	10,550,111	9,566,709	10,555,081
Prepayments		2,718,889	4,156,953	2,717,539	4,155,603
Cash and cash equivalents	8	368,237,278	386,094,921	367,882,350	385,747,762
		385,245,747	406,206,453	384,898,356	405,843,414
Total assets		599,462,086	616,467,687	599,114,697	616,104,650
EQUITY AND LIABILITIES					
Capital and other funds					
Share capital	9	34,912,734	27,946,236	34,912,734	27,946,236
Capital account	10	4,528,275	4,528,275	4,528,275	4,528,275
Other reserve	11	18,039,559	18,049,937	18,039,559	18,049,937
Accumulated surplus		266,238,664	267,512,709	265,899,761	267,177,321
		323,719,232	318,037,157	323,380,329	317,701,769
Non-current liabilities					
Lease liabilities	5(c)	12,535,744	16,117,838	12,535,744	16,117,838
Deferred capital grants	12	141,997,121	144,964,226	141,997,121	144,964,226
Deferred revenue	13	1,829,261	1,885,235	1,829,261	1,885,235
Provision for pension costs	14	1,663,290	1,674,978	1,663,290	1,674,978
		158,025,416	164,642,277	158,025,416	164,642,277

Statement of Financial Position

As at 31 March 2022

	NOTE	GROUP 2021/2022 $	GROUP 2020/2021 $	NPARKS 2021/2022 $	NPARKS 2020/2021 $
Current liabilities					
Lease liabilities	5(c)	3,878,900	3,756,851	3,878,900	3,756,851
Deferred revenue	13	2,784,558	939,082	2,784,558	919,582
Provision for pension costs	14	120,000	120,000	120,000	120,000
Trade and other payables	15	77,170,802	91,334,640	77,162,316	91,326,491
Government grants received in advance	16	33,469,961	28,330,704	33,469,961	28,330,704
Contribution to consolidated fund		293,217	9,306,976	293,217	9,306,976
		117,717,438	133,788,253	117,708,952	133,760,604
Total liabilities		275,742,854	298,430,530	275,734,368	298,402,881
Total equity and liabilities		599,462,086	616,467,687	599,114,697	616,104,650
Net assets of the Garden City Fund	17	19,032,192	11,454,760	19,032,192	11,454,760
Net assets of National Productivity Fund	18	4,007	1,531	4,007	1,531

The annexed notes form an integral part of and should be read in conjunction with these financial statements.

Statement of Comprehensive Income

For the financial year ended 31 March 2022

	NOTE	GROUP 2021/2022 $	GROUP 2020/2021 $	NPARKS 2021/2022 $	NPARKS 2020/2021 $
INCOME OR EXPENDITURE					
Operating income					
Rental income		4,562,944	5,553,333	4,562,944	5,553,333
Admission charges		408,279	80,688	408,279	80,688
Plan fees		1,967,623	1,584,919	1,967,623	1,584,919
Course fees		489,758	511,726	489,758	511,726
Agency fees		1,375,352	774,365	1,375,352	774,365
Interest income		1,624,473	3,757,456	1,624,348	3,754,004
Carpark income		899,777	806,474	899,777	806,474
Certificates and permit fees		2,095,815	1,536,970	2,095,815	1,536,970
Laboratory and inspection fees		1,096,911	1,006,101	1,096,911	1,006,101
Licence fees		2,748,533	2,414,384	2,748,533	2,414,384
Quarantine fees and services		1,316,279	1,028,126	1,316,279	1,028,126
Miscellaneous income	19	2,202,369	3,589,768	2,189,996	3,576,647
Total income	19	20,788,113	22,644,310	20,775,615	22,627,737
Operating expenditure					
Staff costs	20	(139,469,685)	(126,633,982)	(139,469,685)	(126,633,982)
Maintenance of parks		(143,580,204)	(127,667,424)	(143,580,204)	(127,667,424)
Animal and veterinary related expenses		(10,157,165)	(8,968,819)	(10,157,165)	(8,968,819)
General and administrative expenses		(63,426,388)	(59,865,914)	(63,417,405)	(59,857,976)
Depreciation of property, plant and equipment and right-of-use assets	3, 5(a)	(19,028,584)	(17,776,474)	(19,028,584)	(17,776,474)
		(375,662,026)	(340,912,613)	(375,653,043)	(340,904,675)
Deficit from operations	21	(354,873,913)	(318,268,303)	(354,877,428)	(318,276,938)
Government operating grants	16	339,056,632	358,618,910	339,056,632	358,618,910
Other government grants	16	4,500,595	2,286,697	4,500,595	2,286,697
Deferred capital grants amortised	12	13,045,006	12,118,246	13,045,006	12,118,246
		356,602,233	373,023,853	356,602,233	373,023,853
Surplus before contribution to consolidated fund		1,728,320	54,755,550	1,724,805	54,746,915
Contribution to consolidated fund		(293,217)	(9,306,976)	(293,217)	(9,306,976)
Surplus for the year, representing total comprehensive income for the year		1,435,103	45,448,574	1,431,588	45,439,939

The annexed notes form an integral part of and should be read in conjunction with these financial statements.

Statement of Changes in Equity

For the financial year ended 31 March 2022

THE GROUP	SHARE CAPITAL $	CAPITAL ACCOUNT $	OTHER RESERVE $	ACCUMULATED SURPLUS[1] $	TOTAL EQUITY $
At 1 April 2020	22,030,064	4,528,275	18,050,018	227,108,083	271,716,440
Surplus for the year, representing total comprehensive income for the year	-	-	-	45,448,574	45,448,574
Transactions with owners, recognised directly in equity					
Equity injection (Note 9)	5,916,172	-	-	-	5,916,172
Transfer from other reserve (Note 11)	-	-	(81)	81	-
Funding for government projects (Note 22)	-	-	-	(5,044,029)	(5,044,029)
Total transactions with owners,in their capacity as owners	5,916,172	-	(81)	(5,043,948)	872,143
At 31 March 2021	27,946,236	4,528,275	18,049,937	267,512,709	318,037,157
Surplus for the year, representing total comprehensive income for the year	-	-	-	1,435,103	1,435,103
Transactions with owners, recognised directly in equity					
Equity injection (Note 9)	6,966,498	-	-	-	6,966,498
Transfer from other reserve (Note 11)	-	-	(10,378)	10,378	-
Funding for government projects (Note 22)	-	-	-	(1,887,526)	(1,887,526)
Dividend (Note 28)	-	-	-	(832,000)	(832,000)
Total transactions with owners, in their capacity as owners	6,966,498	-	(10,378)	(2,709,148)	4,246,972
At 31 March 2022	34,912,734	4,528,275	18,039,559	266,238,664	323,719,232

(1) Included in accumulated surplus is an amount of $66,955,140 (2020/2021 – $68,563,892) which has been earmarked by the Group to fund future replacement and capital improvement of property, plant and equipment.

The annexed notes form an integral part of and should be read in conjunction with these financial statements.

Statement of Changes in Equity

For the financial year ended 31 March 2022

	SHARE CAPITAL $	CAPITAL ACCOUNT $	OTHER RESERVE $	ACCUMULATED SURPLUS[1] $	TOTAL EQUITY $
NPARKS					
At 1 April 2020	22,030,064	4,528,275	18,050,018	226,781,330	271,389,687
Surplus for the year, representing total comprehensive income for the year	-	-	-	45,439,939	45,439,939
Transactions with owners, recognised directly in equity					
Equity injection (Note 9)	5,916,172	-	-	-	5,916,172
Transfer from other reserve (Note 11)	-	-	(81)	81	-
Funding for government projects (Note 22)	-	-	-	(5,044,029)	(5,044,029)
Total transactions with owners,in their capacity as owners	5,916,172	-	(81)	(5,043,948)	872,143
At 31 March 2021	27,946,236	4,528,275	18,049,937	267,177,321	317,701,769
Surplus for the year, representing total comprehensive income for the year	-	-	-	1,431,588	1,431,588
Transactions with owners, recognised directly in equity					
Equity injection (Note 9)	6,966,498	-	-	-	6,966,498
Transfer from other reserve (Note 11)	-	-	(10,378)	10,378	-
Funding for government projects (Note 22)	-	-	-	(1,887,526)	(1,887,526)
Dividend (Note 28)	-	-	-	(832,000)	(832,000)
Total transactions with owners, in their capacity as owners	6,966,498	-	(10,378)	(2,709,148)	4,246,972
At 31 March 2022	34,912,734	4,528,275	18,039,559	265,899,761	323,380,329

(1) Included in accumulated surplus is an amount of $66,955,140 (2020/2021 – $68,563,892) which has been earmarked by NParks to fund future replacement and capital improvement of property, plant and equipment.

The annexed notes form an integral part of and should be read in conjunction with these financial statements.

Consolidated Statement of Cash Flows

For the financial year ended 31 March 2022

	NOTE	2021/2022 $	2020/2021 $
Cash flows from operating activities			
Deficit from operations		(354,873,913)	(318,268,303)
Adjustments for:			
Depreciation of property, plant and equipment and right-of-use assets	3, 5(b)	19,028,584	17,776,474
Loss on disposal of property, plant and equipment	21	58,201	37,259
Gain on lease modifications on lease receivables	5(b), 19	(2,740)	(2,430,221)
Provision for pension costs	14	228,312	140,165
Amortisation of lease premium received in advance	13	(83,333)	(83,333)
Impairment loss recognised on trade receivables	6	324,334	1,200,000
Interest expense	5(d)	550,839	841,591
Interest income		(1,624,473)	(3,757,456)
Operating deficit before working capital changes		(336,394,189)	(304,543,824)
Changes in trade and other receivables		(332,180)	324,503
Changes in trade and other payables		(7,784,131)	3,550,841
Changes in prepayments		1,438,064	(51,966)
Changes in deferred revenue		1,872,835	(1,481,058)
Changes in payment for pension costs	14	(240,000)	(641,324)
Changes in amounts due from MND		288,488	3,990,798
Changes in amounts due from Garden City Fund		(3,748)	1,637,492
Cash flows used in operations		(341,154,861)	(297,214,538)
Contribution to Consolidated Fund paid		(9,306,976)	(7,689,430)
Net cash used in operating activities		(350,461,837)	(304,903,968)
Cash flows from investing activities			
Proceeds from disposal of property, plant and equipment		1,659	50,096
Proceeds from lease receivables		1,505,652	1,505,557
Purchase of property, plant and equipment	3	(22,466,960)	(15,969,511)
Interest received		1,662,412	5,917,678
Net cash used in investing activities		(19,297,237)	(8,496,180)
Cash flows from financing activities			
Grants received (less payment on behalf)	16	351,442,433	377,154,646
Unutilised grants returned	16	(1,033,470)	(88,779)
Principal payments of lease liabilities	5(e)	(3,904,640)	(3,965,679)
Interest paid on lease liabilities	5(e)	(550,839)	(841,591)
Funding from Garden City Fund	12	1,700,975	62,116
Dividend paid	28	(832,000)	-
Equity injection	9	6,966,498	5,916,172
Funding for government projects	22	(1,887,526)	(5,044,029)
Net cash generated from financing activities		351,901,431	373,192,856
Net (decrease)/ increase in cash and cash equivalents		(17,857,643)	59,792,708
Cash and cash equivalents at the beginning of year		386,094,921	326,302,213
Cash and cash equivalents at the end of year	8	368,237,278	386,094,921

Refer to the respective notes for the reconciliation of liabilities arising from financing activities, excluding equity items.

The annexed notes form an integral part of and should be read in conjunction with these financial statements.

Notes to the Financial Statements

For the financial year ended 31 March 2022

1. General information

National Parks Board ("NParks") is a statutory board under the Ministry of National Development ("MND") established under the National Parks Board Act (Chapter 198A).

The Board has its registered office at Singapore Botanic Gardens, 1 Cluny Road, Singapore 259569.

The primary activities of NParks are to develop, manage and promote the National Parks and Nature Reserves as valuable reserves for recreation, conservation, research and education and to develop, upgrade, manage and maintain the public parks, open spaces on behalf of the Government. With the transfer of the non-food functions from AVA, NParks activities also include working with the community, such as pet owners and businesses, animal welfare groups and the general public, to protect and promote the welfare of animals through regulation and education, such as encouraging responsible pet ownership.

The principal activities of the subsidiary are described in Note 4 to the financial statements.

The financial statements of the Group and of the NParks for the year ended 31 March 2022 were authorised for the issue in accordance with a resolution of the Board on the date of the Statement by Board.

2(a). Basis of preparation

The financial statements have been prepared in accordance with the historical cost basis, except as disclosed in the accounting policies below, and are drawn up in accordance with the provisions of the Act, the Public Sector (Governance) Act and SB-FRS, including Interpretation of SB-FRS ("INT SB-FRS") and SB-FRS Guidance Notes.

The financial statements are presented in Singapore Dollar (SGD or $), which is the Group's functional currency, and rounded to the nearest dollar. All financial information is presented in Singapore dollars, unless otherwise stated.

The preparation of the financial statements in conformity with SB-FRS requires the use of judgements, estimates and assumptions that affect the reported amounts of assets and liabilities and disclosure of contingent assets and liabilities at the date of the financial statements and the reported amounts of revenues and expenses during the financial year. Although these estimates are based on management's best knowledge of current events and actions, actual results may differ from those estimates.

Estimates and underlying assumptions are reviewed on an ongoing basis. Revisions to accounting estimates are recognised in the period in which the estimate is revised and in any future periods affected. Management is of the opinion that there are no key sources of estimation uncertainty at the end of the reporting period.

Critical accounting judgements and key sources of estimation uncertainty

In the process of applying the Group's accounting policies, management has made the following judgements, apart from those involving estimations, which has the most significant effect on the amounts recognised in the consolidated financial statements:

a) Significant judgement made in applying accounting policies

Determination of the lease term of right-of-use assets (Note 5(a))

The Group leases land and buildings, office premises and equipment from government agencies and third parties for its operations. In determining the lease term of right-of-use assets, management considers all facts and circumstances that create an economic incentive to exercise an extension option, or not to exercise a termination option. Extension options (or period after termination options) are only included in the lease term if the lease is reasonably certain to be extended (or not terminated). The lease term is reassessed if an option is actually exercised (or not exercised) or the Group becomes obliged to exercise (or not exercise) it. The assessment of reasonable certainty is only revised if a significant event or a significant change in circumstances occurs, which affects the assessment, and that is within the control of the lessee.

For leases of land and buildings, office premises and equipment, the following factors are normally the most relevant:

- If there are significant penalties to terminate (or not extend), the Group is typically reasonably to certain to extend (or not terminate);
- If the leasehold land and buildings and office premises are expected to have significant remaining values, the Group is typically reasonably certain to extend (or not to terminate);
- Otherwise, the Group considers other factors including historical lease durations and the costs and business disruption required to replace the leased assets.

2(b). Adoption of new and amended standards and interpretations

The accounting policies adopted are consistent with those of the previous financial year except that in the current financial year, the Group has adopted all the new and revised SB-FRSs, INT SB-FRS and SB-FRS Guidance Notes that are relevant to its operations and are effective for annual financial periods beginning on or after 1 April 2021.

The adoption of these standards did not have any material effect on the financial performance or position of the Group and NParks.

2(c). Standards issued but not yet effective

At the date of authorisation of these financial statements, the Group has not adopted the new and revised SB-FRS, INT SB-FRS and amendments to SB-FRS that have been issued but are not yet effective to them. Management anticipates that the adoption of these new and revised SB-FRS pronouncements in future periods will not have a material impact on the Group's financial statements in the period of their initial application, as discussed below.

REFERENCE	DESCRIPTION	EFFECTIVE DATE (ANNUAL PERIODS BEGINNING ON OR AFTER)
Amendments to SB-FRS 16	Property, Plant and Equipment – Proceeds before Intended Use	1 January 2022
Amendments to SB-FRS 37	Onerous Contracts – Cost of Fulfilling a Contract	1 January 2022
Amendments to SB-FRS 1	Classification of Liabilities as Current or Non-current	1 January 2023
Amendments to SB-FRS 8	Definition of Accounting Estimates	1 January 2023
Amendments to SB-FRS 1 and SB-FRS Practice Statement 2	Disclosure of Accounting Policies	1 January 2023

Amendments to SB-FRS 16 *Property, Plant and Equipment – Proceeds before Intended Use*

The amendments prohibit deducting from the cost of an item of property, plant and equipment any proceeds from selling items produced before that asset is available for use, i.e. proceeds while bringing the asset to the location and condition necessary for it to be capable of operating in the manner intended by management. An entity shall recognise such sales proceeds and related costs in profit or loss and measure the cost of those items in accordance with SB-FRS 2 *Inventories*.

The amendments also clarify the meaning of 'testing whether an asset is functioning properly' and specify this as assessing whether the technical and physical performance of the asset is such that it is capable of being used in the production or supply of goods or services, for rental to others, or for administrative purposes.

The amendments are effective for annual periods beginning on or after 1 April 2022, with early application permitted. The amendments are applied retrospectively, but only to items of property, plant and equipment that are brought to the location and condition necessary for them to be capable of operating in the manner intended by management on or after the beginning of the earliest period presented in the financial statements in which the entity first applies the amendments. The entity shall recognise the cumulative effect of initially applying the amendments as an adjustment to the opening balance of retained earnings (or other component of equity, as appropriate) at the beginning of that earliest period presented.

There is no material impact expected to the Group's financial statements on initial application.

Amendments to SB-FRS 37 *Onerous Contracts – Cost of Fulfilling a Contract*

The amendments specify that the 'cost of fulfilling' a contract comprises the 'costs that relate directly to the contract'. Costs that relate directly to a contract consist of both the incremental costs of fulfilling that contract (e.g. direct labour or materials) and an allocation of other costs that relate directly to fulfilling contracts (e.g. depreciation charge for an item of property, plant and equipment used in fulfilling the contract).

The amendments are effective for annual periods beginning on or after 1 April 2022, with early application permitted. The amendments apply to contracts for which the entity has not yet fulfilled all its obligations at the beginning of the annual reporting period in which the entity first applies the amendments. Comparatives are not restated. Instead, the entity shall recognise the cumulative effect of initially applying the amendments as an adjustment to the opening balance of retained earnings (or other component of equity, as appropriate) at the date of initial application.

There is no material impact expected to the Group's financial statements on initial application.

Amendments to SB-FRS 1 *Classification of Liabilities as Current or Non-current*

The amendments affect only the presentation of liabilities as current or non-current in the statement of financial position and not the amount or timing of recognition of any asset, liability, income or expenses, or the information disclosed about those items.

The amendments clarify that the classification of liabilities as current or non-current is based on the rights that are in existence at the end of the reporting period, specify that classification is unaffected by expectations about whether an entity will exercise the right to defer settlement of a liability, explain that rights are in existence if covenants are complied with at the end of the reporting period, and introduce a definition of 'settlement' to make clear that settlement refers to the transfer of cash, equity instruments, other assets or services to the counterparty.

The amendments are applied retrospectively for annual periods beginning on or after 1 April 2023, with early application permitted.

There is no material impact expected to the Group's financial statements on initial application.

Amendments to SB-FRS 8 *Definition of Accounting Estimates*

The amendments replace the definition of a change in accounting estimates with a definition of accounting estimates. Under the new definition, accounting estimates are "monetary amounts in financial statements that are subject to measurement uncertainty". Accordingly, an entity develops accounting estimates if the accounting policies require items in financial statements to be measured in a way that involves measurement uncertainty.

The amendments clarify that a change in accounting estimate that results from new information or new developments is not a correction of an error, and that the effects of a change in an input or a measurement technique used to develop an accounting estimate are changes in accounting estimates if they do not result from the correction of prior period errors. Illustrative examples are also added to help entities understand and apply the amendments.

The amendments are effective for annual periods beginning on or after 1 January 2023 and are applied prospectively to changes in accounting policies and changes in accounting estimates that occur on or after the start of that period. Earlier application is permitted.

Amendments to SB-FRS 1 and SB-FRS Practice Statement 2 *Disclosure of Accounting Policies*

The amendments will help to:

- improve accounting policy disclosures so that they provide more useful information to investors and other primary users of the financial statements; and
- distinguish changes in accounting estimates from changes in accounting policies.

The amendments to SB-FRS 1 require companies to disclose their material accounting policy information rather than their significant accounting policies. Accounting policy information is material if, when considered together with other information included in an entity's financial statements, it can reasonably be expected to influence decisions that the primary users of general purpose financial statements make on the basis of those financial statements.

The amendments also clarify that accounting policy information that relates to immaterial transactions, other events or conditions is immaterial and need not be disclosed. However, accounting policy information may be material because of the nature of the related transactions, other events or conditions, even if the amounts are immaterial. In addition, if an entity discloses immaterial accounting policy information, such information shall not obscure material accounting policy information.

In support of the amendments to SB-FRS 1, amendments are also made to SB-FRS Practice Statement 2 to provide guidance on how to apply the concept of materiality to accounting policy disclosures, and illustrate how an entity could judge whether information about an accounting policy is material to its financial statements.

The amendments to SB-FRS 1 are effective for annual periods beginning on or after 1 January 2023 and are applied prospectively. Earlier application is permitted. If an entity applies these amendments for an earlier period, it shall disclose that fact. The amendments to SB-FRS Practice Statement 2 do not contain an effective date or transition requirements.

2(d). Summary of significant accounting policies

Basis of consolidation

The consolidated financial statements incorporate the financial statements of NParks and entities (including special purpose entities) controlled by NParks (its subsidiary). Control is achieved when NParks:

- Has power over the investee;
- Is exposed, or has rights, to variable returns from its involvement with the investee; and
- Has the ability to use its power to affect its returns.

In NParks's separate financial statements, investment in subsidiary is carried at cost less any impairment in net recoverable value that has been recognised in the statement of comprehensive income.

NParks reassesses whether or not it controls an investee if facts and circumstances indicate that there are changes to one or more of the three elements of control listed above.

Consolidation of a subsidiary begins when NParks obtains control over the subsidiary and ceases when NParks loses control of the subsidiary. Specifically, income and expense of a subsidiary acquired or disposed of during the year are included in the consolidated statement of comprehensive income from the date NParks gains control until the date when NParks ceases to control the subsidiary.

Where necessary, adjustments are made to the financial statements of the subsidiary to bring its accounting policies into line with the Group's accounting policies. The financial statements of the subsidiary used in the preparation of the consolidated financial statements are prepared for the same reporting date as NParks.

All intra-group balances, income and expenses resulting from intra-group transactions and dividends are eliminated in full.

Financial instruments

A financial instrument is any contract that gives rise to a financial asset of one entity and a financial liability or equity instrument of another entity.

a) Financial assets

Initial recognition and measurement

Financial assets are recognised when, and only when the entity becomes party to the contractual provisions of the instruments.

At initial recognition, the Group measures a financial asset at its fair value plus, in the case of a financial asset not at fair value through profit or loss, transaction costs that are directly attributable to the acquisition of the financial asset. Transaction costs of financial assets carried at fair value through profit or loss are expensed in the statement of comprehensive income.

Trade receivables are measured at the amount of consideration to which the Group expects to be entitled in exchange for transferring promised goods or services to a customer, excluding amounts collected on behalf of third party, if the trade receivables do not contain a significant financing component at initial recognition.

Subsequent measurement

Financial assets that are held for the collection of contractual cash flows where those cash flows represent solely payments of principal and interest are measured at amortised cost. Financial assets are measured at amortised cost using the effective interest method, less impairment. Gains and losses are recognised in the statement of comprehensive income when the assets are de-recognised or impaired, and through amortisation process.

De-recognition

A financial asset is de-recognised where the contractual right to receive cash flows from the asset has expired. On derecognition of a financial asset in its entirety, the difference between the carrying amount and the sum of the consideration received and any cumulative gain or loss that had been recognised in other comprehensive income for debt instruments is recognised in the statement of comprehensive income.

b) Financial liabilities

Initial recognition and measurement

Financial liabilities are recognised when, and only when, the Group becomes a party to the contractual provisions of the financial instrument. The Group determines the classification of its financial liabilities at initial recognition.

All financial liabilities are recognised initially at fair value plus in the case of financial liabilities not at fair value through profit or loss, directly attributable transaction costs.

Subsequent measurement

After initial recognition, financial liabilities that are not carried at fair value through profit or loss are subsequently measured at amortised cost using the effective interest method. Gains and losses are recognised in the statement of comprehensive income when the liabilities are de-recognised, and through the amortisation process.

De-recognition

A financial liability is de-recognised when the obligation under the liability is discharged or cancelled or expires. On de-recognition, the difference between the carrying amounts and the consideration paid is recognised in the statement of comprehensive income.

Impairment of financial assets

The Group recognises an allowance for expected credit losses (ECLs) for all debt instruments not held at fair value through profit or loss. ECLs are based on the difference between the contractual cash flows due in accordance with the contract and all the cash flows that the Group expects to receive, discounted at an approximation of the original effective interest rate. The expected cash flows will include cash flows from the sale of collateral held or other credit enhancements that are integral to the contractual terms.

ECLs are recognised in two stages. For credit exposures for which there has not been a significant increase in credit risk since initial recognition, ECLs are provided for credit losses that result from default events that are possible within the next 12-months (a 12-month ECL). For those credit exposures for which there has been a significant increase in credit risk since initial recognition, a loss allowance is recognised for credit losses expected over the remaining life of the exposure, irrespective of timing of the default (a lifetime ECL).

For trade receivables, the Group applies a simplified approach in calculating ECLs. Therefore, the Group does not track changes in credit risk, but instead recognises a loss allowance based on lifetime ECLs at each reporting date. The Group has established a provision matrix that is based on its historical credit loss experience, adjusted for forward-looking factors specific to the debtors and the economic environment.

The Group considers a financial asset in default when contractual payments are 90 days past due. However, in certain cases, the Group may also consider a financial asset to be in default when internal or external information indicates that the Group is unlikely to receive the outstanding contractual amounts in full before taking into account any credit enhancements held by the Group. A financial asset is written off when there is no reasonable expectation of recovering the contractual cash flows.

Leases

The Group assesses at contract inception whether a contract is, or contains, a lease. That is, if the contract conveys the right to control the use of an identified asset for a period of time in exchange for consideration.

As *lessee*

The Group applies a single recognition and measurement approach for all leases, except for short-term leases and leases of low-value assets. The Group recognises lease liabilities representing the obligations to make lease payments and right-of-use assets representing the right to use the underlying leased assets.

(a) Right-of-use assets

The Group recognises right-of-use assets at the commencement date of the lease (i.e. the date the underlying asset is available for use). Right-of-use assets are measured at cost, less any accumulated depreciation and impairment losses, and adjusted for any remeasurement of lease liabilities. The cost of right-of-use assets includes the amount of lease liabilities recognised, initial direct costs incurred, and lease payments made at or before the commencement date less any lease incentives received. Right-of-use assets are depreciated on a straight-line basis over the shorter of the lease term and the estimated useful lives of the assets. The right-of-use assets are also subject to impairment.

(b) Lease liabilities

At the commencement date of the lease, the Group recognises lease liabilities measured at the present value of lease payments to be made over the lease term. The lease payments include fixed payments (including in-substance fixed payments) less any lease incentives receivable, variable lease payments that depend on an index or a rate, and amounts expected to be paid under residual value guarantees. The lease payments also include payments of penalties for terminating the lease, if the lease term reflects the Group exercising the option to terminate.

Variable lease payments that do not depend on an index or a rate are recognised as expense in the period in which the event or condition that triggers the payment occurs.

In calculating the present value of lease payments, the Group uses its incremental borrowing rate at the lease commencement date because the interest rate implicit in the lease is not readily determinable. After the commencement date, the amount of lease liabilities is increased to reflect the accretion of interest and reduced for the lease payments made. In addition, the carrying amount of lease liabilities is remeasured if there is a modification, a change in the lease term, a change in the lease payments (e.g. changes to future payments resulting from a change in an index or rate used to determine such lease payments) or a change in the assessment of an option to purchase the underlying asset.

(c) Short-term leases and leases of low-value assets

The Group applies the short-term lease recognition exemption to its short-term leases (i.e. those leases that have a lease term of 12 months or less from the commencement date and do not contain a purchase option). It also applies the lease of low-value assets recognition exemption to leases of office equipment that are considered to be low value. Lease payments on short-term leases and leases of low value assets are recognised as expense on a straight-line basis over the lease term.

Subleases

In classifying a sublease, the Group as an intermediate lessor classifies the sublease as a finance or an operating lease with reference to the right-of-use asset arising from the head lease, rather than the underlying asset.

When the sublease is assessed as a finance lease, the Group derecognises the right-of-use asset relating to the head lease that it transfers to the sublessee and recognises the net investment in the sublease within "Lease Receivables". Any differences between the right-of-use asset derecognised and the net investment in sublease is recognised in the statement of comprehensive income. Lease liability relating to the head lease is retained in the balance sheet, which represents the lease payments owed to the head lessor.

When the sublease is assessed as an operating lease, the Group recognises lease income from the sublease in the statement of comprehensive income within "other income". The right-of-use asset relating to the head lease is not derecognised.

As lessor

Leases in which the Group does not transfer substantially all the risks and rewards of ownership of the asset are classified as operating leases. Initial direct costs incurred in negotiating and arranging an operating lease are added to the carrying amount of the leased asset and recognised over the lease term on the same bases as rental income.

Property, plant and equipment and depreciation

All items of property, plant and equipment are initially recorded at cost. Subsequent to recognition, property, plant and equipment are measured at cost less accumulated depreciation and any accumulated impairment losses.

Depreciation is computed on a straight-line basis over the estimated useful lives of the assets as follows:

Leasehold land	— Over the lease periods of 87 to 99 years
Buildings, structures, capital and other improvements	— 20 years
Office equipment, furniture and fittings	— 5 to 10 years
Laboratory and gardening equipment	— 7 years
Motor vehicles	— 8 to 10 years

Construction-in-progress included in property, plant and equipment is not depreciated as these assets are not available for use. These are carried at cost, less any recognised impairment loss.

The carrying amount of property, plants and equipment are reviewed for impairment when events or changes in circumstances indicate that the carrying amount may not be recoverable.

The estimated useful lives, residual values and depreciation method are reviewed at the end of each reporting period, with the effect of any changes in estimates accounted for on a prospective basis.

An item of property, plant and equipment is de-recognised upon disposal or when no future economic benefits are expected from its use or disposal. The gain or loss arising on disposal or retirement of an item of property, plant and equipment is determined as the difference between the sales proceeds and the carrying amounts of the asset and is recognised in the statement of comprehensive income.

Impairment of non-financial assets

The Group assesses at each reporting date whether there is an indication that an asset may be impaired. If any indication exists, or when an annual impairment testing for an asset is required, the Group makes an estimate of the asset's recoverable amount.

An asset's recoverable amount is the higher of an asset's or cash-generating unit's fair value less costs of disposal and its value in use and is determined for an individual asset, unless the asset does not generate cash inflows that are largely independent of those from other assets or groups of assets. Where the carrying amount of an asset or cash-generating unit exceeds its recoverable amount, the asset is considered impaired and is written down to its recoverable amount.

Impairment losses are recognised in the statement of comprehensive income, except for assets that are previously revalued where the revaluation was taken to other comprehensive income. In this case, the impairment is also recognised in other comprehensive income up to the amount of any previous revaluation.

A previously recognised impairment loss is reversed only if there has been a change in the estimates used to determine the asset's recoverable amount since the last impairment loss was recognised. If that is the case, the carrying amount of the asset is increased to its recoverable amount. That increase cannot exceed the carrying amount that would have been determined, net of depreciation, had no impairment loss been recognised previously. Such reversal is recognised in the statement of comprehensive income unless the asset is measured at revalued amount, in which case the reversal is treated as a revaluation increase. Impairment losses relating to goodwill cannot be reversed in future periods.

Provisions

Provisions are recognised when the Group has a present obligation (legal or constructive) as a result of a past event, it is probable that the Group will be required to settle the obligation, and a reliable estimate can be made of the amount of the obligation.

The amount recognised as a provision is the best estimate of the consideration required to settle the present obligation at the end of the reporting period, taking into account the risks and uncertainties surrounding the obligation. Where a provision is measured using the cash flows estimated to settle the present obligation, its carrying amount is the present value of those cash flows. If it is no longer probable that an outflow of economic resources will be required to settle the obligation, the provision is reversed. If the effect of the time value of money is material provisions and discounted using a current pre-tax rate that reflects, where appropriate, the risk specific to the liability when discounting is used, the increase in the provision due to the passage of time is recognised as a finance cost.

Government grants

Government grants are not recognised until there is reasonable assurance that the Group will comply with the conditions attaching to them and the grants will be received. Government grants whose primary condition is that the Group should purchase, construct or otherwise acquire non-current assets are recognised as deferred capital grant in the statement of financial position and transferred to income or expenditure on a systematic and rational basis over the useful lives of the related assets. This treatment also applies to assets transferred from other government organisations and other donated assets.

Other government grants are recognised as income over the periods necessary to match them with the costs for which they are intended to compensate, on a systematic basis. Government grants that are receivable as compensation for expenses or losses already incurred or for the purpose of giving immediate financial support to the Group with no future related costs are recognised in the statement of comprehensive income in the period in which they become receivable.

The value of land at the Singapore Botanic Gardens and the Fort Canning Park that were vested in NParks when it was established in June 1990 was taken to the deferred capital grants account. The value of all other assets net of liabilities transferred from the former Parks and Recreation Department of Ministry of National Development (PRD) to NParks in June 1990 and July 1996 amounting to $4,528,275 was taken to the capital account.

Trust and agency funds

Trust and agency funds are set up to account for funds held in trust where NParks is not the owner and beneficiary of the funds received from the Government and other organisations. The receipts and expenditure in respect of agency funds are taken directly to the funds accounts and the net assets relating to the funds are shown as a separate line item in the statement of financial position. Trust and agency funds are accounted for on the accrual basis.

NParks administers the funds on behalf of the holders of these funds. Upon dissolution of these funds, the remaining moneys in these funds shall be returned to the owners of the funds.

Revenue recognition

Revenue is measured based on the consideration to which the Group expects to be entitled in exchange for transferring promised goods or services to a customer, excluding amount collected on behalf of third parties.

Revenue is recognised when the Group satisfies a performance obligation by transferring a promised good or service to the customer, which is when the customer obtains control of the good or service. A performance obligation may be satisfied at a point in time or over time. The amount of revenue recognised is the amount allocated to the satisfied performance obligation.

Rental income

Rental income receivable under operating leases is recognised in the statement of comprehensive income on a straight-line basis over the term of the lease. Lease incentives granted are recognised as an integral part of the total rental income, over the term of the lease.

Admission charges

Admission charges in relation to the National Orchid Garden are recognised at a point in time upon the sale of admission tickets. For event admission tickets which are sold in advance, revenue is recognised on the date of event.

Plan fees

Plan fees are recognised at a point in time when the services have been performed and rendered.

Course fees

Course fees are recognised over the duration of the course.

Agency fees

Agency fees are recognised over the period in which the services are completed.

Interest income

Interest income is accrued on a time basis, by reference to the principal outstanding and at the effective interest rate applicable.

Carpark income

Carpark income is recognised at a point in time when transacted.

Licence, certificate and permit fees

Licence, certificates and permit fees are recognised at a point in time when licences, certificates or permits are issued.

Laboratory, inspection and quarantine fees

These fees are recognised a point of time when the services have been performed and rendered.

Miscellaneous income

Miscellaneous income comprising income derived from consultancy fees, sale of publications, souvenirs and orchid plantlets, and park usage and barbeque permit fees are recognised at a point in time in which they are earned. Liquidated damages are recognised as income when the right to claim such liquidated damages from contractors are established. Compensation collected from contractors whose work resulted in damage to trees and plants are recognised upon issuance of the notice of offence.

Retirement benefits costs

Payments to defined contribution plans are charged as an expense when employees have rendered the services entitling them to the contributions. Payments made to state-managed retirement benefit schemes, such as the Singapore Central Provident Fund, are dealt with as payments to defined contribution plans where the Group's obligations under the plans are equivalent to those arising in a defined contribution retirement benefit plan.

Defined benefit obligations due to pensionable officers are recognised in the statement of financial position in accordance with the Pensions Act (Cap. 225, 2004 Revised Edition). Provision for pension costs for eligible retired employees is estimated by management.

For pension costs, the cost of providing benefits is determined using the projected unit credit method. Remeasurement, comprising actuarial gains and losses is reflected immediately in the statement of financial position with a charge or credit recognised in other comprehensive income in the period in which they occur.

Remeasurement recognised in other comprehensive income is reflected immediately in accumulated surplus and will not be reclassified to income or expenditure. Net interest is calculated by applying the discount rate at the beginning of the period to the net defined benefit liability or asset. Defined benefit costs are categorised as follows:

- Service cost (including current and past service cost);
- Net interest expense or income; and
- Remeasurement.

For all active members of the scheme, the "projected accrual benefit" is based on the scheme's accrual formula and upon service as of the valuation date, but using the employee's scheme salary, projected to the age at which the employee is assumed to leave active service. For inactive members, it is the total benefit.

The defined benefit obligation/project benefit obligation/plan liability is the discounted present value of the "projected accrued benefits". The service cost is the corresponding value of benefits earned by active members over the year as a result of one more year of service.

Employee leave entitlement

Employee entitlements to annual leave are recognised when they are accrued to employees. A provision is made for the estimated liability for annual leave as a result of services rendered by employees up to the end of the reporting period.

Contribution to consolidated fund

Under Section 13(1)(e) and the First Schedule of the Singapore Income Tax Act, Chapter 134, the income of the Group is exempt from income tax.

In lieu of income tax, NParks is required to make contribution to the Government Consolidated Fund in accordance with the Statutory Corporations (Contributions to Consolidated Fund) Act, Chapter 319A. The provision is based on the guidelines specified by the Ministry of Finance and is computed based on the net surplus of the Group for each of the financial year at the prevailing corporate tax rate for the Year of Assessment. Contribution to consolidated fund is provided for on an accrual basis.

Cash and cash equivalents

Cash and cash equivalents comprise cash at bank and deposits placed with the Accountant-General's Department ("AGD") that are readily convertible to a known amount of cash and are subject to an insignificant risk of changes in value.

Deferred revenue

Income from rental and lease premium received in advance are stated at initial amount less accumulated amortisation. Amortisation is calculated on a straight-line basis to reduce the initial amount over the lease term and is recognised in the statement of comprehensive income.

Income from plan fees received in advance is stated at initial amount collected and is recognised in the statement of comprehensive income when services are performed and rendered.

Contingencies

A contingent liability is:

(a) a possible obligation that arises from past events and whose existence will be confirmed only by the occurrence or non-occurrence of one or more uncertain future events not wholly within the control of the Group; or

(b) a present obligation that arises from past events but is not recognised because:

  (i) It is not probable that an outflow of resources embodying economic benefits will be required to settle the obligation; or

  (ii) The amount of the obligation cannot be measured with sufficient reliability.

A contingent asset is a possible asset that arises from past events and whose existence will be confirmed only by the occurrence or non-occurrence of one or more uncertain future events not wholly within the control of the Group.

Contingent liabilities and assets are not recognised on the statement of financial position of the Group.

Funding for government projects

Government projects funded using NParks's accumulated surplus are considered distribution to owners. Accordingly, the amounts are recognised directly in the statement of changes in equity.

Other reserve

Other reserve represents the accumulated surplus transferred from the former Agri-Food and Veterinary Authority of Singapore ("AVA") NParks on 1 April 2019 when AVA transferred its non-food functions to NParks. The accumulated surplus comprised surpluses arising from unutilised grants that were previously received by AVA for future acquisitions of and capital improvements on property, plant and equipment.

The Group has earmarked this reserve to fund future acquisition of property, plant and equipment for the Animal and Veterinary Service ("AVS"). Depreciation charge on such property, plant and equipment will be transferred from other reserves to accumulated surplus. The transfer will cease when this reserve is fully utilised.

3. Property, plant and equipment

GROUP AND NPARKS	LEASEHOLD LAND	BUILDING, STRUCTURES, CAPITAL AND OTHER IMPROVEMENTS	OFFICE EQUIPMENT, FURNITURE AND FITTINGS	MOTOR VEHICLES	LABORATORY AND GARDENING EQUIPMENT	CONSTRUCTION-IN-PROGRESS	TOTAL
	$	$	$	$	$	$	$
Cost							
At 1 April 2020	70,086,377	178,439,603	60,287,216	1,507,342	3,256,973	50,039,135	363,616,646
Additions	-	923,427	744,163	200,330	79,532	14,022,059	15,969,511
Transfer	-	27,348,809	6,004,093	-	77,296	(33,430,198)	-
Disposals	-	(6,824,016)	(209,494)	(246,696)	(245,726)	-	(7,525,932)
At 31 March 2021	70,086,377	199,887,823	66,825,978	1,460,976	3,168,075	30,630,996	372,060,225
Additions	-	1,226,587	731,014	117,450	524,475	19,867,434	22,466,960
Transfer	-	14,087,138	1,863,660	-	1,135,606	(17,086,404)	-
Disposals	-	(636,352)	(879,927)	(39,110)	(116,965)	-	(1,672,354)
At 31 March 2022	70,086,377	214,565,196	68,540,725	1,539,316	4,711,191	33,412,026	392,854,831
Accumulated depreciation							
At 1 April 2020	16,981,907	119,362,825	36,177,773	1,079,286	1,514,177	-	175,115,968
Depreciation for the year	1,126,158	6,838,578	6,297,478	147,288	374,575	-	14,784,077
Disposals	-	(6,813,487)	(172,889)	(215,155)	(237,046)	-	(7,438,577)
At 31 March 2021	18,108,065	119,387,916	42,302,362	1,011,419	1,651,706	-	182,461,468
Depreciation for the year	1,126,158	8,176,017	6,314,973	134,545	469,761	-	16,221,454
Disposals	-	(608,044)	(848,831)	(39,110)	(116,509)	-	(1,612,494)
At 31 March 2022	19,234,223	126,955,889	47,768,504	1,106,854	2,004,958	-	197,070,428
Carrying amount							
At 31 March 2022	50,852,154	87,609,307	20,772,221	432,462	2,706,233	33,412,026	195,784,403
At 31 March 2021	51,978,312	80,499,907	24,523,616	449,557	1,516,369	30,630,996	189,598,757

4. Investment in a subsidiary

NPARKS	2021/2022 $	2020/2021 $
Unquoted equity investment, at cost	2	2

Details of the subsidiary at the end of the reporting period are as follows:

NAME OF SUBSIDIARY	COUNTRY OF INCORPORATION/ PRINCIPAL PLACE OF BUSINESS	PROPORTION OF OWNERSHIP INTEREST AND VOTING POWER HELD		PRINCIPAL ACTIVITIES
		2021/2022	2020/2021	
Singapore Garden City Pte. Ltd. [(a)]	Singapore	100%	100%	Landscape planning, advisory services and business consulting services

(a) Audited by JPL WONG & CO.

5. Leases

As lessee

The Group has lease contracts for leasehold land, buildings, office premises and equipment. There are lease contracts that include extension options which are further discussed below.

The Group has certain leases with lease terms of 12 months or less and leases of low value. The Group applies the 'short-term lease' and 'lease of low-value assets' recognition exemptions for these leases.

a) Right-of-use assets

The carrying amounts of the right-of-use assets and movement during the years are disclosed as follow:

GROUP AND NPARKS	LEASEHOLD LAND AND BUILDINGS	OFFICE PREMISES	EQUIPMENT	TOTAL
	$	$	$	$
At 1 April 2020	9,431,956	6,142,942	27,029	15,601,927
New leases	3,087,197	383,827	-	3,471,024
Lease modification	(3,765,828)	-	-	(3,765,828)
Depreciation expense	(2,039,526)	(933,792)	(19,079)	(2,992,397)
At 31 March 2021	6,713,799	5,592,977	7,950	12,314,726
New leases	432,893	-	-	432,893
Lease modification	-	11,702	-	11,702
Depreciation expense	(1,985,771)	(813,409)	(7,950)	(2,807,130)
At 31 March 2022	5,160,921	4,791,270	-	9,952,191

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b) Lease receivables

As intermediate lessor

The Group's has entered into subleases on one of its premises. The lease terms of these subleases constitute a major part of tenure of the head lease and accordingly, these subleases are classified as finance leases. The net investment in the sub-lease is recognised under "lease receivables".

The following table shows the maturity analysis of the undiscounted lease payments to be received:

GROUP AND NPARKS	2021/2022 $	2020/2021 $
At 1 April	9,180,955	12,900,835
Lease modifications	2,740	(2,214,323)
Accretion of interest	267,136	375,132
Receipts	(1,772,788)	(1,880,689)
At 31 March	7,678,043	9,180,955
Within one year	1,768,672	1,772,260
After one year but not more than five years	6,485,132	7,072,577
More than five years	-	1,178,763
Total undiscounted lease receivables	8,253,804	10,023,600
Unearned interest income	(575,761)	(842,645)
Total receivables at 31 March	7,678,043	9,180,955
Represented as:		
Current	1,550,298	1,505,204
Non-current	6,127,745	7,675,751
	7,678,043	9,180,955

The following are the amounts recognised in the statement of comprehensive income.

GROUP AND NPARKS	2021/2022 $	2020/2021 $
Interest income on lease receivables	267,136	375,132

c) Lease liabilities

As lessee

The carrying amounts of lease liabilities and the movements during the year are disclosed as follow:

GROUP AND NPARKS	2021/2022 $	2020/2021 $
At 1 April	19,874,689	28,779,717
Additions	432,893	383,828
Lease modification	11,702	(5,323,177)
Accretion of interest	550,839	841,591
Payments	(4,455,479)	(4,807,270)
At 31 March	16,414,644	19,874,689
Within one year	4,316,891	4,299,176
After one year but not more than five years	11,499,560	15,513,815
More than five years	1,910,240	1,910,240
Total undiscounted lease payments	17,726,691	21,723,231
Unearned interest costs	(1,312,047)	(1,848,542)
Total liabilities at 31 March	16,414,644	19,874,689
Represented as:		
Current	3,878,900	3,756,851
Non-current	12,535,744	16,117,838
	16,414,644	19,874,689

d) Amounts recognised in the statement of comprehensive income

GROUP AND NPARKS	2021/2022 $	2020/2021 $
Depreciation of right-of-use assets	2,807,130	2,992,397
Gain on lease modifications	(2,740)	(2,430,221)
Interest expense on lease liabilities	550,839	841,591
Lease expenses not capitalised in lease liabilities:		
- Expense relating to short-term leases	1,657,767	1,801,624
- Expenses relating to leases of low-value assets	1,272,652	1,368,397
Total lease expense	2,930,419	3,170,021
Total amount recognised in the statement of comprehensive income	6,285,648	4,573,788

e) Total cash outflow

During the current financial year, the Group's total cash outflows for leases are summarised as follows:

GROUP AND NPARKS	2021/2022 $	2020/2021 $
Principal payments of lease liabilities	3,904,640	3,965,679
Interest paid on lease liabilities	550,839	841,591
	4,455,479	4,807,270
Lease expenses not capitalised in lease liabilities	2,930,419	3,170,021
	7,385,898	7,977,291

f) Extension options

The group has lease contracts that include extension options. These options are negotiated by management to provide flexibility in managing the leased-asset portfolio and align with the Group's business needs.

6. Trade receivables

	GROUP		NPARKS	
	2021/2022 $	2020/2021 $	2021/2022 $	2020/2021 $
Not past due and not impaired	2,881,200	2,626,631	2,881,200	2,626,631
Past due but not impaired:				
< 1 months	104,205	304,455	104,205	304,455
1 months to 4 months	119,643	395,531	119,643	376,031
> 4 months	2,428,412	1,244,647	2,428,412	1,244,647
	2,652,260	1,944,633	2,652,260	1,925,133
Impaired receivables	2,461,734	2,137,400	2,461,734	2,137,400
	7,995,194	6,708,664	7,995,194	6,689,164
Allowance for impairment loss	(2,461,734)	(2,137,400)	(2,461,734)	(2,137,400)
Total	5,533,460	4,571,264	5,533,460	4,551,764
Represented by:				
Current portion	3,181,460	3,899,264	3,181,460	3,879,764
Non-current portion	2,352,000	672,000	2,352,000	672,000
Total	5,533,460	4,571,264	5,533,460	4,551,764

The credit period on rendering of services is 30 days (2020/2021 – 30 days). Other than non-current receivables which interest is charged at 2% per annum, no interest is charged on the trade receivables and no collateral is held by the Group over the trade receivables.

Expected credit losses

The movement in allowance for expected credit losses on trade receivables computed based on lifetime ECL are as follows:

GROUP AND NPARKS	2021/2022 $	2020/2021 $
At 1 April	2,137,400	937,400
Impairment loss recognised (Note 21)	324,334	1,200,000
At 31 March	2,461,734	2,137,400

7. Other receivables

	GROUP		NPARKS	
	2021/2022 $	2020/2021 $	2021/2022 $	2020/2021 $
Other receivables				
- MND [(i)]	4,363,078	5,835,304	4,363,078	5,835,304
- Garden City Fund [(ii)]	2,947,627	2,047,455	2,947,627	2,047,455
- Gardens by the Bay [(ii)]	29,838	15,489	29,838	15,489
- Other receivables	899,341	1,439,157	908,478	1,444,377
Interest receivables	689,328	727,267	689,328	727,267
Deposits	628,610	485,439	628,360	485,189
	9,557,822	10,550,111	9,566,709	10,555,081

(i) Receivables from MND comprise direct development grants receivable by NParks. These amounts are unsecured and interest-free, and are repayable on demand.

(ii) Non-trade amounts due from Garden City Fund and Gardens by the Bay are unsecured and interest-free, and are repayable on demand.

8. Cash and cash equivalents

	GROUP		NPARKS	
	2021/2022	2020/2021	2021/2022	2020/2021
	$	$	$	$
Cash at bank	354,928	347,159	-	-
Deposits with AGD [(i)]	367,882,350	385,747,762	367,882,350	385,747,762
	368,237,278	386,094,921	367,882,350	385,747,762

(i) With effect from financial year 2009/2010, Statutory Boards participate in the Centralised Liquidity Management by the Accountant General's Department ("AGD") under AGD Circular 4/2009. Deposits are centrally managed by AGD, available to the statutory board upon request and earns interest at the average rate of 0.30% (2020/2021 – 0.79%) per annum.

9. Share capital

GROUP AND NPARKS	2021/2022 $	2020/2021 $
Issued and fully paid up:		
At 1 April	27,946,236	22,030,064
Equity injection [(1)]	6,966,498	5,916,172
At 31 March	34,912,734	27,946,236

(1) Injection of capital is part of the Capital Management Framework for Statutory Boards under Finance Circular Minute M26/2008. The shares have been fully paid and are held by the Minister for Finance, a body corporate incorporated by the Minister for Finance (Incorporation) Act (Chapter 183). The holder of these shares, which has no par value, is entitled to receive dividends.

10. Capital account

Capital account represents the value of assets net of liabilities (excluding the leasehold land acquired via Government capital grants) transferred from the former Parks and Recreation Department ("PRD") of MND when NParks was established in June 1990 and when PRD merged with NParks in July 1996.

11. Other reserve

Other reserve represents the accumulated surplus transferred from the former Agri-Food and Veterinary Authority of Singapore ("AVA") NParks on 1 April 2019 when AVA transferred its non-food functions to NParks. The accumulated surplus comprised surpluses arising from unutilised grants that were previously received by AVA for future acquisitions of and capital improvements on property, plant and equipment.

The Group has earmarked this reserve to fund future acquisition of property, plant and equipment for the Animal and Veterinary Service ("AVS"). Depreciation charge on such property, plant and equipment will be transferred from other reserves to accumulated surplus. The transfer will cease when this reserve is fully utilised.

The amount utilised in the current financial year represents the depreciation charged on replacement assets of $141,574 (2020/2021 – $7,693) that have been purchased as at the end of the reporting period.

12. Deferred capital grants

GROUP AND NPARKS	2021/2022 $	2020/2021 $
At 1 April	144,964,226	150,009,241
Amounts transferred from Government grants (Note 16)	8,376,926	7,011,115
Amounts transferred from Garden City Fund	1,700,975	62,116
	155,042,127	157,082,472
Less: Amortisation of deferred capital grants	(13,045,006)	(12,118,246)
At 31 March	141,997,121	144,964,226
Total capital grants received (excluding donations-in-kind transferred from Garden City Fund) and utilised since establishment	327,301,443	318,924,517

13. Deferred revenue

	GROUP		NPARKS	
	2021/2022	2020/2021	2021/2022	2020/2021
	$	$	$	$
Lease premium received in advance	881,945	965,278	881,945	965,278
Deferred rental income	672,000	672,000	672,000	672,000
Plan fees received in advance	1,175,594	1,024,725	1,175,594	1,024,725
Rental received in advance	1,680,000	-	1,680,000	-
Others	204,280	162,314	204,280	142,814
	4,613,819	2,824,317	4,613,819	2,804,817
Represented by:				
Current portion	2,784,558	939,082	2,784,558	919,582
Non-current portion	1,829,261	1,885,235	1,829,261	1,885,235
	4,613,819	2,824,317	4,613,819	2,804,817

The lease premium received in advance represents the unamortised balances of lease premium received in advance from a tenant.

14. Provision for pension costs

GROUP AND NPARKS	2021/2022 $	2020/2021 $
At 1 April	1,794,978	2,296,137
Provision for the year (Note 20)	228,312	140,165
Payments during the year	(240,000)	(641,324)
At 31 March	1,783,290	1,794,978
Represented by:		
Current portion	120,000	120,000
Non-current portion	1,663,290	1,674,978
	1,783,290	1,794,978

As at the beginning and the end of the financial year, no existing employees of NParks were eligible for the pension scheme.

15. Trade and other payables

	GROUP		NPARKS	
	2021/2022 $	2020/2021 $	2021/2022 $	2020/2021 $
Trade payables	11,911,670	18,136,104	11,911,670	18,136,104
Other payables				
- MND [(i)]	4,162,394	3,873,906	4,162,394	3,873,906
- Garden City Fund [(ii)]	22,391	26,139	22,391	26,139
- Others	26,468,881	23,315,485	26,466,895	23,315,485
Rental and other deposits	7,292,115	8,578,420	7,292,115	8,578,420
Accrual expenses	26,628,427	34,977,962	26,621,927	34,969,813
Financial liabilities at amortised cost	76,485,878	88,908,016	76,477,392	88,899,867
GST payable	684,924	2,426,624	684,924	2,426,624
	77,170,802	91,334,640	77,162,316	91,326,491

(i) Payables to MND comprise primarily state revenue collections received on behalf of the Ministry. The amounts are unsecured and interest-free and are repayable in cash on demand.

(ii) Non-trade amounts due to Garden City Fund are unsecured and interest-free.

16. Government grants received in advance

GROUP AND NPARKS	OPERATING GRANTS [(i)] $	CAPITAL GRANTS $	DEVELOPMENT GRANTS [(ii)] $	OTHER GRANTS [(iii)] $	TOTAL $
At 1 April 2020	27,625,863	-	(7,658,314)	(813,818)	19,153,731
Grants received during the year	364,028,740	73,403	100,226,035	2,668,732	466,996,910
Interest income earned	-	-	27,828	-	27,828
Transfer to deferred capital grants (Note 12)	(6,538,003)	(73,403)	(399,709)	-	(7,011,115)
Unutilised grants returned	-	-	-	(88,779)	(88,779)
Payment on behalf	-	-	(89,842,264)	-	(89,842,264)
Transfer to statement of comprehensive income	(358,618,910)	-	-	(2,286,697)	(360,905,607)
At 31 March 2021	26,497,690	-	2,353,576	(520,562)	28,330,704
Grants received during the year	348,840,650	3,980	103,347,221	4,470,357	456,662,208
Transfer from accruals [(iv)]	6,574,534	-	-	-	6,574,534
Grants receivable	-	-	-	80,944	80,944
Interest income earned	-	-	8,969	-	8,969
Transfer to deferred capital grants (Note 12)	(6,377,243)	(3,980)	(1,995,703)	-	(8,376,926)
Unutilised grants returned	(1,007,500)	-	-	(25,970)	(1,033,470)
Payment on behalf	-	-	(105,219,775)	-	(105,219,775)
Transfer to statement of comprehensive income	(339,056,632)	-	-	(4,500,595)	(343,557,227)
At 31 March 2022	35,471,499	-	(1,505,712)	(495,826)	33,469,961

Notes:

(i) Total operating grants received/receivable less transferred to deferred capital grants since establishment are $4,329,151,459 (2020/2021 – $3,986,688,053).

(ii) Development grants received from MND for State projects running by NParks on behalf of MND.

(iii) Other grants comprise grants received from other government agencies.

(iv) Transfer from accruals related to grants previously received from MND to settle certain expenses, no longer deemed necessary.

17. Net assets of Garden City Fund

National Parks Board ("NParks") is the trustee of Garden City Fund (“GCF”). GCF is managed and administered by the Garden City Fund Management Committee, comprising staff from NParks and members of the public appointed by NParks, in accordance with the provisions of the Third Amended a nd Restated Garden City Fund Trust Deed dated 18 May 2021 (the "Deed").

The GCF comprises the Garden City Endowment Fund (“GCEF”) and the Garden City Non-Endowment Fund (“GCNEF”). The GCNEF comprises all moneys transferred from the specific funds of NParks upon the formation of the Garden City Fund on 1 July 2002 and all other contributions to the GCNEF. There has been no contribution to the GCEF since establishment.

The GCNEF and the income from the GCEF will be used to further the objectives of the Garden City Fund.

The objectives of GCF are exclusively to enhance the enjoyment of the Garden City, for amenities and special features at the national parks, nature reserves and green areas in Singapore and also for community activities and programmes that promote awareness of nature, art and culture, conservation, research and education and, through involving the citizens to enhance ownership of the Garden City, facilitating a sense of rootedness to the nation.

Upon dissolution of the Garden City Fund, the remaining moneys in the fund shall be donated to charitable organisations which have been designated as Institutions of a Public Character under the Income Tax Act (Chapter 134) and registered under the Charities Act (Chapter 37).

GCF's accounts are prepared in accordance with Financial Reporting Standards in Singapore ("FRS").

	2021/2022 $	2020/2021 $
Income:		
Donations	17,125,890	5,827,441
Sales of publications/souvenirs/merchandise	45,493	59,585
Course/tour fees	3,327	6,742
Interest income	71,956	58,889
Other income	1,997	8,989
	17,248,663	5,961,646
Amounts disbursed for:		
Costs of charitable activities:		
Conservation projects	275,150	50,453
Enhancements of parks, gardens and facilities	7,597,361	2,552,448
Outreach, education and research programmes	1,752,645	1,850,125
Publication	8,511	76,677
Administrative costs	37,564	97,630
	9,671,231	4,627,333
Surplus for the year	7,577,432	1,334,313
Accumulated fund at 1 April	11,454,760	10,120,447
Accumulated fund at 31 March	19,032,192	11,454,760
Represented by:		
Current assets		
Cash and cash equivalents	28,050,934	18,746,892
Other receivables and prepayments	963,620	1,390,479
	29,014,554	20,137,371
Current liabilities		
Trade payables	68,729	47,093
Other payables	3,342,643	2,211,501
Deferred donations	6,570,990	6,424,017
	9,982,362	8,682,611
Net assets	19,032,192	11,454,760

18. Net assets of National Productivity Fund

NParks also administers the following fund on behalf of the Productivity Fund Administration Board.

	2021/2022 $	2020/2021 $
Grants received	3,587,233	188,054
Less: Expenditure		
Staff related cost	(288,857)	(259,310)
Grant disbursement	(3,295,900)	(88,855)
	(3,584,757)	(348,165)
Surplus/ (deficit) for the year	2,476	(160,111)
Accumulated fund at 1 April	1,531	161,642
Accumulated fund at 31 March	4,007	1,531
Represented by:		
Cash and bank balances	72,673	160,590
Accruals	(68,666)	(159,059)
Net assets	4,007	1,531

19. Income

	GROUP		NPARKS	
	2021/2022 $	2020/2021 $	2021/2022 $	2020/2021 $
Operating income	18,585,744	19,054,542	18,585,619	19,051,090
Barbeque permit fees	56,284	113,552	56,284	113,552
Consultancy fees	19,500	18,000	-	-
Events income	1,215	-	1,215	-
Express services	383,926	220,638	383,926	220,638
Gain on lease modifications	2,740	2,430,221	2,740	2,430,221
Liquidated damages	600,333	498,275	600,333	498,275
Merchandise	35,596	31,378	35,596	31,378
Park usage fees	14,569	3,521	14,569	3,521
Publication and plant sales	604,612	168,271	604,612	168,271
Tour fees	11,037	1,895	11,037	1,895
Others	472,557	104,017	479,684	108,896
Miscellaneous income	2,202,369	3,589,768	2,189,996	3,576,647
	20,788,113	22,644,310	20,775,615	22,627,737
Timing of transfer of goods or services (excluding interest income):				
At a point in time	13,518,716	12,047,430	13,506,343	12,034,309
Overtime	5,644,924	6,839,424	5,644,924	6,839,424
	19,163,640	18,886,854	19,151,267	18,873,733

20. Staff costs

GROUP AND NPARKS	2021/2022 $	2020/2021 $
Wages and salaries	119,426,386	109,478,798
Contributions to defined contribution plans	18,475,563	15,620,298
Pension costs (Note 14)	228,312	140,165
Other staff benefits	1,339,424	1,394,721
	139,469,685	126,633,982

21. Deficit from operations

The following item has been included in arriving at deficit from operations:

GROUP AND NPARKS	2021/2022 $	2020/2021 $
Loss on disposal of property, plant and equipment	58,201	37,259
Impairment loss on trade receivables recognised (Note 6)	324,334	1,200,000

22. Funding for government projects

During the financial year ended 31 March 2022, $1,887,526 (2020/2021 – $5,044,029) was incurred to fund the capital expenditure for government projects, namely, Redevelopment of Park Connector Network, SBG Gallop Road Extension and Jacob Ballas Children Gardens Extension.

As these projects were funded using NParks' accumulated surplus, they are considered distribution to owners. Accordingly, the amounts are recognised directly in the statement of changes in equity.

23. Commitments

Capital commitments

GROUP AND NPARKS	2021/2022 $	2020/2021 $
Contracted but not provided for	274,864,253	230,394,332
Less: Development expenditure on behalf of government	(271,984,619)	(227,547,041)
	2,879,634	2,847,291
Authorised but not contracted for	525,134,631	596,382,647
Less: Development expenditure on behalf of government	(500,536,455)	(561,708,400)
	24,598,176	34,674,247
	27,477,810	37,521,538

NParks is the agent to develop, upgrade, manage and maintain the public parks on behalf of the government. Amounts contracted but not provided for comprise mainly work relating to Jurong Lake Gardens, parks developments and park connector network. Amounts authorised but not contracted for comprise mainly work relating to new parks developments, park connector network and redevelopment programmes.

24. Related party transactions

Some of the Group's transactions and arrangements are with related parties and the effect of these on the basis determined between the parties is reflected in these financial statements. The balances are unsecured, interest-free and repayable on demand unless otherwise stated.

The Group and NParks entered into the following significant transactions with its parent Ministry, MND, and other related parties during the year, which are reimbursable in full:

GROUP AND NPARKS	2021/2022 $	2020/2021 $
MND		
Revenue collected on behalf	29,774,342	23,126,905
Development expenditure paid on behalf		
- Other state projects	105,219,775	89,842,264
Other Ministries and Statutory Boards		
Expenses paid on behalf	10,614,962	11,830,407
Garden City Fund		
Expenses paid on behalf	4,038,345	2,632,390
Gardens by the Bay		
Expenses paid on behalf	104,540	68,505

Compensation of key management personnel

The remuneration of key management personnel during the financial year were as follows:

GROUP AND NPARKS	2021/2022 $	2020/2021 $
Salaries and other short-term employee benefits	3,125,440	2,266,869
Post-employment benefits	96,101	77,001

25. Financial risk management objectives and policies

The Group is exposed to financial risk arising from its operations which include interest rate risk, credit risk and liquidity risk. The Group has written policies and guidelines, which set out its general risk management framework as discussed below.

There has been no change to the Group's exposure to these financial risks or the manner in which it manages and measures the risk.

Credit risk

Credit risk is the risk of financial loss to the Group if a customer or counterparty to a financial instrument fails to meet its contractual obligations.

The Group's credit risk is primarily attributable to its trade and other receivables. For cash at bank, the Group minimises credit risk by dealing exclusively with high credit rating counterparties.

The Group's objective is to minimise losses incurred due to increased credit risk exposure. The Group trades only with recognised and creditworthy third parties. In addition, receivable balances are monitored on an ongoing basis with the result that the Group's exposure to bad debts is not significant.

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The Group considers the probability of default upon initial recognition of asset and whether there has been a significant increase in credit risk on an ongoing basis throughout each reporting period.

To assess whether there is a significant increase in credit risk, the Group compares the risk of a default occurring on the asset as at reporting date with the risk of default as at the date of initial recognition. The Group considers available reasonable and supportive forwarding-looking information which includes the actual or expected adverse changes in business, financial or economic conditions that are expected to cause a significant change to the debtor's ability to meet its obligation.

The Group determined that its financial assets are credit-impaired when:

- There is significant financial difficulty of the debtors
- A breach of contract, such as a default or past due event
- It is becoming probable that the debtor will enter bankruptcy or other financial reorganisation

Financial assets are written off when there is evidence indicating that the debtor is in severe financial difficulty and the debtor has no realistic prospect of recovery. Where receivables have been written off, the Group continues to engage enforcement activity to attempt to recover the receivable due. Where recoveries are made, these are recognised in the statement of comprehensive income.

The following are credit risk management practices and quantitative and qualitative information about amounts arising from expected credit losses for each class of financial assets.

Trade receivables

As at 31 March 2022, the Group has recorded an impairment loss allowance of $2,120,000 (2021 – $2,120,000) on its trade receivables due from one of its debtors. The debtor has requested for an extended credit term and the amount is more than 150 days past due based on its agreed contractual repayment due date. Management has assessed the amount to be credit impaired after considering the debtor's financial position and the impact of COVID-19 to debtor's business operations.

For the remaining trade receivables, the Group has applied the simplified approach in SB-FRS 109 to measure the allowance of lifetime ECL. The Group determines the ECL by using a provision matrix, estimated based on historical credit loss experience based on the past due status of the debtors, adjusted and apportioned to reflect current conditions and estimates of future economic conditions. Based on the Group's assessment, other than disclosed in Note 6 to the financial statements, there is no additional loss allowance made as at 31 March 2022.

Other receivables

The Group has credit policies and procedures in place to minimise and mitigate its credit risk exposure. The Group assessed the latest performance and financial position of the other counterparties, adjusted for the future outlook of the industry in which the counterparties operate in, and concluded that there has been no significant increase in the credit risk since initial recognition of the financial assets. Accordingly, the Group measured the impairment allowance using 12-month ECL and determine that the ECL is insignificant.

Excessive risk concentration

Except for receivables due from MND and other government agencies, there is no significant concentration of credit risk.

Interest rate risk

Interest rate risk is the risk that the fair value or future cash flows of the Group's financial instruments will fluctuate because of changes in market interest rate.

The Group's exposure to changes in interest rates relates primarily to fixed deposits and non-current trade receivables. Surplus funds in NParks are placed with Accountant-General's Department ("AGD") as disclosed in Note 8. Other than funds placed with AGD and non-current trade receivable with fixed interest rate as disclosed in Note 6, there are no other significant interest-bearing assets or interest-bearing liabilities as at the end of the reporting period.

Sensitivity analysis for interest rate risk

Interest rate sensitivity analysis has not been presented as management does not expect any reasonable possible changes in interest rates to have a significant impact on the Group's operations and cash flows.

Liquidity risk

Liquidity or funding risk is the risk that an enterprise will encounter difficulty in raising funds to meet commitments associated with financial instruments. Liquidity risk may result from an inability to sell a financial asset quickly at close to its fair value.

The Group and the Board receive its funds from its Parent Ministry which are drawn down on a regular basis to meet its funding requirements. All excess cash from the Group's bank accounts are aggregated and centrally managed by the AGD on a daily basis.

Analysis of financial instruments by remaining contractual maturities

The table below summarises the maturity profile of the Group's and NParks' financial liabilities at the end of the reporting period based on contractual undiscounted repayment obligations.

GROUP	LESS THAN 1 YEAR $	BETWEEN 2 AND 5 YEARS $	OVER 5 YEARS $	TOTAL $
2021/2022				
Financial liabilities				
Lease liabilities (Note 5(c))	4,316,891	11,499,560	1,910,240	17,726,691
Trade and other payables (Note 15)	76,485,878	-	-	76,485,878
Total undiscounted financial liabilities	80,802,769	11,499,560	1,910,240	94,212,569
2021/2020				
Financial liabilities				
Lease liabilities (Note 5(c))	4,299,176	15,513,815	1,910,240	21,723,231
Trade and other payables (Note 15)	88,908,016	-	-	88,908,016
Total undiscounted financial liabilities	93,207,192	15,513,815	1,910,240	110,631,247

NPARKS	LESS THAN 1 YEAR $	BETWEEN 2 AND 5 YEARS $	OVER 5 YEARS $	TOTAL $
2021/2022				
Financial liabilities				
Lease liabilities (Note 5(c))	4,316,891	11,499,560	1,910,240	17,726,691
Trade and other payables (Note 15)	76,477,392	-	-	76,477,392
Total undiscounted financial liabilities	80,794,283	11,499,560	1,910,240	94,204,083
2021/2020				
Financial liabilities				
Lease liabilities (Note 5(c))	4,299,176	15,513,815	1,910,240	21,723,231
Trade and other payables (Note 15)	88,899,867	-	-	88,899,867
Total undiscounted financial liabilities	93,199,043	15,513,815	1,910,240	110,623,098

26. Financial instruments

Fair values

The carrying amounts of the financial assets and liabilities with a maturity of less than one year are assumed to approximate their fair values.

However, the Group does not anticipate that the carrying amounts recorded at end of the reporting period would be significantly different from the values that would eventually be received or settled.

Accounting classification of financial assets and financial liabilities

The carrying amounts of financial assets and financial liabilities at the reporting date by categories are as follows:

	GROUP		NPARKS	
	2021/2022	2020/2021	2021/2022	2020/2021
	$	$	$	$
Financial assets at amortised cost				
Lease receivables (Note 5(b))	7,678,043	9,180,955	7,678,043	9,180,955
Trade receivables (Note 6)	5,533,460	4,571,264	5,533,460	4,551,764
Other receivables (Note 7)	9,557,822	10,550,111	9,566,709	10,555,081
Cash and cash equivalents (Note 8)	368,237,278	386,094,921	367,882,350	385,747,762
	391,006,603	410,397,251	390,660,562	410,035,562
Financial liabilities at amortised cost				
Lease liabilities (Note 5(c))	16,414,644	19,874,689	16,414,644	19,874,689
Trade and other payables (Note 15)	76,485,878	88,908,016	76,477,392	88,899,867
	92,900,522	108,782,705	92,892,036	108,774,556

The carrying amounts of cash and cash equivalents, trade receivables (current), other receivables and trade and other payables, approximate their respective fair values due to the relatively short-term maturity of these financial instruments.

The carrying amount of long-term trade receivables approximates fair value as the interest rate approximates the market level at the end of the reporting period.

27. Capital management

The Group manages its capital to ensure that it will be able to continue as a going concern while fulfilling its objective as a statutory board.

The capital structure of the Group consists of accumulated surplus, capital account and share capital. The overall strategy of the Group remains unchanged from the previous financial year.

28. Dividend

During the financial year ended 31 March 2022, NParks paid dividend of $832,000 on the ordinary shares issued to the Minister for Finance in respect of the financial year ended 31 March 2021.

We thank staff and partners of NParks who kindly contributed photos to this annual report

Front Cover

The Central Catchment Nature Reserve acts as a large green lung situated in the centre of Singapore. The largest of our nature reserves, it occupies over 2,000 hectares of forest cover and is home to some of the richest forests in terms of biodiversity.

Chapter Dividers

Pg 12 – Nature. Enriched
Located on a hill, the 4.8-hectare Bukit Gombak Park provides residents with tranquil areas to enjoy nature, opportunities to experience gardening and recreational spaces for families.

Page 22 – Nature. Revitalised
Singapore has recorded more than 390 species of birds and at least 2,100 native vascular plants, some of which live in the mature secondary forest.

Page 32 – Natured. Uplifted
Neram Streams at Jurong Lake Gardens channel stormwater runoff from the surroundings which is then cleansed by plantings in the streams and eventually flows into Jurong Lake.

Max Khoo
Page 1: Photo of Mass Rapid Transit train passing through greenery
Page 26: Photo of Lesser Mousedeer (*Tragulus kanchil*)

Lee Jia Hwa
Page 19: Photo of Kock's Bauhinia (*Phanera kockiana*)

Jasmine Koh
Page 20: Photo of Garlic Vine (*Mansoa hymenaea*)

LJCP Photography
Page 21: Photo of NParks Concert Series in the Parks: Rockestra®

Dr Yam Tim Wing
Page 27: Photo of Oriental Scops Owl (*Otus sunia*)
Page 34: Photo of *Hetaeria oblongifolia*

Dillen Ng
Page 27: Photo of Fairy Pitta (*Pitta nympha*)

Dr Benjamin Lee
Page 27: Photo of Spotted Flycatcher (*Muscicapa striata*)

Kwan Sai Hoe
Page 30: Photo of Smooth-coated Otter (*Lutrogale perspicillata*) crossing park connector

Regina Shu Wen Yeo
Page 34: Photo of *Visia cylindrocellularis*

Ronnie Mak
Page 36: Photo of Nature Way at Canberra Link

Boo Chih Min
Page 36: Photo of *Kopsia singapurensis*

Singapore Pavilion Expo 2020 Dubai
Page 38: Photo of Singapore Pavilion

Great Eastern
Page 44: Photo of tree planting activity

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