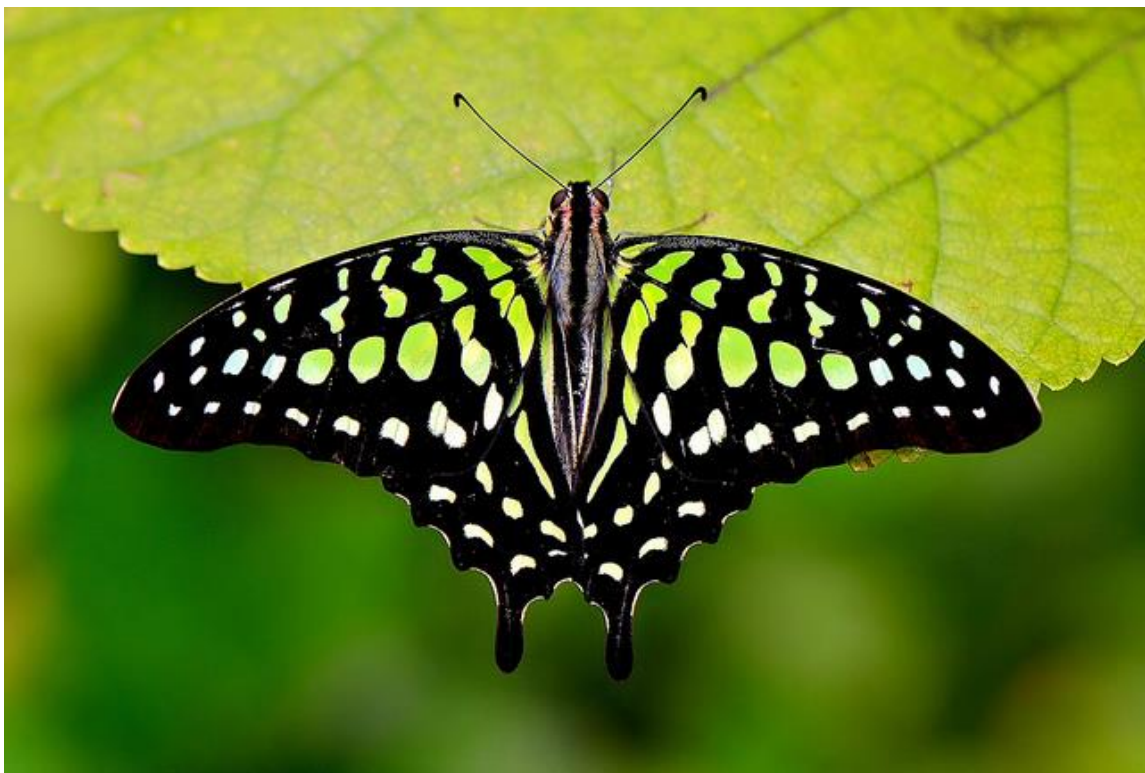




NATURE SOCIETY (SINGAPORE)

ANNUAL REPORT

January to December 2018



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PREFACE

Nature Society (Singapore) [NSS] has four main objectives in accordance with its constitution:

- To promote an interest in the flora and fauna of Singapore and the surrounding Southeast Asian region.
- To promote an awareness of nature and the environment and the conservation thereof.
- To encourage and promote responsible attitudes towards the conservation of our natural heritage and the environment.
- To initiate and support research projects relating to the study and conservation of nature and the environment.

NSS has been a registered Society in Singapore under the Societies Act (Chapter 311) since 30 March 1961, and an approved charity under the Charities Act, Cap 37 since 19 February 2008; it has also been accorded Institution of Public Character (IPC) status since 1 September 2008. IPC status must be renewed every two years and NSS's will next be up for renewal on 31 August 2019.

The Society reports its compliance with the Charity Commissioners' Code of Governance by completing the *Evaluation Checklist for IPCs* annually. The returns can be viewed on the Charity Portal (www.charities.gov.sg). NSS's Unique Entity No is S61SS0142H.

The registered address of the Society is: 510 Geylang Road, #02-05 The Sunflower, Singapore 389466. The premises are held in trust for the Society by three trustees – Dr Geh Min, Prof Lye Lin Heng, Prof Ng Soon Chye – under a trust instrument dated 29 March 2000.

The Society's conflict of interest policy is stated in the following resolution passed at the 54th Annual General Meeting of the Society on 24 May 2008: "That at the first Executive Committee/Council Meeting after each Annual General Meeting all members of the incoming Executive Committee and of the Council declare and have minuted any general conflict of interest which they consider they may have, and that before any specific discussions and decisions at this or any other meetings of the Executive Committee and Council, members consider whether any conflicts of interest exist for any members and, where they are considered to exist, request that member to abstain from the vote or decision-making process".

None of the Society's staff receives more than \$100,000 in annual remuneration.



NSS LEADERSHIP 2018

Day-to-day Leadership	Advisers and Mentors
<p>EXECUTIVE COMMITTEE (<i>elected annually at the AGM*</i>):</p> <p>President Dr Shawn K Y Lum</p> <p>Vice President Dr. Ho Hua Chew</p> <p>Honorary Secretary Mr Peter Connell</p> <p>Honorary Treasurer Mr Bhagyesh Chaubey</p> <p>Honorary Assistant Secretary Mr Michael Lee</p> <p>Honorary Assistant Treasurer Prof. Lim Kai Khiun (till Oct 2018); Ms. Goo Ee Lan (start Oct 2018)</p> <p>Committee Members: Mr. Albert Lim Mr Goh Si Guim Mr Stephen Beng</p> <p>COUNCIL</p> <p>Committee and Special Interest Groups Chairpersons:</p> <p><i>Conservation Committee</i> Mr Leong Kwok Peng</p> <p><i>Education Committee</i> Mr Goh Ter Yang</p> <p><i>Bird Group</i> Mr Lim Kim Chuah</p> <p><i>Butterfly & Insect Group</i> Vacant</p> <p><i>Jalan Hijau Group</i> Mr Tan Hang Chong</p> <p><i>Marine Conservation Group</i> Mr Stephen Beng</p> <p><i>Plant Group</i> Mr Bian Tan</p> <p><i>Nature Ramblers Group</i> Mr Parthasarathy Pandian</p> <p><i>Vertebrate Study Group</i> Mr. Tony O'Dempsey</p> <p>Co-opted Council Members: Prof P N Avadhani Ms Margie Hall Mr Liew Kai Khiun Mr Ben Szeto</p> <p>OTHER</p> <p>Birdlife International Coordinator Mr Lim Kim Keang</p> <p>Chair, Environmental Law & Policy Working Group Acting: Dr Shawn K Y Lum</p> <p>Chair, Fund-raising and Internal Audit Committees Mr Ben Szeto</p> <p>Chair, Rail Corridor Watch Group Mr Liew Kai Khiun</p> <p>Chair, Membership Working Group Mr Peter Connell</p>	<p>PATRON Prof Tommy Koh</p> <p>IMMEDIATE PAST PRESIDENT Dr Geh Min</p> <p>FINANCE ADVISORY GROUP Mr Lee Chiu-San Mr T Selvaratnam Ms Trixie Tan</p> <p>ADVISORY COUNCIL Mr Warren Khoo Prof Koh Kheng Lian Mr Lim Jim Khoon Mr Liu Thai Ker Prof Ng Soon Chye Mr Sim Wong Hoo Mr Mason Tan</p>

*The 2017 AGM was held on 27 May



President's Report by Dr Shawn Lum

Introduction

Nature and wildlife face threats as never before, and each year our work becomes more critical. The many threats to nature and wild places, both locally and regionally, need to be addressed holistically and with urgency. The Nature Society (Singapore) (NSS), with its limited size and resources, needs to work efficiently and strategically to help ensure that Singapore and the wider world will continue to enjoy a world rich in wildlife, full of wonder, with natural systems that allow humanity to thrive. What did we do to help Nature in 2018?

Achievements

Without proper governance and transparency, an organisation cannot function as effectively as it can. Thanks to structures put into place by past Executive Committees, in particular the work done by Margie Hall, Peter Connell, and Yip Yew Chong, the Nature Society continues to be recognised for its systems and processes. In 2017 the Nature Society received the Charity Transparency Award 2018 by the Charities Unit of the Ministry of Culture, Community, and Youth (MCCY) in the small charities category. NSS is also represented in the Charity Transparency Framework Review Sub-Committee of the MCCY, suggesting that the Society has a contribution to make in the broader charities community.

Conservation and Advocacy

This is one of the Nature Society's core functions. A good deal of time and energy are invested in conservation and advocacy, and progress may be at times difficult to see. In 2018, however, there was something very tangible and very special, the announcement that the Mandai Mangroves would become a Nature Park. The Nature Society has long called for the protection of the Mandai Mangroves, citing it as an area of highest conservation significance in its Master Plan for the Conservation of Nature in Singapore, published in 1990. More recently, NSS Bird Group members worked with staff of the Sungei Buloh Wetlands Reserve and others to monitor bird movement between the Mandai mangroves and mudflats and Sungei Buloh. Their work provided crucial evidence in underscoring the ecological and conservation value of the Mandai mangroves and strengthened the case for maintaining the area, an area under intense pressure for conversion to industrial and other commercial uses. Mandai mangroves have won a medium-term reprieve – will NSS be able to help secure its long-term future?

Nature Society members continue to be engaged on a number of different conservation/development fronts. These include the Cross-Island MRT line (LTA), Mandai Parks, the Tengah Forest Town (HDB), and the Bidadari housing estate (HDB). Stakeholder engagement continues to evolve in Singapore, and each new engagement process informs and hopefully leads to improvements in subsequent community engagement and better outcomes for people and for nature.

NSS members are also active in various species action groups convened by the National Parks Board – these include groups for pangolins, long-tailed macaques, Raffles banded langur, wild boar, and more.



Policy

The Nature Society achieved remarkable conservation policy success during Vina Dharmarajah's tenure as coordinator for conservation policy and law. Vina stepped down from the position when he assumed the role of Asia Regional Director for BirdLife International. He recommended that a conservation policy group be formed, with the hope that policy be a key part of NSS's efforts in the future. Despite Singapore's small size, the Nature Society can make large contributions to policy at local and regional level if it can develop capacity in this field. A core policy team comprising several member-volunteers and Kerry Pereira was formed in 2017. The conservation policy group gained experience in 2018 as it participated in the review process for the updating of the Wild Animals and Birds Act. The hope is that this will be the first of many policy efforts from the Society. With major international conservation events on the horizon (IUCN World Conservation Congress in June 2020; Convention on Biodiversity COP 15 in December 2020), developing our policy capacity around an enthusiastic and talented group is vital.

Programmes

A year ago we announced that planning began in 2017 for an outreach and citizen science programme called "Every Singaporean A Naturalist" (ESN). Kerry Pereira and Dr Anuj Jain formulated the programme and devised monitoring protocols, aided by Ms Sung Mei Yee, who in early 2018 was an intern with BirdLife International and the Nature Society. Mei Yee has since become NSS staff in charge of implementing and expanding ESN. The programme was made possible by the generous support of HSBC Singapore and continues to grow. Other successful programmes continue to make major contributions to local conservation. These include the Horseshoe Crab Rescue and Rescue efforts of the Marine Conservation Group, coastal cleanup work, regular bird monitoring (wetland birds, parrots, raptor watch, and much more), and Fun With Nature, as well as participation in other community efforts such as Restore Ubin Mangroves. The longest running nature-related activity in Singapore, the Singapore Bird Race, was held for the 34th straight year in 2018, and featured the largest turnout yet. An impressive number of teams from schools involved in Every Singaporean A Naturalist were among the participating teams.

Partnerships

Conservation efforts are most effective if they work in synergy. The Nature Society has long valued partnerships as a way of increasing its reach and making more meaningful impact. In 2018 we were involved in a number of collaborative efforts. The largest group to which NSS belongs is BirdLife International, a partnership of over 110 independent conservation groups working together to secure a better future for nature and people. In September 2018 the BirdLife International Global Partnership Meeting was held in Belgium. NSS was represented by Shawn Lum, who also serves on BirdLife's Asia and Global Councils. If the conservation commitment and sense of purpose across the the BirdLife Partnership can lead to more effective collaborative and complementary effort, Nature Society work can better address international conservation issues such as migratory flyways, coordinated regional monitoring work, and more. In November the Singapore based BirdLife Asia Regional Office organised a very successful and inspiring Gala Dinner held at the National Gallery, and NSS's work was highlighted during the event.



A number of other promising collaborations were begun in 2018. These include meetings between NSS and the Malaysian Nature Society's Johor Branch to plan wildlife surveys in Johor in 2019. NSS was invited to be of the inaugural partners in the Climate Action SG Alliance, formed as part of Singapore's Year of Climate Action in 2018. Another interesting opportunity was NSS's participation in the CANA Film Festival, organised by CANA The Catholic Centre. Tony O'Dempsey was part of a discussion panel and nature walk associated with the festival's screening of the elephant rescue film *Love and Bananas*. These activities highlight how the Nature Society, working in synchrony with others across and beyond the conservation NGO sector, can use its strengths to help achieve larger and lasting conservation outcomes. The state of nature in Singapore and the region require more of these partnerships in the years ahead.

We were very fortunate to have received the generous support from the RHT Rajan Menon Foundation. We could not have been one of their recipients without the incredible efforts of Ben Szeto and Vicki Guthrie.

Looking Ahead

The Nature Society's members include some of the most dedicated, knowledgeable, and tireless conservationists and naturalists I have had the privilege of working with. To increase our effectiveness, and to be better placed to turn Singapore into an even stronger force for conservation, we need to grow our capacity, increase the size of our Secretariat, and to more effectively harness the amazing talent that resides amongst our members. Doing this will hinge on a number of factors. Foremost among these is to increase our membership base and to have a more efficient and systematic fundraising capability. We can certainly benefit from the help of members and supporters who can help in this area. There are other areas that we can address to raise the level of the Nature Society's work. These include growing our pool of active members/volunteers who have scientific, IT, communications, and marketing experience.

A quick update on succession and renewal that we raised a year ago at the 2018 Annual General Meeting. We outlined a proposed renewal programme that we put in place because four members of the Exco – Shawn Lum, Leong Kwok Peng, Ho Hua Chew, and Goh Si Guim – would have served more than ten years on the Exco by 2020, at which time ten-year term limits would be in place for members of Boards of charities. We do need to renew our leadership, but as a small/medium charity, it turns out that Board members can serve beyond ten years if we can justify their need to continue. This allows us to more carefully and methodically carry out our succession plans. Dr Ho, Si Guim, and I hope to hand our positions to new people with fresh ideas and different perspectives soon, but we are also prepared to serve the Society in our current or other Board (Exco) capacities if needed.

The local conservation landscape is a dynamic and exciting one. I believe that we should work with others in the conservation community where synergy and collaboration can advance our cause. At the same time we need to grow our strengths, stay true to our vision for a better tomorrow for nature and people, and to encourage people to join us and to prepare conservation leaders of the future.

One of our most exciting conservation partnerships is with fellow NGOs in the BirdLife International Partnership. We have begun working with our BirdLife partners such as the Malaysian Nature Society, and the more quickly we can contribute to – and benefit from – this global partnership, the better



placed will we be to help nature within and beyond our shores. In 2020 there will be a number of major international conservation events, most notably the IUCN (International Union for the Conservation of Nature) World Conservation Congress in June in Marseilles, France, and the 15th Conference of the Parties to the Convention on Biodiversity (CBD COP 15) in Kunming, China. I hope that NSS members will step forward to be part of a delegation to the IUCN meetings, and that we will work together with partner NGOs and agencies to stop and perhaps even reverse the worrying declines in biodiversity and nature areas we are currently witnessing. The window to make this happen is narrow, and is closing quickly. Let's take this chance while we still can.

Thank You

As always I have to point out that the Nature Society cannot achieve anything without a capable and committed Secretariat, and I must say that Joe Lim, Kerry Pereira and Sung Mei Yee form a very strong and inspiring team. Many thanks to the NSS Exco and Council, to our talented member-volunteers, and to our many members who join us because of their unswerving love for nature and belief in the Nature Society.

It is with some regret that I announce that our Hon Secretary, Mr Peter Connell, will not continue to serve in the Exco beyond his current term. My words cannot adequately capture Peter's contributions to the Nature Society. He helped us craft and guide us toward the development and implementation of our Strategic Plan. Peter helped us strengthen our governance, and more importantly allowed us to better align goals with the means to best achieve them. He has an uncanny way of recognising what we need to address and how to do it effectively. Fortunately for us, Peter has kindly agreed to lend his sage advice to us whenever he can.

The recently released IPBES (Intergovernmental Science-Policy Platform on Biodiversity and Ecosystems Services) report on the state of biodiversity emphatically pointed out how dire the state of the world's wild places the parlous state of wildlife everywhere. The world is running out of time, and our efforts, however humble they may be on a global scale, need to be ramped up. Concern and care need to propel us to impactful action. I believe that the Nature Society (Singapore) should and can do even more in the future by building on the achievements of many members over our 65-year history.

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Treasurer's Report

Financial Year 2018 or Year Ended 31 December 2018;

by Mr. Bhagyesh Chaubey, Honorary Treasurer

2018 Activities Summary

Key highlights and finance related accomplishments in 2018:

1. Received the **Charity Transparency Award 2018**
2. **Unqualified external audit report**
 - a. Accounting books properly kept in accordance to regulations
 - b. No non-compliance observed relating to requirements as an IPC and fund raising
3. Total Income less expenditures a **Net Deficit** of S\$ 10,102.
4. No dedicated fund-raising event organized.
5. Continued **financial prudence**.

Financial Position Summary

The table below provides a summary of the financial position and use of funds in 2018:

Funds	1-Jan-2018 (Opening Balance)	Income	Expense	31-Dec-2018 (Opening Balance)
General	1,053,003	255,375	(265,588)	1,042,790
Restricted	105,675	111	-	105,786
TOTAL	1,158,678	255,487	(265,588)	1,148,576

Balance Sheet	
Current/Cash	746,067
Property	431,590
Others	5,847
Less Liabilities	(24,826)
Net Assets	1,158,678

**Net Deficit
S\$10,102**

Balance Sheet	
Current/Cash	757,751
Property	414,447
Others	7,649
Less Liabilities	(31,271)
Net Assets	1,148,576



In 2018, NSS's total income less total expenditure was nearly flat - a deficit of S\$10,102 and total funds decreased accordingly to S\$1,148,576. Cash and Deposits increased by \$11,684 to \$757,751.

Property decreased by s\$17,143 to S\$414,447, primarily due to depreciation of \$13,099 expensed per year for NSS-owned office with the net book accounting value of \$410,416, however we believe that the market value of the property is significantly higher than the net book accounting value. Remaining S\$4,044 depreciation is for items like copier; projector; laptops etc.

The table below provides more insights of the audited 2018 income and expenses numbers for internal management control purposes:

Details	Income	Expenses	
<i>Donations (excluding SIGs)</i>	131,188	-	Up from last year, notable items are Rajan Menon Foundation & Benevity causes Apple.
<i>Membership</i>	45,512	-	Membership income remained stable (drop of \$400 from last year).
<i>Contract (excluding SIGs)</i>	22,529	(17,851)	Mainly income/expense from Trips & Talks; Sale of Books & Field Guides
<i>Interest and Other income</i>	5,306	-	Bank Interests; Wage credits
<i>Staff, Facilities, Admin, Audit</i>	-	(177,209)	Includes ESN (Every Singaporean a Naturalist) Resource
<i>Publishing & Other expense</i>	-	(35,174)	Nature news/watch; Website; other expense
TOTAL General	205,535	(230,234)	
TOTAL SIG/Committee	50,840	(35,355)	Both in come and expenses up from last year. Mainly from SIG activities i.e. Bid Race; Kayaking etc.
TOTAL Restricted Funds	111	-	Interest income and adjustments
GRAND TOTAL	255,487	(265,588)	
Net surplus/(deficit)		(10,102)	



Conclusion

Overall, NSS Exco believes that the NSS financial position remains healthy and prudent and its key reserves (the freehold property and cash) are safeguarded.

In conclusion, 2018 has been a year of normal operations with continued financial prudence. Without any formal fundraising activity, we were able to maintain a fairly neutral income-expenditure status.

Although the Strategic Plan, the Fund-raising Committee and the Membership Committee were formed in 2015, we have not been able to make significant progress in increasing memberships or organizing fundraising events due to manpower shortages in these committees. Additional budget has been allocated to ramp up focused fund-raising efforts in 2019.

We take this opportunity to welcome all members and volunteers to join our Fund-raising and Membership Committees.

Thank you!

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REPORTS OF COMMITTEES

Conservation Committee

by Leong Kwok Peng & Dr Ho Hua Chew

The conservation committee has participated in the following engagements with the authority:

1. PUB's Solar Panel Projects at Upper Peirce & Tengeh Reservoir



Floating solar panels at Tengeh Reservoir

PUB presented the scope of the EIA of the floating solar panel systems at Upper Pierce and Tengeh Reservoirs on May 2018. PUB conducted microclimate and aquatic diversity study while flora and fauna baseline study to be done by NUS, Department of Biology.

PUB also notified that they would be doing an EIA for the Bukit Kalang pipeline project off Upper Thomson Road.

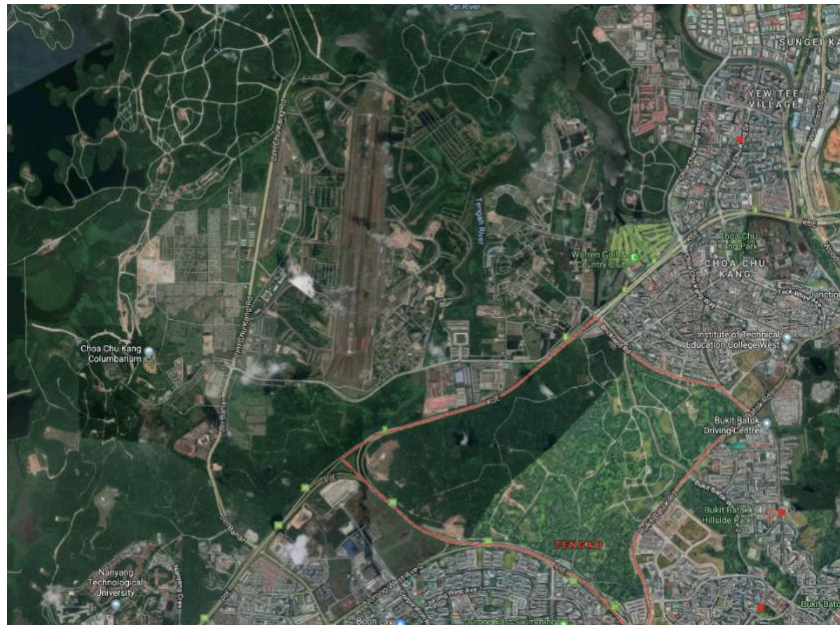
On a separate meeting in July 2018, PUB and Lee Kuan Yew School had a discussion on the environmental cost analysis of the floating solar panel. They seek inputs for their questionnaires to study the intangible value of such an installation.

PUB presented the EIA results on Tengeh Reservoir in Oct 2018.



On a separate meeting on the same date, EDB presented the possibility of installing a commercial floating solar panel on various reservoir including Kranji. We highlighted that Kranji is a significant ecological site.

2. MND, Nparks and MINDEF's Tengah Airbase Expansion



Tengah Forest Town & Tengah Airbase

MND presented the EIA finding of the proposed extension on May 2018 that included the alignment of the existing Lim Chu Kang Road. We highlighted our concerns of the ecological connectivity to Tengah HDB. They have a plan to build a drainage canal by the western side of the new airbase along Lim Chu Kang Road.

We have recommended them to not build the usual conventional canal with the vertical-sided embankment but a soft one - like at Bishan Park at the upper Kallang River. The canal should have a sloping side on the western bank for wildlife dispersal (along the planned north-south canal) and the drainage channel should not become an inescapable trap for any animal that falls into it.



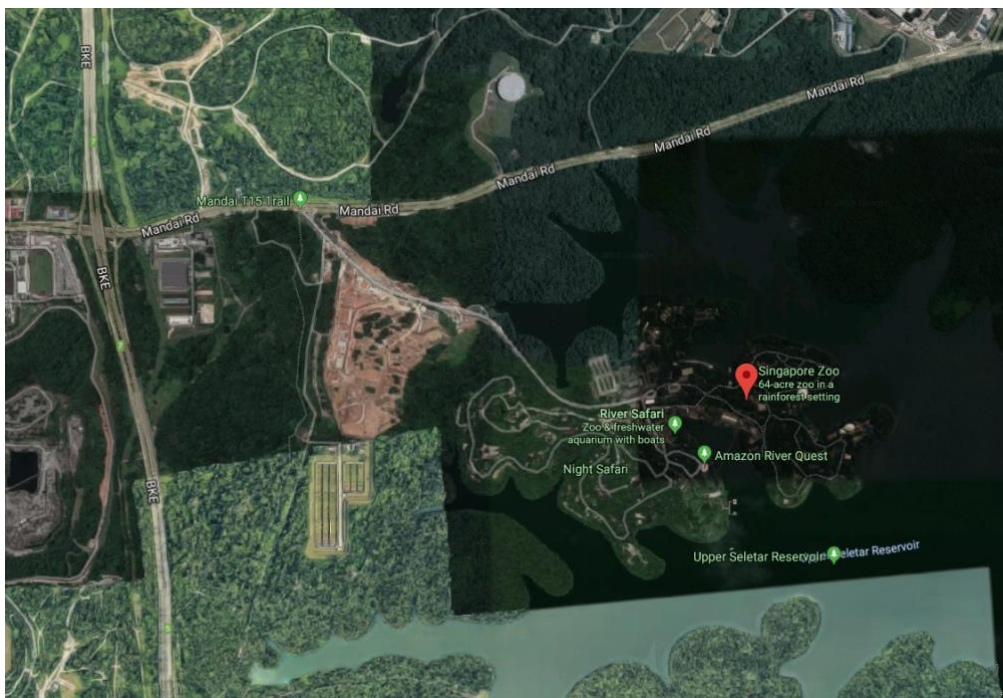
3. LTA's Jurong Region Line

LTA presented the baseline fauna survey and wildlife shepherding plan for the south western region of Tengah.

During the discussion, we recommended that the belt of green along the Jurong Road and at the boundary of the LTA's planned new MRT station/ depot should not be in place there and that this spare green area should be transferred to the other sector of the Tengah development plan to enlarge whatever green areas are spared for wildlife (esp. to the HDB Tengah Nature Way along the Peng Siang Canal at the Brickland sector).

This belt of the original forest at this Jurong Road sector will be a dead-end corridor for any wildlife that is supposed to be lured over from the Western Catchment across the KJE into the Tengah Nature Way. The wildlife should be directed along the Kranji Nature Way eastwards to the Brickland sector.

4. Mandai Park Project at Mandai Lake Road



Mandai Park Development

There was a series of nature community sharing sessions for this ongoing project which included representations from various nature groups and experts.



Items discussed included:

- update of the site environmental management;
- audit findings of vector breeding, earth control measure and housekeeping;
- the development of the East Node design that reduces building height and construction period;
- pipe jacking works for effluent discharge pipe along Mandai Lake Road;
- update of wildlife mortality (road kill) and mitigation measures to be put in place
- rainforest park design and forest enhancement;
- update on the Mandai Resort architectural design and site flora and fauna surveys.

5. Cross Island Line (CRL)



Cross Island Line engagement with LTA

LTA presented the phase 1 EIA fauna monitoring survey and the impact of the soil investigation work on the recovery trends of animal surveyed on 6 June 2018. LTA also presented the scope of phase 2 of the EIA and Engineering Study of the 2 alignments.

LTA will continue to engage the nature community on the progress and outcome of this study.

LTA presented the geological findings of the soil investigation works on 27 Aug 2018.



6. Nparks' Park Connector Project at Sungei Ulu Pandan



SG Ulu Pandan

We raised concerns with Nparks on their plan of a new park connector that will run along the northern bank of the river.

We have raised our concerns with Nparks on their plan to construct a new PCN trail on the north bank of Sg Ulu Pandan all the way from Clementi Road to the junction with Sg Pandan (at Faber Heights).

According to NParks, this is to cater to an increase in PCN visitorship as a result of new and upcoming residential developments in the area. We had a meeting with representatives from NParks' on site on 14 November to obtain information and a counter-proposal was submitted to NParks on 23 November.

Our counter-proposal urges that the connector should not go along the front of the forest there facing the river but should proceed westwards along the back, that is, along Boon Lay way.

Our rationale for this is the importance of the remaining belt of forest and riverine habitat here for the integrity and viability of the Sg Ulu Pandan Green Corridor, of which it constitutes an important stepping stone for wildlife moving along the said Corridor — and also because of the presence of the Changeable Hawk-eagle that nested here before the bus-depot development and other roosting resident raptors (like Grey-headed Fish and the White-bellied Sea Eagle).



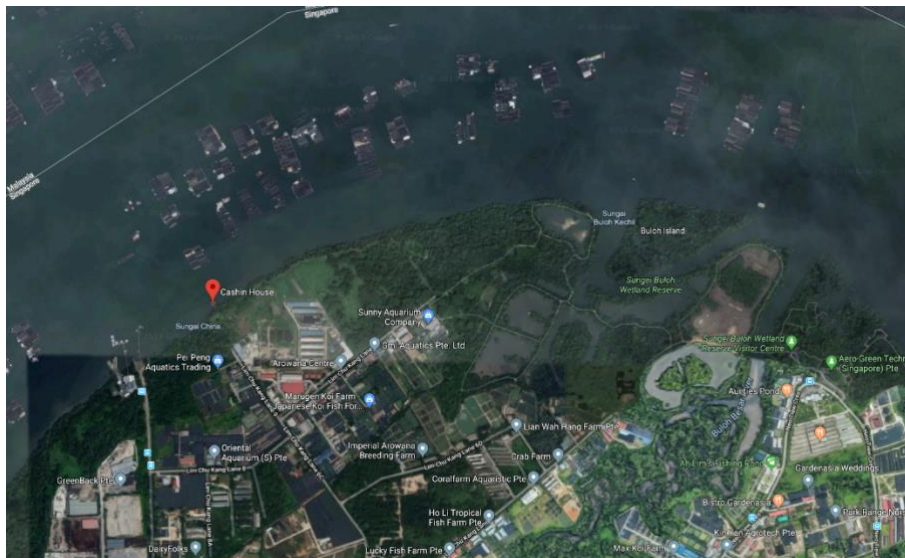
We reminded Nparks that in 2015, we have sought LTA's cooperation to minimise the destruction of this forest patch at the junction of Sg Pandan and Sg Ulu Pandan, named by us 'Boon Lay Forest' which LTA had responded to by agreeing to not intrude into a 25 metres buffer from their bus-depot development to the river bank. Nparks' PCN will pass through this buffer along the edge of the forest on the way to Jurong.

We have not received any reply at all on this matter after that and it appears that they are already proceeding ahead with the PCN.

7. Nparks



Cashin House- Lim Chu Kang



Cashin House- Lim Chu Kang

Attended a workshop in Sep 2018 to discuss the future development of Cashin House off Lim Chu Kang Road.



Other events attended include the Sungei Buloh Wetland Reserve 25th anniversary on 7 Oct 2018 when Nparks announced the designation of Mandai Mangrove and Mudflat as a nature park.



Mandai Mangrove & Mudflat- a new nature park

8. OBS Coney Island

Attended the sharing session by OBS in Feb 2018 on the development plan for OBS@Coney Island project.

We sent our feedback to National Youth Council on the OBS' Coney Island Development Plan in Mar 2018.

9. Green Corridor

a) Friends of the Rail Corridor



Nparks/Friends of the Rail Corridor enhancement work

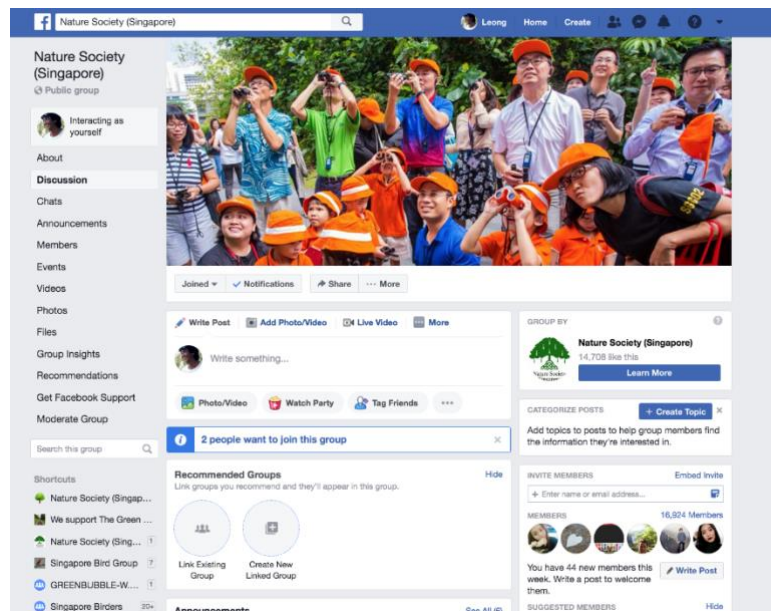
There were a series of Friends of the Rail Corridor meetings and workshops held in Apr and Jul 2018 to craft the Rail Corridor’s Vision Statement and to develop action plans for the Rail Corridor.

Nparks and URA officially launched the start of enhancement works @Fuyong Park on 20 Oct 2018. Activities included tree planting and enhancement of the stream alongside the corridor.

b) Rail Corridor Watch Group (RCWG)

RCWG continued to watch over the Green Corridor and provided feedback reports to Nparks. We would like to thank Ulf Remahl for his dedication in providing the feedback.

10. Social Media



Nature Society (Singapore) Facebook group

NSS Facebook page has over 15000 followings

NSS Facebook group has also over 16000 followings

We Support the Green Corridor Facebook page has over 12,000 followings



11. Road Show



NSS Roadshow at Sengkang

The exhibition 'Bringing Nature to the Heartland' was held at the vacant ground outside Sengkang MRT from 20 Oct - 4 Nov and Punggol MRT from 10 -25 Nov 2018 with photo exhibits and activities from various SIGs.

The roadshow ran concurrently with a food fair event.

We would like to thank the NSS secretariat Joe and Kerry for coordinating with the organiser PK Events.

Education Committee

by Goh Ter Yang

1. Fun with Nature sessions for NSS Kids & the Public

- a) **NSS Kids' Fun with Night Creatures at Bukit Batok Nature Park**, 23 June 2018, led by Gloria Seow, Lena Chow, Timothy Pwee, Tan Hang Chong and Pui Cuifen
- b) **NSS Kids'-ESN Fun with Birds & Butterflies at Tampines Eco Green**, 14 July 2018, led by Lee Ee Ling, Amy Tsang, Simon Chan and Lena Chow
- c) **NSS Kids'-ESN Fun with Birds & Butterflies at Singapore Botanic Gardens**, 21 July 2018, led by Yap Wee Jin, Lee Ee Ling, Amy Tsang, Simon Chan and Lena Chow
- d) **NSS Kids' Fun with Community Gardening**, 29 September 2018, led by Angel Ang
- e) **NSS Kids' Fun with Marine Life at Sentosa's Natural Shore**, 24 November 2018, led by Marcus Ng
- f) **NSS Kids' Fun with Rainforest Life at Rifle Range Road**, 24 February 2019, led by Goh Si Guim
- g) **NSS Kids' Fun with the Shorebirds of Sungei Buloh**, 13 April 2019, led by Yong Ding Li



A big thank you to all specialist guides and regular volunteers Timothy Pwee & Lena Chow. If you are passionate about nature education and wish to volunteer, please email Gloria at gloria_seow@yahoo.com. All trips are covered in the Fun with Nature blog at <http://funwithnature.blogspot.sg/>, which continues to be ranked #1 on Google under the search terms 'Fun with Nature'.

2. Art in the Park

Activity Name (Jan – Dec '18)	Date	No. of Participants
Art in the Park at Berlayer Creek	27 Jan '18	17
Earth Day: Art in the Park at Little Guilin	21 Apr '18	21
Pesta Ubin: Art in the Park at Pulau Ubin	24 Jun '18	11
Art in the Park at Singapore Botanic Gardens	6 Oct '18	20

Total: 69 participants

Progress of Children's Colouring Book

- Volunteer Graphic Designer – found
- Selection and drawings of individual animals – done
- Cover page and back page – To be completed
- Fact writing of the animals – In progress

Target completion: Oct '19 (Artist, Alpana Ahuja, will be going to print it in India some time in Aug/Sep)



Fund-raising and Membership Committees

by Peter Connell

1. Fund-raising

The Society's fund-raising efforts were significantly bolstered in November 2017 when we successfully persuaded Vicki Guthrie, an experienced NGO/charity fund-raiser, to join Ben Szeto in building NSS's fund-raising capabilities. Vicki subsequently agreed to be co-opted to Council in February 2018 and the fruits of the labours of this dynamic duo quickly began to be seen throughout 2018.

In their five-year fund-raising plan tabled in January, initial emphasis in 2018 was placed on building relationships with corporate donors, through:

- Better fund-raising infrastructure - A master Case for Support document was developed for use by all Exco and Council members to ensure consistent messaging about NSS to prospective donors. The NSS website was reviewed but only limited improvements could be achieved in 2018 for lack of appropriate IT support.
- Widening networks - All Exco and Council members were encouraged to identify, target and propose to new corporate contacts in their respective fields, with assistance from the fund-raising team as needed. Approaches to proposal-writing were reviewed and improved.
- Coordinated corporate donation/membership programme – Corporate donors are to be offered recognition as 'members' of NSS in tiers depending on the size of their donation.

All of these efforts resulted in a number of high-quality fund-raising proposals being submitted to new prospective donors during the year. Not all of these paid off in 2018 but we conservatively estimate that NSS received at least \$50K in additional funds that it would not have otherwise received during the year. A number of the proposals remained live at year-end, offering the real prospect of a return in 2019 or beyond. In parallel, our President worked very hard to resurrect the Society's relationship with HSBC Bank – the principal donor behind NSS's very successful Every Singaporean a Naturalist project – which had weakened when the HSBC officer in charge went on emergency medical leave. That too looks set to yield new funds in 2019. The Society remains very grateful for the support received from all its donors, past and present.



2. Membership

Recognition of the importance of individual members' donations led to the merger of the fund-raising and membership activities under a single working group. The membership function already had in place a long-term plan focusing on better systems and a variety of improved marketing initiatives made possible by the improved systems.

The year was dominated by delivery of the new membership app heralded in our 2017 report. This is a new venture for NSS and significantly modernises and improves our ability to communicate and interact with our members. However, its novelty raised a wide variety of implementation issues which have taken all year to resolve – thereby delaying formal launch into 2019. Heroically hard work was needed by Joe (Membership Officer) and Kerry (Outreach and Programmes Officer), in liaison with the app contractor, to iron out design glitches, carefully test each of the new features and populate the back-end of the system. We ended the year with a much better app, fully integrated with NSS's website and Facebook capabilities, and offering the prospect of streamlined communications with members, online membership renewal and a host of other systems improvements.

With the launch of the new app in 2019, attention can be turned to the marketing issues in the plan, including simplification of the Society's many membership categories, a review of membership pricing, integration of regular appeals for donations, and a loyalty programme with selected retailers of equipment and services related to nature. These would stretch our existing voluntary resources to the limit and so we would welcome new volunteers to join our fund-raising and membership team in whatever capacity they can offer. Experienced fund-raisers and IT professionals would be particularly welcomed.

60 60



REPORTS OF SPECIAL INTEREST GROUPS

Bird Group Report

by Lim Kim Chuah and Lee Ee Ling

It was another exciting year for the Bird Group (BG) for the period June 2018-May 2019. Bird walks and talks continue to remain the core BG activities. A total of 21 walks were conducted of which three were targeted at school going children. We continue to partner NParks to conduct birdwatching trips to Kranji Marsh. Six walks were conducted. For the first time, we managed to conduct a talk at the Singapore Sustainability Academy at City Square Mall where more than 150 people attended. Thanks to CDL for their generosity in allowing the use of the space.

The 34th edition of the Singapore Bird Race was another huge success. Close to 100 people attended. For the first time, we had nine teams from four schools taking part. We hope to make the school category a regular feature in the Singapore Bird Race.

Citizen science-based censuses remain an important activity. Besides the regular bird census conducted by BG, we collaborated with NParks in the Comprehensive Ubin Bird Survey. The CUB Survey is now into its 17th month.

The BG also participated in several Outreach activities. Of note, the group took part in the World Migratory Bird Day at Sungei Buloh on 6 October 2018. Event was hosted by Minister Desmond Lee and graced by SM Goh Chok Tong.

The BG continues to reach out to members of the public via the Singapore Bird Group blog and Singapore Birder Facebook. Both the blog and Singapore Birder received good readership. The BG blog publishes a monthly Bird Report and a regular Raptor Report. Both these reports are important depositories documenting bird records of significance. The BG also managed to upgrade the Bird Apps, a very popular and educational apps.

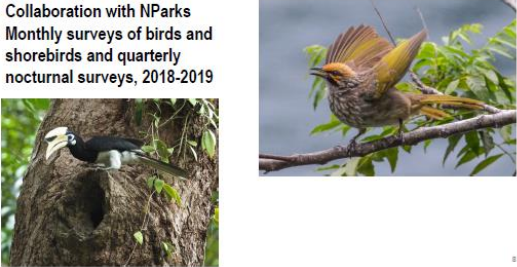




Since April 2019, the BG in collaboration with MNS (Johor Branch) has started a bird survey of Panti Bird Sanctuary. The CUB Survey will continue to December this year. The BG and Birdlife International and other partners have initiated a working group to look into the conservation of the critically endangered Straw-headed Bulbul. These activities in addition to its regular program will make 2019 another activity-filled year for the BG.



APPENDIX:

<p>BIRDWATCHING TRIPS</p> <ul style="list-style-type: none"> • 12 Birdwatching Trips (including 1 targeted at beginners and 2 pelagic) • 3 for children (with NSS Kids/ESN) • 6 Kranji Marsh walks to the Core area (collaboration with Nparks)  	<p>TALKS</p> <ul style="list-style-type: none"> • 7 Talks   <p>Talk: Birdwatching in Singapore with Your Eyes Closed, Yeo Sang Beng</p> <p>Talk: The Story of Birdwatching in China, Jennifer Leung</p>
<p>34th SINGAPORE BIRD RACE 11 Nov</p> <ul style="list-style-type: none"> • Introduction of School category for teams from Primary and Secondary schools   	<p>34th SINGAPORE BIRD RACE 11 Nov</p>  <p>Video by AMS Productions</p>
<p>PUBLIC OUTREACH</p> <ul style="list-style-type: none"> • Birdwatching walks for the public – Pesta Ubin; S'pore World Water Day at Lorong Halus (collaboration with PUB) • NSS / Bird Group booths e.g. World Migratory Bird Day • Flyway Game (collaboration with BirdLife and MNS)    	<p>CITIZEN SCIENCE PROGRAM</p> <ul style="list-style-type: none"> • Census / Surveys <ul style="list-style-type: none"> • Annual, Mid-year and Fall Bird Censuses • Raptor Watch • Parrot Count • Blue-Green Survey with MCG and Raffles Marina • Advocacy role in conservation of Mandai Mangrove and Mudflat  <p>An aerial view of Mandai Mangrove and Mudflat. PHOTO: GOV/SG</p> <p>Sourced from The Straits Times, 8 Oct 2018</p>



<p>COMPREHENSIVE UBIN BIODIVERSITY SURVEY (BIRDS)</p> <ul style="list-style-type: none"> • Collaboration with NParks • Monthly surveys of birds and shorebirds and quarterly nocturnal surveys, 2018-2019 	<p>SINGAPORE BIRD GROUP BLOG</p> <ul style="list-style-type: none"> • Platform for monthly Singapore Bird and Raptor Reports • Singapore Bird App (IOS and Android) upgraded in Sept 2018 • Bird Group Records Committee released 2 reports, adding 7 species to 2017 checklist and another 6 species to 2018 checklist. Total 403 species. 
<p>SINGAPORE BIRD REPORT & RAPTOR REPORT</p> <div style="display: flex;"> <div style="flex: 1;"> <p>Singapore Bird Report - December 2018</p>  </div> <div style="flex: 1;"> <p>Singapore Raptor Report - October 2018</p>  </div> </div>	<p>INTERNATIONAL EVENTS</p> <ul style="list-style-type: none"> • 9th Asian Bird Fair at Chiayi, Taiwan • 31st Fraser's Hill Bird Race – Champion Team, 'The Piculets' • Taipei International Bird Fair 2018, Guandu • EAAFP Strategic Plan Workshop towards Waterbirds Conservation 

Butterfly Interest Group (BIG)

by Amy Tsang & Anuj Jain

Butterfly Walks

In summary, BIG conducted 7 Butterfly Walks in 2018. Three (3) walks were to the Central Catchment Nature Reserve zone, namely Upper Seletar Reservoir (7/4), Dairy Farm Nature Park (16/9) and Rifle Range trail to Jelutong Tower (21/10). The other walks were to Bukit Brown (periphery to Central Catchment Nature Reserve) (10/6), parks – Jurong Eco Garden (18/3) and Coney Island Nature Park (8/7), and one in an urban environment made-green – Khoo Teck Puat Hospital (13/5).

The new area for us was Coney Island. This was the first time we had conducted a walk to this island nature park. We spotted 27 species of which two were uncommon – Common Evening Brown (*Melanitis leda*) and Biggs' Brownie (*Miletus biggsii*). We observed with concern the fast and furious developments on the mainland adjacent to Coney Island. As Coney Island has a narrow and elongated shape lacking ample interior space, it will be subjected to much pressure in time to come when the buildings are completed on the adjacent mainland and more people will be living very close to the island. We foresee that it will be a big challenge to preserve this small island as a rustic haven and wildlife sanctuary.





Butterfly walk at Jurong Eco Garden on 18 March 2018. Photo: KC Tsang

In 2018, most of our Butterfly Walks were opened to Members only, or Members and *their* friends only. We have fewer walks open to the general public these days as it was found that our Members are happier as they get more attention from our walk leaders. Smaller groups also helps to ensure that existing wildlife will not flee upon seeing so many humans in their habitat! Moreover, with few walk leaders available, it can get unwieldy if there is a large turnout of the public for our Butterfly Walks. Last year, we did have one Butterfly Walk open to the general public – this was conducted at Khoo Teck Puat Hospital (KTPH) on 13 May 2018.

Generally, our Butterfly Walks were quite well attended with the number of participants ranging from 18-30 persons. There is a mix of both adults and youngsters led by parents. As the walk at KTPH was opened to the public, it drew the highest number of participants though it was a very ‘bad weather’ morning with thunderstorm and rain. 33 participants turned up and we could only show them the indoor gardens, where a few butterflies, fruit bats and moths could be seen. However, this experience does reveal to us that the general public is interested in nature (admittedly our ‘free’ participation helps too!) for they continued to find their way to KTPH despite the weather being so stormy and wet! The other observation we have is that the hospital environment has never deterred anyone from visiting the butterfly gardens in KTPH.





Participants keenly photographing a Grass Yellow during Rifle Range Butterfly walk on 21 October 2018.

Outreach activities

In terms of outreach, we managed to undertake five (5) such activities in 2018.

- (1) On 26 May, we engaged children and their parents at the Central Library 'The Tree House' on butterflies of Singapore, their contribution to the eco system and the different kinds existing in our forests and parks. Children were given the opportunity to view some caterpillars and pupas of butterflies. Talk was given by Amy Tsang and supported by NSS members and friends, Jenny Lim, Aloysius Ong and Tan Mei Lee.
- (2) On 14 and 21 July, BIG represented by Simon Chan, Lena Chow and Amy Tsang helped to lead NSS Kids at their outing - ESN (Every Singaporean a Naturalist) Fun with Birds & Butterflies - to spot butterflies in Tampines Eco Green and Singapore Botanic Gardens respectively. This event was organised by Gloria Seow (Chair, Education Group) with Sung Mei Yee as ESN Lead.
- (3) On 19 and 31 Aug, a talk on 'Every Singaporean A Naturalist' was given by Gan Cheong Weei to promote the use of iNaturalist, a citizen science platform, which would allow nature lovers to engage with the global community of naturalists, biologists and nature enthusiasts to identify and learn more about a wide range of natural subjects – from animals, birds, insects, reptiles to plants, trees, mushrooms etc. The first talk



was held at Central Library (19/8) at midday whilst the 2nd talk was conducted at NSS office (31/8) in the evening. The turnout at Central Library was good.

In 2018, we held one talk relating to butterflies at NSS office:

- (1) On 26 Jan, Mr Jimmy Chew, veteran bird and butterfly photographer, with support from KC and Amy Tsang, gave a talk 'Enjoying Nature in Bhutan – Land of Happiness, Birds and Butterflies' to a 'full house' audience.

Overall, Anuj engaged BIG in to provide feedback on butterfly identification materials produced for Every Singaporean A Naturalist schools in 2017 - 2018.

Ubin Moth surveys

BIG conducted a recce trip in May 2018 to identify locations to conduct moth surveys in Pulau Ubin. A night survey was conducted on 29 - 30 September at Ubin by Gan Cheong Weei.



Highlight of the moth survey in Pulau Ubin - *Pterocyclophora ridleyi*. 30 Sept 2018. Photo: Gan Cheong Weei

New & Rare sightings

Several new & rare sightings were recorded in 2018. In particular, the Common Jester was spotted in Jul/August 2018 by Alan Owyong and then again for several days at Dairy Farm Nature Park in September 2018.

Orange Gull *Cepora iudith malaya* was spotted in December 2018 by Lena Chow at Pulau Ubin.





Orange Gull @ Pulau Ubin. Photo credit: Lena Chow

Publications

Nature News articles

BIG also contributed a number of articles to Nature News 2018 following from its activities. These were:

- (1) Studying the Fascinating World of Moths (Jan-Feb issue) by Amy Tsang
- (2) Uncommon Butterflies Uncovered at Coney Island (Sep-Oct issue) by Spencer Yao
- (3) Engaging Kids on Butterflies of Singapore at the National Library (Jul-Aug issue) by Amy Tsang

Journal article

Anuj Jain collaborated with Gan Cheong Weei of BIG and Khew Sin Khoo of ButterflyCircle to publish a peer-reviewed journal article in the *Raffles Bulletin of Zoology*. The article analysed butterflies extirpated (locally extinct), discovered and re-discovered in Singapore over 28 years (from 1990 – 2017). The article can be accessed here -

<https://lkcnhm.nus.edu.sg/app/uploads/2018/01/66-rbz217-257.pdf>

The authors showed that while 144 species have been extirpated from Singapore, the rates of extirpations between 1990 – 2017 have slowed considerably compared to 1926 – 1989. Also, 51 new species were discovered while 65 species were rediscovered between 1990 – 2017. Our results show that the butterfly fauna of Singapore has changed considerably over the last 28 years.



Jalan Hijau Group

by Tan Hang Chong with help from Kerry Pereira

A summary of the Jalan Hijau activities are as follows

S/N	Activity	Date	No. of People
1	Forest Clean-up at Pulau Ubin	10 Feb '18	17
2	Forest Clean-up at Pulau Ubin exclusive for Air Bus Asia Training Centre	27 Apr '18	31
3	Forest Clean-up at Pulau Ubin exclusive for Bloomberg	28 Apr '18	15
4	Forest Clean-up at Pulau Ubin exclusive for Wheelock Properties	12 May '18	25
5	Forest Clean-up at Pulau Ubin exclusive for Air Bus Asia Training Centre	25 May '18	27
6	Forest Clean-up at Pulau Ubin exclusive for Bloomberg	9 Jun '18	12
7	Forest Clean-up at Pulau Ubin exclusive for Skyscanner	27 Jul '18	34
8	Forest Clean-up at Pulau Ubin exclusive for Buckman Asia Pacific	18 Aug '18	26
9	Forest Clean-up at Pulau Ubin exclusive for SAP	23 Oct '18	34
10	Forest Clean-up at Pulau Ubin exclusive for Admiralty Primary School	27 Nov '18	29
11	Forest Clean-up at Pulau Ubin	1 Dec '18	10

Total no. of participants for 2018: 260

Marine Conservation Group (MCG)

by Stephen Beng

In 2017, the **Marine Conservation Group** focused efforts to encourage and promote responsible attitudes towards the conservation of our natural heritage and the environment, and to initiate and support research projects relating to the study and conservation of nature and the environment. In 2018, we continued to be led by the NSS vision to lead a cultural transformation in Singaporean attitudes to nature conservation and biodiversity. We initiated a research project on invasive alien species. It emphasized the importance of our observations on the ground, our familiarity with native species and the regularity of our visits to ecologically significant sites.

We supported the ambitions of Blue Plan 3, yet continue to pursue the acceptance of recommendations yet to be adopted from Blue Plan 2. By leading the 'Friends of Marine Park' community, we carry the obligations attached to one of the biggest successes of BluePlan2, the Sisters' Islands Marine Park. In the 2009 edition of the Blue Plan, civil society proposed "to partner and complement the government in working together in the future – to take advantage of the opportunities to tackle the challenges that face our nation in the conservation of biodiversity: terrestrial, wetlands and marine." It pushed recommendations



from the Nature Society (Singapore) in 2003 for “the NParks department for Marine ecosystems... should be given the responsibility to focus on species and its biodiversity enhancement.” It further proposed a “coordinating committee to oversee the implementation of the action programmes for the proposed MBAs (Marine Biodiversity Area)... should comprise representatives... relevant government bodies, non-governmental organisations, academic institutions, businesses, etc.” [Ref: BluePlan2009, Pg2No8, Pg16-17Nos45-47,50].

Our leadership in the ‘Friends of Marine Park’ community network helps to fulfill our side of the bargain – commitments made by a generation before us.



The “Fellowship of the Reef” in the 1980s. Photo: Francis Lee

I. CONNECTING PEOPLE TO NATURE

A. OUTREACH

1. **Singapore Committee for UN Women at Tanjong Katong Girls’ School** – On 4th January, Stephen conducted a sharing session on our Natural Heritage (Reefs and Mangroves) for TKGS students. As part of their outreach efforts on social issues, the Singapore Committee for UN Women (UNIFEM) provided this camp as an opportunity for the girls to create public awareness campaigns to resolve issues raised.
2. **RJC Open House** – MCG Volunteers led by Kiah Eng set up a booth at the Raffles Junior College Open House on 12th January.
3. **Temasek Sustainability** – MCG held a series of three events at Mandai Mudflats and Mangroves for Temasek Holdings executives. On 18th January, a paddle was conducted through the mangroves of Mandai. Huey, Pei Ling, Lester and Stephen



were there to emphasize the important ecosystems services and threat mitigating roles our remaining mangroves and mudflats provide. On 31st January, Lester and team conducted the Horseshoe Crab Rescue and Research program, and on 28th February, the company executives participated in collecting marine debris data during a coastal clean-up at the mudflats.

4. **Microplastics Analysis Workshop** – organized by NParks on 27th January, Stephen presented a summary of our data collecting efforts from our coastal clean-ups, shared our campaign ambitions against Marine Debris and Plastic Pollution, and encouraged synchronizing of data collection methods, ground efforts and objectives.
5. **World Thinking Day** – a challenge and celebration of the World Association of Girl Guide and Girl Scouts (WAGGGS), focused this year on personal impacts the girls can have on their communities and realize the wider impacts their positive changes have on society. MCG participated with an outreach booth at Passion Wave, Marina Bay on 24th February.
6. **Singapore World Water Day at NUS** – MCG participated with an outreach booth at the event held over 22-23rd March at U-Town. NUS included a series of events including the ‘Save Our Water’ campaign aimed to inspire and educate the varsity community on the importance of responsible water stewardship. Minister Masagos Zulkifli was the Guest-of-Honour.
7. **BES Symposium on Futures Sustainability** – organized and hosted by the NUS Bachelor of Environmental Studies on 24th March. In partnership with the Rotary Club of Suntec City, the symposium was themed around Sustainable Blue Spaces. Along with other speakers from NParks, LKY School of Public Policy and WaterROAM, Stephen shared NSS’ perspective on preserving blue spaces in Singapore and beyond.
8. **ADEX 2018 (Asian Dive Expo)** – We continued to support the Blue-Green Alliance through our joint outreach efforts at ADEX18, held at Suntec from 6-8th April. Our young leaders from NUS BES and volunteers ran the NSS outreach booth well. MCG also supported the community efforts at the Friends of Marine Park/NParks pavilion. We raised awareness of our native shark species and gained more support for NSS. As a community through ‘Friends of Marine Park’, the many groups housed at the NParks pavilion displayed unity in the cause of marine conservation. NSS members were provided free entry to the show. Visitor numbers at the end of 3 days reached 62,079.





9. **Festival of Biodiversity:** MCG participated in FOB2018 held at Tampines MRT open space on 2-3rd June. In collaboration with the Biodiversity Roundtable, NParks organizes FOB to commemorate and celebrate Singapore's biodiversity and to encourage Singaporeans to be proactive in conserving our natural heritage.

10. **Ubin Day** – on 24th June marked the 7th Ubin Day. MCG participated in this pinnacle day of Pesta Ubin, a ground-up celebration by the 'Friends of Ubin Network' – the diverse and committed community which brings Ubin alive. The festival saw a number of highlights such as archaeological finds, the return of past villagers to the island, infrastructure enhancements, Ubin Living Lab updates, and five new species recorded. MCG was happy to support the event through R.U.M. and with our outreach booth. Minister Desmond Lee hosted the event with Guest-of-Honour Minister Chan Chun Sing.

11. **NSS in the Heartlands** – Lisa Lim and Lester Tan went the extra mile to host our pavilion in the Punggol heartlands this year. The outreach event went on from 10-23rd November at Punggol Central near the bus interchange.

12. **'Beneath Tide, Running Forest'** – an arts science exhibition with workshops, brought together by NParks ran from 24th November to 14th April 2019. It presented the life of our seas, shores and forest, and the threats they faced. This was another IYOR2018 event that featured the conservation and community work by NSS MCG and Friends of Marine Park.



13. **SGEFF2018** (Singapore Eco Film Festival) : NSS is a community partner to SGEFF. It was held at the Arts Science Museum from 2-4th November. The screening of “Blue the film” sees our ravaged ocean through the eyes of passionate ocean advocates around the world. It raised the issues of overfishing, IUU (Illegal, Unreported, Unregulated) fishing, plastic pollution, habitat destruction and climate change, but left a message of hope. Short films included the work of Kathy Xu and the Dorsal Effect. Following screenings, Stephen, representing NSS, joined a panel of speakers in discussions about ocean conservation.

* Thanks to Dr Adeline Seah and Ms Jacqui Hocking, organizers of SGEFF for including us.

S/N	Event	Date	Visitors
1	SG Committee for UN Women at TKGS	4-Jan-18	40
2	RJC Open House	12-Jan-18	450
3	World Thinking Day, GGS - PassionWave	24-Feb-18	1,000
4	SG World Water Day at NUS	22-23 Mar 18	1,000
5	BES Symposium for Futures Sustainability	24-Mar-18	200
6	Asia Dive Expo	6-8 Apr 18	62,079
7	Lest We Forget - Esplanade	21-Apr-18	1,600
8	Festival of Biodiversity	2-3 Jun 18	1500
9	Ubin Day	24-Jun-18	1000
10	SGEFF at ArtsScience Museum	2-Nov-18	300
11	NSS Heartlands - Punggol	17-18 Nov 18	1000
12	Beneath Tide, Running Forest	24/11/18	2000
	Total Reach		72,129



B. ADVOCACY WORK

1. Blue-Green Survey (Lead: Stephen Beng)

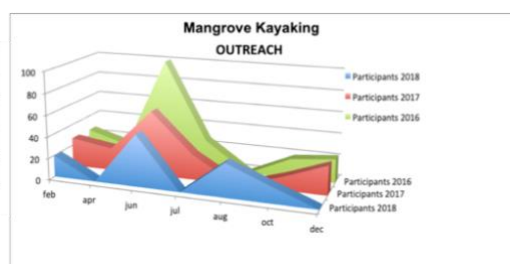
In an effort to maintain strong relationships within the Blue Green Alliance (Raffles Marina, ADEX and NSS), MCG initiated the Blue Green Survey in November 2017. It launched its first survey to Pulau Jong, Semakau and Hantu on 22nd February. The program aims to raise awareness of the rich biodiversity around this island cluster, both above and below the water. Members from NSS Bird Group and MCG participated in the first outings, accompanied by Raffles Marina staff. * Special thanks to Mr Francis Lee for initiating this partnership, to Mr Peter Lim, President-Raffles Marina, and Mr Ray Perry, CEO-Raffles Marina for supporting this initiative with the use of ‘Lady Olivia’.

S/N	Activity	Date	Participants
1	Citizen Science: RM Site Recce	21/2/18	4
2	BlueGreen Survey: Jong,Semakau,Hantu	22/2/18	10
3	BlueGreen Survey: Jong,Semakau,Hantu	21/3/18	10
4	Citizen Science: RM Site Recce	29/3/18	4
5	BlueGreen Survey: Jong,Semakau,Hantu	25/4/18	8



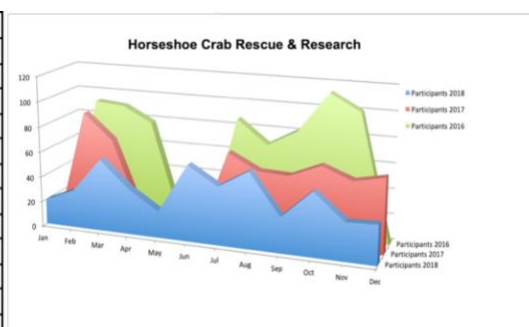
2. Mangrove Kayaking (Lead: Teo Say Chong)

S/N	Activity	Date	Participants
1	Kayak Mandai Mangroves - C	18-Jan-18	20
2	Kayak Ubin Rivers	27-May-18	48
3	Kayak Sg Khatib Bongsu	26-Aug-18	31
4	Kayak Punggol-Ubin	27-Oct-18	15



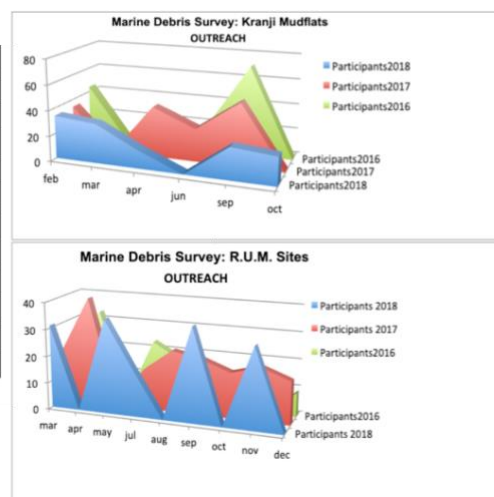
3. Horseshoe Crab Rescue & Research (Lead: Lester Tan)

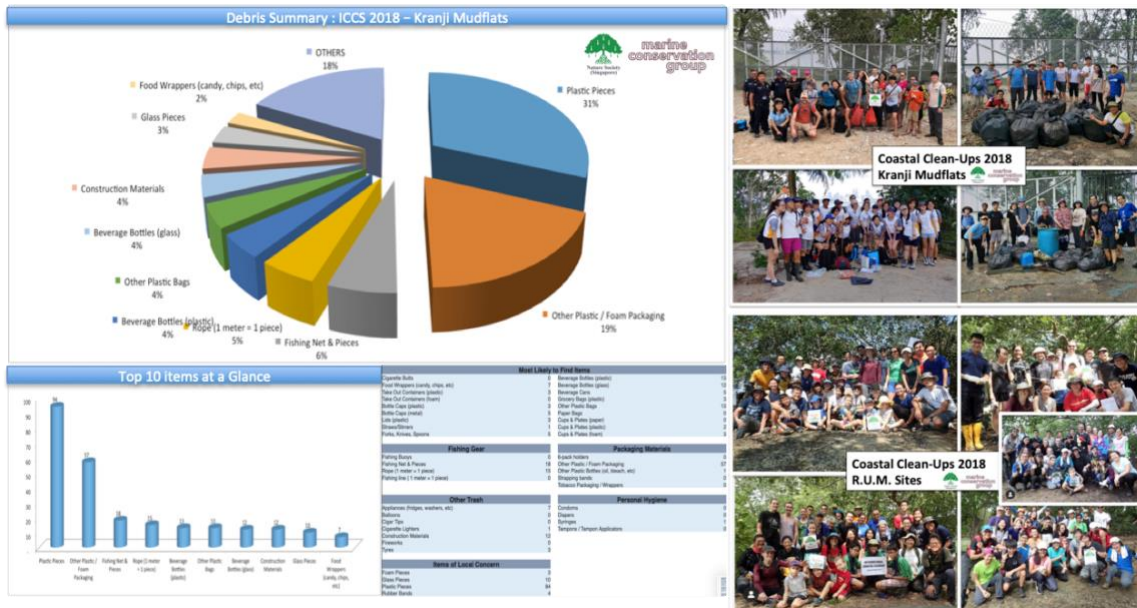
S/N	Activity	Date	Participants
1	HSCRR & Habitat Monitoring	28-Jan-18	20
2	HSCRR & Habitat Monitoring	31-Jan-18	30
3	HSCRR & Habitat Monitoring	25-Mar-18	57
4	HSCRR & Habitat Monitoring	22-Apr-18	36
5	HSCRR & Habitat Monitoring	6-May-18	21
6	HSCRR & Habitat Monitoring	3-Jun-18	60
7	HSCRR & Habitat Monitoring	15-Jul-18	46
8	HSCRR & Habitat Monitoring	4-Aug-18	60
9	HSCRR & Habitat Monitoring	1-Sep-18	28
10	HSCRR & Habitat Monitoring	27-Oct-18	50
11	HSCRR & Habitat Monitoring	25-Nov-18	30
12	HSCRR & Habitat Monitoring	22-Dec-18	31



4. Marine Debris Surveys (Leads: Lisa Lim, R.U.M. and Bryan Leong, Kranji Mudflats)

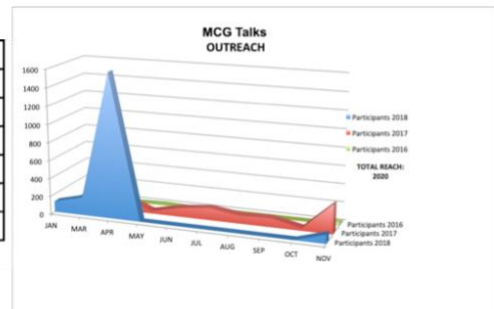
S/N	Activity	Date	Participants
1	Marine Debris Survey, KM	11-Feb-18	14
2	Marine Debris Survey, KM - C	28-Feb-18	20
3	Marine Debris Survey, KM - C	23-Mar-18	31
4	Marine Debris Survey, KM	15-Apr-18	14
5	Marine Debris Survey, KM	15-Sep-18	25
6	Marine Debris Survey, KM	28-Oct-18	22
7	Marine Debris Survey, RUM	24-Mar-18	31
8	Marine Debris Survey, RUM	6-May-18	35
9	Marine Debris Survey, RUM	12-Jul-18	17
10	Marine Debris Survey, RUM	15-Sep-18	35
11	Marine Debris Survey, RUM	13-Nov-18	30





5. Talks

S/N	Talk	Date	Participants
1	SG Committee for UN Women at TKGS - SB	4-Jan-18	40
2	Microplastics Analysis Workshop - SB	27-Jan-18	80
3	BES Futures Sustainability - SB	24-Mar-18	200
4	'Lest We Forget' at Esplanade - SB	21-Apr-18	1600
5	SGEFF at ArtsScience Museum - SB	2-Nov-18	100
	Total Reach		2,020



C. COMMUNICATION

- MCG relies on several media platforms to reach different audiences. We send updates of what we've been up to, exciting finds during our site visits and important conservation messages and stories. Although there's been an increase in followers, we need more Singaporeans to protect our seas and shores. We need your support!

The easiest way is to follow us on **Instagram** and **Twitter** (@mcgnss for both).

- The official email for MCG enquiries: marinecg.nss@gmail.com
 Horseshoe Crab R&R: hscrr.nss@gmail.com
 Mangrove Kayaking: nsskayaking@gmail.com
 Marine Debris Surveys (Coastal Clean-ups): nssccu@gmail.com
 Chair, MCG: stephenbeng.nss@gmail.com

Other than these email addresses, all other email addresses and their owners do not represent NSS Marine Conservation Group.



3. MCG will be reorganizing its leadership team in 2019. Current leadership within the group to remain: Lisa Lim, Lester Tan, Bryan Leong, Teo Say Chong, Stephen Beng.

4. **Mainstream Media Engagement:**

2nd March Straits Times – Mussel Calamity: Shellfish from the Americas carpeting Singapore shores, could muscle out local species.

3rd March TODAY – Alien mussel species could hurt local fish farmers.

20th June The Newspaper – Pink Dolphins sighted off Pulau Semakau

20th June Straits Times – Sighting of pink dolphins delights group.

8th November Straits Times – Reef Structure to promote coral growth installed off Sisters’ Islands.

8th November Channel News Asia – Artificial reef installed to help marine life thrive around Sisters’ Islands.

5. **MCG in other Media:**

26th February Singapore Bird Group Blog – NSS Blue Green Survey.

21st April - **‘Lest We Forget’** Forward by Stephen Beng; a performance by Dance Ensemble Singapore that invoked custodianship of our island heritage and presented knowledge and empathy as vital links between nature and culture.

* Special thanks to *Mr Edmond Wong*, Director of Kim Choo Holdings Pte Ltd and playwright, for including NSS in their communications media and performance catalogue. He also produced a narrative video for MCG and fronted a fundraising campaign on that raised over S\$7000 for MCG.

II. IMPLEMENTING CONSERVATION PLANS

A. CONSERVATION ACTIVITIES

1. On January 12-13th, kayaking members of MCG helped the Friends of Marine Park community to establish best practices at the Sisters’ Islands Marine Park by paddling to the island from Sentosa in an effort to test these guidelines.



2. MCG, as members of the Marine Turtle Working Group and the Friends of Marine Park, participated in the release of “Schooling” at the Sisters’ Islands Marine Park On 28th January. “Schooling” was the hawksbill sea turtle hatchling rescued by NParks and rehabilitated by Wildlife Reserves Singapore veterinarians.
3. On 21st February and 29th March, MCG conducted a site recce at Raffles Marina for a possible citizen science project.
4. A site recce for the JTC-NParks Artificial Reef was conducted on 9th April. Stephen attended.
5. MCG attended the ESN Launch on 14th April.
6. The NSS Policy team met with MCG on 15th April.
7. On 17th April, MCG and the NSS Policy team provided inputs to the 2019 National Biodiversity Strategy and Action Plan (NBSAP), which will include an addendum on Singapore’s national targets based on AICHI Biodiversity targets 2011-2020.
8. MCG attended the first meeting of Clean-up organizers on 24th April, hosted by Sivasothi and the ICCS team. Present for MCG were Lim Yen Ting, Edwin Tan, Bryan Leong and Stephen Beng.
9. On 23rd May, MCG initiated the first dive to remove an invasive Zoanthid from the Big Sisters’ reef. Our divers also maintained the Dive Trails at the Sisters’ Islands Marine Park.
10. Stephen attended an orientation of the BRUV (Baited Remote Underwater Video) station at Raffles Marina on 15th June. A camera system deployed by the SeaKeepers for researchers to survey fish.
11. MCG attended the Marine Turtle Working Group meeting on 20th September. MCG took a position to remain open towards including specialists with the expertise and facilities to help with the rescue and rehabilitation of injured sea turtles, even if they were from the zoo or the aquarium. These inclusions could be directly to the MTWG or to an animal distress response team. For the long run, we see the need for a team of experts who best serve the animals’ welfare, and not just a group of people who get along.



12. After several discussions online, the MPOI (Marine Parks of Indonesia) team met on 25th October to progress ideas for e-book editions, the disbursement of MPOI funds and the possible distribution of remaining copies. We want to acknowledge the mega efforts on the parts of Mr Francis Lee and Prof Chou Loke Ming in first organizing the MPOI expedition, then compiling and publishing its findings. In no way must we dismiss the positive impacts this project has had on the marine conservation community in Singapore. Through the MPOI mission, community leaders and members today have significantly gained experiences, capabilities and good relationships with our geographical neighbours. The MPOI stories are a testament to the abilities of the Singapore blue community when there is unity. They tell an oceanic tale of connected beauty and threat, and stress on the bigger picture of marine conservation. They are lessons of neighborly duty and environmental responsibility for all Singaporeans to learn.



B. STAKEHOLDER ENGAGEMENT

1. Kwok Peng and Stephen represented NSS at two sharing sessions on a development project and an artificial reef project on 19th January.
2. MCG continues to contribute to the quarterly Biodiversity Roundtables.
3. The **'Friends of Marine Park'** community- Following the first two meetings in 2017, several stakeholders took to the field to test best practices and find ways to realize our community goals. They then shared lessons learnt at the first meeting



of 2018 on 19th January. Minister Desmond Lee graced the next meeting on 23rd April. There was growth in the community, not only in membership but also in relationships. A workshop was conducted to discuss ways to strengthen bonds, and opportunities for others to benefit from our initiatives and collaborations. The third meeting of the year on 29th August took stock of the good work done and found new opportunities through the network this platform provides. We also planned for the rest of IYOR2018. The final meeting for 2018 on 8th December was held on Small Sisters with a site visit to Big Sisters Island. There was open sharing and feedback on the Park's enhancement plans. There was also an earnest discussion on rules and best practices which led to plans for 2019. We brought home the International Year of the Reef 2018 with encouraging commitments as stewards and custodians of the Sisters' Islands Marine Park.

4. Stephen met with members of the NSRCC Sailing Centre to discuss coral reef conservation efforts. He also participated in Stand-Up Paddle with them.
5. Stephen attended the SeaKeepers Asia Achievement Awards night on 13th April.
6. Lester and Stephen attended the performance 'Lest We Forget' by Edmond Wong on 21st April.
7. Shawn Lum, Lim Kim Chuah and Stephen Beng from NSS attended a dinner for the Nature Community hosted by Speaker Tan Chuan-jin and NParks at the HortPark. Valuable conversations about our native plants and stories about the people who protect them. Interesting suggestions from Speaker on tapping sustainable sources of conservation funds through the export of our expertise. We witnessed the fruits of Shawn Lum's labor in saving the seedlings and fruits of a 150-year old critically endangered Chengal Pasir (*Hopea sangal*) tree that was illegally felled in 2002. Under the care of Dr Adrian Loo (NParks), we saw the third generation of rescued *Hopea* seedlings bear fruit.
8. On 17th August, Stephen represented NSS MCG as one of the evaluators for the MPA (Maritime and Port Authority)-SEC (Singapore Environment Council) 'Waves of Change' competition. The art competition aimed to raise awareness of the impacts of marine debris. The artists encouraged us to contemplate our relationships and connections to nature.
9. On 30th August, Stephen attended the Singapore Environment Council's conference and SEAA ceremony.



10. Lisa and Stephen attended the MND Huddle on 18th September, hosted by Minister Lawrence Wong, MND and NParks staff. We appreciate the opportunity to network with other community members.

III. DEEPENING SCIENTIFIC UNDERSTANDING

A. INVOLVEMENT IN SCIENCE AND SCIENCE-LED ACTIVITIES

1. The International Year of the Reef 2018 was an especially busy but meaningful one for MCG, largely because of our involvement as members of the 'Friends of Marine Park' community. The Marine BioBlitz kicked off the year on 24th January, followed by a Microplastics Analysis Workshop on 27th January.
2. SB attended the CIL International Conference on Climate Change and Law of the Sea conference held on 13-14th March. * Special thanks to Dr Karenne Tun, NParks and Ms Geraldine Ng, CIL.
3. Lisa Lim and Stephen Beng participated in the Coral Spawning surveys led by Dr Karenne Tun from 3-6th April.
4. MCG continues to support the Restore Ubin Mangroves (R.U.M.) project led by Dr Dan Friess. Several MCG volunteers attended a 2-day workshop held on Pulau Ubin in February. The session allowed for the community to discuss what's best for future restoration work.
5. Stephen represented NSS at the 4th Asia Pacific Coral Reef Symposium (APCRS) held in Cebu from 4th-8th June.
6. As part of IYOR2018 and the community's request to learn more about each other's work, the 'Friends of Marine Park' organized a lab day with Dr Beverly Goh, Senior Lecturer, Department of Natural Sciences and Science Education NIE. The 'Ecotoxicology Workshop' held 4-5th July saw MCG volunteers getting a hands-on with biomarker tests and becoming researchers for the day. *Thanks to Dr Karenne Tun and Dr Beverly Goh for facilitating.
7. NSS is a voting member of the IUCN and MCG will be taking part in the Horseshoe Crab SSG conference in China next year.
8. As members of the Friends of Marine Park, MCG members witnessed the release of 77 critically endangered hawksbill sea turtle hatchlings on 19th September. This



was the first batch to leave the shores of the Marine Park since the opening of the new Turtle Hatchery. The emergence of life from the island stresses the significance of marine protected areas and zones for conservation and research. MCG volunteers continue to support our Park Rangers by helping with Sea Turtle patrols. The program is managed by NParks.

9. The JTC-NParks Artificial Reef was officially installed on 8th November at Pulau Subar Darat. JTC and NParks, along with Friends of Marine Park community, donor companies and industry guests witnessed Singapore's largest purpose-built reef structure installed to enhance marine biodiversity. The event was graced by Speaker of Parliament Tan Chuan-Jin. 11 donor companies funded the project through the "Grow-a-Reef Garden" initiative under the Garden City Fund. The project is expected to contribute 1000m² of additional reef substrate to the marine park by 2030. JTC and NParks went through several rounds of public consultation over a few years before settling on the current design and plan.
10. The International Conference on Plastics in the Marine Environment organized by NUS TMSI, SCELSE and NParks was held 5-7th December. Discussions included Plastics in the Sea, EIAs, Socio-Economic issues and Solutions for the future. Lester and Stephen attended.



B. RESEARCH

1. NSS, TMSI and NParks began planning work on 8th March for a joint project to address the invasive alien *Mytella strigata*. Several coordinating meetings were held before an agreement was made on 14th May to proceed with the project. On 27th July, the agreement letter was signed between the three collaborators for the NRF-funded project, “**Assessment of impact of the invasive mussel *Mytella strigata* in Singapore**”. Dr Serena Teo (NUS) is the project’s Principal Investigator (PI) and Dr Karenne Tun (NParks) as Co-PI, with Lim Chin Sing (NUS), Research Assistant. Stephen Beng (NSS) is the Lead Collaborator with Lester Tan (NSS), the Coordinator.
2. On 19th June, Stephen joined Prof Chou Loke Ming’s team at One15 Marina to observe coral restoration efforts there. Sam ShuQin led the research team. Possibilities are being explored for MCG to lead a citizen science program.
3. Training for the *Mytella Project* began on 14th September with knowledge development in the classroom. It was hosted by Sungei Buloh Wetland Reserve and conducted by Dr Serena Teo and Mr Lim Chin Sing of TMSI. Volunteers from TMSI, NParks and NSS attended the session.
4. Coordinators and volunteers for the *Mytella* project conducted field work on 12-13th November and 8th December.
5. *Mytella Project* training continued in the field on 25th November at Pasir Ris Park. NSS and TMSI volunteers practiced species identification and standardized survey and data recording methods.

GRATITUDE

To the generous individuals and the people behind the organizations who have supported us financially and helped our work for nature to grow. Nature wins with your kindness.

To the many leaders in government, businesses and academia that recognized value in local NGO work and embraced our partnership. Nature wins when we collaborate.

To our volunteers, who constantly and enthusiastically give their time and effort. Nature wins with your passion and commitment.

To our long-standing advisors, Mr Francis Lee and Prof Chou Loke Ming who give tirelessly for the benefit of our marine environment. Nature wins when a legacy of stewardship continues.



To our EXCO and council members, who graciously support our work. Nature wins when we are united.



Nature Ramblers Group

by P Pandian with help from Kerry Pereira

Committee members

P. Pandian, Sutari Supari , Benjamin Ho, Ali Jaafar, See Swee Leng, Rehan Yusoff, Soh Lay Bee,

Advisor: Dr Ho Hua

A summary of the Nature Rambler activities for 2018 are as follows:

S/N	Activity	Date	No. of People	Remarks
1	Ramble from Old Singapore Turf Club to Bukit Timah	24 Feb '18	17	
2	Bukit Brown-Central Catchment Nature Reserve Ramble	9 Jun '18	-	Postponed due to thunderstorm
3	Green Corridor Ramble	14 Jul '18	15	
4	Bukit Brown-Central Catchment Nature Reserve Ramble	8 Sep '18	-	Postponed due to thunderstorm
5	Sungei Buloh Wetland Reserve-Kranji Marshes Ramble	6 Oct '18	3	Heavy downpour

Total no. of participants (2018): 35

Even though the Nature Ramblers continue to organise rambles regularly, 2018 saw inclement weather on a number of activity dates which resulted in their postponement.

A big thank you to all our regular volunteers without whom our activities would not be possible.



Plant Group

by Bian Tan

In the past year, the following activities were conducted:

1. Ubin Day sensory trail walk June 24, (Bian)
2. FOB plant walks, Tampines Eco-Green, June 2 & 3, (Von Bing, Angie)
3. Plant surveys at Panti Bird Sanctuary March-May (Bian)

A big Thank You to all Plant Group members and volunteers.

We are a small group and welcome new members. Please contact Bian Tan (biantan@yahoo.com) to find out more.

Vertebrate Study Group (VSG)

by Tony O'Dempsey

Sungai Yu (Merapoh) Surveys with MYCAT

VSG members continued to assist MYCAT in wildlife monitoring at the Sungai Yu Wildlife Corridor in Pahang. The developing of experience over many months with camera trapping in a varied terrain has allowed VSG members and Singaporean researchers from NUS and NParks, who were invited by VSG, to learn and refine skills in camera placement as well as in identification from night-time shots. This will allow us to apply the experience gained to similar sites where camera traps can be usefully employed in Singapore.

The VSG would like to thank MYCAT, especially Kae Kawanishi, Ashleigh Seow, and Suzalinar Manja Bidin for the opportunity to be a part of this project, and ensuring the smooth operation of all field surveys. Jabatan Perlindungan Hidupan Liar Dan Taman Negara (PERHILITAN) and Jabatan Perhutanan Negeri Pahang Darul Makmur kindly granted the necessary permits. We thank the Nature Society (Singapore) for supporting the survey. The VSG core team for the project are Nick Baker, Marcus A.H. Chua, Vilma D'Rozario, Ng Bee Choo, Noel Thomas, and Yeo Suay Hwee.

Comprehensive biodiversity survey of Ubin

Surveys started in Jan 2018 for 2 years. This survey aims to update inventory list of most of the flora and fauna in Pulau Ubin. VSG is involved in monthly overnight surveys of amphibians, reptiles and mammals. VSG members assisted in setting camera traps, sherman traps, pit fall traps, harp traps, mist nets, bat detectors and transects surveys.



Biodiversity Roundtable Meetings

Led by National Parks Board and Mr. Sivasothi (NUS), this group was formed to discuss issues pertaining to nature conservation, biodiversity related activities and programs for NGOs, government sectors and institutions to share and exchange information in a collaborative and cohesive manner. Events such as Festival of Biodiversity and Pesta Ubin are shared during the meetings. Meetings are held 2 to 3 times a year. Bee Choo and Tony represent VSG.

Bukit Batok (Walk The Talk)

Public talk and walk led by Tony O'Dempsey on 8 March 2019 (Sat) at 6.30-9.30pm.

Mandai Rainforest Park Engagement

Members of VSG participated in Nature Group Engagement conducted by Mandai Rain Forest Park developer.

Cross Island Line Engagement

Members of VSG have participated in Nature Group Engagement conducted by LTA for the Cross Island Line project. This project is now in Phase 2 EIA development for tunnelling and operations.

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