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CONSERVATION WORTH ITS SALT

Pak Thale: Where wildlife and community thrive

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Renewed plan proposed for Kranji eco-corridor

Find out what's involved in local habitat restoration

Learn how one man's advocacy gives voice to nature



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MESSAGE

Why connectivity matters for planet, people, and partners

Mr Albert Liu

Assistant Director (Conservation), Nature Society Singapore Secretariat

CONNECTIVITY is the focus of this quarter's *Nature Watch*. Connectivity matters, because it strengthens our collective future by: 1) connecting habitats, 2) connecting people with nature, and 3) connecting partners for conservation.

First, connectivity is ecological. Our work on Invasive Species Management in Windsor Park, and our consistent advocacy for greater habitat connectivity at places such as the Rail Corridor, highlight how connected landscapes sustain biodiversity.

When habitats are fragmented, species struggle; when they are connected, ecosystems thrive. These remind us that ecological connectivity will lead to ecological resilience.

Second, connectivity is personal. We spotlight volunteers and explore creative tools like mascots for conservation, showing how people find joy and meaning in connecting with nature. These connections are not only emotional – they build a culture of stewardship, empowering people to do more alongside partners like NSS and agencies. In turn, this leads to a sense of pride, identity and rootedness in Singapore.

Finally, connectivity is partnership. Our Eco-Journeys embody this partnership across borders, connecting conservation and communities. With our NGO partner 'Look Port Weld', we launched our inaugural Eco-Journey to Kuala Sepetang in April for members of the public, followed by two more Eco-Journeys to Sepetang: in June for professional development, and in July, again for the public.

Participants experienced at first-hand how conservation, livelihoods and community are connected. We are strengthening our partnerships with other NGOs in Thailand and Cambodia to launch new Eco-Journeys to Pak Thale, Thailand and Anlung Pring, Cambodia later this year. Stay tuned.

I believe that conservation commitment is strongest when nature, people and partners are interconnected. Connectivity is not just about weaving habitats together, but also with people and communities. Let us continue to nurture these connections, for a better planet, people, and partnerships.



NSS organised a welcome dinner for our newly onboarded volunteers in April, to introduce them to the various programmes they could contribute to. The event was part of our unceasing efforts to build a strong and lasting nature community. Photo: Cassandra Kavishna

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ON THE COVER Pak Thale, Thailand, is an area known for traditional salt farming, which not just supports the local community, but also the migratory shorebirds that stop by to feed and rest before continuing their epic journeys. Photo: NSS

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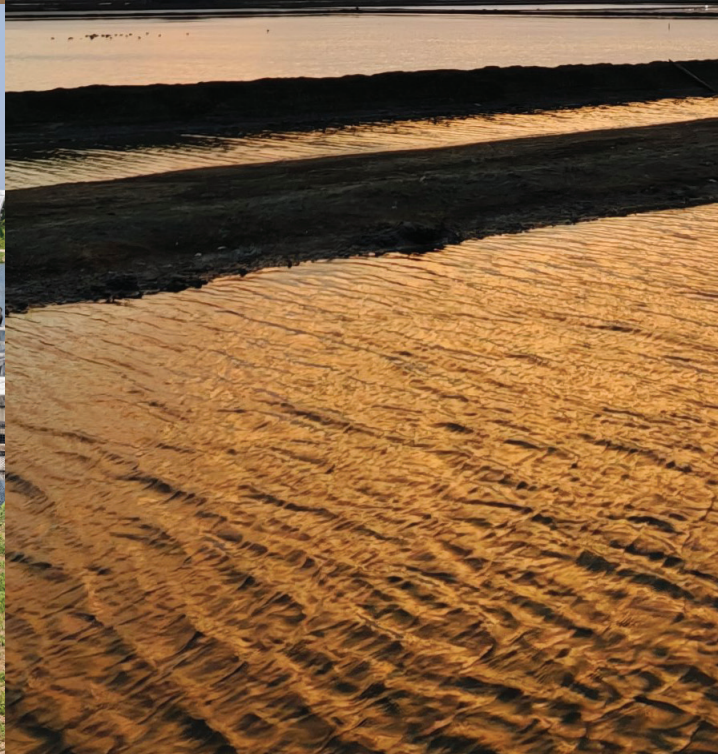
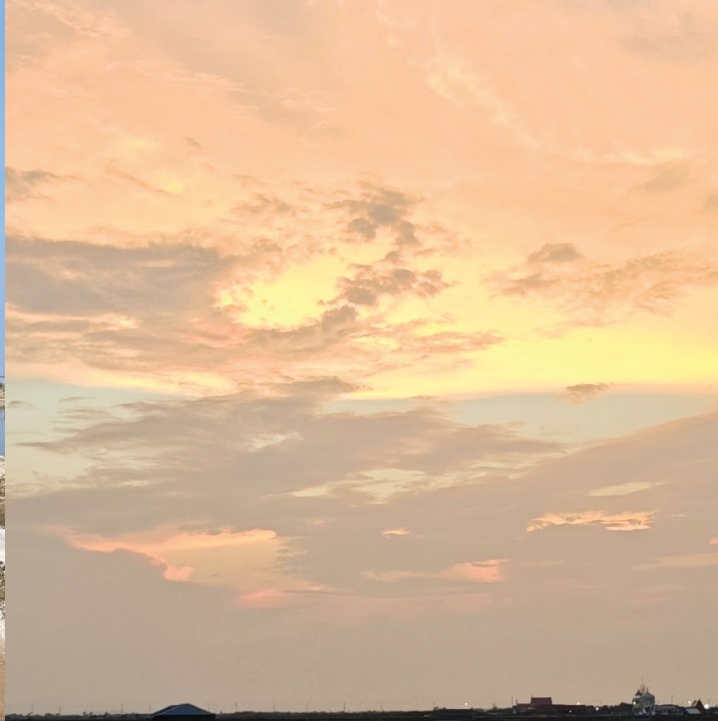
PAK THALE

Where wildlife and community thrive together

Text by **NICK MEASURES**

Photos by **NATURE SOCIETY SINGAPORE**





Learn how a local NGO is working with the community to ensure that a stretch of salt flats in Thailand's Pak Thale remains a safe retreat for endangered species like the Spoon-billed Sandpiper.

he light shimmers across the surface of the mirror-like water; flecks of salt sparkle in the rays of the setting sun as hundreds of shorebirds tip-toe through the shallow pool searching for food. This is the enchanting scene that greets visitors to Pak Thale, an area of traditional salt pans and mudflats situated in Phetchaburi Province, just a three-hour drive from the bustling Thai capital of Bangkok.

Located on the Gulf of Thailand, Pak Thale and the surrounding region are a vital staging post on the increasingly fractured East Asian-Australasian Flyway (EAAF), an epic migratory route that spans more than 20 different countries. A site of traditional salt farming, every year between October and March, Pak Thale welcomes thousands of migratory shorebirds that are seeking an escape from the harsh winters of the Arctic Circle.

The area's critical importance is underlined by the birds that visit. At least 10 species on the IUCN Red List have been spotted in the region, including the critically endangered Spoon-billed Sandpiper (*Calidris pygmaea*). Named for its distinctive bill that it uses to sift through mud and shallow water for small shrimp, crabs and worms, estimates put the global population of this diminutive shorebird at fewer than 500 individuals.

This dramatic decline, down from around 2,000 to 2,800 breeding pairs in the 1970s, is a result of hunting and the loss of much of the wetland habitats along the bird's migration route. A number of adult "spoonies" — as they are affectionately known — have been spotted in Pak Thale over the last few years. And that is significant, when total population numbers are so low.

"What is truly fascinating is that the traditional sea-salt farms created by humans align perfectly with conservation efforts," explains Niyom "Nick" Thongmuean, Project Manager at Bird Conservation Society of Thailand (BCST), the Thai partner of BirdLife International, a global partnership of non-governmental organisations.

By a quirk of happy fate, traditional salt-farming in Pak Thale

has created a landscape that also doubles as a vital sanctuary for the birds. The depth of the water in the man-made ponds, where salt is extracted from evaporating sea water, happens to also provide the perfect habitat for Spoon-billed Sandpipers, as well as a host of other endangered shorebirds, such as the Nordmann's Greenshank (*Tringa guttifer*), Far Eastern Curlew (*Numenius madagascariensis*), Great Knot (*Calidris tenuirostris*) and

Asian Dowitcher (*Limnodromus semipalmatus*). A range of raptors, terns, ducks and herons, plus a resident population of flying foxes, bring an additional layer to the richness of the region's biodiversity.

"This is like a kind of a win-win situation," explains Nick's colleague, Khwankhao "Kimmim" Sinhaseni, Executive Director at BCST. "The local community can still produce their own products like salt, but this man-made habitat also happens to



Traditional sea-salt farms in Pak Thale also happen to create nutrient-rich habitats that support migratory shorebirds that feed in the shallow waters nearby.



To ensure the success of conservation efforts in Pak Thale, the Bird Conservation Society of Thailand strives to involve everyone in the local community, including school children.

be important for biodiversity and conservation.”

Unfortunately, this sanctuary, like many of the other wetland habitats along the Flyway, is facing multiple threats. Pressures to redevelop the land for other use, industrial pollution, changes to traditional farming practices, and the impact of climate change, are all threatening to upset the delicate environmental equilibrium that has existed here for hundreds of years.

These were the threats that led BCST to purchase 8ha of shoreline in Pak Thale in September 2019. It was the first time an NGO had purchased land for wetland protection in Thailand, and it gave the group an important voice in the region. Over the past seven years, the project has developed into something that stretches beyond the borders of the reserve.

Through active engagement and collaboration with local salt farmers, school children and fishermen, Nick and his colleagues at BCST have worked to ensure that conservation efforts become a community-wide endeavour, one that even offers opportunities for bringing in much-needed revenue through eco-tourism.

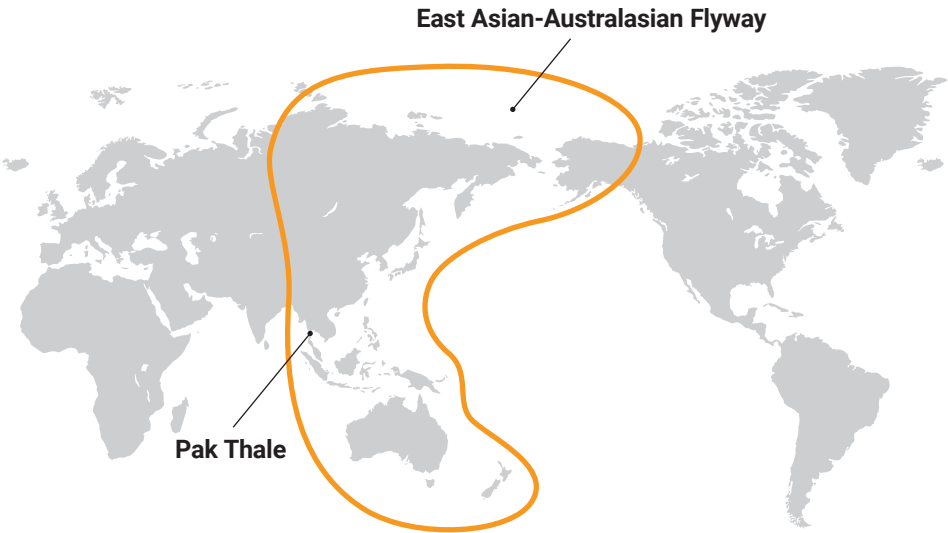
“It was important to work with the community and build coexistence between the birds and the habitat and the people,” says Nick. “We need to involve everyone — children, women, the elderly — our journey cannot exist without these people.”

One key ally in this community-wide effort is salt farmer, Arun “Pia” Meechai, who owns a large portion of the land around the reserve. Thanks to his collaboration, BCST now co-manages an additional 50ha of salt flats around the core reserve and are able to ensure that this extended area maintains the traditional methods of harvesting the salt.

This is vital because modern salt-farming techniques involve adding plastic sheeting to the bottom of the ponds. This might be less labour-intensive than traditional methods, but it also prevents shorebirds from being able to forage for food in the silty soil. Ensuring that local farm-



Pak Thale and the surrounding region are a vital staging post on the increasingly fractured **East Asian-Australasian Flyway (EAAF)**, an epic migratory route that spans more than 20 different countries. A site of traditional salt farming, every year between October and March, Pak Thale welcomes thousands of migratory shorebirds that are seeking an escape from the harsh winters of the Arctic Circle.



Spoon-billed Sandpipers, affectionately known as “spoonies”, are critically endangered globally, but they are often spotted in Pak Thale during the migration season.

Pak Thale

Organised by Nature Society Singapore (NSS), Eco-Journey (Pak Thale) is designed for participants to gain first-hand experience of:

1

Land ownership and use:

Participants will better appreciate how land ownership and land use shape conservation outcomes, with insights from the Bird Conservation Society of Thailand. There will also be opportunities to go for guided birdwatching at protected plots that the public would not usually have access to.



2

Connectedness to nature:

Participants will discover how citizen science and advocacy can help protect the endangered Spoon-billed Sandpiper, and find out what actions can also be taken to support the local community.



3

Sustainable cities in practice:

Learn how the local community uses nature-based solutions that leverage on ecological relationships to sustain livelihoods, while also supporting biodiversity.



The public can participate in Eco-Journey (Pak Thale) from 12 to 16 Dec 2026. For more details, visit <https://nss.org.sg/pak-thale-eco-journey/>

Join us!

ers, like Pia, stick to the old ways is crucial for ensuring that the habitat remains viable for the birds like the Spoon-billed Sandpipers.

Through his conversations with Nick from BCST, and other researchers visiting the area, Pia has also been able to learn more about the birds that he has seen visiting the area since he was a child. He now helps coordinate when tourists visit, making sure that the birds and the salt pans are not disturbed.

A prominent member of the community, Pia also plays a lead role in helping change local peo-

ple's attitudes. In the past, people in the region used to hunt and trap birds for sale, but thanks to his and BCST's efforts, this practice has largely stopped.

"Once I found out more about them [the birds], their behaviour, the fact they are endangered, I really understood why we need to protect them," says Pia.

Another community member who has worked closely with BCST is former fisherman Khun Daeng. Noticing the dwindling number of plovers he saw each season, Daeng decided to trade in his fishing nets

and instead commit himself to highlighting the plight of the birds. BCST supported this mission, and equipped him with field guides, taught him the names of the different birds in English and explained how he could act as a guide for visitors to Pak Thale. Now birdwatchers make a bee line for Daeng when they visit, and get to partake of his local knowledge while enjoying a boat tour of the nearby sandspit, mangroves and mudflats.

Ironically, and unlike many conservation stories, the long-term survival of the eco-system that

sustains the endangered birds relies on people staying put. In an area where job opportunities are limited, demonstrating that eco-tourism can boost the local economy is crucial. By linking bird conservation to the preservation of traditional salt farming, BCST aims to prove that protecting this land is an economically viable way of life.

This is one reason why they have worked hard to engage the next generation through a range of activities with the local school. These include taking the youngest children out to the reserve to see the birds, learn about the different species and better understand the importance of the local area within the wider context of the migratory flyway.

“Even though they live here they really don’t know about the birds they are seeing,” explains Piyawadee Mahawat, the school’s kindergarten teacher, who works with BCST to integrate the study of the birds into the curriculum. “They can then share that knowledge, help other children develop a greater love for their hometown and community.”

BCST also teaches the children how to use harvested salt to create premium products, such as soap and salt scrubs, which can then be sold to visitors. As well as generating some extra money for the school, it reinforces the value of traditional salt farming and how it can help attract tourists.

“The idea is to raise people’s awareness of what already exists, especially by increasing the value of sea salt through various products,” says Nick. “This is the starting point of hope for the community’s economy.”

To ensure a more sustainable future, more people need to learn about and visit Pak Thale. While many visitors to Thailand head to Petchaburi’s coastal resort towns like Hua Hin, only a few stop by at Pak Thale along the way. Raising awareness of the salt farms as a place to visit is therefore high on BCST’s agenda.

“If we make more friends from other countries, they can help us communicate more about the site, about the importance of the local people, how they are trying



BCST teaches the children how to use harvested salt to create premium products, such as soap and salt scrubs, which can then be sold to visitors.

“The number of birds here is increasing every year. There are now more and more birds, and that is good because this land is their home as well. But if this is to have real meaning, it must be the case that tourists also want to visit this land, to come and see these birds as well.”

Arun “Pia” Meechai
Salt farmer



BCST have worked to ensure that conservation efforts become a community-wide endeavour.

to protect nature, and how they are living alongside the spoonies and other birds. It is very important for more people to know about this,” explains Kimmim, from BCST.

This was what inspired BCST to develop relationships with overseas partners, including Nature Society Singapore, who will be offering an Eco-Journey to the region in December (*see box for details*). As well as spending time bird watching with Daeng, the trip will include visits to a salt farm and the school, and the chance to meet notable community members like local landowner, Pia.

“The number of birds here is increasing every year. There are now more and more birds, and that is good because this land is their home as well,” says Pia. “But if this is to have real meaning, it must be the case that tourists also want to visit this land, to come and see these birds as well.”

As the sun sets over the mud-flats, the beating of a hundred wings passing overhead fills the air. Many will soon head off on their arduous 13,000km flight back to the Siberian tundra, a journey that these remarkable birds have been making for countless generations.

The hope is that the efforts of BCST, the local community and global allies, can ensure that Pak Thale remains a welcome sanctuary, ready for the birds’ return next year, and for many more years to come. 🌿

The Kranji Rail Corridor eco-link can be restored

Here's how

Nature Society Singapore has proposed the widening of the linear park and its tree plantings connecting the Rail Corridor to Sungei Mandai, next to the Kranji MRT station. This will make up for the loss of ecological connectivity between the Sungei Mandai mangroves and the Rail Corridor, due to the PUB water reclamation plant's new site.

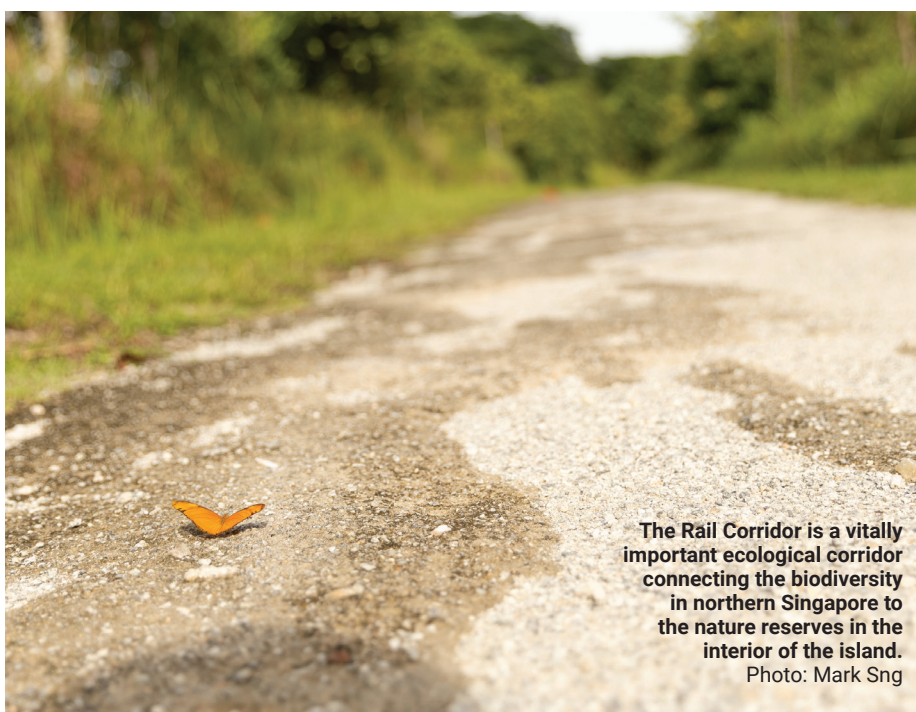
Rapid and expansive urbanisation is a fact of life in Singapore. The Kranji Water Reclamation Plant (WRP), located next to the Kranji MRT station, was constructed in the 1980s to serve developments in the north, such as Woodlands, Choa Chu Kang, and Sungei Kadut. The WRP treats used water for further reclamation into NEWater at the Kranji NEWater Factory, or for discharge into the sea.

The authorities first announced in March 2023 that the WRP and NEWater factory will be redeveloped to increase their capacity, in line with new developments such as the Tengah housing estate.

It was later confirmed in August 2023 that the WRP cannot be redeveloped at its current site, due to construction and operational challenges. Instead, it will be moved to a new site about 300m north. The new WRP is expected to be ready by 2035, after which the current plant will be dismantled, freeing up about 18ha of land for future development.

Eco-connectivity threatened

In principle, Nature Society Singapore (NSS) does not oppose the redevelopment of the WRP and NEWater Factory, provided that the authorities also take steps to ensure the ecological viability of



The Rail Corridor is a vitally important ecological corridor connecting the biodiversity in northern Singapore to the nature reserves in the interior of the island.

Photo: Mark Sng

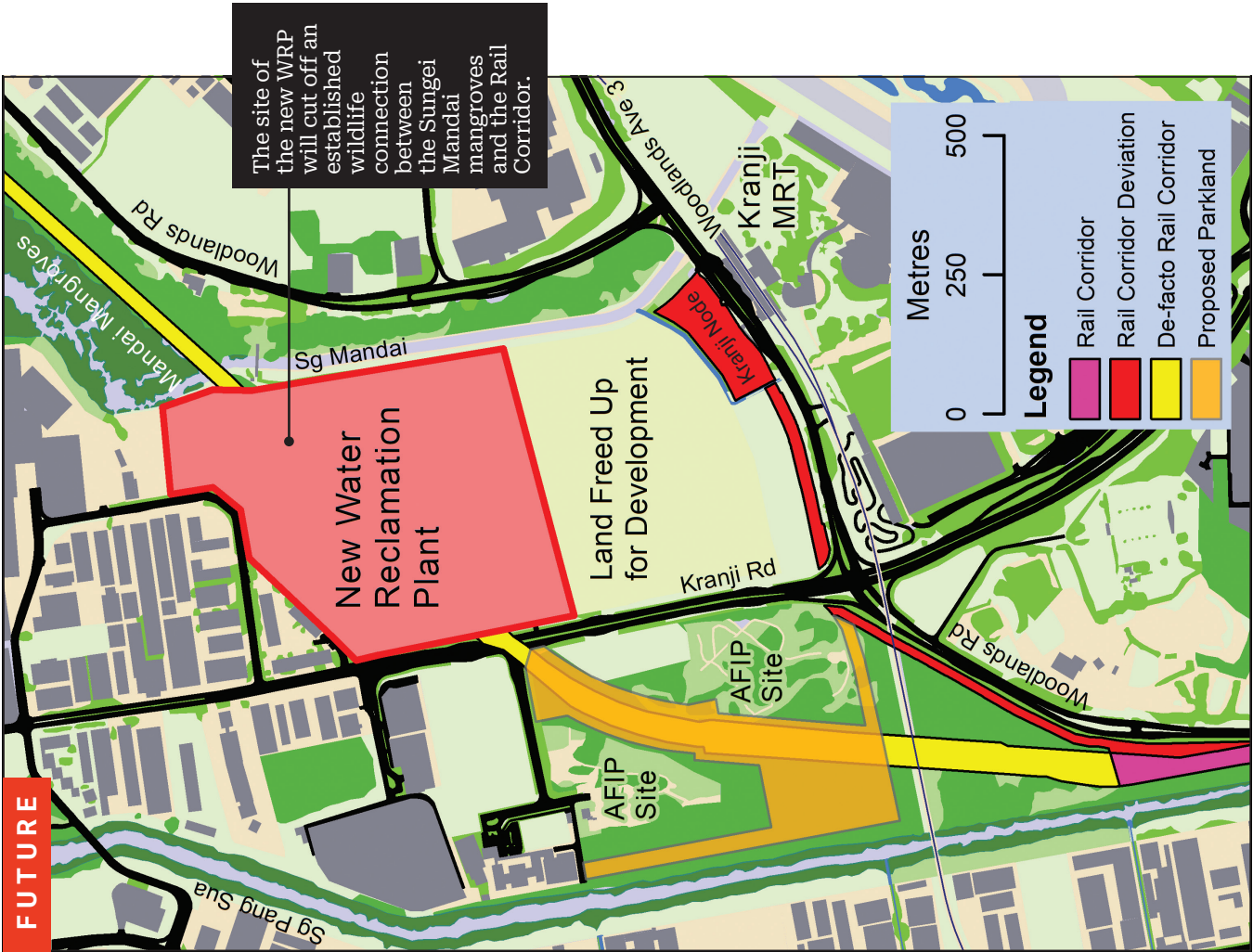
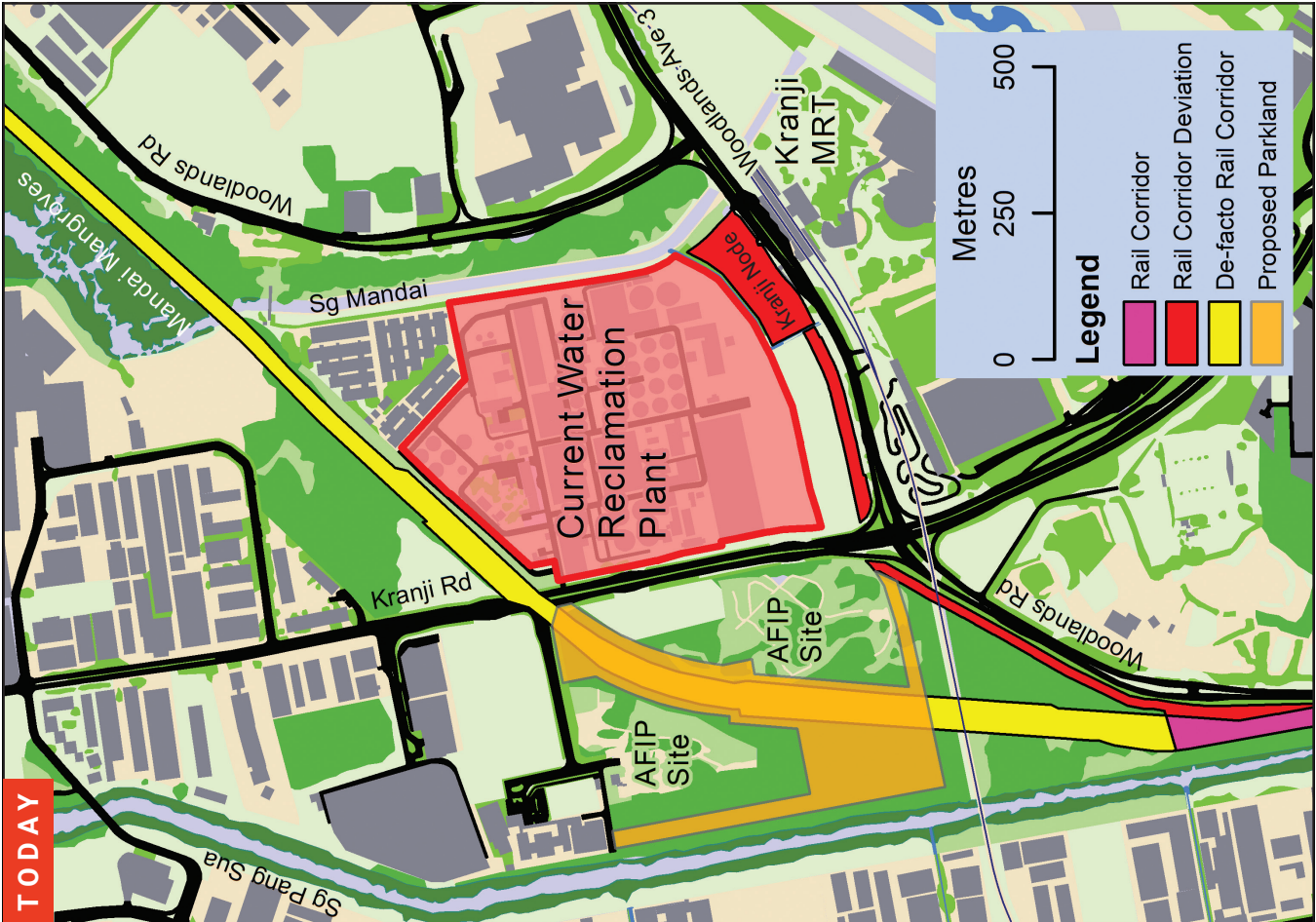
affected wild spaces. Unfortunately, the site of the new WRP will cut off an established wildlife connection between the Sungei Mandai mangroves and the Rail Corridor.

The existing wildlife corridor (the De Facto Rail Corridor) follows the original alignment of the Keretapi Tanah Melayu railway as it travelled north towards the Causeway. The construction of the new WRP will break this connectivity. As a result, the remaining section of the corridor traversing the Agri-

Food Innovation Park (AFIP) site and the triangular parcel of state land south of the AFIP (a Reserve Site) will be unable to support the continued movement of wildlife to and from the mangroves.

A linear park (the Rail Corridor Deviation) extends from opposite the Kranji War Memorial to the Kranji Node opposite Kranji MRT station. This provides pedestrian access from the MRT station to the Rail Corridor, but NSS does not consider this connector to be an effective

KRANJI WOODLANDS OVERVIEW



NSS’S PROPOSAL

How connectivity can be restored

NSS is requesting a total of about 4.5ha of extra land for **widening the Rail Corridor Deviation between the Kranji Node and the Rail Corridor**, and firming up the connection to the parkland surrounding the AFIP site.



The current Rail Corridor Deviation between the Kranji Node and the Rail Corridor is only about 14.5m wide. It is too narrow to be an effective wildlife corridor.
Photo: Mark Sng



TABLE 1
Summary of NSS’ proposed expansion to the ‘Rail Corridor Deviation’

SITE	AREA TO BE ADDED	DETAILS
Swale	0.06ha	Swale to replace drain.
Area A	0.31ha	Grass area connecting Sungei Mandai to be planted.
Area B	1.02ha	Extra area of planting to be added to existing linear park.
Area C	3.09ha	Area of existing wild growth forest to be allocated.

tive wildlife corridor, because it only has an effective planted width of about 14.5m, after accounting for a 4.5m concrete path and a narrow strip of planting on the side of Woodlands Road.

As such, the Rail Corridor Deviation cannot adequately replace the connectivity provided by the 50m-wide De Facto Rail Corridor. For comparison, the wildlife corridor traversing the new Tengah Forest Town is envisioned to be at least 100m wide, while the Eco-Link@BKE is 50m wide at its narrowest point.

Why are eco-corridors vital?

Ecological corridors are vitally important for mitigating the loss and fragmentation of natural habitats and are therefore key to nature conservation in Singapore. Ecological corridors, such as the Eco-Link@BKE, serve as “bridges” between habitats, allowing species to travel along them, thereby enhancing the resilience of nature against the impact of land-use change.

Singapore has long recognised the importance of incorporating ecological corridors into an island-wide “green network” since the late 1980s. This is encapsulated in the country’s “City in Nature” vision that, among other things, aims to “restore nature in urban areas” and “connect green spaces”.

NSS fully recognises the national importance of redeveloping the Kranji WRP and NEWater Factory. Even so, the Society believes there is ample opportunity to balance the redevelopment with the creation of an effective alternative ecological corridor to replace the connectivity that will now be cut by the construction of the new water treatment plant.

To create this new corridor, NSS recommends setting aside about 4.5ha of land to be integrated into the Rail Corridor Deviation between Kranji MRT station and the Rail Corridor. Part of this land will come from the site of the current WRP, which will be vacated once its new site is completed by around 2035.

How connectivity can be restored

Refer to Table 1: Summary of NSS’ proposed expansion to the ‘Rail Corridor Deviation’.

(1) Firstly, NSS proposes allocating about 1.02ha of the newly freed-up land at the old WRP site to the section of the Rail Corridor Deviation between Kranji Node and the Kranji Road (Area B). A 0.31ha of managed grass connecting to Sungei Mandai (Area A) should be similarly rewilded. This will allow for a widening of the narrow section of the linear park by about 30m. The widened section as well as the grass area should be rewilded with plant species like those being planted in the NSS Rewilding Project farther south along the Rail Corridor, opposite Jalan Bumbong.

The plants being reestablished in the NSS Rewilding Project feature a range of conservation worthy native species, including keystone species such as figs that attract and sustain wildlife. The NSS Rewilding Project extends from Sungei Kadut Avenue, to the junction of the Rail Corridor and the Rail Corridor Deviation, and is generally about 50m wide.

Rewilding the Rail Corridor Deviation with a similar planting palette would therefore create a continuous ecological corridor from the Sungei Mandai mangroves to Sungei Kadut and the Bumbong forest. This corridor could continue southwards with planned extensions of the NSS Rewilding Project, as well as planting programmes undertaken by other nature groups as part of the National Parks Board’s One Million Trees Movement.

(2) Secondly, the section of the Rail Corridor Deviation — starting from the junction of Kranji Road and Woodlands Road (Area C) — should also be enhanced. This part of the corridor is mostly made up of a wooded section that grew spontaneously, but it is only about 23m wide. NSS recommends that a parcel of land between the proposed park land and the MRT corridor (mainly

wooded) be included as part of Area C.

(3) NSS further recommends that **the width of Rail Corridor Deviation passing along the edge of Woodlands Road and joining the Rail Corridor (Area C), be expanded to 50m from its current 23m.**

Win-win compromise is possible

To reiterate, NSS is requesting a total of about 4.5ha of extra land for widening the Rail Corridor Deviation between the Kranji Node and the Rail Corridor, and firming up the connection to the parkland surrounding the AFIP site, thereby making it a viable fauna corridor replacing the ecological function lost to the new water treatment plant.

The Society feels that this is a modest request: Even with the additional land, the total area committed to the expanded Rail Corridor Deviation would be only slightly more than half of the connecting land that will be totally sacrificed to the redevelopment of the WRP and NEWater Factory.

NSS does not oppose the redevelopment, but our recognition of the Rail Corridor Deviation as an alternative ecological corridor will depend heavily on the recommendations we have laid out. The Society believes that an expanded Rail Corridor Deviation will mitigate against the total loss of ecological connectivity between the Sungei Mandai mangroves and the northern end of the Rail Corridor.

If the government accepts our recommendations, it will send a clear signal that development does not need to come at the expense of nature conservation. It will also allow the Rail Corridor and the Rail Corridor Deviation to become a seamless north-south connector stretching from the Mandai Mangroves to Tanjong Pagar.

NSS believes that such a corridor will be a worthwhile long-term investment in Singapore’s “City in Nature” vision, and another feather in the cap of a city-state that can justifiably claim to be a bright green spark in Southeast Asia. 🌱

*That's Rewilding
and Removing!*

R & R
IN THE
Rail Corridor
AND
Windsor Park

The restoration of Singapore's wild spaces is one of the Nature Society's core missions, and it aims to achieve this through 'R & R', that is, by 'Rewilding' a section of the Rail Corridor, and 'Removing' invasive species in Windsor Park. Here's a two-part look at what these two programmes involve.

Field notes from the Rail Corridor

Text and Photos by **TR SAMMYUKTA**

Over the years, urbanisation has resulted in substantial habitat fragmentation across Singapore. The criss-cross overlay of various types of infrastructure and human activity has caused our remaining wild spaces to not only become smaller, but also increasingly isolated.

Habitat fragmentation limits the amount of resources available

for wildlife to survive. The isolated populations of species are vulnerable to negative ecological consequences such as in-breeding or, worse, extinctions.

To address these impacts, former NSS Vice-President Ngo Kang Min initiated the Society's Rewilding Project in early 2023. By working in collaboration with the National Parks Board, the NSS Rewilding Project supports the

national One Million Trees movement, and aims to connect some of the fragmented habitats in Sungei Kadut with a continuous canopy cover of native trees.

As of early 2026, the project has engaged more than 500 participants and planted over 400 trees along a section of Rail Corridor (North). This writer participated in one of the rewilding sessions, and this is an account of what she did.

1 I arrived at the rewilding site at about 10am on a Saturday morning. Cherrie Toh, NSS Senior Executive (Education & Conservation), briefed us on the project and then pop-quizzed us on our knowledge of invasive species and the tools and materials needed for tree planting.



2 Next, we got a quick rundown on how to use the tools during the rewilding, with shovels for digging, watering cans for hydration, and gloves for protection, along with a quick safety briefing. We got into pairs to help one another too.



5 Team photo to end the day! It was my first time participating in a tree-planting session, and what stayed with me was seeing the difference between the untouched patches, thick with invasive plants, and the areas we'd just cleared and filled with new trees. We put in 50 of them in just two hours, which made me wonder what we could contribute to Singapore's native greenery if we did this more often.



3 We gathered for a live demo by the pros! I always figured planting a tree was straightforward, but it turns out there's a technique to it:

1. Dig: Make the hole twice as wide as the roots
2. Prep: Gently loosen the root ball
3. Level: Keep the base flush with the ground
4. Fill: Pack soil firmly

4 Now for the fun part! We each grabbed a watering can and gave our trees a good watering. The little ones were having the time of their lives.



Get involved!

NSS will be organising about five more rewilding sessions along Rail Corridor (North) for the rest of 2026. To find out more, you can follow us on the NSS Instagram or Facebook page. You must be either an NSS member or a "Friend of NSS" to register for a rewilding session on the Events page on the NSS website (<https://nss.org.sg/events/>).

The invasive Zanzibar Yam spreads very rapidly and can even reach the forest canopy, where they could eventually smother and kill the trees.

Uprooting a hardy invader, the Zanzibar Yam

NSS is working with NParks to remove the highly invasive Zanzibar Yam from Windsor Park to prevent it from spreading into our native-dominated forests.

Text by **MIRIAM MAHAPATRA**

Photos by **NATURE SOCIETY SINGAPORE**

It's not a plant that most visitors to Singapore's nature parks and gardens would notice at first glance. After all, for those who are unfamiliar with local flora, the vines and leaves of the Zanzibar Yam (*Dioscorea sansibarensis*) appear no different from those of the other greenery around them.

The important difference, however, is that Zanzibar Yam is not native to Singapore and, worse, it is a highly invasive species that grows and spreads so quickly that it outcompetes many other plants in its surroundings.

"In my 30 years of working in Singapore, I've really not found a species that got me worried to the extent that Zanzibar Yam has got me worried," said Dr Shawn Lum, a tropical rainforest ecologist and chair of Nature Society Singapore's (NSS) Conservation Committee.

"The Zanzibar Yam is a very fast-growing climbing plant that stores energy in little tubers. It produces many of them, allowing it to reproduce very quickly. And if they grow aggressively — which they do — they can eventually smother the treetops, and then it kills the trees and basically it reduces the area of forest cover."



The Zanzibar Yam produces many little tubers, allowing it to reproduce very quickly.



Participants at the invasive species management (ISM) session organised by NSS and NParks Board at Windsor Park, on the fringe of the Central Catchment Nature Reserve.

“In my 30 years of working in Singapore, I’ve really not found a species that got me worried to the extent that Zanzibar Yam has got me worried... What we definitely don’t want is for it to spread into the heart of the Central Catchment Nature Reserve.”



Dr Shawn Lum

Chair of Nature Society Singapore’s Conservation Committee
Tropical rainforest ecologist

Dr Lum, who is also a former president of NSS, is concerned that Zanzibar Yam might spread into native dominated forest. “What we definitely don’t want is for it to spread into the heart of the Central Catchment Nature Reserve (CCNR),” he said.

That is why NSS is collaborating with the National Parks Board (NParks) to carry out invasive species management (ISM) in Windsor Park, located on the fringe of the CCNR, not far from Thomson Plaza. The hands-on activity gives participants a chance to contribute directly to nature conservation, and learn about the threats posed by invasive species.

Speaking during a visit to the NSS ISM site, Dr Lum explained the programme’s two-part plan: “First, it’s to control the spread of Zanzibar Yam, or hopefully clear out some areas; and secondly, to keep these

areas free of the vines, through a combination of occasional maintenance and replanting native trees, to get that canopy cover that will in future suppress the return of Zanzibar Yam.”

The NSS ISM programme also has a citizen-science component. Participants help record visual evidence of Zanzibar Yam growth, and this data will be used to support long-term research into the species. Of course, it’s also hoped that the activity would encourage teamwork, build responsibility, and foster a sense of nature stewardship among the participants.

“Ultimately, there should be some joy in all of this activity,” said Dr Lum. “I hope participants would get not only the sense of satisfaction in having done a good job, but also feel like they know they’ve done their little part to try and make this a better and healthier forest.” 🌿

About the Zanzibar Yam

The Zanzibar Yam (*D. sansibarensis*) is native to Madagascar, but as you might guess from its common name, it’s also found in Zanzibar, which is part of Tanzania. From there, the species ranges westwards across tropical Africa to Guinea on the Atlantic coast, and southwards to Mozambique.

The plant grows from tubers that vary in size and weight, and are usually found near the soil surface. The vine can grow up to 3cm thick, and more than 7m tall. It twines counterclockwise as it latches onto trunks and branches before producing its distinctive heart- or bat-shaped leaves.

The leaves can grow fairly large, up to 50cm by 60cm. The plant also produces aerial bulbils, which look like hanging potatoes with a purplish hue. The Zanzibar Yam is supposed to be a flowering plant, but it has never been recorded to flower or fruit in Singapore.

The species was likely brought here before 1928 for experimental purposes. The entire plant is toxic, and it’s used in its native range to make hunting poison.



Join us!

NSS Invasive Species Management (ISM)

Each NSS ISM session usually involves about 20 participants, and typically lasts up to three hours on Tuesdays, Wednesdays or Thursdays. The participants will be accompanied by experienced facilitators who will share insights into the spread of invasive species. To find out more, go to the NSS Programme Catalogue at <https://nss.org.sg/programme-catalogue/>

The big picture behind mascots and logos

Nature Society Singapore (NSS) uses a tree for its logo, and charismatic animals as mascots for its programmes. Let's get an inside look into how and why NSS uses these symbols as part of its conservation strategy.

Text by **RICHARD HARTUNG**

Photos by **NATURE SOCIETY SINGAPORE**

Choosing a mascot or logo for a nature-themed programme involves more than just picking an animal or plant that looks nice as a pin. Take Nature Society Singapore's (NSS) logo for example. NSS' symbolic use of the mangrove tree dates back to 1992. The Society carefully chose the mangrove because it represented a number of things that aligned with its mission.

"NSS decided to use the mangrove because what was once very plentiful had now become endangered due to developments along the coast," said Michelle Hariff, assistant manager for communications at NSS. The mangrove tree also symbolises the Society's rootedness in Singapore, the different ways that Singaporeans appreciate nature, and the uniquely Singaporean approach to the preservation of nature.

For NSS, the mangrove logo also symbolises the pressures of being caught in an interstitial space — the space between things — which is quite fragile. "We use it to symbolise where we are positioned," said Michelle. NSS aims to be in the middle, representing the different needs of local biodiversity and habitats, and the local community.

Every year a different 'star'

NSS also features a variety of animals as mascots for its key events, to make them relatable to a wider audience. This was certainly the case for the Society's flagship citizen science and nature education



The mangrove logo symbolises NSS' rootedness in Singapore, the different ways that Singaporeans appreciate nature, and the uniquely Singaporean approach to conservation.

programme called "Every Singaporean a Naturalist" (ESN). The ESN initiative began in 2018 and, post-Covid, it was finally able to organise an annual Biodiversity Race for the schools participating in the programme.

Inspired by the use of charismatic bird species as mascots for the annual Singapore Bird Race, the ESN team decided to also feature animals that could enhance outreach, education, and advocacy at the Biodiversity Race, which has since been officially renamed the Singapore Biodiversity Race, in the run up to the competition's fifth edition this year.

Among the key criteria for deciding a mascot are considerations like how attrac-

2022



2023



2024



2025



2026



Each year, the NSS ESN team produces a pin of that year's mascot, along with a postcard, and a short, educational note on the card describing the species and its habitat.

EVERY SINGAPOREAN A NATURALIST

Among the key criteria for deciding a mascot are considerations like how attractive it is and, more importantly, whether it tells a conservation message. Participants of NSS ESN monitor animals from four taxonomic groups, namely: birds; butterflies and moths; reptiles and amphibians; and lastly, mammals.

tive it is and, more importantly, whether it tells a conservation message. Participants of NSS ESN monitor animals from four taxonomic groups, namely: birds; butterflies and moths; reptiles and amphibians; and lastly, mammals. Each edition of the Singapore Biodiversity Race features a mascot species selected from a single taxonomic group, with the representative taxon rotating annually.

And thus, the first edition of the Singapore Biodiversity Race in 2022 featured the Crimson Sunbird, a species that had been named Singapore's unofficial national bird, based on a popular vote organised by NSS. Similarly, in 2023, the Common Rose butterfly, Singapore's popularly-voted National Butterfly, was picked to be the mascot.

In the third year of the race, NSS ESN chose the Banded Malayan Coral Snake to raise awareness of the common misunderstandings about snakes and, more crucially, highlight the important ecological roles they play. In the fourth edition, it was the mammals' turn to take centre stage, with

the Raffles' Banded Langur chosen to be the mascot, bringing attention to the primate's critically endangered status.

This year, the Singapore Biodiversity Race came full circle, with a bird – the Straw-headed Bulbul – once again in the spotlight. The Straw-headed Bulbul is critically endangered globally, but NSS ESN wanted to highlight how Singapore has become a vital stronghold for the species, thanks to our protected nature spaces.

Together, these five mascot animals have helped to highlight the diverse range of species in Singapore, and the need to protect the habitats in which they thrive. Each year, the NSS ESN team produces a pin of the mascot, along with an educational postcard depicting the animal's habitat and a short note describing its conservation status in Singapore.



Special care is taken to ensure that all depictions of the mascot are scientifically accurate, to give the race participants a good idea of how the animal looks, helping them recognise the species when out in nature. “We are not only teaching students about these different animals and how biodiverse Singapore can be, but also trying to highlight the conservation message behind these species,” said Michelle.

Key themes and avian mascots

The annual Singapore Bird Race (SBR) is another flagship event on the NSS calendar. For many years now, the NSS Bird Group has chosen different sets of birds to be the mascots of each edition, to highlight and support a different conservation theme.

For example, the 36th SBR in 2020 focused on endangered species like the Greater Green Leafbird, the Blue-rumped Parrot, and the White-rumped Shama, while the 41st SBR in 2025 featured woodland birds such as the Long-tailed Parakeet and the Common Flameback, two native species that can be found in belukar habitats, a type of young secondary forest common in Singapore.

This year, the 42nd SBR will focus on the caged bird trade in Asia, and the Straw-headed Bulbul is once again the chosen mascot. The species has a special significance for the NSS Bird Group, whose members are part of the Working Group that looks into the conservation of this remarkable bird known for its bubbly and lively song. NSS aims to lead outreach efforts for protecting not just the Straw-headed Bulbul but also other avian species from threats like the illegal songbird trade.

Building a connection

The many animal mascots and logos that have been featured by NSS have taken on a life of their own over the years as keepsakes that the Society uses to build connections with its many stakeholders in both public and private sectors.

PARTICIPANTS OF NSS' EVENTS

“They get the merchandise and pins, and they see the logo. The assumption is that they would become familiar with the featured animal and the messaging.”



Michelle Hariff

Assistant Manager
(Communications),
Nature Society Singapore
Secretariat

But how should the impact of a logo or mascot be estimated? For now, Michelle believes the most tangible measurement of impact is reflected in the number of people who attend NSS' events and programmes, where they are exposed to the featured species and learn about the importance of conserving its habitat.

“They get the merchandise and pins, and they see the logo. The assumption is that they would become familiar with the featured animal and the messaging,” said Michelle. As more people become aware of these mascots and their stories, the hope is that the values and messages they symbolise will seep deeper into a larger collective and cultural consciousness across society.

So, even if the precise impact of these mascots is difficult to calculate, the publicity they generate could help many people understand species they have not encountered before, and raise the urgency in protecting these animals and their habitats. The familiarity with the animals could also influence how the public thinks about conservation and coexistence, in alignment with NSS' vision and mission. 🌿



PEOPLE ::::::::::::::::::::

Shining a Spotlight on Our Volunteers

Our volunteers and members are at the heart of our outreach and conservation efforts, devoting their time and energy towards the building of a robust nature community, and safeguarding Singapore's natural heritage. We feature one dedicated NSS member who has made an immense contribution.

Tan Choon Ming

A Heart Firmly Set on Nature's Side

Text by **TR SAMMYUKTA**

As an NSS member and volunteer, Choon Ming often led nature walks on Pulau Ubin, where he used to attend school. He is seen here on one such trip in 2019.

Photo: Tan Choon Ming

Current NSS president Leong Kwok Peng (back row, left) first met Tan Choon Ming (back row, right) during the height of the campaign to save Chek Jawa, and they have been friends ever since. Photo: Leong Kwok Peng

“YOU HAVEN’T CHANGED,”

said an old friend to Tan Choon Ming. He meant it as a matter of fact, but it was also the finest compliment anyone could pay to the dedicated activist.

His friend was talking about the flyers that Choon Ming had been distributing to residents of the housing estates along the Serangoon River, in the hopes of saving the Serangoon River Forest from proposed industrial development.

Nearly 30 years ago, he took a similar approach while campaigning for the preservation of Chek Jawa. A teenager at the time, Choon Ming cycled for three days and two nights to paste flyers on as many bus stops as he could reach, so as to raise public awareness of the richly diverse intertidal habitat on the eastern tip of Pulau Ubin.

The campaign to save Chek Jawa is now celebrated as one of the biggest victories for local conservation. Of course, Choon Ming was not the only person involved in the campaign, but it is not an exaggeration to say that he



Choon Ming worked as a farmhand at the Green Circle organic farm in Lim Chu Kang before the land was repurposed for military use. Photo: Tan Choon Ming

“Although our minds are practical, our hearts long to be cared for and to care for someone or something. That ‘something’ could just as well be plants and animals.”



Late in 2025, construction suddenly started in one section of the lush and biodiverse Serangoon Forest, prompting a strong reaction from nature advocates for an environmental impact assessment before more work proceeds. Photo: Tan Choon Ming

played a bigger role than most. He was passionate and relentless, and he always believed that if he could reach people's hearts, everything else would fall into place.

Three decades later, his heart is still set firmly on the side of nature.

Choon Ming grew up in Punggol. For most of his life, the area was filled with lush, wild vegetation as far as the eye could see. His infatuation with rustic Singapore was deepened by his time at school in Pulau Ubin — as well as his time *outside* school.

Whenever he played truant, nature itself became his classroom. Choon Ming spent most of his time learning the “language” of nature and, as an adult, he was determined to “give voice to plants and animals” by championing various conservation campaigns.

Advocacy became second nature to him, and it drove him to

Advocacy became second nature to him, and it drove him to study environmental science and to work as a farmhand at a local organic farm.

study environmental science and to work as a farmhand at a local organic farm. Choon Ming later moved on to a career in waste management and recycling with a French company. His wife eventually encouraged him to join the social service sector, where he now assists people with disabilities.

Through the years, Choon Ming has remained intimately connected to nature. He regularly goes on 21km runs along the wildlife refuge that literally makes up his backyard. He has also been an active NSS member since at least

2000, when he campaigned to save Chek Jawa.

For Choon Ming, protecting nature is never about science and policy alone. He intuitively recognises that he has to go beyond facts and figures. If he were to introduce someone to nature for the first time, he would simply ask: “What does your heart tell you?”

Choon Ming firmly believes that every person longs to care for something, and it is his fervent hope that this “something” could be the biodiversity that helps to keep Planet Earth hospitable for humans. 🌿



Snapshots of Past NSS Events

Join us!

We organise a variety of events that are open to NSS members and the public, from educational talks to birdwatching and rewilding activities. You can go to <https://nss.org.sg/events/> for more information.



Plant Walk at Venus Loop

29 Mar 2026

A total of 20 participants explored Venus Loop in Windsor Park, with NSS volunteer Yap Von Bing pointing out native plant species like the Yellow Stem-Fig and Leea Rubra, as well as the highly invasive Zanzibar Yam.



Ramble from Coney Island to Lorong Halus

21 Mar 2026

NSS volunteer Pandian Parthasarathy took the participants on a walk along Lorong Halus to mark Singapore World Water Day. There were sightings of the Smooth-coated Otter and Sunda Pygmy Woodpecker, but trees and plants were the highlights, such as the iconic Casuarina trees at Coney Island.



'From Pollination to Pest Control'

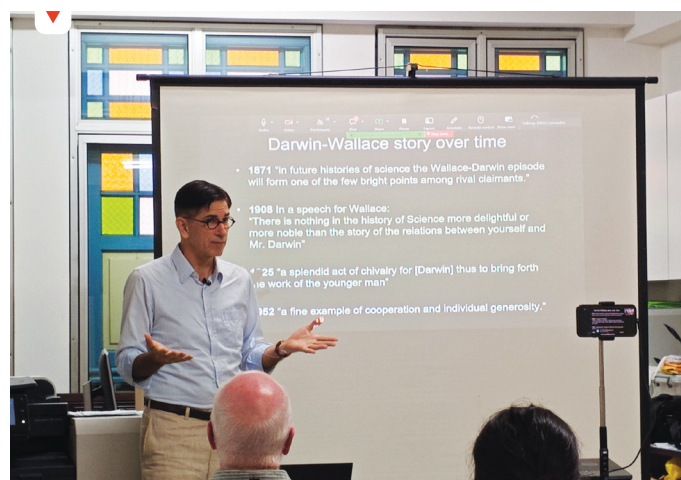
13 Apr 2026

Dr Jon Flanders, Director of Endangered Species Interventions at Bat Conservation International, gave a talk that explored the ecological and economic importance of bats. The flying mammals not just help pollinate plants like durian, but also contribute towards the control of agricultural pests.

'A. R. Wallace: A Great Naturalist in Southeast Asia'

18 Apr 2026

Despite being the co-discoverer of the theory of evolution, British naturalist Alfred Russel Wallace remains relatively unknown. Writer, broadcaster, and science historian John van Whye gave an illuminating account of Wallace's story, especially his travels in the Malay Archipelago.





Birdwatching at Pasir Ris Park

2 May 2026

Guides Lee Ee Ling, Cheryl Lao, and Yap Wee Jin took the participants around Pasir Ris Park on a good and sunny day. Some of the interesting sightings of the day included those of a Black Bittern, a Spotted Wood Owl, and a Green Imperial Pigeon. They even sighted a juvenile Crested Goshawk feeding on a captured prey.



Birdwatching at Pulau Ubin

14 Jun 2026

Experienced birdwatchers from the Bird Group took participants around to their favourite birding spots on the island, as part of the annual festival to celebrate Pulau Ubin's natural and cultural heritage.



Go Green SG Forest Bathing

17 May 2026

As part of the annual Go Green SG movement, certified forest therapist Cynthia Wan guided participants on a "forest bathing" session at the Singapore Botanic Gardens. She showed them how to immerse themselves into the mindful well-being practice, and engage their senses fully with nature, while also enjoying tea with new friends.

Mobile Phone Macrophotography

14 Jun 2026

Nature photographer Mohamed Jusri held a class on Pulau Ubin to teach participants how to take awesome close-up photos with their mobile phones. The participants only had to step out of the classroom to get plenty of opportunities for hands-on practise.

Snapshots of Past NSS Events (Con't)

iNaturalist Introduction and Training Workshop

4 Jul 2026

Organised as part of the run-up to the Singapore Biodiversity Race at Sentosa, the workshop was also open to participants who wanted to learn how to record their nature observations on the iNaturalist platform.



Nature Walk at Pasir Ris Mangroves

11 Jul 2026

NSS Nature Stewards took participants on a leisurely stroll through the Pasir Ris Mangrove nestled within the expansive Pasir Ris Park. Despite its size, the mangrove is home to wildlife big and small, like the Oriental Pied Hornbills and mudskippers.



Butterfly Walk at Upper Seletar Reservoir

12 Jul 2026

Long-time volunteer Simon Chan led participants on a family-friendly tour to find interesting butterflies and moths. It was also a chance for participants to practise their macrophotography skills.



Bat Walk at Singapore Botanic Gardens

14 Jul 2026

For once, participants had to rely more on what they could hear rather than what they could see. Activity leads Emma Chao and Raiyyan Hakim Abdurrahman showed participants how to use basic bat detectors to eavesdrop on the lives of our only true-flying mammals.



PLANET | PEOPLE | PARTNERS



VISION To be Singapore's leading advocate for biodiversity and habitats.

MISSION Through engagement, education, advocacy, and research, we inspire and enable people to take action towards a sustainable and biodiverse planet.

NSS Membership Categories

ANNUAL SUBSCRIPTION

S\$40	Ordinary Member Age 18 and above
S\$18	Junior & Student Members Age 12-18 & Full-time Students Age 18-35 enrolled in a Singapore-based institution
S\$1,000	Life Member Applicable to Ordinary Members who have joined for 10 years or more

Introducing Friends of NSS

We are excited to launch Friends of NSS, a free account with NSS to take part in our activities.

An NSS account (as a Friend of NSS or NSS Member) will be required to register for activities listed on our Events and Calendar page on the NSS website (nss.org.sg/events/).

We encourage all individuals who are interested in joining NSS activities to create a **free Friends of NSS account** ahead of time, for a smoother registration experience.

To find out more and sign up, go to:
<https://nss.org.sg/join-us/>

Why Join NSS?

We organise guided walks, nature surveys, clean-ups, talks, exhibitions, and overseas nature trips. To find out more, scan the QR code to download the NSS Programme Catalogue.



FAQs about NSS Membership

Can I use a physical form to sign up as an NSS Member or Friend of NSS?

We no longer accept physical membership forms. All NSS memberships and Friends of NSS registrations are conducted online to ensure secure record-keeping.

Can I be an NSS member but not have an NSS account?

Yes, you can remain an NSS Member without creating an NSS account on our website (nss.org.sg). However, you will not be able to register for NSS events and activities.

Can I pay for NSS membership in cash?

We no longer accept cash payments. All membership payments must be made through available online payment methods.

I wish to donate to NSS when I renew my membership. How do I do so?

Donations can be made via the donation page on the NSS website (<https://nss.org.sg/donation/>).

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www.nss.org.sg/



Singapore is the global stronghold for the charismatic Straw-headed Bulbul (*Pycnonotus zeylanicus*), like this parent and juvenile pair. NSS works to protect the last remaining natural habitat of this critically endangered species.

Photo: Alan OwYong



Let Singapore's Abundant Biodiversity Be Your Legacy

Have you loved nature all your life? Please consider helping our conservation work with a gift to Nature Society (Singapore) in your will.

How to make a gift to the Society in your will

You can choose to inform us if you have considered us in your will, but it is not strictly necessary. Please ensure that your solicitor writes in the full name of the Society. We suggest below suitable forms of words that can appear in your will:

*I give to Nature Society (Singapore) (hereinafter called NSS), **Unique Entity Number S61SS0142H**, _____ % of the residue of my estate*

OR

a specific gift of _____

and I direct that (i) the proceeds may be used for the general purposes of NSS and (ii) a receipt signed by a person for the time being authorised by the Executive Committee of NSS shall be a good and sufficient discharge to my executors.



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