

# Non-emergency calls to SCDF down 15% amid pandemic

Number of false alarm calls also falls significantly in the first half of this year

Prisca Ang

The number of non-emergency and false alarm calls to the Singapore Civil Defence Force (SCDF) fell significantly in the first half of this year.

This was due to more people staying at home amid the Covid-19 pandemic and greater public aware-

ness about not calling 995 for non-emergencies, said the SCDF.

Non-emergency calls for emergency medical services (EMS) – where urgent medical assistance is not required – dropped by 15.4 per cent to 3,978 in the first half of this year from 4,704 in the same period last year.

The number of false alarm EMS calls – where no patients are found – also slid by 16.4 per cent to 2,674

from 3,200 in the first half of last year, according to statistics released by the SCDF yesterday.

Having fewer non-emergency and false alarm calls frees up SCDF resources to tackle emergency and life-threatening situations.

In 2019, SCDF responded to more than 17,000 non-emergency and false alarm calls.

This made up more than 9 per cent of all EMS calls that year, or an average of 48 non-emergency and false alarm calls a day, said SCDF previously, adding that such calls were an area of concern.

Non-emergency cases would not

be taken to hospital but advised to go to a clinic or to call 1777 for a non-emergency ambulance, allowing resources to be deployed only for serious emergencies.

Toothaches, diarrhoea, coughs and headaches are examples of non-emergencies.

SCDF responded to 97,485 EMS calls in the first half of this year, up 1.4 per cent from 96,105 in the same period last year.

It responded to 944 fire calls in the first half of this year – a decrease of 0.6 per cent from the same period last year.

There were 513 fire incidents in private and public residential premises, down 2.7 per cent from last year.

Fires involving cooking activities accounted for the bulk of cases – 188 – in these places, followed by 131 fires of electrical origin.

Dropped-light fires – those involving lighted materials such as embers from charcoal or cigarette butts – made up 84 cases.

“In the event of an oil fire, do not pour water into the wok or cookware. Turn off the gas supply immediately and use a lid or a wet cloth to cover the wok or cookware. Call 995 for SCDF assistance if the fire goes out of control,” it said.

**Non-emergency cases would not be taken to hospital but advised to go to a clinic or to call 1777 for a non-emergency ambulance, allowing resources to be deployed only for serious emergencies. Toothaches, diarrhoea, coughs and headaches are examples of non-emergencies.**

There were 29 fires involving personal mobility devices (PMDs) and power-assisted bicycles (PABs) in the first half of this year – 32.6 per cent lower than a year ago.

The number of fires involving PMDs plunged 34.6 per cent to 17 cases, and those involving PABs fell 29.4 per cent to 12 cases.

SCDF advised PMD and PAB users not to charge batteries or devices unattended for an extended period or overnight.

They should also not charge the items immediately after use, near combustible materials or along an escape path, and refrain from tampering with, modifying and repairing the devices on their own.

It added that power adaptors should carry the Safety Mark, and device users should regularly examine the batteries for damage or deformities such as bloating, corrosion or powdery residue.

The SCDF operations centre sent 53 visual guides from March 1 to June 30.

These GIF animations act as visual guides to 995 callers to help them to render immediate aid to a victim who is suffering from cardiac arrest or choking.

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# Underwater forensics reveal new shark and ray species in S'pore waters

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Singapore's murky waters hide an abundance of marine life – including a group of creatures that are globally threatened from overfishing.

A new study by National University of Singapore (NUS) scientists has found that there could be more species of sharks and rays here than expected – including two species never before recorded in local waters: the Bengal whip ray and cownail stingray.

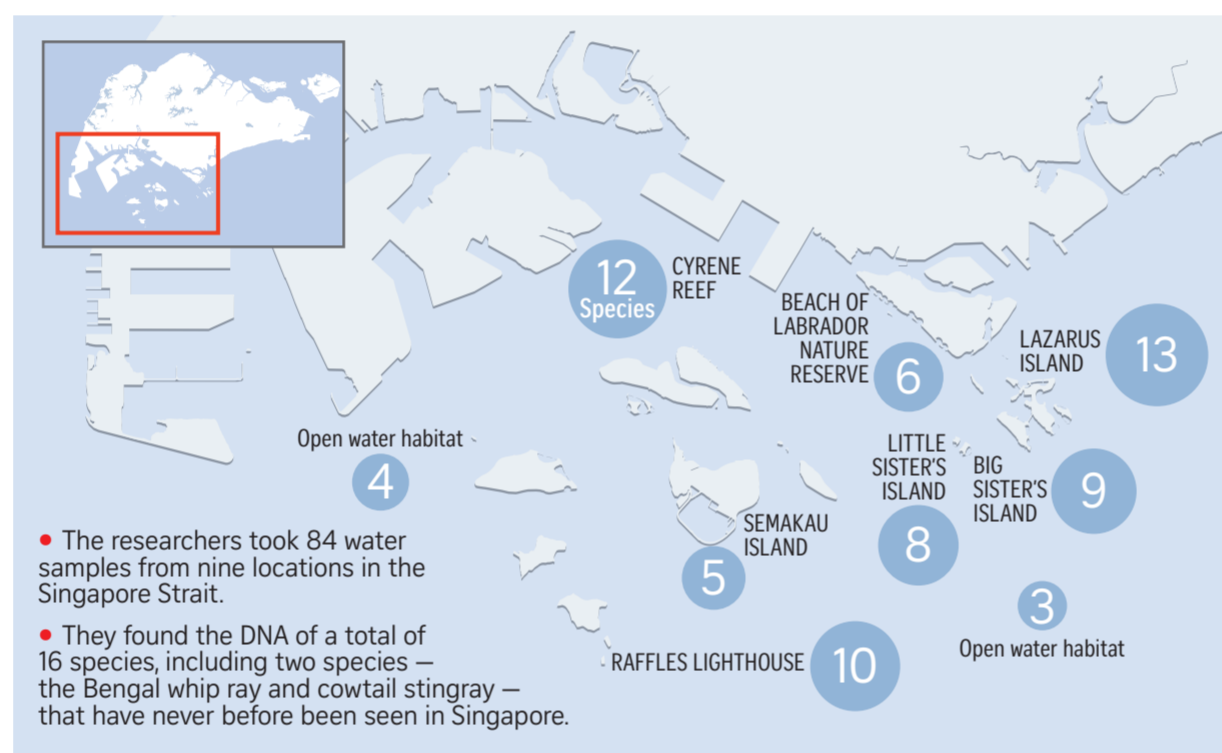
Sharks and rays belong to a group of marine creatures known as elasmobranchs.

Museum records going back to the 1960s at the Lee Kong Chian Natural History Museum at NUS show that 37 elasmobranch species have been found in local waters.

But of the 37, only seven have been sighted in Singapore waters by anglers and scuba divers in the

## Looking for the unseen

Researchers from the National University of Singapore have found that 16 species of sharks and rays could be swimming in Singapore waters, even though only seven species have been seen in the past two decades. Environmental forensics paved the way for their discovery, with the scientists finding traces of the creatures' DNA in water samples.



Source: Ip et al (2021) STRAITS TIMES GRAPHICS

past two decades. They include the black-tipped reef shark and blue-spotted ray.

Previous studies have suggested that elasmobranchs are sparse in highly urbanised and turbid envi-

ronments. These creatures are also globally threatened because of overfishing or bycatch.

But the new study led by Mr Aden Ip, a doctoral student at the Reef Ecology Lab in NUS, suggests

that up to 16 species – including the two new ones – could have swum in Singapore waters recently.

This shows that the nation's waters still have suitable habitats for

some of the large predators that are often indicators of coral reef health. These predators prey on marine animals that live on a reef, and their presence signifies that the ecosystem is healthy enough to support them.

The scientists did not discover the presence of these animals in the usual way creatures are found, such as through chance encounters or camera trap footage.

Instead, environmental forensics paved the way for their discovery.

Just like how a strand of hair left by a murderer at a crime scene can help police pinpoint the culprit, these creatures also leave behind traces of their presence as they swim by.

The researchers took 84 water samples from nine locations in the Singapore Strait south of the mainland. Coral reef habitats, which elasmobranchs are usually associated with, are found mainly in this area.

They then ran tests on the water samples to see if genetic fragments of the various species could be picked up.

“A seawater sample is like a big pot of soup with many different food items – akin to the many strands of eDNA (environmental DNA) from different species,” said Mr Ip.

“We use DNA primers – which are designed to target specific regions of the DNA of interest – like a spoon or ladle to specifically scoop up the contents that we want to consume.”

Asked if the eDNA could have been transported from elsewhere into Singapore waters by the currents, Mr Ip said this was possible but unlikely, because eDNA de-

grades rapidly in the tropics.

“We infer that eDNA would not last more than a day here. This works in our favour, as we can be more certain that the signals we detect are recent... and it would be unlikely to have been transported by the currents from far away,” he noted.

The study also found that three sites south of Singapore – Cyrene Reef, Lazarus Island and Raffles Lighthouse – hosted a larger array of shark and ray species.

Said Mr Ip: “Hopefully, future work in this field can better shed light on why these three sites are more diverse – could it be because there are site-specific conditions that are more favourable for them to reside in or to function as nurseries?”

Dr Karenne Tun, director of the coastal and marine branch at the National Parks Board's (NParks) National Biodiversity Centre, said the latest study yielded insightful information on the possible presence of shark and ray species within Singapore's coastal waters, including two potential new records.

“This illustrates the potential of using eDNA for species detection,” she noted.

She said NParks will be embarking on a three-year research project to better understand marine fish diversity, distribution and connectivity in the coastal waters.

It will tap multiple survey, sampling and modelling techniques, including eDNA, and involve researchers from NUS, including members of the current study team.

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# In-house 3D printing service helps improve surgery, consultations at TTSH

Osmond Chia

Doctors at Tan Tock Seng Hospital (TTSH) have used 3D printing technology to create tools for surgery and mock-ups of a patient's body parts to use in consultations. They said the innovation can help make consultations clearer for patients and complicated procedures faster, more accurate and less risky.

In surgery, doctors often use surgical templates – called jigs – to guide tools like saws and screws when they operate on a patient.

But it can be difficult to source these jigs for more complex operations and custom orders can take weeks to arrive and cost thousands of dollars to produce.

With 3D printing done in-house, jigs that are built exactly to the patient's specifications can be created in resin in a matter of hours.

It dramatically shortens the waiting time for some operations, said orthopaedic surgeon Michael Yam and radiologist Candice Leong. They head the hospital's research on 3D printing technology.

The use of 3D printing has been gaining ground in hospitals worldwide. Local hospitals have used 3D-printed models for patient consultations and even in surgery.

But the doctors at TTSH believe that this is the first time 3D printing services are being provided in-house locally.

Medical professionals at TTSH can request 3D-printed models based on a patient's computerised tomography (CT) scans to prepare tools and plan ahead before an operation, reducing guess

work and the risk of damaging vital parts.

Dr Yam conducted his first operation with the help of 3D printing last November. A model of the patient's pelvis allowed surgical tools to be fitted precisely, reducing the need to make adjustments by trial and error during the operation.

Realising that operations could be done with more accuracy, he embarked on research into the technology.

By having these models ahead of time, surgeons can rely less on CT scans – imaging of the patient's

## MANY BENEFITS

**It reduces operating time, and improves accuracy and precision. It also improves the surgeon's confidence in the operation.**



ORTHOPAEDIC SURGEON MICHAEL YAM, on 3D printing being done in-house at Tan Tock Seng Hospital.

body created from multiple X-ray images taken from different angles – to monitor the progress of an operation. In turn, patients can be exposed to less radiation.

Dr Yam said: “It reduces operating time, and improves accuracy and precision. It also improves the surgeon's confidence in the operation.”

TTSH also uses 3D printing to better explain to patients their conditions and surgical procedures.

Dr Yong Enming, a surgeon at TTSH, said the life-size models made it easier for patients to un-

derstand complex conditions compared with images taken from a CT scan.

Dr Yong added: “Most of us are visual in nature. It is easier for me to be able to point (at the model) and explain what we are doing.”

One of his patients, Mr Gan Khuat Hin, 78, was shown a 3D model of his inflated artery, which had to be operated on for swelling to be reduced.

Mr Gan said in Mandarin: “I realised how severe the condition was and the 3D model made it easy to understand. I was less worried after understanding the problem.”

Doctors can request 3D printing at their discretion, usually for more complex cases, said Dr Yam.

His research, which was published in the peer-reviewed Journal of Clinical Orthopaedics and Trauma, found that these jigs cost roughly \$50 – at least 10 times cheaper than commercially available ones.

His team hopes to see 3D printing used widely in the months to come, with a long-term goal of creating a 3D-printing centre to work with other specialities in TTSH and other hospitals.

Dr Yam said it was challenging for 3D printing companies to understand the needs of healthcare providers, which often entails collaboration between multiple teams in a hospital, such as surgeons, radiologists and patients.

An in-house printing service operated by those familiar with the needs of healthcare makes coordination between these groups more efficient, he added.

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## What the technology is used for

### Patient education



Doctors can print 3D models of body parts that are specific to patients, to provide a clearer explanation of their issues and the procedures needed.

### Pre-operation planning



Doctors can use the models to plan for an upcoming operation, which can help to better prepare them for complex operations.

### Creating surgical jigs and tools



Custom surgical jigs that are used as a guide for operating tools can be sized and printed quickly, resulting in less waiting time in cases where the hospital does not have the templates needed for an operation.

SOURCE AND PHOTOS: TAN TOCK SENG HOSPITAL STRAITS TIMES GRAPHICS