Sunday Times



Species recorded in Cape Town in the 2019 City Nature Challenge.

Observations in Cape Town, the most logged in any of the more than 200 cities that took part.

815,258

Observations recorded worldwide in the 2020 Collective Challenge, in which five SA regions participated.

For nature fundis

The 2021 City Nature Challenge takes place from April 30 to May 3. Participants can register for their city or as individuals. Each participant has 96 hours in which to record as many wild plants, animals and fungi as possible. Visit www.inaturalist.org

Smartphone apps are helping to fuel citizen science, writes Claire Keeton. Anyone can log flora and fauna sightings and contribute to conservation

he wind rustles through a reed bed in Hout Bay, the bass line to the warbling of birds. Standing very still, Garret Skead looks around and identifies more than a dozen bird species by sight or by their calls.

"The habitat is a clue," he says, reeling off names. "Then you evaluate the major features to make an identification. It's like a diagnosis."

Skead is a pathologist who spends his free time searching for rare birds and recording these sightings on the app BirdLasser. He is among a legion of "citizen scientists" in SA who observe flora and fauna and enter the information into biodiversity apps, helping to paint a picture of the country's species and where they are at risk

"Citizen science is growing substantially globally," says Suvarna Parbhoo Mohan, manager of the Custodians of Rare and Endangered Wildflowers (Crew) citizen science programme at the South African National Biodiversity Institute (Sanbi).

In SA, more than 13,000 people have reported nearly 30,000 species in 1.2million observations on iNaturalist, and the numbers rise every day. The app is one of several on which a sighting can be logged with an image, time and location. Conservationists and scientists use this data, which is also open to the public.

iNaturalist has more than 700 projects in Southern Africa to which people can contribute, ranging from rhinoceros beetles and freshwater fish to "champion trees of

Rupert Koopman, conservation manager at the Botanical Society of SA, says its red list of South African plants is one of the projects assisted by amateur botanists. "There are not enough trained botanists and entomologists, and a lot of botany is seasonal. Citizen scientists are looking at

things at any time of year." Academics mine citizen science data for studies, verifying details to map biodiversity and drive conservation programmes. "The beauty of citizen science is that you generate large amounts of data," says Skead.

Citizen science has picked up dramatically in the past five years as smartphones have made logging species easier, says Sanbi principal scientist Krystal Tolley, whose focus is reptiles and amphibians.

"The information from citizen scientists is key to assessing the status of reptiles and is incredibly valuable for making distribution maps," she says.

People have reported sightings of African rock pythons, black and green mambas and geckos and lizards that have been spotted outside their known range. Karoo farmers reported in a survey that they see Cape cobras all the time, even though formal records do not reflect this, Tolley says.

Also important is the absence of sightings of a species in places where it should be common, which acts as an early warning of potentially declining numbers.

A street, garden, park, beach, rock pool, mountain, game reserve – any place under the sun or moon – can yield vital information, Tolley says. "Whether you are out and about or at home in your garden, you can contribute. Even photos of roadkill

How a walk on the beach helps science

NAME THAT LBJ Aadam Abdullah, 17, focuses on a bird during a visit to Rondebosch common in Cape Town. He is a keen user of the BirdLasser app. Picture: Esa Alexander

PSIRA

GENERAL NOTICE ANNUAL FEE INCREASE 2021/2022

PRIVATE SECURITY INDUSTRY REGULATORY AUTHORITY SCHEDULE
AMENDMENT OF THE REGULATIONS MADE UNDER THE SECURITY OFFICERS ACT, 1987 (ACT 92 OF 1987)

Definitions
(1) In this Schedule(a) "the Act" means the Security Officers Act, 1987 (Act 92 of 1987);
(b) "the Authority" means the Private Security Industry Regulatory Authority established in terms of section 2(1) of the Private Security Industry Regulation Act, 2001 (Act 56 of 2001) and has the same meaning as the "Board" as defined in section 1 of the Act: (c) "the Regulations" means the regulations published by Government Notice No. R.797 in Government Gazette No. 12413 of 2 April 1990, as

amended; (d) "the PSIR Act" means the Private Security Industry Regulation Act, 2001 (Act No. 56 of 2001); and (e) "vear" means a twelve-month period commencing on 1 April and

(2) The Regulations contained in this Schedule will come into effect on

Amendment of regulation 1 of the Regulations
(3) Regulation 1 of the Regulations is hereby amended(a) by the substitution for the definition of "prescribed amount" of the

following definition: "prescribed amount" in regard to a security business registered as presented almost in regulation a security obtainess legistered as such means the sum of the applicable amounts contemplated in regulation 9 (3), and in the case of any person registered as a security officer, but not a security business, the amount contemplated in

(b) by the deletion of the definition of "prescribed fees"; and

Amendment of regulation 7 of the Regulations (4) Regulation 7 of the Regulations (4) Regulation 7 of the Regulations is hereby amended"Payment of prescribed amounts and related matters
a. by the substitution for regulation (7), sub-regulation (3) (a), insertion of additional paragraphs and sub-regulations of the following sub-'. (1) Every security business must -

7. (1) Every security business must – (a) on or before the 15th day of each calendar month, furnish to the Board a document signed or authenticated by a responsible person acting on behalf of such security business, being a return containing, in respect of every security officer employed, used, deployed, engaged or made available by it during that month or any part of that month the first that proper identifications are properly to the proper properly. their full names, identity numbers, contact telephone numbers registration numbers allocated in terms of section 11 (3) of the Act, the period of their service during that month, and the geographic area or

(b) on or before the 15th day of each calendar month, furnish to the Board a completed South African Revenue Services Monthly Employer Declaration Form, otherwise referred to as EMP 201 form, together with a detailed supporting reconciliation report generated by the security business' payroll, document known as EMP 201 form, signed or authenticated by a responsible person acting on behalf of such

ecurity business;

i) In the event the security business has sub-contracted services to another security business or it is involved in a joint venture, notify the Board of such arrangements and submit the relevant EMP 201 form for either the abovementioned arrangements;

either the abovementioned arrangements; (d) comply with the provisions as contemplated in sub-regulation (1) (b) and (c), in order to be issued with the letter of good standing. (2) A registered security business must pay to the Board that portion of the prescribed amount as is referred to in regulation 9(3)(a) and 9(3)(b), in accordance with sub-regulation (3). (3) (a) The prescribed amount for any year must, subject to this sub-regulation, in relation to security business employing 100 and more security officers be paid to the Board before or on 07 May of the year concerned.

(b) In the case of a security business becoming registered in terms of to in the case of a security business becoming registered in terms of section 11 of the Act on or after 1 April in a given year, the prescribed amount in respect of that year must be paid to the Board on or before the last day of the month during which the security business was so

(c) Where a security business increases in size to the point where it alls into a different category, as contemplated in regulation 9(3)(a), the supplementary amount which becomes due must be paid to the Board

supplementary amount winich becomes due must be paid to the Board on or before the last day of the month in which the security business falls into a different category.

(d) In the case of security business employing 21 – 100 security officers, 50% of the fees is payable by 7 May of each year. The remaining 50% is payable in 2 equal instalments. The first instalment will be due by 7 June and the second instalment due by 7 July of each

(e) In case of security business employing 0 – 20 security officers, 50% of the fees is payable by 7 May of each year. The remaining 50% is payable in 5 equal instalments first instalment due on 7 June, second instalment due on 7 July, third instalment due on 7 August, fourth instalment due on 7 September and the fifth instalment due on 7

October of each year.

(4) A security business must pay to the Board that portion of the cribed amount arrived at in accordance with regulation 9 (3)(c),

the prescribed amount referred to in regulation 9(4), for every security officer employed, used, deployed or made available by that security business to render a security service during April in a given year, to the Board on or before 07 May of the year concerned.

(b) In respect of security officers not employed, used, deployed or made available by a security business to render a security service during April in a given year, but who become employed, or are used, deployed or made available by a security business to render a security service in any later month in a given year, the security business to render a security business to render a security business to render a security service in any later month in a given year, the security business must pay to the Board, on or before the last day of such later month in that year, an amount equal to the prescribed amount referred to in regulation (AL) for expressible positive of the security of the sec

regulation 9(4), for every such security officer. (c) Any person who or which is not a security business but who ploys, uses or deploys a security officer, must pay to the Board an employs, uses or deploys a security officer, must pay to the Board an amount equal to the prescribed amount referred to in regulation 9(4), for every security officer so employed, used or deployed during April in a given year, to the Board on or before 07 May of the year concerned. (d) In respect of security officers who become employed, or are used or deployed by any person who or which is not a security business, to render a security service in any month other than April in a given year, such person must pay to the Board, on or before the last day of such such person must pay to the board, on or before the last ady of such later month in that year, an amount equal to the prescribed amount referred to in regulation 9(4), for every such security officer.

(e) A security officer who renders a security service in any year but who is not employed, used, deployed or made available by a security business or any other person liable for payment in terms of substitutions (a) (b) (c) (a) (c) the person but with the Resonance payment.

regulations (a), (b), (c) or (d) above, must pay to the Board an amount equal to the prescribed amount referred to in regulation 9(4), on or of each year.

f) The provisions of these regulations shall also apply to any service.

activity or practice or any equipment or any person or entity plying thei trade in the private security industry. trade in the private security industry.

(5) Nothing in this regulation prevents a written agreement being entered into between the Board and any security business regarding

the method and date of payment of the prescribed amount.

(6) Any amounts paid in accordance with the requirements of the Regulations are not refundable.

(7) A security officer registered in terms of section 21 (3) and issued with a registration certificate in terms of section 25 of the PSIR Act. must renew such certificate every 24 months from the date of issue. (8) The provisions of sub-regulation (7) shall also apply to security oviders registered after 1 April of the year these regi

published.
The Authority shall from time to time prescribe processes and forms relating to the renewal of registration certificate,

(10) The information in terms of these regulations shall be processed, recorded and filed in accordance with the Protection of Personal Information Act, 2013 (Act No. 04 of 2013) or any other legislation

governing the protection of information.

(11) The Authority when offering services to security service providers, shall ensure that all relevant information, is made available and accessible to such security service providers using various mediums of nd Transactions Act, 2002 (Act No. 25 of 2002) (12) Any security business which fails to pay to the Board, within the od allowed for such paymenta) the prescribed amount payable in terms of this regulation

(d) an amount deducted by it in terms of section 18 (4) (a) of the Act,

must pay to the Board - Interest and Penalties for Non-Payment of Prescribed Fees
(a) the unpaid amount referred to above;
(b) interest on the unpaid amount at the rate determined from time to time in terms of the Prescribed Rate of Interest Act, 1975 (Act No. 55 of 1975) (act No. 55 of

(c) a penalty arrived at by calculating ten (10) per cent of that sum

arrived at by adding to the unpaid amount the interest accrued thereon to date of calculation of the penalty: Provided that if the Board is satisfied that the failure to pay or pay over any amount in terms of this regulation was not due to an intent to evade or postpone payment or otherwise evade obligations in terms of this regulation or the Act, it may remit the whole or part of the penalty imposed in terms of paragraph (c) of this sub-regulation. (13) Any amount of interest and any penalty owing to the Board in terms of sub-regulation (8) will be regarded as part of the prescribed amount as contemplated in section 18 (1) and section 18 (2) of the

(14) Failure to renew a certificate as contemplated in sub-regulation (7), a month prior to the anniversary date, will result in the immediate lapsing of the certificate.
c. by the insertion of the following title and sub-regulation immediately after sub-regulation (14) of the following:

Penalties for Non- Disclosure

the requirements contained in sub-regulation (1); (c) intentionally or negligently submits a return to the Board which is false or misleading in any material respect; (d) fails to provide to the Board, within the period allowed, the additional information required by the Board in terms of sub-regulation

e) fails to deduct an amount as contemplated in section 18 (4) (a) of will be guilty of an offence and on conviction liable to a fine not

exempt the security business convicted from the payment of any penalty or interest payable in accordance with the provisions of these regulations.

d. by the insertion of the following title and sub-regulation immediately after sub-regulation (15) of the following: Computation of Penalties and Investigations for Non-Disclosure (16A) Notwithstanding the provisions of sub – regulation (15), any security business which intentionally or negligently(a) fails to submit a return to the Board disclosing security officers employed to evade payment of prescribed annual fees or (b) submits a return to the Board which is false or misleading in relation to the

number of security officers employed, (i) will be liable to a penalty not exceeding an amount equal to double the amount of the prescribed annual fees referred to in paragraph (a) or the difference "determined" between the amount of annual fees that were due and payable by the security business to the Board and the amount the security business has paid to the Board in case of

paragraph (b); and (ii) will be a subject of an investigation by the Board to check into the security business' reporting as required in terms of sub – regulation (1) for the preceding 3 years. Any non-compliance found, the Board may levy penalties not exceeding the amount equal to double the amount of the prescribed fees or the determined difference for every year of ailure to disclose as prescribed.

(16AA) The envisaged investigation under (16A) will assist the Board to determine the appropriate percentage of penalty, in relation to whether, (a) the non-disclosure was substantial (b) the non-disclosure was intentional

(17) Any director, member, owner, partner, trustee, administrator or Any direction, riterilines, owner, partier, trossee, administrator or manager, according to the case, of a security business—

(a) who fails to take all reasonable steps to ensure that the security business of which he or she is a director, member, owner, partner, trustee, administrator or manager, according to the case—

(i) complies with an obligation in terms of sub-regulation (1);

(ii) complica with an obligation in terms of sub-regulation (2) (d);

complies with an obligation in terms of sub-regulation (3) (d) iii) complies with an obligation in terms of section 18 (4) (a) of the Act o deduct an amount from the remuneration of a security officer; or (iv) does not contravene a provision of sub-regulation (13); or (b) who intentionally or negligently submits a return referred to in sub-regulation (1) to the Board or allows such a return to be submitted to the Board on behalf of the security business in question, which is false or misleading in any material respect,

will be guilty of an offence and on conviction be liable to a fine not exceeding R500,000.00 or to imprisonment for a period not exceeding

Substitution of regulation 9 of the Regulations

The following regulation is hereby substituted for regulation 9 of the "Prescribed amounts. -

(3) The prescribed amount contemplated in section 18 (1) of the Act must, in the case of a security business registered as a security service provider, be determined by adding together the amounts contemplated

in paragraphs (a) or (b), as the case may be, and (c) below:
(a) the amount specified in **Schedule A** applicable to the category in which the security business falls, per year, provided that if a security business in size to the point where it falls into a different category at any date during a year, it shall be liable to pay the difference between the amount already paid and the amount applicable to the category in which it then falls: or (b) in the case of a security business becoming registered in terms of section 11 of the Act on or after 1 April in a given year, one twelfth of the applicable amount referred to in sub-regulation (a), multiplied by the number of months in that year in which the security business was

registered, commencing in the month during which the security business was so registered, and ending in March; and (c) the amount specified in **Schedule B** per calendar month or any part thereof, multiplied by the number of security officers employed, used, deployed or made available to render a security service during each security service. calendar month or any part thereof.

(4) The prescribed amount contemplated in section 18 (1) of the Act, in the case of a person registered as a security officer, but not acting as a security business, is the amount specified in Schedule C per year,

within three (3) days after the end of the calendar month in respect of a (a) fails to provide the Board with the return contemplated in sub- which it is due. (4A) (a) A security business must pay to the Board an amount equal to (b) fails to provide the Board with a return that materially complies with				
SCHEDULE A			SCHEDULE B	
CATEGORY OF SECURITY BUSINESS	APPLICABLE FEE PER YEAR		CATEGORY OF SECURITY BUSINESS	APPLICABLE FEE PER YEAR
Large (>5 000 SOs employed)	R65 500		Large (>5 000 SOs employed)	R4.00
Large (2 001 to 5 000 SOs employed)	R60 000		Large (2 001 to 5 000 SOs employed)	R4.00
Large (801 to 2 000 SOs employed)	R56 000		Large (801 to 2 000 SOs employed)	R4.00
Medium (401 to 800 SOs employed)	R40 500		Medium (401 to 800 SOs employed)	R3.80
Medium (201 to 400 SOs employed)	R38 500		Medium (201 to 400 SOs employed)	R3.80
Emerging Small (101 to 200 SOs employed)	R18 300		Emerging Small (101 to 200 SOs employed)	R3.50
Small (51 to 100 SOs employed)	R11 200		Small (51 to 100 SOs employed)	R3.20
Smaller A (21 to 50 SOs employed)	R8 500		Smaller A (21 to 50 SOs employed)	R3.20
Smaller B (6 to 20 SOs employed)	R7 750		Smaller B (6 to 20 SOs employed)	R3.20
Smaller C (0-5 SOs employed)	R6 900		Smaller C (< 6 SOs employed)	R3.20
SCHEDULE C				
CATEGORY OF SECURITY BUSINESS				APPLICABLE FEE PER YEAR
Security officer (other than a car guard)				R102.00

are useful."

Chantel Elston, marine ecologist at the South African Institute for Aquatic Biodiversity at Rhodes University, says: "Citizens see things that we would never be able to because we have very little time in the field. They make a big difference to science."

Anglers and beach walkers are among those who give information to Elmo, a project group – rays, sharks and skates. Fishermen provide data on age, gender, size and even movement patterns of these species along the coastline, says Elston, who manages the project. "We have been able to identify some

migration patterns for the first time." Lorna Fuller, director of climate justice organisation Project 90, is among Elmo's supporters. On a cool morning, she scans the sand as she walks along Fish Hoek beach, picking up plastic litter and stopping several times to examine kelp fronds. A paper ruler allows her to measure the size of discoveries, including sharks' eggs.

Finding a tiny seahorse washed up on an Eastern Cape beach years ago sparked her interest. "I put it on iNaturalist and got a positive response because it had not been seen often," says Fuller. "I took it to Kevin Cole, the director of the East London Museum. and he was excited. After that I kept looking for interesting things."

Logging the "dirty dozen" – the 12 most common types of beach litter – is a critical contribution by volunteers, whose records feed research tracking marine pollution. Sweeping the sand for litter often yields other interesting finds.

Kelp forest diver and filmmaker Craig Foster is a deep-dive citizen scientist who has mapped the ecosystem off the Cape peninsula and documented it for 10 years. The Netflix documentary about his icy daily dives and relationship with an octopus, My Octopus *Teacher*, has been nominated for an Oscar.

Ecology owes a lot to men and women whose unbridled enthusiasm makes up for a lack of formal qualifications. Charles Darwin, who pioneered the evolutionary theory of natural selection, and primatologist Jane Goodall, who plunged into the forest of Gombe in the 1960s with only binoculars and a notebook, are examples. Searching for and finding species can be its

own reward for citizen scientists who do it as a hobby. Organisations such as Crew, the botanical society, Birdlife SA and Elmo are training younger South Africans in species identification.

"They become more aware of nature and interested in wildlife,' says Elston.

Crew links its volunteers with academics, plant specialists and conservation officials, says Parbhoo. Sometimes they stumble across a new species, as happened on a walk Wits University academics led through Isimangaliso Wetland Park in northern KwaZulu-Natal.

"Another time in Jozini, northern KwaZulu-Natal, we were looking for a small, weedy plant whose flower is smaller than your nail. We had walked up the mountain, it was January and scorching hot ... As we came down, we found the plant at the side of the road. The four-day trip yielded four different species of Thesium," says

Parbhoo.

Ernst Retief, spatial planning and data project manager for Birdlife SA, says social media has attracted more young people to citizen science. One of these is Aadam Abdullah, 17, who

has logged more than 500 sightings on BirdLasser in just two years, despite the lockdown.

Spotting a range-restricted red lark in the dunes was a memorable moment for the matric pupil, whose stomping ground is Rondebosch and its 40ha common.

"I try to get out as much as I can to go birding," says Abdullah. "My two main spots are the West Coast National Park and the Strandfontein sewerage works."

SA is divided into 20,000 blocs or "pentads" by the Southern African Bird Atlas Project, which is supported by BirdLasser. Participants can use the app to record sightings.

"The purpose is to obtain broad-scale distribution maps," says Retief. "We are revising the bird atlas and volunteers provide valuable data that then goes through a vetting

Citizen science is collaborative, and it is about more than biodiversity, expanding globally to embrace indigenous knowledge

Parbhoo says: "It is not just about biology but also about bringing in lost cultures and communities, for example the Aboriginal communities in Australia. These cultures and indigenous knowledge systems are becoming part of citizen science." Leaders in the field have reached out to the

UN to build support for a global citizen science platform to generate more funding for research and raise the profile of this work.

Naturalist David Attenborough says citizen scientists make a real difference. "By getting a great body of amateur – and I

used that as a word of praise – observers, who are extremely expert and produce statistics which are of great, great value in the study of ornithology, entomology and many other things, we begin to understand more and more how the natural world works and how we are affecting it," he says. Forced to stay at home during the

pandemic, Attenborough, 94, turned his hand to recording birds in his garden for the first time. It's never too late to start.

Top observer

Botanist Tony Rebelo is the biggest

contributor to the biodiversity app iNaturalist in SA. Having identified 10,203 species in 139.649 observations, he ranks among their top five observers in the world. I've always been interested in getting people involved, right from when I joined the Botanical Society in 1979," says Rebelo, who launched the Protea Atlas in the early '90s to map species distribution. "In those days we were paperbased and I would go to the post office to get reports."

The author of The Field guide to Proteas of Southern Africa, he verifies more than 95% of protea sightings recorded on iNaturalist.

ST