



محمية دبي الصحراوية
DUBAI DESERT CONSERVATION RESERVE

Annual Report 2023-24





Contents

2. Chairman's message
3. Introduction
4. Vision
5. DDCR governance and management
6. The Operational Management team
8. Highlights from the Conservation team
9. Reviewing the past year (2023-2024)
15. Conservation, research and environmental work
20. Current research
24. Intern, undergraduate and volunteer projects
25. Wildlife
28. DDCR visitors
29. Major projects (2024-2025)
30. DDCR affiliations
31. A word from the Conservation Manager



Chairman's Message

The Dubai Desert Conservation Reserve (DDCR) is a significant success story and an invaluable gem in Dubai's ecosystem.

It's a story of intent, inspiration and implementation, as the DDCR conserves the unique wildlife and natural habitat of a city expanding and developing at an incredible pace.

The Emirates Group continues to manage the DDCR through the expert conservation management on-site, in close collaboration with its owner, Dubai Municipality. The reserve benefits from the extensive network of specialities in the Emirates Group and we have mobilised support for DDCR across departments and roles within our organisation.

DDCR is part of the Dubai Government's vision to protect and develop the environment by preserving biodiversity and supporting clean and renewable energy projects, among other initiatives. The reserve occupies 5% of Dubai's land and continues to successfully reintroduce native desert species back to the area.

Throughout the year, DDCR invested in building on its existing programmes and partnerships, and maintained a laser sharp focus on its 2019-2024 strategic management goals.

By October 2023, DDCR opened the doors of the newly built Visitor Centre, a project that has been the reserve's dream for many years. The Visitor Centre aims to inspire and educate the younger generation about the desert inland ecosystem through positive experiences.

This report outlines DDCR's milestones for 2023-2024, including major projects, highlights, research, and efforts made to reintroduce and conserve indigenous fauna and flora.

As we tackle the challenges of the planet's future, wildlife conservation and research are critical in maintaining biodiversity and fostering coexistence. We are proud to be playing our part.



HH Sheikh Ahmed bin Saeed Al Maktoum
Chairman, Dubai Desert Conservation Reserve



Introduction

In the past year, the Dubai Desert Conservation Reserve (DDCR) has continued its vision to conserve and protect the last remaining desert inland ecosystem in Dubai. In doing so, through the dedicated work of our DDCR team, we have made progress in conserving the incredible species and landscapes of the reserve.

Under the direction of a new conservation management team, the reserve celebrated massive milestones throughout the year, from recording new bird species to translocating the iconic Arabian Oryx to private collections and sanctuaries, locally and internationally, resulting in lower grazing pressure on the naturally growing vegetation.

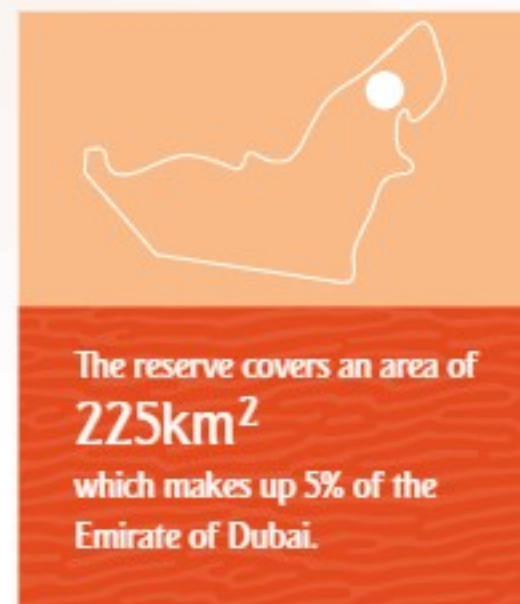
Volunteering projects were implemented by the conservation officers, allowing the general public a behind-the-scenes look into the world of conservation within the boundaries of the reserve.

Research lies at the heart of the reserve's ethos. The Research Committee of 14 varied experts, have secured approval for three research projects to commence inside the reserve. These research projects will be completed within the next 12 to 24 months.

The DDCR has been selected as the allocated site for the world's largest ASR (Aquifer Storage and Recovery) site under the guidance of DEWA (Dubai Electricity and Water Authority). Once completed by 2026, the ASR site will store up to 6,000 million imperial gallons of water, as a strategic reserve. This makes it the largest ASR of its kind in the world to store potable water for retrieval in case of an emergency.

We continue to be true to our vision, purpose, and goals as we work to secure a successful future for the natural habitats and species in the DDCR and share this amazing desert environment with local and international visitors.

The 2023-2024 report comprises all aspects of the reserve and the major milestones that were achieved by our dedicated, and passionate team.



Vision

‘A desert haven for nature... a living heritage for people’

DDCR's overall purpose

To conserve a representation of Dubai's original inland desert landscapes and indigenous fauna and flora through careful and effective management that promotes natural processes for optimum outcomes, leading to rewilding of the desert habitat.

Provide an authentic desert experience for people which showcases the beauty and marvel of the natural environment and educates on the intricacies of nature and the living heritage of Dubai.



Strategic management goals

Our strategic management goals for the 2019–2024 planning period are:

- ✦ Embark and progress on a new rewilding paradigm for regional desert conservation, fostering thriving habitats and a diversity of indigenous species
- ✦ All species populations, particularly ungulates, are in balance with the natural regenerative properties of the available vegetation
- ✦ All management interventions and practices are sustainable and oriented towards natural habitat rehabilitation
- ✦ The reserve is an IUCN Green List protected area with effective management, good governance and planning that are realising optimum conservation outcomes
- ✦ The DDCR is a regional leader in biodiversity conservation and building resilience to climate change in arid land ecosystems
- ✦ The reserve is promoted and recognised as the premier destination for authentic nature-based experiences in the UAE

DDCR Governance and Management

The DDCR's governance is in accordance with Decree 11-2003 on the establishment of Protected Areas in the Emirate of Dubai. A Memorandum of Understanding has been signed between the Government Authority (Dubai Municipality) and Emirates (airline), as the designated management authority.

Underscoring its commitment to conservation efforts, Emirates has invested AED 8 million in DDCR over the last six years. Cumulative sponsorship support of Emirates now exceeds AED 28 million since the establishment of the reserve.

The Dubai Conservation Board (DCB) is chaired by His Highness Sheikh Ahmed bin Saeed Al Maktoum

Emirates Airline executive management is represented by:

Ali Mubarak Al Soori, General Secretary DCB, Chief Procurement and Facilities Officer

Devarajan Srinivasan, SVP Facilities and Asset Management, Emirates Group

Rahul Sawhney, VP Strategy, Planning and Asset Management

Key responsibilities:

- ✦ Work with operational management to formulate and approve the strategic direction for DDCR
- ✦ Due diligence on the induction of new tour operators
- ✦ Revenue management strategies
- ✦ Approval of annual operational budgets and monitoring of expenses
- ✦ Funds management



Unlike rabbits, Arabian Hares do not live in burrows but spend the day motionless in shallow scrapings under bushes or in the open with ears folded back, relying totally on camouflage for protection.

The Operational Management Team



Gerhard Erasmus – Conservation Manager

After receiving training in the world-renowned Kruger National Park, Gerhard continued his studies in Nature Conservation through the University of South Africa. During this period, he worked as a Game Ranger in both private game reserves and national parks within South Africa.

Before swapping lions and elephants for camels and sand in 2011, Gerhard worked in the Pilanesberg National Park. He joined Al Maha Desert Resort and Spa in 2011 as a field guide, where he was responsible for taking guests on daily desert safari tours in the DDCR and highlighting the various fauna and flora found on the reserve.

In 2013, Gerhard was promoted to Senior Field Guide where his responsibilities expanded to the entire Leisure department, consisting of a fleet of 15 vehicles, 22 camels, 16 Arabian horses, 15 birds of prey and 10 field guides. He was responsible for the husbandry, training, administration, operational and financial aspects of the department.

During his tenure as Senior Field Guide, Gerhard was also appointed as Sustainability Champion of the resort. He ensured compliance with the sustainability requirements of Dubai Municipality, including recycling, water and energy management, sustainable procurement, biodiesel conversion and environmental

awareness among 160 associates. Gerhard also helped Al Maha Desert Resort and Spa achieve Green Key certification for consecutive years from 2013 until 2017.

Between 2013 and 2019, Gerhard completed diplomas in Operations Management, Project Management and Business Administration.

Gerhard held the position of Senior Field Guide until 2020, when he was promoted to Director of Operations, where he assisted in translating the resort strategy into practical milestones, supporting the General Manager, and managing a team of over 10 department heads.

In 2023, Gerhard took on his current role and was appointed Conservation Manager. He is responsible for the overall management of the reserve. Gerhard will also play a major role in implementing the long-term strategy for the DDCR's conservation programmes, sustainable tourism and species management, including the re-introduction programmes for the Arabian oryx, Asian Houbara, Arabian and sand gazelles. Gerhard also promotes the DDCR among Dubai's communities and tourists through the newly built Visitor Centre.



Basil Roy – Conservation Officer

Basil has lived most of his life in the Arabian Peninsula and is emotionally connected to its people and natural environment. During his Masters of Environment Studies from the Sorbonne University Abu Dhabi between 2017 and 2019, Basil was involved in monitoring the DDCR's spiny-tailed lizard population and surveying the reintroduction of the Asian houbara into the reserve. Prior to joining the DDCR team in 2022, Basil was an Environmental Consultant at Nautica Environmental Associates LLC, an environmental consultancy based in Abu Dhabi.

Currently, Basil's primary role is to plan, control, develop and regularly monitor the conservation practices and environmental work within the DDCR. As part of his work, he conducts new research and plans and implements long-term monitoring programmes, including the one for Arabian Oryx.



The biggest threat to the survival of Gordon's Wildcat is interbreeding with feral or domestic cats, which could lead to its extinction as a distinct species.





Aline Witte De La Torre – Conservation Officer

Aline studied her BSc in Biology at the Universidad Autonoma de Nuevo Leon in Mexico. Her conservation career started at ARCAS Wildlife Rescue and Rehabilitation Centre in Guatemala working on the rehabilitation and release of birds, mammals and reptiles. Upon returning to Mexico, she worked at Chipinque Ecological Park implementing conservation projects, managing GIS data and monitoring key species to assess ecosystem health. Aline joined the DDCR in September 2022. Currently, her role is to manage and update GIS data, conduct new research and implement long-term wildlife monitoring programmes.



Maria Jose Martin – Conservation Officer

Maria is a biologist and studied for her Master's in Biology and Biodiversity Conservation at the University of Salamanca in Spain. She worked on several conservation projects in Latin America as a researcher with sea turtles, and in animal husbandry in a rescue centre. Following her dream of travelling and gaining expertise in other areas of biology, she came to UAE three years ago. Prior to joining the DDCR, Maria worked in projects attached to the mangroves in protected areas, on both coasts of the country, mainly doing environmental education.

Her current role in the DDCR involves planning, implementing, and conducting several research programmes to ensure the biodiversity of the reserve is preserved. This includes monthly and annual surveys to monitor different species of plants and animals, such as the Ghaf tree or the spiny-tailed lizard.



Pubudu Madurapperuma – Conservation Ranger

Pubudu Madurapperuma is a conservationist and environmentalist from Sri Lanka. He obtained a Diploma in Biodiversity Conservation and Management from the University of Colombo in Sri Lanka.

Pubudu started his career as conservationist at the Young Zoologists Association of Sri Lanka, located in National Zoological Gardens Colombo, one of the leading organisations working on biodiversity education and conservation. He fell in love with reptiles, specifically snakes, and has completed many research projects on different types of reptiles including new, endemic and endangered species. In 2005, Pubudu got an opportunity to study more about reptile husbandry, management, handling, feeding, research and captive breeding at The Madras Crocodile Bank in Tamil Nadu, India.

During his career, Pubudu has served as a school and community lecturer for many government and non-government organisations to educate children and communities in rural areas that were affected by human-elephant conflict. He was also the Project Coordinator for the Biodiversity conservation project of UNDP (Founded & Monitored by UNDP/GEF, SGP) in 2004-2005.

Prior to joining the DDCR team, Pubudu worked as a Field Guide at Al Maha, a Luxury Collection Desert Resort and Spa. He volunteered for research projects conducted by DDCR, such as surveys on the Spiny-tailed Lizard and gazelles.

As a Conservation Ranger, Pubudu's role is to protect the flora and fauna and ensure the safety of visitors to the reserve. He also ensures that visitors comply with DDCR's rules and regulations.

Meena Arun – Administrator

Meena has over 19 years of UAE experience in managing office operations. She has spent most of her life in the UAE and is well acquainted with local traditions and its multicultural society.

Before joining the DDCR, she was working as an administrator and HR Coordinator with an advertising firm. Her current role is focused on providing comprehensive administration support to ensure the smooth day-to-day operation of the DDCR. Her role at the DDCR mainly focusses on consolidating tour operators' daily visitor statements with the visitor management system, generating invoices and financial statements, supervising attendance records, recording transactional data, and producing reports.



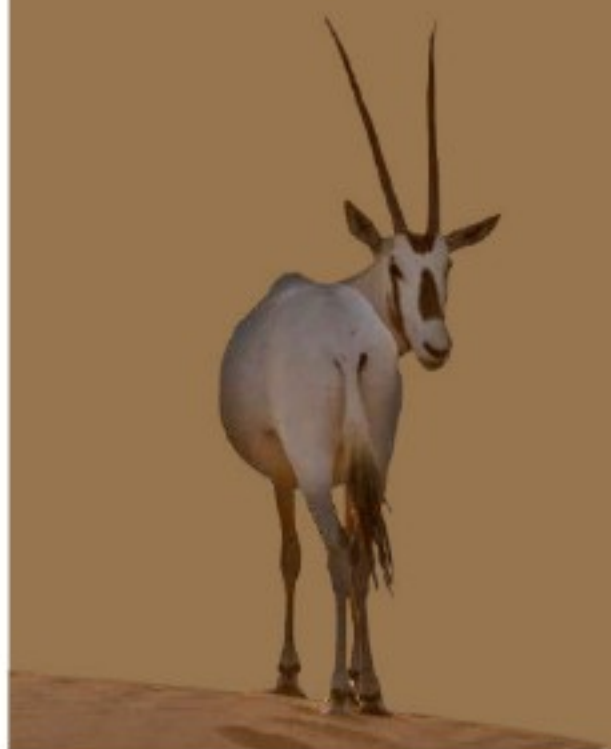
The Reserve Team



Left to right:
Muhammad Islam
Muhammad Dawood
Suhaib Vayakkarth
Muhammad Ibrahim
Lucian Felix Wanniarachchi
Muhammad Rafiq
Muhammad Gopal
Mohamed Salahudeen

The Operational Management team have the following key responsibilities at DDCR:

- Work with executive management to formulate a strategic direction
- Implement all conservation programmes
- Implement all research and monitoring activities
- Manage and promote educational awareness through the Visitor Centre
- Manage sustainable tourism



Highlights from the Conservation Team



Basil Roy – Conservation Officer

The most memorable moments for me this year were starting vulture research, translocating Spiny-tailed Lizards, and building bonds with the new DDCR team. This year's research entailed the creation of a second vulture restaurant with the intention to gain a better understanding on DDCR's population size, movement and distribution, behaviour, breeding, feeding habits, and baseline population health status. The vulture project was also enriching as it allowed me to collaborate with scientists and vulture specialists from Dubai Municipality (DM) and the International Union for Conservation of Nature (IUCN). Another highlight was the translocation of three Spiny-tailed Lizards from an area with human development to a new, safer environment. This process required methods of translocation that were new to me, involved a lot of teamwork, and was very rewarding. Lastly, the DDCR team enjoyed going to Wadi Wurayah, Mleiha Archaeological Centre, and the Al Ain Zoo, for team building activities. The visits were interesting, informative, and most importantly, allowed for the DDCR team to come closer as a group.



Aline Witte De La Torre – Conservation Officer

Working at the DDCR has been an absolute privilege. I enjoy doing field work the most, as you never know what you will encounter, and every day brings a new surprise. I am also thrilled to be conducting an individual research project, which has been a treat, challenge and a great learning experience all in one.

Maria Jose Martin – Conservation Officer

DDCR has been a challenging environment for me as I have always worked in rain-forests or with mangroves, but never in such a hot and dry habitat. However, you quickly realise how rich and enjoyable the desert is. On one short drive, you can photograph a wide range of fauna from the iconic Arabian Oryx to the amazing Lappet-faced Vulture, or Leptien's Spiny-tailed Lizard basking under the sun. Each sighting is special.



The environment is so rich and varied that our research reflects this. I'm carrying out my own research project studying nesting birds in Ghaf trees, with focus on raptors and other distinctive species. This allowed me to have amazing sightings such as Pharaoh Eagle-owl chicks growing up and abandoning the nest, or an active nest of a Long-legged Buzzard. Also, as a part of an Environmental Education initiative, I created a volunteer programme where people interested in wildlife can sign up and participate in different activities. This includes learning how our permanent camera traps work by visiting the reserve and changing the SD cards each month. Several online training sessions have also been carried out to teach volunteers to analyse photos from the camera traps. The volunteer programme has around 100 active volunteers. I also started hosting monthly online webinars with experts in the field to explain their line of study and results. Lastly, I manage our social media channels with frequent posts and challenges to inform and engage our followers.

Pubudu Madurapperuma – Conservation Ranger

Working as a conservation ranger in DDCR during 2023-2024 was an enriching experience filled with both challenges and rewards. One highlight was witnessing the successful reintroduction of a critically endangered species into the wild such as Arabian Oryx. I particularly enjoyed collaborating with local tour operators and visitors to implement sustainable practices and raise awareness about the importance of biodiversity conservation. From conducting wildlife surveys to leading educational hikes, every day brought new opportunities to connect with nature and inspire others to protect our planet's precious desert ecosystems.

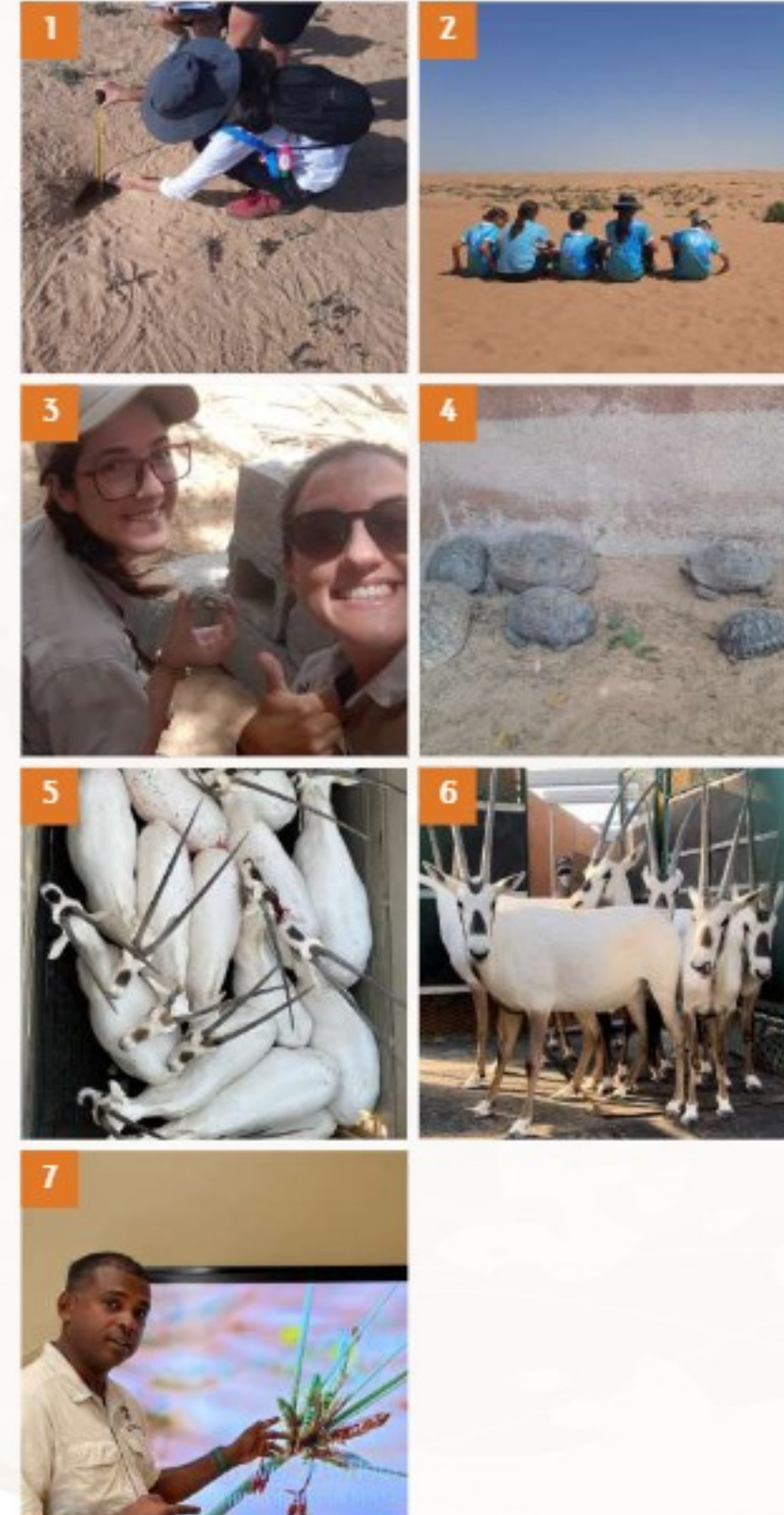
I also found great fulfilment in collaborating with DDCR Conservation Officers and participating in various surveys aimed at understanding and preserving the biodiversity within the reserve. Additionally, monitoring visitor compliance with reserve rules and regulations was a vital aspect of my role, ensuring the protection of sensitive habitats and wildlife at DDCR.



Reviewing the past year (2023-2024)

April 2023

- 1 Camera trap footage indicates the presence of Arabian Red Fox (*Vulpes vulpes arabica*) denning in the Nazwa mountain region of the reserve. A Total of Five pups were recorded.
- 2 An endangered Egyptian Vulture (*Neophron percnopterus*) was captured on a camera trap just east of Al Maha Desert Resort & Spa. Fun fact: They are also known as the White Scavenger Vulture or Pharaoh Chicken.
- 3 During a routine morning patrol, a den consisting of six Arabian Red Fox pups was discovered in the Southern Section of the reserve known as Tawi Manana. The den was inside a fire bush (*Leptadenia pyrotechnica*), which is commonly referred to as the house of the desert due to its popularity with many of the desert's wildlife.
- 4 In collaboration with Dubai Municipality, two female Arabian Red Foxes were released in the southern section of the reserve. Fun fact: The Arabian Red Fox is currently regarded as the apex predator in the DDCR.
- 5 As part of our strategic management goals, we strive to raise awareness of the reserve as a leader in biodiversity conservation. This was partially achieved when a local farmer contacted the reserve and asked if we could release an Ethiopian Hedgehog (*Paraechinus aethiopicus*) that was trapped on his farm.



May 2023

- 1-2 Conservation Officer Maria Jose Martin hosted a youth group from the F1 Schools team known as 'Sidewinder'. The group assisted Maria in completing data points with the Spiny-tail Lizard survey.
- 3-4 Conservation Officers Aline Witte de la Torre and Maria Jose Martin helped a local British expat in relocating her 17 tortoises. As tortoises are not native to the reserve, they stayed there for a period of 48 hours before being moved to a farm in Abu Dhabi.
- 5-6 With assistance from the Zabeel Office of His Highness Sheikh Ahmed bin Saeed Al Maktoum, we translocated 84 Arabian Oryx to a private sanctuary in Umm al Quwain.
- 7 Conservation Ranger Pubudu Madurapperuma hosted a talk for a group of students from King School Al Barsha. The talk was centred around wildlife conservation in the region and the negative effect poaching has on wildlife populations.



June 2023

- 1 Conservation Manager, Gerhard Erasmus was interviewed by with a German-based production team, highlighting the DDCR's conservation successes over the past 25 years.
- 2 The Annual Vegetation Survey for 2023 was completed.



Sand Sherpa on Instagram:

"Sand Sherpa was first through the doors of the new DDCR Visitor Centre that opened today! Join us for a quick tour with the head of DDCR, Gerhard Erasmus. As an educational partner of the reserve, we will bring in families, schools and corporate groups this coming season. For October and November, every camp booking will include a complimentary pass to enjoy, before or after your Sand Sherpa adventure! @emirates @ddcr_uae #adventure #desert #desertdubai #nature #wildlife #conservation #wilderness #education #mydubai #lovedubai #camping #desertsafari #ddcrvisitorcentre #emiratesairline."

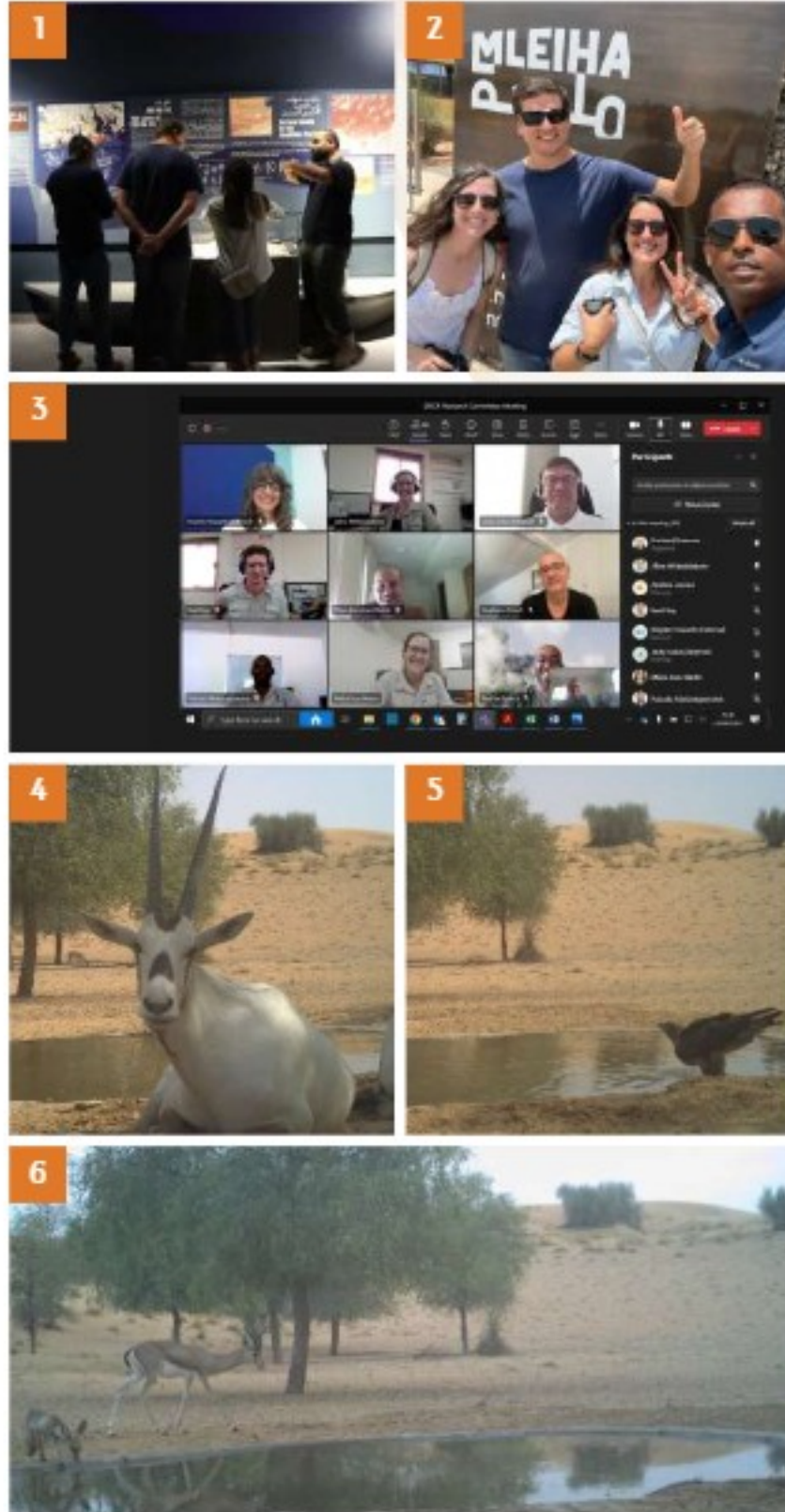


July 2023

- 1 Gerhard Erasmus and Maria Jose Martin gave an interview to regional news outlet, Gulf News. The interview can be viewed by scanning the QR code below.
- 2-3 Two wild Asian Houbara, were spotted in the south of the reserve. Spotting these birds in the reserve is an incredibly special and rare sighting.
- 4 Conservation Officer Basil Roy and Conservation Ranger Pubudu Madurapperuma utilised a drone to conduct an oryx count in the Northern and Southern Enclosures.
- 5-6 The DDCR Visitor Centre had a soft launch in July 2023. Key stakeholders were invited to experience the centre firsthand, before the doors were opened to the public. The overall feedback from the tour operators was positive and the consensus was that the centre will provide tremendous value to the reserve.
- Sand Sherpa further promoted the centre by offering free access to all their guests for the first two months.
- 7-8 The survey on Spiny-tailed Lizard, that is conducted every three years, started. The conservation team covered all the gravel plains in the reserve where they counted and measured all active and inactive burrows. Volunteers and field guides from the Al Maha Desert Resort and Spa joined the survey and assisted the conservation team in recording all the data points.



Scan the QR for Gulf News interview with Gerhard Erasmus and Maria Jose Martin.



August 2023

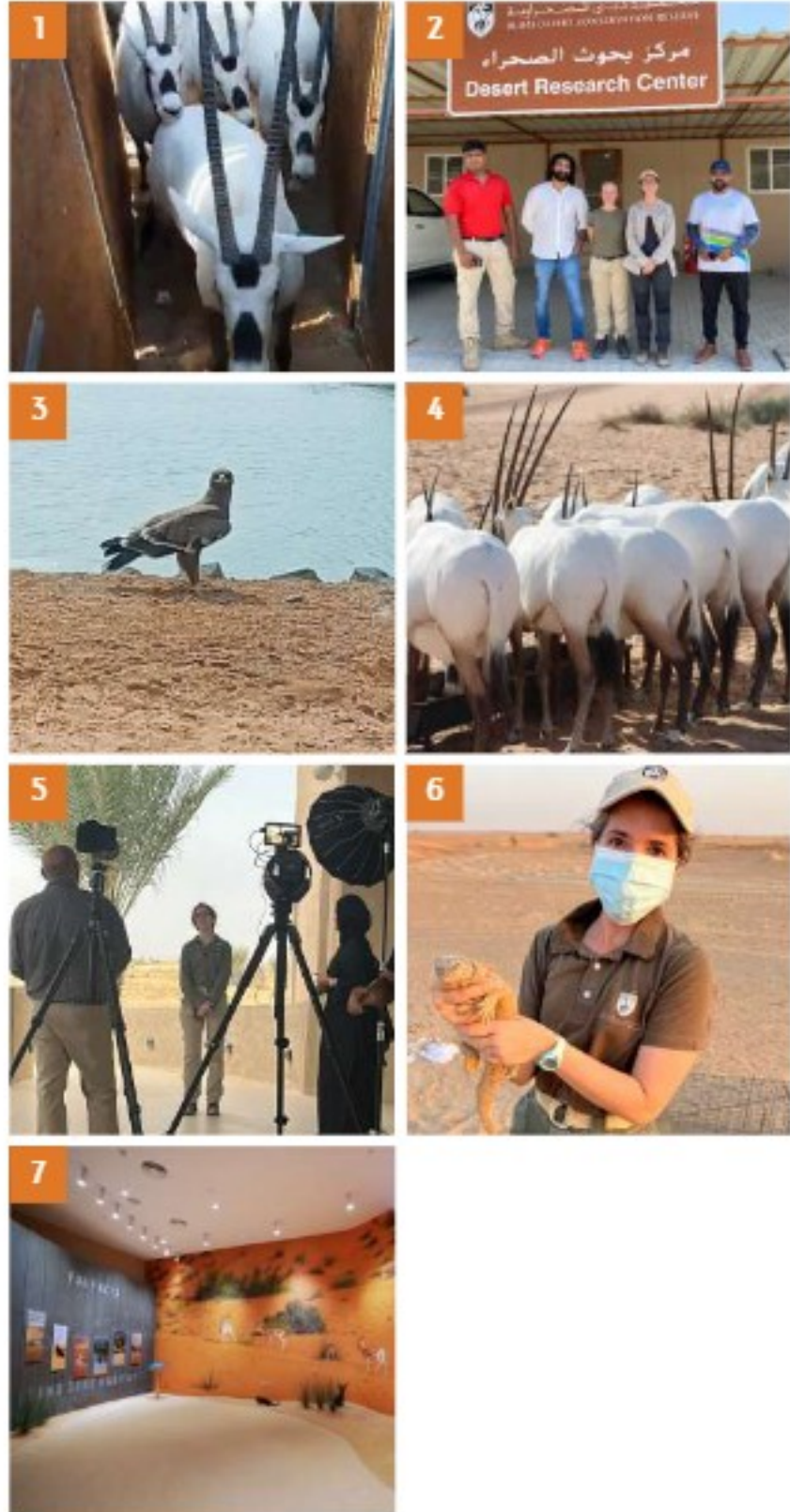
- 1-2 The conservation team visited the Mleiha and Saruq Al Hadid Archaeological museums in Sharjah and Dubai.
- 3 At the 10th DDCR Research Committee Meeting. The Conservation team proposed new research and all three proposals were approved by the committee.
- 4-6 A record number of 28,000 pictures were taken from the camera trap at Tawi Al Fawi waterhole.



September 2023

- 1 With assistance from the Office of His Highness Sheikh Ahmed bin Saeed Al Maktoum, we translocated 40 Arabian oryx to a private sanctuary in India.
- 2 Record high temperature of 64 degrees centigrade was recorded on one of the camera traps in the reserve while conducting research on vulture feeding behaviours.
- 3 The conservation team visited the Wadi Wurayah protected area in Fujairah. Collaboration between protected areas is one of the keys to ensuring species conservation for future generations.
- 4 Conservation officer Aline Witte De La Torre hosted Nadine El Khoury the Jameel Art Foundation. Aline provided information on desert plant species that could be used for the upcoming Tarabot pavilion and emphasised the importance of native species in restoration programmes.
- 5 Conservation Ranger Pubudu Madurapperuma assisted a PhD student from the United Arab Emirates University in collecting soil samples across the DDCR. There are many studies that have reported microorganisms from various environments possess plastic-degrading ability. Since UAE is mostly covered by a desert ecosystem, the aim was to investigate if there are any unique microbes that can degrade plastics, especially Polyethylene Terephthalate (PET).





October 2023

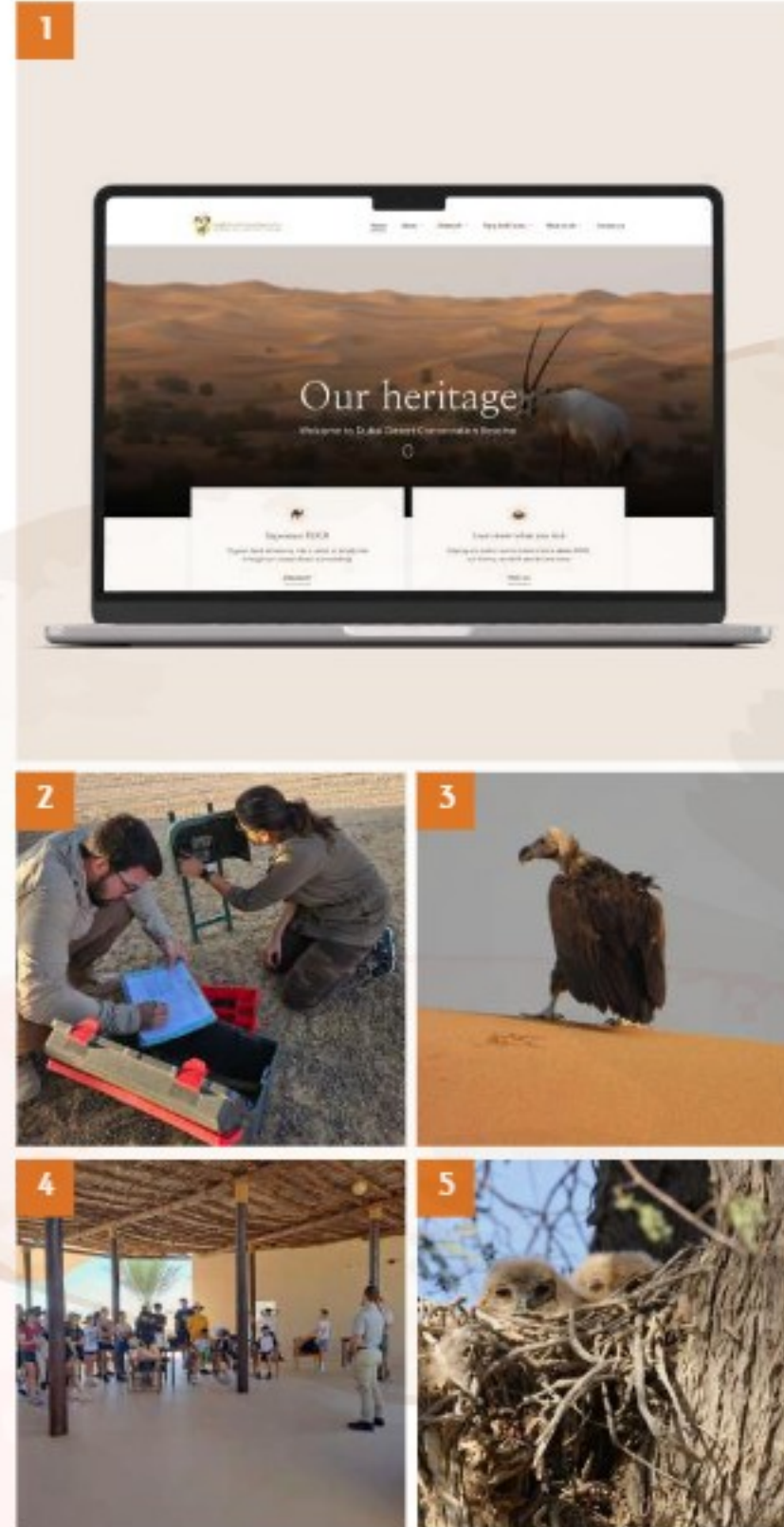
- 1 With assistance from the Office of His Highness Sheikh Ahmed bin Saeed Al Maktoum, we translocated 100 Arabian Oryx to a private sanctuary in Kazakhstan.
- 2 As part of their #October4Good and #dnata4Good campaigns, a team from dnata assisted the Conservation Officers in completing a section of the annual gazelle census and Oryx Body Condition Scoring.
- 3 A Greater Spotted Eagle (*Clanga clanga*) was sighted at the Tawi Manana lake.
- 4 The Completed bi-annual Oryx Body Conditioning Scoring. Scan the QR code below left to find the full report on our website.
- 5 An interview with Conservation Officer Aline Witte De La Torre showcased the importance of conservation in the UAE, and the role that the DDCR has played in the past 25 years in protecting the remaining inland desert ecosystems.
- 6 The conservation team, consisting of Conservation Officers, Aline Witte De La Torre and Basil Roy, and Conservation Ranger Pubudu Madurapperuma, spent over four hours relocating of three Leptien's spiny-tailed lizards (*Uromastyx aegyptia leptieni*) from an area that has been allocated to the DEWA ASR project. The team had to dig down to a depth of approximately three metres to save the reptiles. They were successfully relocated to the southern part of the reserve.
- 7 The DDCR Visitor Centre was officially opened on 4 October 2023. The full media announcement can be viewed by scanning the QR code below right.



Scan the QR code for The bi-annual Oryx Body Conditioning Scoring.



Scan the QR code for the DDCR Visitor Centre full media announcement.



November 2023

- 1 The DDCR website was redesigned to provide a more interactive and educational experience to its users. The website can be accessed by scanning the QR code below.
- 2 Conservation Officer Maria Jose Martin launched the DDCR's first volunteering programme. Approved volunteers were invited to the reserve to assist the officers in collecting data from the six deployed camera traps on the reserve. Since the inception of the programme, volunteers have been visiting the reserve on a monthly basis.
- 3 A second 'vulture restaurant' was created on the reserve in support of the ongoing research project carried out by Conservation Officer Basil Roy.
- 4 In collaboration with Sand Sherpa, the DDCR Visitor Centre hosted the first school group from Royal Grammar School, Dubai.
- 5 Three new research projects conducted by the Conservation Officers were launched.
Basil Roy – Vulture Baseline Study in the DDCR.
Aline Witte De La Torre – Baseline Biodiversity Study of Jebel Nazwa.
Maria Jose Martin – Nesting Dynamics within Ghaf Trees (*Prosopis cineraria*).



Scan the QR code to view the new DDCR website.



December 2023

- 1 Conservation Ranger Pubudu Madurapperuma hosted an interview with the Emirates Great Britain SailGP Team. He addressed issues regarding species conservation in the UAE and how climate change affects the behaviour of various species.
- 2 The National newspaper published an article about the DDCR and how we are protecting the last remaining desert inland ecosystems. The article can be found by scanning the QR code below.
- 3 Conservation Officer Aline Witte De La Torre hosted a Spanish documentary crew, La Sexta. Topics that were covered ranged from re-wilding desert ecosystems in the UAE to the challenges wildlife conservation faces in a fast-paced, economy-driven country.

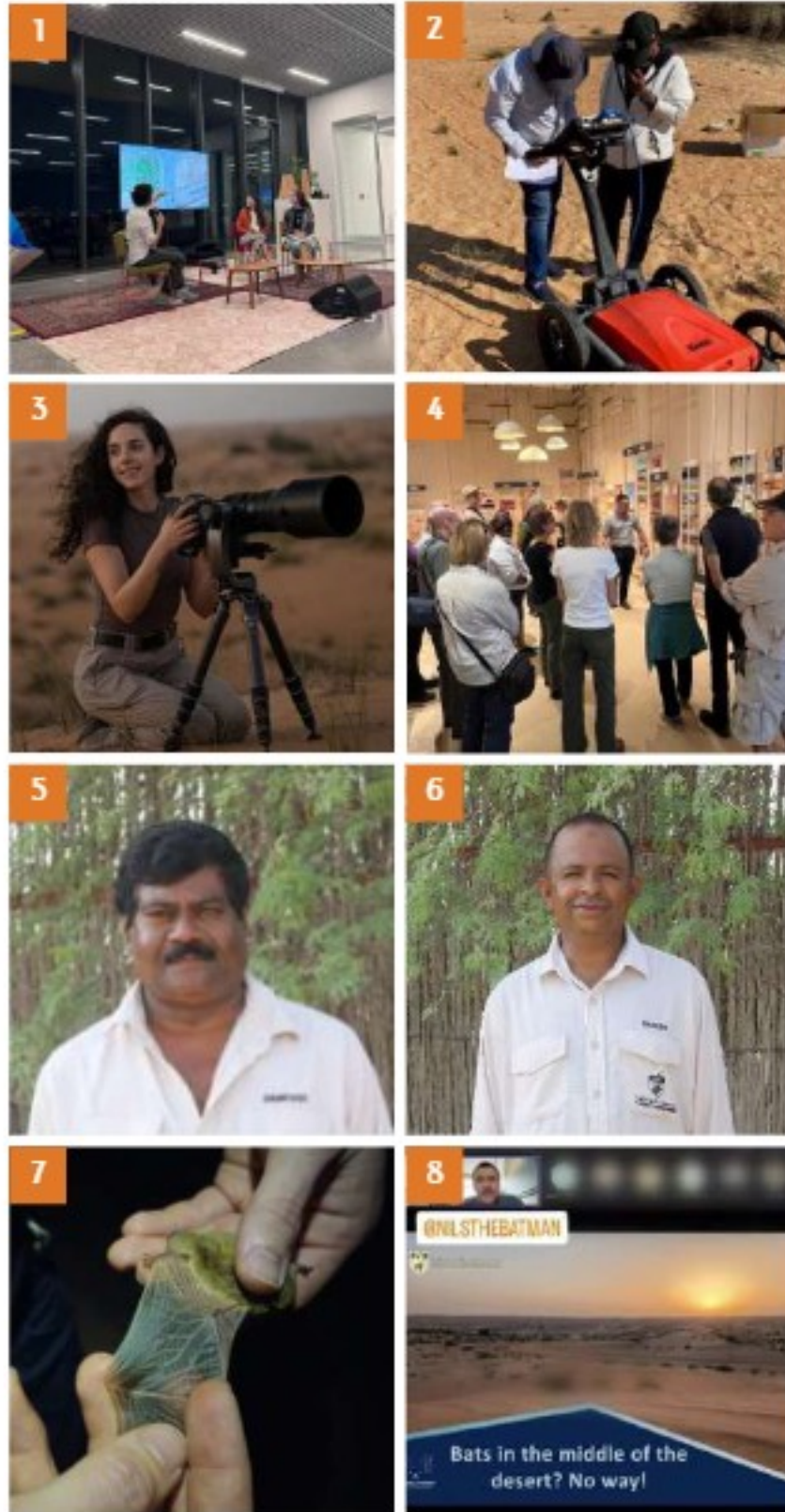


Scan the QR code for
The National newspaper
published article.



January 2024

- 1-2 The 11th Biosphere Expedition was held during the month of January. 18 volunteers from across the globe spent two weeks in the reserve assisting the conservation team with camera trap analysis, circular observations and Pharaoh Eagle Owl (*Bubo ascalaphus*) nest surveys.
- 3 During the Biosphere Expedition, volunteers assisted in spotting and identifying a long-eared owl (*Asio otus*). This was the first-ever recording of the species of owl inside the DDCR, and only the 21st recorded sighting inside the UAE.
- 4-5 A nesting Pharaoh Eagle Owl (*Bubo ascalaphus*) was discovered in the Western Ghaf grove in the reserve. A total of Three chicks were recorded.
- 6 A wild Asian Houbara (*Chlamydotis Asian Houbaraii*) was sighted at the Houbara Feeding Site 2.
- 7 After being out of the operation for almost three years, the reserve team fixed and restored its Polaris ranger desert buggy. This buggy will be valuable when surveys need to be conducted in the more remote areas of the reserve without vehicle access. The buggy will also use less fuel and will leave a smaller carbon footprint compared to a traditional 4x4.
- 8 A collaboration agreement was signed with EEDAMA with the aim to reach more school children in the wider Dubai community. The purpose of the agreement is for school groups to be brought to the Visitor Centre and be inspired by the reserve's conservation work.
- 9 As part of the ongoing volunteer programme, Emirates Group employees assisted in analysing over 14,000 photos from the camera traps.



February 2024

- 1 Conservation Officer Aline Witte De La Torre participated as a panellist at the Tarabot Talk 2.0 – Biotic Edges: Timely approach to Ecosystem Restoration.
- 2 As part of the ongoing Memorandum of Understanding between the DDCR and Sharjah University, a group of students visited the reserve to conduct geological surveys at three archaeological sites. The report will be finalised and submitted upon completion.
- 3 In collaboration with the Emirates Group, Arabian Adventures and DDCR, Roxy Furman (@roxythezoologist) was hosted at the reserve for a period of two weeks. Roxy was escorted by one of the most senior guides at Arabian Adventures team to capture images of the native Arabian wildlife.
- 4 The Visitor Centre had its most productive month, since opening in October 2023, with 851 visitors. This was a combination of school groups and walk-in visitors.
- 5-6 Reserve staff, Mohamed Dawood and Mohamed Salahudeen Naseer celebrated 20 years of loyal service at the DDCR.
- 7-8 The DDCR hosted its first ever webinar with local bat expert Nils Bouillard and Conservation Officer, Maria Jose Martin about bats in the UAE and their ecological importance to the region. A recording of the webinar can be found on DDCR's YouTube channel by scanning the QR code below.
- 9 February 2024 marked the 25th anniversary of the relationship between the Emirates Group and the DDCR. Since the reserve's inception in 1999, the Emirates Group has played an instrumental role in its development and success.



Scan the QR code for the Webinar recording of the bats in the UAE and their ecological importance.



March 2024

- 1 The first ever Memorandum of Understanding was signed between DDCR and Wildlife Photographer, Marios Mantzougiannis. Marios was one of the very first volunteers to show commitment and passion to the work that is being done in the reserve and has been granted access to the reserve for photographic research purposes.
- 2 The conservation team conducted an educational trip to Al Ain Zoo with the purpose of identifying possible future species that could be introduced into the DDCR.
- 3 The DDCR team was invited for an iftar dinner at NARA Desert Escapes.
- 4 Conservation Manager, Gerhard Erasmus gave an interview to The Telegraph UK on the reserve's history and the vital role it plays in species conservation within the region. For the full interview scan the QR code below.
- 5 Gerhard was interviewed by the YouTube Channel, Great Big Story. The video focused on how the reserve helped bring the Arabian Oryx back from being Extinct in the wild to Vulnerable on the IUCN Red List of Threatened Species. Scan the QR code below to view.



Scan the QR code for Gerhard Erasmus interview with The Telegraph.



Scan the QR code for Gerhard Erasmus interview with Youtube channel.

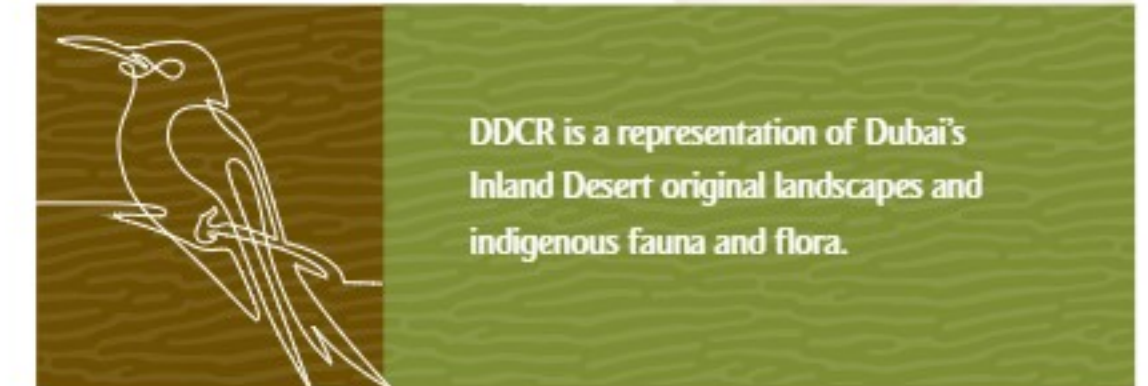
Conservation, Research and Environmental Work

Research Policy, DDCR Management Plan 2019-2024

Research conducted within the DDCR should assist in applying sound scientific ecological principles to the decision-making process and add new knowledge about its species and habitats. The DDCR will be promoted as a destination for applied research in arid land ecosystems by national and international academic institutions. The DDCR Research Committee will evaluate all research proposals based on relevance to the reserve, ethical, and practical implications. Research is vital for the effective management of the DDCR, to make informed management decisions and in the mitigation of climate change and desertification.

Desert Research Centre

The vision of the research centre is to promote and facilitate scientific studies that help solve environmental challenges. This will be achieved through undertaking collaborative research on the impact of natural, human, social and ecological aspects on developmental progress. The DDCR aims to become a source of authority and a centre of excellence in biodiversity research by building a robust scientific community connected with local, regional, and international stakeholders. We aim to prioritise the integrity of the ecological and social systems, values, and resources, by facilitating research and providing study opportunities, logistical and field support within a research-friendly environment. This will allow students, researchers, and volunteers to address essential questions and gain experience and networking skills.





The objectives of the Desert Research Centre are:

- ✦ Encourage and undertake high-quality research
- ✦ Conduct research addressing environmental policy objectives
- ✦ Develop research projects that provide practical evidence to inform policy
- ✦ Promote and facilitate collaborative and multidisciplinary research
- ✦ Establish links with both international and national research bodies for cooperation and sharing of research information
- ✦ Organise meetings, seminars and forums



Representation of
Dubai's Inland Desert
original landscapes
and indigenous fauna
and flora.



The DDCR aims to utilise research collaboration for the following purposes:

- ✦ Grow functional capacity for effective management and governance of protected areas in the UAE and West Asian Region
- ✦ Draw on local and international universities' strengths, expertise, and technical capabilities to offer the highest quality research products
- ✦ Build on regional opportunities and enhance the chances to demonstrate, guide and support quality research in protected areas
- ✦ Adapt, facilitate and coordinate protected area research and research results
- ✦ Recognise, adapt, develop and promote excellence and model practice in protected areas research
- ✦ Encourage and assist researchers willing to improve their knowledge and skills on protected areas, find research ideas and opportunities relevant to their needs, and facilitate ongoing learning and sharing through professional networks and communities of practice

DDCR Research Committee

Following the establishment of the Desert Research Centre, the reserve initiated a Research Committee to evaluate all proposals based on relevance to the reserve, ethical and practical implications with a defined Terms of Reference (ToR) and regular (biannual) meetings to propose, evaluate and guide research activities within the DDCR. The Research Committee members are from diverse backgrounds and well regarded in their respective fields.

Name	Affiliation	Institute
Gerhard Erasmus	Conservation Manager	DDCR-UAE
Basil Roy	Conservation Officer	DDCR-UAE
Aline Witte De La Torre	Conservation Officer	DDCR-UAE
Maria Jose Martin	Conservation Officer	DDCR-UAE
Pubudu Madurapperuma	Conservation Ranger	DDCR-UAE
Terresa Navarro	Botanist	Malaga University - Spain
Gary Brown	Ecologist	Freelance - Germany
Brigitte Howarth	Entomologist	Abu Dhabi Natural History Museum
Kosmas Pavlopoulos	Geologist	Sorborne University - Abu Dhabi
Andrew Leonce	Computer Scientist	Zayed University
Stephane Boissinot	Herpetologist	New York University - Abu Dhabi
Theo Busschau	Evolutionary Biologist	New York University - Abu Dhabi
Panagiotis Azmanis	IUCN Vulture Specialist	IUCN/DFH
Jacky Judas	Ornithologist	Emirates Nature
Caroline Autret	Archaeologist	Sorborne University - Abu Dhabi

The 10th DDCR Research Committee meeting was held in September 2023 and the following research proposals were approved.

1. Baseline Vulture study within the DDCR.
2. Baseline Biodiversity Study of Jebel Nazwa.
3. Nesting Dynamics within Ghaf Trees (*Prosopis cineraria*).



The Red Potter Wasp build ceramic nests out of sand or mud mixed with their saliva which are often seen on rocks and between tree stumps.



Research Reports

Camera Trap Monitoring Report 2023/2024

Over the deployment period, from 1 April 2023 until 31 March 2024, the seven camera traps (CT) had a combined total of 2,154 live camera days and captured 367,662 images. In total 44 species were recorded (including two feral/domestic mammalian species): 10 mammalian species and 34 avian species. The highest biodiversity richness was at Al Maha East CT and Al Faqah CT site. The lowest richness was recorded at Tawi Al Fawi and Margham CT sites. There were no recordings of Arabian Hare or Asian Houbara in 2023.

Arabian Oryx, Arabian Gazelle, Arabian Sand Gazelle, Laughing Dove, Eurasian Collared Dove, House Sparrow, and the Arabian Red Fox were the most common species in CT images and the most widely recorded (most locations) species within the DDCR.

Other species

The camera traps located on waterholes proved good for recording birds, with 34 avian species recorded. Of particular interest were the recordings of Cinereous Vulture (16 events), Eurasian Griffon Vulture (36 events) Egyptian Vulture (eight events) Barn Owl (11 events) and European Roller (two events) – all rare sightings in the DDCR. The vulture species were always detected together with Lappet-faced Vultures.

Other raptors included: Bonelli's Eagle (three events), Pallid Harrier (37 events), Long-legged Buzzard (75 events), Booted Eagle (one event) and Eurasian Marsh Harrier (four events). Doves were some of the most regularly recorded species.

The African Wattled Lapwing was recorded on 21 July 2023 in Nazwa (one event), the first record in DDCR. Additionally, two rarely sighted species of doves were recorded - European Turtle Dove (two events) and Common Wood Pigeon (one event).

Order	Scientific name	Common Name	IUCN Status	No. Of Images	No. OEvents	No. Of Locations	Occurrence
Mammalia							
Eulipotyphla	Paraechinus aethiopicus	Ethopian Hedgehog	LC	6	2	1	5
Carnivora	Felis lybica	Arabian Wildcat	VU	77	31	3	9
Carnivora	Vulpes vulpes	Arabian Red Fox	LC	5,988	1,684	7	13
Lagomorpha	Vulpes vulpes arabica	Arabian Hare	LC	0	0	0	0
Cetartiodactyla	Gazella arabica	Arabian gazelle	VU	11,202	13,14	7	114
Cetartiodactyla	Gazella marica	Arabian Sand gazelle	VU	9,951	1,017	6	156
Cetartiodactyla	Oryx leucoryx	Arabian Oryx	VU	34,687	7,093	6	188
Aves							
Accipitriformes	Torgos tracheliotos negevensis	Lappet-faced vulture	EN	8,725	416	4	132
Accipitriformes	Aegypius monachus	Cinereous Vulture	NT	25	16	2	12
Accipitriformes	Gyps fulvus	Eurasian Griffon Vulture	LC	211	36	2	15
Accipitriformes	Neophron percnopterus	Egyptian Vulture	EN	45	8	2	9
Strigiformes	Bubo ascalaphus	Pharaoh Eagle-owl	LC	556	149	6	37
Otidiformes	Chlamydotis macqueenii	Asian Houbara	VU	0	0	0	0



List of other species recorded on camera traps

Mammalia	
Cheesman's Gerbil	<i>Gerbillus cheesmani</i>
Feral/Domestic Dog	<i>Canis familiaris</i>
Feral/Domestic Cat	<i>Felis catus</i>
Aves	
Rock Pigeon	<i>Columba livia</i>
Laughing Dove	<i>Spilopelia senegalensis</i>
Common Wood-Pigeon	<i>Columba palumbus</i>
European Turtle Dove	<i>Streptopelia turtur</i>
Eurasian Collared Dove	<i>Streptopelia decaocto</i>
Chestnut-bellied Sandgrouse	<i>Pterocles exustus</i>
Grey Francolin	<i>Francolinus pondicerianus</i>
Crested Lark	<i>Galerida cristata</i>
Egyptian Goose	<i>Alopochen aegyptiaca</i>
Black-Winged Stilt	<i>Himantopus himantopus</i>
Red-wattled Lapwing	<i>Vanellus indicus</i>
Eurasian Marsh Harrier	<i>Circus aeruginosus</i>
Pallid Harrier	<i>Circus macrourus</i>
Long-legged Buzzard	<i>Buteo rufinus</i>
Bonelli's Eagle	<i>Aquila fasciata</i>
Booted Eagle	<i>Hieraaetus pennatus</i>
Arabian Green Bee-eater	<i>Merops cyanophrys</i>
European Roller	<i>Coracias garrulus</i>
Great Grey Shrike	<i>Lanius excubitor</i>
Fan-tailed Raven	<i>Corvus rhipidurus</i>
White-eared Bulbul	<i>Pycnonotus leucotis</i>
House Sparrow	<i>Passer domesticus</i>
Indian Myna	<i>Acridotheres tristis</i>
Grey Heron	<i>Ardea cinerea</i>
Arabian Babler	<i>Argya squamiceps</i>
Barn Owl	<i>Tyto alba</i>
Common Sandpiper	<i>Actitis hypoleucos</i>
African Wattled Lapwing	<i>Vanellus senegallus</i>



2023 Vegetation Survey

As part of the assessment of Major Site Values, the reserve conducts annual vegetation monitoring. Additionally, every five years, a more comprehensive survey is undertaken. This year, a thorough survey was conducted, encompassing 100 quadrats evenly distributed across ten distinct sites within the reserve. These quadrats, measuring 10m x 10m each, were equally distributed among two primary habitats: gravel plains and sand dunes.

The analysis revealed an increased level of biodiversity, with 46 species recorded across all sites. Notably, four of these species were new records within the surveyed quadrants, marking their first appearance since the beginning of the reserve's monitoring efforts. Furthermore, there was a notable increase in the overall abundance of plant species compared to previous years.

This positive trend can be attributed to the effective management of grazers within the reserve, particularly through the relocation of Arabian Oryx. Such measures have evidently fostered a more favourable environment for plant life to thrive, thereby enriching the reserve's ecological diversity.



The full report can be accessed by scanning this QR code:



Arabian & Sand Gazelles in the DDCR

With an area of 225 km², the DDCR hosts several species indigenous to the hyper-arid desert ecosystem. This survey aimed to collect species count and ecological data for the two gazelle species present in the reserve: the Sand Gazelle (*Gazella marica*) and the Arabian Gazelle (*Gazella arabica*). 421 Arabian gazelles were recorded and they were mostly concentrated in the gravel plains located around Al Maha Resort, and around waterholes. 107 Sand gazelles were counted and they were mainly found in isolated areas in the south of the reserve and up in the north where the presence of humans is lower. The number of females was higher in both species and their social structures were mixed. With a 43% decrease for the Arabian gazelle and 40% for the Sand gazelle. It is important to take into account that this year, a construction project from DEWA started in the DDCR, taking 5% of the total reserve's surface. Since it is one of the main differences between this year's survey and the previous one, we can assume that this is one of the main reasons that affected the dynamics of the gazelles.



The full report can be accessed by scanning this QR code:

Table 1: Ungulate Counts, Births, Deaths from 2021 to 2023

Month	Oryx Count	Oryx Births	Oryx Deaths	A.Gazelle Count	A.Gazelle Births	A.Gazelle Deaths	S.Gazelle Count	S.Gazelle Births	S.Gazelle Deaths
Jan 2021	446	0	0	207	0	0	30	0	0
Feb 2021	510	6	1	300	0	0	42	0	0
Mar 2021	422	5	0	267	0	2	44	0	0
Apr 2021	365	1	0	356	0	0	60	1	0
May 2021	457	0	0	532	0	1	103	0	0
June 2021	539	0	7	610	0	1	130	0	0
July 2021	496	1	3	734	0	0	138	0	0
Aug 2021	560	1	2	588	0	1	100	0	0
Sept 2021	474	0	0	471	0	0	92	0	0
Oct 2021	427	0	0	407	0	0	69	0	0
Nov 2021	400	0	0	376	0	0	70	0	0
Dec 2021	367	1	0	264	0	1	38	0	0
Jan 2022	332	0	0	295	0	3	44	0	0
Feb 2022	340	0	0	347	0	3	78	0	0
Mar 2022	338	0	0	407	0	0	73	0	0
Apr 2022	344	0	0	396	0	1	84	0	0
May 2022	338	0	0	435	0	0	117	0	0
June 2022	428	1	0	560	0	1	154	0	0
July 2022	425	1	2	418	0	3	178	0	0
Aug 2022	420	0	1	593	0	0	136	0	0
Sept 2022	389	1	0	496	0	0	113	0	0
Oct 2022	348	0	1	458	0	0	109	0	0
Nov 2022	361	0	0	348	0	2	136	0	0
Dec 2022	332	0	0	393	0	0	114	0	0
Jan 2023	319	0	0	425	0	2	110	0	0
Feb 2023	293	0	0	412	0	0	126	0	0
Mar 2023	233	0	0	316	0	5	116	0	0
Apr 2023	258	0	3	354	0	1	107	0	0
May 2023	397	0	0	381	0	1	110	0	0
June 2023	456	3	1	410	0	0	146	0	0
July 2023	555	11	2	542	0	0	206	0	0
Aug 2023	589	0	0	511	0	0	140	0	0
Sept 2023	550	0	1	501	0	1	177	0	0
Oct 2023	463	0	0	458	0	0	173	0	0
Nov 2023	386	1	0	385	0	2	117	0	1
Dec 2023	340	1	0	474	0	0	165	0	0

Ungulate Population 2021 - 2023

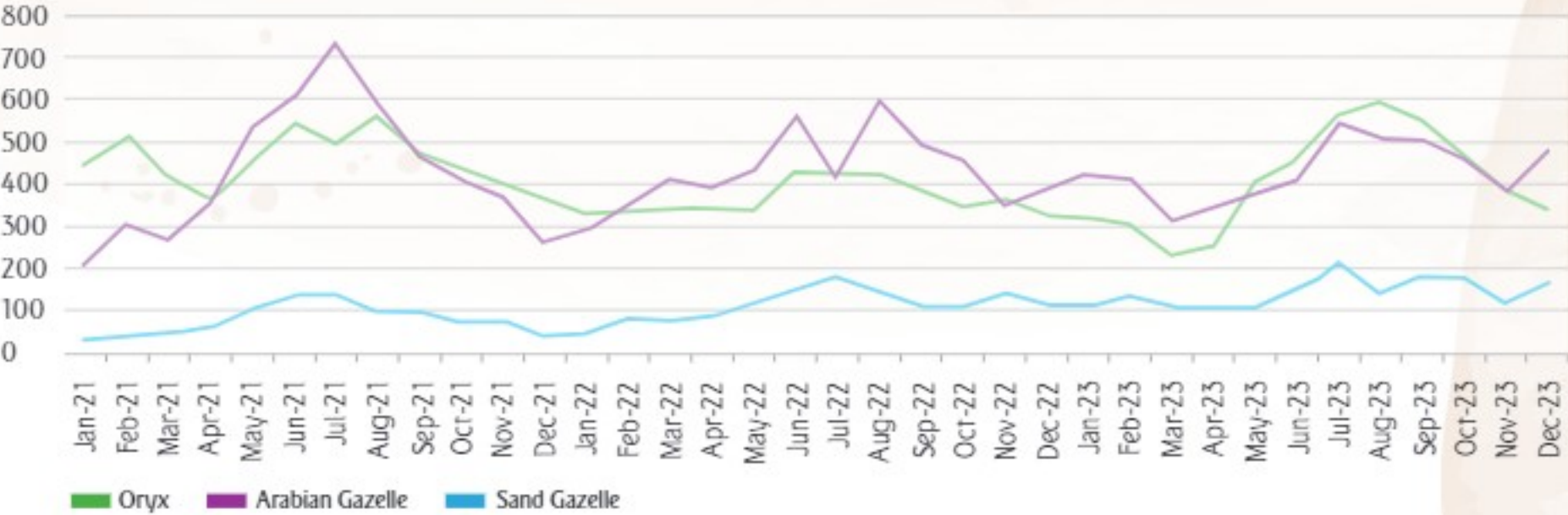


Figure 1: Ungulate Population Count from 2021 to 2023

- ✎ The spikes in Oryx and Arabian Gazelle indicate that these populations are mainly recorded in plantations, watering holes, and lakes, areas with shade and water during the hottest times of the year.
- ✎ The Oryx population is on a small decline, in large part due to the relocation programme which commenced in April 2021.
- ✎ The Sand Gazelle population is the smallest but is slowly getting larger.

Current Research

Monitoring Programme for the Major Site Values of the DDCR

This programme includes the objectives, methodology and expected outcomes of monitoring each of the Major Site Values (MSV) identified in the DDCR Management Plan. The results of this programme will provide us with performance measures for each of these MSV and will be used to evaluate our success in achieving successful conservation outcomes.



DDCR Monitoring Plan

	Major site values	Monitoring study	Aim	Methods	Timelines	Performance measures	Thresholds
1	Fauna						
1.1	Arabian Oryx <i>Oryx leucomyx</i>	Monitoring of Arabian Oryx in the DDCR	Maintain a healthy, optimum and self-sustaining population of Arabian oryx in the reserve. To achieve this aim it is imperative to implement a long-term monitoring programme in order to have a better understanding of the Arabian oryx population and their requirements and subsequently to utilise this understanding to make better management decisions for the DDCR	Species weekly counts	Weekly (every Tuesday)	Population size	200-300
				Distribution assessment	Annual (Winter)	Breeding effort	Min. replacement
1.2	Arabian Gazelle <i>Gazella arabica</i>	Monitoring of Arabian Gazelle in the DDCR	Maintain a healthy, optimum and self-sustaining population of Arabian gazelles in the reserve. To achieve this aim it is imperative to implement a long-term monitoring program in order to have a better understanding of the Arabian gazelle population and their requirements and subsequently to utilise this understanding to make better management decisions for the DDCR	Species weekly counts	Weekly (every Tuesday)	Population size	200-300
				Distribution assessment	Annual (Winter)		
1.3	Sand Gazelle <i>Gazella marica</i>	Monitoring of Sand Gazelle in the DDCR	Maintain a healthy, optimum and self-sustaining population of Sand gazelle in the reserve. To achieve this aim it is imperative to implement a long-term monitoring program in order to have a better understanding of the Sand gazelle population and their requirements and subsequently to utilise this understanding to make better management decisions for the DDCR	Species weekly counts	Weekly (every Tuesday)	Population size	100-200
				Distribution assessment	Annual (Winter)	Breeding effort	Incr. Population
1.4	Lappet-faced Vulture <i>Torgos tracheliotos negevensis</i>	Monitoring of Lappet-faced Vulture in the DDCR	Gain a better understanding of the status of the Lappet-Faced vulture population visiting the reserve and identify their home-range, breeding and roosting sites	Observations	Continuous	Population size	20-40 individuals
				Camera trapping (water points)	Continuous	Roosting	Roosting site identified
				Camera Trapping (Vulture restaurant)	Continuous	Breeding	Breeding site identified
1.5	Pharaoh Eagle Owl <i>Bubo ascalaphus</i>	Monitoring of Pharaoh Eagle Owl in the DDCR	Gain a better understanding of the population status of the Pharaoh eagle owl within the DDCR and to learn more about their diet and breeding ecology	Nest Survey	Annual (Feb - May)	Breeding effort	2-5 nests
				Camera Trapping (water points)	Continuous		
1.6	Asian Houbara <i>Chlamydotis macqueenii</i>	Monitoring of the Asian Houbara in the DDCR	To have a established breeding population of Asian Houbara in the DDCR and surrounding area	Species weekly wounts	Weekly (every Tuesday)	Breeding effort	1-5 nests
				Distribution assessment	Annual (Winter)		
1.7	Arabian Wildcat <i>Felis lybica</i>	Monitoring of Arabian Wildcat in the DDCR	To have a better understanding of the population status of the Arabian wildcats exists in DDCR and collect morphological data. As main threat to Arabian wildcats the Feral cats will be eradicated from the reserve	Camera trapping (waterpoints)	Continuous		
				Trapping feral cats (waterpoints)	Continuous		
2	Habitats						
2.1	Sand Sheet with Perennial Herbs	Vegetation survey for sand sheets with perenial herbs	To implement the continuous practical and efficient vegetation monitoring program with the application of appropriate functional analysis for valid data interpretation that will lead to adaptive management plans for the reserve with sets of priorities and objectives	Vegetation monitoring		Cover and species distributions	5-10%
2.2	Interdunal Plains and Gravel Plains	Vegetation survey for interdunal and gravel plains	To implement the continuous practical and efficient vegetation monitoring with the application of appropriate functional analysis for valid data interpretation that will lead to adaptive management plans for the reserve with sets of priorities and objectives	Vegetation monitoring	Annual (Winter)	Cover and species distributions	7-14%

Biodiversity of Jebel Nazwa inside the DDCR:
An initial assessment with focus on plant community and bird diversity – 2023/FN-FL-EC/03 - Aline Witte de la Torre

The six sites selected to perform a Point Count (PC) survey have been visited 12 times from October 2023 to April 2024. Results show 1,057 individuals from 40 species, of which five are new records for the reserve. April displays the highest number of both species and individuals so far (Figure 1). Among the recorded species is the Pharaoh eagle-owl (*Bubo ascalaphus*), registered with three grown chicks, confirming the presence of at least one nesting site in Jebel Nazwa (Figure 2). An extensive search of the area is suggested for future research to locate more nesting sites. The most abundant species so far are common house sparrow (*Passer domesticus*) (512), laughing dove (*Spilopelia senegalensis*) (93), pallid swift (*Apus pallidus*) (79), purple sunbird (*Cinnyris asiaticus*) (76), and Eurasian collared dove (*Streptopelia decaocto*) (70). More than half of the species recorded so far are migratory (52.5%), 37.5% species are resident, 7.5% are invasive and 2.5% are partial migrants (Figure 3).



Figure 2. Pharaoh eagle-owl (*Bubo ascalaphus*) chicks spotted at PCS.

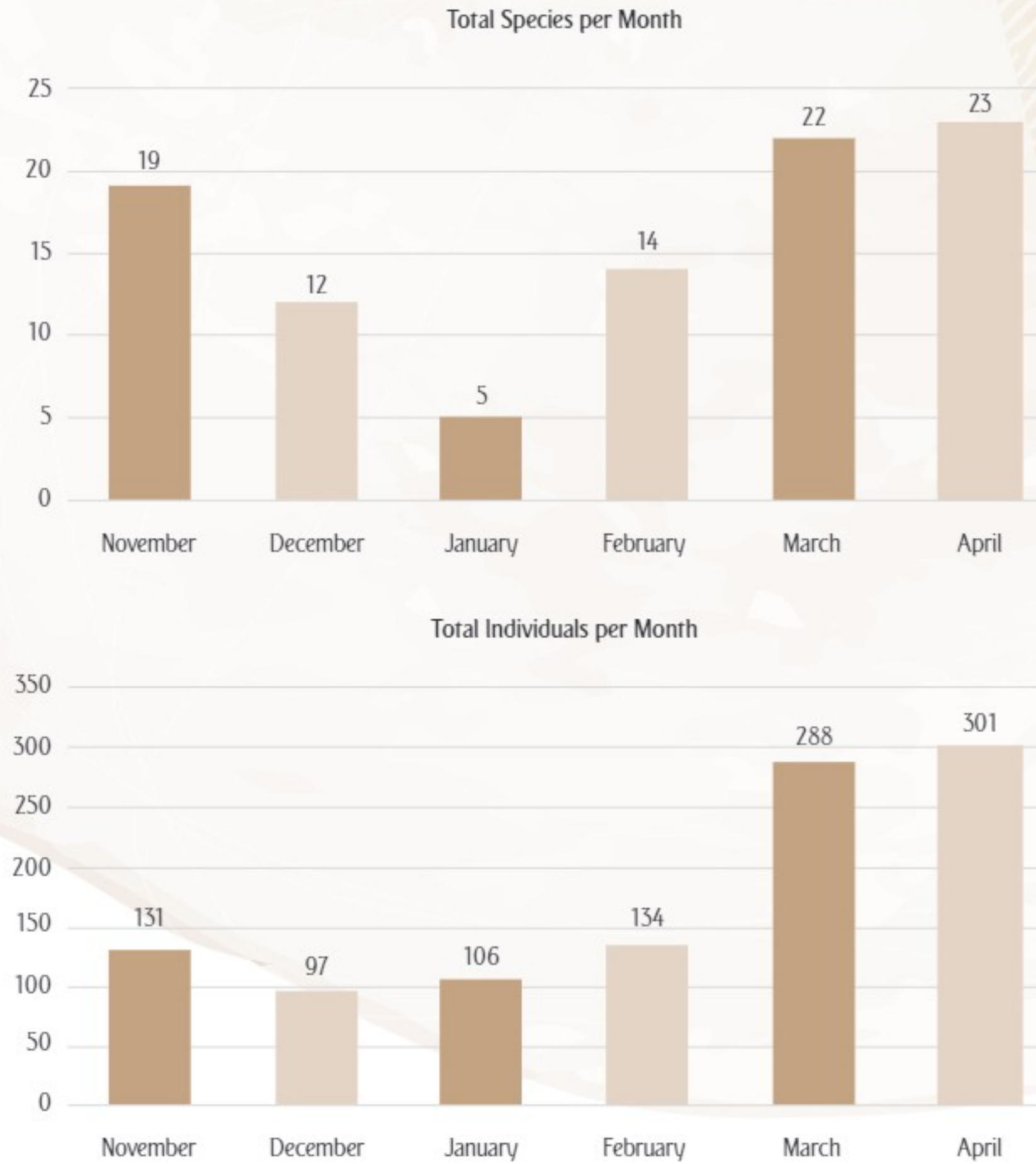


Figure 1. Total number of species (top) and individuals (bottom) recorded per month.

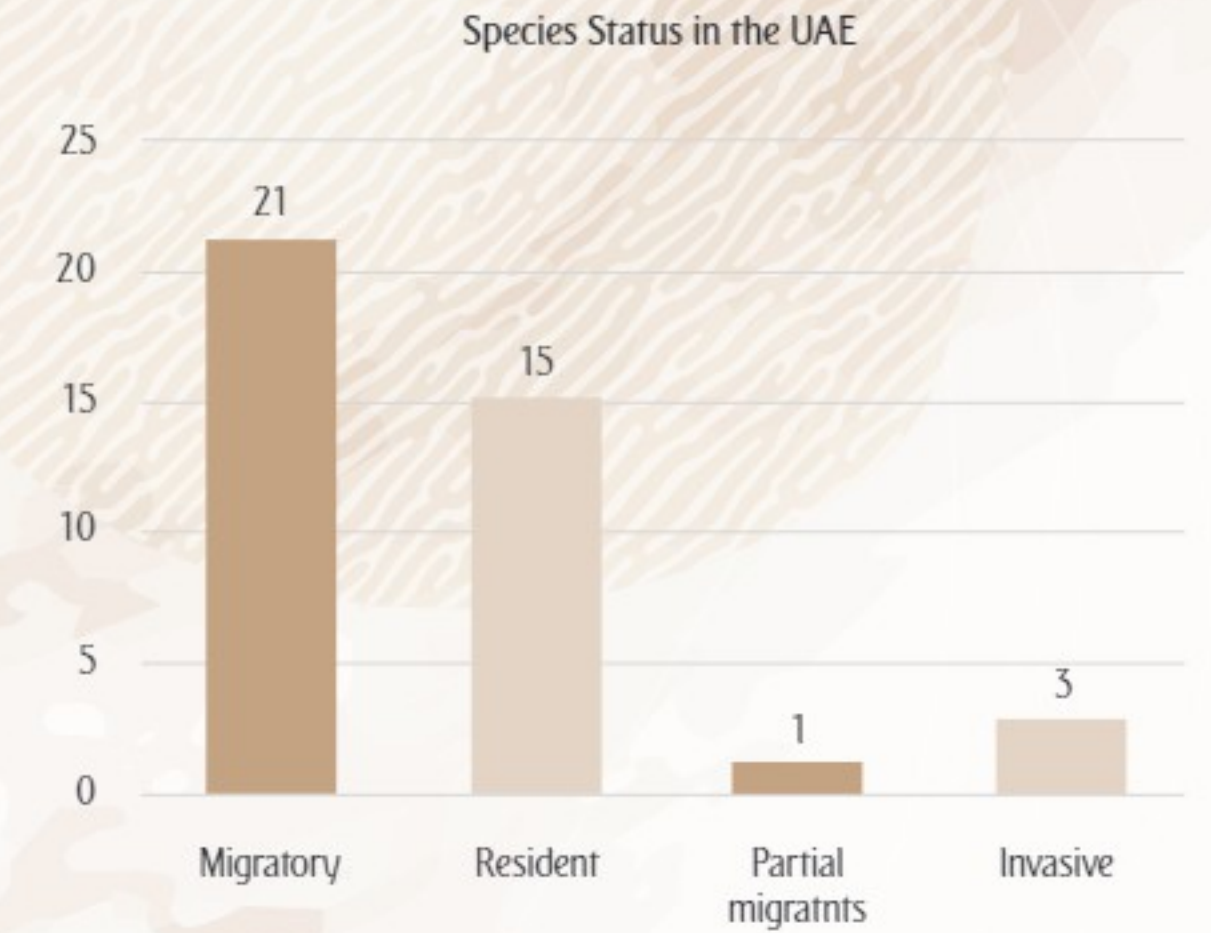


Figure 3. Number of migratory, resident, partial Migrants and invasive species recorded.



Vegetation survey

30 quadrants were randomly selected from six sites (plots), following the methodology from Alqamy (2004) currently used for yearly vegetation surveys in sand dunes and gravel plains of the DDCR (Figure 4). So far 25 quadrants (83%) have been sampled resulting in 390,240 individuals from 84 species (including four unidentified), of which 31 are new records for the DDCR. The highest number of individuals was recorded at site five (all quadrants in rocky slopes), while the highest number of species was recorded at site six (quadrants in mixture of sand dunes and rocky slopes) (Figure 5). The most abundant species so far are *Sclerocephalus arabicus* (98,472), *Plantago ovata* (94,308), *Plantago ciliata* (54,469), *Aristida adscensionis* (46,425), *Fagonia indica* (21,270), *Centaurea pseudosinaica* (12,813), and *Cenchrus ciliaris* (11,930).



Figure 4. Vegetation survey plot sites and quadrants at Jebel Nazwa.

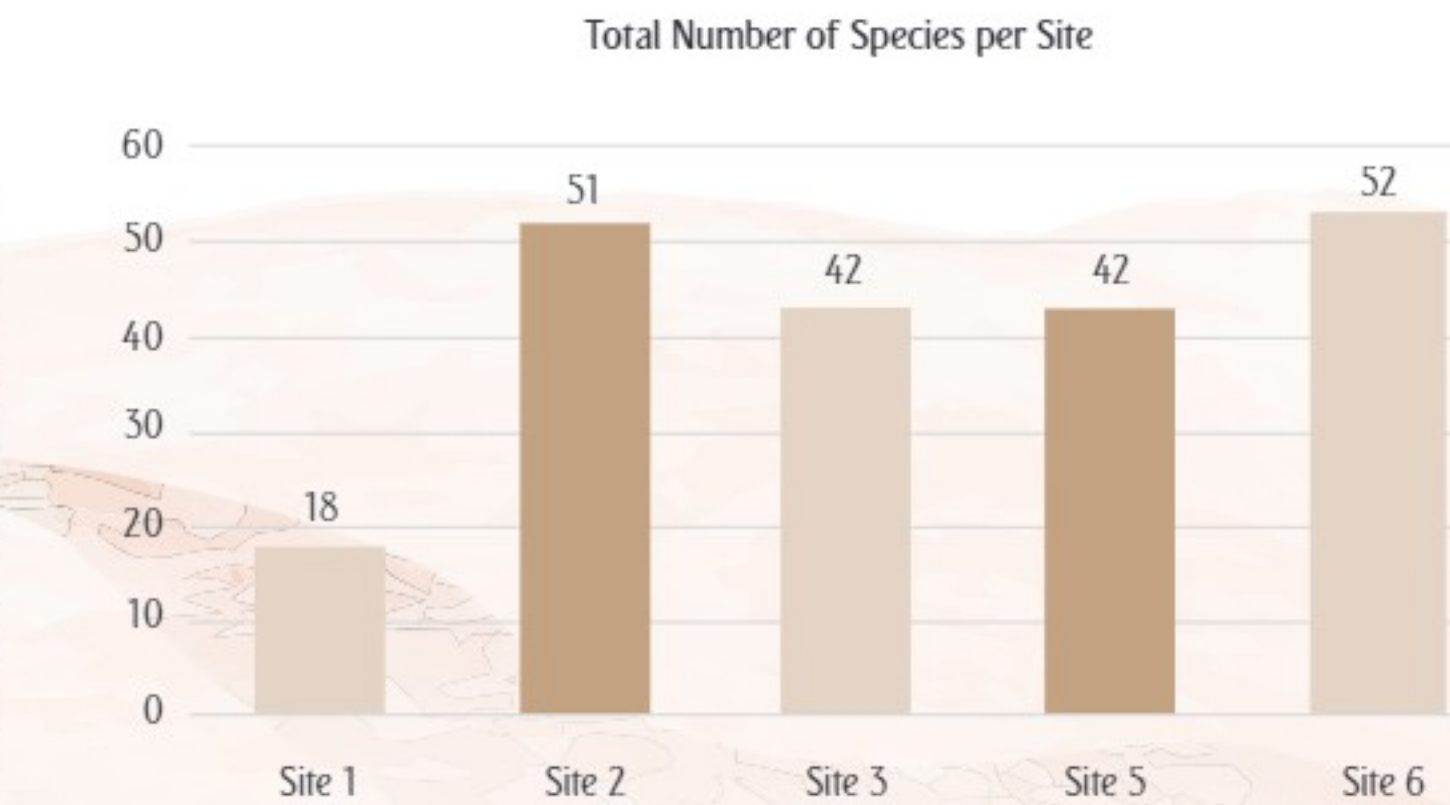
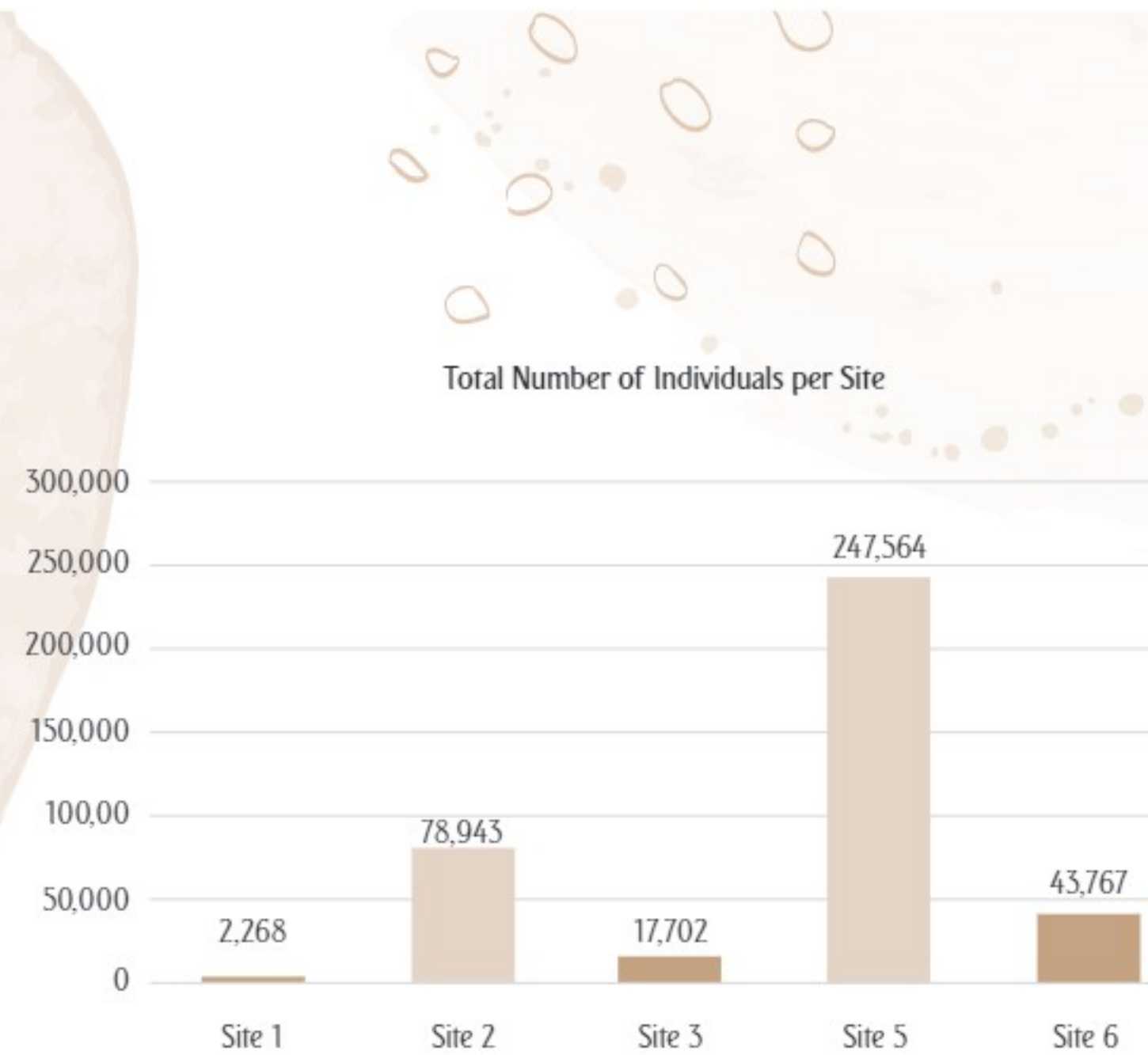


Figure 5. Number of individuals (top) and species (bottom) per site.

Appendix

Annex 1 - List of bird species, status and numbers recorded so far (new records highlighted).

	Stat.	Species	No.
1	I	Acridotheres tristis	14
2	M	Apus apus	10
3	M	Apus pallidus	79
4	R	Argya squamiceps	1
5	R	Bubo ascalaphus	5
6	M	Cercotrichas galactotes	1
7	R	Cinnyris asiaticus	76
8	M	Circus macrourus	1
9	I	Columba livia	50
10	R	Coracias benghalensis	1
11	R	Corvus ruficollis	8
12	M	Curruca curruca	1
13	M	Curruca nana	4
14	M	Emberiza cineracea	1
15	R	Emberiza striolata	3
16	R	Euodice malabarica	2
17	PM	Falco tinnunculus	11
18	M	Lanius collurio	2
19	R	Lanius excubitor aucheri	4
20	M	Lanius phoenicuroides	2

	Stat.	Species	No.
21	M	Merops apiaster	1
22	R	Merops orientalis	10
23	M	Merops persicus	1
24	M	Monticola saxatalis	3
25	M	Monticola solitarius	2
26	M	Muscicapa striata	1
27	R	Oenanthe albonigra	1
28	M	Oenanthe chrysopygia	11
29	M	Oenanthe oenanthe	2
30	M	Oenanthe pleschanka	7
31	R	Passer domesticus	512
32	M	Phoenicurus phoenicurus	1
33	M	Phylloscopus nitidus	2
34	M	Phylloscopus trochiloides	2
35	R	Ptyonoprogne obsoleta	2
36	M	Ptyonoprogne rupestris	2
37	I	Pycnonotus leucotis	43
38	R	Spilopelia senegalensis	93
39	R	Streptopelia decaocto	70
40	R	Upupa epops	5



The Ghaf tree (*Prosopis cineraria*) is extremely drought resistant and its roots can go down to 30 metres, enabling it to reach the water table in the DDCR.



Annex 2 - List of plant species and numbers recorded so far (new records highlighted).

	Species	No.		Species	No.		Species	No.		Species	No.
1	Aerva javanica	240	22	Dichanthium foveolatum	143	43	Launaea mucronata	702	64	Reseda aucheri	49
2	Aizoon canariense	293	23	Dipcadi biflorum	20	44	Leptadenia pyrotechnica	2	65	Rhanterium epapposum	17
3	Anastatica hierochuntica	415	24	Dipterygium glaucum	323	45	Limeum arabicum	29	66	Rhynchosia minima	5
4	Argyrobium roseum	3	25	Echiochilon persicum	26	46	Lotononis platycarpa	12	67	Rostraria pumila	466
5	Aristida adscensionis	46,425	26	Eragrostis barrelieri	10	47	Lotus halophilus	2	68	Rumex spinosus	1
6	Arnebia hispidissima	756	27	Eremobius aegyptiacum	7,278	48	Lycium shawii	2	69	Rumex vesicarius	698
7	Astragalus eremophilus	4	28	Euphorbia granulata	93	49	Medicago laciniata	2,595	70	Salvia aegyptiaca	11
8	Atractylis carduus	6,091	29	Euphorbia larica	1	50	Moltkiopsis ciliata	20	71	Savignya parviflora	3,167
9	Bassia muricata	993	30	Fagonia bruguieri	31	51	Monsonia nivea	42	72	Sclerocephalus arabicus	98,472
10	Calotropis procera	2	31	Fagonia indica	21,270	52	Montagnea arenaria	4	73	Seetzenia lanata	32
11	Cenchrus ciliaris	11,930	32	Farsetia linearis	14	53	Neurada procumbens	15	74	Senecio flavus	4
12	Cenchrus pennisetiformis	144	33	Forsskaolea tenacissima	17	54	Notoceras bicornis	1	75	Stipagrostis foexiana	1
13	Centaurea pseudosinaica	12,813	34	Gisekia pharnaceoides	45	55	Ogastemma pusillum	3	76	Stipagrostis plumosa	325
14	Centropodia forskalii	496	35	Gymnocarpus decander	2	56	Paronychia arabica	4,361	77	Suaeda aegyptiaca	37
15	Chrozophora oblongifolia	96	36	Haloxylon salicornicum	178	57	Pennisetum divisum	2	78	Tragus recemosus	4,399
16	Cleome amblyocarpa	4	37	Heliotropium bacciferum	17	58	Plantago amplexicaulis	7,671	79	Tribulus pentandrus	3,030
17	Cometes surattensis	4	38	Heliotropium dyginum	20	59	Plantago boissieri	535	80	Vachellia tortilis	43
18	Cornulaca monocantha	18	39	Heliotropium rariflorum	2	60	Plantago ciliata	54,469	81	Unidentified 1	1
19	Cymbopogon commutatus	1	40	Hippocrepis constricta	2,078	61	Plantago ovata	94,308	82	Unidentified 2	18
20	Cyperus conglomeratus	1,767	41	Lasiurus scindicus	39	62	Plocama aucheri	1	83	Unidentified 3	2
21	Dactyloctenium scindicum	73	42	Launaea capitata	501	63	Polygala erioptera	6	84	Unidentified 4	4

Vulture Research Update

On 9 November 2023, a second vulture restaurant was created for capture and release operations. This new site is intended for the collection of data on four species of vulture which occur in the DDCR, Lappet-faced Vulture, (*Torgos tracheliotos negevensis*), Egyptian vulture (*Neophron percnopterus*), Eurasian Griffon Vulture (*Gyps fulvus*), and Cinereous Vulture (*Aegypius monachus*).

Data will be collected by catching and releasing vultures using capturing cages, net launchers, and bird snares. Vultures will then be fitted with GPS trackers, tagged, and released, allowing us to record their movements and possibly locate their breeding grounds. Samples (blood, swabs, faeces, ectoparasites, and feathers) will be collected to assess the health of the individuals and check their exposure to diseases, environmental lead and possible NSAID contaminants. Samples will also be preserved for future conservation genetics.

In the past five months, oryx, gazelle, eland, and goat carcasses have been placed at the vulture restaurant and in front of a camera trap. Vultures have been recorded at this new site, including three species, Lappet-faced Vulture, Eurasian Griffon Vulture, and Cinereous Vulture. The next phase will be to gradually assemble the capturing cage around the newly brought in carcasses and assess the vulture's behaviour in relation to the newly built capturing cage. Please refer to the timeline and photos.

Vulture restaurant 2 (VR2) timeline

Camera trap deployed 9 November 2023

One Oryx (adult, male) moved to VR2 on 17 November 2023
(Vultures came to carcass)

One Arabian Gazelle moved to VR2 on 20 November 2023
(Vultures)

One Arabian Gazelle moved to VR2 on 21 November 2023
(Vultures)

Half of vulture cage set up at VR2 on 12 December 2023

One Arabian Gazelle moved to VR2 on 19 December 2023
(Vultures did not come for carcass)

One Arabian Gazelle moved to VR2 on 23 January 2024
(No vultures)

One Dama Gazelle (adult, male – from Sheikh Botti Farm) moved to VR2 on 2 February 2024
(One vulture)

One Common Eland (adult, male – from Sheikh Botti Farm) moved to VR2 on 9 February 2024
(No vultures)

One Arabian Gazelle (adult – from Sheikh Botti Farm) moved to VR2 on 6 March 2024
(No vultures)

One Arabian Gazelle moved to VR2 on 20 March 2024
(No vultures)

Three goats (adult – from Sheikh Botti Farm) moved to VR2 on 24 March 2024
(No vultures)



Eurasian Griffon and Lappet-faced Vultures recorded on 18 November 2023 at VR2)



Cinereous and Lappet-faced Vultures recorded on 18 November 2023 at VR2)



(Lappet-faced Vulture recorded on 7 February 2024 at VR2)



On 12 December 2023, half of the vulture cage had been set up at the new vulture restaurant (vulture restaurant 2)

Another method being used for data collection is by going through all camera trap footage of vultures in the DDCR since they were first recorded in the reserve. The archived data collected so far has proven to be beneficial. A tagged vulture with the white tag A07 was captured on camera trap on 10 July 2023 at the Faqah Waterhole and then again on 24 September 2023 in Al Buraimi, Oman. Please refer to photos below.



(Photos taken at the Al Faqah Waterhole)



(Photo taken in Al Buraimi, Oman)

Biodiversity in Ghaf Trees (*Prosopis cineraria* (L.) Druce) with focus on bird nesting

297 trees from 11 different locations in the DDCR have been marked to be evaluated. The 11 locations belong to either a single Ghaf tree or to a Ghaf grove. In the case of the Ghaf grove, 10% of the trees were marked to be evaluated, with a minimum distance of 15m between marked trees.

From those 297 trees, 114 trees (38.4%) have been evaluated, with a remaining 183 trees to be researched. There is a plan to increase the number of locations to be researched.

Even though all species are considered, including invasive ones such as White-eared Bulbul (*Pycnonotus leucotis*) or the Eurasian-collared Dove (*Streptopelia decaocto*), the focus is on raptors and other rare species. So far, three active nests of species of interest have been found.



- 1 The first nest was found on 22 January 2024 and belonged to a Pharaoh Eagle-owl (*Bubo ascalaphus*) (Figure 1). A total of three owlets were found in the nest, always with one of the parents next to them. The nest was monitored once a week to see the progress of the owlets. Three camera traps recorded the nest for several weeks, including capturing footage at night. When the nest was first observed, the owlets were a few weeks old. In only two weeks since its discovery, the first owlet abandoned the nest and stayed in a tree nearby. In the following visit after one week, the three owlets had abandoned the nest and were observed together under a bush in a location close to the nest. The owlets weren't sighted anymore until a month later when they were observed under another Ghaf tree 30 metres away from the tree where the nest was.
- 2 The second nest was discovered on 14 February 2024 and it belonged to a Long-legged Buzzard (*Buteo rufinus*) (Figure 2). One of the parents was flying around the area where the nest is. According to other members of the team, that same nest has been used several times by other raptors. It wasn't until 14 March when the sighting of a chick was confirmed (although the presence of another one is to be confirmed). One of the parents (presumably the female) is always on the nest, covering the chicks, while the other parent is flying around. Further monitoring of the nest will clarify the number of chicks.
- 3 The last active nest found in a Ghaf tree belongs to an Arabian Great Shrike (*Lanius excubitor aucheri*). Nest was found on 2 February 2024 and three chicks were counted (Figure 3).

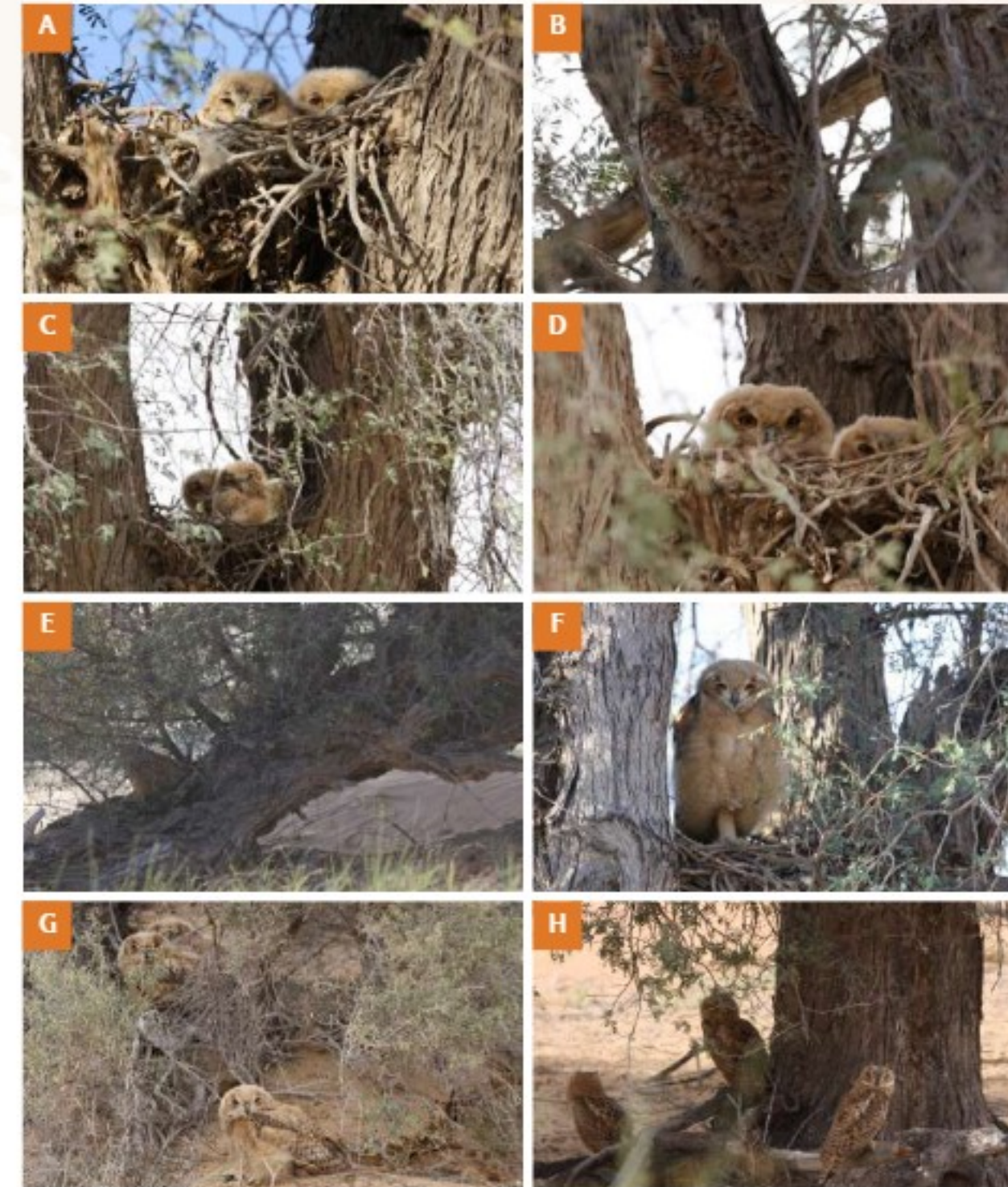


Figure 1

- A Two owlets – 22 January 2024.
- B Pharaoh Eagle-owl adult (parent) – 22 January 2024.
- C Three owlets – 29 January 2024.
- D Two owlets – 7 February 2024.
- E First owlet found to have abandoned the nest – 14 February 2024.
- F One owlet still at the nest – 14 February 2024.
- G Three owlets under a bush – 19 February 2024.
- H Three full-size but young Pharaoh Eagle-owls – 21 March 2024.

Biodiversity in Ghaf Trees (*Prosopis cineraria* (L.) Druce) with focus on bird nesting

There are three lone Ghaf trees with inactive nests that have not been used yet this season. These nests are monitored at least once every two weeks to check their status.

The rest of the areas researched are formed by Ghaf groves with trees that have an average height of nine metres, a seven metre crown diameter, and are very close to each other. Multiple nests can be found in these Ghaf groves but they belong to the invasive species (Figure 4).



Figure 2

A Nest - 14 February 2024. B Long-legged Buzzard adult (parent) - 14 February 2024.
C One chick and one adult - 14 March 2024. D One chick and one adult on the nest - 14 March 2024.
E Adult on the nest - 14 March 2024. F Second parent flying around - 14 March.

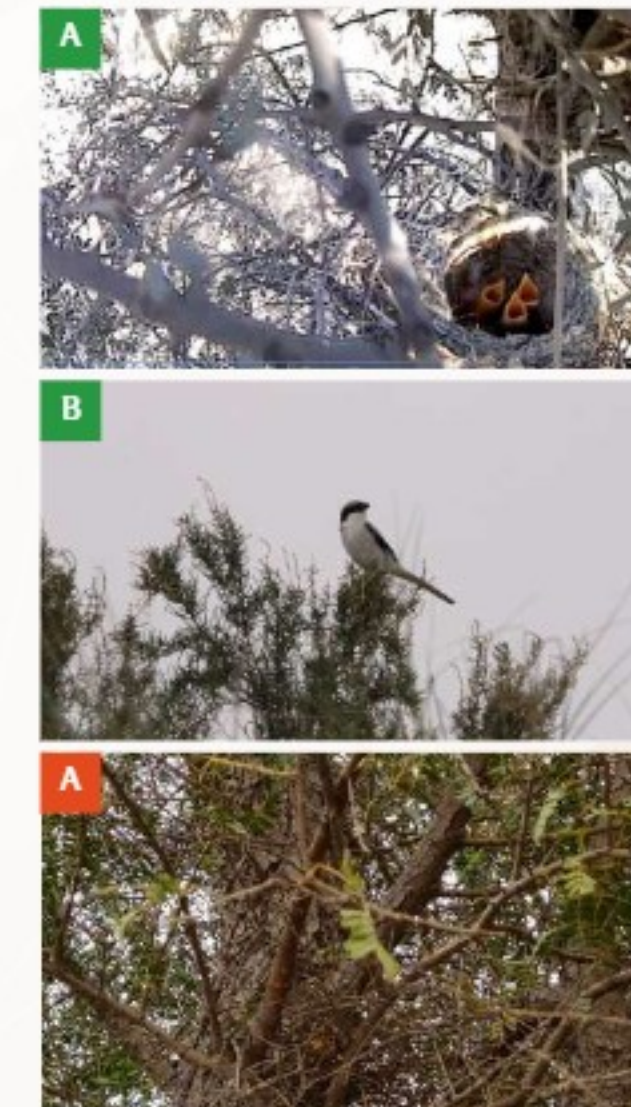


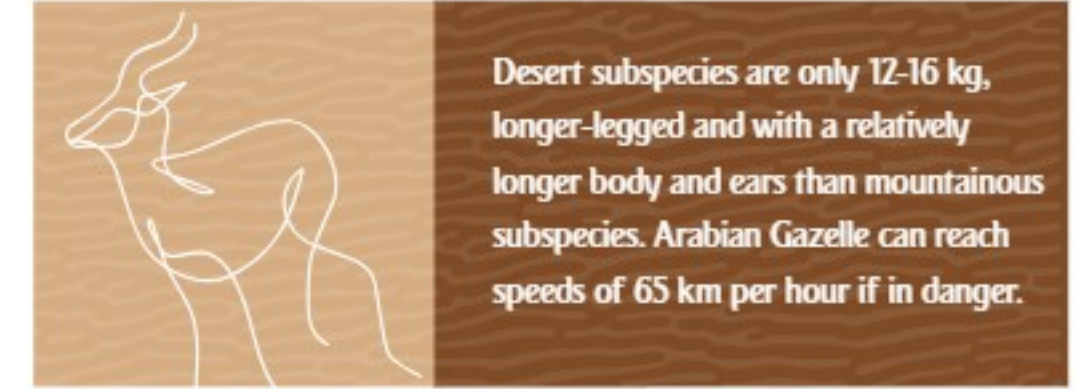
Figure 3

A Nest with three chicks - 27 February 2024.
B Arabian Great Shrike adult (parent) - 27 February 2024.

Figure 4

A Eurasian Collared Dove nest with one egg.

Intern, Undergraduate and Volunteer Projects



In October, a volunteer programme was initiated to raise awareness about DDCR wildlife. This initiative encompasses various activities, including participating in the monthly rotation of SD cards within the reserve's six permanent camera traps, analysing the captured images, and collaborating in several surveys. The programme's level of engagement is exceedingly encouraging and holds promise for the future. 426 people signed up to this volunteer programme:

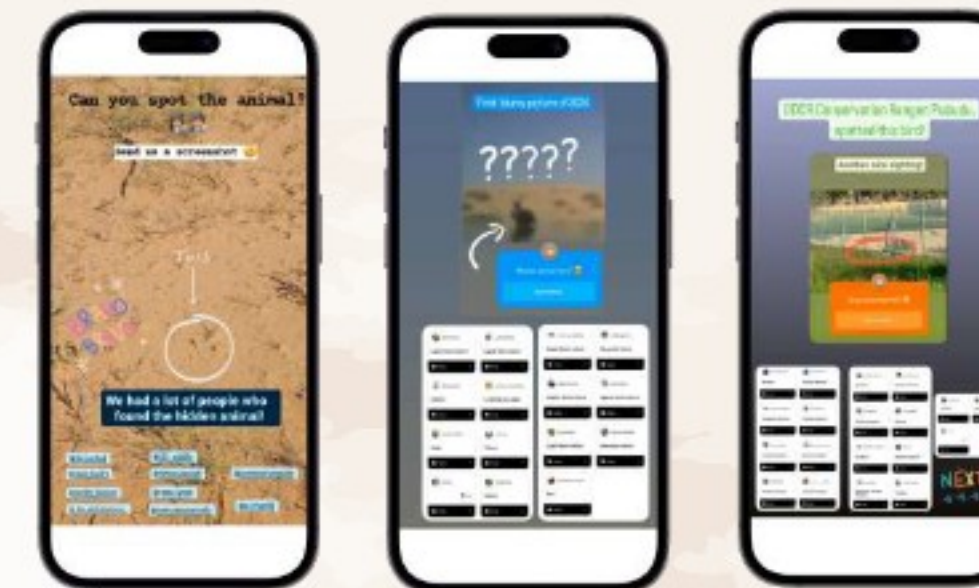
- 15 people visited the reserve and assisted with changing camera SD cards (6 hours per day/person total 90 hours)
- Three training sessions were held to train volunteers on the use of the software to analyse the pictures (3 hours)
- More than 50,000 pictures were analysed by the volunteers (More than 500 hours of volunteer participation)
- Nine people participated in surveys (total of 6 hours per person total 45 hours)
- One group of students participated in the Spiny-tailed Lizard's survey as part of their school's environmental scheme.

Furthermore, as a component of our Environmental Education initiatives, a series of webinars commenced in February. These webinars are facilitated by researchers who have conducted projects within the DDCR. To date, we've hosted presentations with Nils Bouillard discussing bats and their ecological significance, and Sofia Pyshnieva speaking about her research on the movements of Arabian oryx within the reserve.

Instagram account

Social media has evolved into a crucial tool for the DDCR to connect with people. Daily posts and interactive games has effectively captivated the attention of the public, resulting in a notable surge in follower (from 750 followers to over 1,800). This increased engagement, coupled with a heightened level of involvement and interest demonstrated by these followers, has laid the groundwork for the establishment of a volunteer programme.

Weekly interactions on our social media platforms now extend to approximately 1,200 accounts, with spikes in activity observed during the posting of monthly highlights captured by our camera traps. This increased visibility not only amplifies our reach but also fosters a deeper connection with our audience, paving the way for meaningful community involvement and support.



Wildlife

Ungulate population policy:

In line with the DDCR's purpose and as an ecological imperative, the policy is to significantly reduce and then regulate ungulate populations to restore the natural balance and aid the recovery of the desert ecosystem.

This will be accomplished by a tested, phased and carefully monitored programme that will involve a combination of translocation, population management, and natural predation of the Oryx and two gazelle species, with consequent adjustments to their supplementary feeding.



600

Arabian Oryx
as of March 2024.



Arabian Oryx

The population of Arabian Oryx in the reserve had reached unsustainable numbers it exceeded the reserve's capacity with evidence of overgrazing having a damaging impact on the natural vegetation. This was as a result of the Arabian Oryx having no natural population regulators such as food restrictions (supplementary feed is provided), migration or predators. Excess population creates risk of disease transmission, mortality from aggression and abnormal behaviours due to stress, such as pacing along the fence. Moreover, an ecosystem with overpopulation of any one species can lead to the overall loss of biodiversity, as other species are displaced through habitat loss or change, and over utilisation of resources. Therefore, it has been necessary to implement a project to move some Arabian Oryx into two adjacent enclosures and then stop breeding by separating males and females.

From April 2023 to March 2024, 88 Arabian Oryx were moved to the enclosures.

These animals were weighed and tagged with males and females separated before being released into the enclosures. During this period there were no Oryx translocated from the enclosures to private reserves in the UAE. As of the end of March 2023 there were 237 females in the south enclosure and 225 males in the north enclosure. Further relocations from the enclosures to private reserves are planned in May to Umm Al Quwain and after the summer to Angola and the Philippines.

Due to the relocation, the Arabian Oryx population in the DDCR has decreased to an estimated population of 233 as of March 2023.

Population thresholds for Arabian Oryx have been established at 200 to 300.

The number of Arabian Gazelle and Sand Gazelle spotted in the reserve are counted on a weekly basis.

From April 2023 to March 2024, there was an average of 437 Arabian Gazelles and 124 Sand Gazelles.



In good grazing conditions, Oryx may live as long as 20 years.



Nesting Birds – 2023-2024

The reserve’s primary purpose is to restore the contained habitats to their original conditions using natural processes, which included the monitoring and recording of nesting birds. The below was recorded throughout the past year.



July 2023
Chestnut-bellied sandgrouse nest found in the sand during the spiny-tailed lizard field survey.



February 2024
Greater hoopoe-lark nest discovered inside a dune grass (*Cyperus conglomeratus*) tussock by Conservation Officer Basil.



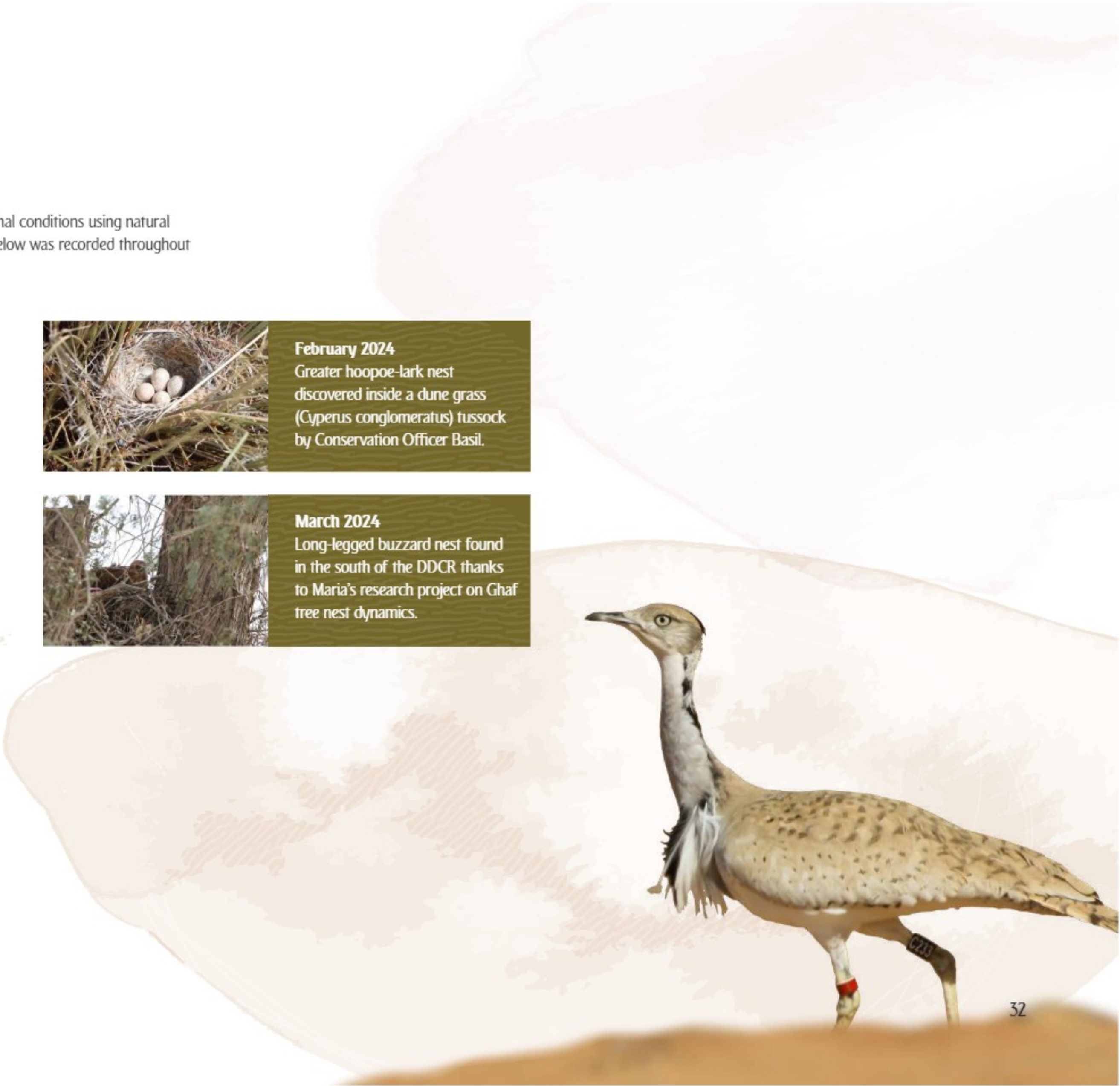
January 2024
Pharaoh eagle-owl nest found in one of the DDCR’s naturally occurring Ghaf groves.



March 2024
Long-legged buzzard nest found in the south of the DDCR thanks to Maria’s research project on Ghaf tree nest dynamics.



February 2024
Shrike nest found thanks to Conservation Officer Maria’s research project on Ghaf tree nest dynamics.



DDCR Visitors

Visitor Management Policy, DDCR Management Plan 2019-2024

As a premium tourism destination, the DDCR will continue to deliver a range of authentic and quality experiences for visitors by enforcing regulations and limiting visitor numbers to levels that do not undermine the reserve's inherent values. In line with the DDCR's stated purpose, high impact visitor activities will be strictly restricted to existing designated areas while low impact nature-based visits and activities will be promoted and encouraged with greater access to the reserve.

Guests at the DDCR visit through tour operators that hold a concession agreement with the reserve, or are guests of the Al Maha Desert Resort.

The number of visitors to the DDCR has remained consistent in comparison with 2022-2023.

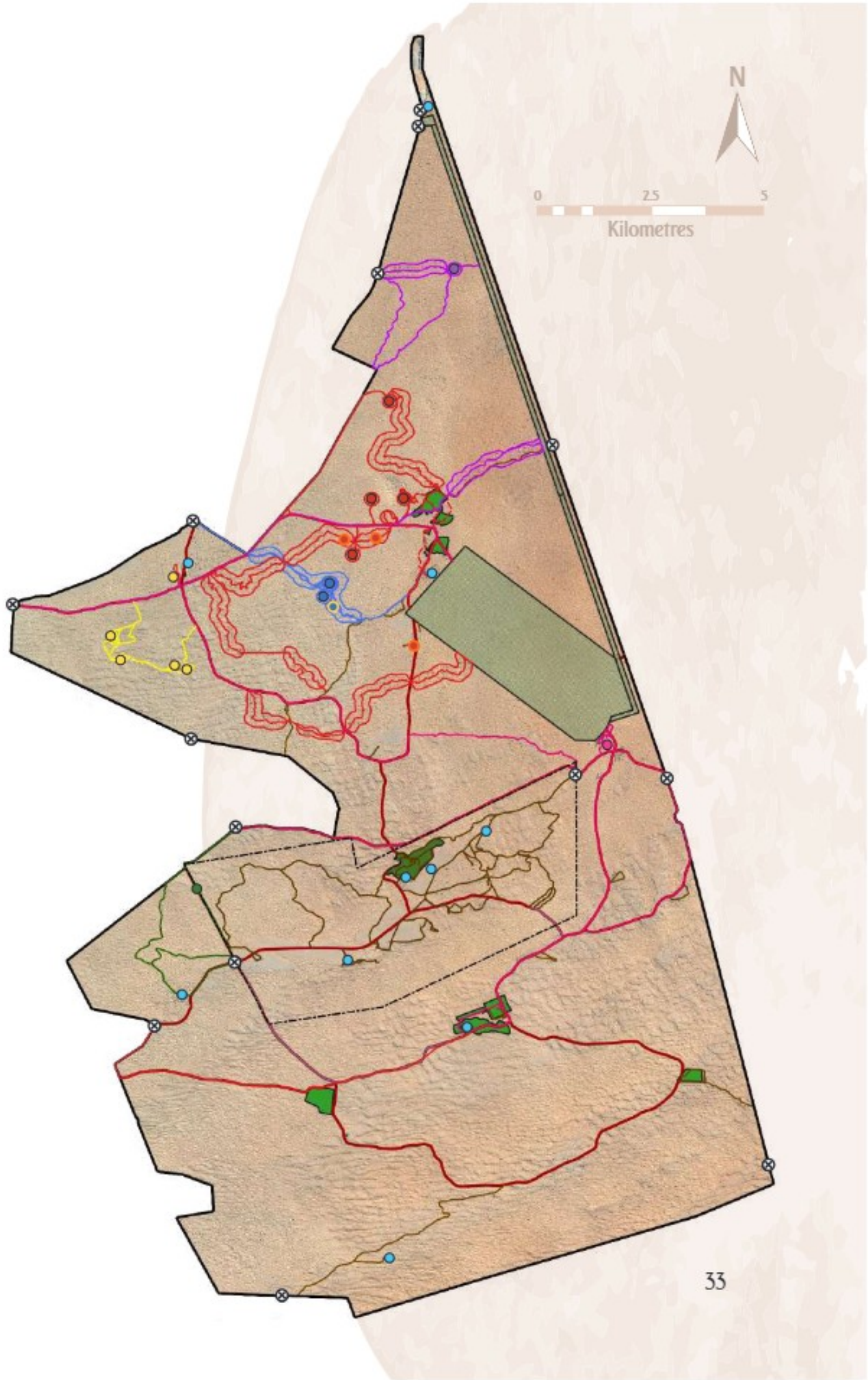
213,264 visitors came to the DDCR in 2023-2024, with Platinum Heritage, Arabian Adventures, Nara Desert Escapes and Al Maha providing the bulk of visitors.

Symbology Arabian Adventures

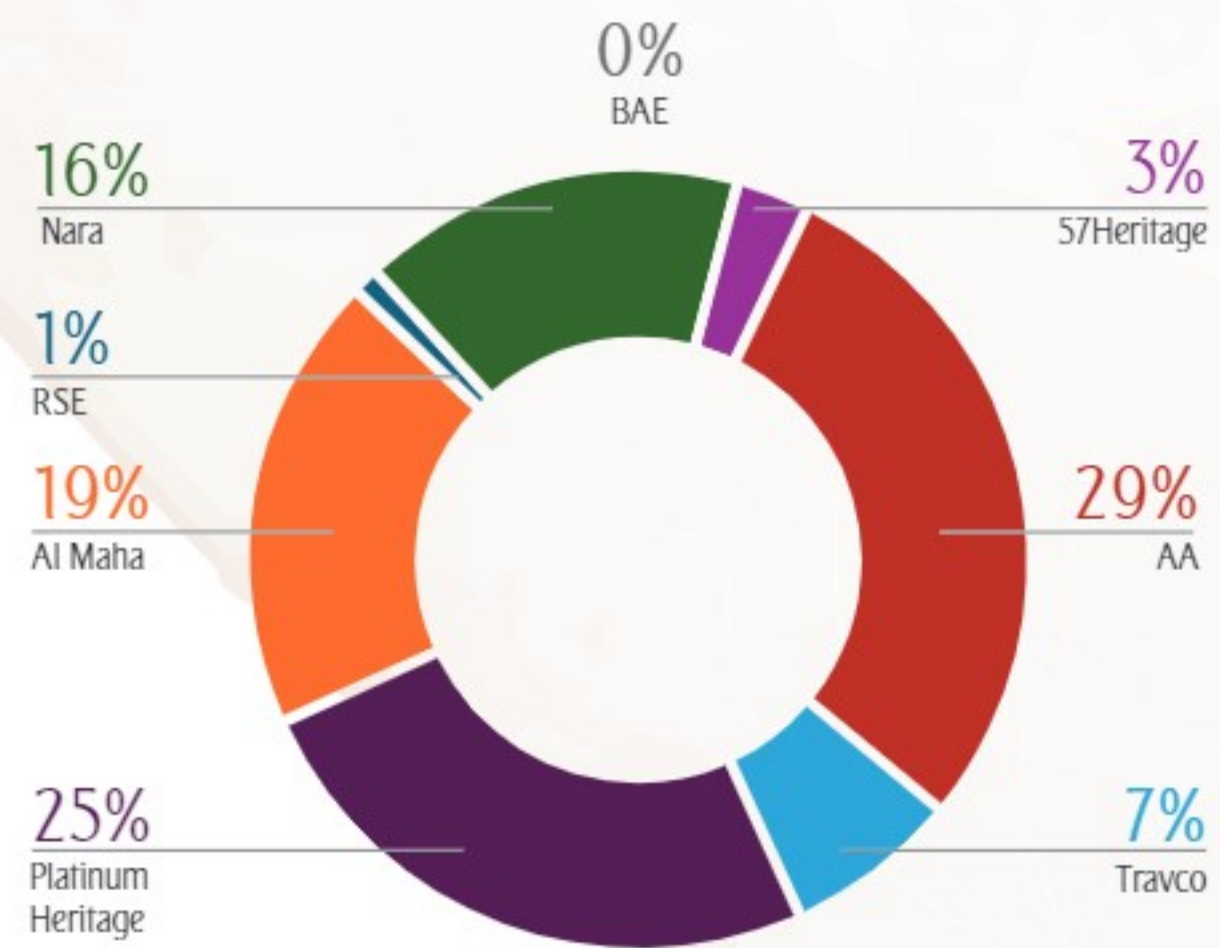
- Just For You
 - Camp Sites
 - Farbike Tracks
 - Routes
 - Buffers
- Travco
 - Camps
 - Sundowners
 - Routes
 - Buffers
- Nara
 - Camp & Sites
 - Routes
 - Buffers
- 57 Heritage
 - Camp
 - Buffers
- Platinum Heritage
 - Sunset Stop
 - Routes
- Sand Sherpa
 - Campsite
 - Routes
- Al Maha Resort
 - Boundary
 - Routes
 - Buffers
- DDCR
 - Boundary
 - Main Roads
 - Tracks
 - Gates
 - Waterholes
 - DEWA
 - Lakes
 - Farms

Tour Operator Summary 2023-24

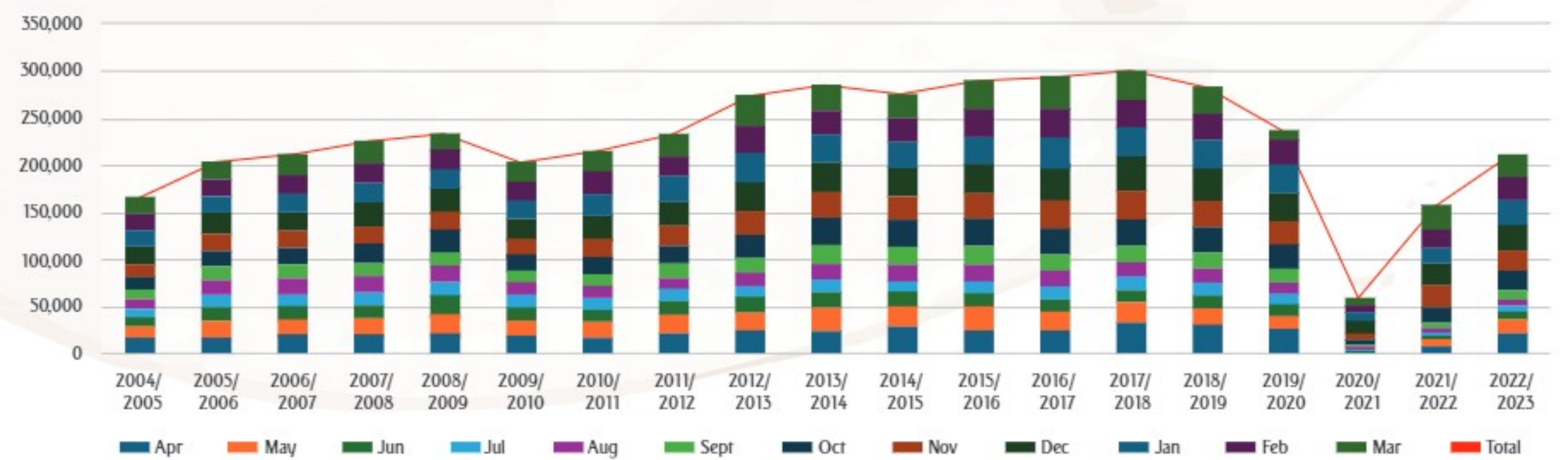
	April	May	June	July	August	September	October	November	December	January	February	March	Total
AA	5,633	3,325	2,729	2,231	2,224	3,035	6,450	5,887	6,952	8,258	7,627	7,222	61,573
Travco	1,680	938	305	167	198	521	1,283	2,577	1,596	2,580	2,058	1,579	15,482
Platinum Heritage	6,192	3,182	1,768	1,553	1,446	2,410	4,891	5,385	6,558	6,173	6,638	6,144	52,340
Al Maha	4,335	3,344	2,202	2,213	2,115	2,779	4,261	3,849	4,074	4,004	4,448	3,581	41,205
RSE	315	64	12	7	11	30	187	314	616	453	462	338	2,809
Nara	3,997	2,694	487	567	0	689	3,282	3,824	5,617	3,506	3,912	5,077	33,652
BAE	5	84	0	0	0	0	0	0	0	42	3	0	134
57 Heritage	635	508	404	260	147	258	480	661	750	821	679	466	6,069
	22,792	14,139	7,907	6,998	6,141	9,722	20,834	22,497	26,163	25,837	25,827	24,407	213,264



Tour Operator Summary 2023-24



Dubai Desert Conservation Reserve - Annual Visitors



Major Projects in 2024-2025

Outreach and Public Awareness Policy, DDCR Management Plan 2019-2024

Concerted efforts will be made, and resources mobilised to raise local, national, and international awareness of the DDCR's significance, its conservation purpose, and social values. The aim is to build wide public understanding and support for the reserve's conservation by designing and implementing awareness, outreach programmes and marketing campaigns. The target audiences will be local and international visitors, tour operators, local communities, and senior decision-makers. The Visitor Centre will be a place for people to enhance their environmental awareness and connect with the unique desert habitat of the DDCR. Better visitor experience leads to more word-of-mouth conversations, leading to the success of the DDCR's visitor activities.

The Visitor Centre aims to achieve the following:

- Enhance the visitor experience by adding new activities to experience before or after touring the reserve.
- Connect visitors with an authentic desert experience.
- Be used as a platform to develop an educational programme for schools and higher education.
- Better understand visitors' motivations and needs and identify opportunities to provide a better experience.
- Raise visitors' awareness of desert values and elicit support for its conservation.



Update: The Visitor Centre project officially opened on 4 October 2023. The full press release can be found here www.emirates.com/media-centre.



Scan the QR code for the DDCR Visitor Centre full media announcement.

DDCR Affiliations

IUCN Green List of Protected Areas

The IUCN Green List of Protected and Conserved Areas is the first global standard of best practice for area-based conservation. It is a programme of certification for protected and conserved areas that are effectively managed and governed. The DDCR is a Candidate Site for the IUCN Green List.



Green List
Protected | Conserved Areas



A word from the Conservation Manager



When reading the year-end report for 2023-2024, it is evident that the past year has been one of the most successful in the history of the DDCR. With a completely new team of dedicated conservation officers, rangers and other employees, the reserve has entered a new era in conserving and protecting the last of the remaining desert inland-eco systems in Dubai.

The diversity of the team has resulted in increased productivity, improved decision-making, enhanced problem-solving and has provided multiple perspectives on the challenges we faced. As the Conservation Manager of the reserve, I am immensely proud to be working with such highly talented, dedicated, and passionate colleagues.

The biggest accomplishment in the past year was undoubtedly the opening of the Visitor Centre, a dream that was initially proposed in 2018. The main purpose of the Visitor Centre is to inspire and educate the public about the incredibly diverse fauna and flora on the reserve, and that multiple forms of life can be sustained, even in such a harsh climate. We officially opened the doors in October 2023 and our objective is to spread the word of conservation and preservation to the many schools in Dubai. We are proud to have worked with leading tour operators such as Arabian Adventures and Sand Sherpa in approaching schools and delivering high quality education about the natural environment within the reserve. Inspiring the next generation is vital to ensuring the continued protection of natural environments.

Finally, as we draw near towards the end of the financial year, we will reflect on our 2019-2024 Management Plan and analyse our results against the Strategic Management Goals that were implemented. At the same time, we will set new goals for the 2025-2030 Management Plan, which will also align with the United Nations Sustainable Development Goals.

We would like to thank our trusted stakeholders, tour operators and the Emirates Group for their support during the past year. The successes we experienced were made possible through continuous relationship-building and positive collaboration.

With best regards,

Gerhard Erasmus
Conservation Manager



March 2023
30 Oryx were relocated
into the enclosures.



محمية دبي الصحراوية
DUBAI DESERT CONSERVATION RESERVE

Emirates Group Headquarters
PO Box 686, Dubai, UAE
www.ddcr.org

