

# YEARS OF PRESERVING

## Sheikh Zayed's Environmental Legacy





# Credits

**Copyright © 2019  
Environment Agency - Abu Dhabi**

All rights reserved. No part of this publication may be reproduced, stored in a retrieval system or transmitted in any form or by any means, electronic, electrostatic, magnetic tape, mechanical, photocopying, recording, scanning or otherwise, without permission in writing from the publisher.

**Content Development and Review:**

Ebtesam Al Harthi  
Laila Al Hassan  
Manisha Pillai  
Peter Hellyer  
Richard Perry  
Salim Javed

**Creative Director & Production Supervisor:**

Amani Issa

**Arabic Translation:**

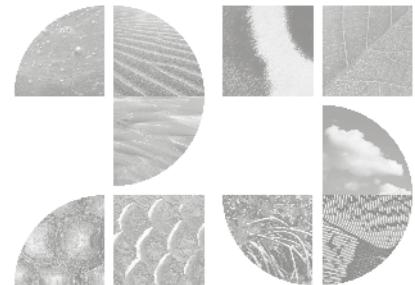
Moustafa Arab Nemr  
Sobhia El Masri

**Photography:**

Environment Agency - Abu Dhabi  
Himansu Das  
IFHC  
John Davis  
NASA  
Salim Javed  
Xavier Eichaker

**Prepared by:**

Environment Agency - Abu Dhabi  
P.O. Box 45553, Abu Dhabi, UAE  
Tel: +971-2-6934444  
[customerhappiness@ead.gov.ae](mailto:customerhappiness@ead.gov.ae)  
[www.ead.gov.ae](http://www.ead.gov.ae)



YEARS OF PRESERVING

Sheikh Zayed's Environmental Legacy

The Environment Agency – Abu Dhabi (EAD)  
is proudly celebrating its Silver Jubilee.

This book marks our 25-year milestone of being an  
organisation with local roots and global ambitions,  
safeguarding the emirate's environment for future  
generations.

"We cherish our environment because it is an integral part of our country, our history and our heritage. On land and in the sea, our forefathers lived and survived in this environment. They were able to do so only because they recognised the need to conserve it, to take from it only what they needed to live and to preserve it for succeeding generations."

**LATE SHEIKH ZAYED BIN SULTAN AL NAHYAN**



"Protection of the environment and achievement of sustainable development in the UAE is a national duty; it has its own institutional structures, integrated legislature and advanced systems."

**HIS HIGHNESS  
SHEIKH KHALIFA BIN ZAYED AL NAHYAN**  
President of the United Arab Emirates



"Water is more important than oil for the UAE."

**HIS HIGHNESS  
SHEIKH MOHAMED BIN ZAYED AL NAHYAN**  
Crown Prince of Abu Dhabi Emirate, Deputy Supreme Commander  
of the UAE Armed Forces and Honorary Chairman of the  
Environment Agency – Abu Dhabi



# Contents





# Foreword

As a nation, thanks to the wise leadership of H.H. Sheikh Khalifa bin Zayed Al Nahyan, president of the UAE, and H.H. Sheikh Mohamed bin Zayed Al Nahyan, Crown Prince of Abu Dhabi, we have a clear vision for our people, economy and environment.

To prosper and develop, we seek a balance between the aspirations of our people and the needs of our planet. It is through science and understanding that we strike such a balance. Through our scientific endeavours, we understand the challenges that face us and know how best to address them to ensure a lasting legacy for the future.

We continuously strive to improve our stewardship of the bounty that we have inherited and the environmental legacy that we hand down to the next generation. We trust that our descendants will do even better than us in this regard.

We meet these challenges with a positive outlook, vigour and innovation, turning every challenge into a new opportunity.

As such, over the years, we have spared no effort in improving our understanding of the environment, and in educating our youth on the importance of conserving the wealth of our resources. We have a much better understanding of our air, water, soil, habitats, and species; empowering us to become more effective stewards of the future.

We have reintroduced species that were once extinct in the wild, and have relied on innovative technologies to protect our precious resources . We will continue to push the boundaries of possibility, ensuring the adoption of best practices to deliver sustainable development and growth for generations to come.

**HAMDAN BIN ZAYED AL NAHYAN**  
Ruler's Representative in the Al Dhafra Region,  
Chairman of the Environment Agency – Abu Dhabi

# Foreword



H.E. MOHAMMED AHMED AL BOWARDI  
Vice Chairman of the Board of the Environment Agency – Abu Dhabi

Celebrating 25 years of success offers a golden opportunity to evaluate what we have achieved. Two decades ago, Abu Dhabi was very different from what we see today. It grew, developed, and so did the Environment Agency – Abu Dhabi (EAD).



Since our establishment in 1996, when we worked under the name ‘Environmental Research and Wildlife Development Agency’ (ERWDA), the role and responsibility of EAD has widely expanded. Our humble beginnings focused on protecting the environment, wildlife and biodiversity through monitoring and scientific research. While our responsibilities increased, our vision remained the same. Collecting and analysing data enhanced our understanding of the environment and the impact on our natural heritage in Abu Dhabi and beyond – helping us to lay the foundations for a more sustainable future.

Our responsibility to protect the environment and natural resources in Abu Dhabi is one of EAD’s inherent values. The agency was established on foundations of deep respect towards the environment, a sense of duty in protecting it and our hope for a better future.

Despite the notable impact we have made during these first 25 years, we consider this to be just the beginning. We will continue to preserve Sheikh Zayed’s environmental legacy, enhance air and water quality, conserve our valuable natural resources and protect our biodiversity. If we inspire individuals and communities – especially the youth – to positively contribute to sustainability, then we will ensure a healthy life and sustainable environment for current and future generations.

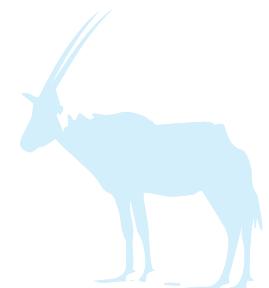
# Preface



H.E. RAZAN KHALIFA AL MUBARAK

Board Member and Managing Director of the Environment Agency – Abu Dhabi

Since its inception over two decades ago, the Environment Agency – Abu Dhabi has needed to evolve quickly to keep pace with the emirate's rapid pace of development.



When we started, a small group of dedicated ecologists focused on protecting species such as the Houbara Bustard and the Dugong from extinction. These early beginnings were closely supported by His Highness Sheikh Mohamed bin Zayed Al Nahyan, who was instrumental in establishing a strong foundation, helping us to become who we are today – a multi-sectoral Agency with teams of scientists, regulators and enforcers tackling an enormous variety of challenges.

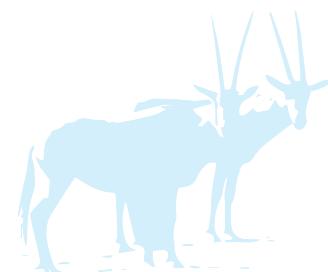
These challenges are many and diverse. They include: protecting endangered marine life; transporting and releasing species back into the wild and propagating threatened plants; monitoring and protecting the condition of our soil, water and air; establishing new standards and limits for industrial emissions; negotiating terms for permits, inspections and enforcement; and raising awareness and changing behaviour in a multicultural community.

Throughout all of this, we are undertaking a crucial regulatory role, harnessing our wealth of scientific knowledge to balance economic growth with sustainability.

In this celebratory, retrospective review of 25 years of achievements, we follow the story of EAD and its people. From the Agency's earliest beginnings, where dedication saw us through the everyday challenges of pioneering work in a harsh, hyper-arid environment, to the present-day, where cutting-edge innovation is seeing us break down barriers and push the limits of science and technology, at a time when cross-border cooperation is more vital than ever. Throughout this review, we cannot forget the vital role that the late Sheikh Zayed bin Sultan Al Nahyan played in inspiring us and guiding us to put the environment first.

In all that we do at EAD, we focus on ensuring the sustainability of the environment, protecting and conserving it for people's wellbeing and a better life for all, for now, and for the future.

It is an honour to have been a part of this great endeavour from the beginning until today, and I am immensely proud of the Agency, its people and all their accomplishments. We have seen many changes, and we have met many challenges, yet we persevere. Indeed, in many areas, we have become leaders in global best practice for conservation, something of which we can all be very proud. I look forward to even greater things in the future.



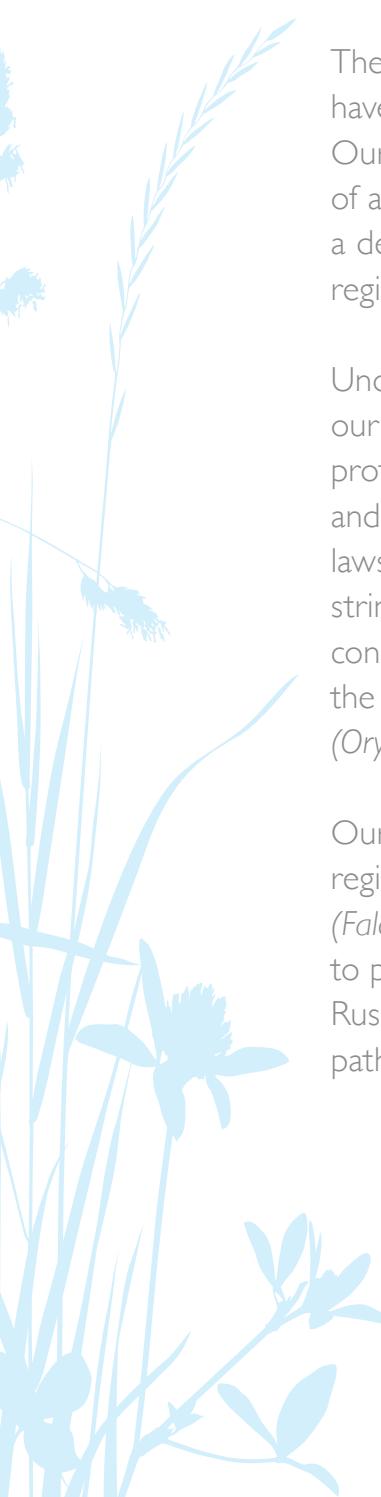
# Introduction



H.E. DR SHAIKHA SALEM AL DHAHERI  
Secretary General of the Environment Agency – Abu Dhabi

As we mark this important 25-year milestone on the journey of the Environment Agency – Abu Dhabi (EAD), it is a good time to take stock of the progress we have made, of the many challenges we have overcome, with boldness and confidence. Hence, the book you now hold in your hands.





This book is many things. It is an accounting of all that we have accomplished in our effort to preserve the late Sheikh Zayed's environmental legacy. It is a celebration of two and a half decades of progress and achievement, thanks to the passionate team of people who have worked tirelessly to help us fulfil our goals. For some, it will also serve as an introduction to many of the ground-breaking projects and interventions that will continue to preserve and protect the emirate's natural heritage for generations to come. Though no single volume can cover all the accomplishments of EAD over the past 25 years, we hope this book gives you a broad overview of the milestones we have achieved so far. We hope that it inspires you to join in our efforts.

The landscape of the emirate of Abu Dhabi was once very different than it is today: it has grown and evolved, and we have, too, since our original mandate as the Environmental Research and Wildlife Development Agency (ERWDA). Our humble beginnings were rooted in environmental research and discovery, and this ethos remains the backbone of all that we have achieved over these past 25 years. By collecting and analysing the vital data we need to develop a deeper understanding of our environment and the anthropological impact on Abu Dhabi Emirate and the wider region beyond; we have laid the foundations for a more sustainable tomorrow.

Underpinned by EAD's rigorous standards of research and our growing team of leading environmental experts, our expanding knowledge informs our continuing efforts to improve the emirate's marine water and air quality, to protect our precious groundwater resources, and to understand and mitigate the potential impacts of development and climate change. We have partnered with other entities to develop key environmental policies and establish new laws and regulations to ensure that we make the right decisions in environmental management and meet the most stringent international standards for environmental protection. We take great pride in our many achievements in conservation, both locally and internationally. Our breeding and reintroduction programmes have helped to bring the Arabian Oryx (*Oryx leucoryx*) back from the brink of extinction, and our 'World Herd' of Scimitar-horned Oryx (*Oryx dammah*), a species once extinct in the wild, is thriving once again in the desert regions of Chad.

Our overseeing role and support for the Sheikh Zayed Falcon Release Programme not only preserves one of the region's most prized cultural pursuits, but also has given us a unique insight into the migratory patterns of Saker (*Falco cherrug*) and Peregrine (*Falco peregrinus*) Falcons, enabling us to develop a global action plan with our partners to protect these species. Satellite tracking of migratory Peregrine Falcons from their breeding grounds across Arctic Russia revealed the connections between breeding and wintering regions, providing information on migration pathways, migratory behaviour and the diversity of habitats utilised during winter.

We are also immensely proud of our people at EAD. They are remarkable, highly educated, ambitious women and men in science investigating air quality, studying endangered species, uncovering and addressing new falcon diseases, designing better environmental education programmes for the future, and experimenting with the latest technologies, often leading to breakthroughs that benefit both the region and the world. Others at EAD have been influencing policy-making, developing world-class talent and innovating in environmental protection. It is our hope that these women and men will inspire new generations to follow their path and continue this essential work.

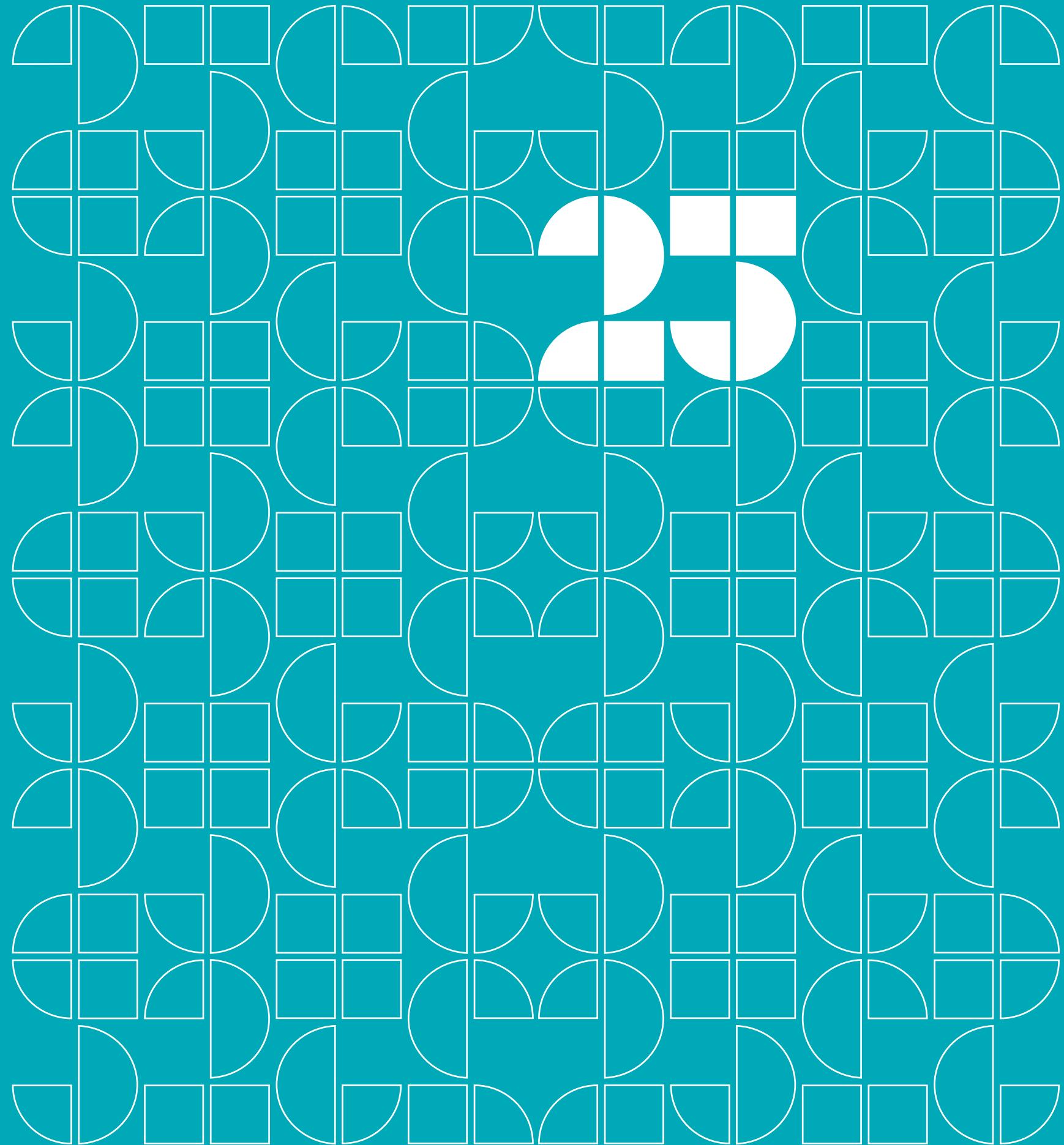
As remarkable as these first 25 years have been, they are only the beginning. We will continue to preserve the late Sheikh Zayed's environmental legacy and contribute to the realisation of Abu Dhabi's vision, to improve air and water quality, to conserve our precious natural resources, and to protect and strengthen our invaluable biodiversity. If we can continue to inspire countless others, especially the younger generation to place sustainability at the heart of their lifestyle, we will all reap the rewards of a better, healthier environment, now and in the future.

Underpinning the success of EAD is the enduring patronage of H.H. Sheikh Mohamed bin Zayed Al Nahyan, Honorary Chairman of EAD, as well as the support of H.H. Sheikh Hamdan bin Zayed Al Nahyan, the Chairman of EAD and H.E. Mohammed Al Bowardi, the Vice Chairman, and H.E Razan Al Mubarak, the Managing Director, since EAD's inception. The consistency of their leadership, along with their vision and dedication, has strengthened EAD immensely. Through their support and patronage, EAD has grown as a family, and the full value of family has come to fruition.



The late Sheikh Zayed  
bin Sultan Al Nahyan had  
a pioneering vision for  
Abu Dhabi: to preserve and  
protect our environment,  
biodiversity and natural  
heritage for future  
generations.



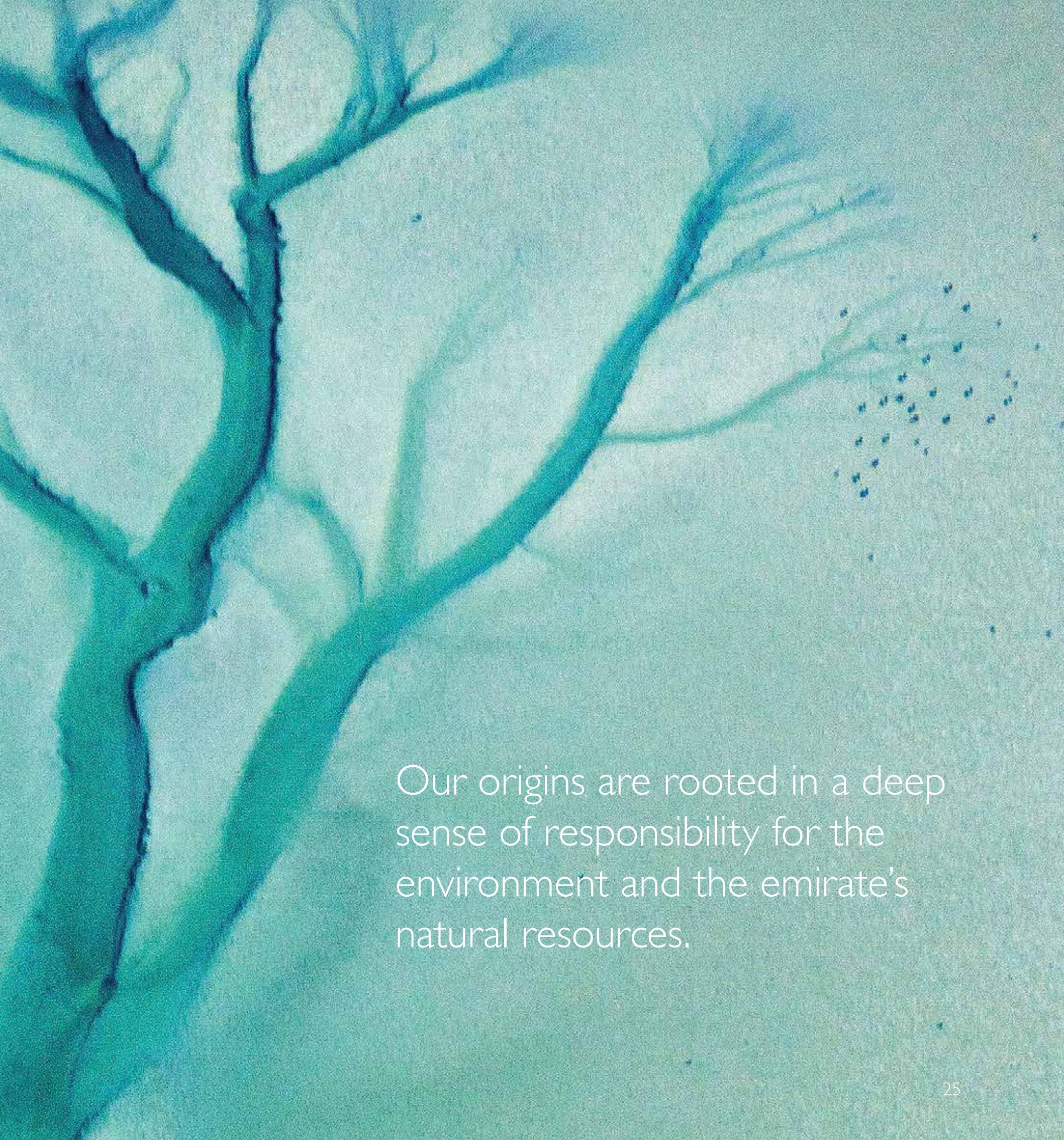


# Chapter I

The beginning of a  
never-ending story



*This is an aerial photograph of the shallow seas, north of Abu Dhabi island. This interesting looking 'delta' was formed by the underwater currents which continuously shape the sandy bottom of the Arabian Gulf.*



Our origins are rooted in a deep sense of responsibility for the environment and the emirate's natural resources.

Our story begins with the story of Abu Dhabi itself, and our intrinsic connection with the sea and land upon which we depend. From the very beginning, our aim has been to conserve the emirate's natural heritage and rich native biodiversity while championing a sustainable future.

The legal establishment of our organisation, the Environment Agency – Abu Dhabi (EAD) took place in 1996, when the Environmental Research and Wildlife Development Agency (ERWDA) was enshrined in law by Emiri decree, with H.H. Sheikh Khalifa bin Zayed Al Nahyan as the first Chairman of ERWDA; but this story began decades earlier. Following the discovery of oil in the late 1950s, the emirate embarked upon a period of inevitable change – ranging from a rapidly-developing infrastructure and economy to a cultural shift away from many of the nomadic Bedouin traditions, which were a longstanding part of our national identity. These changes would eventually require newfound attention to balancing growth and positive change with our ongoing commitment to the natural resources that are so valuable to our heritage, and to our lives.

*Satellite photograph of Abu Dhabi, United Arab Emirates*





Among our very first initiatives, the establishment of the National Avian Research Centre (NARC) marked a significant milestone in the evolution of conservation in Abu Dhabi.

Our deep commitment to the land begins, for this story, in the sky. To sustain Abu Dhabi's intangible cultural connection with falconry, the National Avian Research Centre (NARC) was established in 1989, with a focus on a multi-dimensional conservation strategy for the Houbara Bustard, the favoured quarry of the region's falconers. NARC's efforts began with seasonal ecological fieldwork, as experts studied the captive-breeding, veterinary care and ecology of the Houbara. Soon after, the centre's state-of-the-art station was established near Sweihan, a turning point.

NARC's terrestrial ecology team soon relocated from Sweihan to premises on Abu Dhabi Island, and there, our terrestrial ecologists were joined by expert marine ecologists, education and awareness specialists, laboratory chemists and many others with a broader mission to protect all aspects of the emirate's environment. With this, ERWDA became operational, with H.H. Sheikh Mohamed bin Zayed Al Nahyan as Honorary Chairman and H.H. Sheikh Hamdan bin Zayed Al Nahyan as Chairman of ERWDA in 1998.



*Houbara Bustard.*



A male mating Houbara Bustard.

# Bringing the Houbara Bustard back from the brink of extinction was just the beginning.

Our commitment to avian life continues with the story of the Houbara Bustard. In 2006, H.H. Sheikh Mohamed bin Zayed Al Nahyan set up the International Fund for Houbara Conservation (IFHC); dedicated to preserving and protecting this important species, one that was close to extinction by the middle of the 20<sup>th</sup> century. In so doing, IFHC continues to build upon the legacy set in place by the late Sheikh Zayed, who implemented the first efforts to conserve the species with a programme at Al Ain Zoo in 1977. Later followed by the creation of the National Avian Research Centre in Sweihan in 1989, and the Emirates Center for Wildlife Propagation in Morocco in 1995.

A second centre in Abu Dhabi and another in Kazakhstan have since been added to the cause, and today the IFHC produces over 50,000 Houbara a year, working with countries across the species' range to release birds and promote sustainable practices.

By 2018, IFHC's visionary programme had reached a total breeding milestone of over 400,000 birds. It also operates an extensive release programme, covering 13 of the countries within the range of the Houbara and maintaining conservation and research partnerships across the species' range.

# 50,000



Houbara birds produced each year by the International Fund for Houbara Conservation.



H.H. Sheikh Hamdan bin Zayed Al Nahyan releases a Houbara Bustard in the UAE in 2010.



Captive breeding of the Houbara bustard at EAD's National Avian Research Centre.



Asian Houbara with chicks.



Another early initiative still going strong today is the Sheikh Zayed Falcon Release Programme.

Still today, more than two decades after its inception, the Sheikh Zayed Falcon Release Programme continues to dedicate its attention to preserving global falcon populations and increasing the numbers of species in the wild. Overseen by EAD and implemented through our award-winning Abu Dhabi Falcon Hospital, the programme undertakes ongoing ambitious research to better understand the migratory patterns and breeding habits of Saker and Peregrine Falcons. Honouring Sheikh Zayed's legacy, the programme has released over 1,900 falcons into their distribution range across central Kazakhstan, Pakistan, Iran and Kyrgyzstan, and that number increases every year.

1,900+

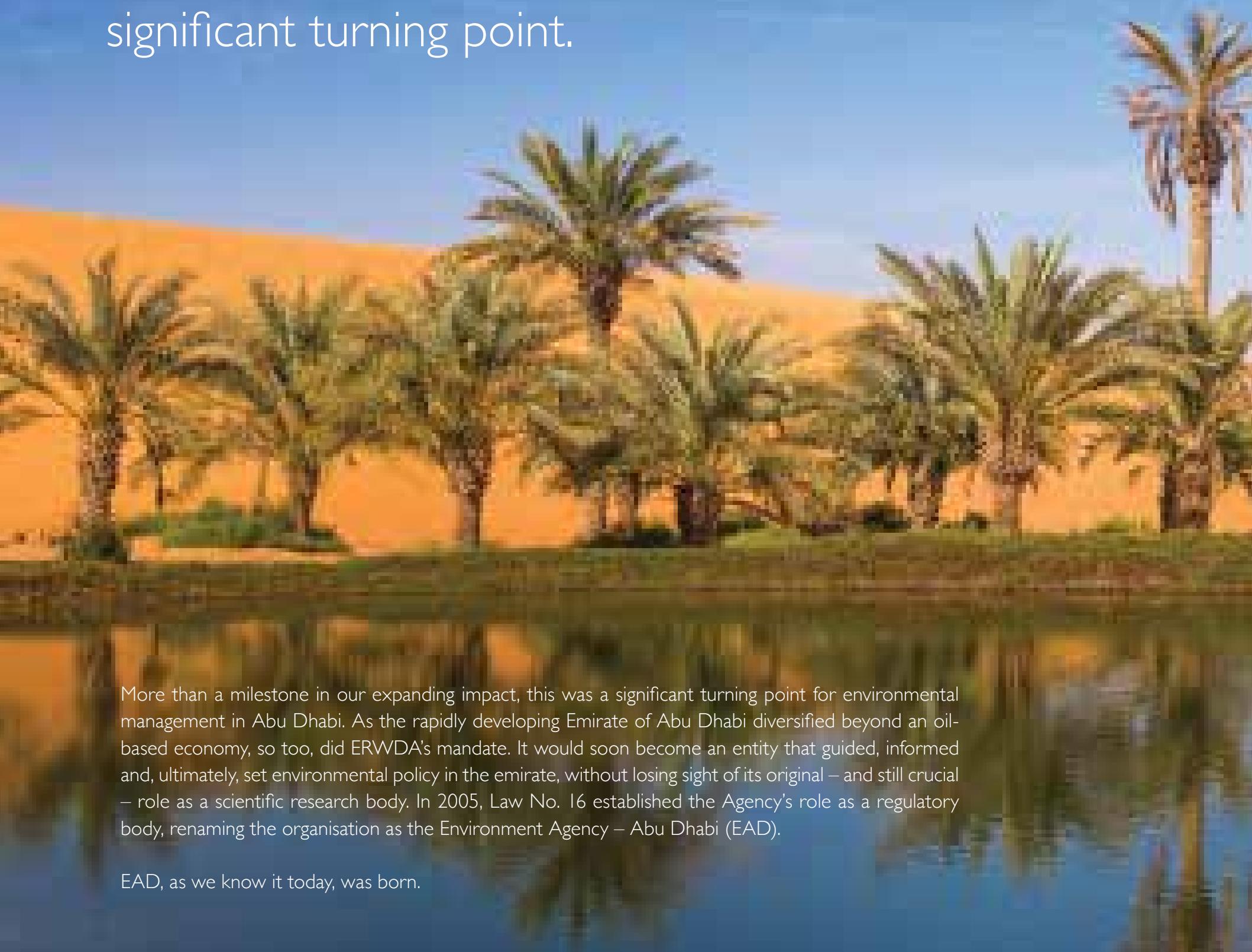


Falcons released into their distribution range across central Kazakhstan, Pakistan, Iran and Kyrgyzstan.

*The Saker falcon has been an integral part of UAE culture.*



The first-ever environmental strategy for the emirate of Abu Dhabi was a significant turning point.



More than a milestone in our expanding impact, this was a significant turning point for environmental management in Abu Dhabi. As the rapidly developing Emirate of Abu Dhabi diversified beyond an oil-based economy, so too, did ERWDA's mandate. It would soon become an entity that guided, informed and, ultimately, set environmental policy in the emirate, without losing sight of its original – and still crucial – role as a scientific research body. In 2005, Law No. 16 established the Agency's role as a regulatory body, renaming the organisation as the Environment Agency – Abu Dhabi (EAD).

EAD, as we know it today, was born.



In that same year, Sheikh Zayed was posthumously awarded the United Nations Environment Programme's (UNEP) Champions of the Earth award, acknowledging both his lifetime work as an outstanding environmental achiever and leader, and his widely-acclaimed contributions to agriculture, afforestation and species protection.

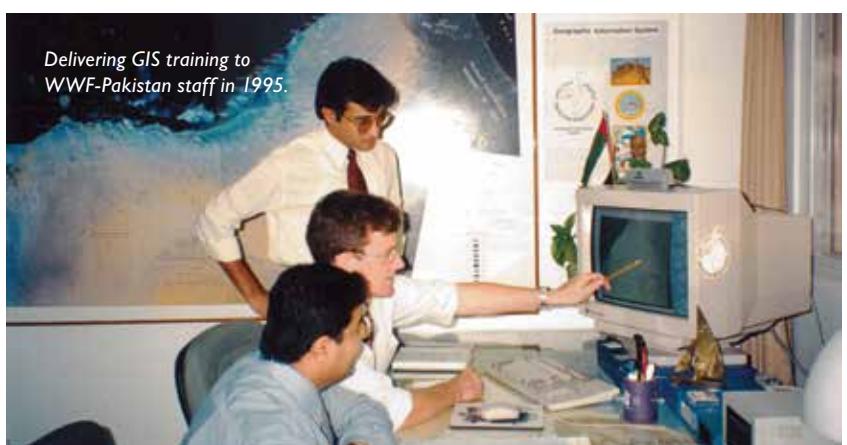
Our expanding knowledge of the emirate's environmental pressures, ecosystems and biodiversity, led by a dedicated team of passionate environmental experts, continued to inform our ongoing mission. The Abu Dhabi State of Environment Report was ground-breaking; and thanks to close partnerships with other government departments and private entities, including NGOs, today we can evaluate, develop and enforce crucial policies and regulations, which promise a greener, more sustainable future for the emirate.



As the Agency became operational, ERWDA moved to new offices at Al Maqta Bridge in 1997.



Prof. John Cooper, NARC's second General Manager, inspects the invertebrate collection in 1996.



Delivering GIS training to WWF-Pakistan staff in 1995.



H.E. Mohammed Al Bowardi releases a wild falcon in Pakistan in 2006.



The entire ERWDA and NARC teams from 1998.



Explaining the anatomy of falcons to students at the Abu Dhabi Falcon Hospital.

# Continuing Sheikh Zayed's legacy, the responsibility of animal welfare transferred to EAD.

Now firmly established as a regulatory body, our reach and responsibilities continued to grow. The animal welfare rangers brought to the organisation a wealth of knowledge of the local environment and the region's native species. To strengthen further the Agency's enforcement capacity, we set up the Terrestrial Environment Protection Sector in 2013 to manage and maintain protected areas across the emirate. Today, more than 350 Emirati rangers patrol Abu Dhabi's terrestrial areas, while the Agency continues to partner with the Critical Infrastructure and Coastal Protection Authority (CICPA) on sea-based enforcement of fisheries regulations, both inside and outside of marine protected areas.

350



Emirati rangers patrol  
Abu Dhabi's terrestrial areas.

The Caracal - a rare cat species native to the United Arab Emirates.





*High quality cultured pearls produced in Abu Dhabi.*

# Reintroducing pearls to the waters of Al Mirfa, and a sustainable way of managing forests helped ensure Sheikh Zayed's environmental legacy lives on.

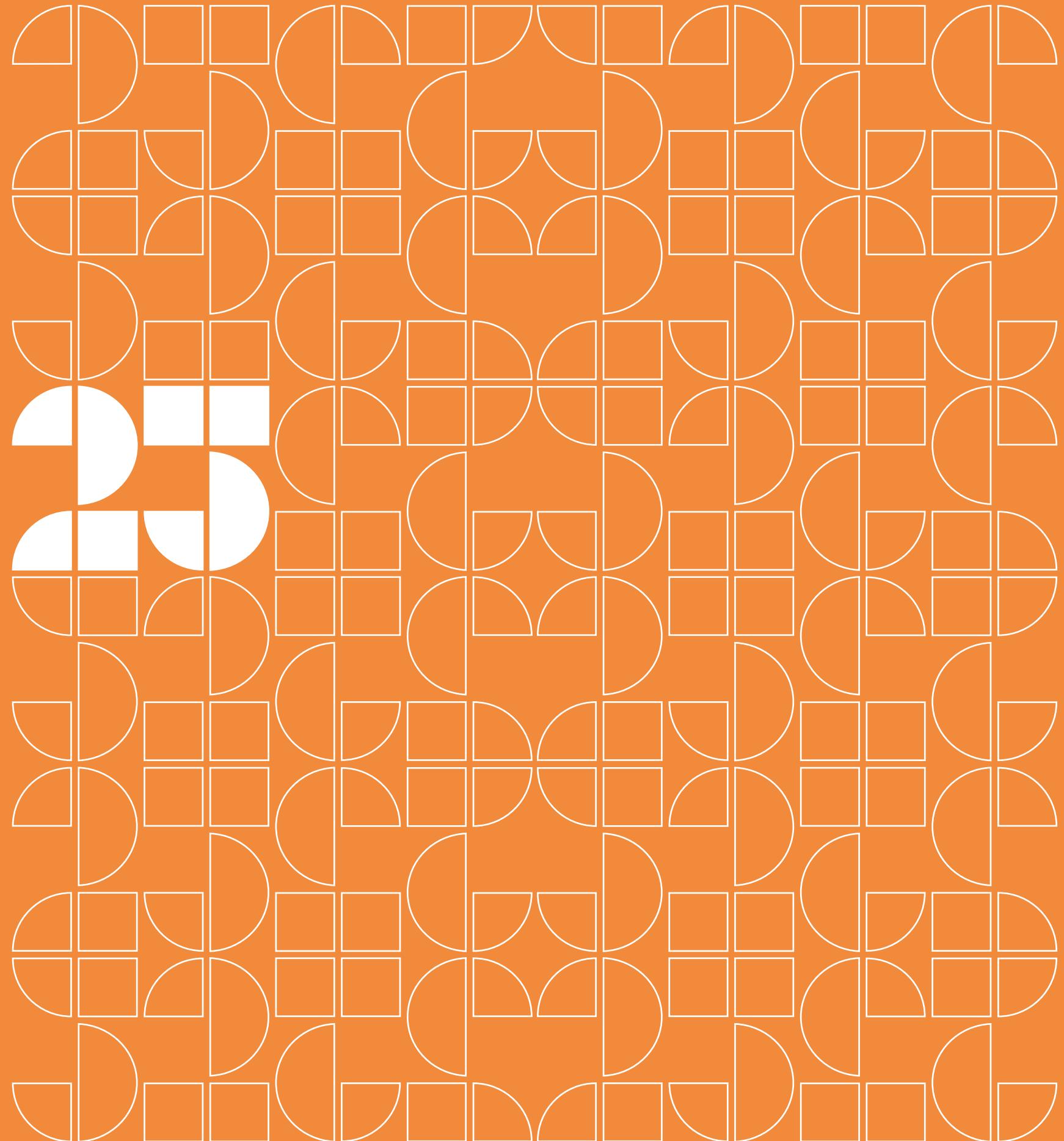
Expanding on our commitment to both our natural environment and our cherished cultural traditions, in 2007, we initiated the Lulu Abu Dhabi Pearl Project, a pilot programme partnering with Japan Oil Development Company LTD, to study the feasibility of producing high-quality cultured pearls in the warm waters of Al Mifra. Pearl diving played a central role in Abu Dhabi's economy for thousands of years before the discovery of oil, and the Pearl Project aimed to revive this tradition. Today the project produces between 80,000 -1,000,000 oysters annually and we are exploring exciting opportunities for growth.

Back on land, between 2006 and 2017, EAD was mandated by the Government of Abu Dhabi to manage forestry sustainably. The emirate's forests, planted as part of Sheikh Zayed's visionary 'Greening the Desert' programme, aimed to improve quality of life, to protect infrastructure, and to create habitat for native wildlife species. Today, Abu Dhabi Emirate has more than 540 afforested areas covering over 242,000 hectares, equivalent to 26 times the area of Abu Dhabi Island. We have planted more than 20 million trees, 88% of which are native species and provide shelter for both native and non-native wildlife. We were the first organisation in the emirate to establish a long-term strategy for managing the forests while conserving water, to ensure this legacy remains for future generations to enjoy.

80,000+



Oysters produced annually in Al Mirfa by the Pearl Project.



## Chapter 2

# Our evolving role

A wide-angle photograph of a desert landscape. In the foreground, there are several large sand dunes with distinct dark brown or blackish ridges and lighter orange-yellow slopes. A single, small green plant grows from the top of one of these ridges. The background is filled with more sand dunes under a clear, light blue sky.

Collecting a wealth of data  
for the benefit of everyone.



Our earliest years of rigorous scientific research and bold innovation laid a strong foundation and resulted in significant achievements in the years that followed. Just two decades ago, despite prior efforts, much remained to be discovered about Abu Dhabi's natural environment and biodiversity. Working with a range of partners, we amassed a wealth of data and a deep understanding of the key environmental issues affecting the emirate – knowledge which not only enables us to protect Abu Dhabi's natural heritage but also, as we take the next step, to fulfil a crucial new role – as the emirate's environmental regulator.

As our role evolved, so too did the way we collected, used and managed environmental data. This led to the development of an Environmental Database in 2000, a key landmark in Abu Dhabi history. Designed to facilitate the sharing of data, it became an essential tool for both policy and decision-making, enabling us and our stakeholders to address the myriad environmental challenges facing the emirate efficiently. That same year, yet another landmark, the Oil Sensitivity Atlas, was produced, the first publication of its kind to determine the vulnerability of the environment, fauna and flora, as well as the archaeological sites of coastal areas towards oil pollution. Used for emergency response planning, it cemented our reputation as a centre of best practice and knowledge.

More recently, the 2015 Terrestrial and Marine Habitat Mapping project was one of the most ambitious and detailed delineations of habitats ever undertaken, a world's first in both magnitude and detail. This globally-recognised project covered the entire emirate, taking in 60,000 square kilometres of terrestrial and 30,000 square kilometres of marine environments at a scale of 1:10,000, providing a fundamental data layer for all future conservation planning and decision-making. It has been and continues to be an invaluable tool for responding to emergencies such as oil spills and in permitting development projects.

We believe that sharing data plays an essential role in providing a healthy, sustainable planet for future generations, and towards this end, we launched our Enviro-portal, based on GIS technology. It offers free access to the most up-to-date environmental information, with archives dating back to the early 1990s. It's a significant step forward in making high quality environmental data available to all.

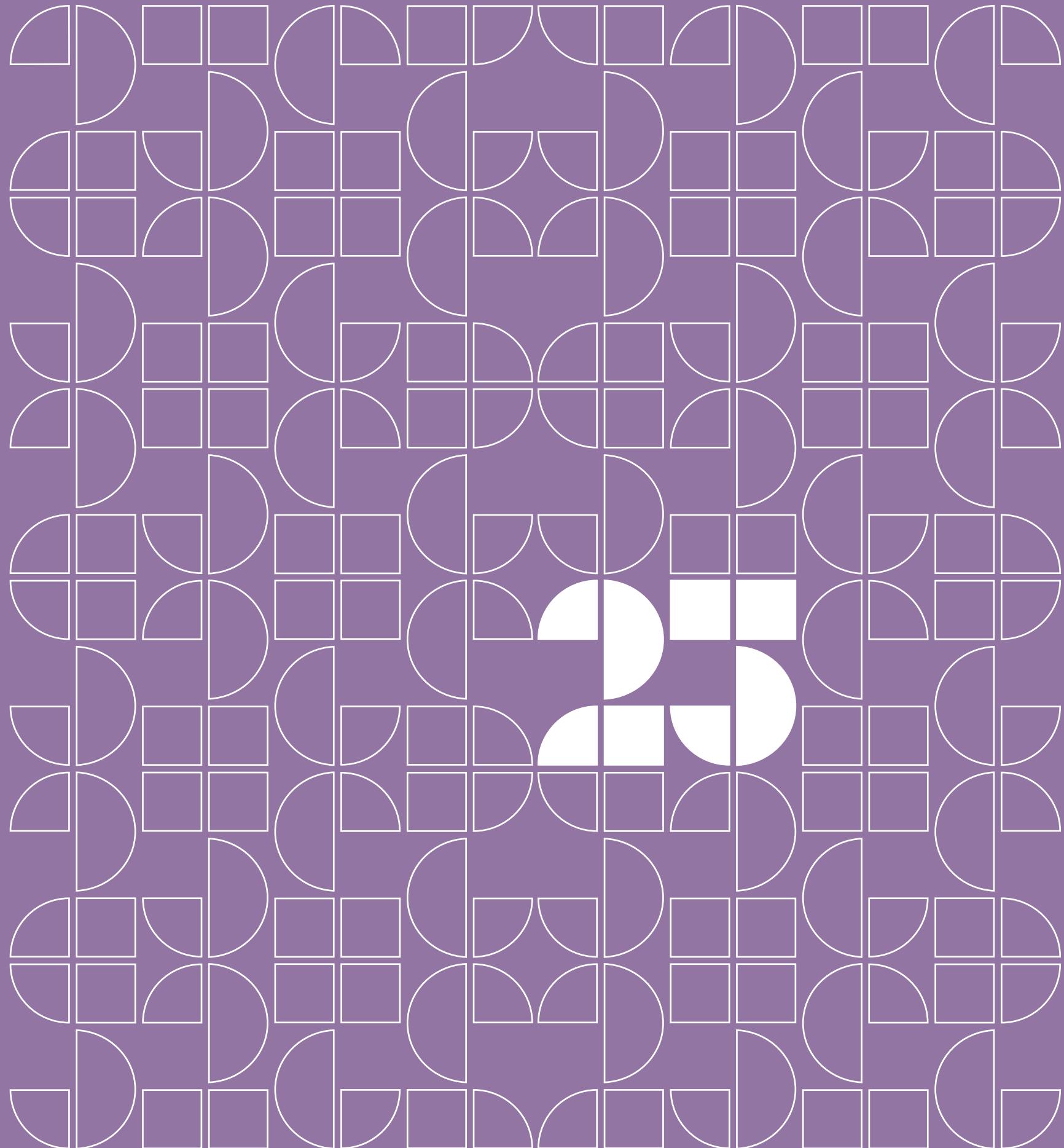
Data sharing provided leaders and policymakers with key insights into the state of our environment.



Sharing data among scientists and environmentalists is crucial. However, facilitating better understanding among those who shape policy can lead to real change. The Abu Dhabi Global Environmental Data Initiative (AGEDI) produced the first State of Environment Report in 2006, followed by a second in 2010, providing comprehensive insight into the Emirate's current state of the environment. The third report was produced by EAD in 2017, utilising the internationally-recognised DPSIR model (Drivers, Pressures, State, Impact and Responses). Its lead authors were top Emirati scientists, supported by our experienced experts, and reviewed by peers from academia, the private sector and NGOs.

AGEDI's ambitious efforts culminated in the Eye on Earth Summit in 2011, 2015 and 2018. Supported by EAD and the United Nations Environment Programme (UNEP), the summit was a worldwide movement bringing together international thought-and-action-leaders to share knowledge and data, and collaborate on initiatives for sustainable development and environmental change.

Much of the emirate's original baseline data on flora and fauna was provided by the Emirate's National History Group (ENHG), under the patronage of H.E. Sheikh Nahyan bin Mubarak Al Nahyan, Minister of Tolerance. Several monitoring programmes and environmental surveys were carried out by ENHG and generated robust reference environmental data used by the National Avian Research Centre and ERWDA. Under a Memorandum of Understanding signed in 2008 with the Emirates Bird Records Committee (EBRC), over 400,000 bird sightings have been integrated into our Environmental Database, with some records dating back to the 1970s. ENHG's annual journal, *Tribulus*, remains one of the most authoritative publications on aspects of the environment of the UAE.



## Chapter 3

Bold innovation  
takes centre stage

Building on a strong foundation of understanding regional biodiversity to aid conservation.



*Drone technology is used by EAD to survey bird populations.*



As part of our relentless efforts to record, preserve and protect the region's biodiversity, our scientists manage a wide range of innovative monitoring, mapping and assessment programmes across a broad spectrum of habitats and species. We use the very latest monitoring technology to generate the most useful data: from satellite-tracking and geo-location to track the migratory patterns of flamingos, crab plovers, dugongs, turtles, spotted eagles and falcons; to remote cameras that document rare and elusive species such as Sand Cat; to drone technology that surveys large populations of breeding birds.



Scimitar-horned Oryx released in Chad.



Tagging a flamingo at Al Wathba Wetland Reserve in 2011.



Tagging a dugong.



Arabian Sand Cats.



H.H. Sheikh Mohamed bin Zayed Al Nahyan and  
H.E. Mohammed Al Bowardi during the Arabian Oryx  
release at the Arabian Oryx Protected Area in 2007.



*Greater Flamingo.*



Systematic monitoring enabled us to identify and protect species, including some not seen in the UAE for half a century.



*The Hawksbill Turtle is commonly found in Abu Dhabi waters.*

Year after year, our programmes continued to deliver unprecedented results. In 2011, our experts spotted the rare Great Thick-knee (*Esacus recurvirostris*) in Bul Syayef Marine Protected Area. It was the first sighting of this species of wading bird in the UAE since records began in the 1960s.

That was just one of many achievements. Using satellite telemetry, we have also been tracking migrating Hawksbill and Green Turtles since 1998, leading to the initiation of the Sea Turtle Conservation Programme a year later. Aerial surveys between 2004 and 2018 estimated that around 5,750 turtles inhabit Abu Dhabi's waters during the winter season and approximately 6,900 during the summer season. Considered 'critically endangered' by the International Union for the Conservation of Nature (IUCN), the rare Hawksbill has nesting grounds on some UAE islands, including Abu Dhabi's Bu Tinah Island that lies within the Marawah Marine Biosphere Reserve, the region's first and largest UNESCO-designated marine biosphere reserve, internationally recognised for its rich biodiversity.

# 6,900



Turtles are estimated to inhabit Abu Dhabi's waters during the summer season.



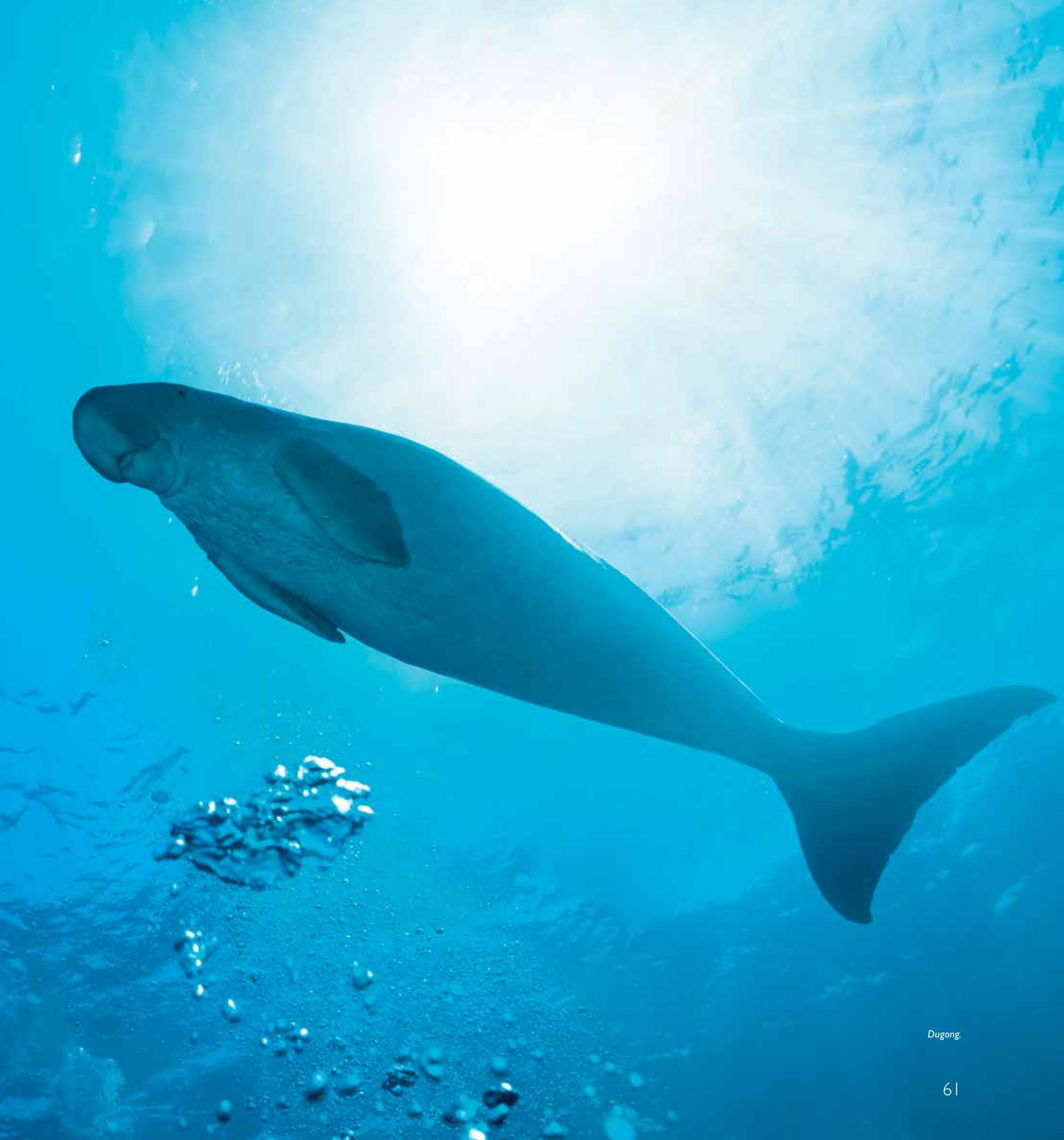
Our monitoring programmes not only reach far and wide; they also protect species in numbers both large and small.

For example, we keep a close protective eye on Abu Dhabi's Dugong population, which numbers over 3,000 individuals, and is the densest population of dugongs anywhere in the world. And, during our 2017 Dolphin Survey, the presence of at least two species of dolphins in the nearshore coastal waters of Abu Dhabi Emirate were revealed: the Indo-Pacific Bottlenose Dolphin (*Tursiops aduncus*), and the Indian Ocean Humpback Dolphin (*Sousa plumbea*), which turned out to be the largest population of this species in the world. Another cetacean species, the Indo-Pacific Finless Porpoise (*Neophocaena phocaenoides*), was also recorded during this survey.

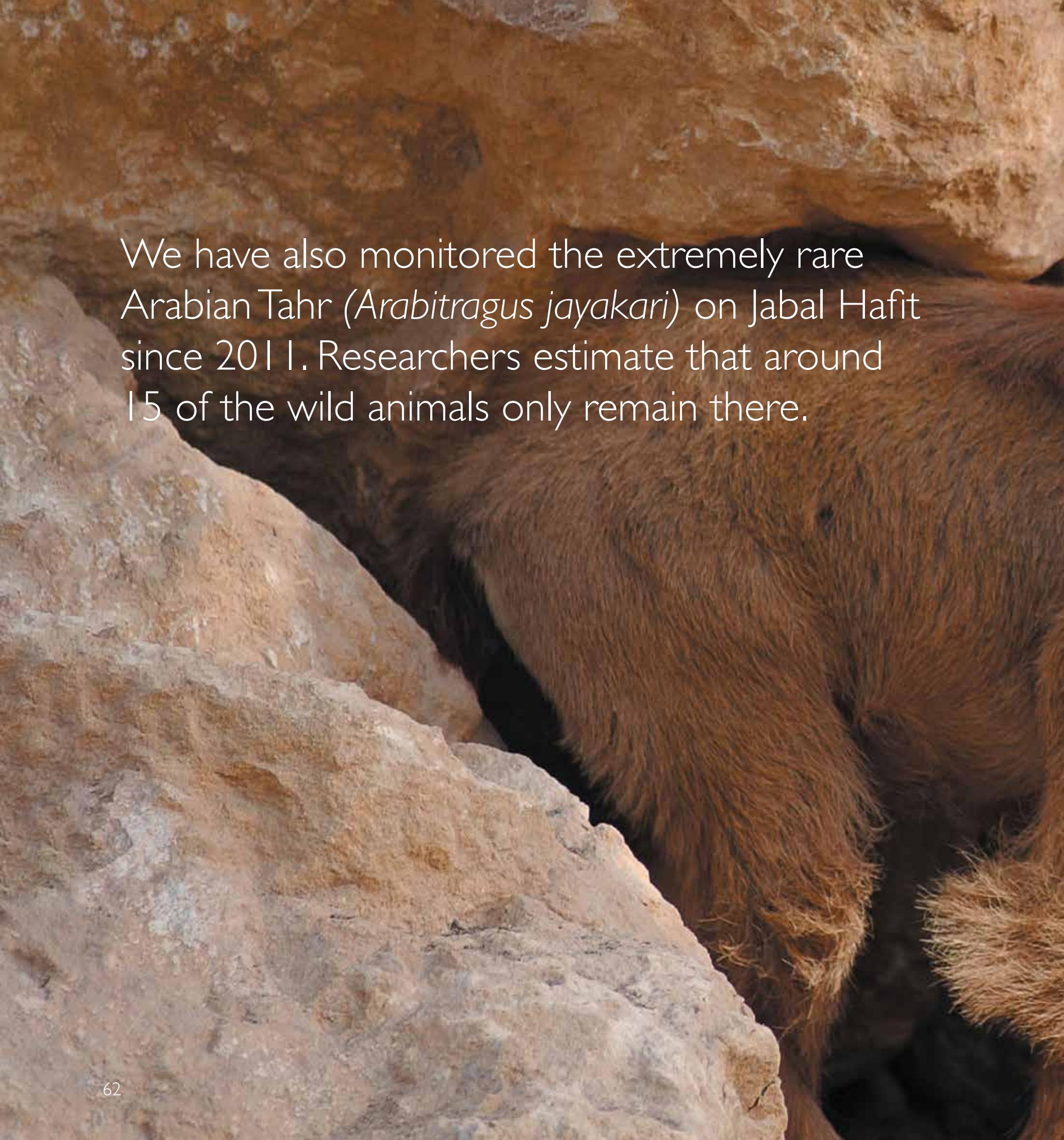
3,000



Dugongs in Abu Dhabi waters form the densest population of dugongs in the world.



Dugong.

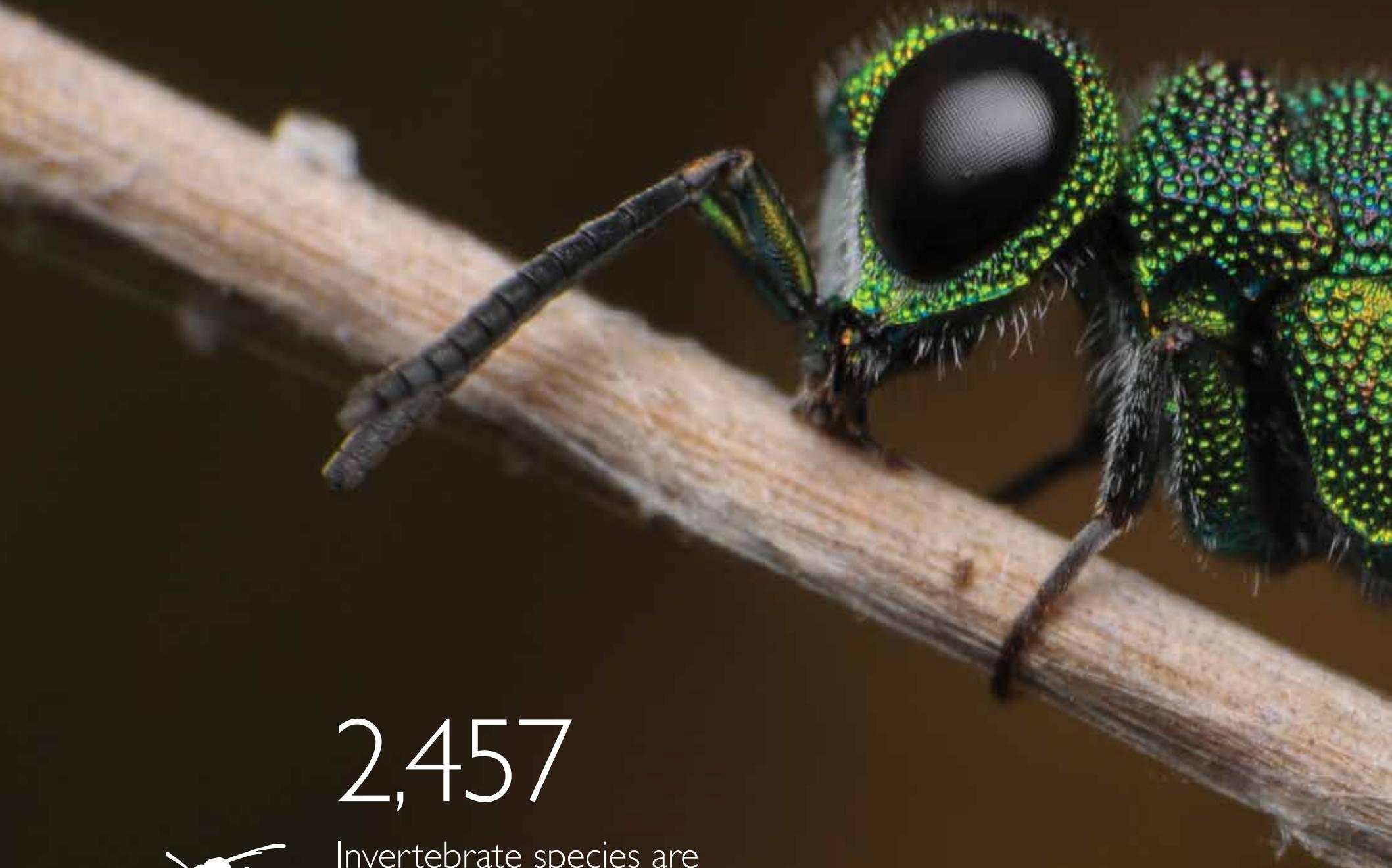


We have also monitored the extremely rare Arabian Tahr (*Arabitragus jayakari*) on Jabal Hafit since 2011. Researchers estimate that around 15 of the wild animals only remain there.



*The endangered Arabian Tahr.*

Part of our work has involved discovering species 'new to science'.



2,457



Invertebrate species are housed in the collection at the Entomology Laboratory.



Our comprehensive invertebrate collection totals 2,457 species and is housed in our Entomology Laboratory. Through continuing research, we have catalogued and recorded 100 invertebrate species previously unknown in Abu Dhabi Emirate, details of which are in the book series *Arthropod Fauna of the UAE* and other scientific publications.

Our researchers have also discovered seven insect species that are 'new to science': Bradynobaenid Wasp (*Macroocula sajia*) in 2007; Bradynobaenid Wasp (*Macroocula tigarae*) in 2007; Ichneumonid Wasp (*Atropatopsis abudhabiensis*) in 2007; Cuckoo Wasp (*Hedychridium anithae*) in 2014; Dance Fly (*Drapetis wathabiensis*) in 2016; Gasteruption Wasp (*Gasteruption alwathbaense*) in 2016; and Spider Wasp or Pompilid Wasp (*Ferreola alraeesii*) in 2018.

As part of our work to learn about the emirate's historic environment and wildlife, in 2008 and 2009, we co-sponsored the excavation of a 4,500-year-old whale skeleton found at Musaffah, the first such study anywhere in the Arabian Gulf.

We have even engaged in space research. In 2009, in partnership with the Natural History Museum in London and Germany's University of Hamburg, our rangers carried out the first-ever formal search for meteorites in the southeast of Abu Dhabi Emirate, finding over twenty specimens.

A close-up of the Cuckoo Wasp.

# Protecting vulnerable flora and fauna from illegal trade.

The illegal trade of wildlife continues to be a major global crisis that profoundly threatens the survival of some of the world's most vulnerable species. In 1990, the UAE took a significant step towards preventing this illegal trade by signing the Convention on International Trade in Endangered Species of Wild Fauna and Flora (CITES). Ratified by Federal Law No. 11 of 2002, the UAE has since implemented strict legal procedures to prevent illegal trade and to prosecute those who break the law.

The UAE CITES Project, a partnership between EAD and Emirates Nature-WWF (formerly known as EWS-WWF), has supported the UAE's customs authorities in implementing the convention. As part of our continued efforts to restrict the illegal trade in falcons, we worked with the Ministry of Climate Change and Environment to launch the ground-breaking UAE Falcon Registration Scheme in 2002. The first scheme of its kind in the world, birds with the correct legal documentation are issued a three-year Falcon Passport, allowing them to cross certain international borders, mainly in the GCC, without the need to apply for separate CITES permits each time. Since its launch, the scheme has issued passports to over 40,000 birds.

We have also strongly supported the International Union for Conservation of Nature (IUCN) since 2000, providing support to its Species Survival Commission (SSC) and Protected Areas Classification System, as well as the Red List of Endangered Species, which is widely regarded as the primary inventory of the global conservation status of flora and fauna. We have hosted three IUCN Species Survival Commission (SSC) Chair's Meetings, bringing together international species conservation experts from different fields to tackle conservation issues related to biodiversity.

40,000



Falcon passports have been issued since 2002, in the UAE Falcon Registration Scheme.



*The Saker Falcon.*



Ghaf trees grown in Abu Dhabi desert.

436



Native plant species are  
monitored in the Emirate.



## Ensuring long-term conservation of native flora.

We monitor many of the more than 436 native plant species in the emirate, including two of the very rarest and most vulnerable species in Abu Dhabi – the Dwarf Palm (*Nanorrhops ritchieana*), and the Caralluma (*Caralluma arabica*). They are believed, respectively, to have just a single plant and no more than 10 plants growing locally in the wild within Jabal Hafit National Park. To ensure better conservation of native flora, in 2010 we established a native plant nursery in Baynouna. It is the primary source of certified native plants and seeds, where seeds of different plant species are propagated as well as preserved. More than 68 native plant species have been successfully propagated, including the little Dwarf Palm, Caralluma, the Oriental Cherry tree (*Acridocarpus orientalis*) and the White Saxaul (*Haloxylon persicum*) shrub.

We are also establishing the Abu Dhabi Plant Genetic Resources Centre, the first and most up-to-date centre devoted to ensuring the long-term conservation of native flora through seeds, tissue culture and cryo-preservation. Through it, we will continue to play a major role in building capacity in plant conservation.

Honouring the late Sheikh Zayed's legacy of conservation, our species reintroduction programme established a “world herd” at the Deleika Wildlife Conservation Centre.



The Sheikh Mohamed bin Zayed Arabian Oryx Reintroduction Programme began in the Arabian Oryx Protected Area in 2007. Focusing on the Arabian Oryx and Scimitar-horned Oryx, we reintroduced these species back into their native habitats after being declared extinct in the wild due to over-hunting, poaching and loss of habitat. It was a collaborative effort between EAD and the world's leading research and zoological institutions to breed Oryx donated by private collections, including animals from the late Sheikh Zayed's private herd. Thanks to local and regional efforts, supported by EAD through the General Secretariat for the Conservation of Arabian Oryx, the growing number of Arabian Oryx across the range states in the Arabian Peninsula led to the species being down-listed from 'endangered' to 'vulnerable' on the 'Red List' of the International Union for the Conservation of Nature (IUCN) in 2011.



Arabian Oryx roaming freely in Abu Dhabi desert.

Our ongoing reintroduction of the Scimitar-horned Oryx is considered one of the world's largest and most ambitious mammal reintroduction programmes.



*The Scimitar-horned Oryx released in Chad.*



Supported by the Crown Prince's Court, the Scimitar-horned Oryx Reintroduction Programme saw EAD enter into a partnership with the Government of Chad, the Sahara Conservation Fund, The Smithsonian Conservation Biology Institute, The Zoological Society of London and The Royal Zoological Society of Scotland.

With plans to establish a self-sustaining herd of around 500 animals into its traditional homeland in the Ouadi Rimé-Ouadi Achim Game Reserve in Chad over the next five years, the first shipment arrived in Chad in March 2016. By end of 2019, the programme had translocated nearly 200 animals from Abu Dhabi to Chad, and later released in to the wild. The animals in the release programme have also begun to breed successfully, with over 60 healthy oryx calves born in Chad by 2019.



*Aerial view of a large pod of Dolphins in Abu Dhabi waters.*



## Managing the Sheikh Zayed Protected Areas Network to safeguard our natural environment and rich biodiversity.

Protecting species means protecting the environment crucial to their survival. As of 2019, our network encompasses 19 protected areas in total, containing some of Abu Dhabi's most critical marine and terrestrial habitats: six Marine Protected Areas (MPAs) represent 13.90% of the total marine biome, and 13 Terrestrial Protected Areas (TPAs) cover 16.98% of the emirate's land mass. Protected areas include Marawah Marine Biosphere, the region's first UNESCO - designated Marine reserve, and Al Wathba Wetland Reserve, a Ramsar site.

Further offshore in the Arabian Gulf, in 2003, the World Wildlife Fund (WWF) designated the island of Qarnin as part of its 'Gift to the Earth' programme, following an initiative by H.H. Sheikh Hamdan bin Zayed Al Nahyan, EAD Deputy Chairman at the time. Qarnin has some of the largest breeding colonies of terns in the Gulf.

In addition to Qarnin, a number of other areas in Abu Dhabi now provide a safe environment for a widely-diverse population of native wildlife, and enable the successful breeding of certain threatened species such as flocks of Greater Flamingo thriving at Al Wathba Wetland Reserve; while Bu Tinah Island, part of the Marawah Marine Biosphere Reserve, is home to unique coral reefs, healthy mangroves, endangered Hawksbill Turtles, Dugongs, dolphins, Ospreys and Socotra cormorants.

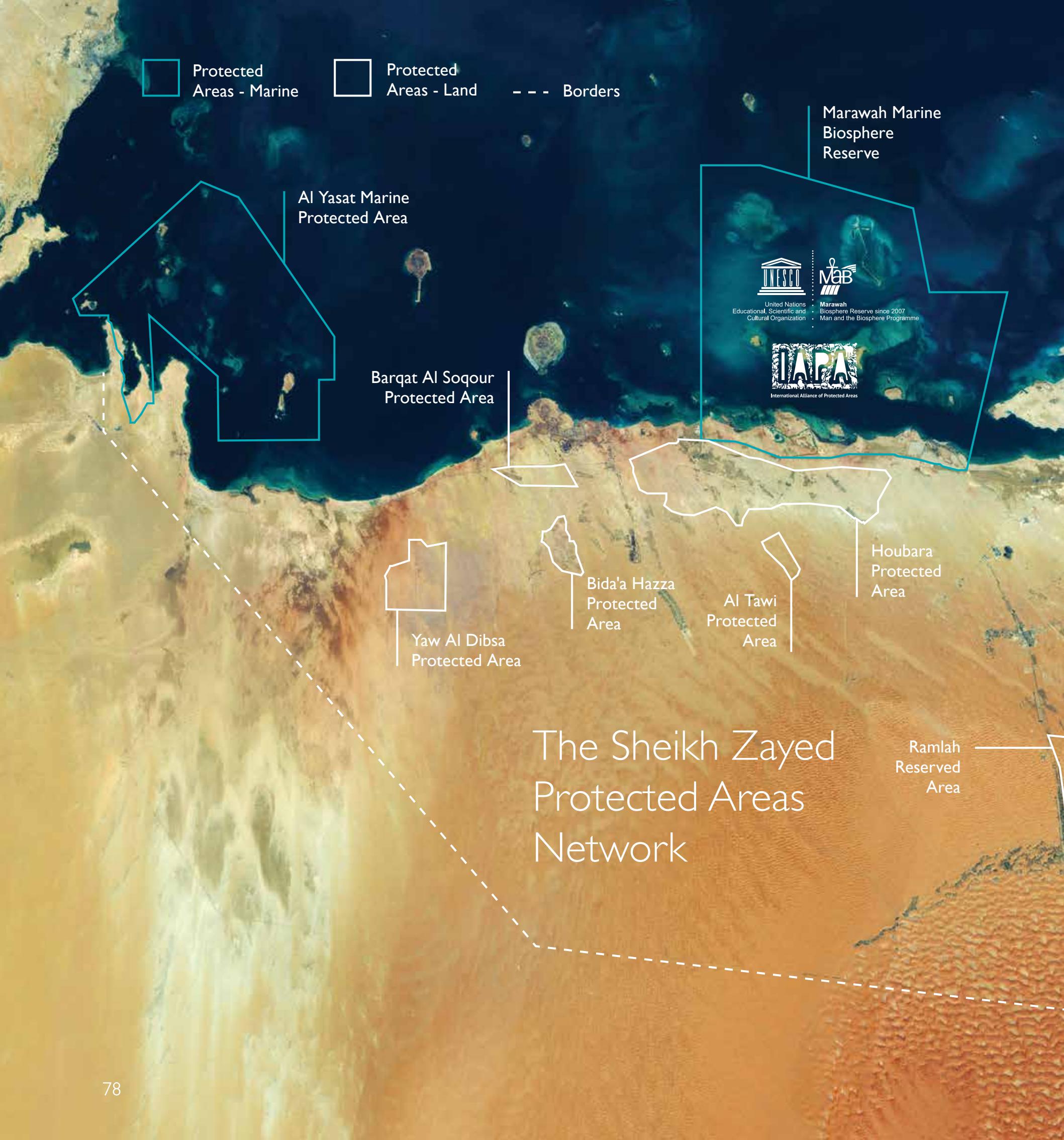


In 2012, following a two-year award-winning communications campaign, Bu Tinah Island received voting support from the UAE Cabinet and succeeded in being listed in the 'Top 14 New Wonders of Nature,' and in the process raised the level of public awareness on the marine environment significantly. As a result, of this newfound awareness, Bu Tinah Island was recognised by the UN as one of the most important turtle sanctuaries in the world.

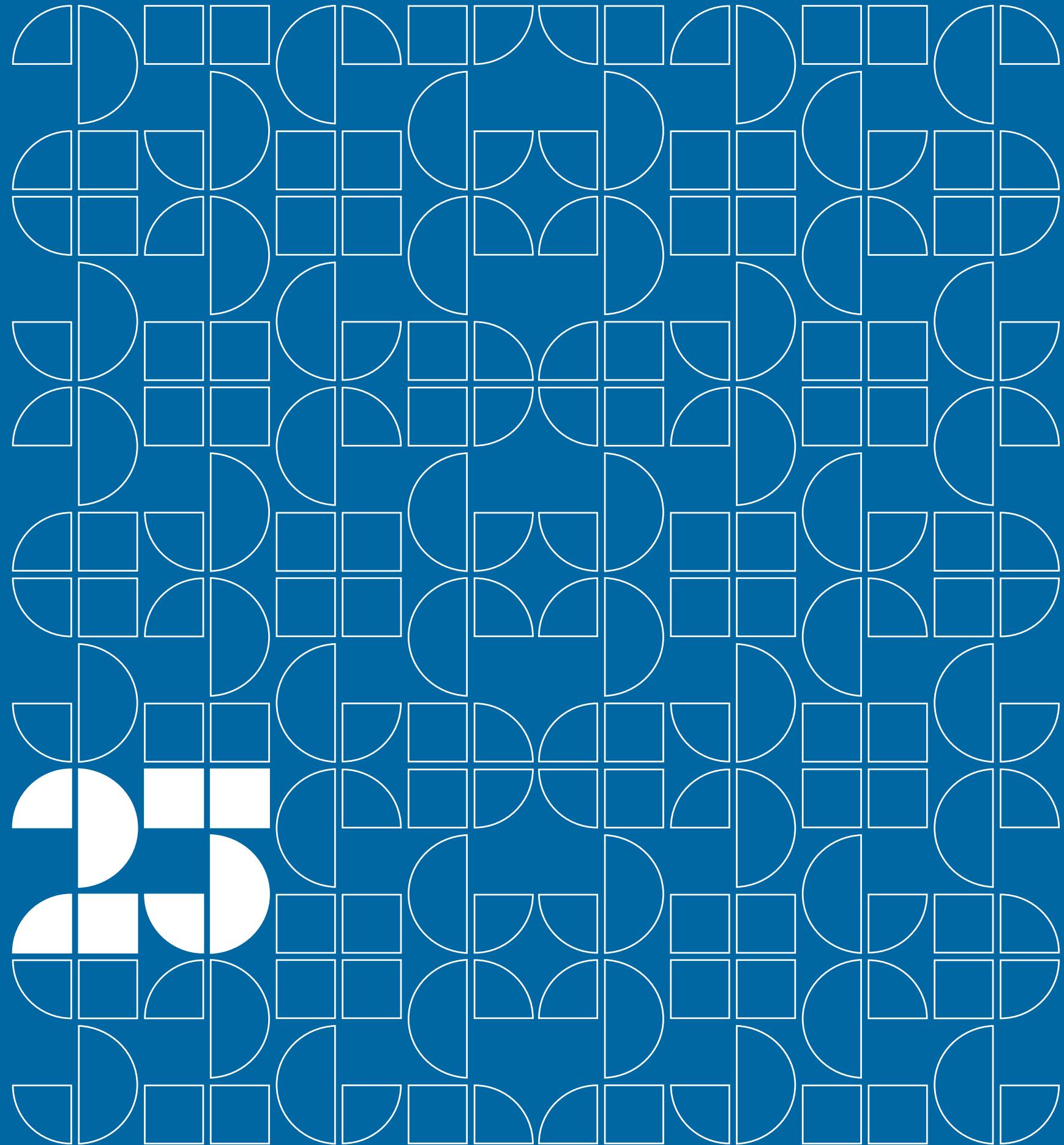
Our protected areas are not only the biggest conservation tool in protecting biodiversity, but they also provide unlimited opportunities for education and awareness as well as ecotourism. In 2014, the global movie phenomenon and one of the biggest franchises in film history, *Star Wars: The Force Awakens* was filmed in our Qasr Al Sarab Protected Area in Abu Dhabi.



*Mangroves and waterways in Abu Dhabi.*







## Chapter 4

# Responding to a changing world

# Setting a future-focussed standard for cleaner air.

These past two decades have seen an accelerated risk to the world's natural environment, and we have been quick to respond, taking significant steps to curb pollutants caused by anthropogenic or human-made factors. Policies such as the Abu Dhabi Low Emission Vehicles (LEV) Strategy, the introduction of ultra-low sulphur diesel, and a shift to Compressed Natural Gas (CNG) in Government fleets aim to reduce pollutants caused by the transportation sector. In industry, sector-specific emission limits are also currently under development.



Over the years, we have provided Abu Dhabi Emirate with one of the most comprehensive air quality monitoring networks in the region, supplying an accurate picture of air quality, with the capacity to compare data and information to the highest international standards and parameters. Since 2007, we have operated and maintained a network of 20 fixed air quality monitoring stations and two mobile stations collecting data on a minute-by-minute basis. This data informs decisions on a variety of mitigation strategies, including environmental licensing and future regulations that are practical, effective and targeted.

To develop an effective emissions reduction programme, we initiated a Greenhouse Gas Inventory project, with results from the first phase of the project released in 2013, from phase two in 2016 and from phase three in 2019. By identifying significant emissions sources, the inventory is a major step forward in developing a low-carbon future for Abu Dhabi.

The Liwa Strategic Water Reserve, the largest project of its kind in the world, became a blueprint for the world's desert zones.

Water. We can't live without it. This is why we must do everything in our power to protect it, and ensure its availability. We are working toward that end in a number of ways.

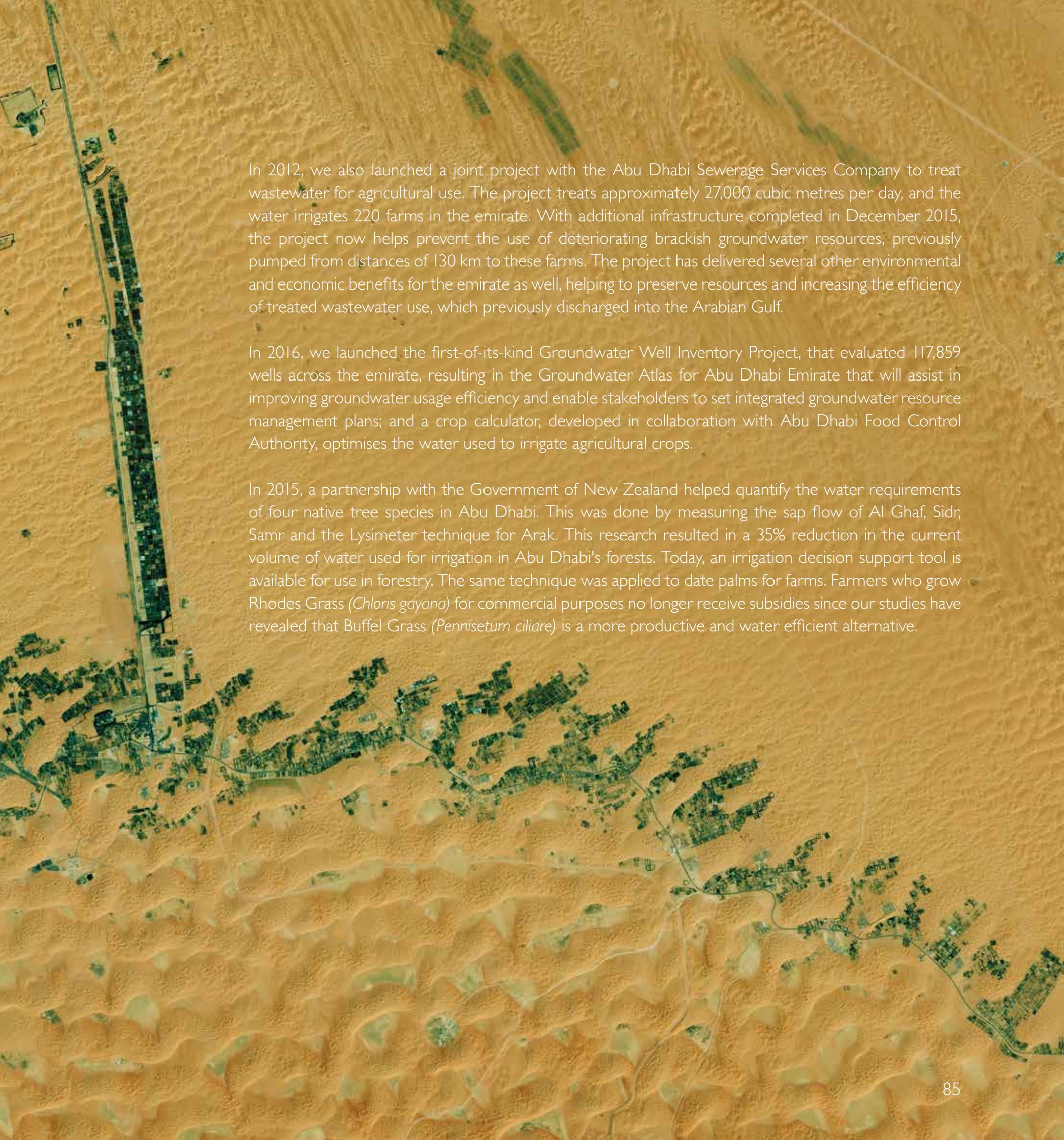
Developed in collaboration with the Abu Dhabi Water and Electricity Authority, at the time, and now operated by TRANSCO, The Liwa Strategic Water Reserve forms a reliable reservoir of fresh groundwater that can be recovered and used in emergencies.

≈ | 18,000



Wells evaluated across the emirate in the Groundwater Well Inventory Project.

Satellite image of the Liwa Crescent Abu Dhabi.  
Visible Earth - NASA.

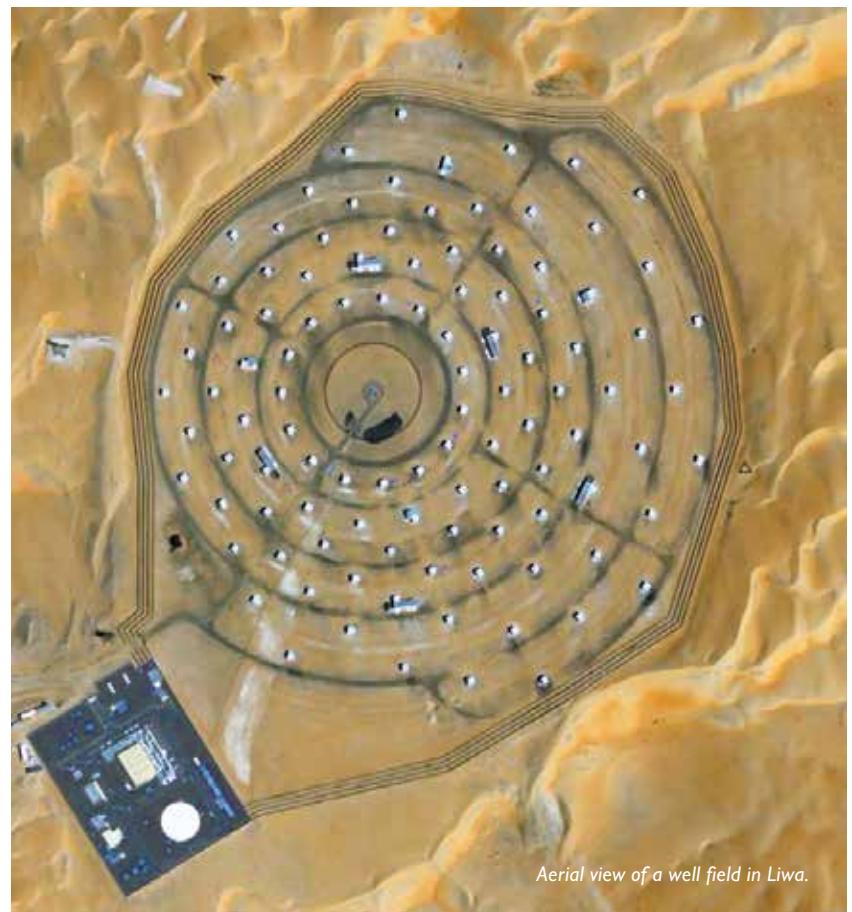
An aerial photograph showing a vast, arid landscape with numerous green agricultural plots. These plots are organized into long, narrow, winding strips that follow the contours of the land. Some plots are more densely packed than others, creating a patchwork effect against the surrounding tan and brown terrain. A few small, isolated buildings or structures are visible among the fields.

In 2012, we also launched a joint project with the Abu Dhabi Sewerage Services Company to treat wastewater for agricultural use. The project treats approximately 27,000 cubic metres per day, and the water irrigates 220 farms in the emirate. With additional infrastructure completed in December 2015, the project now helps prevent the use of deteriorating brackish groundwater resources, previously pumped from distances of 130 km to these farms. The project has delivered several other environmental and economic benefits for the emirate as well, helping to preserve resources and increasing the efficiency of treated wastewater use, which previously discharged into the Arabian Gulf.

In 2016, we launched the first-of-its-kind Groundwater Well Inventory Project, that evaluated 117,859 wells across the emirate, resulting in the Groundwater Atlas for Abu Dhabi Emirate that will assist in improving groundwater usage efficiency and enable stakeholders to set integrated groundwater resource management plans; and a crop calculator, developed in collaboration with Abu Dhabi Food Control Authority, optimises the water used to irrigate agricultural crops.

In 2015, a partnership with the Government of New Zealand helped quantify the water requirements of four native tree species in Abu Dhabi. This was done by measuring the sap flow of Al Ghaf, Sidr, Samr and the Lysimeter technique for Arak. This research resulted in a 35% reduction in the current volume of water used for irrigation in Abu Dhabi's forests. Today, an irrigation decision support tool is available for use in forestry. The same technique was applied to date palms for farms. Farmers who grow Rhodes Grass (*Chloris gayana*) for commercial purposes no longer receive subsidies since our studies have revealed that Buffel Grass (*Pennisetum ciliare*) is a more productive and water efficient alternative.







Zakhir Lake (Tilapia Lake) Al Ain, United Arab Emirates.



## Establishing the first legal framework to protect groundwater supplies.

Issued as Law No. 6 of 2006 by H.H. Sheikh Khalifa bin Zayed Al Nahyan, President of the UAE, this important framework regulated the use of groundwater and required registration and classification for well-drilling contractors. Regulations were tightened further in 2016 when new laws stipulated that the Government of Abu Dhabi wholly owns groundwater in the emirate.

We were honoured to host the Arab Water Academy (AWA) in partnership with International Center for Biosaline Agriculture (ICBA) from 2008 until 2012. Initiated by the Arab Water Council (AWC), the AWA was a regional centre of excellence, with the aim of promoting innovative perspectives to tackle water scarcity across the Arab region. AWA focused on strengthening regional decision-makers' skills and knowledge, enabling them to address and manage the region's water challenges more effectively.

Looking to the future, we proposed the concept of a fixed water budget for the emirate to re-evaluate its use of fresh water. Now adopted as part of the National Agenda 2021, it aims to balance water consumption to meet social, economic and ecological needs, and is an important step in sustainably managing the demand for water today and for future generations.



*Crops in soil using a drip irrigation system.*



To minimise soil degradation, we harnessed data from 65,000 observation sites to produce a comprehensive soil map of the UAE.

Easily overlooked, the health of the very soil under our feet is crucial to a healthy environment. To better manage the emirate's soil resources, we undertook a comprehensive Soil Survey of Abu Dhabi between 2006 and 2009, followed by a Soil Survey of the Northern Emirates, implemented from 2010 to 2012. As the UAE's first highly accurate and scientifically robust inventory of soil, it provided crucial data which enabled us to establish an integrated approach to soil conservation, such as contamination guidelines and local laboratory capacity building, as well as the dissemination of information with policy-makers, land-use planners and the farming community.



We are working with government entities and private organisations to monitor and sustain UAE's critical marine ecosystem.

*The turquoise waters of an Abu Dhabi beach.*

A wide-angle photograph of a tropical coastline. The foreground shows a light-colored sandy beach. The water is a vibrant turquoise color, appearing shallow near the shore and transitioning to deeper blue further out. Several small, dark, mossy rocks are visible in the shallows. The sky above is a clear, pale blue with a few wispy white clouds.

Preserving the quality of the emirate's marine water is vital for maintaining the complex ecosystems and rich biodiversity found in Abu Dhabi's waters, as well as enabling the development of the emirate's coast in an environmentally sustainable manner. To achieve this, we work with several government and private organisations to establish and protect marine water quality standards. Currently, we operate an extensive monitoring network, which feeds back crucial data from 22 sites across the emirate's territorial waters. In addition, we initiated the development of the region's first ambient marine water and sediment quality regulations in 2016, establishing standards to protect the marine environment and coastal biodiversity.



A large school of Trevally, a common species of fish found in Abu Dhabi waters.



# Sustaining the region's fisheries to maintain both their commercial and cultural significance.

Between the end of the 7,000-year-old pearling industry in the 1940s and the discovery of oil in the late 1950s, Abu Dhabi's economy was primarily sustained by its traditional fishing industry. While the economic role of the emirate's fish stocks has changed since those days, fishery resources still hold an important cultural significance for the Abu Dhabi population, in terms of demand for consumption and for recreational purposes.

From its early beginnings, we have played a key role in the management of the emirate's fisheries and the gathering of scientific data to monitor stocks. We undertook our first scientific fish stock assessment programme in 2001, which has since provided essential and comprehensive information on 28 commercially valuable species, before going on to collaborate with the Ministry of Climate Change and Environment (MOCCAE) to develop the UAE's first National Fisheries Information System.

Recognising that population growth and a growing demand for fish was increasing the pressure on the fishery resources, we partnered with MOCCAE to launch the UAE Sustainable Fisheries Programme in 2015, to preserve this important part of the UAE's natural heritage for future generations. To enable fish stocks to recover in the long-term, the programme has set a target to avoid over-exploitation whereby 70% of fisheries resources should be sustainably harvested. As part of the programme, the most comprehensive independent vessel-based assessment of the UAE's Arabian Gulf waters was undertaken in 2016. A crew of our scientists, the Ministry, other entities and New Zealand assessed the UAE's waters and the status of important bottom-dwelling fish stocks. The results corroborated the ongoing findings of our long-term stock assessment programme, which is that the emirate's demersal fisheries resources are severely over-exploited. The next phase of the programme will engage with commercial and recreational fishing stakeholders on management measures commensurate with the state of the fishery.

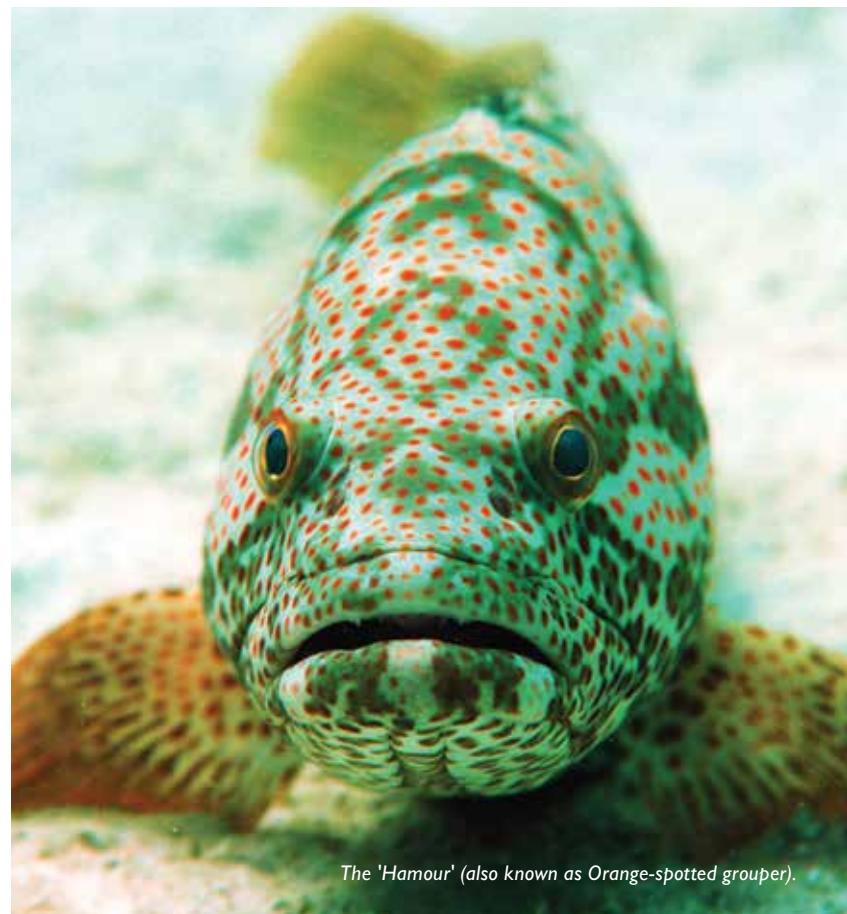
Worldwide, concerns over the state of wild fish stocks have driven the development of aquaculture technologies to produce alternative sources of fish protein. The Government of Abu Dhabi recognises the opportunities that sustainable aquaculture presents to support a diversified economy, contribute to food security and assist in the conservation of endangered fisheries populations. In 2017, we led an emirate-wide initiative to develop a sustainable aquaculture sector in Abu Dhabi Emirate. In 2019, in collaboration with federal and emirate-level partners, we launched the Sustainable Aquaculture Policy for the Emirate of Abu Dhabi.



Extensive and unannounced inspections on fishing activities in the Emirate of Abu Dhabi.



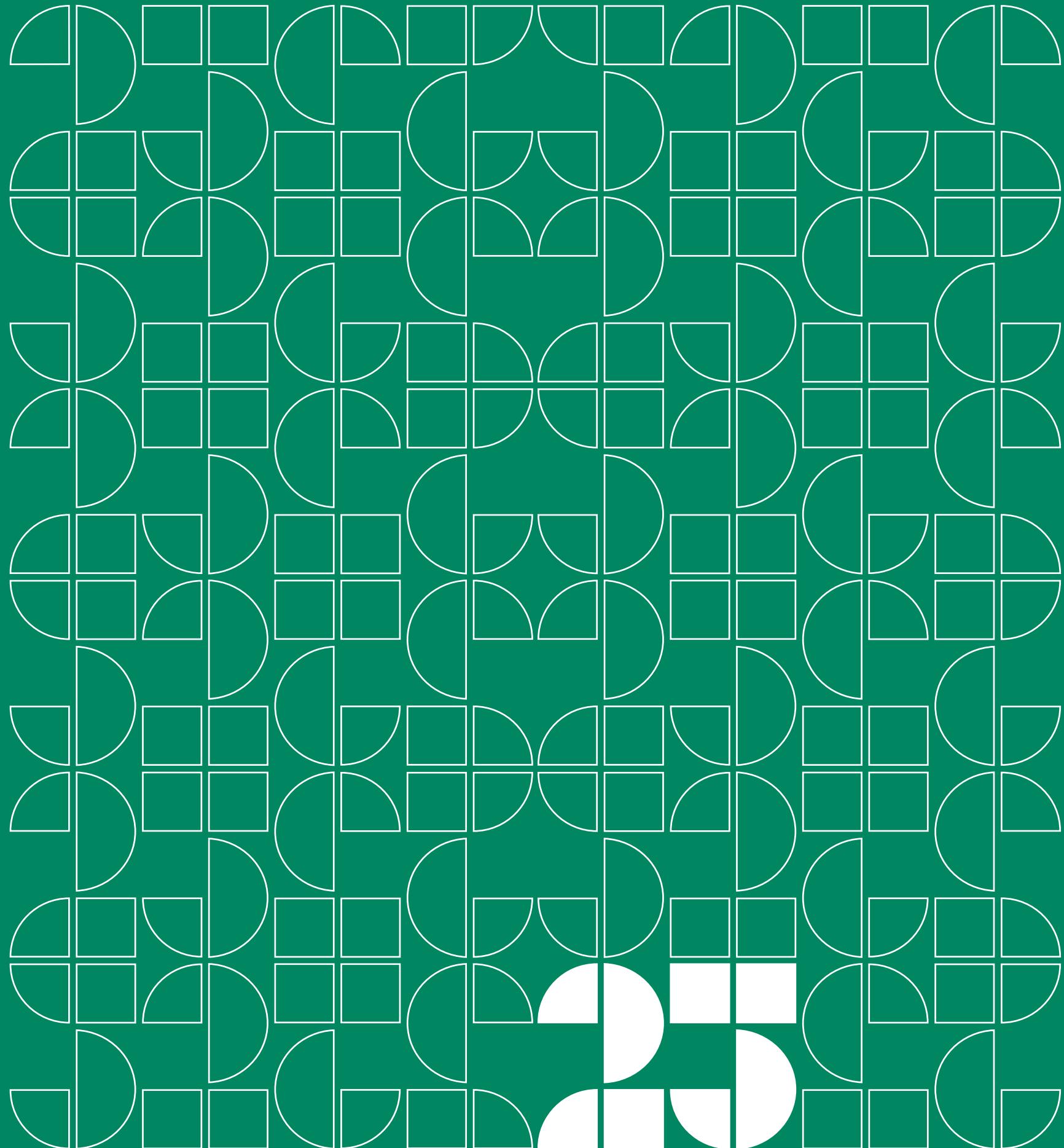
A school of Longfin Batfish in Abu Dhabi waters.



*The 'Hamour' (also known as Orange-spotted grouper).*



*Rangers patrolling the Mangrove National Park.*



## Chapter 5

# Putting passion and promise into law



Evolving into a regulatory body while keeping science and research at the heart of our organisation.

*The Acacia Tortilis tree, commonly found in the eastern parts of the UAE.*

A photograph of a vast, smooth orange sand dune. In the lower-left foreground, a small, spindly green shrub with many thin branches and small leaves grows out of the sand. The rest of the image is dominated by the vast expanse of the sand dune.

Our history of working with industry dates back to 2001. We were first approached by Taweealah A, a desalination plant, to review their Environmental Impact Assessment and then in 2005, we issued our first permit to Technical Industrial For Laminating Sheets LLC. Subsequent key environmental permits issued by EAD, after extensive analysis and review, included Khalifa Port Project's first No Objection Certificate (NOC) in November 2009, which invested a significant amount of money in mitigation works to protect the breakwater coral reefs. We also issued Baraka Nuclear Power Plant's first NOC to begin non-nuclear construction work in September 2010 and an operating permit for Phase One of Etihad Rail (Shah Habshan) in February 2014.

In 2008, we entered a 10-year partnership with U.S.-based research and technical services firm, RTI International. This represented the largest investment in environmental management capacity-building in the region at that time. RTI's extensive international regulatory, scientific, engineering, legal and technical expertise helped determine the most cost-effective and efficient options for attaining our environmental goals and objectives.

With our environmental management capacity strengthened, we focused on an integrated comprehensive approach to monitoring and ensuring compliance. Our Holistic Compliance and Enforcement Programme (HCEP) aims to educate the regulated community about requirements, monitor compliance through inspections, take increasingly strong actions to ensure a timely and appropriate response, and prevent future noncompliance through strong enforcement measures.

From 2010 to 2012, working closely with the General Secretariat of the Abu Dhabi Executive Council, the Department of Economic Development and in consultation with over 100 public and private sector partners, we developed Abu Dhabi's Environment Vision 2030. With a holistic policy agenda framework aimed towards sustainable growth and in line with Vision 2030, it proposed to protect and preserve the emirate's natural heritage while acting as a global benchmark for the efficient use of resources and a better quality of life for the population.

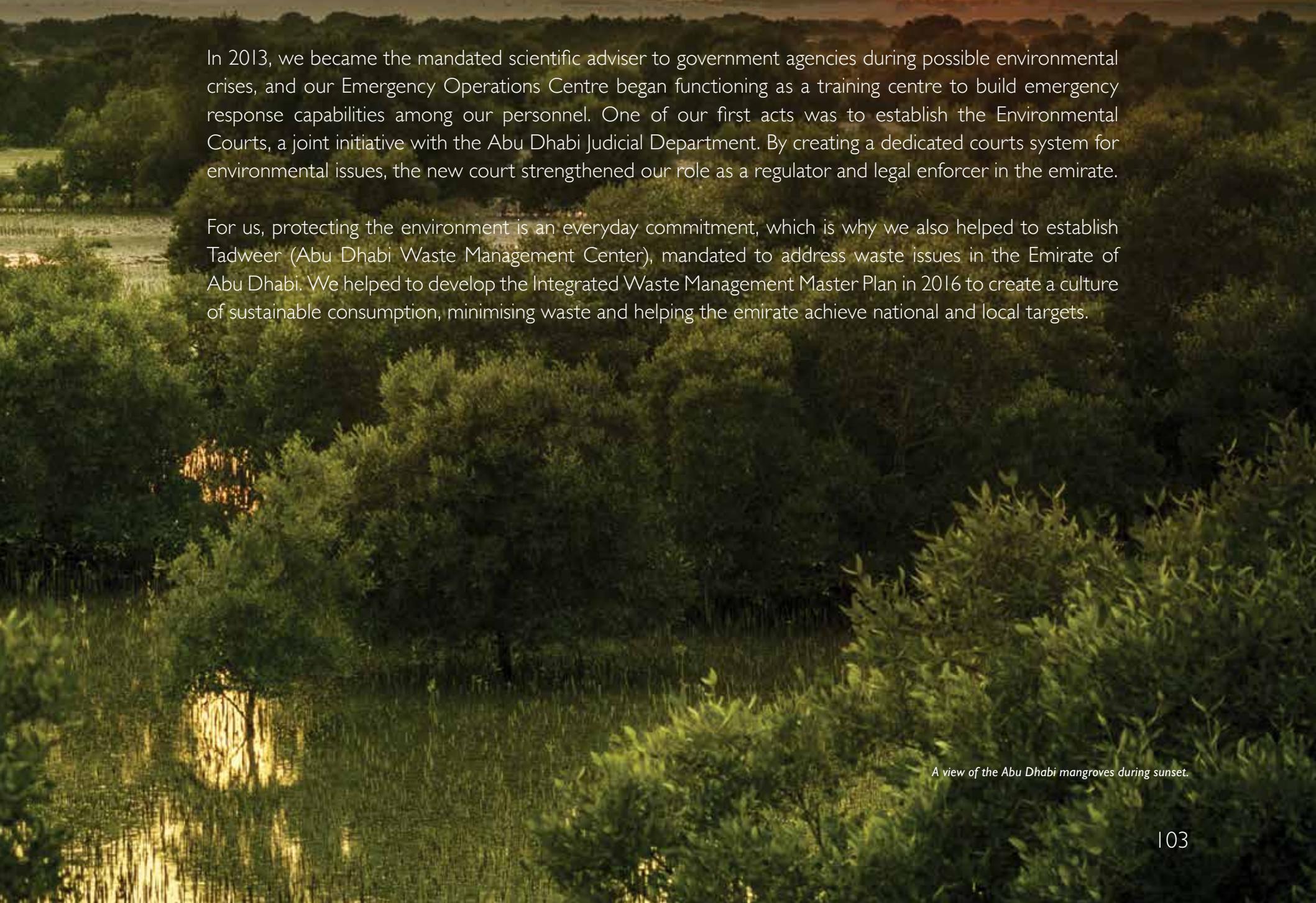


Our dedicated emergency operations centre further strengthened our mandate.



In 2013, we became the mandated scientific adviser to government agencies during possible environmental crises, and our Emergency Operations Centre began functioning as a training centre to build emergency response capabilities among our personnel. One of our first acts was to establish the Environmental Courts, a joint initiative with the Abu Dhabi Judicial Department. By creating a dedicated courts system for environmental issues, the new court strengthened our role as a regulator and legal enforcer in the emirate.

For us, protecting the environment is an everyday commitment, which is why we also helped to establish Tadweer (Abu Dhabi Waste Management Center), mandated to address waste issues in the Emirate of Abu Dhabi. We helped to develop the Integrated Waste Management Master Plan in 2016 to create a culture of sustainable consumption, minimising waste and helping the emirate achieve national and local targets.



*A view of the Abu Dhabi mangroves during sunset.*

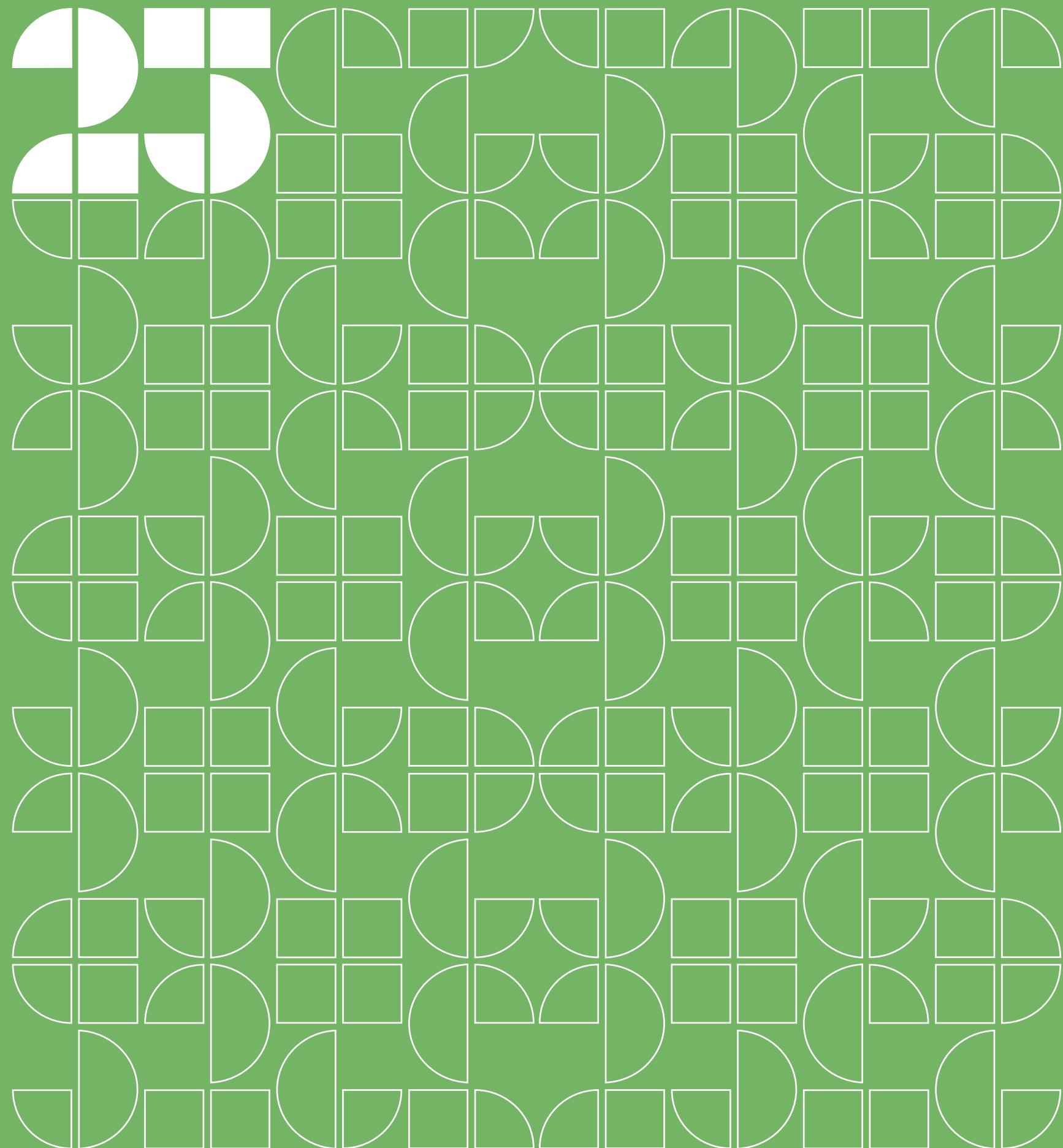


An EAD inspector carries out a compliance inspection on one of the facilities.



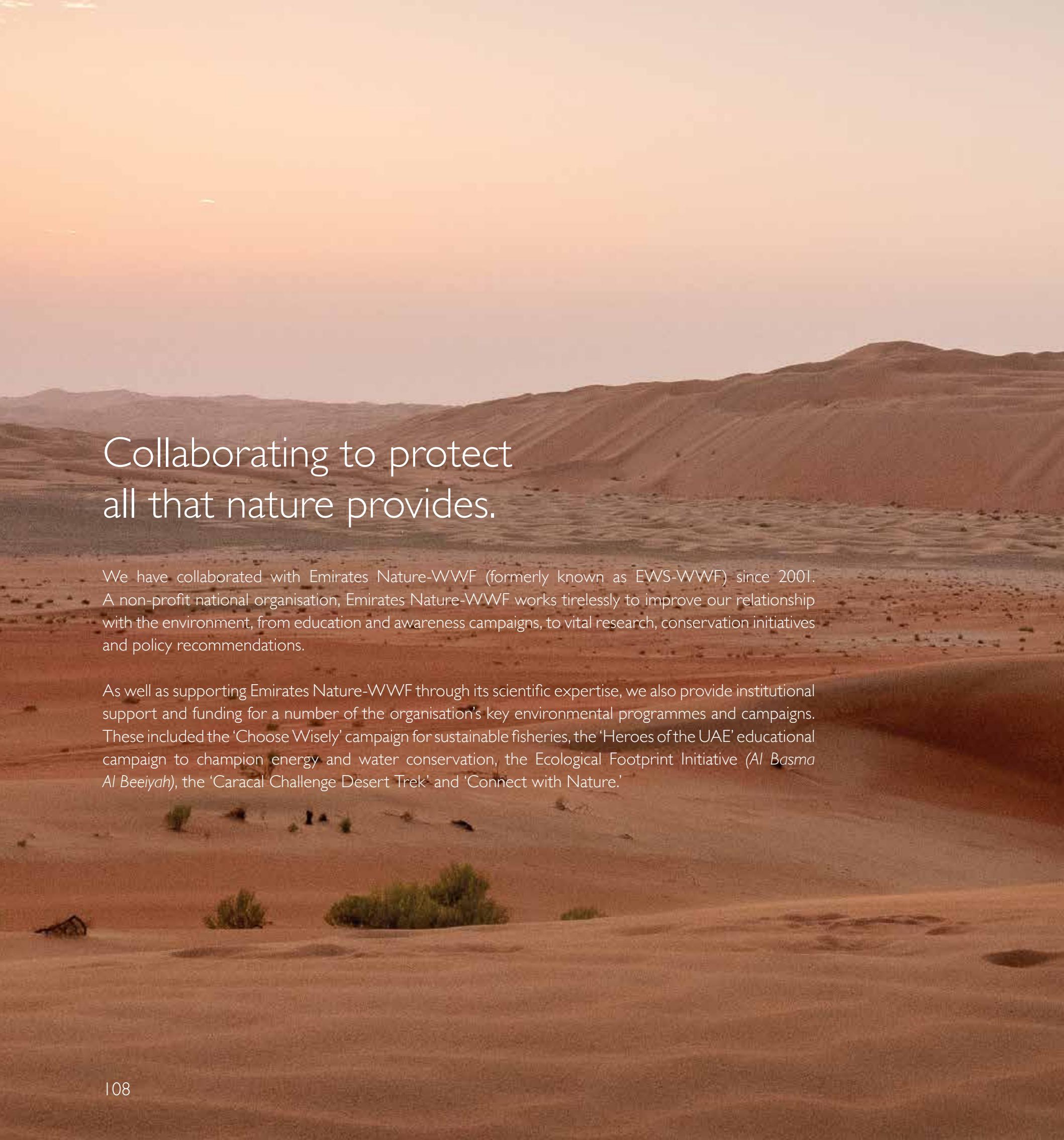
## Implementing a safety and occupational health management system for the emirate of Abu Dhabi.

The Abu Dhabi Occupational Safety and Health Center (Formerly known as Abu Dhabi Public Health Centre) was established in February 2010, following a decree by the Executive Council of Abu Dhabi Emirate. Its aim is to protect occupational health and safety by providing a safe place to work. The centre also facilitates efficient partnerships between government and private sectors.



## Chapter 6

Extending our positive impact throughout the region and the world



## Collaborating to protect all that nature provides.

We have collaborated with Emirates Nature-WWF (formerly known as EWS-WWF) since 2001. A non-profit national organisation, Emirates Nature-WWF works tirelessly to improve our relationship with the environment, from education and awareness campaigns, to vital research, conservation initiatives and policy recommendations.

As well as supporting Emirates Nature-WWF through its scientific expertise, we also provide institutional support and funding for a number of the organisation's key environmental programmes and campaigns. These included the 'Choose Wisely' campaign for sustainable fisheries, the 'Heroes of the UAE' educational campaign to champion energy and water conservation, the Ecological Footprint Initiative (*Al Basma Al Beeiyah*), the 'Caracal Challenge Desert Trek' and 'Connect with Nature.'





Saker Falcon

# The pioneering Abu Dhabi Falcon Hospital, the largest hospital of its kind in the world, continues to lead.

Established by EAD and officially opened in October 1999, the Abu Dhabi Falcon Hospital (ADFH) has become the world's largest veterinary facility specialising in falcons and falcon medicine. The hospital is dedicated to gaining a better understanding of the region's native falcon species, as well as preserving the traditional art of falconry, an essential part of the UAE's cultural heritage.

Treating over 11,000 falcons each year from across the Gulf region, the hospital also oversees the essential conservation and research undertaken by the Sheikh Zayed Falcon Release Programme, rehabilitating wild falcons for release in habitats along their natural migratory routes in Pakistan and Central Asia. Since 2011, the hospital has also begun its own captive breeding programme of Gyr (*Falco rusticolus*) and Gyr-hybrid falcons for regional falconry enthusiasts, as well as providing breeding facilities for owners' birds.

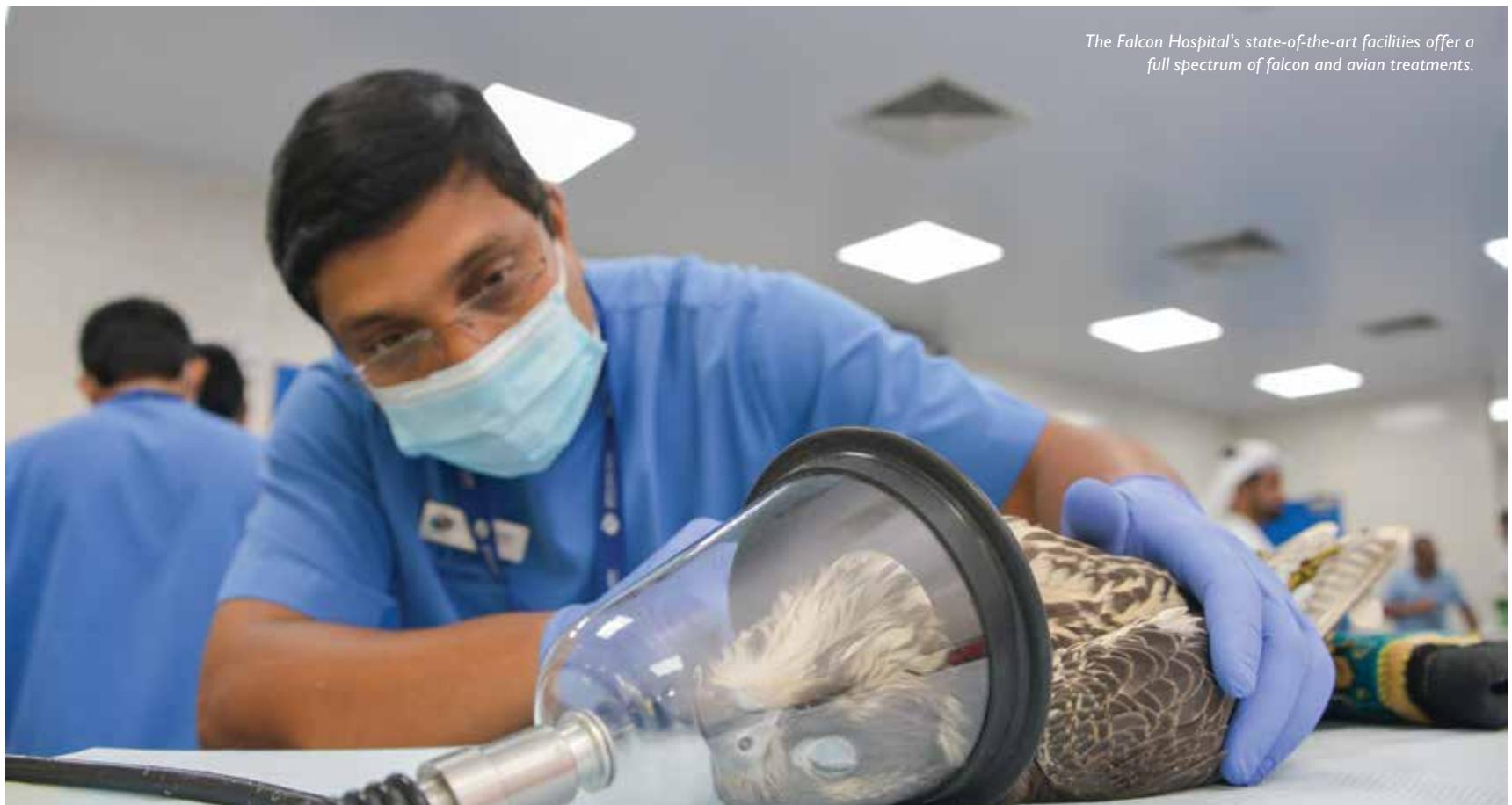
Today, ADFH includes boarding kennels, a state-of-the-art animal hospital and laboratory facilities for domestic animals and livestock, as well as the Abu Dhabi Animal Shelter.

The hospital has won over 42 prestigious local and international awards, becoming a must-visit tourist destination in its own right. For visitors to Abu Dhabi and school groups, it is a major attraction, welcoming approximately 16,500 guests each year, exceeded only by the Sheikh Zayed Grand Mosque and the Louvre Abu Dhabi.

11,000

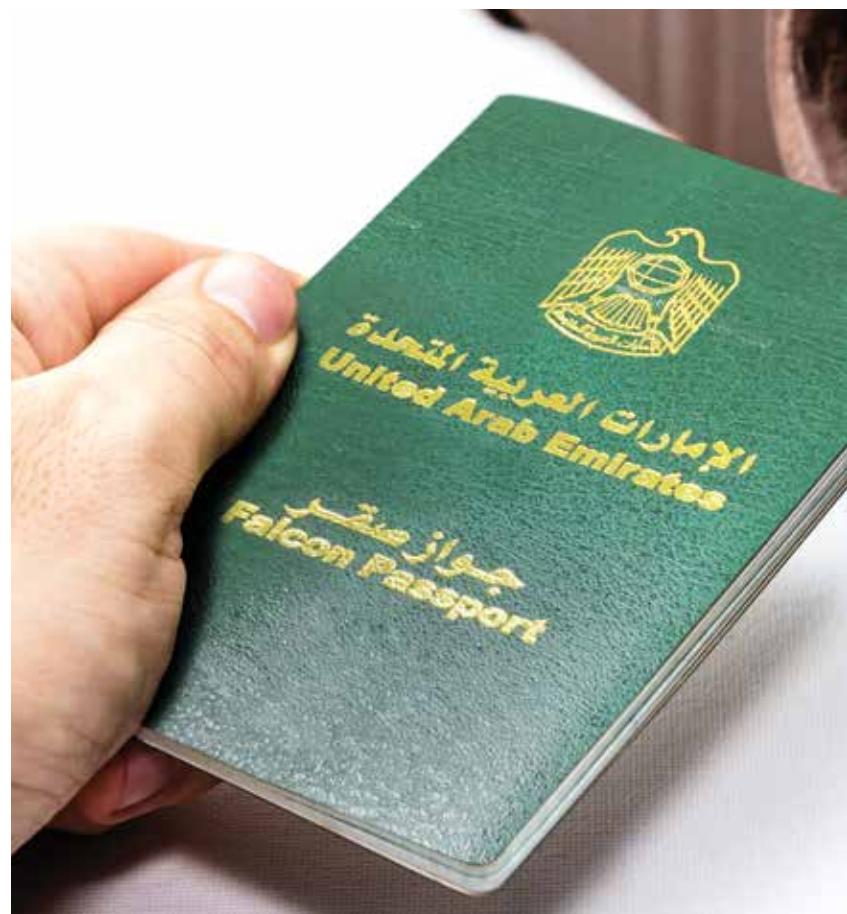


Falcons treated each year  
from across the Gulf region.



The Falcon Hospital's state-of-the-art facilities offer a full spectrum of falcon and avian treatments.





## Promoting sustainable hunting methods through Emirates Falconers' Club.

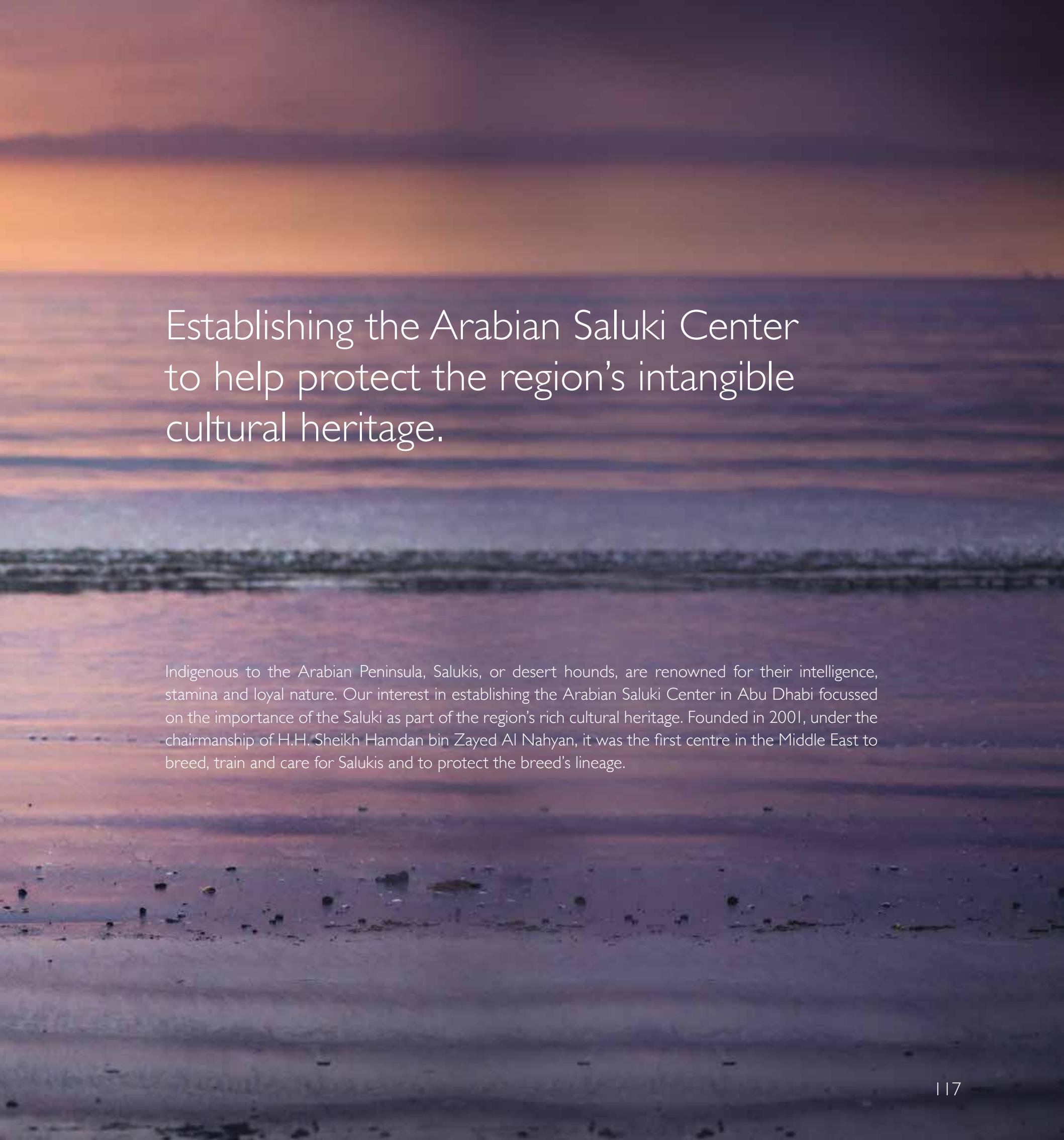
Falconry has been an integral part of Emirati life for centuries, evolving from an essential Bedouin hunting technique to a prestigious traditional sporting pursuit. We supported the establishment of the Emirates Falconers' Club in 2001 to represent and support the UAE's falconers and to promote more sustainable hunting methods. The club hopes to preserve the traditions of falconry for future generations through a range of educational and conservation initiatives, and provides members with essential information and advice on all things related to falconry, such as hunting regulations.

Since its formation, the Emirates Falconers' Club has played an essential role in the UAE's efforts to register falconry on UNESCO's Representative List of the Intangible Cultural Heritage of Humanity.



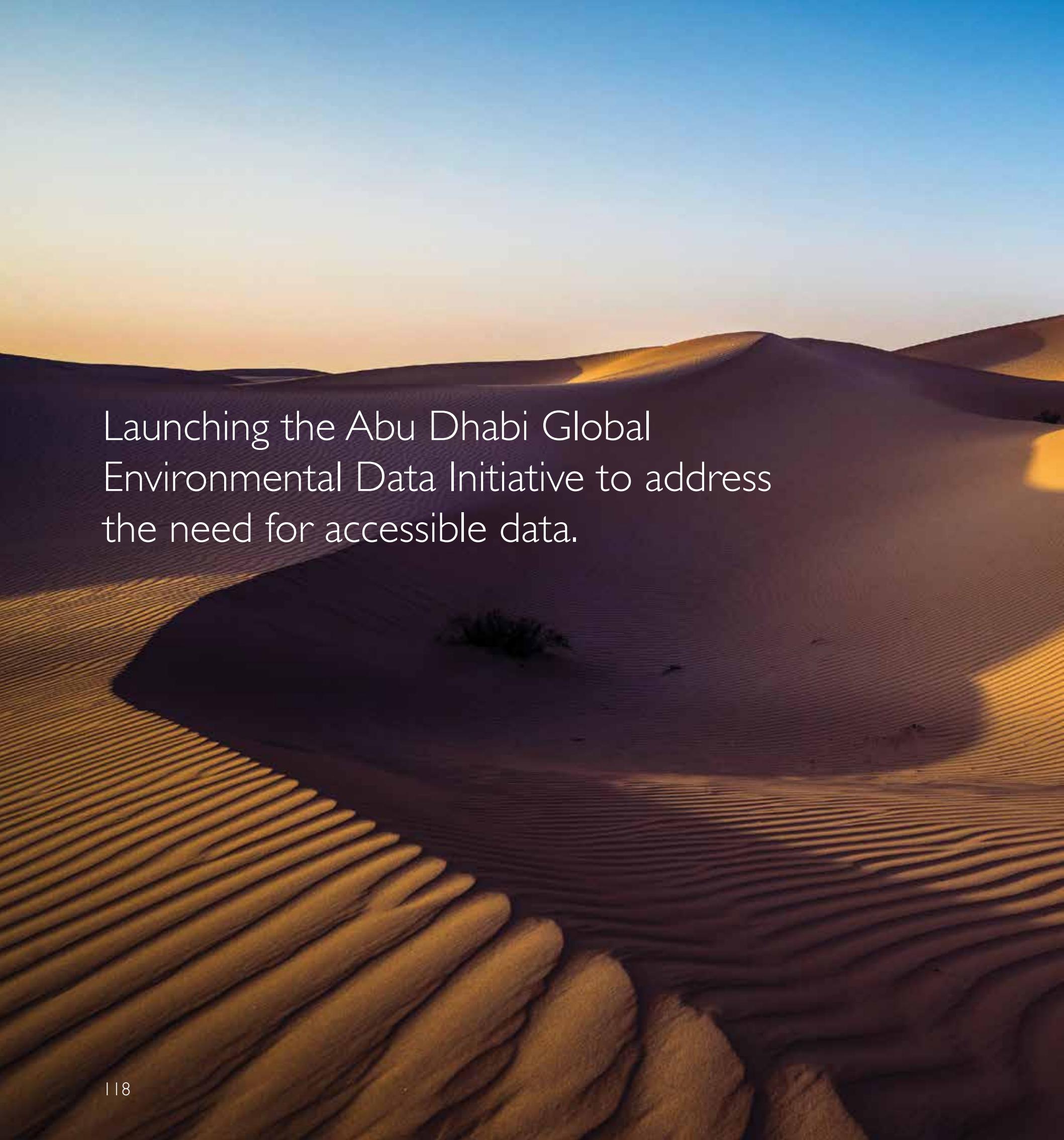
*A falconer prepares to release his falcon. United Arab Emirates.*





## Establishing the Arabian Saluki Center to help protect the region's intangible cultural heritage.

Indigenous to the Arabian Peninsula, Salukis, or desert hounds, are renowned for their intelligence, stamina and loyal nature. Our interest in establishing the Arabian Saluki Center in Abu Dhabi focussed on the importance of the Saluki as part of the region's rich cultural heritage. Founded in 2001, under the chairmanship of H.H. Sheikh Hamdan bin Zayed Al Nahyan, it was the first centre in the Middle East to breed, train and care for Salukis and to protect the breed's lineage.

A wide-angle photograph of a desert landscape. The foreground is dominated by large, dark sand dunes with distinct ridges and shadows. In the middle ground, a small, isolated green shrub stands out against the sand. The background shows more dunes receding into the distance under a clear, pale sky.

Launching the Abu Dhabi Global  
Environmental Data Initiative to address  
the need for accessible data.



Launched in 2002 under the guidance of H.H. Sheikh Khalifa bin Zayed Al Nahyan, President of the UAE, AGEDI was created to address a crucial need for accessible, accurate and relevant data to inform environmental management, policy-and-decision-making and performance evaluation, and drive progress in sustainable development goals.

Supported by ourselves, the Ministry of Climate Change and Environment and the United Nations Environment Programme, AGEDI works with diverse stakeholders towards a more sustainable future. Committed to delivering access to the highest quality environmental data, the organisation is an invaluable resource for governmental, inter-governmental, non-governmental and private entities, connecting them to a wealth of knowledge and some of the world's foremost experts in their respective fields.

Among AGEDI's many achievements are completion of the first nation-wide Blue Carbon study, the future-focussed Eye on Earth and Ecocity World Summits, the development of the first Abu Dhabi Environmental Performance Index, and the publication of the *Environmental Atlas of Abu Dhabi Emirate*, an illustrated guide to the emirate's natural heritage.



Palm plantations in the Oasis of Al Ain, Abu Dhabi Emirate.



## Collaborating with ICBA to develop sustainable agricultural systems.

Established in 1999, the International Center for Biosaline Agriculture (ICBA) is an international, non-profit agricultural research centre that aims to address the challenges of water scarcity, food security and the environment to improve agricultural sustainability and productivity.

As part of our ongoing mission to improve sustainability and reduce the emirate's reliance on its precious, non-renewable groundwater supplies, we have collaborated with ICBA since 2007 to develop sustainable agricultural systems using saline water to irrigate and grow crops. In 2014, the Agency initiated a three-way research partnership with ICBA and experts from New Zealand. This research aims to identify the water requirements of date palms when irrigated with water of different salinity, with findings used to calculate irrigation schedules for different types of date palms, trees and farms in Abu Dhabi Emirate. To lead this advanced international centre for research, innovation and technology, H.E. Razan Khalifa Al Mubarak, EAD's Managing Director, was selected as Chair of the ICBA Board in 2018.



The Abu Dhabi Sustainability Group provides a platform for government organisations, non-government entities, private companies and not-for-profit organisations.



In June 2008, as part of an effort we led, the Abu Dhabi Sustainability Group (ADSG) was formed, and has since grown from an initial 14 members to almost 50. The group is a forum for members who are signatories to the ADSG Declaration to champion sustainability by adopting best practices for sustainability management and reporting.

Working as partners, these diverse organisations share a common goal: economic, environmental and social sustainability. To achieve these ends, ADSG provides a number of essential support services to its members, including a capacity-building programme, '*Hiwar*' (dialogue) sessions, publications including the ADSG Journal, the ADSG Forum and an awards ceremony to recognise those organisations and individuals championing sustainability, and celebrate their sustainability achievements.



*Bar-tailed Godwit on Bul Syayeef Island.*

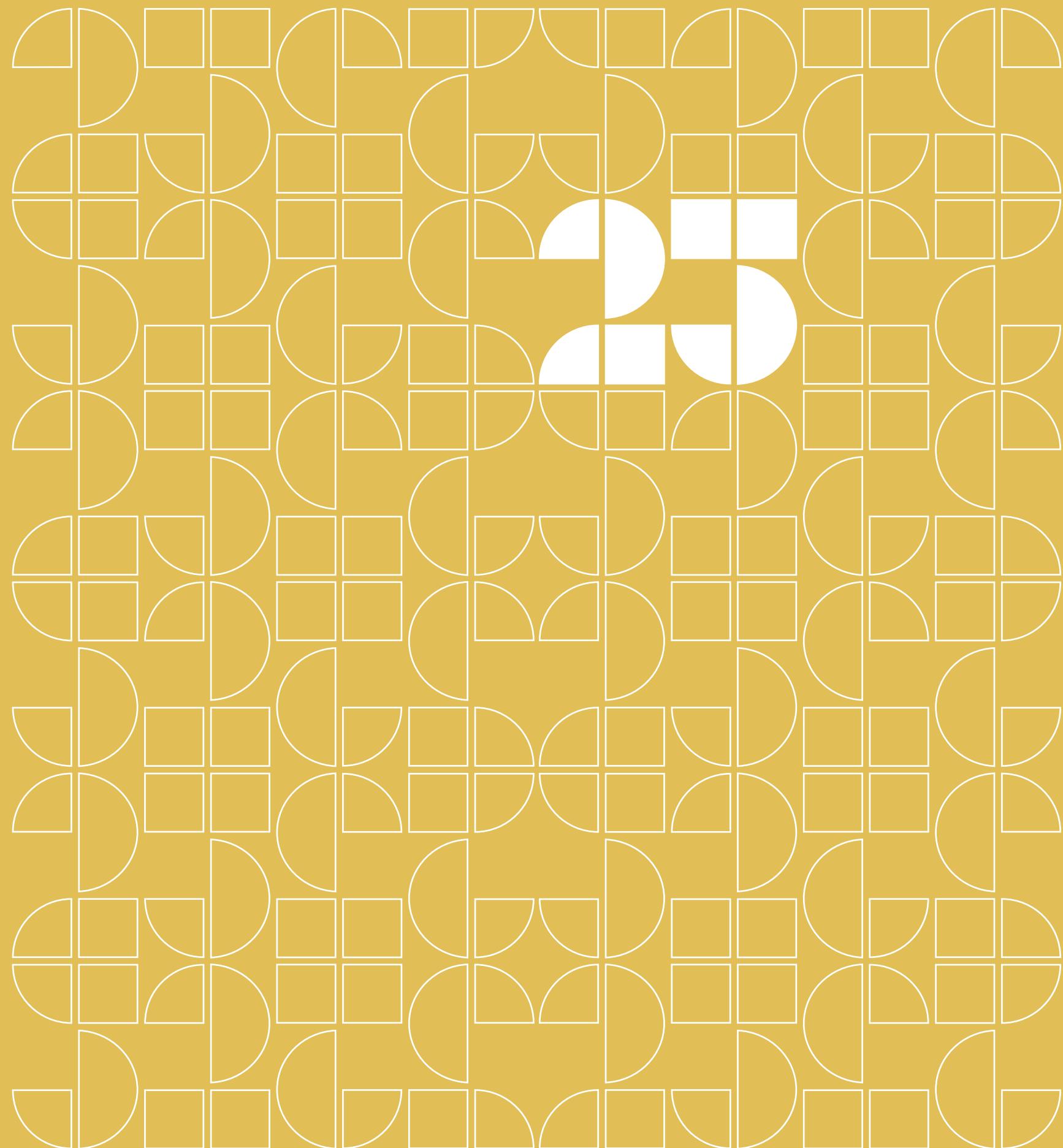
# Working across countries and continents to support the conservation of migratory species.

The UAE is a global leader in migratory species conservation, and has pioneered many flagship national and international species conservation and re-introduction projects. Its leaders have long recognised that the UAE lies along regional migratory pathways of many species moving between countries within the Gulf region, South and Central Asia and Africa, and that conservation requires coordinated action through international cooperation.

To address the common threats to migratory species of regional interest, since 2009 we have hosted the largest regional office of the Convention on Migratory Species (CMS), on behalf of the Government of the UAE. CMS Office – Abu Dhabi oversees the implementation of two international agreements under the Convention's framework: the MoU on the Conservation of Migratory Birds of Prey in Africa and Eurasia (Raptors MoU), and the MoU on the Conservation and Management of Dugongs and their Habitats throughout their Range (Dugong MoU).

The UAE is also a signatory to both MOUs and is a contracting party to the Convention. In 2017, we received two CMS Champion Plus Awards for our commitment towards conservation of birds of prey in Africa and Eurasia and conservation of dugongs and their habitats.

Our work also extends to the farthest corners of Asia. To protect Saker Falcons, we developed a global action plan with our partners and installed 5,000 artificial nesting sites in the Mongolian grasslands created new breeding opportunities for Saker Falcons in areas where natural nesting sites were scarce, with hundreds of pairs producing thousands of fledglings each year from the nests provided. Satellite tracking of migratory Peregrine Falcons from their breeding grounds across Arctic Russia revealed the connections between breeding and wintering regions, providing information on migration pathways, migratory behaviour and the diversity of habitats utilised during winter.



## Chapter 7

Educating and  
empowering the  
next generation

The backbone of our nation, and the future of conservation.



As we commemorate more than two decades of success, we are committed to continue striving to create a better and more sustainable future for all. We recognise the vital importance of engaging the next generation in our ongoing mission, as the true stakeholders in the country's future with the power to make a real difference.

Today, we are working with schools and institutions across the UAE to empower and inspire the next generation to take control of their environmental choices and champion a more sustainable lifestyle. From humble beginnings with the 'Nature Bus' in 1998, today we deliver environmental education programmes in over 85% of Abu Dhabi's government and private schools.

Our Sustainable Schools Initiative, a partnership between EAD and the Abu Dhabi Department of Education and Knowledge (ADEK) and sponsored by BP, and the Sustainable Campus Initiative, sponsored by Borouge, are award-winning programmes that aim to engage students as agents for environmental change. They have also been recognised by the UN as 'best practice programmes.' Students are encouraged to assess and address their own ecological footprint, with over 135 schools and 21 colleges and universities taking part within UAE.

Another long-running and popular educational programme we deliver is the Enviro-Spellathon. Launched in 2001, in association with Emirates Nature-WWF, sponsored by Shell Abu Dhabi and supported by ADEK, more than 1.8 million students across the UAE have taken part to date.

Aimed at children aged four to thirteen, it covers important environmental issues in a fun and informative way. Today, it is available in Braille and in an interactive online format. In 2018, the programme's content was included in the curriculum of all government schools by the Ministry of Education.



Our success would not have been possible without the passion, vision and dedicated service of a great many people, past and present. Our sincere thanks and appreciation to all of you.

We owe much of our success to our prudent leaders, H.H. Sheikh Khalifa bin Zayed Al Nahyan, President of the UAE, H.H. Sheikh Mohamed bin Zayed Al Nahyan, Crown Prince of Abu Dhabi and Deputy Supreme Commander of the UAE Armed Forces, Honorary Chairman of EAD, and H.H. Sheikh Hamdan bin Zayed Al Nahyan Ruler's Representative in Al Dhafra Region, Chairman of EAD. Moreover, our growth and accomplishments would not have been possible without the past guidance and leadership of Dr. Richard Hornby, Dr. John Cooper, H.E. Dr. Saif Al Ghais and H.E. Mr. Majid Al Mansouri as well as our entire team over these past 25 years and continuing today. Our organisation has been driven by highly-skilled and dedicated women and men, welcoming leading environmental experts from across the world and nurturing the next generation of Emirati scientists and conservationists.

Much like the UAE, we are proud to be a vibrant mix of local, regional and international talent across every level of the organisation.

With the long-term vision and support of our leadership combined with the hard work of our staff, we can look forward to 25 more years of proud achievements.



Visit [www.ead.gov.ae](http://www.ead.gov.ae)  
to explore our journey in more detail.

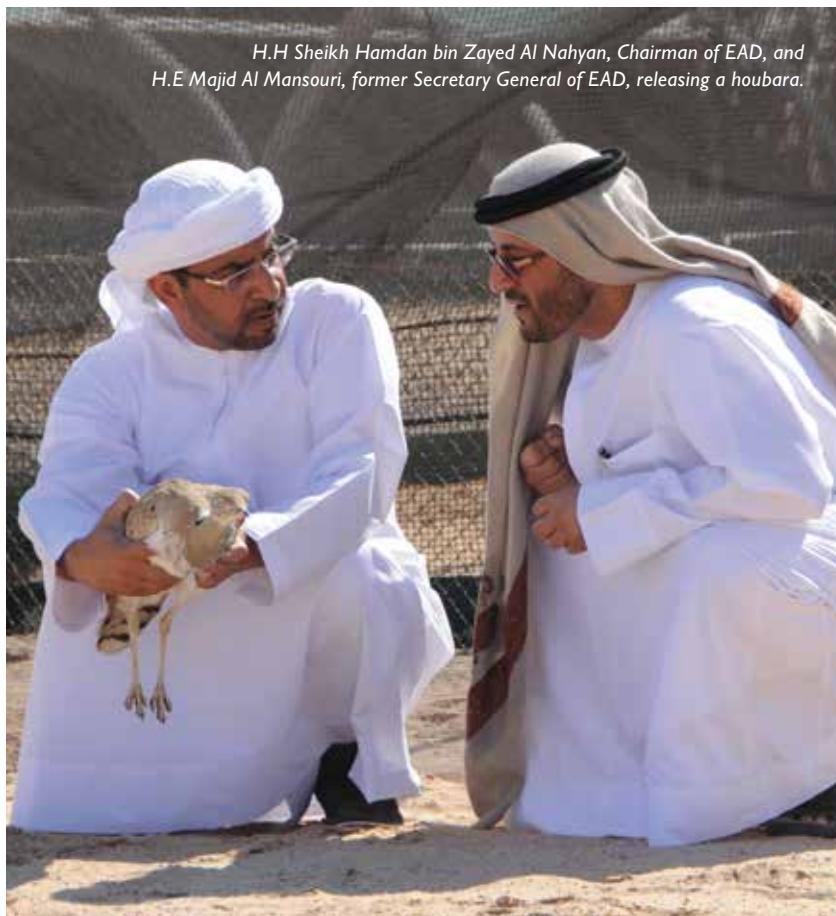


# 25 Years of Memories





H.H. Sheikh Hamdan bin Zayed Al Nahyan, Chairman of EAD, and H.E. Razan, Managing Director of EAD, Khalifa Al Mubarak, Secretary General of EAD, attend the Eye on Earth Summit in 2011.



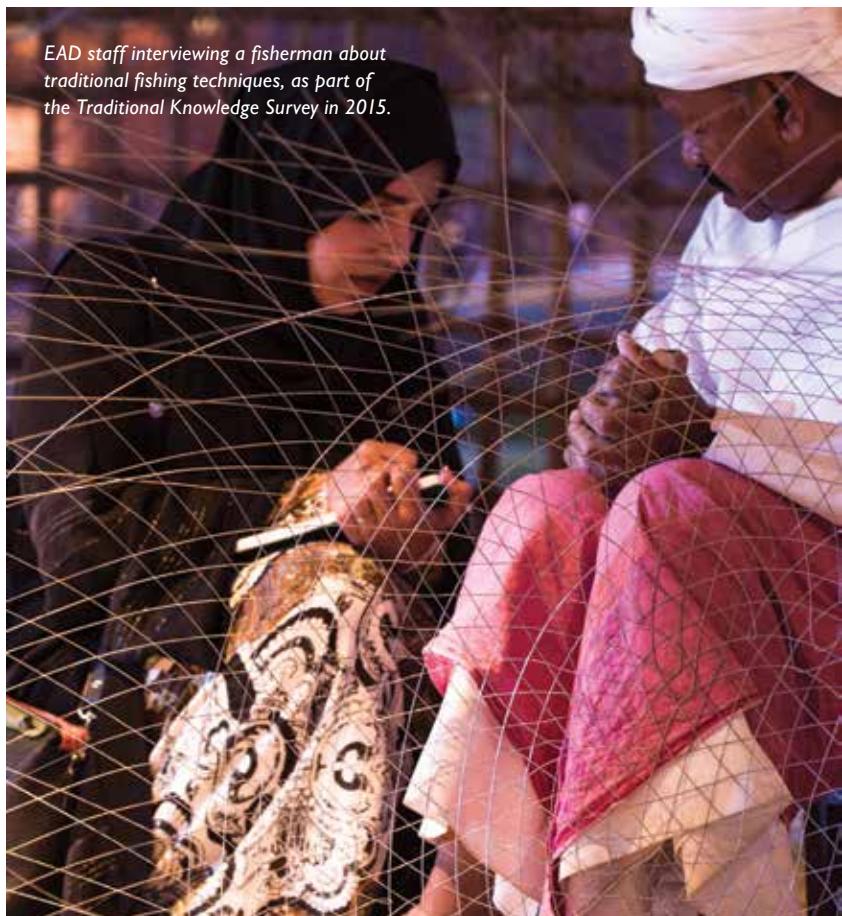
H.H. Sheikh Hamdan bin Zayed Al Nahyan, Chairman of EAD, and H.E. Majid Al Mansouri, former Secretary General of EAD, releasing a houbara.

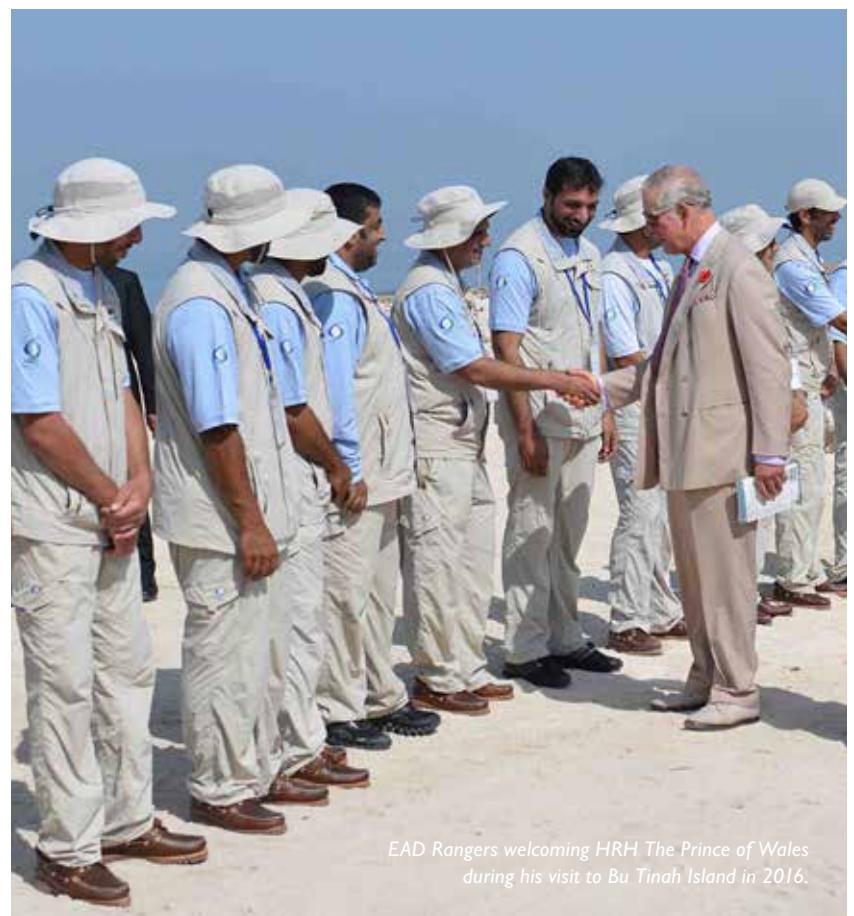


A member of Team Zayed observing a penguin, during an expedition to Antarctica in 2010.



Celebrating the EAD winners of the Abu Dhabi Award for Excellence in Government Performance 2016.







*Cleaning up Al Wathba Wetland Reserve,  
as part of Year of Zayed 2018.*



*EAD's Team Tolerance exploring  
the Arctic in 2019.*



*Inspecting industrial facilities.*



*Introducing the inspection  
teams to soil sampling.*



*EAD team gearing up for a football match.*



Arabian Oryx



Sand Cats



Saker Falcon



Hawksbill Turtle



Pharaoh Eagle Owl



Dugong

Xavier Eichaker.



YEARS OF PRESERVING  
Sheikh Zayed Environmental Legacy



هيئة البيئة - أبوظبي  
Environment Agency - ABU DHABI



YEARS OF PRESERVING  
Sheikh Zayed Environmental Legacy



هيئة البيئة - أبوظبي  
Environment Agency - ABU DHABI



YEARS OF PRESERVING  
Sheikh Zayed Environmental Legacy



هيئة البيئة - أبوظبي  
Environment Agency - ABU DHABI



YEARS OF PRESERVING  
Sheikh Zayed Environmental Legacy



هيئة البيئة - أبوظبي  
Environment Agency - ABU DHABI



YEARS OF PRESERVING  
Sheikh Zayed Environmental Legacy



هيئة البيئة - أبوظبي  
Environment Agency - ABU DHABI

Xavier Eichaker.



YEARS OF PRESERVING  
Sheikh Zayed Environmental Legacy



هيئة البيئة - أبوظبي  
Environment Agency - ABU DHABI



*Caracal*



*Houbara*



*Cuckoo Wasp*



*Greater Flamingo*



*Arabian Tahr*



*Scimitar-horned Oryx*

Xavier Eichaker.



YEARS OF PRESERVING  
Shaikh Zayed's Environmental Legacy



هيئة البيئة - أبوظبي  
Environment Agency - ABU DHABI



YEARS OF PRESERVING  
Shaikh Zayed's Environmental Legacy



هيئة البيئة - أبوظبي  
Environment Agency - ABU DHABI



YEARS OF PRESERVING  
Shaikh Zayed's Environmental Legacy



هيئة البيئة - أبوظبي  
Environment Agency - ABU DHABI



YEARS OF PRESERVING  
Shaikh Zayed's Environmental Legacy



هيئة البيئة - أبوظبي  
Environment Agency - ABU DHABI



YEARS OF PRESERVING  
Shaikh Zayed's Environmental Legacy



هيئة البيئة - أبوظبي  
Environment Agency - ABU DHABI

Xavier Eichaker.



YEARS OF PRESERVING  
Shaikh Zayed's Environmental Legacy



هيئة البيئة - أبوظبي  
Environment Agency - ABU DHABI

نحافظ على تراثنا الطبيعي . ضماناً لمستقبلنا  
preserving our heritage • protecting our future



ص ب 45553 • أبوظبي • الإمارات العربية المتحدة  
PO Box 45553 • Abu Dhabi • United Arab Emirates

T + 971 2 693 4444

customerhappiness@ead.gov.ae  
[www.ead.gov.ae](http://www.ead.gov.ae)

