

ISSUE 21 - SPRING 2017

Sandscript

An eye on the conservation of the wildlife of the Sahara and the Sahel



The biannual publication of the Sahara Conservation Fund,
only organization dedicated uniquely to the biodiversity of
the Sahara and Sahel



What's Inside **SANDSCRIPT**

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In the desert, natural elements – wind, plants and animals -- leave their signatures in the sand, giving us comforting evidence of their existence, and forming surprisingly artistic messages of life. Suddenly, wind blows and a new blank page emerges, showing us nature's incredible ability to renew. Sandscript is inspired by natural phenomena – as its name indicates – and is also due for renewal. This is why we have given it a new look and a more refined design with bigger photos. A fresh appearance that does not let us forget about how far we have come since Sandscript first appeared over 10 years ago.

In 2007, the very first issue of Sandscript was sent out to a relatively small but growing community of partners, colleagues, and other passionate people whose support was of great importance to the Sahara Conservation Fund.

The biannual newsletter was created to keep our supporters informed of our conservation projects and other newsworthy developments in the Sahara and Sahel; places where biodiversity was poorly known, scantily documented and largely unprotected.

Ten years on, Sandscript's articles are still written by SCF's team and collaborators, that is to say those who go into the field, making biodiversity conservation a reality at a time when it seems less and less easy to find reasons for hope. We are proud of the long way we have come and thankful to everyone who has contributed to the past issues.

We would also like to thank the growing chorus of supporters that gives us the precious support that makes our projects and their achievements so tangible.

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In this our 21st issue, Sandscript spotlights the 17th Annual Meeting of the Sahelo- Saharan Interest Group held in Senegal in May, which gathered together about one hundred experts of biodiversity conservation. We also feature updates on our fieldwork, with news in new-born oryx, new sightings of addax, and new initiatives to restore the Saharan ostrich to the wild. We hope you will enjoy both Sandscript's new format and the information and news it contains.





Sahelo-Saharan Interest Group

Conservation & Science in the Sahelo-Saharan Region

In May 2000, the Sahelo-Saharan Interest Group (SSIG) was formed as the first network of like-minded individuals and organizations committed to conserving Sahelo-Saharan antelopes and the ecosystems they require for survival. Embracing the Action Plan adopted by the parties to the Conference of the United Nations Convention on Migratory Species (CMS) in Djerba, Tunisia, in 1998, the SSIG also was interested in finding ways to conserve all types of flora and fauna critical for maintaining healthy desert ecosystems.

In the early 2000s, SSIG experts led landscape and wildlife surveys in Chad, Niger and Algeria that defined clear priority areas for conservation. Then, in 2004, recognizing the necessity of evolving into a structure with appropriate legal status, a not-for-profit organization - the Sahara Conservation Fund (SCF) - was created.

In more recent years, the SCF Conservation & Science Committee was formed to provide scientific and technical advice on conservation issues to the Board of Directors and the Chief Executive Officer. The Committee also encourages and facilitates communication and knowledge sharing between all those interested in conservation across the Sahelo-Saharan region.

It is currently composed of 27 members representing different expertise (from field ecology to conservation breeding) in multiple geographical areas. Additionally, the Committee selects the venue, organizes, and facilitates the SSIG meeting.



This annual gathering has become a unique forum to bring people together, share ideas and projects, prioritize conservation needs, and continue a strong tradition of collaboration on behalf of Sahelo-Saharan wildlife and people. As a result, skills and capacity are improved in parallel with the generation of more support and awareness.

SSIG experts and the Sahara Conservation Fund were particularly happy to experience, this year in Saint-Louis, the great efforts of their senegalese colleagues in protecting the sahelian species and their habitats.

The 2017 edition in Senegal was another success and we look forward to seeing everyone in France next year.

By

Pierre Comizzoli

CONSERVATION BIOLOGIST

CHAIR OF THE CONSERVATION & SCIENCE COMMITTEE OF
THE SAHARA CONSERVATION FUND

Thomas Rabeil

CONSERVATION BIOLOGIST

REGIONAL PROGRAM OFFICER &
VICE-CHAIR OF THE CONSERVATION & SCIENCE COM-
MITTEE OF THE SAHARA CONSERVATION FUND





Addax Conservation

Addax in Full Flight

As a result of the combined ground and aerial surveys carried out last year, it is known the addax population in Niger has crashed and only a few individuals remain in its previous Tin-Toumma desert stronghold. One of SCF's strengths is to be fully engaged in Niger wildlife conservation and it is not our habit to simply give up when situations become challenging because of insecurity or intensive poaching. We are convinced fieldwork is absolutely necessary to maintain up to date information on the threats and opportunities facing the addax and to find the solutions necessary to save the only antelope perfectly adapted to survive in the Sahara from extinction.

In April 2017, a fieldtrip was carried out in Termit & Tin Toumma National Nature Reserve with the assistance of the Nigerien wildlife authorities, the Niger Fauna Corridor Project, and Noé. Finding such a very rare animal in so large a space calls for enormous skill and a profound knowledge and understanding of the species' ecology and behavior. Over more than a decade of fieldwork, we have learnt that addax always favour areas far from human disturbance, where they can find good green grazing and in particular the shoots of the grass *Stipagrostis acutiflora*. When they can find it, addax also seek shade during daytime to avoid the fierce, desiccating heat that challenges all warm-blooded animals.

Based on this knowledge, the goal of the mission was to survey core area of known addax range, including the place where three addax were sighted a year ago and all known shade trees near to areas of good grazing. As it turned out, we faced unusual weather for the season, with very strong winds and lower than average temperatures. This compelled us to slightly change our strategy and spend more time surveying areas of good grazing rather than visiting all the known clusters of shade trees. With an average wind speed of 20 km/h during much of the day, the search for addax tracks was almost impossible so we adapted our survey method by starting earlier than usual to maximize our chance of spotting fresh dung or tracks.

Finally, after an intensive search in a relatively small area of 350 km² of good grazing, we succeeded in finding the fresh tracks of six individuals early in the morning of the 4th day. We followed the tracks with some difficulty due to the sandy terrain but after two gruelling hours spent mostly digging the cars out of sand drifts we had the immense privilege of seeing six addax in full flight. The group was composed of 3 adult females, 2 adult males and one juvenile aged about a year old. The good news is certainly the presence of a young addax, proving the tiny remaining addax population keeps breeding.

The complete absence of recent vehicle tracks or human presence in core addax habitat was also comforting. In all likelihood, there are more addax in this area though probably not enough to form a viable population.

We have good reasons to believe the addax will see better days because of our efforts and the incredible capacity of Saharan species to recover when protected.

By

Thomas Rabeil

CONSERVATION BIOLOGIST

REGIONAL PROGRAM OFFICER & VICE-CHAIR

OF THE CONSERVATION & SCIENCE COMMITTEE

OF THE SAHARA CONSERVATION FUND



Oryx Reintroduction

Oryx Baby-Boom

The first sign something was afoot came from outer space. Thanks to the satellite collars the scimitar-horned oryx recently reintroduced to Chad are wearing and the data transmitted twice-daily to our colleagues, Jared Stabach and Katherine Mertes, at SCBI in the United States, we learned in early April that two females had left the main herd. Due to the efforts of our ground team monitoring the oryx this was not entirely unexpected. Under the guidance of ZSL biologist, Tim Wachter, the team had identified a couple of heavily-pregnant females and had been watching for this typical pre-birth behaviour, where pregnant oryx often leave the herd to find a safe and secluded spot to give birth. As luck would have it, I was in Chad at the time, and as soon as the data came in, reserve manager, Mahamat Hassan, and project leader, Marc Dethier, joined me to see what we could find. Since satellite data only comes in twice a day, the GPS coordinates are only indicative of where the oryx are.

Actually, locating the animals can be quite tricky even on these open and sparsely-wooded prairies. Luckily the collars on our animals are fitted with VHF transmitters and our Chadian colleagues, Bobby Zaid and Habib Ali, have become expert in locating the oryx. After about an hour of bumping across rough terrain, pock-marked by concealed aardvark holes and pale fox colonies, we were in the zone. From about 500 metres we could see the female together with a male companion shading under a thorn tree. The second female had already left to rejoin the main herd.

Careful scrutiny showed no sign of a calf and as we approached the oryx they moved slowly away, the female lagging behind the male, a good sign that a calf was nearby. Watching patiently, the tiny, brown calf finally showed itself for a second or two, not under the tree but hidden amongst a pile of dead branches some distance away, where it had probably been born and secreted by its mother. The calf was literally only hours old, its luxuriant tan-coloured pelage camouflaging it perfectly amongst the branches and dry grass. Studiously ignoring our presence, the calf lay perfectly still, a tactic developed to avoid the curiosity of passing predators, like jackals or hyenas, always on the lookout for a tasty snack.

BY

John Newby

CONSERVATION BIOLOGIST

CEO OF THE SAHARA CONSERVATION FUND

So far, since September 2016, fifteen oryx have been born, seven in the wild and eight in the pre-release pens. A veritable baby boom. Of the fifteen, four have been lost, three to unknown causes or abandonment by their mothers, and one to predation from jackals. For a largely naïve and inexperienced group of animals, this is something to be expected and compares very favourably with data from the best managed collections.

As the oryx become more at home in their new environment and more experienced in giving birth and caring for their young, survivorship should improve. For the moment, though, everyone is on a steep learning curve, with the prospects for the future extremely rosy.

The scimitar-horned oryx reintroduction project is a joint initiative of the Chad government and the Environment Agency Abu Dhabi. In Chad the project is implemented by the Sahara Conservation Fund.





Oryx Monitoring

Tracking Oryx from Space

The scimitar-horned oryx released into the Ouadi Rimé-Ouadi Achim Game Reserve, in central Chad, wear distinctive leather necklaces. These are wildlife tracking collars, durable pieces of advanced technology that collect different kinds of information about how animals move through the environment. Each collar contains a GPS receiver that records its location roughly every hour. The receiver listens for specific satellites, which are designed and maintained by the United States Department of Defense to have extremely precise orbits around Earth. Once the GPS receiver “hears” multiple satellites, it calculates its geographic location based on these satellite reference points. To conserve battery life, the receiver automatically hibernates between calculations.

Twice each day, collars transmit recently recorded locations through a different network of communications satellites. We receive these locations quickly, often within minutes of transmission. Since the first oryx were released in August 2016, tracking collars have recorded more than 150,000 locations. Along with observations collected by the field monitoring team based in the reserve, these locations are a critical first step in detecting potential problems. For example, when an oryx moves outside the reserve, or is motionless for an unexpectedly long time, a text or email alert is automatically sent to all partners on the reintroduction project. Such movement – or lack thereof – could reveal an oryx exposed to dangerous conditions, or under stress from heat or dehydration.

These near-real-time analyses identify individual animals that might be in distress, enabling both onsite monitoring by the field team and remote monitoring by scientists. Each collar also carries an accelerometer, a device similar to the technology that automatically orients a smartphone screen. The accelerometer measures motion in three directions: forward-backward, left-right, and updown. We can use these measurements to estimate the amount of energy an oryx spends while moving through the arid landscape of the reserve.



We can also match up these measurements with observations of captive and reintroduced oryx to identify specific behaviors, like running or fighting, from accelerometer data alone. By mapping where important behaviors – such as grazing – occur, we can identify places that are crucial for the survival of released oryx.

Finally, each collar also contains a VHF beacon that broadcasts a radio signal on a unique frequency. The most recent GPS position of each oryx is emailed to the field monitoring team twice each day. But because the tracking collars only transmit locations every 12 hours, this location may be up to twenty-four hours – and tens of kilometers – out of date. To locate an oryx in the field, we mount a large radio antenna on a vehicle, and scan all collar frequencies while driving through areas where oryx were recently recorded.

So far, tracking reintroduced oryx from space has helped us identify oryx births, home range formation, and returns to the release site during the hot, dry season. We continue to look for new ways in which tracking technology can support the successful reintroduction of scimitar-horned oryx to the wild.

BY
Katherine Mertes
RESEARCHER
SMITHSONIAN CONSERVATION
BIOLOGY INSTITUTE



North African Ostrich Recovery Project

It Takes a Team to Save an Ostrich

John Newby contacted me some time ago regarding assistance with setting up a project for the conservation of the North African Desert Ostrich. I knew nothing about this ostrich, but John piqued my interest and I became interested in helping. For the past nine months there is not a day that goes by when I do not think about the survival and future of this beautiful bird. With the assistance of many dedicated and talented people, or "Team Niger", we are remotely constructing a conservation camp, which we will ship from California to Niger. The camp will consist of four distinct containers, each housing different equipment with distinct functions; an incubator, hatchery, solar power plant and an office. We have been facing many challenges in their design and construction that has for the most part been a rewarding and inspiring experience. I say this because of all of the people who are donating their time, expertise, equipment and finances to make this project a reality.

Let me tell you what we are doing. One has to start with water. The camp's water supply comes from a borehole, which is 63 meters deep and 1200 meters away from the camp. We have designed a solar pumping system at the borehole and a supply pipe and storage tanks and an intermediary pump to carry this water to the camp. The pipe must pass through two wadis and we have a solution to accomplish this. This water is not only for the camp personnel, but also to clean and care for the ostrich eggs.

Last year, Mike Mace showed me his containers at the San Diego Zoo where he successfully brought The California Condor back from the edge of extinction. The containers are clean rooms, with stainless steel counters and sinks, insulated walls and ceilings, vinyl floors, and air-conditioning.



His containers were the genesis of the project. Thank you Mike! Like his, we had to design our containers to maintain a constant internal temperature, function just as well as his, but in a much different environment and with no source of electricity available, hence solar power.

Our solar power plant with battery back-up and diesel generator, will supply all the power requirements for our camp. This is not a small amount of electricity, as there will be several air conditioners, an incubator, 2, hatcheries, a refrigerator, freezer, lighting - you get the idea. The containers will be painted with a special heat reflective paint, and the solar array will act as a roof to help with cooling. We have built additional walls away from the container walls, where we will spray expandable foam insulation to achieve a very high insulating value. We need internal fans to circulate air, remove hot air and keep the temperature and humidity constant. Piping, wiring, and airconditioning tubing is being installed in these walls. In addition there will be spare parts, tools, instructions and we will provide all of the technical assistance to erect and maintain this remote conservation camp.

We hope to ship all of the containers; there will be five in all, in the next two to three months. I have to end by naming and thanking many companies and individuals, who are making this project a reality. Without their help this would not be possible and I apologize if I am forgetting someone, which I am sure that I have.

BY
Stephen Gold
VOLUNTEER SOLAR
& SUSTAINABILITY MANAGER
WILDLIFE CONSERVATION NETWORK

In no particular order: Pete Retondo, Principle architect and designer, Stephen Attell, Architect and mechanical design, Peter Amick, Contractor, Michael Labate, Contractor, Greg Hanson, Solar water expert, Mark Mays, Solar engineer, Brandon Provalenko, OutBack Solar, Drew Zogby, OutBack Solar, Fred Kaiser, OutBack Solar, Sara Jane Seideman, Graphic design, Rich Eber, Shipper, John Newby, George Bajada, Electrical Contractor, B and K Electrical Supply, Joe Yick, Stainless Steel, Mark Hall, Natureform Incubators, Mike Casassa, Beronio Lumber, Mike Mace, Bill Houston, Sarah Hallager, Scott Tidmus, Thomas Rabeil.



How You Can Help

Until very recently, the silent crisis of extinction in the Sahara and the Sahel has been largely overlooked and underfunded by the international conservation community and aid agencies around the world. In 2004, a small group of committed individuals and institutions launched the Sahara Conservation Fund (SCF) in response to an urgent call to action: "If not us, then who will speak for Saharan wildlife?"

SCF is now leading a rapidly growing Sahelo-Saharan wildlife conservation movement to protect and restore a unique and exquisitely adapted assemblage of

species, including addax, scimitar-horned oryx, Saharan cheetah, North African ostrich and dama gazelles.

As a fully registered NGO in the U.S and France, SCF relies on donations, grants and other funding from individuals, corporations and organizations to help drive its mission and to give voice to the Sahara and the plight of its wildlife.

We invite you to add your voice to the growing chorus calling for the protection and restoration of Sahelo-Saharan wildlife through your support of SCF.

TO DONATE TO SCF JUST SCAN THE QR CODE
OR VISIT **WWW.SAHARACONSERVATION.ORG/DONATE**



www.saharaconservation.org | **scf@saharaconservation.org**

If you would like to know more about our work and how to contribute to our projects, please do not hesitate to contact us. We would love to hear from you!

SCF is grateful to Pierre Comizzoli, Thomas Rabeil, John Newby, Katherine Mertes, Stephen Gold, for their photos and contributions to this issue. Sandscript is edited by the Sahara Conservation Fund. You can reach the organization for any comments and feedback (contact informations above). We also like to thank the growing chorus of supporters that gives us the precious support that makes our projects and their achievements so tangible.



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Sahara Conservation Fund



SAND SCRIPT

The biannual publication of the Sahara Conservation Fund

Launched in 2007, Sandscript has been bringing you news of the Sahara Conservation Fund and its projects for over a decade.

Since its inception, Sandscript articles have been written by the SCF team, their collaborators, and all those who, through their fieldwork, make the conservation of biodiversity a reality. Its primary purpose is to inform the public of our conservation activities in the Sahara and Sahel, to share relevant news items, but also to sensitize the reader to the beauty and richness of this region of the world. Over the years, Sandscript has gone beyond a simple informative role to provide original perspectives on poorly-known areas of Africa and their amazingly diverse, unique and threatened wildlife. It is thanks to its narrative style and its beautiful photos that the publication invites the reader, twice a year, to delve into this universe. Taking readers behind the scenes, Sandscript creates a new perspective on the fauna and flora of the Sahara and the Sahel and the efforts undertaken to ensure its survival.

We are sincerely grateful to all those who have helped make Sandscript one of the first and finest sources of information on the unique but neglected wildlife of the Sahara and the Sahel.

To accompany and complement Sandscript with brief news items, an e-newsletter is also available. Subscribe on line at www.sahara-conservation.org.



SCF's mission is to conserve the wildlife of the Sahara and bordering Sahelian grasslands. To implement our mission, we forge partnerships between people, governments, the world zoo and scientific communities, international conventions, non-governmental organizations and donor agencies. A powerful network with a common goal – the conservation of deserts and their unique natural and cultural heritage.