

A ROCHA

Conservation and Hope

Field notes

Updates from the A Rocha world

issue: 64



THEME

Endangered Species

*Psammobates
geometricus*

Spring 2021

Introducing Field Notes: an A Rocha podcast

We are living in a time of crisis for the planet. Our overuse and misuse of water, energy and food has led to dangerous levels of habitat loss, pollution, soil degradation and ocean acidification. As a result we face the overwhelming challenges of climate change, biodiversity loss, disease and poverty.

A Rocha has always been a voice of hope in the environmental space. The Field Notes podcast, hosted by Peter Harris and Bryony Loveless, is an exploration of the ideas, practice and experience making a difference on the ground, through conversations with people who really know what they are talking about – from conservation scientists, explorers and biologists, to artists, entrepreneurs and theologians. They all have hopeful stories to tell and we invite you to let them comfort, inspire and challenge you as they have us.



New episodes every fortnight.

Available wherever you get your podcasts.

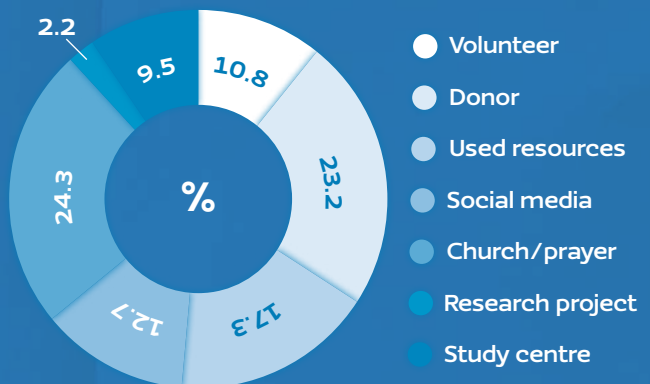
Thank you to everyone who filled out our latest supporter survey. We have planted 275 native trees in and around Kenya's Arabuko-Sokoke Forest in your honour! The survey may have closed but we'd always like to hear from you, so do get in touch with any ideas for ways we can improve what we do.

Here are some things we learnt from the results:

How long have you been involved with A Rocha?



How have you been involved with A Rocha?



- Volunteer
- Donor
- Used resources
- Social media
- Church/prayer
- Research project
- Study centre

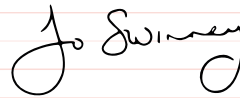
Holding on to hope

Farewell Splendid Poison Frog. Rest in peace Smooth Handfish, Jalpa False Brook Salamander and Spined Dwarf Mantis. We are sorry, Bonin Pipistrelle Bat and Golden Bamboo Lemur, for we cannot say we did all we could to save you. 2020 was a hard year for many. For you it was the last.

Wildlife populations have declined by 68% since 1970. 1 million species, out of a total 8 million, are currently threatened with extinction; 25% of plant species that have been assessed are threatened with extinction. As Sir David Attenborough said in the documentary, 'Extinction: the Facts' (BBC 2020), 'We face a frightening future.'

A Rocha has been working in nature conservation since 1983. One of our distinctives in the environmental world is our firm hold on hope. We are not naïve. We are not refusing to face facts or attempting to live in an alternate reality. But we choose to behave today as if tomorrow is coming. We live in a world loved by its creator God who is committed to its redemption, doing what obedience and worship requires us to do – care for all he has made.

In these pages, there are many stories of places, plants and creatures around the thriving thanks to your support. There are ideas and opportunities for you to make a difference, and an interview with one of the key people behind the most effective conservation tool yet invented, the IUCN Red List of Threatened Species, A Rocha International's Executive Director Simon Stuart. Thank you for being part of the A Rocha family and for keeping faith with us and with this beautiful, hurting creation.



Jo Swinney
Head of Communications,
A Rocha International



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Biodiversity conservation: the state of play

In 2020 we were supposed to deliver a 'super year' for the planet: the four-yearly IUCN World Conservation Congress, the ten-yearly strategic planning meeting of the UN Convention on Biological Diversity (CBD), and COP 26, the most important meeting of the UN Climate Convention since Paris in 2015. All were postponed as the planet delivered its own 'super' year – a sober reminder that our collective poor stewardship has planetwide consequences.

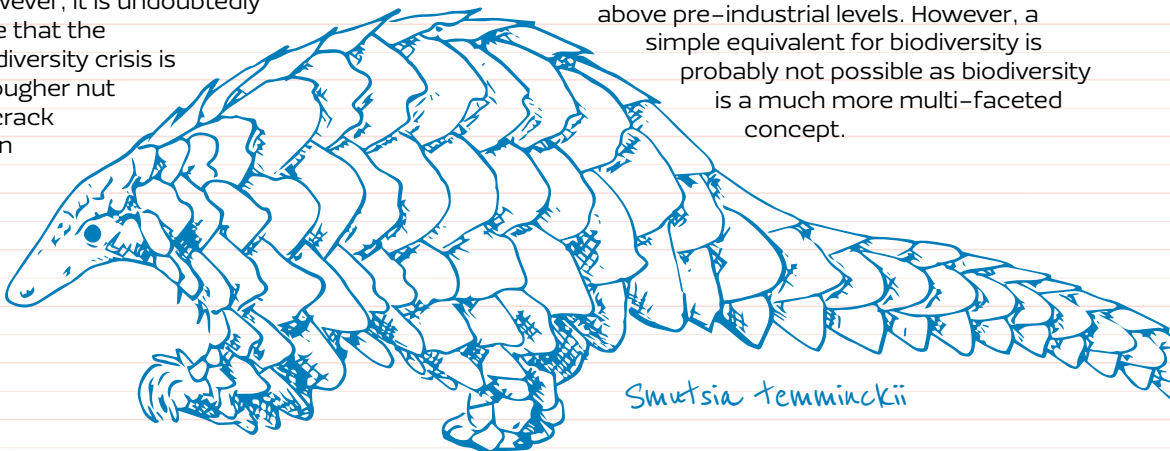
Ambition to address the climate crisis has grown boldly over the last year. As civil society and industry are making their own commitments to lessen their global impacts, so too are governments as they set goals to reduce fossil fuel emissions to net zero.

Biodiversity remains the poor cousin when it comes to the attention it receives in the public space and commitment from policy makers. But with the origins of COVID-19 being linked to the wildlife trade, and the degradation of habitats shown to cause more contact between humans and viruses, the pandemic has provided a salutatory lesson that it is more important than ever to reverse the declining trend in biodiversity.

However, it is undoubtedly true that the biodiversity crisis is a tougher nut to crack than

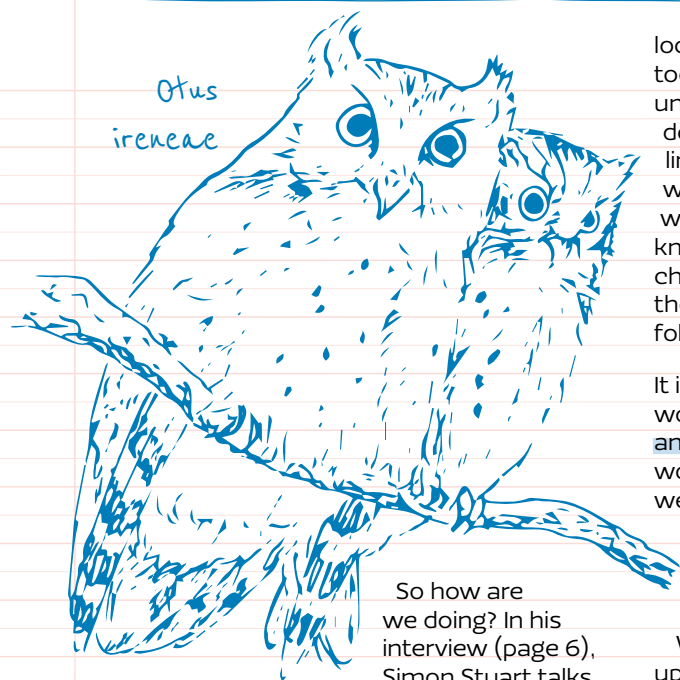
climate change and this presents a huge challenge when communicating the problem, tracking progress and devising policies and interventions that can help. If you saw David Attenborough's recent documentary, *'Extinction: the Facts' (BBC 2020), you will know that species extinctions are driven by several rather independent causes, unlike man-made climate change which has one main cause – the emissions of greenhouse gases into the atmosphere. The destruction and degradation of habitats – caused for example by agriculture, disruption of water flow in rivers, and bottom trawling in coastal seas – is by far the leading threat to biodiversity on land and in freshwater but it only accounts for about half the losses. Other threats include hunting and fishing, pollution, invasive species, infectious diseases, ocean acidification and climate change itself. To a considerable extent, these have independent causes, though all in the end can be traced back to human activities. It is this diversity of threats that makes the task of addressing the biodiversity crisis so much more complicated.

The exhilarating diversity of life on earth poses another challenge. The entire global effort to tackle climate change has been condensed down into a beguilingly simple ambition: keep any rise in global temperature below 1.5 or 2°C above pre-industrial levels. However, a simple equivalent for biodiversity is probably not possible as biodiversity is a much more multi-faceted concept.



Smutsia temminckii

Otus
ireneae



So how are we doing? In his interview (page 6), Simon Stuart talks

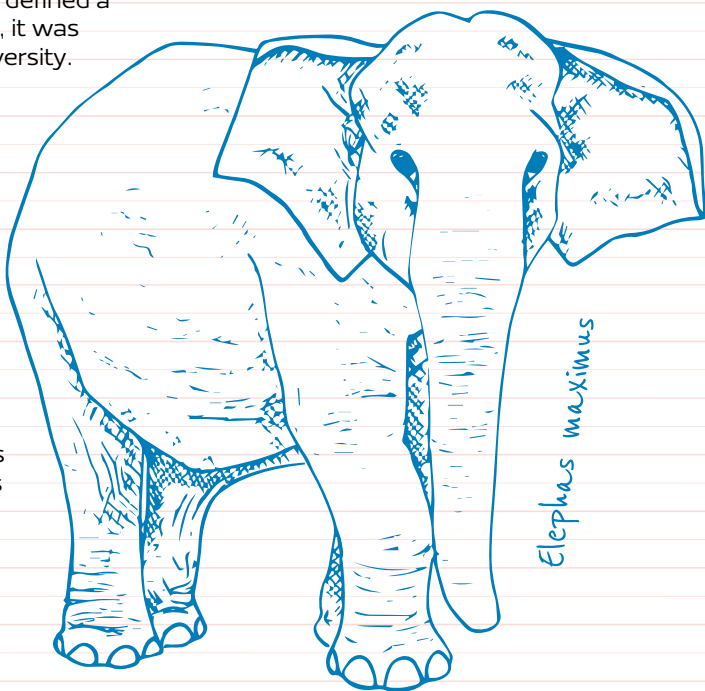
about the IUCN Red List of Threatened Species. By and large that list is growing. This is partly because the status of more species is being assessed but also because more are becoming increasingly threatened. This direction of travel reflects the poor progress made against the targets for the Convention on Biodiversity. Established ten years ago at a meeting in Nagoya, Japan, the 20 'Aichi Targets' defined a wide-ranging suite of actions which, it was hoped, would stem the loss of biodiversity. Although it could be argued these targets were not sufficient to deliver what was hoped for, the main reason these targets were not achieved is down to the lack of political will to do so.

But the biological system does have one advantage over the climate system: it responds much more rapidly to interventions. We can witness big improvements happening in quite short timespans when we get things right. Many of us have seen these in our own lifetimes as species have been reintroduced to places where they were lost, and forests have regrown where they were once cleared. COVID-19

lockdowns have demonstrated some of this too – most notably animals appearing in unexpected places when human disturbance declines. As conservationists, we so often linger on the bad news and often we must, if we are doing our job properly but it can mean we lose sight of the good news. We need to know the good news because it is proof that change is possible and worth working for, and these successes provide a pattern that can be followed by others.

It is a happy thing to know that conservation works – species can be saved from extinction and habitats can be returned. Conservation won't be enough on its own. We know that we will also need to improve food production systems, reduce food and plastic waste and address our unsustainable demand for water and energy to avoid the many extinctions that the IUCN Red List predicts.

We need to keep pushing the biodiversity crisis up the collective agenda. COVID-19 teaches us that it is in our self-interest to do so, but as Christians we know that is our responsibility too and it should surely be our delight to see creation regained.

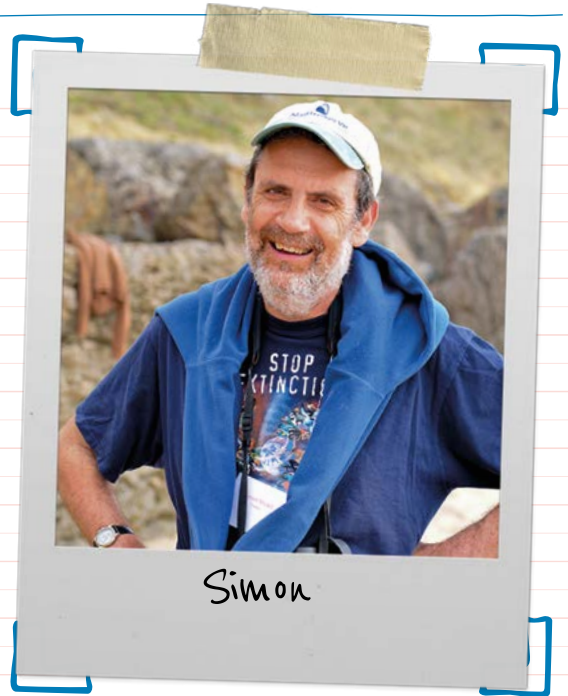


Elephas
maximus

The Red List: an interview with Simon Stuart

Building on a career in global nature conservation, Dr Simon Stuart joined A Rocha International as Executive Director in December 2020.

Simon has spent much of his working life at the International Union for Conservation of Nature (IUCN), holding a variety of roles across his 30 years at the organization. Alongside the renowned conservation biologist, the late Dame Georgina Mace, he led the re-design of the principles that now underpin the IUCN Red List of Threatened Species. In 2020, he was awarded The Blue Planet Prize for his work on the Red List.



What is the IUCN Red List of Threatened Species?

The Red List is the world's official listing of species under threat of extinction and is based on a method for categorizing species' different levels of risk. It divides species into nine categories ranging from 'Least Concern' to 'Extinct'. Since its beginnings in 1964, it has become the world's most comprehensive information source on the conservation status of animal, fungi and plant species.

What was your specific role?

When the IUCN Species Survival Commission (SSC) initiated a review of the Red List Categories in 1987, they commissioned Georgina Mace to produce a paper outlining a new approach. This is where I came in – an IUCN staff member was needed to support Georgina. She and I worked together on the science, and I supported her to navigate the IUCN systems, rules and regulations. The adoption

of the new Red List Categories involved a huge consultation process with thousands of organizations and people ... We had a lot of politics to deal with as well!

How was it first received?

When the new Red List was launched in 1996, the conservation status of all known bird and mammal species was assessed and included in one volume for the first time.

However, the inclusion of several commercial marine fish species in the new Red List prompted an outcry from the fisheries sector. They lobbied their governments and other IUCN members, and this caused us difficulties for several years.

Despite this, the Red List is increasingly widely used to drive conservation forward and it has been slowly gaining public attention to the issue of extinction.

What does the Red List tell us about conservation?

It is a critical indicator of the health of the world's biodiversity. However, it also plays a key role in ensuring political forces around the world take conservation seriously.

For example, in 2010, we undertook a 'thought experiment'. Using Red List data, we tried to measure what would have happened to the Red List status of wild ungulates [hooved mammals] if all conservation efforts had stopped from 1996 to 2008. Our finding – that the status of each species would have been seven or eight times worse – shows that conservation works, but we don't do anything like enough of it.

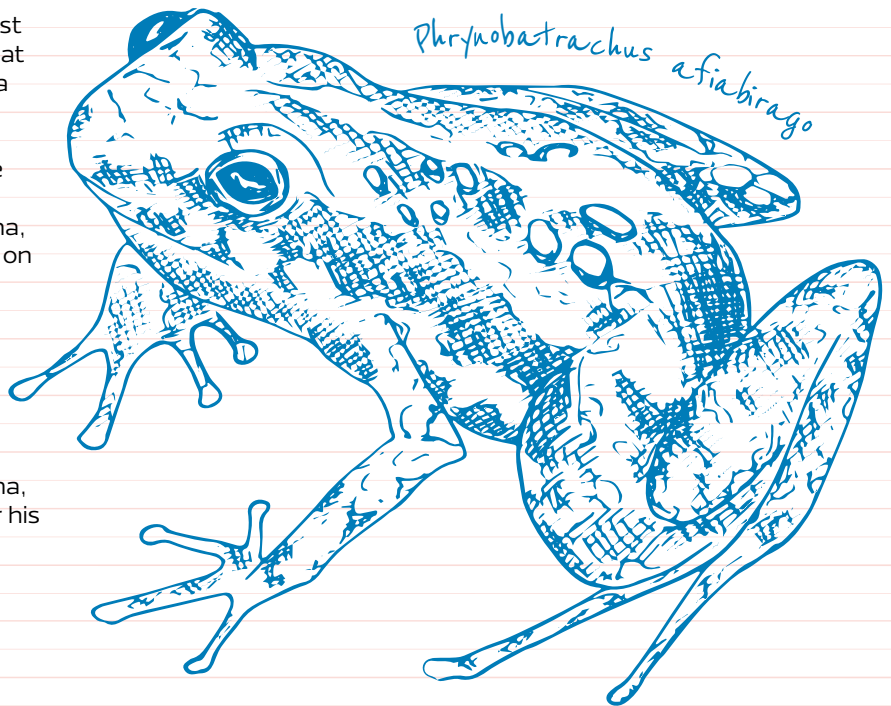
Is there a species on the Red List that you are particularly fond of?

It is difficult to pick just one, but a species that comes to mind is Afia Birago's Puddle Frog. Sadly, it is Critically Endangered because it is only found in the Atewa Forest in Ghana, and therefore reliant on the preservation of the forest for its survival. I also like it for its name – Dr Caleb Ofori-Boateng, the first formally trained herpetologist in Ghana, named the frog after his mother, Afia Birago.

A Rocha is a small organization working to address the massive problem of biodiversity collapse. What kind of impact can we hope to have?

A Rocha is working in areas of the world where there is a high proportion of threatened species, and often with very small geographic ranges – for example, the Dakatcha Woodland in Kenya or the Atewa Forest in Ghana. If we can protect these areas, we will save a considerable number of species from extinction.

Also, whilst A Rocha itself is small, if we can influence Christians, that impact could reach every corner of the earth. Through theological teaching and embedding creation care in our worship, there is the potential to catalyse a global change of attitude.



Stories

of A Rocha's work on species and habitats

At heart, A Rocha is about nature conservation – committed to research, restoration and education about the natural world, because 'The earth is the Lord's, and everything in it, the world, and all who live in it' (Psalm 24:1). Often our work is quiet and undramatic – day in, day out care and concern for the places we call

home. It can be exhausting, unrewarding, even distressing, but we continue with hope, faith and obedience. Here is a glimpse of what we are up to around the world as we seek to care for creation and inspire others to join us.

Watamu Marine Park

The marine environment in the Western Indian Ocean is exceptionally bio-diverse, including habitats such as mangrove forests, beautiful sandy beaches, seagrass beds and coral reefs. They are also threatened by coastal development, climate change and fishing pressure.

Watamu Marine National Park was established in 1968, making it one of the oldest Marine Protected Areas in the world. A Rocha Kenya has produced a habitat map of the park, and collected species lists for fish, echinoderms, molluscs, crustaceans, corals and seagrasses.

They discovered 18 species across all groups that are listed as threatened on the IUCN Red List and eight which are currently undescribed.

In partnership with Kenya Wildlife Service and others, A Rocha Kenya works hard to ensure the park is healthy and protected: carrying out regular cleanups of plastic pollution and research projects – currently including coral reef monitoring, studying habitat use by sharks, rays and guitarfish, and investigating the status of and threats to seagrass ecosystems.



The campaign to protect Atewa Forest

A Rocha Ghana continues to take a lead in the fight to protect Atewa Forest from the threat of bauxite mining being pursued by the Ghanaian government. International publicity and pressure are increasing following the adoption of a motion to protect the forest by the IUCN in November 2020 and statements from BMW Group, Tetra Pak and Shūco expressing concern about sourcing aluminium from Atewa. Daryl Bosu from A Rocha Ghana says, 'Although the plan to mine is still in place, the government is clearly concerned about the mounting opposition.'

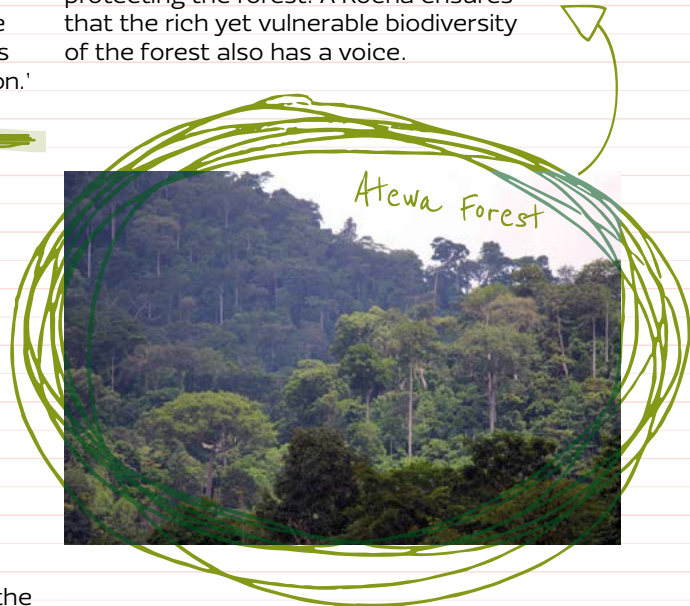
Atewa Forest is home to one of the highest recorded numbers of globally threatened species of any forest in West Africa: over 100 are threatened or near threatened with extinction, including five Critically Endangered species. One plant, two butterflies and one frog are found nowhere else in the world. There are strong economic and social arguments for protecting the forest. A Rocha ensures that the rich yet vulnerable biodiversity of the forest also has a voice.

A place for the Hermit butterfly

Those living at A Rocha France's centre, Les Courmettes, are fortunate enough to have frequent sightings of the Hermit butterfly *Chazara briseis* between July and September each year. Populations of this butterfly have been in decline for several decades with a strong acceleration of this decline since the 2000s due to urbanization, regular periods of drought and the abandonment of extensive grazing. It is now classified as Vulnerable on the national Red List, and Endangered on the regional Red List.

Les Courmettes offers this species one of its favourite habitats: dry, short grass grazed by sheep, alternating with rocky and limestone soil. Shepherds on this site play an important role in maintaining the habitat and thus the species. The balance is delicate: without the presence of the sheep, the vegetation closes in, gradually becoming a forest. But if there are too many sheep and overgrazing occurs, the land is impoverished. In either situation, Hermit caterpillars can no longer find suitable plants for food.

In 2021, A Rocha France is setting up a protocol to monitor this butterfly in order to observe the changes of the population present at Courmettes and to contribute to regional and national data.

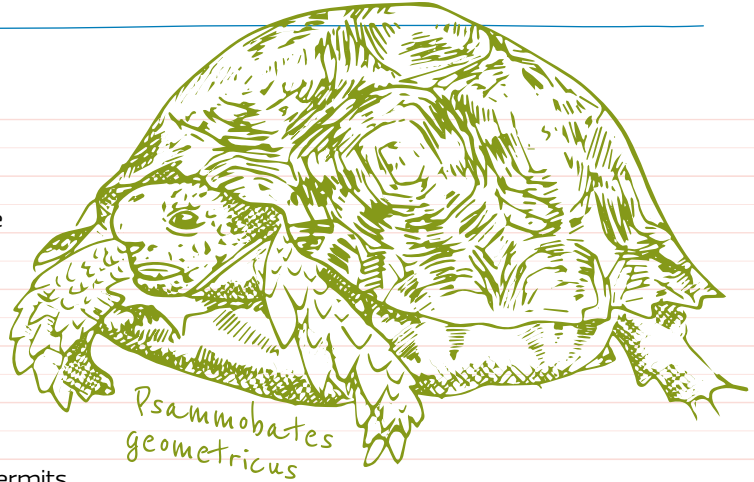


The tortoise project

South Africa has 14 terrestrial tortoise species, the highest diversity of any country in the world. One of these, the Geometric Tortoise *Psammobates geometricus*, is categorized as Critically Endangered by the IUCN's Red List and has been prohibited for trade. Ten other species have protected status and are subject to tight controls on trade and captivity. Despite this, a substantial number are held illegally and without the correct permits. As a result, many tortoises are confiscated or handed to conservation authorities by the general public. However, South Africa does not have a formal or well-established tortoise rehabilitation and reintroduction programme, so many of these tortoises are reclassified as captive-bred and sold to wildlife traders.

In October 2020 A Rocha South Africa and FreeMe KZN entered into a partnership to rewild captive held tortoises with the goal of releasing them in protected areas. FreeMe KZN currently has 60 tortoises that have been handed in by the public. We believe that by educating the public on their conservation and legal status in South Africa, an influx of relinquished or confiscated tortoises will follow.

The first stage of the rewilding process is to house the tortoises in specialized reintroduction enclosures for a period of no less than three months. Following this, they are transported



to the area of final release and placed in acclimatization pens for six months, after which they are freed.

A concurrent education programme focused on social media engagement educates the public on the plight of tortoises and the rehabilitation work conducted by FreeMe and A Rocha South Africa.

Caring for the Little Campbell River

The Little Campbell River (or TAT-A-LU) is a productive, multi-jurisdictional, transboundary watercourse located in Western Canada at the heart of the Salish Sea (or Georgia Basin-Puget Sound Ecoregion). This river meanders west from its headwaters in Langley, through South Surrey and into White Rock where it enters Semiahmoo Bay. The Little Campbell River watershed serves as the study area for A Rocha Canada's conservation science programme, defining the geographic focus of their surveys, research, and habitat restoration projects.

The Little Campbell River watershed is home to a diversity of wildlife and plant species, including five species of Pacific salmon and trout, as well as over 30 species at risk. The river and its associated habitat are characterized by unchannelized streams, an undyked floodplain, an undeveloped estuary, and several large wetlands. Along with other watersheds draining into the Salish Sea, the Little Campbell River and its surrounding natural habitat are faced with increasing pressures from urbanization and agricultural land development which lead to loss of habitat, low water levels and pollution.

The Algarrobo tree: king of the desert

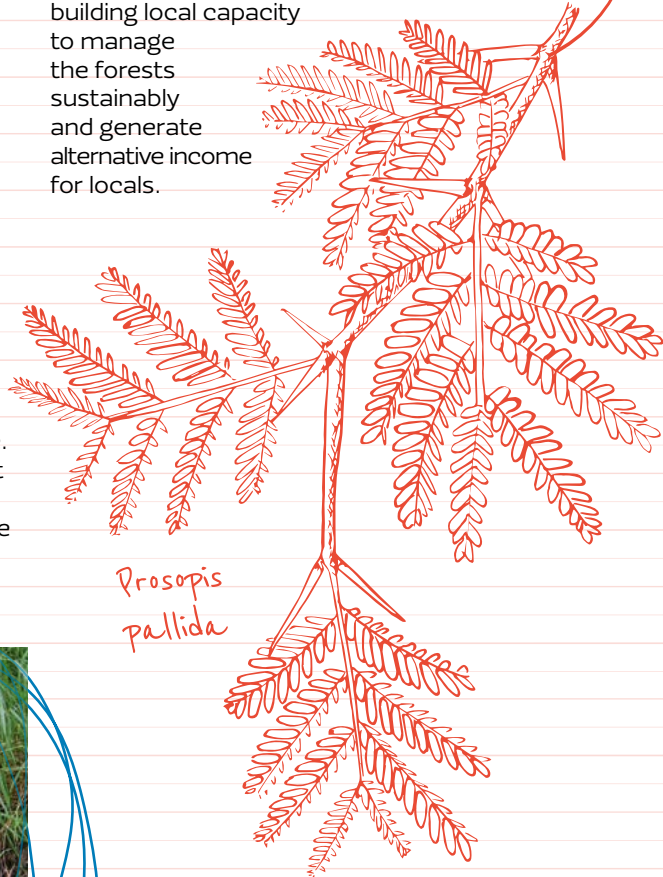
Peruvian coastal dry forests are among the most threatened and least studied forested ecosystems in the world with only 2% remaining. A predominant species in these dry forests is the Algarrobo *Prosopis pallida* tree. It is one of the most economically and ecologically important tree species in arid and semi-arid zones of the world. The Algarrobo's small leaves help it conserve water in the dry environment. Meanwhile, its roots extend deep into the earth in search of water. It plays a vital and primary role in sustaining the natural ecosystem and supporting wildlife adapted to this habitat, which includes the vulnerable Spectacled Bear *Tremarctos ornatus*, the endangered bird, the White-winged guan *Penelope albipennis*, and rare Desert Tegu *Dicrodon guttulatatum*, amongst others.

The Peruvian dry forests are under threat because the Algarrobo tree is being felled. The Algarrobo is selectively logged for fuel for rural households and charcoal, traded illegally for use by businesses in poultry markets and restaurants in major cities. Landowners also convert large areas of the dry forest landscape into agricultural land.

Forest conservation and reforestation initiatives are urgently needed to conserve the dry forest and the Algarrobo tree. One such initiative is A Rocha Peru's Dry Forest Conservation and Restoration Program. Its purpose is to conserve, protect and restore the



dry forest areas and Algarrobo trees, to protect the unique biodiversity they harbour while building local capacity to manage the forests sustainably and generate alternative income for locals.



10 Reasons why extinction matters to God

In September 2020, A Rocha International worked with the World Evangelical Alliance and others to produce 'An Evangelical Call to Action on Biodiversity.' Leaders from around the world signed it, and it makes a strong, biblical case that 'biodiversity, the variety of life in the earth, oceans and skies, has beauty, purpose and inherent value'. The statement is clear that 'the destruction of biodiversity and ecosystems, or human-induced extinction of fellow species, is a form of rebellion against God, or sin.'

There are many reasons why extinction matters to us as humans. It destroys the beauty and variety amongst our fellow creatures and leaves us poorer. It undermines the delicate balance within ecosystems and makes our world less resilient. It removes potential sources of food, medicine and other ecosystem services. As with almost all environmental depletion, it affects the poorest hardest and first. But why does extinction matter to God?

God's concern for life on earth in all its variety is woven into the central themes of the Bible's big story, from Genesis to Revelation. It's a huge subject but here are some of the headlines:

Extinction matters because ...

- 1 God created biodiversity and declared it 'very good': in Genesis 1, God's delight in trees, plants, fish, animals, birds and 'creeping things' is repeated, culminating in 1:31 where God declares 'all that he had made' very good. Avoidable extinctions insult the Creator and damage the 'very goodness' of creation.
- 2 All life on earth belongs to God, not us: Psalm 24:1-2 tells us, bluntly, that the earth is the Lord's and all that is in it. Psalm 50, likewise, says that God owns both domestic and wild animals. The New Testament goes further. Colossians 1:15-16 states that all things were made by and for Jesus Christ. God allows us to use the earth and its creatures, but they remain God's, and we are answerable to God for our use or abuse of them.
- 3 God sustains and has compassion on every creature: even in a sin-damaged world, God gives breath and food to living creatures (Psalm 104) and has compassion on all that he has made (Psalm 145:9). As those created in God's image, we are called to share God's compassion and to sustain and renew life on earth.
- 4 God's saving covenant includes all living creatures: Noah's Ark is a powerful symbol of human work to prevent extinction - breeding pairs of every species are preserved at God's command. The saving Covenant that follows is not only with humanity but again with 'every living creature on the earth'.
- 5 Every individual of each species matters: God's compassion for all creatures extends to being attentive to the suffering of individuals. In Matthew 10:29-31, Jesus reassures people they are worth 'more than many sparrows' but also emphasises a sparrow's worth: no single sparrow falls to the ground outside our Father's care (New International Version). The Greek text literally suggests that, in some way, God falls to the ground with each dying sparrow.
- 6 Extinction erases God's self-revelation: Romans 1:20 tells us that 'since the creation of the world God's invisible qualities - his eternal power and divine nature - have been clearly seen, being understood from what has been made'. If creation reveals God's character, then extinction erases God's fingerprints.

- 7** In Christ, God has entered and blessed creaturely life: Jesus is God made 'flesh' (John 1:14), a term that is broader than humanity and includes all animal-kind. Thus, the incarnation is God's affirmation of creation itself, as well as God's identification with humanity.
- 8** All things are part of God's saving work through Jesus' death and resurrection: The New Testament repeatedly points to Jesus as Lord of all Creation, not just Saviour for humans. Colossians 1:19-20 is explicit that Jesus' death reconciles 'all things in heaven and on earth' to God. Although God can resurrect extinct creatures in eternity, we devalue God's good purposes for them if we avoidably destroy them now.
- 9** God's new creation includes plants and living creatures: although much is mysterious about how our present world will overlap with God's 'restored and renewed' creation, the Bible, from Isaiah to Revelation, is consistent in picturing animals and humans living peacefully together. Extinction is the antithesis of this vision.
- 10** Creatures of every kind worship God, now and in eternity: avoidable extinctions are a twisted perversion of our primary vocation to be gardeners and guardians of biodiversity, enabling all that God made to worship through thriving and fruitfulness.

Rev. Dr. Dave Bookless,
Director of Theology, A Rocha International

In A Rocha we work with communities to protect and restore ecosystems and prevent extinctions. To do this, we need both scientific knowledge and faith-based wisdom. Science informs us whether a particular species of tree frog or orchid is threatened, but it cannot ultimately tell us why that matters. As A Rocha combines good science with biblical wisdom we learn from both God's books, nature and scripture, and have a coherent approach to how and why we should work to avoid extinction.



5 things you can do to help wildlife

could try this?



Get lazy in the garden * easy!!

What many people call weeds can be great for wildlife like bees and butterflies. Try letting a bit of your garden grow wild and help protect these crucial pollinators.



Dig a pond slightly less easy...!

A pond is one of the best things you can do to attract wildlife to your garden. Ideally these should be at least 60cm deep, but even a mini pond created from an upcycled container like a washing up bowl or old plant pot can be valuable to nature.



Go organic

Intensive farming practices, especially pesticides, are a key driver of wildlife declines. Organic farms work with nature instead, nourishing the soil and allowing animals like birds and beetles to keep pests under control. Buy organic food where you can or have a go at growing your own.



Reduce your plastic

By 2050, there could be more plastic in the ocean than fish¹. This can accumulate in the guts and stomachs of marine life and limit the amount of real food they can eat. Avoid single-use plastic and products containing microplastics, and check out A Rocha's Plastics Toolbox for other ways to take action: arocha.org/plastics-toolbox



Get in the know

Find out about species whose populations are in decline locally and consider ways that you can help, from volunteering with a local conservation group to participating in citizen science projects.

Volunteer?



One day, travel restrictions will lift and social distancing will be relaxed... and then? Do you have a passion for caring for the planet and a love of new experiences?

If so, why not join us as a volunteer? We need you for all kinds of things: ringing birds, leading children's programmes, making meals, fixing anything broken, surveying rock pools, working with computers ... just about anything that needs doing. Maybe you need a placement for your university degree, or you are looking for a rewarding holiday experience. But beware:

past volunteers report things like career development, heightened cross-cultural understanding and a sense of belonging within a community as consequences of their time with A Rocha.

A Rocha offers a residential experience in Canada, Czech Republic, France, India, Kenya and Portugal. Other limited and non-residential opportunities are available – visit our Opportunities page for information, and an application form. arocha.org/opportunities

Gifts with a Difference



Sokoke Scops-owl

Trees in the desert, Peru

The dry forest of coastal Peru provides habitats for many unique and endangered species. Yet today less than 2% remains. Your gift will provide community members with native trees to help reforest this threatened landscape.

£10

Purchase land to protect Endangered owls, Kenya

Dakatcha Woodland, an Important Bird Area in Kenya, is being cleared for charcoal and agricultural use. Your gift will help purchase land and run conservation programmes to protect endangered species like the Sokoke Scops-owl.

£150

Marine Life Conservation Fund

A Rocha's Marine Conservation Programme is supporting healthy oceans and the communities who use them. Your gift will help care for marine protected areas, study biodiversity, remove plastic and promote human health and well-being.

£25 - £100

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