

My hosts in Mchakama village might not have been impressed by my attempts at pounding baobab fruit but these enterprising, positive women left a deep impression on me.

We've been working

to tackle deforestation in the Ruvuma landscape, which covers southern Tanzania and northern Mozambique. I was visiting to see how our work to develop sustainable livelihoods is helping people and wildlife thrive together. Here, the most commonly grown crop is maize, which usually involves clearing native forest. Also, elephants love the taste, and with one of east Africa's largest elephant populations, crop raiding is a common issue in this region.

As an alternative, the Mchakama women chose to grow sunflowers. Elephants won't eat these plants and the crop provides a good income. Profits are even better now the women have been given a machine to turn the sunflower seeds into cooking oil, which is in high demand in Tanzania.

Last year, disaster struck when the women lost their whole crop to flooding. But they remained resilient, renting out the processing machine to nearby villages and exploring other opportunities, like turning baobab fruit into marketable snacks. As they demonstrated the process, they invited me to try. My attempts were laughable, but the women's laughter was filled with warmth. Their determination and good humour in the face of challenges was truly inspiring.

Bella

Bella Bramley

WWF senior programme adviser, Africa

Right: With our support, the women of Mchakama village have cultivated 100 hectares of sunflowers



On the cover



GORILLA GUARDIANS

Enter the forest to meet the rangers working to safeguard Africa's mountain gorillas

BLUE FORESTS

Mangroves are unique habitats and vital natural resources. Find out how we're helping restore them around the world

CHASING GHOSTS

Photographing snow leopards on the roof of the world

Regulars

WWF IN ACTION

All the latest news

THE BIG PICTURE

Spotting a Thai tiger

INTERVIEW

Polar researcher Natacha Planque on Antarctic life

HOW TO...

Whale-watch in the UK, start a community garden, save water - and more!





WWF in action

Mekong *marvels*

A bright orange crocodile newt, a dragon lizard and a soft-furred hedgehog with fangs are just some of the 234 new species discovered in the Greater Mekong region of south-east Asia.

The species, revealed in a recent WWF report, show just how much incredible wildlife remains to be discovered in this biodiversity hotspot. But deforestation, habitat loss and the illegal wildlife trade mean many species are already at risk of extinction.

Scientists described 173 plants, 26 reptiles, 17 amphibians, 15 fish and three mammals in Cambodia, Laos, Myanmar, Thailand and Vietnam during 2023. An amazing 3,623 new species of plants and animals have been recognised in the region since 1997.

Other notable discoveries include a shrew mole that weighs just 8g – making it one of the world's 10 tiniest mammals – and a pit viper with scales that look like long eyelashes. While some were seen on recent expeditions into remote regions, others have been hiding in plain sight in natural history museums and botanical gardens.

"These new findings remind us of the extraordinary diversity and inventiveness of nature, which can provoke a childlike wonder and delight in us all," said WWF expert Mark Wright.

"Sadly, they're also a timely reminder of the extreme jeopardy that so many of these species and habitats face, and what we risk losing. We urgently need governments to recognise the value of nature and commit to halting and reversing its destruction by 2030."

Right (main image): This green pit viper has only been found in Myanmar

Right (inset): This lime green tree frog was found up a mountain in Laos



News in **numbers**

30,638

Oysters are making a comeback in the Firth of Forth more than a century after being eaten to extinction. Our Restoration Forth project has so far reintroduced 30.638 oysters to help revive the estuary ecosystem.

£40,000

WWF supporter Chris Player has raised almost £40,000 to support our conservation work by organising Art for the Earth, an auction of nature-inspired artworks donated by professional and amateur artists. See more at artfortheearth.com

Our partnership with Air Wick has helped restore over 27 million sa ft of wildflower meadows in the UK over the past three years - an area the size of around 360 football pitches.

Above and right: Lion and

rhino conservation has been

of People's Postcode Lottery

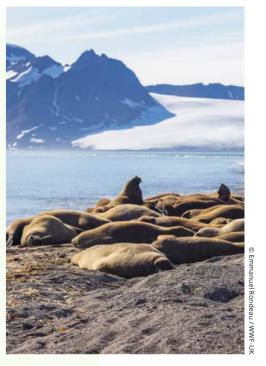
boosted by support from players

You've helped us spot walruses from space

WWF supporters and other citizen scientists have helped us spot walruses at two unexpected sites in Greenland, by analysing satellite images.

Scientists were only aware of four places in Greenland where walruses have recently gathered to rest or breed - known as haul-outs. But our eagleeyed walrus detectives spotted a large haul-out where the species hadn't been recorded before, and a smaller one at a site last surveyed 40 years ago.

More than 38,000 people around the world have reviewed over a million satellite images as part of our Walrus from Space project with the British Antarctic Survey, By studying Atlantic walruses in Canada, Greenland and Norway we'll be able to understand more about how they're responding to a warming Arctic. Turn to page 27 to see how you can become a walrus detective, too.



Above: Satellite imagery and citizen scientists helped confirm the presence of walruses at

Achieving 🕙 great things together

We're celebrating 15 years of support from players of People's Postcode Lottery, who've raised over £30 million to fund our work.

During this time, we've achieved some amazing things together. In east Africa, we've supported the first-ever scientifically accurate count of lions in Kenya and Tanzania using images of their unique whisker-spot patterns. We've also helped ensure the number of critically endangered black rhinos in Kenya continues to rise. And we've begun the restoration of 900 hectares of mangroves and freshwater habitats on the Kenyan island of Lamu (see page 16 for more on this exciting project).

Together we've also funded vital work to conserve jaguars and river dolphins in the Amazon. Meanwhile, in the UK, we're taking an ambitious new approach to tackle the climate crisis and restore nature across land, sea, rivers and coasts, starting

with pilot projects in Norfolk and Pembrokeshire.

Tagging Ganges (§) river dolphins

Thanks to your support, our partners in India have put a tracking tag on a Ganges river dolphin for the very first time.

The lightweight satellite tag, fitted by Wildlife Institute India, lets researchers track the dolphin's movements in real time as it swims through India, Nepal and Bangladesh. The data will provide vital insights into its preferred habitats, migratory routes and distribution, as well as the threats it faces along the way. This can help us develop effective conservation strategies to protect the species.

"We know how much space a tiger or an elephant requires in a forest," said Abdul Wakid, a member of the research team. "But we don't yet have the same information about the Ganges river dolphin."

These effectively blind dolphins live in one of the most densely populated regions of the planet, and are threatened by pollution, fishing and the construction of dams and other infrastructure. A recent survey estimated that only 6,324 Ganges river dolphins remain in the wild.



ONLY 6,324 GANGES RIVER DOLPHINS **REMAIN IN THE WILD**

Above: We hope the dolphin tag will provide vital information to help protect these rare and endangered freshwater mammals

Arctic foxes 🚱

clawing back

After being hunted to the brink of extinction, Arctic foxes are making a comeback. Just 40-60 adult foxes remained in the early 2000s, but now there are 582 across Finland, Norway and Sweden. And with more cubs born last year, long-term conservation efforts are paying off.

In 2022, Arctic foxes bred in Finland for the first time since 1996. And last year, at least nine cubs were born in three separate dens. We've set up feeding stations to support the young foxes through their first winter, and installed camera traps so we can document the foxes' visits.

Arctic foxes are threatened by larger and more aggressive red foxes encroaching on their territory, largely due to climate change. We're surveying potential sites in Lapland where more Arctic foxes could breed safely, with a long-term goal of increasing the population to 1,000 by 2035.

Right: Arctic foxes are smaller than red foxes, which force them from their dens and compete with them for food



WWF IN ACTION

NEWS IN **BRIEF**

New drive for Dales data

A landscape restoration project you're supporting in the Yorkshire Dales is proving to be a rich source of evidence for why land management policies should be improved to conserve UK uplands. Scientists and volunteers are monitoring various aspects of the Wild Ingleborough site, including how water flows through the land and the growth of newly planted trees. By improving the site's ability to absorb carbon, the project aims to help nature recover across this large upland area while also combating

Congo Basin discoveries 🕥

An incredible 742 new species of plants and animals have been identified in the Congo Basin over the past 10 years, according to a recent WWF report. They include unique orchids, clawed frogs, crocodiles, electric fish, owls, spiders, turtles and a monkey known to local people as the 'lesula' but never formally described by scientists. These discoveries highlight the urgent need to protect the region's incredible nature. Spanning six countries in central Africa,

> the Congo Basin is the world's second largest tropical forest and river basin, and an essential carbon sink.

Restoring Wales' seagrass



£100,000 in extra funding for the country's first National Seagrass Action Plan. This will help recover seagrass habitats at sites along the Welsh coast, from Holyhead to Pembrokeshire. We helped design the plan as part of Seagrass Network Cymru, and it builds on our pioneering efforts to replant seagrass meadows in north Wales. Up to 92% of the UK's seagrass meadows have been lost, but restoring these ecosystems brings many benefits: they capture carbon, help reduce coastal erosion and flooding, and provide a habitat for countless marine species.

Above: Giant panda habitat can be damaged by excessive harvesting of firewood, so the efficient stoves that you've helped us provide will reduce the threat to the bears' home

Fuelling (2) panda conservation

We've donated fuel-efficient cooking stoves to around 110 families living close to important giant panda habitats in China. The new stoves reduce the need to burn firewood, which means people living near the Meigu Dafengding National Nature Reserve don't have to gather as much wood from the forests that are home to pandas and other wildlife. Burning less wood also improves local air quality and reduces greenhouse gas emissions. Giant panda numbers have been increasing in recent years, and the species is no longer classified as endangered, though only around 1,860 remain in the wild.

climate change.





Gorilla **guardians**

From regular checks to major censuses, monitoring mountain gorillas is hard but rewarding work. Meet the dedicated rangers keeping these great apes safe today and securing their future for tomorrow

here's no mistaking the neat, round indentations in the mud: the knuckle prints of a mountain gorilla. At last! The rangers have been climbing the steep forest slopes since dawn. Now they take a welcome breather. The thick undergrowth around them presents a seemingly impenetrable wall of green. But every member of the team knows what to look for and, sure enough, they soon spot the frayed foliage that reveals where a gorilla family was feeding just yesterday. Last night's nests must be close. The rangers straighten up. A quick drink and they're on their way.

Mountain gorillas live in a tiny area of central Africa, comprising a few pockets of high-altitude forest across the borders of Rwanda, Uganda and the Democratic Republic of the Congo (DRC). Today there are just 1,063 of these endangered great apes. A tiny number, you might think, but a significant increase on 2012, when the population was just 880.

That we have such precise figures at all is testament to the rangers who are out in the forest monitoring the gorillas. These dedicated individuals trek into the park at 6am every day. It's tough work: the terrain is steep and the vegetation dense. Heavy rainfall can make trails treacherous. The teams must stay alert for poachers and dangerous wildlife such as buffaloes and forest elephants. And the route is never certain, as gorillas are often on the move. Teams must

Once the rangers catch up with a troop of gorillas, they spend up to four hours observing them, checking on their health, behaviour and movement. They also monitor the habitat, noting any changes and looking out for evidence of illegal activities, such as poaching, honey harvesting and the cutting of timber or bamboo. All their findings are reported to the authorities daily. "This information guides conservation," explains Dennis Magomu, a ranger in Volcanoes National Park, Rwanda. "If a gorilla is ill or hurt, we might request help from a vet. If a group moves onto community land, we talk to people about ways to keep everyone safe until we can guide the gorillas back into the park."

FOREST HEROES

The work may be hard but the rangers are fiercely committed. And this tough job isn't only for men. "I have the best job in the world!" says Prenious Katushabe, a ranger guide in Bwindi Impenetrable National Park, Uganda. "Being in the forest with gorillas fills my heart with joy."

> Some gorilla troops are used to people, which makes monitoring them much easier. But other troops avoid human contact and are much harder to track down. For this reason, a full census is conducted every six or so years in each of the gorillas' two principal habitats. One of these sites is the Virunga Massif, which spans the border between the DRC, Rwanda and Uganda and comprises Volcanoes National Park (Rwanda), Virunga National Park (DRC) and

> > Mgahinga Gorilla National Park



Below: Finding mountain gorillas is a daily challenge for rangers. The dense vegetation and steep mountain slopes require stamina and determination



WHEN A TEAM SPOTS FRESH DUNG THEY FOLLOW THE TRAIL TO WHEREVER THE **APES MADE THEIR OVERNIGHT NESTS**

(Uganda). The other is Bwindi Impenetrable National Park in Uganda, which sits alongside Sarambwe Nature Reserve in the DRC.

This year sees the latest census in Bwindi. The previous survey, conducted in 2018, counted a total of 459 gorillas across 36 groups, plus 16 solitary individuals. Now specially trained teams are back in the forest, tracking the gorillas and collecting samples and data. We help coordinate the process through the International Gorilla Conservation Programme (IGCP), along with other gorilla custodians.

AN EPIC ENDEAVOUR

A gorilla census is a complex logistical operation. Working with our partners, we help recruit and train census teams, and fund vital equipment, from tents and rain gear to sterile tubes for stool samples. This year, the Bwindi-Sarambwe census is using two teams, each comprising two trackers, a ranger and one or

two data recorders. The total 340 sq km area is divided into 40 sectors and worked sector by sector. Once finished, the whole survey is repeated, with the two 'sweeps' helping ensure that no gorilla is missed.

Out in the forest, teams follow pre-defined routes to search for the signs that apes leave behind. When a team spots fresh dung they leave the route and follow the trail to wherever the apes made their overnight nests. Here they can collect the vital dung samples needed for DNA analysis. "The difficult terrain requires great fitness, stamina and vigilance," says IGCP director Wellard Makambo.

Teams are in constant radio contact, helping and encouraging each another. "It's exhausting, but I learn new things from every encounter," says IGCP field officer Eustrate Uzabaho from Rwanda, who has taken part in the past two censuses. "Seeing gorillas gives the survey teams confidence that our efforts to safeguard them have positive results."

A nose for Above: Mountain gorillas are vital to Local community support is vital, gorillas," says Dervla Dowd, one of WWF-UK's the health of their with porters working with the senior programme advisers for Africa. forest home. They help disperse teams in the forest. Many people Once the census is completed, the data tree seeds and create

who live around the park have suffered crop damage

Right: Overcoming the misconceptions that the ranger

role is masculine women like Prenious Katushabe - ranger duties

that allow plants

revenue they provide and their wider ecological role. "Local people are proud that their area is famous because of the mountain

from wildlife, including

forest elephants, bush pigs

and occasionally gorillas,

local communities benefit

conservation. IGCP awareness

from gorilla tourism and

programmes help communities

appreciate the value of gorillas,

both in terms of the tourism

so it's important that

will be processed and the population figures updated. But the results aren't about numbers alone. Understanding gorilla movements and population dynamics (such as changes in the number of females or the dominant silverback within a group) is just as important.

"In Bwindi, we've noticed some gorillas are moving to higher altitudes," says Wellard. "Why? Is this because of climate change? There are many questions we have yet to answer." Dervla agrees. "We hope we'll be celebrating that the gorillas are doing well. But it's also about analysing the data to identify what's working well - and maybe not so well - in our conservation strategies."

The teams cover a huge area during the census. In the process, they often encounter evidence of disturbance and illegal activities, detail It's important that

rangers are able to recognise individual apes. One way to do this quickly is to

study their 'nose-prints'. Every individual gorilla has a pattern of wrinkles above its nostrils that are as unique as our fingerprints are to us.

By identifying each gorilla in this way, trackers can monitor all members of a troop and therefore work out if one is sick or missing or has moved to another group.

It can take several months to master the art of recognising individual nose-prints. New trackers learn the process by drawing them until they can memorise the nose-print for each gorilla in the group, ready to take these skills out into the forest.



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seen for a while during routine monitoring, a 'shock patrol' is launched. Unlike regular patrols, which are typically in teams of four, these extended searches may involve over 20 rangers. They cover much more ground and can last twice as long. With so many pairs of eyes, they also make a thorough sweep for snares, removing as many as they can.

TAKING ACTION

Gorillas can also help themselves. Recently, rangers in Volcanoes National Park were astonished to see a silverback called Impuzamahanga rescue a female caught by a snare. Ranger Eric Ngoga witnessed the drama. He describes how Impuzamahanga reacted instantly, rushing to the female's side, breaking the stick holding the noose and helping slide the wire off her arm. "Knowing that they can sometimes look out for themselves means the world to me," says Eric.

Some threats to gorillas can't even be seen. One of the greatest is disease. Gorillas' close genetic relationship to humans means

they're vulnerable to many of the illnesses we suffer. And because they haven't developed immunity, their first exposure to something we find innocuous can be devastating. Any human contact is potentially harmful, even life-threatening, and gorillas live in small groups that may never recover from a sudden fall in numbers. "Any virus could wipe out a whole population," says Wellard.

Tourism is one potential source of disease, hence today's stricter rules on keeping a healthy distance. But any humans conservationists, scientists, rangers, poachers or community members - can pose a threat. Some gorillas have already succumbed to respiratory illness and skin diseases like mange, which spread quickly from group to group as families interact. To minimise this

Above: Every day, dedicated rangers trek into Volcanoes National Park to check on gorilla families But sometimes the apes move beyond the range of the daily patrols, so searches are set up

Below: Collaborative efforts by

conservation groups have seen

the population of mountain gorillas steadily increase from fewer than 400 in challenges loom. For example, tourism is a vital source of revenue and employment that helps sustain the local community. But what came to a halt," says Dervla.

threat of disease. "IGCP's vision is that the mountain gorilla population remains stable and healthy, and that communities and wildlife can coexist," says Dervla. Beyond that, longer-term

IGCP is helping communities combat the

risk, rangers remove any debris left by people

passing illegally through the park. Meanwhile,

happens if tourism decreases? "When the Covid pandemic hit in 2020, tourism stopped and this source of income just

Facing hardship, the local community might make ends meet by other means, and some take to illegally harvesting park resources, including timber, wild fruit, wild meat and wood to

make charcoal. This increases the threat to gorillas. "We need to diversify and explore other opportunities for financial sustainability that aren't solely dependent on tourism," says Dervla. To this end, we're working closely with local communities to make their livelihoods more resilient, helping develop alternative sources of income and improving agricultural

Meanwhile the daily monitoring continues. The priority is to make sure mountain gorillas are safe today, while gathering information to secure their future for tomorrow. This is why, with your help, we're supporting the dedicated men and women who are out there, day after day, protecting these great apes. Thanks to them, we're optimistic – but not complacent. "It's a success story," says Dervla. "But it's vital that we continue to protect mountain gorillas. Thanks to your support, we will."

practices to provide a sustainable food supply.

Action for apes

BWINDI

IMPENETRABI F

FOREST

MGAHINGA NATIONAL PARK

> Will you help support the incredible work of rangers to protect mountain gorillas? Here's how your gift could help:

£10 could go towards ranger patrol equipment such as torches, tents and raincoats

£20 could help fund rangers' participation in mountain gorilla identification training

£50 could help ranger patrols remove snares, traps and other debris left by people in forest habitats

£100 could help train rangers on anti-poaching measures

You can donate using the enclosed freepost envelope or by scanning this QR code



Donate today at wwf.org.uk/gorilla-guardians

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Mangroves are vital protectors of water, land, wildlife and people – and they're under threat. We're working to restore these unique ecosystems and support the communities that depend on them

ere's something you probably don't know: mangroves yield delicious honey. Bees sipping nectar from these plants produce a rich brown liquid, its flavour both sweet and salty, a bit tart and, it's said, with a hint of butterscotch or liquorice. And that's far from the only curious fact about mangroves. Their roots are submerged in salty water that would kill many other plants, protruding above the sea or mud like spindly fingers. They filter salt and excrete it or shunt it into leaves to be shed.

More importantly, this Swiss army knife of the botanical kingdom performs an astonishing array of vital tasks for nature and people. Some 1,533 wildlife species rely on mangroves. They act as nurseries for juvenile fish (almost 80% of global catches are directly or indirectly dependent on mangroves) and host marine turtles, birds, monkeys and even tigers. Their roots filter pollution and trap sediment run-off from land, preventing it from smothering coral reefs.

The world's 70-something species of mangroves protect communities in more than 100 countries from coastal erosion and extreme weather events.

They help maintain freshwater sources, and store up to four times more carbon than other tropical forests. Overall, the benefits mangroves provide to people are worth an estimated £1.27 billion each year.

But around 50% have been lost in the past 50 years. Their destruction has contributed an estimated 10% of global greenhouse gas emissions. So we're working with partners

and communities to preserve and restore mangrove habitats in key locations such as Kenya.

Mangroves cover about 60,000 hectares of Kenya's Indian Ocean coastline. They absorb energy from rising tides and storms, reducing the frequency and severity of floods. They're also home to mud crabs (an important food source for local people), as well as mangrove kingfishers and endangered green turtles, which are a draw for tourists. But Kenya has lost around 30% of its mangroves in the past 50 years.

RESTORING RESOURCES

"Recent efforts to conserve mangroves have slowed the rate of loss," reports Dr Asma Hadi Awadh, our landscape manager in Kenya, "but we need to protect and restore the areas that remain." More than half of Kenya's mangroves are found in Lamu County on the north-eastern coast. Here, the commercial exploitation of mangrove forests dates back to the 19th century, when the wood was exported for use in construction. By the early 20th century, almost half a million

mangrove poles were exported from Lamu every year. Today, export and most domestic use is banned in Kenya. However, swathes of mangroves have been cleared for ports, roads, resorts and shrimp farming. They've also been hit by pollution, rising sea levels and extreme weather.

"In Lamu, the nature and climate crises are exacerbating poverty, leaving communities with little choice but to further deplete the area's natural resources," says
Asma. "They're ▶



Below: We've helped train communities in Lamu to establish and maintain mangrove nurseries, with advice on planting better quality, hardier seeds and choosing the best locations



overfishing and harvesting mangroves for fuel and construction, making them even more vulnerable to climate change and weather-related disasters."

"Mangrove destruction has been rampant," recalls Farid Shee Omar, chair of Mkunumbi Community Forest Association. "Many residents depend on mangroves for their livelihoods, but the rate of harvesting has been higher than the mangroves can regenerate." The Association restores or replants mangroves in areas degraded by overharvesting and damaged by the extremes of the 2023-24 El Niño weather pattern. So far, with our help, it has established two mangrove nurseries.

NATURE FOR COMMUNITIES

Now, for the first time, we've joined forces with the British Red Cross to help protect people in Kenya from the impacts of climate change and extreme weather events using the power of nature. Together, we're supporting work to restore 900 hectares of freshwater and mangrove habitats by 2026, starting with Lamu's mangrove forests. "Our partnership with the British Red Cross exemplifies how we can unite to restore nature and harness its power to safeguard humanity's future," explains Tanya Steele, our chief executive. The project is being delivered by our WWF colleagues in Lamu and Kenya Red Cross Society, thanks to £1 million in funds raised by players of People's Postcode Lottery.

WITH THE BRITISH RED CROSS, WE'RE PROTECTING PEOPLE FROM THE IMPACTS OF CLIMATE CHANGE



Above: When the nursery trees are big enough, community members plant them in degraded mangrove forests. They'll care for them until they're

Left: One day, these tiny trees could be 24 metres tall, and support more than 1,500 wildlife species, including amphibians, fish and mammals

Right: In Myanmar's Ayeyarwady Delta, communities protect the mangroves and in return they benefit from stable and resilient livelihoods **Myanmar**Restoration and farming

You've helped conserve and restore vital mangrove ecosystems in south-east Asia, protecting carbon stores, benefiting wildlife and people, and creating stable, sustainable livelihoods.

Myanmar is home to around 4% of the world's mangroves, many of them growing in the Ayeyarwady Delta, where the nation's major waterway flows into the Andaman Sea. They contribute to important sources of income such as fishing and farming, and protect communities from the impacts of extreme weather events such as cyclones.

But over the past 20 years, more than 60% of the country's mangroves have been lost to illegal logging, land expansion and other unsustainable activity.

To halt and reverse this decline, we worked with local groups to launch a project in the delta. This involved delivering training to local villages on mangrove restoration and mangrove-friendly aquaculture – mostly shrimp and mud-crab farming.

This can be integrated into the mangroves without damaging them, using the habitat as natural breeding grounds and a source of food. It combines agroforestry, such as growing seasonal crops, with conserving the ecosystem.

So far, over 30 communities have received materials and financial support to protect and manage over 3,700 hectares of mangroves. These provide coastal protection and sustainable livelihoods as well as improving the environment and building resilience to climate change.



ermany | © WWF-Kenya | © Aung Khant Min / WWF-Myanmar —

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Right: Restoring Lamu's mangrove forests will help create a natural defence against extreme weather. It will also nurture fish and other important sources of food, helping improve people's incomes, health and food security

Below right: Mangroves provide food, protection and nesting grounds for marine turtles. Green and hawksbill turtles have been seen eating mangrove roots and submerged vegetation

MANGROVES IN NUMBERS

Countries whose tropical coasts are protected by mangrove habitats.

11BN TONNES

Estimated amount of carbon stored by mangroves perhaps three times as much as in tropical rainforests.

The number of wildlife species that depend on mangroves worldwide.

Estimated number of species of mangroves worldwide. Nearly 20% of mangroves assessed are endangered.

lost in Kenya over the past 50 years. Globally, over half of all mangrove ecosystems are at risk of collapse by 2050.



Inland, work focuses on Lake Kenyatta. It's an important source of fresh water for birds and other wildlife, and also for thousands of people living in Lamu. But it's becoming degraded in 2016 and 2017, it dried up completely.

"We're restoring the lake and clearing waterways that have silted up," explains Asma. "We're also supporting community groups to help maintain sources of fresh water and plant trees that will combat soil erosion. And we're working with Mkunumbi Community Forest Association and other local partners to reduce pressures that might compromise the success of the project – encouraging them to cut fewer trees, to avoid over-extracting water from boreholes, and to do their own monitoring."

GROWING HOPE

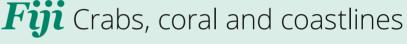
With Mkunumbi and Lamu Community Forest Associations, we're also restoring mangroves in the Southern Swamp, an area that's home to monkeys, hyenas, hippos and antelopes. "We've trained the community in setting up nurseries for mangrove and terrestrial trees, and shared knowledge to help increase their chances of success," says Asma. Different mangrove species must be planted at different times of the year, for example.

"When we started out, half our seedlings failed to grow because of mistakes we made," recalls Farid. "With support from WWF and Kenya Forestry Research Institute, we've learned the most productive seeds to use. and the best locations to grow them." So far, six women and seven men have been trained to teach these skills to more people in the Mkunumbi area. Overall, we aim to benefit at least 5,000 people with this work.

As well as nurturing mangroves, it's vital that communities are able to manage their natural resources effectively. Which is why we're helping to support people to explore alternative sustainable livelihoods such as beekeeping, ecotourism and setting up crab nurseries. "What motivates me is that women get jobs," says Miriam Ali, a member of the Mkunumbi Community Forest Association. "We plant mangroves because they give us clean air and water, and we can sell the seedlings to earn money. It's boosted my morale and given me an income. We will protect our environment."

Top right: People in Fiji's coastal communities have seen first-hand how the mangroves' roots hold the sand together, protecting their islands' coastlines

Bottom right: Coastal communities depend on mangroves for their livelihoods, crabbing among the roots and fishing in thriving coral reefs next to the mangroves, which act as nurseries for juvenile fish



The benefits that mangroves bring to the people of Fiji are many and various: protection from storm surges, coastal erosion and rising sea levels; water

filtration: and as a source of food and even traditional medicine. Yet these plants hadn't been considered worth conserving here until recently. We're partnering with local community leaders to highlight the benefits of protecting, restoring and improving mangrove habitat.

In July 2023, the district of Nadago declared two mangrove-covered islands as community marine protected areas, representing

6.5 hectares of mangroves. We helped bring together traditional leaders and the Fijian government as part of this process, supported by the Bezos Earth Fund.

In the Yasawa Island chain in the west of Fiji, the shoreline was being eroded by strong

waves, so we worked with the community to plant stabilising mangroves. Sand is already building up along beaches protected by the newly established plants, and one day it might attract nesting marine turtles. Community members take the lead in keeping the

young mangroves healthy. This includes removing rubbish and debris from planting sites, which chokes the growth of young mangroves and can kill



the plants if it's not removed.





the ice

Polar researcher **Natacha Planque** loves being out in nature – even during the harsh Antarctic winter

Where are you right now?

I'm at the Dumont d'Urville research station on Petrel Island, part of a small archipelago just off the Antarctic continent. It was created in 1956 especially to study birds. Eight species of birds live around the station, including Adélie and emperor penguins.

Tell us about your research.

I'm part of a study looking at how birds and marine mammals are responding to climate change. This includes monitoring the Adélie penguin population. Over the summer, we count the penguins on foot and from a helicopter, taking pictures out of the open door. This year, we had more than 38,000 nesting couples and 34,000 chicks. Numbers have been rising here over the past 40 years, though Adélie populations are falling elsewhere.

What else do you do?

I also monitor snow petrels, which have been studied here for many years. They live for a long time – it's not unusual to see individuals that were ringed 40 years ago. Last February, my big mission was to ring every new chick – more than 550 of them!
I enjoyed doing this after dinner, around 9pm or 10pm, with the warming light of the low sun on the nests. The first time I saw a snow petrel chick, its fluffy grey head still damp from hatching, I was really moved.

Do you study emperor penguins too?

Having time to observe the full emperor penguin breeding cycle has been a privilege. The birds here have been studied since the 1950s. Our emperor colony comprises 10,000 individuals, with usually 3,000 to 4,000 chicks each year. But the colony has been decreasing, losing a quarter of nesting pairs since 1952. This is the case in other Antarctic populations too, mainly due to changes in sea ice and the ecosystem that depends on it.

You've spent a year on Antarctica. How does life differ in summer and winter?

Life here is really dependent on the season and the weather. In summer, the sun is in the sky all night and days are busy. There are around 50 to 70 people and a lot of activity at the research base. Days are full of sharing and learning from each other. I really love long summer days spent on bird missions:

ng summer days spent on bird missions:
climbing rocks, searching for birds, watching
their nesting cycle. I get to know by heart
all the nests hidden below the rocks.
With the arrival of winter, the team
gets smaller, but friendships become
deeper. The amount of work gets
lighter, but time outdoors is much
more tiring due to the extreme
cold and wind.

What research do you do in winter?

Winter is when emperor penguins breed, and one of



Middle right:

There are around 3,000-4,000 emperor penguin chicks on Pointe Géologie. As they become independent, they dash through the colony with their parents running after them!

and Antarctic skuas

Bottom right: This is me studying the giant petrels from a safe distance. These aggressive birds will kill other seabirds, such as penguin chicks and sick or injured adults

my main tasks is to keep our antennas working – these detect tagged penguins every time they pass by, a bit like microchips for cats. We tag 300 new chicks every year. I never imagined I'd spend my time here using an ice axe to dig out antennas buried in the snow!

What does nature mean to you?

Being close to nature brings me peace and comfort. To me, it's the best way to enjoy life and the richness and beauty of our world. In Antarctica, everything changes all the time: the icebergs, fresh snowfalls, the Milky Way and the Southern Lights, the colours of the sky. I've never seen more amazing sunrises and sunsets than here.





penguin

ACTION INTERVIEW



LIVE GREEN TOP TIPS



Watch whales

(and more!) this summer

The seas around the UK are home to a surprising variety of cetaceans (whales, dolphins and porpoises). Summer is the ideal time to see them for yourself.

Minke whale

Our most common whale can be spotted all round the UK coast in summer. Watch out for its rostrum (nose) breaking the surface, then the roll of its back as it dives.

2 Harbour porpoise

You can spot these stocky, shy creatures close to shore in shallow waters. Look for their triangular dorsal fin and listen for a loud 'chuff' when they come up for air.

3 Bottlenose dolphin

Our most familiar dolphin can be seen all around the UK, alone or in small groups. It's inquisitive, and will often approach boats.

4 Common dolphin

Found all around the UK, particularly in the south and west, common dolphins are playful and sociable, often coming close to shore.

6 Orca

A small group of these unmistakable blackand-white cetaceans live off Scotland's west coast. But take a boat around the northern islands and you might see visiting orcas.

6 Risso's dolphin

These playful dolphins live in deeper waters, mainly off Scotland, but also parts of Wales and south-west England.



Have a **greener holiday**

Avoiding air travel is the most obvious way to enjoy an eco-friendly holiday, but there are other tips too...

- Pack smart: decant toiletries into reusable small bottles, shop second-hand if you need a 'holiday wardrobe', and look for sun cream that's less harmful to aquatic life (try Green People or UpCircle).
- Help support local communities by shopping and eating at local and independent businesses and attractions. Donate or buy from their gift shop.
- Looking for a souvenir? Buy handmade or locally produced items, and avoid anything made from animal products, such as tortoiseshell.
- Holidaying in the UK? Help clean up our coasts and seas by taking part in a litter pick. Look for a 2-Minute Beach Clean station to borrow a litter-picker.
- Give back with your time off. Search for volunteer opportunities that offer free food and accommodation in return for your efforts.



Above: Whether you're holidaying in the UK or abroad, locally made souvenirs support the community where you're staying and may be more sustainably produced



Left: Collect rainwater in butts, barrels or bowls and use it to water plants, top up ponds or clean muddy boots and bikes. Make sure wildlife can get out of your rain-collectors, though

Use water wisely



A spell of hot weather can see river levels drop, putting wildlife at risk. Saving water is vital - and it can be easy, too

Start small: fix dripping taps, don't leave water running while brushing your teeth or washing up, and have **shorter showers**. Use kitchen gadgets to help – a **fully loaded dishwasher** uses less water than washing the same amount by hand. Make sure the washing machine is full before using it, too. Got a garden? Use a watering can rather than a hose or sprinkler, and only water plants in the evening or early morning to reduce evaporation. Get a water butt to collect rainwater for your plants. Look at the bigger picture, too: wasting food wastes the water used to produce it, so plan meals and save your leftovers for another time.

Create a community garden

We all need nature in our daily lives to boost our wellbeing. But for people living in urban areas, it's not always easy to find green spaces. That's why we created the Nature's Neighbourhoods project with the RSPB and the National Trust. We want more people to be able to enjoy the benefits of nature on their doorsteps. So we're supporting 18 local organisations in towns and cities across the UK to develop people-powered plans for nature and climate action in their own neighbourhoods.

One of these local groups is Sow the City, a Manchester-based social enterprise on a mission to create greener cities and connect people with nature. Since 2009, it's created more than 100 community gardens in and around Manchester, transforming derelict sites into thriving green spaces where people grow their own healthy food.

Creating a community garden is easier than you think! Here are Sow the City's top tips for getting started...

Let's grow!

26

To find a Nature Neighbourhood near

you, visit **peoplesplanfornature.org/**

nature-neighbourhoods



Kieron McGlasson, Sow the City director

AND LANGUAGES TOGETHER

Start with an idea and purpose

Sow the City was founded with just a few bags of compost. If there's a patch of unloved land you want to garden, have conversations with local people or hand out leaflets - change can happen! Make sure you have permission to use the land - check with the council or the owner before you start.



Ask for help

Community gardens take work and organisation, so it's vital to involve more than one person at the start to avoid getting burnt out. Gardens are about involving the community, so don't be scared to ask for help. Ask companies for support and ask garden centres to donate seeds. The amount of people who want to help make change happen is breathtaking.



Get together

Wanting to create a community garden isn't controversial you're pushing at an open door, and once people see you being that catalyst, they'll come and support you. It creates a real energy and enthusiasm, bringing together people from all different backgrounds - it's



Count walruses 💭 from space



High-tech cameras and eagle-eyed volunteers are helping us study walruses. Here's how...

We gather information from scientific sources and local communities to learn where walruses come ashore, then decide where to take photos.

Satellites capture his resolution images of the Arctic coast. This lets us see remote locations and avoid disturbing walruses.

The images are shared on the Walrus from Space website where the public can sign up to analyse them. Volunteers search for and count walruses in each image.

The information helps scientists from WWF-UK, the British Antarctic Survey and partners around the Arctic work out the number and location of the walruses.

This project helps us identify how walruses are being affected by their rapidly warming habitat and identify ways to help safeguard these Arctic icons.

Become a walrus detective today!

Visit wwf.org.uk/ walrus-from-space



people are up for it! Generally, so rewarding.

Chasing **ghosts**

WWF photographer Luo Xiaoyun hopes to inspire people to fall in love with snow leopards

o say counting snow leopards is challenging would be an ice-packed understatement. These elusive cats – known as 'the ghosts of the mountains' - live among some of the world's highest and least accessible peaks. They roam alone over the snowlines of steep cliffs, through forests and valleys, almost always staying out of sight. Globally, just 3% of their habitat has ever been surveyed using scientifically rigorous approaches. It's not surprising we know so little about these big cats, and that targeted conservation measures are therefore hard to implement.

WWF works in eight of the 12 countries where these big cats roam in central and south Asia – but none is as numerically important as China. Almost two thirds of all snow leopards live in the western regions of this country, mostly in the Qinghai-Tibet Plateau and surrounding mountain ranges.

Raising the profile of an animal that's almost invisible is crucial to gaining support for efforts to protect it. In this regard, one man has done more than most. Photographer Luo Xiaoyun gives us a remarkable glimpse into his life with snow leopards, and his images that capture people's imaginations.

Big cat hero

For 10 years, Luo has been

incredible wildlife. Over this

time, his photos have won

awards and he's had almost

100 encounters with snow

leopards. His skill in observing

seen is helping increase our

understanding of the elusive

began working alongside WWF.

His unique observations of the

big cats can help with research

and conservation.

species. Two years ago, this ambassador for snow leopards

these cats that few people have

to capture images of its

working on the Tibetan plateau

Eye to eye

Luo has been breathtakingly close to a wild snow leopard, but he wasn't afraid. "As it watched me, I could see its eyes were serene, curious. I decided to remain still and continue quietly taking pictures," he explains. "Suddenly I realised what it wanted. I slid down the steep slope to the road. As soon as I moved, the leopard walked to where I'd been sitting and sniffed the rocks. I'd been on its territorymarking spot and was in its way!"



In the safe zone

In a mountainside meadow, this female lives a precarious life with her three cubs, facing risks if she ventures higher or lower. Her cubs struggle to walk through deep snow on higher ground, where prey can be scarce and hard to catch. But down in the valleys, humans could be a hazard. Wherever she goes, there's always the potential threat to her young from male leopards. But over the months Luo filmed her, she managed to raise her cubs.

The great escape

Snow leopards are fierce and agile predators. Luo captured the dramatic moment a female closed in on some blue sheep. "She was sprinting at full speed when she stepped in a deep snow pit," he says. "Snow flew as she tried to leap out, but she'd lost too much speed and the sheep escaped."



Hiding in plain sight

Given their name and high-altitude habitat, you might think snow leopards are well suited to life among the white stuff. But their pale coats and ringed spots offer better camouflage against the bare grey rocks of a mountainside. Here they can creep close to prey without being seen. Stealth simply doesn't work in pristine white snowfields, unless there's a concealing blizzard.



Win luxury **velvet accessories**

Show your love for turtles while you're on the move

Whether it's a day at the beach or a longer trip. these beautifully embroidered accessories from Elizabeth Scarlett will help you get organised. The mini pouch's handy size makes it perfect for cosmetics, tech essentials or favourite pieces of jewellery. And the durable, roomy tote bag makes it easy to pack for everyday adventures.

The stunning motif of a marine turtle honours one of the ocean's most beautiful creatures. With intricate golden threads against a rich velvet base, this design evokes the magic of underwater worlds.

What's more, Elizabeth Scarlett donate 2% of their annual sales to conservation charities, helping protect the animals that feature on their products. You can explore the range of Elizabeth Scarlett treasures at shop.wwf.org.uk

We've got one prize bundle of a mini pouch and tote bag to give away, together worth over £90. See the 'How to enter' box (below) for details.



Win coffee **that cares**

Get a conservation-conscious caffeine fix

Coffee fans will love our Earthbrew range of sustainable, Nespresso-compatible coffee pods. Whether you savour it with sips or gulp it with gusto, you can enjoy our coffee knowing that you're also supporting conservation projects around the world. Each pod is 100% home compostable and recyclable, and is packed with a deliriously delicious roast.

Whether you prefer something smooth and mellow, sweet and fruity, or rich and bold, there's a blend to suit every taste. And, what's more, every pack helps support work around the globe to help bring our world back to life. You can see the full Earthbrew range at shop.wwf.org.uk/earthbrew

We've got 10 packs of Honduras* or decaf pods to give away to one lucky winner - enough for 100 cups of coffee! For your chance to win, check the 'How to enter' box (right). Remember to say which pods you'd prefer to win.





New in the shop!



Add wild charm to your little one's wardrobe with these WWF-exclusive outfits from Blade & Rose (from £4.50). Choose from turtle or panda designs.



Get beach-ready with these eco-friendly ponchos (from £22) and extra-large towels (£50) from Dock & Bay, made from 100% recycled plastic!

Check out more great gifts and treats in our shop: shop.wwf.org.uk

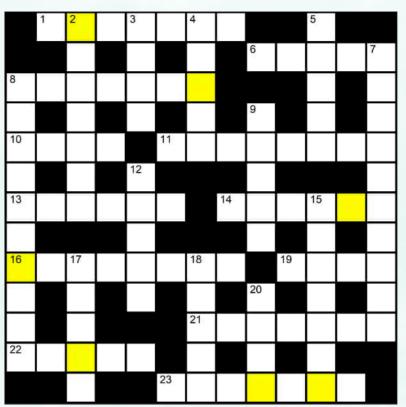
How to enter Action giveaways

Send an email with your name. address and phone number, along with Elizabeth Scarlett or Earthbrew in the subject line, to competition@wwf.org.uk

Alternatively, post your entry to Action Magazine, WWF-UK, Living Planet Centre, Rufford House, Brewery Road, Woking, Surrey **GU21 4LL.**

Closing date: Friday 25 July 2025. For full terms and conditions, visit: wwf.org.uk/compterms

Crossword



Sharks

Solve our crossword and you could win a copy of Sharks: **Ocean Travellers**

by Michael Bright (Natural History Museum, RRP £16.99)

WWF ACTION CROSSWORD 60: Summer 2025 issue. Compiled by Aleric Linden

Clues across

- 1 Farmers'_, popular places to shop for local foods. fruit. vegetables and other products (7)
- 6 Vast country that's home to much of the world's snow leopard population (5)
- **8** Wild sheep in Asia ancestor of domestic sheep (7)
- 10 Fishing _, one of the threats to non-target marine species (4) 11 Small furry Himalayan or Chinese mammal listed as
- endangered (3,5) 13 These leaf-tailed lizards of Madagascar are among the victims of the illegal wildlife trade (6)
- 14 The polar bear's home (6)
- 16 _ forest, biodiverse coastal ecosystem dominated by salttolerant trees (8)
- 19 & 2 down Active on both land and in water, like hippos (4-7)
- **21** Mountain _ , endangered great ape (7)
- 22 Wetland associated with mangroves (5)
- 23 Channel, hugely busy shipping route between the UK and France (7)

Clues down

- 2 See 19 across
- 3 forests, algae-based underwater ecosystems (4)
- 4 Metric unit quantifying CO₂ emissions (5)
- 5 The largest European land mammal (5)
- 7 The southernmost continent, home to penguins such as the emperor and Adélie (10)
- 8 Faithful to one's mating partner, as penguins commonly
- 9 _ whale, biggest of the toothed whales (5)
- 12 Heavy goods vehicle (5)
- 15 The highest peak in this mountain range is Mont Blanc (3,4)
- 17 Home to Chitwan National Park (5)
- 18 One who avoids animal-derived foods and products (5)
- 20 _ Mountains, Russian range forming a border between Europe and Asia (4)

After solving the crossword, take each letter from the shaded squares (going from left to right and top to bottom) to spell the **prize word**. To be in with a chance to win, just send a postcard with the prize word to the address opposite, or email it to competition@ wwf.org.uk The closing date is Friday 25 July 2025.

Spring 2025 answers

Prize word: REPTILE Across 1. Jaguars 6. Otter 8. Climate 9. Butt 10. Tsunamis 12. Picnic 13. Hippos 15. Tanzania 18. Lion 20. Dormant 22. Litre 23. Oak tree

Down 2. Asiatic 3. UVA 4. Reefs 5. Steam 6. Open air 7. Roosts 8. Cub 11. Giraffe 12. Petrol 14. Primate 16. North 17. India 19. Nut 21. Rat

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20 minutes of nature a day can improve your wellbeing.

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