



Action

THE MAGAZINE FOR WWF MEMBERS

AUTUMN 2022

INSIDE

WIN THE TIGER
WHO CAME TO
TEA PRIZES

PAGE 30

GUARDIANS OF THE RIVER

How we're protecting
Amazon river dolphins
– and their wild home



FARMING FOR NATURE

Be inspired by farmers who
put nature's restoration at
the heart of food production

TIGER FRIENDS

Meet the first responders
who help communities
live peacefully with tigers



HELPING FARMLAND FLOURISH



Travel across the UK and you'll see landscapes shaped by centuries of farming. More than 70% of UK land is used for agriculture. But the way we farm causes 11% of greenhouse gas emissions and contributes to habitat and nature loss. Since 2012, WWF has been working with partners in Norfolk, one of the

areas of most intensive agriculture in the UK, to help make food production more sustainable by shifting to more regenerative farming practices.

Together, we've helped implement nature-based solutions across 3,675 hectares of farmland. These include installing silt traps and constructing wetlands to improve water quality, conserve precious topsoils and reduce the risk of flooding, and

restoring wildflower meadows to support pollinators. As a result, water is slowed, filtered and reabsorbed – or 'replenished' – for nature and the environment.

We're now scaling up this work to help drive change in agricultural and environmental laws – and set UK nature on the path to recovery. Read more about it, and find out how you can help, on page 17.

Lucy Lee, chief adviser, UK nature

We've helped restore the natural meanders to this river system in Norfolk. East Anglia is one of the most water-stressed regions in the UK. Creating curves and bends in the river allows wildflowers to grow on the banks, which in turn supports richer biodiversity

"IN NORFOLK, WE'RE RESTORING LANDSCAPES SO THAT NATURE AND REGENERATIVE AGRICULTURE CAN COEXIST"

CONTENTS

TOGETHER, WE DID IT!

A round-up of all you've helped us achieve in recent months

WWF IN ACTION

Environment news, including our call for farming reform

THE FUTURE OF FARMING

For decades, agriculture has been damaging the UK landscape. But we're now partnering with businesses and farmers to rethink our food systems and work with nature, not against it. By Paul Bloomfield

BIG PICTURE

Hawksbill turtles are beautiful, graceful... and critically endangered. But a new app could help slow the illegal trade in their precious shells

FIGHTING FOR LIFE

The race is on to protect the threatened Amazon home of rare river dolphins. By Derek Niemann

INTERVIEW

Artist and film-maker Matthew Somerville tells us how the *Our Ingleborough* project is bringing landscape restoration to life

TIGER FRIENDS

Helping communities live alongside tigers is vital for the safety of people and wildlife. We meet a pioneer in India who's championing coexistence

GIFTS & GIVEAWAYS

Christmas ideas in the WWF shop, plus you could win *The Tiger Who Came To Tea* goodies

CROSSWORD

Solve our crossword and you could win a copy of *Birds of the World*

NOTES FROM THE FIELD

If you venture out to count tigers in Nepal's forests, there's a chance you'll end up face to face with all sorts of wildlife, says Ashray Rana



MEET THIS ISSUE'S GUEST CONTRIBUTORS



CALLUM WEIR is our sustainable agriculture specialist – and a former farmer, so he understands the pressures they face. "Farming has a problem to solve," he explains, "but farmers aren't the problem."



MARIANA PASCHOALINI is an ecologist and aquatic mammal biologist. She's been monitoring endangered tucuxi and pink river dolphins in the Amazon. "We're just so excited when we see one!" she says.



ASHRAY RANA is a citizen scientist who's been a conservation volunteer since 2009. "I'm proud to have played my part in Nepal's efforts to double its tiger population," he says of his involvement in a recent tiger survey.



VISIT MY ACTION

Don't forget to go online and explore our brilliant home for conservation news and stories for members, **My Action**. Visit the site to learn more about the issues we explore in each edition of *Action*, and to enjoy **exclusive photo galleries, videos and other great content**. Check for regular updates at **myaction.wwf.org.uk**

GET IN TOUCH

✉ wwf.org.uk/contact

☎ 01483 426333

WWF-UK Living Planet Centre, Rufford House, Brewery Road, Woking, Surrey GU21 4LL

FOLLOW US

📘 [wwf.org.uk/facebook](https://www.wwf.org.uk/facebook)

🐦 [wwf.org.uk/twitter](https://www.wwf.org.uk/twitter)

📌 [wwf.org.uk/pinterest](https://www.wwf.org.uk/pinterest)

🌐 [wwf.org.uk/news](https://www.wwf.org.uk/news)

📺 [wwf.org.uk/youtube](https://www.wwf.org.uk/youtube)

📷 [wwf.org.uk/instagram](https://www.wwf.org.uk/instagram)

📱 [wwf.org.uk/tiktok](https://www.wwf.org.uk/tiktok)

Produced in association with Our Media – www.ourmedia.co.uk

MEET THE ACTION TEAM

Editor Liz Palmer editor@wwf.org.uk

Editorial executive Emma Brill

Senior supporter engagement manager Hannah Crawley

Supporter engagement manager Stephen Osborne

Senior editor Guy Jowett

For Our Media

Consultant editor Sophie Stafford

Senior art editor Nicole Mooney

Art editor Bob Bewick

Designer Julia Young

Managing editor Charlotte Martyn

Production editor Sarah Newman

Senior account manager Katy Hewett

Account executive Edith Violet Naisubi

Design director Will Slater

Editorial director Dan Linstead

THANKS TO OUR CONTRIBUTORS

Paul Bloomfield, Barney Jeffries, Derek Niemann, Mariana Paschoalini, Ashray Rana, Atul Singh, Matthew Somerville, Mike Unwin, Callum Weir

EXTRA!

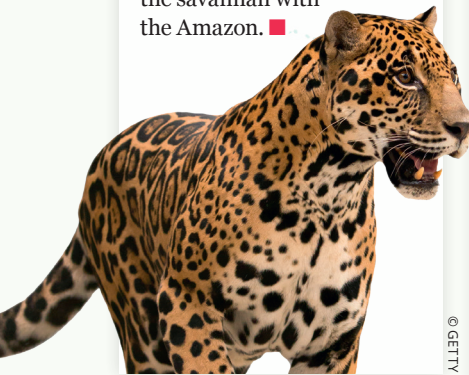
To find out more, scan the QR code when you see this box.



My Action

YOU'RE HELPING US UNDERSTAND JAGUARS BETTER IN THE GUIANAS

Thanks to your support, the first ever large-scale jaguar monitoring effort is under way in Suriname and neighbouring Guyana. Jaguars in these countries are among the least studied in the whole of the species' range. It's assumed they're doing well as both countries still have vast unspoilt forests, but better data is vital to understand threats such as illegal gold mining, over-hunting of prey populations, and poaching for the illegal trade in jaguar body parts. With our partners in Suriname, we're conducting the first extensive jaguar study, using camera traps at six sites to better understand the status of the population. In Guyana, we'll monitor the Rupununi region, an important corridor linking the savannah with the Amazon. ■



Thanks to your membership, we can help protect wildlife and wild places. Here are some of the great things supporters like you have helped achieve



WE'VE HELPED FIGHT FIRES IN THE AMAZON

We've trained communities in the Colombian Amazon to prevent the spread of forest fires. Fires in the Amazon are becoming more frequent and severe than ever, destroying vast areas of forest, with devastating consequences for people and wildlife. They almost never occur naturally here, but are usually set deliberately to clear land. The best way to fight forest fires is to stop them breaking out in the first place – and that's what we've been doing in Guaviare, one of the worst-hit regions in Colombia. We've trained community organisations in techniques to prevent, monitor and control the spread of fires. Earlier this year, community groups we trained responded to fire outbreaks near Chiribiquete National Park, one of the world's largest protected areas of tropical forest. ■



YOU HELPED US STUDY POLAR BEARS IN CANADA

You've supported research to examine conflict between people and polar bears along the western Hudson Bay coast in Canada, which could provide important insights into a warming Arctic. Satellite ear tags, bought with your support, were fitted on bears that were captured after straying into human settlements. The tags allow us to track the relocated bears via satellite so we can analyse their behaviour. The great thing about ear tags is that they can be used on males and subadult bears, whose necks are too thick for tracking collars – they just slide off over their heads! Because of this, we've only been able to track females in the past, so males and youngsters are less studied. Due to melting sea ice, polar bears in Hudson Bay have been spending more time ashore where they risk contact with people, causing threats to local communities and bears alike. ■



YOU HELPED PEOPLE LIVE WITH GORILLAS IN UGANDA

You're supporting people near a national park in Uganda to live with their wild neighbours – by growing onions! In many protected areas, conflict between wildlife and nearby communities is a challenge. In Mgahinga Gorilla National Park the gorillas aren't the problem, but buffaloes, elephants, antelopes and monkeys regularly leave the park to raid neighbouring farms. Losing food and income is devastating for local people, so our partners at the International Gorilla Conservation Programme supported 110 smallholders to plant onion fields around the park. The pungent smell deters animals from raiding farms, improving harvests, and the onions themselves are a profitable crop. By boosting local support for conservation, the project will help mountain gorillas. ■

“WHEN WE PROTECT RHINOS, WE CAN ALSO SAFEGUARD THEIR ENVIRONMENT”

KAT ELLIOTT, SENIOR PROGRAMME ADVISER - AFRICA

My Action

DISCOVER MORE

Learn more about these successes and other inspiring stories at myaction.wwf.org.uk



YOU HELPED RHINO NUMBERS RISE IN KENYA

Thanks to you, the black rhino population in Kenya is on the up. The latest figures from Kenya Wildlife Service show there were 938 black rhinos in the country in December 2021 – an increase of nearly 10% in just one year. Though Kenya was once home to around 20,000 black rhinos, only around 350 remained by the mid-1980s after years of hunting and habitat loss. This amazing increase is a testament to all the conservation work you've supported, from rhino-monitoring patrols and buying ranger equipment to building strong collaboration with local partners. But despite this good news, there's no room for complacency. Black rhinos remain critically endangered, with only around 6,195 left in all of Africa. Poaching, driven by demand for rhino horn, is still a danger: one black and five white rhinos were killed for their horns in Kenya in 2021. Other challenges we're tackling include climate change and securing more suitable habitat for the growing rhino population. ■

YOU HELPED BAN IVORY TRADE IN THE UK

Thanks to your support, buying and selling elephant ivory is now illegal in the UK, with a few exceptions. International trade in elephant ivory has been banned for years, but legal domestic markets can maintain consumer demand and enable criminals to launder illegally sourced ivory, driving elephant poaching. There's also evidence that UK sales of antique ivory have been linked to illegal trade. More than 60,000 of you joined our campaign calling for a comprehensive UK ivory ban. The government introduced plans for a change in the law in 2018, and the UK Ivory Act finally came into force on 6 June 2022. The new law makes it illegal to deal in any items containing elephant ivory, with a few narrow exceptions such as musical instruments and museum pieces. Ivory dealers face fines of up to £250,000 or five years in prison. With other countries, including China, also banning ivory sales, we hope demand for ivory will end. Thank you! ■



TOGETHER, WE DID IT!

WWF IN ACTION

How we're bringing our world back to life



Our current food system is having a detrimental impact on nature all over the world, including on kingfishers here in the UK

FARMING FOR THE FUTURE

The world is on a precipice. The climate emergency continues to worsen, and nature is in freefall. Many things must change if we're to turn things around, and one of the most impactful places to start is the broken global food system

Every part of the food chain – in the UK and around the world – has a destructive environmental footprint. Food production is responsible for around a third of harmful emissions, making it one of the biggest threats to our environment. The farming industry's reliance on intensive practices is destroying habitats, decimating species and accelerating climate change. We need to act now to address the devastating impact of how we produce and consume food.

Many of today's methods of food production are harmful to nature and wildlife. From jaguars in the Amazon and marine turtles off the coast of west Africa, to kingfishers, otters and orcas in the UK, hundreds of species are suffering so that people can eat.

Our global food system is the primary driver of biodiversity loss. With agriculture alone occupying half of our planet's habitable land, it's the largest cause of deforestation, and the largest user – and polluter – of fresh water.

Alarmingly, the current food system is self-destructive: production itself is vulnerable to climate change due to a decline in diversity among domesticated plants and animals. It's a vicious circle and nature is the victim.

While it's a complex problem, there is hope if we act now. We can create a food system that supports farmers and producers to protect nature, while providing everyone with nutritious and affordable food – now and in the future.

Though we all have a part to play – from reducing our food waste to eating a more sustainable diet – we're urgently calling on governments and businesses to take stronger action to reduce emissions, cut food loss and waste, and restore nature to create a strong, sustainable food system that's healthy for people and the planet.

Change must start with our leaders. The UK government has set targets to reverse the loss of nature by 2030. We must ensure it keeps its promises. It's not an easy problem to fix, but we can if we work together.

BRINGING CHANGE TO THE TABLE

We're asking governments to improve the global food system, but you can make changes at home that will reduce waste and support sustainable farming



HAVE YOUR SAY

Head to social media and tell us what you think the UK government should do to **#FixTheFoodSystem** or find out more on our website: wwf.org.uk/food



CHALLENGE YOURSELF

Download WWF's *My Footprint* app to calculate your carbon footprint and take on food challenges to help reduce your environmental impact: wwf.org.uk/myfootprint



TRY EAT4CHANGE SWAPS

Make your meals better for nature by introducing some simple swaps a few times a week. Read our **#Eat4Change** guide to get started: wwf.org.uk/swaps



DIG DEEPER

When food production is done the right way, nature can thrive. Listen to our *Call of the Wild* podcast and get inspired by the Food And Farming episodes: wwf.org.uk/podcast



FIND OUT MORE!

See why we're talking about food, and find plant-based ideas, at **myaction**. wwf.org.uk/plant-based-diet



NEWS IN BRIEF



CURTAIN UP!

In August, 80 young people from across Hampshire wrote and performed a new opera all about nature and food in the UK – in just five days! Working with professional creatives from the Grange Festival and WWF, they used music, drama, dance and design to bring to life issues such as sustainable farming, diets and food waste. It's part of our ongoing creative collaboration to engage young people on nature-related issues. In 2021, we worked with schools and youth groups to create short films for the COP26 climate conference.

NEWS IN NUMBERS

48 

There are now 48 members of the Bageni gorilla family in Virunga National Park in the Democratic Republic of the Congo. Rangers spotted two new infants – one male and one female – earlier this year. Silverback Bageni's growing family reflects the upward trend in the mountain gorilla population, which now numbers more than 1,000, thanks to conservation efforts you've supported.

£227,630

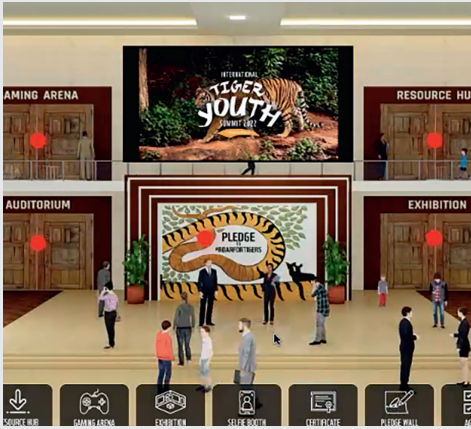
So far this year, almost 12,000 of you have run, walked, squatted and cycled to raise funds for our vital conservation work. You've raised an incredible £227,630 by taking part in our Facebook challenges – whether walking 100 miles in March, doing 50 squats a day in June, or using a GPS app to make the shape of an animal from your running and cycling routes.

NEWS IN BRIEF



PACIFIC PROTECTION

Amazing news from the Americas where, with support from WWF and others, nine countries have agreed to create a network of marine protected areas running the length of the Pacific coast from Alaska to Patagonia. The Americas for the Protection of the Ocean Coalition builds on existing conservation projects in the region, including the Eastern Tropical Pacific Marine Corridor, an initiative declared by Colombia, Costa Rica, Ecuador and Panama in 2004 to establish fishing-free zones. It will help secure over 500,000 sq km of interconnected, fishing-free protected areas along one of the most important migratory superhighways for whales, marine turtles, sharks and rays.



YOUTH VOICES FOR TIGERS

On 28 July, young people from around the world spoke out on the future of tigers at the International Tiger Youth Summit. The inspiring youngsters were chosen from 13 tiger-range countries to join the virtual summit, which included discussions hosted by conservation and tiger specialists. As the changemakers of tomorrow, the delegates shared their recommendations for tiger conservation with the expert panel, as well as their visions for the future, and the legacy they wish to leave for future generations.

CULTIVATING FRESH IDEAS ON FARMS

Wouldn’t it be amazing if we could turn carbon dioxide into climate-friendly fertiliser, use food waste to make fish feed, or harness the latest technology to bring more bees onto farms?

Well, it turns out we can. These are just some of the ideas that UK start-ups have developed in order to make farming better for nature and the climate. And now food producers around the UK will be putting their innovations into practice, thanks to a new programme created by us and Tesco. This is part of our long-term partnership to drive down the environmental impact of food.

Innovation Connections pairs pioneering start-ups with Tesco suppliers, using the supermarket’s scale and influence to accelerate the uptake of new solutions to help transform our food system. In May, a group of finalists chosen from more than 70 entries pitched to a panel of experts from Tesco and WWF, with five exciting projects each awarded funds of up to £150,000.

One of the winners was CCM Technologies. The Swindon-based company manufactures low-carbon fertiliser pellets using waste materials, including carbon dioxide captured from power plants and ammonia from wastewater. CCM is partnering

with Tesco potato supplier Branston, fellow low-carbon fertiliser producer Andermatt and the Farm Carbon Toolkit to test this new technology, with the aim of significantly cutting the carbon footprint of potatoes and other crops.

Future by Insects is also using excess CO₂ and wastewater, along with food waste from processing plants – in this case, to grow algae and raise insects that can be turned into fish feed. This could provide a sustainable alternative to using soya or wild-caught fish as food. The company is working with Tesco suppliers Hilton and Greencore to refine and scale up the process.

Another winning entry was Yorkshire-based start-up AgriSound, which is working with fruit supplier AM Fresh. The company has developed super-sensitive acoustic technology to monitor bees, which can help fruit farmers boost yields by attracting pollinators where they’re most needed and ultimately increase levels of biodiversity.

“We urgently need to find more sustainable ways to grow enough affordable food for everyone,” says David Edwards, our director of food strategy, and one of the judging panel. “The winning projects have huge potential to help create a food system that restores nature and protects our climate.”



We need bees to fertilise many of our crops. They’re estimated to provide pollination services worth billions of pounds to farmers worldwide

NEPAL’S TIGERS ROAR BACK

Nepal has more than doubled its wild tiger population, thanks to inspirational conservation efforts

From a global population of around 100,000 a century ago, wild tiger numbers hit an all-time low of as few as 3,200 in 2010. With the iconic big cats facing an uncertain future, 13 governments joined a commitment, known as TX2, to double the world’s wild tigers by 2022.

In 2009 there were estimated to be 121 wild tigers in Nepal. But following rigorous efforts by the government and local communities to protect and expand key tiger habitats, create corridors and crack down on the illegal wildlife trade, the population has now risen by a historic 190% to an estimated 355.

Thanks to you, we supported Nepal’s ambitious and extensive survey efforts, which took 16,811 days of staff time to complete. They included monitoring images from nearly 4,000 camera traps covering an area of 18,928 sq km, and training local people in survey techniques.

Nepal’s incredible results, which were released on Global Tiger Day in July, are testament to the government’s long-standing commitment to conservation and the support of local



Individual tigers can be identified from their unique stripe patterns

communities. “The dedication of the people of Nepal to protecting tigers is inspiring,” says Becci May, our senior programme adviser. “We hope it will serve as a model for conservation elsewhere.” Though Nepal’s success offers hope for the tiger’s future, there’s more work to be done. “Sadly, tigers are still the most threatened big cat species globally,” adds Becci.

Tiger-range countries are in the process of developing new goals for global tiger conservation over the next 12 years. With your help, we’ll be working with them to enable wild tigers to thrive alongside people.

RECORDING RHINOS

It’s tiring, often tedious and sometimes dangerous, but counting rhinos is a vital job. And the latest census results from India make all the hard work worthwhile

Earlier this year, WWF teams, together with local partners, worked with the government forest department in the state of Assam to carry out a month-long survey of the greater one-horned rhino population.

Whereas tiger censuses, for example, are done using camera traps, a rhino count is a labour-intensive process. Survey teams zigzag their way across all the protected areas where rhinos live. They record each individual they spot, carefully calibrating their results to prevent double counting. Among the tall, dense vegetation, with a high concentration of rhinos and other dangerous wild animals, it’s a daunting undertaking.

But the news is good, showing Assam’s rhino population has grown to at least 2,885, an increase of 274 since the last count in 2018.

Greater one-horned rhinos were hunted to the brink of extinction during colonial times. But decades of conservation work have paid off. From just 100 individuals half a century ago, there are now more than 4,000 rhinos in the wild in India and Nepal.

FARMING FOR NATURE

Decades of intensive agriculture have transformed the UK’s landscape. Our once-rich soils have been drastically degraded along with declines in wildlife and habitats. So we’re backing farmers in a shift to restore nature and tackle climate change by repairing our broken food system

Regenerative farming aims to rehabilitate land that’s become degraded, thereby preserving it for the future. Animal welfare is a key part of the system, as livestock play a part in boosting soil health

Verdant, rolling hills clad in a patchwork of meadows, hatched with neat hedgerows and grazed by languid herds of piebald cows: it's the stereotypical picture-postcard image of rural Britain. Scratch beneath the surface of this idealised vision, though, and you'll discover a very different reality.

The truth is that many centuries of farming, particularly following a period of intensification in the mid-20th century, have transformed our countryside – with profound impacts on our biodiversity. Today, more than 70% of the UK's land is used for agriculture. And as field sizes have increased – along with the rise of modern farming methods, artificial fertiliser and pesticide use – many habitats and species have suffered.

The farmland bird index tells a stark tale: numbers of breeding farmland birds fell by 55% between 1970 and 2019, with species such as turtle doves, tree sparrows and grey partridges down at least 90%. At a worldwide level, the food and agriculture system drives 60% of nature loss.

Biodiversity isn't the only victim. "Globally, the food system accounts for a third of greenhouse gas emissions," explains WWF's sustainable agriculture specialist Callum Weir, himself a former farmer. "And farming is the largest user of fresh water, it's the largest driver of habitat conversion, and in the UK it's responsible for over 10% of our territorial greenhouse gas emissions."

CRITICAL IMPACTS

The infamous enteric emission – burping – of methane by cows isn't the only agricultural driver of climate change. The loss of wild habitats to intensive farming, reductions in soil carbon storage, and emissions from manure and nitrogen-based fertilisers are also major contributors. Bear in mind, too, that farming's impact doesn't stay ►



▲ **TOP:** Peelham Farm is a family-run business: "We love our animals, we love their produce and we love the land." The farm allows the livestock to express natural foraging and grazing behaviour, promoting their wellbeing

◀◀ **FAR LEFT:** Peelham Farm is all about healthy soil that's full of organic matter and biodiversity

◀ **LEFT:** "We don't farm our land, we farm with it," says Denise. The farm is organic and pasture-for-life certified

▲ **ABOVE:** Peelham Farm has an on-farm butchery and charcuterie to ensure organic preparation of their meat

CASE STUDY



Denise Walton runs Peelham Farm in south-east Scotland, raising beef cattle, pigs and sheep with her husband, Chris, and son, Angus. The 260-hectare site is certified organic and Pasture for Life (pastureforlife.org)

"The soil has suffered horribly from the way we've farmed over the past 50 or 60 years," Denise laments. "Every farming practice needs first and foremost to restore soil – to restore organic matter, soil microbiology – so it starts being more productive and absorbs more carbon."

"The practices we use in regenerative agriculture are multifold. There's not one silver bullet, and you don't know immediately if you're doing the right thing. Firstly, dung is the most important factor: sharing the largesse of grass with birds and bats through the invertebrates that feed on our livestock's manure."

"Secondly, rotational mob grazing is key. We graze 35 animals in a four-hectare paddock for three to four days, then move our cattle across our farm and rest that paddock for 30 days. The response of grass to that period of rest is regeneration *par excellence*. Our cattle love it!

"Hedgerows are part of a nutritional approach to agroecology: they nurture biodiversity, they store carbon, they shelter livestock, they support wildlife.

And they also make it a much more pleasant landscape!

"There are benefits and long-term rewards for farming the way we do. Our livestock are healthier and we support increasing biodiversity, but the big thing is the decrease in the costs. A conventional farm of our size would normally spend £100,000 more a year on agrochemicals and grain feed for cattle than we do. We've also been able to reduce the number of tractors we own and maintain."

"The challenge is there's no quick fix. We can't just grab some chemicals to wipe out a pest that's eating our crops – and we did have that problem. The first year we farmed organically, we lost all our barley to leatherjackets [crane fly larvae, which feed on plant roots] because we couldn't spray them. But, interestingly, we saw a lot of crows on the field eating all the leatherjackets, and the following year we didn't have those pests."

"For farming to exist within nature, so that nature is no longer seen as our servant, we must blend the barrier between natural habitat and agriculture," adds Angus.

"Regenerative agriculture has brought nature back into farming, and it's brought me back in touch with nature – it's been a very powerful tool to improve my mental health."



"Regenerative agriculture has brought nature back into farming"

FOOD FACTS

9X

The increase in the human use of synthetic nitrogen fertilisers globally since the 1960s.

6.2 MILLION TONNES

The approximate amount of feed imported into the UK in 2019 for all farmed animals – and domestic pets.

51%

The reduction in direct annual UK agricultural greenhouse gas emissions needed by 2050.

£2.3 BILLION

The annual cost of total nitrogen waste from all agri-food sources in the UK.

29%

The percentage of global manmade greenhouse gas emissions that come from the way we produce, distribute and consume food.



A vast amount of habitats in Brazil's Cerrado savannah have been destroyed due to soy bean production. Most of the UK's soy imports are used to feed poultry

local. In 2019, the UK imported some 2.1 million tonnes of soy-based animal feed. Soy can be grown on deforested land abroad and then fed to British-reared chickens and pigs. In other words, we offshore a significant proportion of our greenhouse gas emissions footprint.

It's not just livestock farming that can be problematic, either – growing potatoes, for example, is extremely water-intensive and can cause damaging soil run-off and erosion.

It's important to emphasise that we shouldn't lay the blame on farmers. "Farming has a problem to solve – but farmers aren't the problem," says Callum. "They work hard, it's not the most lucrative business, and they have to respond to the markets they supply."

THE SCIENCE OF SOIL

So to address the triple challenge – restoring nature, tackling climate change and producing nutritious and affordable food – we're working to support farmers and help food businesses improve production methods. "Farmers are climate and nature

“FARMERS ARE CLIMATE AND NATURE HEROES”

heroes,” says Callum. “They're the ones facing these problems every day: dealing with less-productive soils, experiencing droughts, seeing those impacts first-hand.”

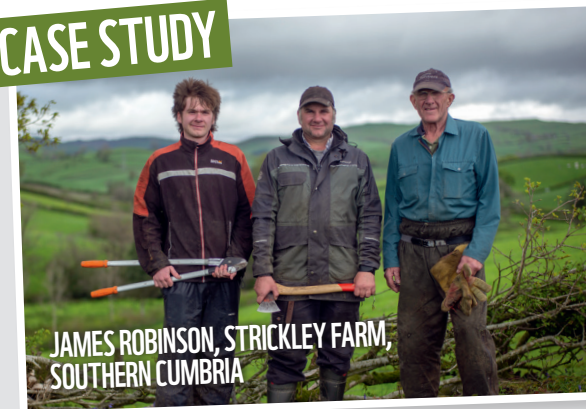
We believe it's possible to produce food sustainably through nature-positive farming, or regenerative agriculture. This involves understanding the individual context of each farm, nurturing soils and plant roots, maximising crop diversity, and encouraging rotational cattle grazing to nurture healthy grasses and cows.

“We need to move away from input-intensive farming – chemical-heavy, lots of fertiliser, lots of feed – towards systems that rely on biology and nature,” explains Callum. “Regenerative agriculture



James believes that if he wants happy, healthy cows he needs to have healthy, nutrient-filled soil. “It's about being kind to the soil, not putting slurry on or trampling the ground when you don't have to, and viewing it as a major asset of your farm”

CASE STUDY



JAMES ROBINSON, STRICKLEY FARM, SOUTHERN CUMBRIA

Over nearly 150 years, six generations of the Robinson family have farmed their 120-hectare grassland organic dairy farm on the edge of the Lake District, which James runs with his parents and son, Robert

“We move livestock on through rotational grazing, so cows are on each patch for only one or two days, which lets the soil recover and the root system develop better,” James explains.

“Everything starts with the soil. It's easy to walk past a field and think it's just grass. But look down past your feet and you'll see all the stuff that's growing there. In healthy soil you'll have grasses, clovers, plantains, chicory and dandelions. You've got bees on those flowers. And you've got cowpats. Though a cowpat might look like muck, to some creatures it's a home – it's where they live and feed. All the dung beetles and larvae in there are



“As farmers, we're able to change the food system from the ground up”

breaking that dung down and taking the nutrients back into the soil.

“When bats come out at dusk, they eat the dung beetles. Those bats have probably navigated to the field along a hedgerow – so we need a healthy hedge that's full of food as well. We've got birds in there, we've got small mammals and invertebrates.

“In the stream, there'll be otters, dippers, kingfishers and crayfish – they all need clean, oxygenated water, so we need to protect the beck from farm run-off. We've installed solar-powered water pumps to bring water to

troughs so that instead of 100 cows going down to the beck and contaminating it with soil, dung and pee, we can keep it clean. We have a wood full of bluebells, too. We're trying to create one healthy little world that functions well.

“As farmers, we're in a privileged position: we're able to change the food system from the ground up. The system is broken – it's not working for farmers, it's not working for consumers. The only people it's working for are the huge businesses. We need to do the right things at farm level to build things right for the future.

“For farmers to be able to farm in a sustainable, regenerative way, we need consumers to back us – to look at where their food's coming from, to ask awkward questions of suppliers, and to think hard about buying the right kind of food from the right kind of retailer. If the consumer demands the right type of food on the shelves, then it will happen.”

is about empowering farmers to enable that shift, because they know their farms and their ecosystems better than anyone else.”

That means listening to farmers' concerns, needs and knowhow, as well as sharing ideas. “In the short term, we highlight the low-hanging fruit: clear win-win-wins – wins for nature, for climate and for farmers' bank balances,” says Callum. “For example, half of the fertiliser applied in the UK is not taken up by crops, but goes into water courses or the atmosphere. If we reduce this waste, farmers need less fertiliser – which is great for their bank balances as well as the environment.”

This isn't chicken feed: the cost of total nitrogen waste from all agri-food sources in the UK is estimated at about £2.3 billion per year, equivalent to half of all agricultural profits. Then there's the medium-term collaborative element. “We know that farmers learn best from other farmers, so we support that peer-

to-peer knowledge exchange during conversations at the pub or the farm gate.”

Ultimately, to make this approach worthwhile for the farmer, the wider system needs to support regenerative agriculture. So we're promoting the benefits of this approach for climate, nature and people. And we engage with governments and work in partnership with influential businesses such as Tesco to look at their respective roles in restoring nature in food production.

“WWF supports regenerative agriculture because it's a ground-up movement in two ways,” Callum concludes. “First, because it's about creating a soil ecosystem that supports biodiversity and improves water quality, impacting the wider environment. But it's also ground-up because regenerative agriculture has been developed by farmers themselves – it's not a concept that organisations such as WWF have dictated to farmers, but something farmers have taught us.” ►

CASE STUDY



HEATHER CLOSE,
LITTLETON FARM, SOUTH AYRSHIRE

Three years ago, Heather Close joined her father, Philip, at 136-hectare Littleton Farm (marketed as Balsar Glen) in south-west Scotland, where he's been raising beef cattle for about 20 years

"I think of regenerative agriculture as farming with nature – focusing on soil health, which builds healthy plants, which provides healthy food for our animals, which provide healthy, nutritious food for people," says Heather.

"Something I had to get my head around at first was understanding that there's no plan, no rule book. When you make a change to how you farm, you have to look at how nature reacts. That will tell you if it's the right thing to do.

"The cows act as mobile biodigesters – they spread their dung, and that feeds the soil. We move them daily and they don't return to that paddock for at least 30 days – by then the parasite risk is greatly reduced.



"Our business model is to let nature do a lot of the heavy lifting"

Our cows haven't needed treatment for worms for years. This means their dung is really healthy – a great habitat for beetles and other insects. So that helps with the nutrient recycling.

"Moving the cattle so frequently is labour intensive, but we use solar-powered automatic gates to help us. Allowing the grass to recover fully between grazings is vital. The depth of the grass root system is equivalent to the height of the grass above ground. The roots are the interface between the plant and the soil microbiology: the taller and healthier the plant grows, the more energy it makes from sunlight. It pushes some of that energy down into the soil and, in exchange, the bugs in the soil collect minerals for the plant. Everything is connected.

"In the hedgerows along the edges of our farm, the grass grows a metre tall, and the blades are as thick as two of my thumbs. One day, I'd love for that kind of grass to be all over the farm, building fertility for future generations – this farm should be far healthier in 100 years than it is today.

"For us, the benefits as a business are that we keep our costs low, we're minimising risk from external markets, and we're breeding resilience in our cows as well as our soil.

"Conventional farmers are farming how the government and the world has wanted them to since the Second World War: to feed the world. Hopefully regenerative agriculture can be a viable alternative – with slightly

lower yields but at a level that can be maintained over decades – by delegating most of the work to nature. Our business model is to let nature do as much of the heavy lifting as possible, which helps the bottom line, because nature works for free."



▲ ABOVE:
Butterflies such
as this small
tortoiseshell
need nutrients
from soil for
survival

THE FUTURE OF FARMING

With your help, we'll scale up our work with farmers and local communities to demonstrate how farming can be transformed at landscape scale, and share this experience to overcome policy and funding barriers. We're focusing on two sites, covering both landscapes and seascapes...



◀ NORFOLK, EAST ANGLIA

This region is home to more than a quarter of England's chalk streams – a globally scarce and wildlife-rich habitat that's under threat. Together with partners, including Norfolk Rivers Trust, we'll build on previous work to help create a vibrant, mixed landscape of productive, regenerative agriculture alongside flourishing habitats and species at landscape scale. We'll support farmers to improve farmland, using nature-based solutions such as silt traps to stem field run-off, slowing and filtering water to reabsorb sediments, pesticides and nutrients that would otherwise pollute streams.

REGENERATIVE AGRICULTURE



▲ PEMBROKESHIRE, WALES

The diverse habitats of the south-westernmost corner of Wales are all intrinsically linked – from seagrass to ancient woodland, moorland to farmland. Yet coastal water quality is affected by pollution from land, largely from agriculture. We'll be working with farmers, fishers and other partners to demonstrate how to reach net zero emissions while restoring nature and enhancing sustainable livelihoods. The resulting clean rivers, reconnected woods and natural grasslands will benefit the local community and millions of visitors alike.

BECOME A NATURE HERO

Will you give an extra gift today to support us as we scale up regenerative farming across the UK, helping to reverse nature loss for generations to come? Here's how an extra gift could help:

- £10 could help sow 10 square metres of new wildflower meadow on farms or other sites managed for wildlife
- £20 could help our vital work with partners to conserve threatened iconic UK species
- £50 could help buy 2.5 metres of hedgerow for regenerative agriculture
- £100 could help support our advocacy work, urgently calling on UK governments to set out their decarbonisation strategies for agriculture and land use around net zero and nature's recovery

Donate today at
[www.org.uk/
nature-in-farming](https://www.org.uk/nature-in-farming)



► RIGHT: "I was out wandering the fields the other day and found myself distracted by all the beautiful wildflowers," says Heather. "There's such colour and diversity in the pasture"

►► FAR RIGHT: "Research shows that animals that eat healthy, vigorous plants from diverse pastures and hedgerows will have more phytonutrients in their products than those grazing rye-grass monocultures or grain," says Heather



TOURISTS FOR TURTLES

Hawksbill turtles are critically endangered, and it's largely due to the illegal trade in their beautiful and valuable shells

Found in tropical oceans around the world, hawksbills are known for their exquisite carapaces, which consist of overlapping plates streaked with gold, brown, orange and cream.

For centuries, their shells have been used to make 'tortoiseshell' jewellery, ornaments and other souvenirs – and millions of turtles are thought to have been killed as a result. With only 15,000 to 25,000 adult female hawksbills estimated in the wild, ending this illegal trade is a priority.

A new mobile app named SEE Shell uses artificial intelligence and image recognition to identify if a product is genuine tortoiseshell or a substitute such as resin, horn, bone or seashell. Telling these materials apart can be very difficult, but with 94% accuracy this clever little app will help law enforcement officials and tourists alike to distinguish real from fake just by uploading a photograph.

Hawksbill turtles really are too rare to wear, and now we can all help tackle this threat and bring them back from the brink of extinction.

The SEE Shell app is available now – you can use this QR code to download it



LET THE RIVER RUN

An Amazonian river has become
the focus of a mission to save
habitat for rare river dolphins

JUMP FOR JOY?

The famous dolphin leap clean out of the water may be performed by narrow-beaked river dolphins of the Amazon for very practical reasons. It's rare for pink dolphins to leap this high. These great breaches could be advertising athleticism to a potential mate, or showing off with a loud slap on the surface of the river. Or it might be linked with hunting, herding a shoal of fish or performing a deep, fast dive.

As the boat sails up one of the Amazon’s mightiest tributaries, the passengers speak as if they are searching for joy and relief. For hours, they’ve stood in the watchtower, scanning the wide waterway, hoping for a fleeting glimpse that will make their trip worthwhile. And now they spot it! “It’s always the same. We shout ‘It’s a dolphin! It’s a dolphin!’ We are just so excited. Then we remember that we are scientists and let the science kick back in.” As Mariana raises the GPS tracker, the other passengers stare far across at shapes breaking the surface, and then they begin to count.

Aquatic mammal biologist Mariana Paschoalini has been here before. In 2014, she was part of the first expedition to survey the river dolphins in these waters. Four years later, a follow-up survey gauged the effects of harmful developments on the river. This year, conservationists are seeking information that will arm them against an impending threat that could bring utter, catastrophic transformation.

A BOUNTY OF DOLPHINS

Since before time was measured, the fast-flowing Tapajós river ran its quick course some 2,000km from source to the Amazon itself, passing through habitats from rainforest to Cerrado savannah. Its wild richness could be counted in dolphins. A now-unimaginable number of pink and tucuxi dolphins were the proof of a healthy, bountiful river full of fish, that also provided for giant otters and



WORKING FOR DOLPHINS

Ecologist Mariana Paschoalini is embarking on her second dolphin survey of the Tapajós river, having conducted the first in 2014. A researcher at the Aqualie Institute, Mariana also works for WWF-Brazil as an Amazon dolphin strategist. As an environmental consultant, she specialises in monitoring aquatic mammals, including pink and tucuxi dolphins, otters, giant otters and Amazonian manatees in areas affected by hydroelectric construction. Mariana’s main area of study now is to estimate river dolphin populations in South America.



lugubrious, seal-like manatees. There was enough fish to be shared between the wildlife and local communities, who depended on the river not just for its harvest, but also for seasonal floods that fertilised their fields with silt. And a supply of fresh, clean water was essential to their daily lives.

All that changed with the discovery of gold, as well as the recent rise in illegal mining. In the decade from 2010 to 2020, mining in indigenous lands in Brazil has increased by 495% (even in conservation areas it’s risen by over 300%). To extract the gold, the illegal miners still use mercury (a banned element) which leaches out into the river. Contaminants in the water work their way up the food chain, so that dolphins and people accumulate mercury in their bodies, weakening their immune systems and damaging their brains.

At the same time, the world’s insatiable appetite for meat has seen an unprecedented exploitation of Amazonian land, with great swathes of rainforest cut down and replaced with cattle ranches and extensive areas of soy beans and other grains. The bare, exposed soil washes away, muddying and darkening the river, reducing photosynthesis, blotting out life. Overfishing takes its toll too, as new markets in the region are supplied on an unsustainable basis.

When researchers last counted dolphins in 2019, in a project run by the Mamirauá Institute and backed by WWF-Brazil, they saw the results. They were retracing a survey from five years before, which had estimated there were 1,814 pink dolphins and 3,371 tucuxis. The second expedition showed an alarmingly depleted river, with a reduction of 13% in pink dolphins and 53% among the tucuxis.

If all this were not enough cause for concern, an extra threat is drawing closer, lifting itself off a draughtsman’s page towards concrete reality. So, in partnership with Reckitt and the Mamirauá Institute, we embarked on a third data-gathering journey up the Tapajós this spring.

TAMING THE RIVER WILD

The Tapajós Hydroelectric Complex has looked hungrily at the fast-flowing power of the Tapajós and sees a way to harness it for profit. It envisages the construction of seven dams along the course of the river and one of its tributaries to produce green, clean energy. The evidence from two other dammed – and thus damned – rivers shows that such energy production is neither green nor clean.

Fish and dolphins swim. Rivers flow. The dam-maker fails to respect basic biology and the natural movement of water. When a



A WAY OF LIFE

Indigenous peoples and local communities on the Amazonian rivers have caught fish using these nets for generations. So-called gill nets hang in the water and ensnare the fish. How do the fishermen know where to put the nets? Often they find out from river dolphins, which alert them to the presence of a shoal. Conflict comes when dolphins damage the nets while taking fish, though scientists have now developed ‘pinger’ alerts that can warn dolphins away from the nets.



ON THE SPOT

A high vantage point enables researchers to mount a 12-hour watch with a good view over the wide river for any tell-tale ripples on the otherwise smooth surface. It requires an extraordinary degree of concentration, so they take turns; scanning for dolphins, manning the GPS to chart exact locations, scribbling field notes, another round of scanning, then rest. Three more researchers stand at the rear of the ‘bridge’ looking back to check for dolphins that might have been missed.

FISHER FAMILY

Fisherman Leonardo Melo, aged 62, is an Indigenous member of the Kumaruara people. He recalls his first memories of river dolphins. “When I was a child, I used to fish with my father. We would leave our gill nets overnight and [dolphins] didn’t mess with them.” But Leonardo says that for some time dolphins have been breaking through the nets. He says that fishermen are unhappy at dolphins taking the fish they’ve caught, but he himself has never harmed the animals.



“WHEN A BARRIER GOES UP,
FISH CAN NO LONGER MOVE
ALONG A RIVER SEASONALLY”

barrier goes up, fish can no longer move along a river seasonally between their feeding and spawning grounds, and so species dwindle and die out.

The risk of starvation is not the only one the dolphins then face. Only recently we’ve come to understand just how much they roam through the entire length of a river, following the fish and meeting other dolphins to breed. Breaking up a river into effectively discrete sections – as has happened on other Amazon waterways – prevents dolphins mingling and playing the genetic lottery. Isolated populations of dolphins have – quite literally – a smaller genetic pool to choose from, and so their health suffers as a result. Meanwhile, the ebb, flow and flood of a river has changed drastically. No longer does the land alongside become inundated and enriched with silty goodness, so the Indigenous peoples and local communities suffer too.

INDICATOR SPECIES

The research team sailed 280km in a sizeable boat from the confluence with the Amazon, then swapped to using a smaller vessel for 280km more through the narrowed channel. And now the number-crunching begins – the survey results are crucial in determining not

just population trends for the river’s dolphins, but also in assessing through these beacons of health the state of the river itself. Will anyone listen though?

Mariana is clear about the path the Brazilian government must take to avert a crisis for the Tapajós. “They are still looking at 20th-century infrastructure solutions to a 21st-century problem,” she says. “They must take into consideration the full impact of these dams on communities, wildlife and the climate, and turn instead to renewable energy that is LowCx3: low carbon, low cost and low conflict with communities and rivers. We know there are cheaper, more benign energy alternatives to dams, such as solar and wind power. Our survey will add weight to the argument for using them, instead of dams, to protect both dolphins and people.”

SEE MORE!

See more photos from the expedition at myaction.wwf.org.uk/gallery-dolphin-count

My Action



◀ A RIVER THREATENED

A drone captures the survey boat on what looks like a pristine stretch of river fringed with rainforest. This is the larger of the two boats. It navigates the widest stretch of the river, which can measure up to 30km from bank to bank. Increasingly, the forest edging the river is being stripped away for cattle ranching and also for gold mines. No drone can reveal the mercury and other heavy metals that run off and contaminate the water from these mines.

▶ CULTURAL CONNECTION

For the Indigenous peoples of the Amazon basin, the river dolphins are long rooted in mythology. Raquel Tupinambá is general coordinator of the Tupinambá people. “Our relationship with the river dolphin is strong and there is great respect because we believe it is an enchanted being,” she says. “The river dolphin is a figure that represents the respect we have for the river and for the enchanted ones who live there.”



RIVER DOLPHINS

© ADRIANO GAMBARINI / WWF-BRAZIL | © NAY JINKINS / WWF-BRAZIL | © FERNANDO TRUJILLO / OMACHA FOUNDATION



◀ POCKET PREDATOR

The tiny *tucuxi* (pronounced *tu-coo-ji*) really is tiny – at just 1.5 metres from beak to tail, it’s no longer than a small adult human is tall. Wherever you see a single individual, there are bound to be others close by. These dolphins usually associate in tight pods of 10 to 12 animals, chattering to each other with ultrasonic whistles that are beyond our hearing. The name ‘tucuxi’ was coined in the ancient Tupi language and has stuck through centuries.

▶ ROADS TO RUIN

A hideous yellow scar shows a road that’s being cut through the forest to connect the river with a new cattle ranch – in this case probably a little way inland. Before long, a grain silo will appear on the bank and huge barges will fill it to provide supplementary feed. Deforestation causes significant erosion of soil. As it runs off into the river, water quality is affected, fish numbers decline and the wildlife that depend on the fish also suffer.



TALES FROM THE DALES

In the heart of the Yorkshire Dales, a beacon of nature recovery is emerging. Around Ingleborough mountain, a partnership of charities, conservation groups and local communities are working together to restore this iconic landscape

© GETTY



Artist and film-maker **Matthew Somerville** led the *Our Ingleborough* community programme, part of the Wild Ingleborough project supported by you

What is Our Ingleborough?

Our Ingleborough is a short film, podcast series and touring art exhibition that explores the past, present and future of land use around Ingleborough mountain in the Yorkshire Dales. This area is the focus of the Wild Ingleborough restoration project, a partnership looking for natural solutions to the climate and nature crises. *Our Ingleborough* documents the views of the local community when thinking about how the land can support wildlife, people and livelihoods.

What inspired you to get involved?

Land use is a big issue. With vanishing ecosystems, pressure on food production and increasing tourism, the way we manage the environment is more important than ever. I've been a documentary film-maker for 10 years and this was a chance to work with the local community and give people who aren't artists a creative voice in discussions about their future. I realised that, even if people disagree, the most important thing is that we start to work together to secure a healthy relationship with the natural world.

What was your vision for the project?

My intention was to give people a voice, highlight the demands placed on our landscapes, and explore the different needs that exist. What was important for me was that it was rooted in the area, created by people who live there, and that it was shown in local spaces, including a pub, community centre and heritage music hall.

How did you select the people who feature in the documentary film?

Over six months, I spoke with local residents, artists, visitors and schoolchildren, as well as community groups who are under-represented in the countryside, to collect their memories of the past, connections to the land and visions for the future. I aimed to bridge the generational gap and bring together as many different voices as possible.

What about the oral histories series that's in the Voices from the Dales podcast?

The podcasts tell many different stories. We hosted conversations between schoolchildren and their grandparents, and we gave them talking points to discuss. It was clear that for older farmers it's all about preserving their cultural heritage. When you really listen to everyone, you realise they all just want the area to be healthy and well balanced.

What was learned from the school project?

We organised creative workshops with two primary schools, commissioning five students to produce artwork about the future of Ingleborough. Their work reflected a kind of eco-anxiety – issues like plastic pollution, urbanisation and destruction of the natural landscape were a concern for them.

Who are the film and podcasts aimed at?

I hope they'll help the people who live around Ingleborough to understand each other's perspectives. They provide a space for different views to sit together and be listened to. That's where arts and collaborative film-making have a real power – they give people a voice and provide a space for conversations to happen. It's healthy for people to feel like they're part of the same thing.

What are your hopes for the future?

Through this project, I've learned about land use and just how complex agricultural issues and nature recovery projects are. It's been a privilege to spend time with people and learn from them. I hope people can continue to make a living off the land, while also supporting biodiversity and restoring nature. We need to learn how to talk about these issues with humility and be happy to learn by listening to each other and finding ways to work together.

EXPERIENCE OUR INGLEBOROUGH

Watch Matthew's film and see the artwork at www.org.uk/ingleborough-communities

TIGER FRIENDS

Tiger habitats around the world are continuing to shrink, forcing people and tigers closer together. We're working with communities that live alongside the big cats, and with your support, one man has been blazing an inspiring trail

First light slants across a rural road in northern India, illuminating a group of villagers at the verge. They squat down, peering at a single large paw print in the dust. There's no mistaking that signature imprint. They look around nervously.

"Tiger," confirms Atul Singh, getting to his feet. His gaze follows the direction of the tracks, over sugar cane fields to the trees beyond. A passing group of schoolchildren stop to stare. Atul calls them over and they gather around, excited by what he has to tell them.

Atul is leader of the *Bagh Mitra*, or 'tiger friends' – a team of expert tiger trackers that he founded and trained, with our support, to help local communities coexist peacefully with the tigers that share the neighbourhood with them. The neighbourhood in question is Pilibhit Tiger Reserve, which protects roughly 800 sq km of

forest, grassland and seasonal swamp in the northern state of Uttar Pradesh.

Pilibhit is a success story. Over the past decade its tiger population has doubled to at least 65 individuals, winning it the medal for tiger conservation in our TX2 Awards, which are part of the goal to double wild tiger numbers. However, the reserve doesn't exist in a vacuum. This is a populous region: thousands of people make a living around its borders and a main road runs through the centre. The tigers living inside the reserve often wander out of it – cane plantations are good places to hide cubs or hunt wild boar – and this causes problems.

Atul knows tigers better than most. Many years ago, when the cats were more abundant, his grandfather was a hunter tasked with shooting tigers that were seen as a threat. As Atul explored the forests

▲ ABOVE: Atul Singh (centre) and the *Bagh Mitra* (tiger friends) share information on how to stay safe if a tiger is nearby

▼ BELOW: If a tiger is seen, the *Bagh Mitra* are called to monitor its movements until the Forest Department arrives

The *Bagh Mitra* respond to a call from a farmer who's found a tiger paw print (known as a pug mark) on his land



with his grandfather, he learned all about the tiger: its behaviour, its tracks and signs. "Growing up, I thought the tiger was wonderful," he explains. "The more I learned, the more curious I became."

Things have changed since Atul's childhood. During the late 20th century, persecution and habitat loss sent the world's tiger population into steep decline. Today, conservation has helped stem the tide and tiger numbers in India are slowly rising, but meanwhile the human population has increased exponentially.

The vast forests in which tigers once flourished have been reduced to small, disconnected islands in a sea of cultivation and development. Worldwide, some 46.7 million people now live in tiger landscapes. An estimated 25,000km of new roads will be built through tiger habitats by 2050.

Tigers need room to roam. But they can no longer wander far without running into farmland and settlements. Unsurprisingly, they sometimes prey on cattle and other livestock, especially where their natural prey has been depleted. And, though they generally do their best to avoid people, chance encounters inevitably occur, sometimes with fatal consequences – for both people and tigers.

Atul understands the challenges of living alongside a large wild predator. "People have

suffered many losses," he explains. He founded *Bagh Mitra* to help people meet these challenges. Today his skilled team provide a first-response service. Following any report of a tiger, they quickly locate the animal and monitor its movements, deducing from tracks and reports its age, sex and likely behaviour, while alerting local people so they can take appropriate precautions. At the same time, their ongoing outreach campaign visits schools and community centres to educate people about tigers and teach practical measures for living alongside them.

Our latest report highlights that local communities are essential conservation partners. Discussions held this year on the next 12-year Global Tiger Recovery Programme urged all tiger

range countries to prioritise coexistence with people in their tiger conservation plans. These should include increased community-based decision-making and more investment in tiger conservation outside protected areas.

Back in Pilibhit, the *Bagh Mitra* are going from strength to strength. Atul's initial band of 12 has now expanded to 200 trained volunteers embedded in communities around the park. "We're all constantly working with communities to help them live peacefully with tigers," he says. "Thanks to this, conflict is on the verge of ending here completely."

"THE BAGH MITRA PROVIDE A FIRST-RESPONSE SERVICE"

▲ INSET TOP: WWF trains the *Bagh Mitra* in how to identify tiger pug marks and estimate the age, weight and gender of the tiger, as well as the direction it's travelling

▲ INSET ABOVE: Atul's brother points out their grandfather in an old newspaper. He was the area's first private hunter, paid to shoot tigers that harmed or killed people



SEE MORE

Visit the **My Action** website to go on patrol and behind the scenes with the *Bagh Mitra*. Our photo story shows them at work, helping people and tigers coexist in India. Take a look at **myaction.wwf.org.uk/photo-story-tiger-friends**





MEET THE WORLD'S CUDDLIEST WILDLIFE!

Win a gift from our Cub Club range

To celebrate our Cub Club range, we're giving you the chance to win one of four toys to share as a gift for a newborn, toddler or expectant parent. Our eco-friendly cuddly toys are designed with children under two in mind, and make the perfect gift for a baby or young child. It's a fantastic way to inspire a lifetime of love for wildlife. Simply choose from a range of super-soft toys – Panu the Panda, Stevie the Shark or Ebu the Elephant (Ebu is available in grey or pink) – and we'll deliver it in a beautiful, environmentally friendly box that's packed with additional colourful surprises. They're available online while stocks last, for the Christmas special price of £15 each – a £10 saving.

For your chance to win a gift, follow the instructions in the box below and mark your entry 'Cub Club'. Or you can send a Cub Club toy to a little one you love – and help protect wildlife – by visiting www.org.uk/cub-club.

DON'T MISS OUR CHRISTMAS TREATS

For more sustainable and inspiring gift ideas for Christmas, see our full range at www.org.uk/shop



FOLLOW THE FOOTSTEPS OF UK WILDLIFE

This beautifully illustrated match and memory game brings to life 25 animals and their tracks. You can play it at home or take it on an adventure to find tracks in the wild near you.

£14.99



CHRISTMAS GIVEAWAY!

One lucky winner will receive a limited edition *The Tiger Who Came To Tea* tote bag and water bottle.

This exclusive collection, featuring Judith Kerr's beloved *The Tiger Who Came to Tea*, has been created to support WWF's work to boost wild tiger numbers. It includes a tote bag (£24.99), water bottle (£34.99) and notebook (£17.95).

GET THEM BEFORE THEY'RE GONE!

PLAY EVERY DAY

Enjoy the countdown to Christmas with this woodland-themed advent calendar. Each window reveals an allergen-free chocolate, fun facts card and a puzzle toy that can be enjoyed with the included winter scene play mat.

£49.95



HOW TO ENTER

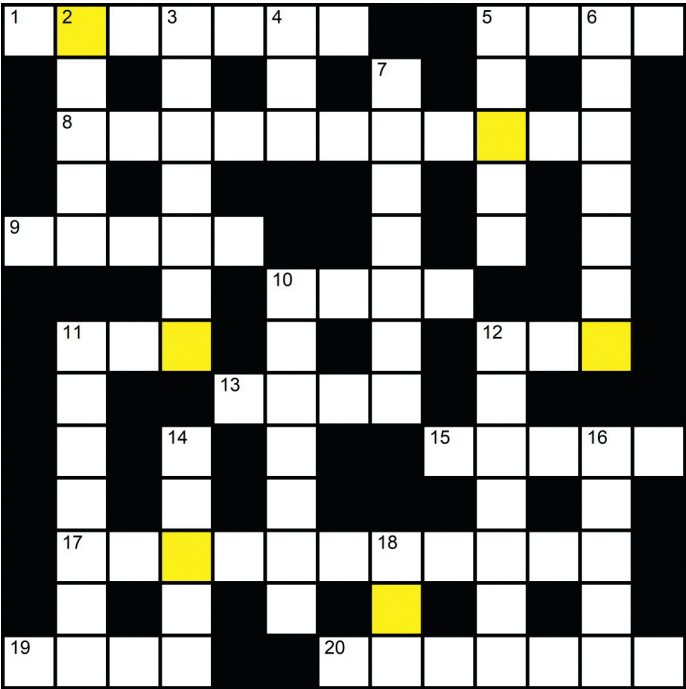
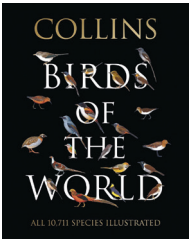
Send an email with your name, address and phone number, along with *Tiger Bundle* or *Cub Club* competition in the subject line, to competition@wwf.org.uk

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

Only one competition per entry. Closing date: Friday 11 November 2022. For terms and conditions, visit www.org.uk/compterm

CROSSWORD

Solve our crossword and you could win a copy of the beautiful *Birds of the World* (Harper Collins, RRP £75)



WWF ACTION CROSSWORD 52: Autumn 2022 issue. Compiled by Aleric Linden

After solving the crossword, take each letter from the shaded squares (going from left to right and top to bottom) to spell out the prize word. To be in with a chance to win, just send a postcard with the prize word to the address on page 30, or email it to competition@wwf.org.uk. The closing date is Friday 11 November 2022.

Clues across

- 1 Major European mountain range (3,4)
- 5 Fossil _ , coal, for example (4)
- 8 Regenerative _ . Soil health is one of its key focuses (11)
- 9 _ waves, the seismic after-effects of earthquakes (5)
- 10 Wood-based type of biomass fuel (4)
- 11 _ whale, huge species, second only to the blue whale (3)
- 12 African wild _ , endangered canine (3)
- 13 Tigers are native to this continent (4)
- 15 Mountain feature, often steep, possibly slippery? (5)
- 17 Forest _ Council, organisation promoting responsible forestry (11)
- 19 Britain's Wight or Man (4)
- 20 _ fishing, unscrupulous and destructive practice using poison (7)
- 5 Animal life – flora's counterpart (5)
- 6 The time of day when Earth Hour takes place (7)
- 7 US state, home to the Everglades (7)
- 10 Extinct tiger whose range spanned from Turkey to China (7)
- 11 Galloway, Kielder and Thetford are well-known ones in the UK (7)
- 12 River _ , aquatic mammal of Asia and South America (7)
- 14 Hooded _ , critically endangered bird of Argentina (5)
- 16 _ water, an on-tap part of public service infrastructure (5)
- 18 Marked by little rainfall (3)

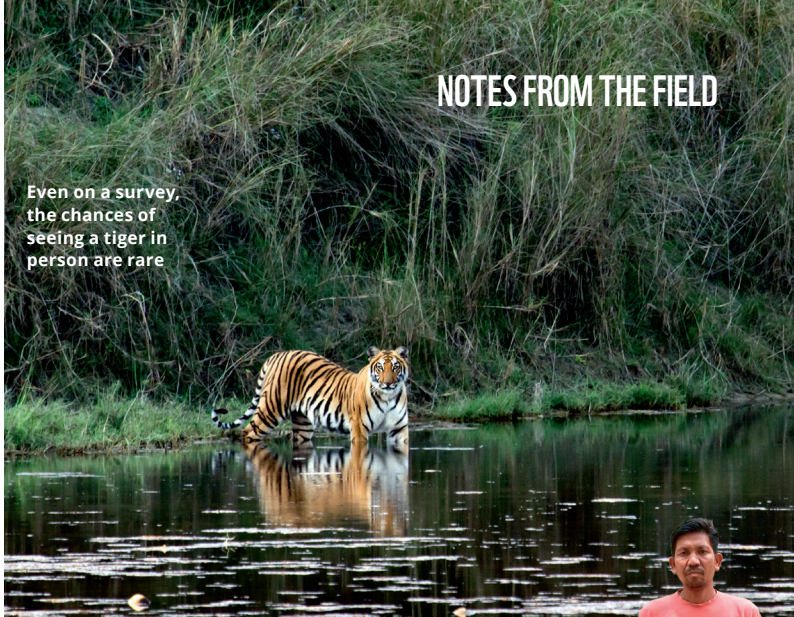
Clues down

- 2 Hampstead _ , London park (5)
- 3 _ elephant, largest living land animal on the planet (7)
- 4 A widely used, chlorine-based plastic (3)

Summer 2022 answers

Prize word: COASTAL
Across 5. Bulls 7. Iberian 8. Recycle 9. Germs 12. Euro 13. Plastic 15. Finance 16. CFCs 18. Globe 21. Malaria 22. Natural 23. Nosed
Down 1. Black rhino 2. Nile 3. Tree 4. Palm 5. Borneo 6. SACs 10. Rainforest 11. Wave 13. Pine 14. Island 17. Glen 19. Lead 20. Blue 21. Melt

Even on a survey, the chances of seeing a tiger in person are rare



EXHILARATING ENCOUNTERS

It's day 35 of Nepal's national tiger survey. I'm part of a team working to estimate the population of these big cats across the entire Terai Arc landscape – a belt of rich forest in the shadow of the Himalayas. The survey is focusing on five major protected areas and will take four months.

My team are starting in the east, in core tiger habitat in Parsa National Park. We set up camera traps then return to our camp in the forest near the river.

But one night, we're rudely awakened. A male elephant has been spotted approaching our tents. Encountering wild elephants and rhinos is thrilling but very dangerous because of their unpredictable behaviour. We make alarm calls and wave flaming poles at the elephant, but it isn't deterred.

After a couple of hours of mutual intimidation, we finally manage to chase it away. Had things turned out differently, I might not be around to tell this story.

FACE TO FACE

We don't sleep too well after that. For the next few nights, we light a fire and take turns to keep guard. But I find myself awake in the early hours of the morning. To ease my restless mind, I head down to the river to gaze at the stars.

Suddenly, just 200 metres away, I see a majestic tiger heading towards the river. The day before, I'd seen herds of spotted and sambar deer in the lush grasslands on the opposite bank – perhaps it's looking for breakfast.

Excited at actually seeing a live tiger, I rush into camp to call my friends – but by the time we return, the tiger has disappeared into the mist. In that magical moment, I understand how awesome this iconic animal is and why we're working to monitor and protect it.

I'm proud to have played my part in the national tiger survey and in Nepal's efforts to double its tiger population. In 2009, around the time I started work as a community conservation volunteer, Nepal had an estimated 121 tigers. This year, Nepal announced that this number had risen to an estimated 355. It's an honour to have been part of this mission to create a better future for tigers.

Ashray Rana

Citizen scientist, Kanchanpur Community Forest Conservation Committee

A LOVED ONE REMEMBERED

A WORLD PROTECTED

Donating or fundraising in memory of someone you loved is a special and meaningful way to remember them. From creating a tribute fund, collecting donations at their funeral or memorial, or taking part in an event in their name, you can honour their life, while helping to protect the world they loved.



To find out more, please contact Ella or Grace by phoning 01483 412153, emailing inmemoryteam@wwf.org.uk or visiting [wwf.org.uk/giveinmemory](https://www.wwf.org.uk/giveinmemory)

GIVE IN THEIR MEMORY. RESTORE OUR NATURAL WORLD.



For a future where people and nature thrive | [wwf.org.uk](https://www.wwf.org.uk)

© 1986 panda symbol and ® "WWF" Registered Trademark of WWF. WWF-UK registered charity (1081247) and in Scotland (SC039593). A company limited by guarantee (4016725)

FSC logo to
go here