



Action

THE MAGAZINE FOR WWF MEMBERS

SPRING 2021

WIN
A TATTY DEVINE
TURTLE BROOCH

PAGE 30



WORLD ON FIRE

From Australia to the Amazon, you're helping tackle the causes and effects of raging wildfires



FISH FOR THE FUTURE

A helpful guide to the sustainable seafood choices that are great for you – and for ocean health

ICONS OF THE AMAZON

How new technology is helping us to protect rare river dolphins – thanks to your support



“THE WELLBEING OF HUMANITY DEPENDS UPON SUSTAINING FRESHWATER ECOSYSTEMS”

From giant otters in the Amazon to dippers in a Welsh stream, freshwater habitats are home to some of the richest biodiversity on Earth. But they're under pressure, so we're working with partners to protect and manage them more carefully



RIVERS OF LIFE

River systems are among the most wildlife-rich and productive ecosystems on the planet. The fish they contain are the main source of protein for hundreds of millions of people, and their floodplains and deltas are some of our most fertile agricultural land.

To provide these life-giving benefits, rivers need to stay in a healthy state, connected and free flowing. But almost 90% of global wetlands have been lost since 1700, and only a third of the world's 246 longest rivers still flow uninterrupted. The increasing construction of dams has a profound impact on wildlife, damaging natural habitats, reducing water quality and obstructing fish migration.

Almost one in three freshwater species are threatened with extinction. Our *Living Planet Report 2020* found that 3,741 freshwater populations declined by an average of 84% between 1970 and 2016. Species such as river dolphins are highly vulnerable (see p10).

We're working with partners to recommend actions that will help reverse these dramatic declines and safeguard our rivers, and we're urging governments to adopt our solutions to preserve our most precious resource. Find out how you can help protect the Amazon river and its inhabitants on page 15.

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MEET THIS ISSUE'S GUEST CONTRIBUTORS



MARCELO OLIVEIRA is a senior programme officer at WWF-Brazil and led the river dolphin tagging in the Brazilian Amazon. "Understanding this iconic species will transform our ability to protect it," he says.



PREM GILL is a PhD researcher with WWF, British Antarctic Survey and the University of Cambridge, and leads the 'Seals from Space' project. "Thermal cameras reveal warm 'bum patches' left by Antarctic seals," he says.



DR BOB BAXTER is associate professor in plant ecology at the University of Durham, and an expert on changing climates. "We have yet to understand the interaction between climate warming and Arctic wildfires."

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TOGETHER, WE DID IT!

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

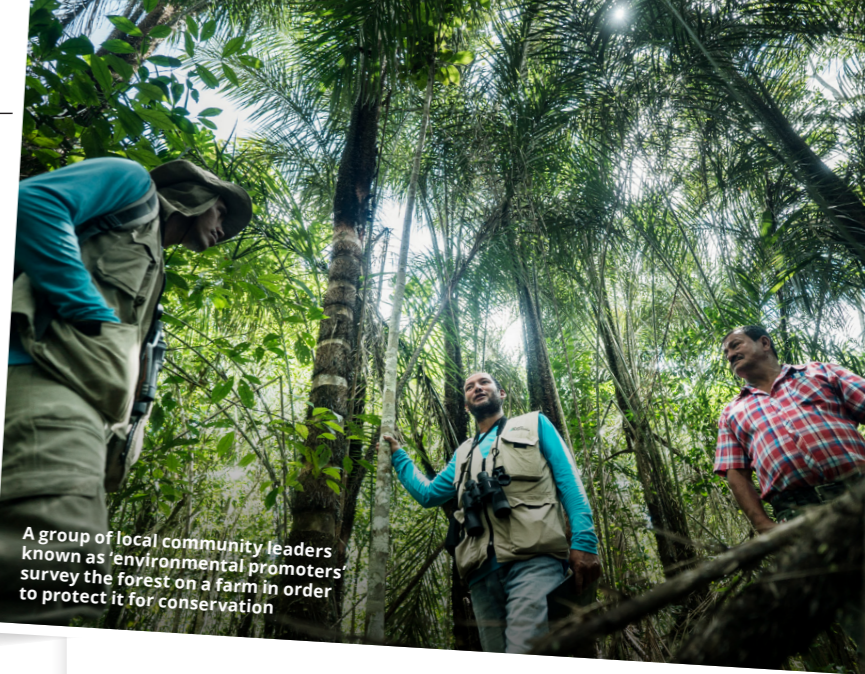
1 KENYA

YOU'RE HELPING BUILD RHINO NUMBERS

With your support, we're strengthening black rhino populations in Kenya by developing a new genetic database. In 2020, black rhino numbers in Kenya reached 784. But as these rhinos are dispersed over the country, we have to move some to improve the viability of existing populations or to establish new ones (with such small groups, there's a danger of inbreeding). So, with funding from rhino adopters and other WWF supporters, we're working with Jomo Kenyatta University and Kenya Wildlife Service to build a database to record the genetic makeup of individual rhinos. This will enable us to learn how moving an animal would affect the genetic diversity of each population, giving them the best chance to thrive, and helping us increase black rhino numbers.



"EVERY DAY, THERE ARE FEWER PLACES LEFT THAT WILDLIFE CAN CALL HOME. BUT WE HAVE THE POWER TO CHANGE THINGS FOR THE BETTER"
 TANYA STEELE, WWF-UK CHIEF EXECUTIVE



A group of local community leaders known as 'environmental promoters' survey the forest on a farm in order to protect it for conservation

6 COLOMBIA

YOU SUPPORTED COMMUNITY CONSERVATION

Thanks to you, crucial conservation work is continuing in the Colombian Amazon, despite the challenges of coronavirus. We've helped equip local communities around Chiribiquete National Park with smartphones, so they can monitor fires and other threats to the forest. They'll also capture footage of the area's amazing wildlife, as well as their work to help protect and restore the forest. It's hard to send staff and photographers out into these remote areas at the best of times, and Covid travel restrictions have made it impossible. But, with some remote training, the community teams we work with have been using smartphones to tell their own stories about tackling deforestation and to highlight the vital role that local communities play in conserving the Amazon. The work in Colombia is part of our Trillion Trees initiative, which you're helping to support: protecting and restoring key areas around Chiribiquete will contribute to our goal of protecting and restoring one trillion trees by 2050.

30% Last year, fires consumed almost a third of South America's Pantanal wetlands. Countless endemic animals and plants were killed as blazes raged across 44,900 sq km

2 INDIA

YOU HELPED RAISE STANDARDS FOR TIGER CONSERVATION

You're helping to improve the protection and management of tiger habitats, as we continue to promote high standards for tiger conservation. India has become the first country to adopt the Conservation Assured | Tiger Standards (CA|TS) nationwide. CA|TS, which we helped to develop, provides a set of best practices for tiger conservation designed by tiger experts and protected-area managers. It covers everything from staffing and financing levels for protected areas to community relationships and managing habitats and prey species. By working towards these standards across all 50 tiger reserves in the country, which cover an area almost the size of Scotland, India will continue to contribute to the global goal of doubling the number of tigers in the wild. A survey in India in 2018 estimated there to be 2,967 wild tigers, and numbers appear to be increasing. By supporting WWF, you've been part of that success story – thank you!



3 BORNEO

YOU'RE HELPING MONITOR ORANGUTANS

Thanks to you, we've demonstrated how restoring degraded forests in Borneo can benefit orangutans. Borneo's orangutan population has more than halved in the past 20 years due to habitat loss and illegal hunting. But over the past 12 years, we've helped to replant a forest reserve called Bukit Piton. The area had been heavily logged since the 1980s and gutted by fire, but around 170 to 300 orangutans were still holding out there. We've planted nearly 350,000 native trees, including many of the fruit trees that the great apes feed on. Today, Bukit Piton is thriving as a protected forest, providing a viable habitat for the orangutans that live there and connecting them with other populations in the landscape. Our team in Borneo is seeing orangutans more often, and more infants too, suggesting their numbers are increasing.



4 ANTARCTICA

YOU HELPED COUNT WHALES FROM SPACE

Research you helped fund shows that satellite images could be an effective way to estimate whale populations, enabling us to better protect them. Monitoring whale populations, movements and behaviour is vital, but in remote regions such as Antarctica it's challenging and expensive. A team led by British Antarctic Survey compared estimates of whale densities from satellite images to results from ship-based surveys over a 1,000 sq km area in the Southern Ocean. Though the ship surveys detected about three times more whales, the satellite images are still able to provide useful data – for example, to measure changing whale numbers – suggesting they could help us study whales in inaccessible places.



5 BRAZIL

YOU HELPED WETLANDS RECOVER FROM FIRE

You supported the emergency response to the cataclysmic fires that raged in Brazil's Pantanal – the world's largest wetland – last year. Fires don't normally occur in wetlands, but climate change and deforestation have meant that they're becoming more common and severe. During the dry season last year, fires consumed almost a third of the Pantanal and killed countless animals. Your support helped us rescue and treat injured wildlife, and monitor the impacts of the fires on endangered hyacinth macaws. We also helped indigenous communities to access food, medicine and livelihood support. We're providing training and equipment for firefighters and community fire brigades, and running awareness-raising campaigns within Brazil, to try to prevent fires being started deliberately to clear land.



WWF IN ACTION

How we're building a better world for wildlife and people

More than 40,000 species live in the ocean, but less than 1% of the UK's seas are adequately protected by law. It's vital we take action – not just for ourselves, but for all their rich wildlife, such as these gannets

HELP US FIGHT FOR OCEAN RECOVERY

The ocean is vital to our survival and for tackling climate change – but it's in poor health. We can all play a part in bringing our ocean back to life

As an island nation, the UK's seas are part of our identity and our culture. Their natural beauty and amazing wildlife are a source of wonder, inspiration, recreation and wellbeing for millions. They also have huge economic value: the UK government estimates that maritime activities including tourism, shipping, fisheries and renewable energy contribute £47 billion to the British economy every year. More importantly, seas not only produce oxygen but also capture the majority of heat energy and a significant amount of the carbon dioxide emitted by human activity, making them vital in the fight against climate change.

But our seas are in trouble. Fishing, pollution and climate change are putting increasing pressure on marine ecosystems, jeopardising their future. Coastal habitats such as seagrass meadows, saltmarshes and kelp forests store carbon, buffer us against floods, and provide nursery grounds for commercially important fish. But their continued loss and degradation undermines their ability to provide these vital services.

In 2019, our seas failed to meet government standards on good environmental health against 11 out of 15 indicators, including those relating to birds, fish and seabed habitats. Current laws aren't enough to restore them, and less than 1% of UK seas are properly protected.

Together with Sky Ocean Rescue, we're campaigning for a new ocean recovery

strategy with a 10-year vision and action plan for UK seas. This includes delivering food security and well-managed marine protected areas, increasing natural resilience and reducing climate risks, and restoring coastal ecosystems.

Bringing our ocean back to life is not only crucial for biodiversity and the climate, it's also a sound economic investment. A recent study we commissioned estimated that taking action now to put UK seas on a path to recovery will bring benefits worth at least £50 billion by 2050, against an estimated cost of £38 billion. It also has the potential to create over 100,000 jobs, mostly in renewable energy, as we seek to rebuild our economy after the pandemic.

Here are some ways you can get involved and become an Ocean Hero.

BECOME AN OCEAN HERO

Here are four simple ways you can help us protect our seas



SIGN OUR PETITION

Add your voice and call on the UK government to put our ocean on a path to recovery by 2030: www.wwf.org.uk/ocean-petition



TAKE OUR QUIZ

Take our quiz and discover how your hidden superpower can help to protect the ocean: www.wwf.org.uk/ocean-quiz



EAT SUSTAINABLY

Overfishing can severely impact populations of fish and other marine life. Turn to page 24 to discover how you can help protect the ocean through your seafood choices.



READ OUR REPORT

The Value of Restored UK Seas explores the environmental and economic benefits of restoring UK seas: www.wwf.org.uk/uk-seas

NEWS IN BRIEF



© ANUP SHAH / NATUREPL.COM

MARVELS OF THE MARA RIVER

The Mara river is famous for the millions of wildebeest and zebras that cross its waters in the great migration. But life in the river itself is less well known. We recently compiled the first-ever study of freshwater biodiversity in the Mara, revealing a staggering 473 species: four mammals, four reptiles, 20 amphibians, at least 40 types of fish, at least 50 invertebrates, 214 birds and 141 vascular plants. Because many species are not yet identified, there are likely to be hundreds more. But at least 10 are threatened with extinction, underlining the need to protect this amazing place.

NEWS IN NUMBERS

24

In Rwanda, 24 mountain gorillas were welcomed to the world at the annual Kwita Izina naming ceremony. Last year's event took place virtually because of Covid-19 precautions. In previous years international celebrities have helped name the infants, but last year the majority of names were chosen by the trackers, rangers and guides who help to protect mountain gorillas every day.

500

In October, 500 passionate and influential young people from around the world took part in our two-day virtual Changemakers Convention. Hosted by Youth for Our Planet, a global youth movement calling for ambitious and urgent action for nature, the event included workshops, panel discussions and online networking events.

NEWS IN BRIEF



© PAULA RHOMA / WWF

TRADING IN TIGERS

You wouldn't think the UK had much to do with the trade in tigers. Yet new research from WWF and TRAFFIC has revealed how freely tigers are traded internationally, and how live tigers from private captive sources, as well as their skins, bones and body parts, can enter illegal trade. The sale of captive tigers to countries where tiger farms feed the illegal trade makes it harder to stop trafficking, which threatens wild tigers. We're calling on the UK government to ban the commercial trade in captive tigers and take action to shut down the market in live tigers and body parts.



© GETTY

LEADERS' PLEDGE FOR NATURE

World leaders committed to reverse the loss of nature by the end of the decade during the UN General Assembly in September. We jointly organised an event where heads of state or government from more than 70 countries endorsed a Pledge for Nature, promising action to reverse nature loss and promote a green and just recovery from the coronavirus pandemic. Among the pledges made by governments at the event, the UK committed to protect 30% of our land by 2030, and to set aside an extra 4,000 sq km of English countryside to support the recovery of nature.

FOLLOW WALRUS WATCH!

As walrus come under increasing pressure from climate change, we're supporting an Arctic-wide satellite survey – and we'll need your help

As sea ice declines in the Arctic, walrus are forced to 'haul out' on shore in vast numbers to rest. This can lead to stampedes and trampling, particularly when hungry polar bears come along.

It's estimated there are between 12,500 and 20,000 Atlantic walrus and up to 100,000 Pacific walrus in the Arctic – the two subspecies are classified as 'near threatened' and 'data deficient' respectively on the IUCN Red List of Threatened Species. We have little idea of how populations are changing over time, and how they're responding to the rapid changes as the Arctic heats up. So, to secure a future for these blubbery giants, we're supporting an Arctic-wide census of the walrus population – from space!

Because walrus congregate in remote, inhospitable places, traditional wildlife survey methods are expensive and inefficient. And walrus are easily disturbed by ground crews or low-flying aircraft, which in large haul-outs could prove fatal.

The 'Walrus From Space' project aims to overcome these problems by surveying walrus using very high-resolution satellite images. Over at least the next five years, together with our science partners, we'll analyse the satellite data to get a clearer idea of population trends and to see how walrus respond to changes in sea ice and other environmental conditions. This will help us identify and protect critical habitat, including feeding grounds and haul-out sites, and promote the need for urgent and ambitious action to tackle climate change.

Satellite surveys are an increasingly important tool for monitoring wildlife such as penguins, whales and seals, particularly in the polar regions. Walrus are easy to spot because of their large size and because they gather in huge numbers on beaches and coastlines with little or no vegetation.

One challenge that remains is counting the tens of thousands of walrus in the satellite pictures. We're currently testing the counting platform so that, from 2022, we can invite you to be volunteer citizen scientists by taking part in the counting! To follow updates visit wwf.org.uk/walrus-from-space



If you watched the Netflix series *Our Planet*, you'll have seen the distressing footage of walrus on overcrowded beaches

© ANATOLY KOCHNEV

Marine turtles are threatened globally. In Kenya, we've been working with partners and local communities to monitor and protect nests, clean beaches and ensure tiny turtle hatchlings can safely reach the sea



TURTLE TALES

Marine turtles in Kenya have a brighter future thanks to the support of players of People's Postcode Lottery

From 2015 to 2020, we worked with our partners to give 53,000 turtle hatchlings a great start to life on Kenya's beaches. With the help of 1,100 schoolchildren, we cleaned the beaches of litter so that the tiny turtles would have a clear path to the sea – something that's crucial for their survival.

We also helped set up volunteer community conservation groups to monitor the turtles' nests. Collectively, volunteers walked an amazing 13,000km of the Kenyan coastline – that's like walking from Kenya to London and back again!

Volunteers also helped attach satellite tags to turtles' shells to see where they go when they leave the Kenyan coast. And camera tags captured underwater footage to help identify and protect the most crucial turtle habitats.

Thanks to this long-term support, we've made progress in the fight for our world. Thank you to everyone who plays and supports our work through People's Postcode Lottery.

To celebrate our work with players of People's Postcode Lottery, we're giving away an exclusive Tatty Devine turtle brooch. Turn to page 30 for your chance to win.

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A LEGACY FOR RHINOS

Kathleen Cuthbert was a passionate and loyal WWF supporter for many years. When she sadly passed away last year, she left a gift to us in her will

Kathy spent 70 years of her life in Kenya, surrounded by incredible wildlife including critically endangered black rhinos. More than 15 years ago, she won a competition to name a newborn rhino: her chosen name was Raha, which means 'happiness' in Swahili. Kathy was so delighted, she kept a framed photograph of Raha on display until the day she died.

When Kathy's family shared this touching story with us, we wanted to share a little good news with them. We tracked down the team in Kenya looking after Raha and learned she was alive and well in Meru National Park and had had four calves – Ayan, Oyile, Chesang and an as-yet-unnamed calf born in 2019.

Kathy's family were delighted to hear the news, and told us how much joy it would have given Kathy. In her honour, they adopted their own rhino with WWF.

The gift in Kathy's will and the donations she



Kathy's love of rhinos will live on in her legacy to WWF

© DENIS-HUOT / NATUREPL.COM / WWF

requested were made to WWF in her memory will go towards our work protecting wildlife, including the black rhinos she loved, from poaching, habitat loss and disease. In this way, her legacy will live on, not only in Raha but in future generations.



To find out more about leaving a gift in your will, email Maria and Rebecca at stewardship@wwf.org.uk, call 01483 412153, or visit wwf.org.uk/giftsinwills

© JONATHAN CARANANUS / GREEN RENAISSANCE / WWF-UK

HEART OF THE RIVER



Icons of the Amazon’s waterways, river dolphins are also a vital barometer of the health of the region’s rivers, which are the lifeblood of the forest. As the threats to the dolphins’ survival grow, we’re developing new technology and partnerships to understand and protect these remarkable creatures

Botos, buefos and tucuxi river dolphins inhabit the Amazon’s vast river network. They travel long distances based on seasonal water-level changes and are threatened by fishing and dam construction. Marcelo Oliveira (inset) is a man on a mission to protect them and their river home

A steady eye looks down on a river deep in the Amazon rainforest. Staying 20 metres above the water, holding its course, it never blinks, sees everything, misses nothing. An hour later, it descends to join three people in a boat. Days, weeks or months later, a scientist in an office sees what the drone’s eye saw, gasping in delight as a pod of dolphins breaks the surface.

In another office in Brazil’s capital, Brasilia, WWF’s Marcelo Oliveira, coordinator of the South American River Dolphin Initiative (SARDI), is struggling

to be heard. The world’s attention is on the Amazon rainforest, but its focus is on the trees. Marcelo has spent much of the past five years afloat on the great arteries of the Amazon and the capillaries of its tributaries. And he knows what is happening beneath the surface.

When WWF published our *Living Planet Report 2020* in September, the statistics it revealed were truly shocking – it showed that 84% of global freshwater species populations have been lost since 1970. For the Amazon, we are approaching ‘situation critical’. This river, and others in the Amazon basin, are being polluted,

poisoned and plundered on a scale never seen before. As Marcelo says: “We keep talking about deforestation and not about degradation.” Marcelo speaks out, but how can he get people to listen?

KING OF THE RIVER

Dolphins enjoy an exalted position in South America. These most visible of river inhabitants feature strongly in the mythology of Amazonian tribes, and by declaring them ‘freshwater ambassadors’ Marcelo is hoping that some of the magic will rub off. Dolphins are at the top of the food chain: they are a simple barometer for ►



We don't know the exact number of Amazon river dolphins left, but it is likely to be in the tens of thousands

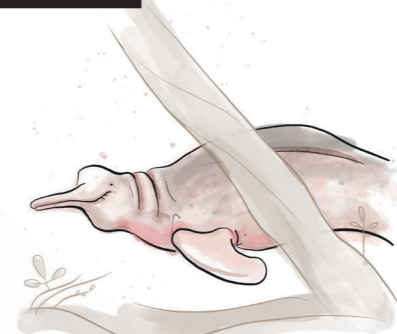


Artisanal and small-scale gold mining are key sources of livelihoods and income in the Peruvian Amazon. These operations extract gold using mercury, which is released into the water and air, irreversibly contaminating plants and animals throughout the region

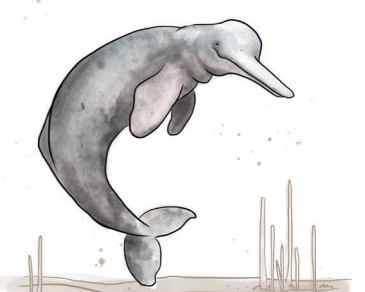
MEET THE DOLPHINS



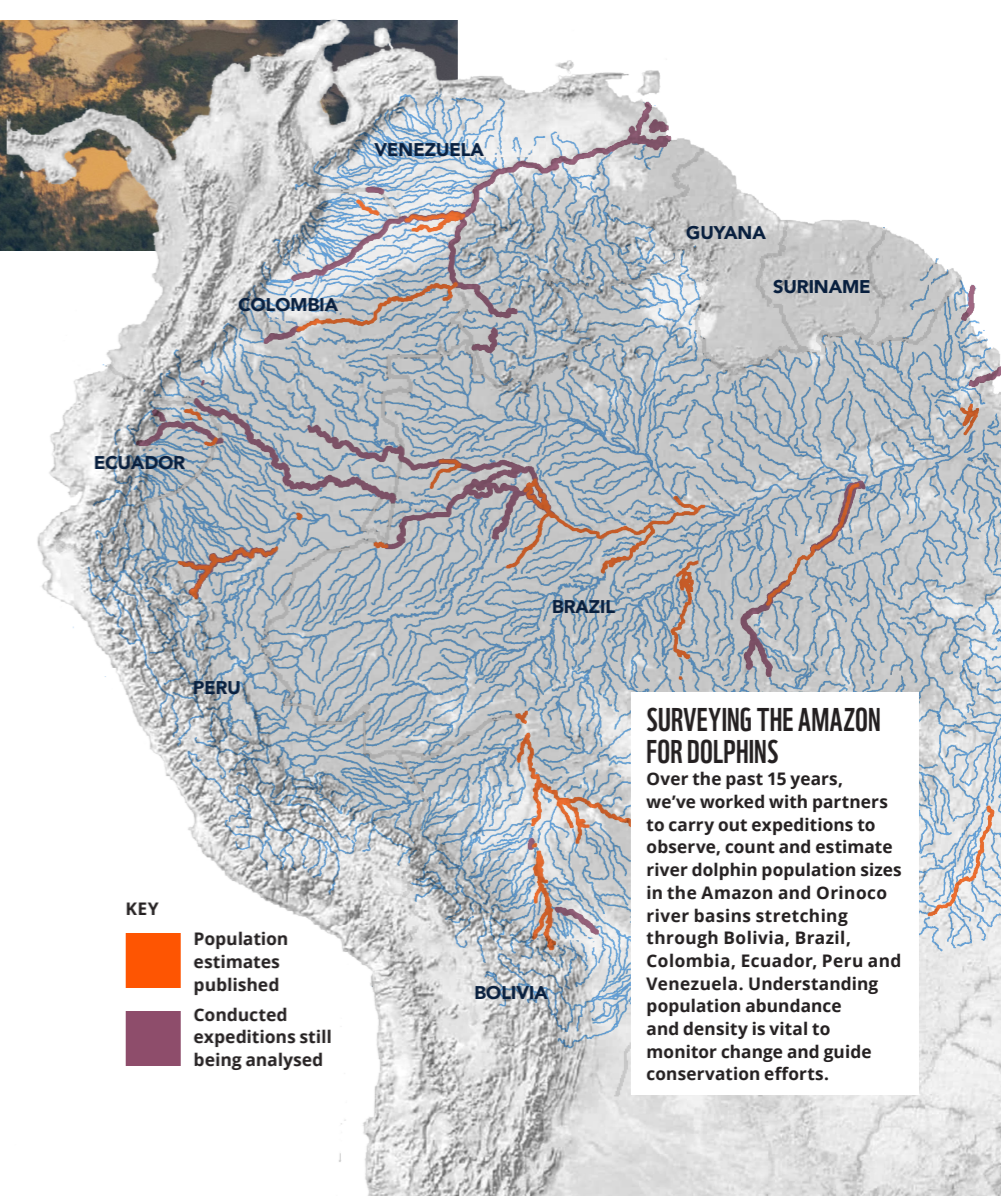
TUCUXI *Sotalia fluviatilis*
A diminutive torpedo, the tucuxi has the classic marine dolphin shape, though this bluish-grey animal is half the size of a bottlenose. Tucuxi are highly sociable, travelling in groups of 10-15, and playful too, sometimes leaping exuberantly out of the water. They live throughout the Amazon and Orinoco basins.



AMAZON RIVER DOLPHIN *Inia geoffrensis*
Long beaks, bulbous foreheads and a pinkish hue give the world's largest river dolphins an unusual appearance. Hunting by sonar in the dark, they're unique among dolphins in being able to twist their heads from side to side to navigate through the roots in flooded forests.



BOLIVIAN BUFEFO *Inia boliviensis*
Only location and a winning smile separate this dolphin from its Amazon cousin. The bufeo is found solely in rivers in Bolivia. The one noticeable difference between the species appears when they show their teeth – the bufeo has more. Just like its close relative, its body colours lighten with age.



KEY
■ Population estimates published
■ Conducted expeditions still being analysed

SURVEYING THE AMAZON FOR DOLPHINS
Over the past 15 years, we've worked with partners to carry out expeditions to observe, count and estimate river dolphin population sizes in the Amazon and Orinoco river basins stretching through Bolivia, Brazil, Colombia, Ecuador, Peru and Venezuela. Understanding population abundance and density is vital to monitor change and guide conservation efforts.

the health of a river. If dolphins are thriving then all is well beneath the surface.

Dolphins have always swum throughout the rivers of the Amazon basin. They divide broadly into two types: the tucuxi (or 'grey river dolphin') species is closest genetically and in appearance to typical dolphins of the ocean, while the narrow-beaked Amazon and Bolivian river dolphins (also known as 'pink river dolphins' or 'botos' and 'bufeos') have evolved special features, most notably a raised forehead packed with sonar capabilities, enabling them to locate prey in murky, turbid water. Even their dentition is adapted: sharp front teeth for impaling fish, and molar-like back teeth for grinding armoured catfish, crabs and turtle shells.

But evolution can't keep pace with human ingenuity. Our ability to exploit the rivers threatens the dolphins' very future. In November 2018, scientists at the IUCN acknowledged their parlous position by classifying the river dolphins as endangered. What has gone wrong?

Two major factors have precipitated a growing crisis. The first represents an

ignorance of (or disregard for) how a river works. Governments of the Amazon have welcomed foreign investment in huge infrastructure projects to build hydroelectric dams, with damaging consequences. "There is no consideration for the need for a natural

"DAMS CAN MAKE POPULATIONS OF RIVER DOLPHINS SIMPLY VANISH"

river flow, for the people who live there or for the fish that migrate up and down rivers to reproduce and are essential to sustain livelihoods," says Marcelo. "Dams can make populations of river dolphins simply vanish."

Satellite tagging of 35 river dolphins has sharpened our knowledge of dolphin behaviour and our understanding of just how badly dams affect these animals.

These dolphins range far more widely than we ever appreciated, seeking shallow waters for mating, and following fish on long migrations towards their spawning grounds. Once rivers are blocked, fish cannot breed (impacting the local people who rely on them for food and income) and dolphin populations become isolated.

Half of the planned dams have now been built, and if all 277 come to fruition there will be only three free-flowing river tributaries left in the Amazon basin. It promises nothing short of an environmental catastrophe.

THE TRUE COST OF GOLD

Another threat, insidious and frightening in its consequences, has come to the fore: gold mining in the heart of the Amazon. This had been a growing concern, and now with a global boom in the price of gold, illegal mines are increasing. They lay waste to the land, blasting down to bare rock to leave a legacy of moonscapes.

These mines use the cheapest and easiest material for extracting gold – mercury, one of the six most poisonous elements on the

planet. A WWF report found evidence of a largely nefarious trade in mercury filtering into the Amazon from Mexico. Mercury leaches into rivers, poisoning not just fish but also the dolphins and people that eat the fish. Every single dolphin we've tested so far has been found to be contaminated with mercury.

There are safer alternatives. Gold mines don't need to use mercury in their processes. But as long as the product sells, and no distinction is made between legal and 'poisoned' gold, the illegal trade will continue.

On the other side of the Atlantic, WWF's Karina Berg lives in a country that is a major driver in this despoiling of the Amazon basin. That country is Britain. "The UK is one of the biggest importers of Brazilian gold and currently we have no way of knowing its source," says Karina, regional manager for Latin America. "There should be safeguards and criteria in buying, or standards for production and importation. That's where we must support conservationists working on the ground in the Amazon."

Other factors, a list of woes, pile yet more pressure on. Dolphins are used as bait



ABOVE: A quadcopter drone whirrs along the river like a giant insect, transmitting a stream of images to researchers on a boat. This is the first time this technology has been used to estimate Amazon river dolphin populations

MAIN: A fisherman on the San Martín river, Bolivia. Here, the river dolphin is called a 'bufeo'. Endemic to the region, the species is geographically isolated from other *Inia* populations by rapids. Its ecology and conservation status here are poorly understood and it has little legal protection



to catch a profitable species of catfish, supplying markets around the region, and are sometimes accidentally caught in fishing nets. Overfishing by humans may be reducing food for the dolphins. And deforestation causes exposed soil to wash into the rivers; some of this silt contains traces of naturally occurring mercury, adding to the toxic soup.

Riverside cattle-ranching may be polluting the water even more. Marcelo predicts that if nothing is done to address all of this, in 50 years' time the Amazon's river dolphins will be heading towards extinction.

We've been here before. In the great rivers of south-east Asia, the world's other river dolphins are ahead of the Amazon in charting a precipitous decline. Amazon dolphins number in the thousands; Asia's are a fraction of that. We're taking steps through a truly collaborative approach to make sure river dolphins in South America don't suffer a similar fate.

WORKING TOGETHER

Last summer, the International Whaling Commission – the scientific body responsible for regulations relating to cetaceans (whales, dolphins and porpoises) – agreed a conservation management plan proposed by the governments of Brazil, Colombia, Ecuador and Peru. This crucial act of collaboration was largely driven by the efforts of WWF and other NGOs, under SARDI.

Having an accurate picture of river dolphin populations is key to informing conservation measures. Over the last 15 years, institutions have carried out expeditions to estimate river dolphin population sizes in the range countries. Around 47,000km have been covered during 42 surveys of at least 45

BENEATH THE SURFACE

Here are five fascinating facts about the Amazon's dolphins, revealed by our satellite tagging



MALES ON THE MOVE

There's a marked difference in movements between the sexes. Female dolphins travel less, perhaps due to pregnancy and care of offspring. Males range more widely, often in search of females.



FOLLOW THE FISH

The type of water affects how far dolphins travel to find food. Rivers with high sediment levels are more productive so dolphins here travel less than those in waters which are lower in nutrients.



HOME RANGERS

Dolphins' home ranges are far bigger than those of other large mammals of the Amazon. Their territories are twice as large as that of a jaguar and four times as great as the secretive tapir.



SOCIABLE SWIMMERS

While the big cats on the riverbanks hunt alone, river dolphins are anything but solitary. They are recorded moving up and down river in what are likely to be big family groups.



FLOOD OPPORTUNISTS

Ordinarily, dolphins stick to the main channel of rivers, but when high waters cause adjacent forests to flood, dolphins are quick to take advantage by swimming into these temporary feeding grounds.

rivers and their connecting lakes, tributaries and channels. As well as supporting some of these, we've helped consolidate all the data in one place and, for the first time, we have intricate population distribution maps for river dolphins across the Amazon. With this we can now set out conservation aims and achievements for this amazing species.

The next few years are critical because, as Marcelo points out: "We still don't have a real number for river dolphins. We only have studies showing population decreases in certain areas. We need a baseline so we can say: this is where we are. Evidence showing populations and where the threats are likely to lead to the most impact on dolphins will enable us to prioritise our action."

Technology is on our side. Researchers have begun using drones, the eyes in the skies, as a cost-effective method of monitoring river dolphins. Developments in thermal imaging mean that drones will be able to work at night, too.

Before long, we will know the scale of the task ahead. In the meantime, Marcelo and SARDI's team work a charm offensive: "When we talk to people about river dolphins, we're trying to build a narrative about the importance of healthy species and rivers to people's livelihoods and wellbeing. Cooperation between countries is key, as rivers and wildlife do not recognise borders."

To read more about our work through SARDI, visit www.river-dolphins.com

HELP PROTECT RIVER DOLPHINS

Thanks to your membership, you're already supporting our work to conserve the Amazon and all its amazing wildlife. But if you'd like to help us protect river dolphins, a gift today could help a survey team in the following ways:

- £10** could cover a day's expenses for a local community member supporting a dolphin expedition
- £20** could buy personal protective equipment to keep the team safe
- £50** could help pay for fuel for the survey boat
- £100** could go towards a satellite tag for a river dolphin so we can track its movements

Donate: www.org.uk/river-dolphin

Around the world, wildfires are raging with unprecedented ferocity. But with your help, we're taking action to tackle the causes and help communities deal with these devastating blazes...

Recent news footage has captured shocking scenes around the planet: koalas – fur singed, paws charred – rescued from smouldering eucalypt forests; whole Californian towns razed by vast conflagrations; Brazilian lowlands once cloaked by Amazon rainforest blanketed only with ash, stretching into the distance.

The frequency, extent and intensity of wildfires have soared this century. WWF-backed analysis published last August revealed that the number of global fires in 2020 was 13% higher than in 2019 – itself a record year. Fire seasons (prolonged hot, dry spells) are becoming more extreme and lasting longer, increasing in duration by, on average, nearly one-fifth since the 1970s.

Unsurprisingly, climate change is a key component – and it's a vicious circle. Fires worldwide release roughly as much CO₂ as annual emissions from all EU countries, contributing to climate change, which in turn increases fire risk. In the northern hemisphere, climate change has led to longer wet periods that promote quick vegetation growth, and longer heatwaves that dry the extra vegetation; atmospheric humidity is lower, ecosystems are more fire-prone.

HIGH AND DRY

In the southern hemisphere, Australia has suffered droughts across consecutive hot, dry summers, and increased wind velocities, fuelling longer and more devastating bushfire seasons. Australia's 2019-20 fire season was the worst ever, destroying one-fifth of the country's broadleaf and mixed forest biome, and affecting nearly three billion animals. What's more, dozens of people were killed, and countless more lost their homes and livelihoods.

Climate change affects tropical forests, too. "Under normal climatic conditions, the Amazon is not an ecosystem that should burn," says Sarah Hutchison, our head of programmes for Latin America. "Fire here is associated with human activity, but also with the changing climate and droughts."

The results have been alarming. Last June, at the beginning of the dry season, fires in the Brazilian Amazon hit a 13-year

A BURNING PROBLEM

Last year, Australia was ravaged by the most devastating bushfire season ever seen. Record-breaking temperatures and months of drought fuelled flames in every state. You supported our emergency appeal to rescue and treat injured wildlife such as koalas, and restore their habitat

WORLD ON FIRE

Many fires burned around the world in 2019–20, with different causes, scales and impacts

ALASKA

In 2019, huge fires in Alaska – fuelled by rising temperatures and drier than normal conditions – threatened people’s food security, infrastructure, health and cultural identity, as well as ecologically significant habitats that are home to species such as caribou and salmon.



CALIFORNIA

In 2020, extreme heat, drought, high winds and lightning resulted in fires that burned longer, more intensely and across greater areas than in previous years, with disastrous consequences for people and wildlife. More than 18,000 sq km burned across California, Oregon and Washington last summer. The increasing devastation of fires in California can be linked to factors including climate change and land management techniques over many years.



PANTANAL

Last year, more than three times as many forest fires blazed in the Pantanal, the world’s largest tropical wetlands, than in 2019. By November, almost 45,000 sq km, around 30% of the total area of the Pantanal, had burned. Thousands of species including jaguars, anteaters and birds were threatened by the fires, caused or aggravated by factors including drought, deforestation and burning of pastures. Learn how you helped us respond on page 5.



DEMOCRATIC REPUBLIC OF THE CONGO

In the Congo Basin, fires are typical at the end of the dry season. While some begin naturally, others are deliberately set by farmers to clear land for agriculture and improve yields. Farmers have used such practices for generations, but rising temperatures, droughts and logging activities have made forests drier and less dense, and therefore more vulnerable to larger, more frequent and more damaging fires.



RUSSIA

An average of at least 28,000 sq km of Russia’s forests are burned each year – three times the area felled by industrial logging. In 2019, the area destroyed by forest fires was the second-largest ever recorded, and an even greater area was projected to be burned in 2020. Climate change plays a role: winter 2019–20 was the country’s warmest since records began 140 years ago.

1 MILLION

Estimated number of Indonesians suffering from respiratory problems due to smoke from fires in 2019

8,578 SQ KM

Official estimate of area of Indonesian forest burned during the 2019 fire season

US\$16 BILLION

Approximate cost to the Indonesian economy of wildfires in 2015 – equivalent to 1.9% of GDP



INDONESIA

Most wildfires in Indonesia are set illegally to clear land for cultivating rubber, oil palm and other valuable commodities. They can quickly grow out of control, burning not only forests but also peat, which can smoulder underground at low temperatures for long periods, releasing carbon that’s been stored underground for tens of thousands of years.

2–5%

Annual increase in wildfires in boreal forests of Alaska and northern Canada between 1975 and 2014

US\$50 BILLION

Cost of 2018 wildfire season in the US

28,000 SQ KM

Average area burned in Alaska annually since 2000 – more than double the annual average in the 1990s

high; more than 50,000 fire outbreaks were detected in September 2020 alone. The main cause is clear: an increase in illegal occupation of land.

“The immediate driver is land claim,” says Sarah. “Invaders typically clear and burn land to increase its value, then sow pasture and bring in cattle to concrete the claim, in the hope that rights will be officially recognised later.” Much of this destruction is caused by demands from abroad for commodities produced in this region.

Deforestation in the Brazilian Amazon, and the fire that invariably follows, is accelerating. Over 11,000 sq km of forest were lost in the year up to July 2020 – a 12-year high. The rhetoric and policies of Brazil’s current government under president Jair Bolsonaro have contributed to the problem, reducing funds for environmental

conservation and pushing to dilute land protection. The result has been to embolden and enable illegal land invasion in the Amazon, with a corresponding sharp increase in deforestation rates.

“This is compounded by Covid-19, which has restricted surveillance and policing on the ground,” says Sarah. “But also the sense of impunity that people can get away with environmental crimes has grown.”

The impacts of Amazon fires are felt locally, nationally and globally. Wildlife suffers, of course. The region, which contains nearly a third of the world’s tropical rainforests, is home to 10% of all known species. Fires also badly affect local populations – particularly indigenous peoples, comprising three million people and more than 350 groups, whose lands cover 24% of the Amazon.



Fires have ravaged north-western Rondônia state in Brazil, spreading from farm to farm, killing cattle and making local people ill from the smoke. Here, farmer Aurelio Andrade and his dog assess the damage

In 2019, at least 148 indigenous territories in Brazil were affected by fire. Apart from the devastating losses suffered and the impact on the natural resources on which these groups depend, the fires also pose a risk to human health. Last year, the same communities faced the additional threat of Covid-19.

A HEALTH CRISIS

“Fires, especially those in recently felled forests, generate huge amounts of smoke, which causes respiratory problems,” says Sarah. “If a person is also vulnerable to – or suffering from – Covid-19, smoke inhalation will exacerbate those problems.”

The global impact of Amazon fires could be momentous. Its trees contain up to 140 billion tonnes of carbon – the equivalent of 100 years of human emissions – and deforestation here releases 400 million

tonnes of carbon annually. We need to halt deforestation and fires – quickly.

“The Amazon is a litmus test of our ability to tackle climate change,” says Will Baldwin-Cantello, our chief adviser on forests. “We’re already seeing tree species that are characteristic of drier habitats becoming more dominant in the rainforest, and conditions for fire are more prevalent.”

Around 17% of the forest is already cleared; some scientists estimate that an irreversible tipping point, beyond which the region as a whole will become drier and savannah-like, could be reached if just 5% more is destroyed. “This could happen within a decade or two,” explains Will. “We’ve got limited time to turn it around and protect the Amazon as the moist tropical rainforest we know today.”

With your help, we’re working to tackle the causes and impacts of deforestation and fires. ▶

ARCTIC ABLAZE



'Zombie fires' and burning of fire-resistant vegetation are now driving Arctic fires – with consequences for the global climate

Wildfires represent a growing threat in the Arctic, which is warming faster than the rest of the world. Today, the frequency of fires here, and the area burned, are unprecedented over the past 10,000 years – and they're projected to increase

"We think of wildfires as forest fires," says Arctic specialist Bob Baxter, associate professor (reader) in plant ecology at the University of Durham. "But they're also increasing north of the treeline, in deep peat areas on the tundra. Here, fires are becoming more frequent, more intense, over larger areas."

This is worrying, because of both the age and volume of the carbon locked up in peat: 500-600 gigatons globally. "Carbon emitted when softwood such as pines burn may have been fixed in the past 30, 50 or 100 years," explains Bob. "But if peat burns, the carbon this releases will have been sequestered for thousands or tens of thousands of years."

Fuel stored below the ground burns differently from trees. "Peat fires can smoulder for ages," says Bob. "In Canada, so-called 'zombie fires' have been burning slowly for decades." In addition, the loss of above-ground vegetation – whether through forest fires or moss drying out – removes the insulation that protects permafrost from thawing. This can result in the release of long-stored carbon in the form of CO₂ or methane – both potent greenhouse gases. "At least 14% of the world's organic carbon is locked away in the peatlands of the north," says Bob. "And when it's released, that carbon adds to warming in a part of the world where it's already enhanced."

Unless countries around the world step up their ambition to limit warming to 1.5°C, the whole planet will feel the effects of a heating Arctic. With your support, we're working with governments and businesses to take urgent action – and we'll be ramping up those efforts in advance of November's UN climate change conference (COP26) in Glasgow. Find out more at: wwf.org.uk/arctic



We supported a drone-piloting course for a group of indigenous people who protect the Amazon rainforest, with the help of local partners. The drones will be used as a tool to help monitor protected areas from invasions, deforestation and land grabs



The drones revealed illegal deforestation near the river in the indigenous Uru-Eu-Wau-Wau territory



A community-led surveillance team patrols the Jamari river

Your amazing response to our Amazon appeal – which has raised over £1 million at the time of writing – has funded both emergency and long-term actions. In Brazil, we responded to requests from local communities affected by the fires for food, water and medicine, and our support reached over 18% of the Brazilian Amazon. We also funded training and equipment for monitoring and fighting fires.

TACKLING THE ROOT CAUSES

"The work we support is much broader than just the emergency response," says Sarah. "We're tackling all of the drivers of deforestation, such as illegal gold mining. We're also supporting the efforts of indigenous peoples to defend their land, especially in Rondônia state, which is seeing an upsurge in deforestation and land invasions."

We've worked closely with local partners and indigenous groups who identified a need for organisations such as local NGO Kaninde to upscale land surveillance work, with our financial and technical support. That includes the use of technology such as drones to survey inaccessible areas – it's a lot safer if

"YOUR AMAZING RESPONSE TO OUR AMAZON APPEAL FUNDED EMERGENCY AND LONG-TERM ACTIONS"

local communities don't need to come face to face with infractions in order to document them and build up evidence remotely.

But we also provide training in non-confrontational surveillance techniques and personal safety measures because, unfortunately, death threats are not uncommon. Legal support, training and advocacy at a local, national and international level are other key elements.

"The Amazon has a large urban population in centres such as Manaus, where we work to mobilise, engage and inform people," says Sarah. "WWF constantly monitors laws and works to influence them through parliamentary process or the courts."

Another way we're helping is by working with local communities to jointly develop and support sustainable livelihoods, in areas such as agriculture and the harvesting of natural products like açai berries.

It's time we recognised that the destruction of forests is driven partly by global demand for products that come from that land. "People are destroying the Amazon because once you've cleared the land, you can sell it on for agricultural use," explains Mike

Barrett, our executive director of science and conservation. "The UK won't be part of the solution until we stop importing products that drive the economics behind the deforestation."

A GLOBAL PROBLEM

We believe the Environment Bill currently being finalised by the UK government could hold part of that solution, in the shape of a mandatory due diligence obligation that would prohibit UK companies from importing products directly linked to illegal deforestation and/or habitat conversion.

Throughout 2020, we campaigned for ambitious and world-leading measures to be included in the Environment Bill which could help address the UK's growing global footprint. Our supporters have been paramount in keeping the pressure on government to take urgent action to sever the link between the UK and global overseas nature loss.

"This is a great opportunity for the UK to lead by example globally," says Will. "But, in the Brazilian Amazon, farmers can legally clear 20% of their land, so a huge amount of

the Amazon could still be legally deforested to produce goods that come into the UK or Europe. We want to make sure all the goods we import are 100% deforestation-free."

Clearly, the outlook is worrying. "Deforestation, climate change and fires are pushing the Amazon towards a point where it can't recover," says Mike. "If we lose the Amazon, we will lose the fight against climate change. There will be no going back."

It's not an easy task. "There's no single simple solution," says Sarah. "These are complex problems that require work on numerous fronts. Few organisations have the ability and the capacity to do that – but WWF is one that does. And, by working with our partners, we can address these huge issues."

We have hope the tide can be turned – that, globally, we can combat the drivers of climate change, deforestation and fires. Your voice, your contributions, your choices and your support are all important weapons in this fight. "If we act urgently, and with big ambition, we can turn this around as early as 2030," says Mike. "So by the end of this decade, we could be in a world where nature is recovering and no longer in freefall." ■

© NASA | © MARZILDA CRUPE / WWF-UK



A TIGER'S EMBRACE

A rare image of a wild tiger in Russia's far east reminds us of everything we've achieved so far – and offers hope for the future

An endangered tigress embraces a fir tree, deep in an ancient forest. Bathed in dappled light, her eyes are squeezed shut, her cheek pressed against the bark to leave her message in scent. It's a fleeting moment of rare beauty: the tigress looks at peace in her wild home.

This intimate photograph has won Russia's Sergey Gorshkov the prestigious title of Wildlife Photographer of the Year, a competition developed and produced by the Natural History Museum, London. It was taken in Land of the Leopard National Park in the Russian far east, where there are around 430 adult wild tigers. A small number also survive across the border in China.

Tiger territories here are vast, so Sergey knew his chances of photographing one were slim. But he scoured the forest for signs, such as scent, hair, urine or scratch marks, and set up his camera trap opposite this grand fir. Eleven months later, he captured this photograph.

The Land of the Leopard National Park lies in the Amur-Heilong river basin, one of our priority areas for tiger conservation. Here, your support has helped to increase wild tiger numbers by protecting forests from illegal logging, tackling poaching and boosting populations of deer and wild boar, tigers' main prey. Since the 1930s, Russia's tigers have made a spectacular comeback – but there's still work to do.

For more stunning images, visit www.nhm.ac.uk

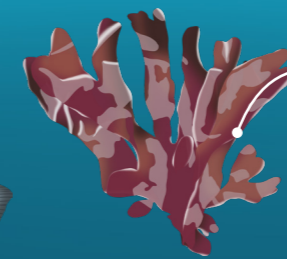
SEAFOOD TO TRY

These species are a good alternative to popular seafood. They come from well-managed fisheries or fish farms where populations are in good health. Their harvesting methods have relatively low impacts on the environment, and management systems are sound and effective

COUNTRY: Alaska, US
HARVESTING METHOD: Trolls or midwater trawls
Alaskan pollock is a good white-fish alternative to cod and haddock.



ALASKAN POLLOCK



SEAWEED

COUNTRIES: China, Korea, UK, Ireland
HARVESTING METHOD: Rope grown
Several seaweeds such as nori, dulse and laver have high nutritional value.

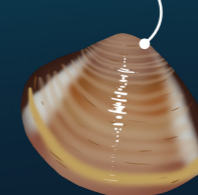
These species are low in the food chain and are usually filter feeders, sieving food from the water. They don't require food when farmed, which reduces pollution, and are more efficient at producing protein than predatory carnivorous fish such as cod. They help keep our ocean healthy

COUNTRY: Scotland
HARVESTING METHOD: Rope grown



BLUE MUSSELS

COUNTRY: Vietnam
HARVESTING METHOD: Hand-raked



CLAMS

COUNTRY: UK
HARVESTING METHOD: Hand dive



KING SCALLOPS

COUNTRY: Peru
HARVESTING METHOD: Rope or tray grown



CALICO SCALLOPS

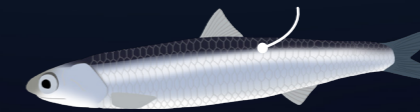
Clams, mussels and scallops are healthy, nutritious seafood options as they're rich in iron and B vitamins.

COUNTRY: Morocco
HARVESTING METHOD: Purse seine



SARDINES

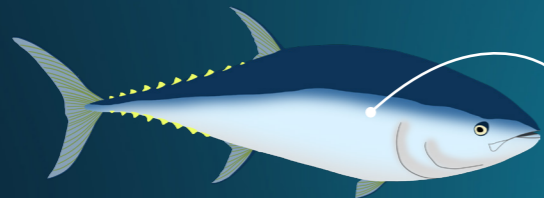
COUNTRY: Spain
HARVESTING METHOD: Purse seine



EUROPEAN ANCHOVIES

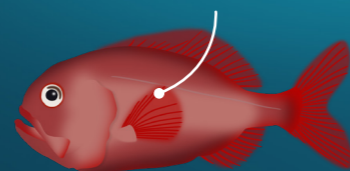
The harvesting method used is key to the carbon footprint of wild-caught fisheries – the more fuel used to produce a kilo of seafood, the higher carbon emissions it will have. Small schooling species captured by purse seine are among the most sustainable options, based on the energy use and emissions of their fisheries

Global bluefin tuna populations are declining due to overfishing, and all populations are described as threatened by IUCN. The southern bluefin tuna is critically endangered.



BLUEFIN TUNA

Orange roughy is a deep-sea species that takes a long time to mature and so is highly vulnerable to fishing pressure. It's listed as vulnerable by IUCN. The deep-sea trawling used to harvest the species causes damage to sensitive habitats such as deep-sea coral.



ORANGE ROUGHY

More than 25% of shark species are threatened with extinction. The populations of many species such as whale shark, dogfish and hammerhead have greatly declined because of overfishing for their fins or meat. Their close relatives, common skates, were once commonly found (and eaten) in the North Sea but are now critically endangered.

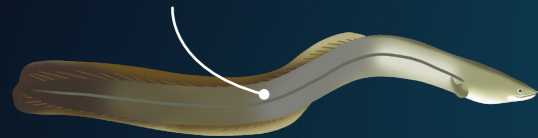


WILD STURGEON CAVIAR



SHARKS AND SKATES

European eel populations have greatly declined because of overfishing, and they're now listed as critically endangered by IUCN. They're also threatened by invasive species, pollution and dams that block the migration routes that are vital to fulfilling their life cycle.



EUROPEAN EEL

Wild sturgeon populations are decreasing due to habitat loss, pollution, invasive species and overfishing. To harvest their eggs – consumed as the delicacy 'caviar' – females are killed before they can reproduce. Recovery is difficult with slow-maturing populations. Most wild populations are listed as threatened by IUCN.

SEAFOOD TO AVOID

WHICH FISH?

Making environmentally responsible seafood choices is a great way to enjoy a healthy diet and help protect our ocean, but where do you start?

Today, around 94% of the world's ocean fish populations are overfished or exploited to the maximum of what is considered sustainable. Globally, vulnerable and endangered species such as bluefin tuna, orange roughy (or deep-sea perch) and sharks are also commercially exploited. This pressure affects the whole marine ecosystem, prevents overfished fish populations from recovering and has an impact on 800 million people worldwide who depend on them for food and income.

As more than 50% of the seafood we eat in the UK is imported or caught by foreign vessels, your shopping choices can make

a global difference. In the UK, just five species – cod, haddock, prawns, salmon and tuna – make up roughly 63% of all fish sold. Many of these species come from well-managed fisheries and farms, and have passed Marine Stewardship Council (MSC) and Aquaculture Stewardship Council (ASC) certifications that set higher environmental standards and are traceable. But even the best-managed fisheries or farms cannot satisfy unlimited increase in demand.

By making a few changes to the seafood you eat, you can help protect the healthy balance of our ocean and reduce the

pressure on our five national favourites. To diversify your seafood choices, try alternative species that come from other well-managed sources, choose species that are lower in the food chain as they can produce protein in an efficient manner, or consider species that are caught using methods that produce fewer carbon emissions to help fight climate change.

To help you choose, we've highlighted some species to avoid and some alternative fish species to try, and explained the fishing techniques used. We hope that, with this information, you can help protect and restore our ocean.

HARVESTING METHODS

How a fish is caught or reared can have a big impact on how sustainable it is. Understanding what each fishing or farming method involves can help you to make more ocean-friendly choices

MIDWATER TRAWL

A net is pulled through the water column with two boards keeping the mouth of the net open.



PURSE SEINE

A large wall of netting is used to encircle fish, then the bottom of the net is pulled closed. Purse seining uses only about 30% of the fuel of bottom trawling, as there's no need to drag a net along the seabed.



HAND COLLECTION

Wild shellfish are gathered by hand, using a rake, spade or fork in shallow waters or by diving.

TROLL

A hook is towed through the water on a line, often with several lines used at one time.



ROPE GROWN

Marine species are grown on ropes suspended in the water column.

TRAYS

Shellfish can be grown on trays, either on the seafloor or suspended in the water column.

FIND OUT MORE

Read more about how we're working with partners to raise awareness of sustainable seafood: www.wwf.org.uk/sustainable-seafood

A fisherman casts his net into Zambia's Luangwa river. The demand for fish in sub-Saharan Africa outstrips supply, threatening economic stability as well as food security in the region



Mark Wright, our director of science, explains why ambitious action is needed to restore the natural world and avoid a mass extinction of species

What did 2020 teach us about nature?

The biggest lesson was that our health and that of the planet are inextricably linked. We turn to nature for solace, peace and inspiration, but it's now clearer than ever that it's not just our physical and mental wellbeing that needs nature, but our economic and social health as well. Last year also showed us that, on a global level, we're capable of making massive changes to the way we live.

Why is our Living Planet Report 2020 vital?

This report is based on a very comprehensive data set of over 20,000 wildlife populations and offers us a clear view on the global state of nature. It also shows that, despite numerous commitments and promises from world leaders, nature is still being decimated. But it also reveals that, with concerted action, it's possible to reverse this loss of nature.

What trends does the report identify?

Our unrelenting pressure on nature is threatening up to a million species with extinction, many within the next few decades. The principal driver is habitat destruction and degradation, underpinned by the way we produce food. These negative impacts are compounded by climate change, pollution and the overexploitation of wildlife.

Can we balance food, climate and nature?

This is the challenge of our times! How do we meet the food needs of a growing human population, while staying within safe climate change limits and also allowing space for nature to recover? It's not enough to slow or stop the decline; we must help nature bounce back.

Can we 'bend the curve' of biodiversity loss?

We have to. And, as the *Living Planet Report* shows, we can. We have to redouble our conservation efforts, including restoring millions of hectares of degraded land around the world. But, critically, conservation efforts alone are not enough. We have to take a collective responsibility for how we produce and consume food. By choosing a more

plant-based diet, by reducing the 30% of food we currently waste or lose, and by increasing crop yields, we can move towards a sustainable future.

Whose responsibility is this?

Governments need to set the legislative framework and the ambition, such as the UK commitment to bring greenhouse gas emissions to net zero by 2050. Businesses need to show leadership through being transparent about their journeys to sustainability – for example, by removing deforestation from their supply chains. But real change needs all of us. As individuals we can each make a difference that collectively drives a huge, positive shift.

What can we do to help turn things around?

We can all have a lighter footprint on our planet. From simple actions such as not leaving appliances on standby, to thinking about how we use our cars, or writing to our MPs. There are also less visible actions that have an impact, such as checking your pension funds are not invested in environmentally damaging enterprises. Not all of us are activists, but we can all strive for a more sustainable lifestyle.

Why are you optimistic about the future?

First, it's finally being recognised that nature underpins our economies – our wealth and health. There are strong moves to put environmental issues at the heart of decision-making, from ensuring our supply chains aren't damaging nature to taking investments out of fossil fuels. Second is the growing voice of the next generation. I'm inspired by the increasing number of articulate young people who are challenging the complacent status quo.

Third is that nature is resilient. If we give nature the space to heal and recover, it will bounce back. But we have to take steps now to stop the damage we're wreaking becoming irreversible. We owe that to nature, to ourselves and to future generations.

Download the MyFootprint app to try simple lifestyle changes that benefit nature:
[wwf.org.uk/myfootprint](https://www.wwf.org.uk/myfootprint)

CHANGE FOR ALL

60 YEARS OF WWF

1961 - 2021

To mark our 60th anniversary, we're taking a look at the past, present and future of WWF and some of the amazing successes you've helped us achieve

Over the past 60 years, WWF has grown from a small group of wildlife enthusiasts to one of the world's largest and most respected independent conservation organisations. Today, we're working to protect the planet in more than 100 countries on five continents with the support of five million people. As we've developed, our focus has evolved from localised efforts to protect individual habitats and single species, such as the giant panda, to an ambitious strategy to restore biodiversity and achieve sustainable development around the globe. And you have been with us every step of the way. Thank you.



29 APRIL 1961

In 1961, species such as giant pandas, polar bears, black rhinos and elephants are in danger of extinction. Determined to act against the "needless destruction" of the world's wildlife, a group of conservationists including ornithologist Sir Peter Scott and biologist Sir Julian Huxley write a manifesto that is the start of the World Wildlife Fund.

1961

WWF's iconic logo is inspired by Chi-Chi the giant panda in London Zoo. Sir Peter Scott wants a strong, recognisable symbol that will overcome all language barriers, and Chi-Chi is "beautiful, endangered and loved by many". By 2021, the logo has been through several evolutions.



1976

We launch our first marine programme to protect marine turtle nesting sites and establish sanctuaries for whales, dolphins and seals.

1975

We help to establish the Convention on International Trade in Endangered Species of Wild Fauna and Flora (CITES). This leads to the formation of TRAFFIC in 1976 to monitor the global illegal wildlife trade.

1980

WWF is the first international conservation organisation invited to work in China, to help conserve giant pandas. Thirty years later, after slow but steady progress, the species is reclassified to vulnerable rather than endangered by IUCN. This achievement reflects hard work by the Chinese government, local communities, nature reserve staff and us.



1986

The charity's name is changed to the World Wide Fund For Nature, to reflect a broader range of activities. This includes increasing cooperation with local people and engaging more with businesses and other partners to promote sustainable resource management.



1993

We help set up the Forest Stewardship Council (FSC) to promote responsible forestry across the world. By 2019, two million sq km of forest have been certified under the FSC system.

2004

We help found the Roundtable on Sustainable Palm Oil (RSPO), a global standard for companies that produce or use sustainable palm oil, which helps protect the orangutan's rainforest home.



2008

Our lobbying, with partners, leads to the UK Climate Act - the world's first legislation aimed at setting binding targets to reduce greenhouse gas emissions.

2010

We help to organise a forum at which all 13 tiger range countries endorse the goal of doubling wild tiger numbers by 2022 - the next Chinese year of the tiger. By 2016, our efforts have contributed to the first increase in global wild tiger numbers in conservation history.

2007

We launch Earth Hour in Sydney, Australia, encouraging people to turn their lights off for one hour to take a stand against climate change. It's now the world's largest environmental movement.

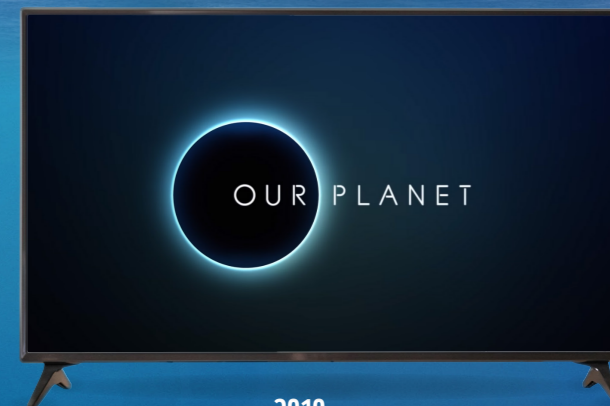


2015

We play a key role in pushing world leaders to agree ambitious measures at the Paris climate talks. Almost 200 countries sign a historic pledge to hold global temperatures to a maximum rise of 1.5°C above pre-industrial levels.

2019

We launch *Our Planet*, with Netflix and Silverback Films. The series offers an unprecedented opportunity to inspire millions - in homes, businesses and governments - to fight to restore nature.



OUR STORY CONTINUES

Next issue, we explore how we're rising to the challenge of putting nature on a path to recovery by 2030



WIN!
A TATTY DEVINE
MARINE TURTLE
BROOCH

TURTLE-LY AMAZING BROOCH

Our Tatty Devine giveaway celebrates 10 years of partnership with People's Postcode Lottery and our work together protecting turtles

We're thrilled to bring you a special giveaway from our range of Tatty Devine jewellery to celebrate 10 years of support from players of People's Postcode Lottery. For five of these years, we've been working together to give Kenya's marine turtles the best start in life (see page 9), so we're giving away one wild marine turtle brooch from Tatty Devine's first-ever collection made from 100% recycled acrylic. Laser-cut, etched and hand inked, this elegant bottle-green and ochre-yellow turtle brooch will transform any top or scarf into an individual work of art. The turtle is just one of 15 covetable pieces – from iconic tigers to diving penguins, prowling leopards and swinging orangutans – from Tatty Devine's exciting, trendsetting, wildlife-inspired jewellery, all of which are available in our shop. To enter, follow the instructions below and mark your entry 'Tatty Turtle competition'.



WILDLIFE ART AT HOME

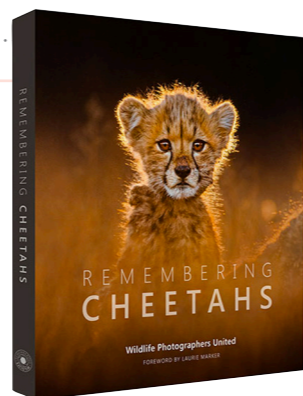
We're giving away a stunning wildlife art print by renowned photographer Anup Shah

Anup Shah's innovative and arresting photographs of animals captured unawares in their natural habitat have won numerous awards and featured in countless exhibitions, books and magazines. Always looking for new ways to capture authentic animal behaviour, Anup works with remote and hidden cameras and places himself at the heart of every situation. He has photographed some of the world's most beautiful wildlife with his trademark originality, intimacy and detail. Now you can enjoy one of his most striking images in your own home, as we're giving away a giclée print (76cm x 51cm) of an image of your choice worth £280. See the full range of images and choose your favourite at www.shahrogersphotography.com and click on Limited Edition Fine Art Prints. To enter, follow the instructions (right) and mark your entry 'Anup Shah competition'. Good luck!

CRAZY FOR CATS

We've got four copies of *Remembering Cheetahs* to give away

Calling all cat lovers! You'll purr with delight when you feast your eyes on the gorgeous photos of your favourite felines gracing this stunning book. Featuring some of the world's finest images by leading photographers, *Remembering Cheetahs* reveals these elegant cats as you've never seen them before. Sadly, the species is one of the most endangered big cats in the world, with only around 7,000 surviving in the wild. So the book aims to help by raising awareness and urgently needed funds to protect this vulnerable species. To enter, follow the instructions below and mark your entry 'Cheetah Competition'.



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HOW TO ENTER ACTION GIVEAWAYS

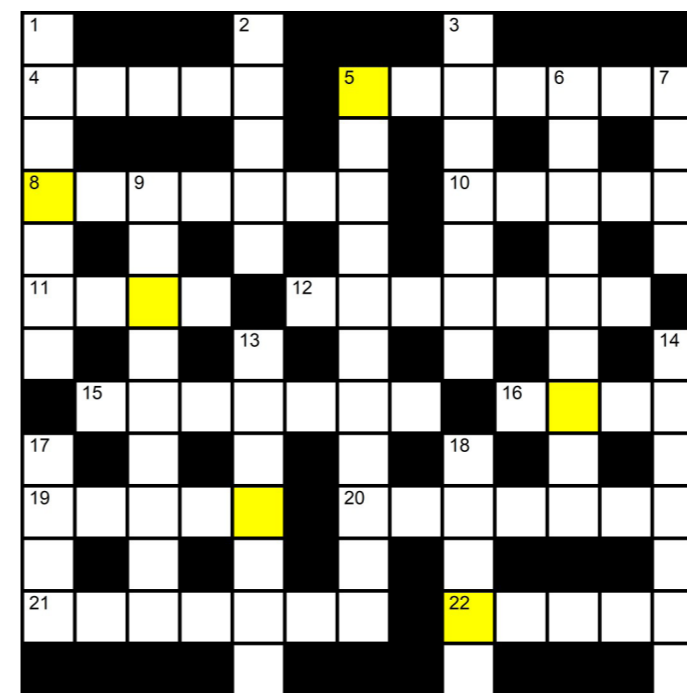
Send an email with your name, address and phone number, along with Tatty Turtle Competition, Cheetah Competition or Anup Shah Competition in the subject line, to competition@wwf.org.uk

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 19 March 2021. For terms and conditions, visit: www.wwf.org.uk/compterms

CROSSWORD

Solve our crossword and you could win a copy of Roger Hooper's book *Latitude: Wildlife Photographs From Across The Globe*



WWF ACTION CROSSWORD 47: February 2021 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 19 March.

Clues across

- 4 Amazon _ dolphin, endangered freshwater creature (5)
- 5 Chilean species also known as the Patagonian toothfish (3,4)
- 8 Endangered New Zealand dolphin (7)
- 10 Affected by fog-like formation (5)
- 11 _ sea, underwater environment with little to no sunlight (4)
- 12 Rechargeable feature of an electric vehicle (7)
- 15 The industry behind the catching of seafood (7)
- 16 _ whale, Earth's largest living animal (4)
- 19 A path, particularly for exploring nature or hiking (5)
- 20 A renewable energy source derived from organic waste (7)
- 21 Nature and conservation area (7)
- 22 Tropical rainforest (5)

- 5 Not overexploited – responsible fishing should be so (11)
- 6 Commonwealth country that suffered its worst ever bushfire season in 2019–20 (9)
- 7 The cultivation of this food crop has driven large-scale deforestation in Brazil (4)
- 9 Manmade substances – often hazardous to our health and the environment (9)
- 13 Disease related to drinking contaminated water (7)
- 14 Endangered Caucasian leopard (7)
- 17 'Brittle' five-armed sea creature (4)
- 18 Przewalski's _ , rare Mongolian animal also known as the takhi (5)

Clues down

- 1 Papua New Guinea is a hotspot for these flowering plants (7)
- 2 Approximately 1% of the atmosphere consists of this gas (5)
- 3 Long-extinct woolly elephant (7)

Winter 2020 answers

Prize word: STORM
Across 1. Nature 5. Asia 9. Air quality 10. Plain 11. America 13. Compost bins 15. Islands 17. Adult 20. Coral reefs 21. Soda 22. Models Down 2. Atoll 3. Uranium 4. Euro 6. Solar 7. Attacks 8. Summits 12. Wonders 13. Customs 14. Lodised 16. Award 18. Label 19. Beam

NOTES FROM THE FIELD

Once Antarctic seals' thermal signatures have been identified, cameras can reveal how they use their environment. Warm patches where they've been lying glow brightly on the images



SLEEPING SEALS

It was my last day in Antarctica, and I needed to get up close to a fur seal. A colony of adolescents had recently arrived near British Antarctic Survey's research base on Adelaide Island, but they were wary. They'd sense our presence and flee before we got anywhere near them.

Fur seals aren't easy animals to survey. They can be aggressive, and move surprisingly quickly – they can outrun a human across a rocky beach. Somehow, we had to get within five metres of a sleeping seal so that we could get a reading with our spectroradiometer – basically, a zappy thing on the end of a long pole that measures the light bouncing off an object.

Eventually, after much creeping around on tiptoes, staying downwind of the seals and communicating with hand gestures, we succeeded. The seal lifted a flipper mid-dream here and there, but didn't wake up.

SEALS FROM SPACE

I was in Antarctica as part of the 'Seals from Space' project, which WWF is supporting. With high-resolution satellite images, we can spot seals all the way from space – but with the naked eye, it's not always possible to tell which black blobs are seals and which are just rocks.

By determining a seal's 'spectral signature' – which measures the precise wavelengths of light it reflects – we can teach computers to tell the difference between seals and rocks, and even between different species of seals.

This will enable us to carry out surveys of seals in remote parts of Antarctica, which has never been done before. That can help us monitor the health not only of seal populations, but of the whole Antarctic ecosystem.

Prem Gill

Polar scientist, British Antarctic Survey and University of Cambridge



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www.org.uk/wearitwild

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FSC logo to
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All information correct at time of printing, January 2021