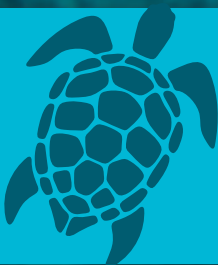




Turtles



YOUR FIELD REPORT
SUMMER 2022



Fiji's sandy beaches provide nesting sites for leatherback, green and hawksbill turtles – like this one!

GREAT SEA
REEF, FIJI



Hello!

Welcome to your new turtle update



Karalaini Rereavosa,
assistant turtle project
officer, WWF-Pacific

Since your last update, we've been busy with our turtle nesting survey. September to April are peak nesting months. The last census conducted by WWF was way back in 2014, and it

focused mainly on islands situated in the northern provinces of Bua and Macuata. The current surveys will focus on nesting sites on the islands of Kavewa and Yadua in the north, and we'll include important beaches in Kadavu and the Mamanuca Islands. Marine turtles are a totem in many Fijian communities and we respect the people's traditional values while raising awareness of the importance of protecting turtles. **Moce!**

↖ (This means 'goodbye' in Fijian!)

MEET THE ADOPTION TEAM

Editor Liz Palmer editor@wwf.org.uk, Senior supporter engagement manager Hannah Crawley, Supporter engagement manager Merlin Meyer, Senior editor Guy Jowett, Editorial executive Emma Brill, Content research executive Kyle Smith
For Our Media Consultant editor Sophie Stafford, Senior art editor Nicole Mooney, Art editor Bob Bewick, Designer Julia Young, Managing editor Charlotte Martyn, Senior account manager Katy Hewett, Account executive Edith Violet Naisubi, Editorial director Dan Linstead Contributors Barney Jeffries, Lorna Lawson, Derek Niemann

The survey will reveal the health and status of turtle nesting sites in Fiji

HATCHING A PLAN

You're supporting vital research into nesting habitats that will help protect Fiji's turtles

Thanks to your adoption, we've embarked on a comprehensive nesting survey of Fiji's marine turtles. It will provide crucial information about how many nesting turtles there are, where and when they nest, and the threats they're facing – information that will help us to protect them more effectively in the years ahead.

The survey kicked off last year, and will continue during the peak nesting months (September to April) over the next three years. Small teams of volunteers, supported by WWF and local *Daunivonu*

(turtle monitors) have carried out patrols on nesting beaches on several islands, though Covid restrictions limited the number of sites they were able to visit last year.

During the day, the teams comb the beaches looking for turtle tracks in the sand, so they can estimate the number of nests. This is also a chance to count the number of eggs in a nest (more than 100 on average) and tag foraging turtles.

But it's at night that the real action happens: this is when the teams are likely to spot female turtles coming ashore, or crawling back down to the ocean after

they've laid their eggs. When the team comes across a nester heading back down the beach, they take the opportunity to record some measurements.

Nesting beaches are often far away from the nearest village, so the teams have to camp out overnight. As well as the nesting survey, the volunteers have been carrying out beach clean-ups and replanting coastal vegetation on beaches that are suffering from erosion.

So far, the survey has concentrated on the critically endangered hawksbill turtle – one of the five species of marine turtle found in Fiji. Future patrols will also include green turtle nesting sites.

We're working with the government of Fiji to protect vital marine habitats like turtle nesting sites. Thanks to you, the data from the survey will help make sure your adopted turtles are better protected.

Karalaini



Female green turtles only lay eggs every two to five years

A TRADITIONAL WAY OF LIFE

Though international trade in marine turtles is illegal, local people in Fiji have always used turtles for their meat, shells and eggs. With your support, we've been interviewing local fishers and community elders to find out more about who still catches turtles, how many are harvested, where and how they're caught and sold, and what they're used for. This information will help inform management plans that will provide better protection for marine turtles in Fiji and other Pacific island nations.



Karalaini and local volunteers have been gathering information about why marine turtles are captured



Talking with local people



A nest found on Yadua Island

Hawksbill turtle eggs



Hawksbill turtles have beautiful carapaces (shells). Historically, these were manufactured into tortoiseshell jewellery and ornaments

ANCIENT MARINERS

Living representatives of a lost era, ocean-going marine turtles are supremely adapted to life in the high seas

Around 220 million years ago, when dinosaurs walked the Earth and long before the dawn of our earliest human ancestors, the first shell-coated turtles appeared. They had developed a novel adaptation that would help them outlast the dinosaurs and into the present day. Their protective armour may give them restricted mobility, but it's a significant factor in their achieving longevity as adults.

Some turtles evolved to become terrestrial, others finding a new habitat in lakes and rivers. The marine turtles are perhaps the most developed of all, equipped to manage a perpetual life on the move through oceans, plumbing the depths and surviving for hours under water without a single breath.

Inside out

The turtle's shell is a remarkable feature. But it's not just a shell, it's also partly

an exo-skeleton: the turtle wears some of its bones on the outside. The convex top of the shell (the carapace) is fused to the base (the plastron) along the sides by a fluted edge like a pie crust rim, called the bridge.

Bony plates fill the space between a turtle's ribs as it grows and fuse with the ribs and vertebrae to create a sealed bone coat. The bones themselves are light and spongy, a boost to buoyancy.

Scaly shield

Marine turtles gain a second layer on top, with a roof-tile-effect covering of more than 50 scales (also known as scutes) that act as a shield, as well as helping to reduce water loss. Made from keratin – just like our hair and fingernails – the scales are strong but flexible.

As its name implies, the leatherback is an exception to the rule. Instead of a scaly exterior, it has a carapace that can flex, covered by rubbery, leathery skin.

The gap between is full of fatty blubber embedded with thousands of bony plates that reinforce the carapace. ►





KEEPING REEFS HEALTHY

Hawksbills are found throughout the world's tropical oceans, predominantly around coral reefs. They feed mainly on sea sponges, using the narrow pointed beaks after which they are named to extract prey from crevices on the reef. The sea sponges would otherwise out-compete reef-building corals, so by eating them, the turtles help to protect the reefs, which are crucial for the survival of many other creatures.

MEET THE FAMILY

Your adoption supports our work to protect five of the world's seven species of marine turtle, which can all be found in Fiji



HAWKSBILL

That raptor-like pointed beak gives the hawksbill turtle its name. It's found around coral reefs throughout tropical seas.

LOGGERHEAD

The world's largest hard-shelled turtle is named the loggerhead after its huge skull, packed with powerful, clam-crushing jaw muscles.



LEATHERBACK

The most-travelled turtles, leatherbacks migrate across both Pacific and Atlantic oceans. They're named after their flexible, leathery 'shells'.

GREEN

The only herbivorous marine turtle, the green turtle gets its name not from the colour of its shell, but because of its green cartilage and fat.



OLIVE RIDLEY

A fairly abundant species that only nests in a relatively few locations, the olive ridley is named for its greenish skin and shell.

Marine movers

Significant differences make marine turtles far better at ocean locomotion than their freshwater counterparts. Their heads and limbs can't retract into their shells, like a tortoise, but what they lack in protection, they gain from reducing drag. Their shells are more streamlined too. Marine turtles are usually slow swimmers, but their turbocharged shape helps them to speed away from danger at up to 20mph.

Rather than kicking with webbed feet, marine turtles strike out with long front flippers that serve as paddles, while the broad back flippers act as rudders. Females have an extra use for those broader paddles – they'll become excellent shovels for digging holes in the sand when they lay their eggs.

Shed a tear

There's no need to feel sorry for a weeping turtle – it's crying to survive. Turtles swallow vast quantities of seawater with their food, saturated with more than enough salt to kill them. These reptiles are able to excrete that excess salt through glands near the corner of their eyes. Their tears can be twice as salty as seawater.

Deep breaths

How does an air-breathing reptile stay under water for hours at a time? Marine turtles can't breathe beneath the surface, but they can store lots of oxygen in their blood, and slow their heart rate right down. Nine minutes can pass between heartbeats. A resting turtle can sit under water for between four and seven hours.

Sea sight

These animals spend much of their time under water, but they do come to the surface to breathe. Amazingly, they have eyes that are adapted to seeing in both air and water. Human corneas are curved, which is better for refracting light in the air. Marine turtles have flat corneas that refract light in water more effectively, as well as a fish-like, near-spherical lens. Their eyesight is brilliant beneath the waves, though they're a little near-sighted on land.

DID YOU KNOW?

The leatherback is the champion salt-shedder.

It weeps copious salty tears from glands that are twice the size of its brain.

Deep sea sensing

A marine turtle's small ears are internal, sealed by a protective skin called the tympanum. A fatty layer of tissue sits right beneath the tympanum, a feature that turtles share with toothed whales. Scientists believe this makes turtles particularly adept at hearing low-frequency sounds, but we're still unclear about what benefits this might bring. There's clearly still much for us to learn about these remarkable reptiles and, thanks to your support, we can continue to do so.

© GETTY | © DOUG PERRINE / NATUREPL.COM



Marine turtles can sleep at the surface while in deep water or on the bottom wedged under rocks in coastal waters

SPACE FOR NATURE

Habitat destruction is the biggest threat to wildlife worldwide – but thanks to you, it's not too late to reverse the decline of nature

Every minute of every day, the space left for nature is shrinking. By the time you finish reading this sentence, an area of forest the size

of a football field will have been destroyed. About 90% of the world's wetlands have been lost in the last 300 years – 35% of them since 1970. And a third of all land is now used to produce food for humans. Few parts of the planet are left unscathed by the increasing demands of our ever-growing economies.

When we damage and destroy these habitats, we lose the wildlife they harbour. Loss of habitat is driving catastrophic declines in biodiversity, and pushing many species towards extinction. But it's also a threat to our own future, since we all rely on the resources and services that natural habitats supply.

But we know there's still time to restore nature. In the UK alone, we're helping to restore habitats on land and at sea – from rewilding the degraded landscape of Ingleborough mountain in the Yorkshire

Dales, to planting seagrass meadows off the Welsh coast to provide shelter for marine wildlife.

And around the world we're supporting local communities as they protect and revive natural sites. Adoptions like yours help us create wildlife corridors that connect animals in isolated patches of forest, while the Land For Life project in east Africa is supporting people's efforts to sustainably manage natural resources and protect their landscape.

As populations and economies grow, we're working all over the world to prevent further habitat loss. Thanks to your support, with our partners we can protect, restore and reconnect vital habitats so people and nature can thrive together.

**DO ONE
THING!**

Flower power:
Bring more
wildlife to
your garden by
scattering some
native wildflower
seeds

You're supporting our
work to tackle nature
loss around the world,
including close to home
in the Yorkshire Dales



**FIND OUT
MORE**

Download our My Footprint
app to find more ways to
help nature every day:
www.org.uk/myfootprint

Find out
about the other
species you can help
with an adoption at
[wwf.org.uk/
adopt](https://www.worldwildlife.org/adopt)

AFRICAN ELEPHANTS

Thanks to our elephant adopters, we're able to keep a close eye on elephants in Kenya's Mara ecosystem, to keep them and local communities safe. We're working with Kenya Wildlife Service to track 19 collared elephants and see where they are in real time. But it's important to check up on them in person. Recently, we've said hello to eight of these elephants, including matriarchs Chelsea and Ivy with their families, and two bulls – friendly Fred and feisty David.



ADOPTION ACTION

Thanks to adopters like you, we're protecting wildlife around the world. Here are some of the great things our adopters have helped achieve

Giant pandas

New camera trap photos show that pandas and other wildlife such as black bears are starting to use areas where we're restoring native habitat in China. Obstructions such as roads cut off panda populations, but adopters like you are helping reconnect them. Our adopters' support enables us to identify and help establish habitat corridors that allow wildlife to roam safely.



Mountain gorillas

We've followed Ihohe since he was an infant. Now he's a young adult – or blackback – it's time to leave home. He hasn't been seen for a while, so the rangers think he's gone off to start a family of his own. Since the pandemic started, local communities have struggled as fewer tourists visit the gorillas, and our adopters have helped to set up a fund to tide them over.



Snow leopards

Our adopters' support is helping us promote peaceful coexistence between people and snow leopards in Nepal. When the cats attack livestock they're sometimes killed in retaliation, so in Shey Phoksundo National Park we've been supporting herders to build stronger pens, as well as setting up insurance schemes to compensate people for livestock killed by leopards.



Penguins

We've been monitoring penguins at two Antarctic sites, Ardley Island and Dumont d'Urville, to compare how they're coping with the effects of climate change and with different levels of human activity. Our adopters' support has enabled us to buy the extra equipment we need to work at both locations. The results will help us identify the colonies that need better protection.





IN YOUR AUTUMN

Field report

Learn all about
turtle nesting!



[WWF.ORG.UK](https://www.wwf.org.uk)



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

As well as helping to safeguard turtles, you support our other vital work to help protect our beautiful planet and its wildlife. Thank you.

All information correct at time of printing (June 2022)