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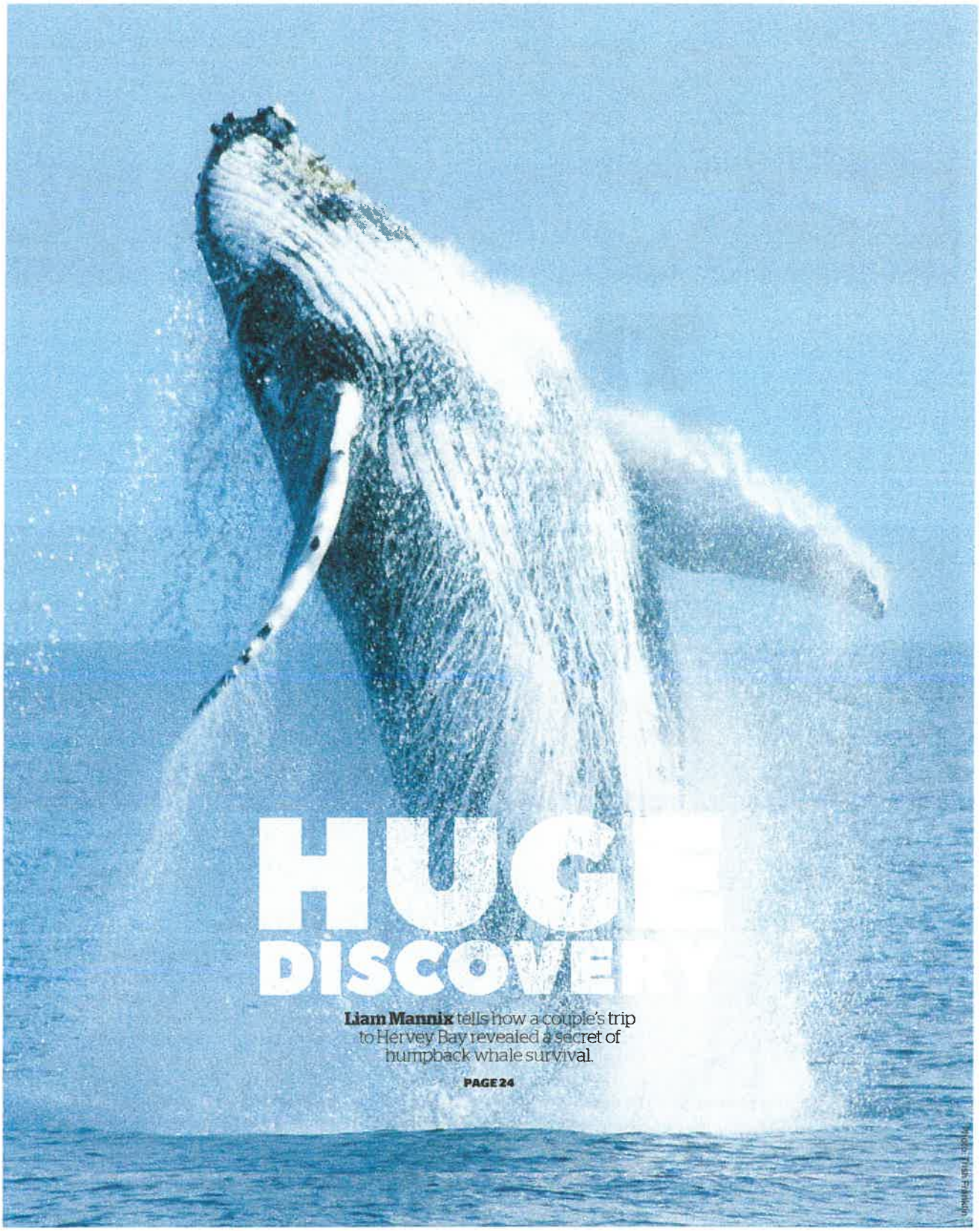

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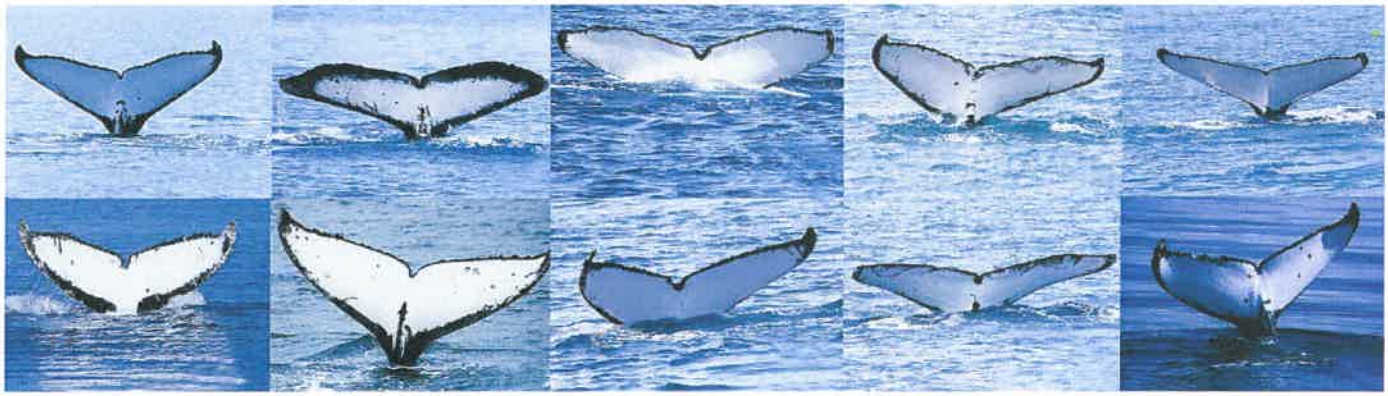

The Bay's big secret

In 1989, the Franklins took a trip to Hervey Bay. What happened next changed our understanding of a species, writes **Liam Mannix**.

When they first came to this place, a lifetime ago, they met a grizzled mariner who taught them the secret to being a whale.

The wind fills the sails of the Anna Kristina and the 100-year-old ship flies across the warm waters of Hervey Bay, timbers groaning, chasing the pods.

As they approach, just as the mariner taught them, Wally Franklin furls the sails, slowing the Kristina to a gentle glide. The mother whale and her calf watch with silent curiosity as the vessel settles alongside them. Then Wally gently mimics their movements from behind the wheel, until the whales forget they are there.

Only then does Trish Franklin lean over the side and whisper to them. "You're beautiful," she says. Then she takes her photos. Hundreds and hundreds of photos, her camera clicking over and over again. These photos – there are now half a million of them, taken over 30 years by two people who started this research project with little formal training in marine biology – form one of the most comprehensive

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databases of whale identity, movement and behaviour in existence.

Using them, Trish and Wally were able to uncover the secret of Hervey Bay. They think this place might have helped save the southern humpback whale. But the photos also record an entire relationship, a marriage, children, love and devotion. A man, a woman and the whales, all intertwined.

The shallow waters of Hervey Bay are that shade of light aquamarine that you see on postcards. The seafloor is lined with sand, gradually deposited here from around the world over hundreds of thousands of years.

Dig through it and you might find a grain from the vast mountain ranges that once formed Antarctica. The bay is formed by the overlapping dunes of Fraser Island to the east, which absorbs the blows from the wild Pacific.

The whales first discovered this place in the '80s, it is said.

Southern humpback whales, *Megaptera novaeangliae*, embark on one of nature's great migrations every autumn, swimming thousands of kilometres from their feeding grounds in Antarctica through the deep ocean to a secret lagoon in the Great Barrier Reef, where waters are warmer and they can mate, breed and give birth. As they swim, they sing, all singing the same tune, the haunting melodies carried by the water for hundreds of kilometres.

In the '60s we hunted them almost to extinction. Soviet whalers discovered their migratory routes, harpooned the mothers and children and dragged them up on deck to bleed out. At the species' nadir, there were maybe 200 eastern Australian humpbacks left.

That, Trish thinks, is about when the whales discovered Hervey Bay.

As they migrate down from the reef to Antarctica between August and October, a few mothers will quietly sneak their children 40 kilometres across a shallow pass to get into the bay, where they will stay for a couple of weeks, away from the males who like to remain out in deeper ocean.

In the early seasons, only a few came. But the number has swelled and swelled and now as many as 11,000 enter every year. The bay's shallow waters allowed young whales to get some sea miles up without running afoul of whalers or the deep ocean's many other hazards.

With the species' numbers dwindling, a nursery that dramatically increased the survival chances of the remaining humpbacks in the wild was vital. Certainly the species appears to have recovered far faster in the Pacific than the Atlantic.

"I'd hate to even contemplate what would have happened if they hadn't discovered it," Trish says.

Under the shallow waters, mother bonds with child. She swims slow and close, the calf frolicking in the slipstream her enormous bulk creates or, if it gets nervous, hiding safely under her vast belly.

Humpbacks have thick blubber that helps them maintain neutral buoyancy in the water; to a 15-tonne whale, swimming in water is like playing in zero gravity.

The mother whale uses her huge head to nudge her child into the shallows, right up to the shore, teaching him how to edge close to the sand without beaching. She allows him to suckle. Calves can easily drink 600 litres of milk a day.

Young whales don't know the way their species has been mistreated. They are naturally curious and will swim right up to boats, whether whaler or researcher. They rely on their mothers to teach them when it's safe and when it is not. That's what Hervey Bay is used for.

On the wooden decks of the Anna Kristina, Trish is focused and Wally is everywhere. He works with the crew to shift the rigging, getting the boat running at just the right speed to fall in with the whales. Too close, or too fast, and the mother can spook and flee – or slap her great tail, flooding the Kristina instantly.

"You've got to be really gentle with them," says Trish. "They know what you're doing. I think they can pick up your energies."

In the relationship and on the boat – where they spend 10 weeks every year – Trish is in charge. She hollers course corrections to Wally in the ship's bridge, having him bring the boat closer for a picture of a whale's tail as it breaches, or shouting at him when the pod doubles back towards them. But she usually does not need to say much. Wally and Trish have been doing this dance together for so long – 60 years together, 30 on the boat, three children now grown – that the steps are muscle memory.

The patterns on a tail, known as a fluke, are unique to each whale. This is what Trish's camera lens is hunting for. By looking at the bumps and nicks along the fluke's trailing edge, the width of the notch in the centre, and the pattern of blue-and-white dots and dashes, Trish can identify every individual whale that comes here.

> 'They have a sense of the life histories of whales very few other people on the planet have.'
> **Peter Harrison, Southern Cross University**

Trish calls the flukes a whale's fingerprint. I think they look more like Rorschach inkblots. "Read into us what you like," they seem to be saying, "but our mysteries are our own."

Trish will snap hundreds of photos of the flukes, 15,000 in the 10 weeks between August and October that she and Wally spend in the bay each year. Volunteers on the boat will record their behaviour using a special code Trish designed herself. BSTR (bubble streaming), they

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write, or LOG NUR DTC (logging, nurturing, down time with calf). TR and SNG – trumpeting and singing – are my favourites.

"Oh, the singing is beautiful. When you've got the engines off, you can feel the vibration of the singing through the vessel," says Trish. In the ship's bathroom, the sound comes humming up through the pipes and out the toilet bowl.

Whales are very sensitive to vibration. That's how they hear each other's songs underwater. "They are living in a world of sounds," says Trish. When one comes close, she leans out over the wooden edges and talks softly, murmuring in her soft Lancashire brogue. She gives each one a name: Little Bear, Salem, Nala, Zipper.

"She has watched some of them grow up," says Wally. "You do get emotionally attached."

In a past life, Wally was an executive in the airlines, and a marketing pro. Trish left school at 14, before later studying the history of the Indigenous people of the Wimmera.

They met at work in Sydney. Wally was flying gliders at the time. Trish was smitten instantly. It was 1958. Within three years, they were married.

They first came to Hervey Bay in 1989, just as it was starting to get a reputation as a hotspot for whale-watching. Wally was a tall ship enthusiast, and the pair helped run the First Fleet re-enactment for Australia's bicentenary in 1988. One of those ships, the Anna Kristina, ended up anchoring in Townsville.

Wally and Trish, who had both been captivated by whales for years, saw an opportunity to do an exploratory expedition to Hervey Bay to view the local humpbacks, and managed to convince the Kristina's owner and crew.

There, they found something seen almost nowhere else. Whales in the shallows, playing, bonding, in full view. It immediately became clear, says Wally, "this was a very significant place". They decided to stay, and so began their life's work.

Despite not having formally studied marine biology, they set up their own research project. They did not get their doctorates for more than 20 years.

"They were pioneers," says Professor Peter Harrison, founding director of the Marine Ecology Research Centre at Southern Cross University, with whom they would later work to publish their data.

"They have a sense of the individual life histories of whales that very few other people on the planet have."

The early years were tough. The crews on the ships weren't that interested in science. "They were like pirates," says Trish. They both quit their jobs and there wasn't any money.

Wally, casting around for ways of supporting Trish and the voyage, hit on getting people to pay to volunteer on the boats.

"He's a goer. There's no stopping him," says Trish. "He goes flying ahead. And I go flying after him, pouring water on him, trying to put out his fire."

Initially they thought they would do an extremely long study: 10 years. So far it's been running for 30, Trish's obsession funded by Wally's devotion.

"It wasn't really a decision to be there for years. You just get consumed. You want to get to know these whales," says Trish.

Eventually they found their own ship, the catamaran Moon Dancer. At night Trish and Wally curl up tightly together in a swag on the netting that runs across the catamaran's bows, suspended above the water. The stars shine bright in the sky and all around them is the sound of whalesong.

It's midsummer, and Byron Bay is being baked in sun and thick humidity. Sunlight filters through the brown horizontal blinds of Trish's study, playing off the room's yellow walls, psychedelic blue dolphin painting, and mounds of sleek silver computer gear.

Wally gets up first, putting the kettle on for dandelion tea. About 8am, Trish takes a cup and heads down to the study where she will work till six or seven at night. She's done this nearly every morning, for eight months of the year, for the past 30 years.

"It's a rhythm," says Wally.

He patters about somewhere down the hallway, co-ordinating funding for the next voyage; she opens up a simple Excel spreadsheet and starts to type. "Nala – RO BU LOS LT HSC SBL TR." Round out, belly up, laying on surface, lob tail, high-speed chasing, strong blows, trumpeting; a portrait of a happy whale.

Every year she takes about 15,000 photos. Boxes of negatives are stacked up on shelves that line the walls. She studies the fluke on each photo to determine which whale it belongs to. This is very, very difficult; to do it, Trish spends months staring at whale tails, looking for the tiniest difference.

In the past 30 years she has logged more than half a million photos into her database.

Trish does not like to talk about her work or the database. Remarkably, this impossibly valuable trove remains only on her hard drives, because she has never uploaded it to the internet (she later clarifies it is "safely backed up off-site" on separate hard-drives and optical discs).

Wally is deeply proud of his partner and her project, in the way of a man who has supported her and it for most of his life. It is, he believes, the largest and most comprehensive database of whale behaviour and sightings in the southern hemisphere.

"She is a remarkable woman," he says. "I'm not sure anyone else could have undertaken the highly detailed work she undertook. I'm not sure many scientists would have the meticulousness and passion."

They have published 26 scientific

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papers – an extraordinary number for latecomers to science – and take turns at being the lead author.

After 20 years of observations between 1992 and 2012, and another six years of work on the data, Trish published her major paper in the *Canadian Journal of Zoology* in June.

Her original work in 2011, which first suggested Hervey Bay was a whale kindergarten, was heavily challenged by other researchers.

"In the hypermasculine world of whale researchers, her results were very challenging, as they differed from reports of traditional breeding grounds and feeding areas," says Wally. Whales had only rarely been seen doing this, so other researchers were sceptical. That this major finding came from a husband and wife without academic marine biology backgrounds did not help.

"The community is relatively conservative," says Professor Harrison. "There are some fairly large egos among some of the research groups."

The 2018 paper confirms her findings in much greater detail – the sort of detail you can only get if you've spent 30 years taking observations. Without the database, discovering the importance of Hervey Bay would have been almost impossible.

And the kindergarten seems to be helping. Every year, Trish and Wally see more humpback whales at Hervey Bay; ocean surveys report strong population growth.

Japan announced in December it was leaving the International Whaling Commission, and will now begin commercial whaling again - sailing, perhaps, some of the Soviet fleet's old routes.

At the end of the year's whale watching, Wally and Trish like to head out to Rooney Point, the heavily forested spit that forms the entrance to Hervey Bay, to watch the whales leave.

Wally does not like to think about the future too much. He's focused on the next trip, the next fundraising drive, the next turn of the ship's wheel. But as he watches the whales leave the bay for the deep blue, he knows this cannot go on forever. They are approaching their 80s. The trips out onto the bay become tougher and tougher for them every year. Soon, it will be time to leave them to younger researchers.

But they won't stop working. They recently signed up for a project comparing their data to a database of whale behaviour recorded in other regions around the world.

And they need to get Trish's whale database online.

There's more urgency to this than they seem to realise. They have collected valuable scientific data in a way that is very difficult to replicate, but nearly all of it is either on a hard drive or DVD, in a box of negatives or stored in Trish's head.

"They now have a very well-formed understanding of whale behaviour that very few people have. Whether or not that ends up in the scientific literature, or if it remains just part of their life story, that remains to be seen," says Harrison.

They have a paper in review, and many more that need to be written.

"What we're interested in now is completion of the work through publication, because if you don't publish you don't become part of the body of knowledge," says Wally.

They'll probably never stop coming here, Wally says.

"We have got plenty of time to retire when we draw our last breath."

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'When you've got the engines off, you can feel the vibration of the singing through the vessel.'

Trish Franklin

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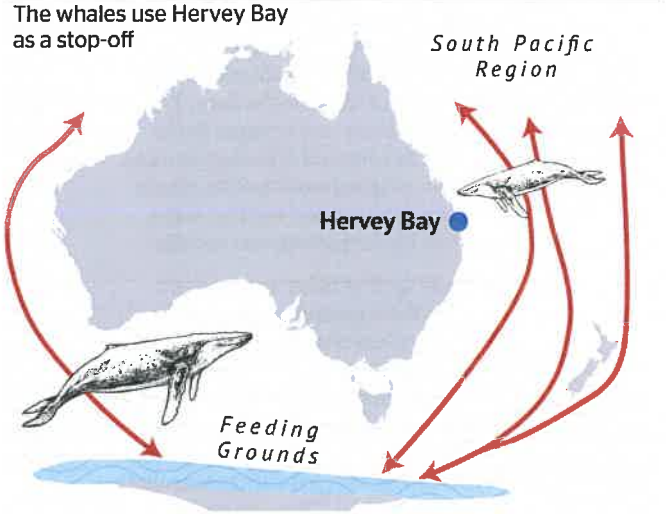
Trish Franklin with a research team including Peter Harrison, to her right, aboard Moon Dancer in 2003.

HUMPBACK MIGRATORY ROUTES

The whales use Hervey Bay as a stop-off



Trish and Wally Franklin off Cape Byron. They have been watching and recording humpback whales for 30 years, and can identify individuals by their tail markings, pictured far left.