

PLAYING TAG IN THE PACIFIC

In an epic voyage across Mexico's big fish hotspots, a team of British joint services divers managed to tag an impressive array of sharks. Expedition leader **Andy Reid** tells the story of Jurassic Shark II

HOW DO you top an expedition that succeeded in tagging 15 scalloped hammerhead sharks off Costa Rica's Cocos Island? When the opportunity came to follow up our original Jurassic Shark expedition of July 2006, we – a group of divers from across the British Armed Forces known as the Joint Services Shark Tagging Team (JSSTT) – broadened our remit to involve more shark destinations in the eastern Pacific. Accordingly, the plan for Exercise Jurassic Shark II was to electronically tag great white, scalloped hammerhead and whale sharks off Guadalupe and the Revillagigedo Islands off the Pacific coast of Mexico.

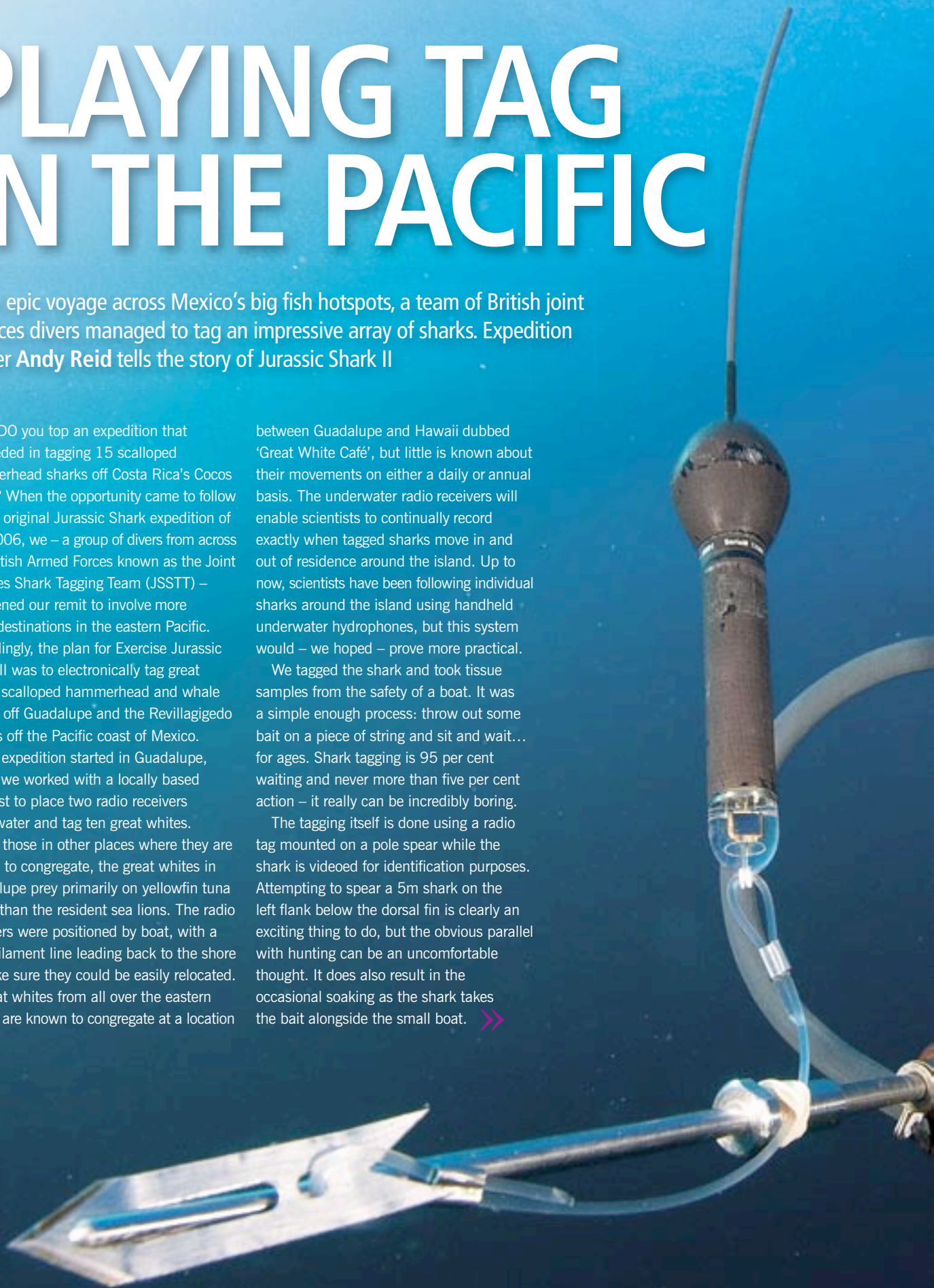
The expedition started in Guadalupe, where we worked with a locally based scientist to place two radio receivers underwater and tag ten great whites. Unlike those in other places where they are known to congregate, the great whites in Guadalupe prey primarily on yellowfin tuna rather than the resident sea lions. The radio receivers were positioned by boat, with a monofilament line leading back to the shore to make sure they could be easily relocated.

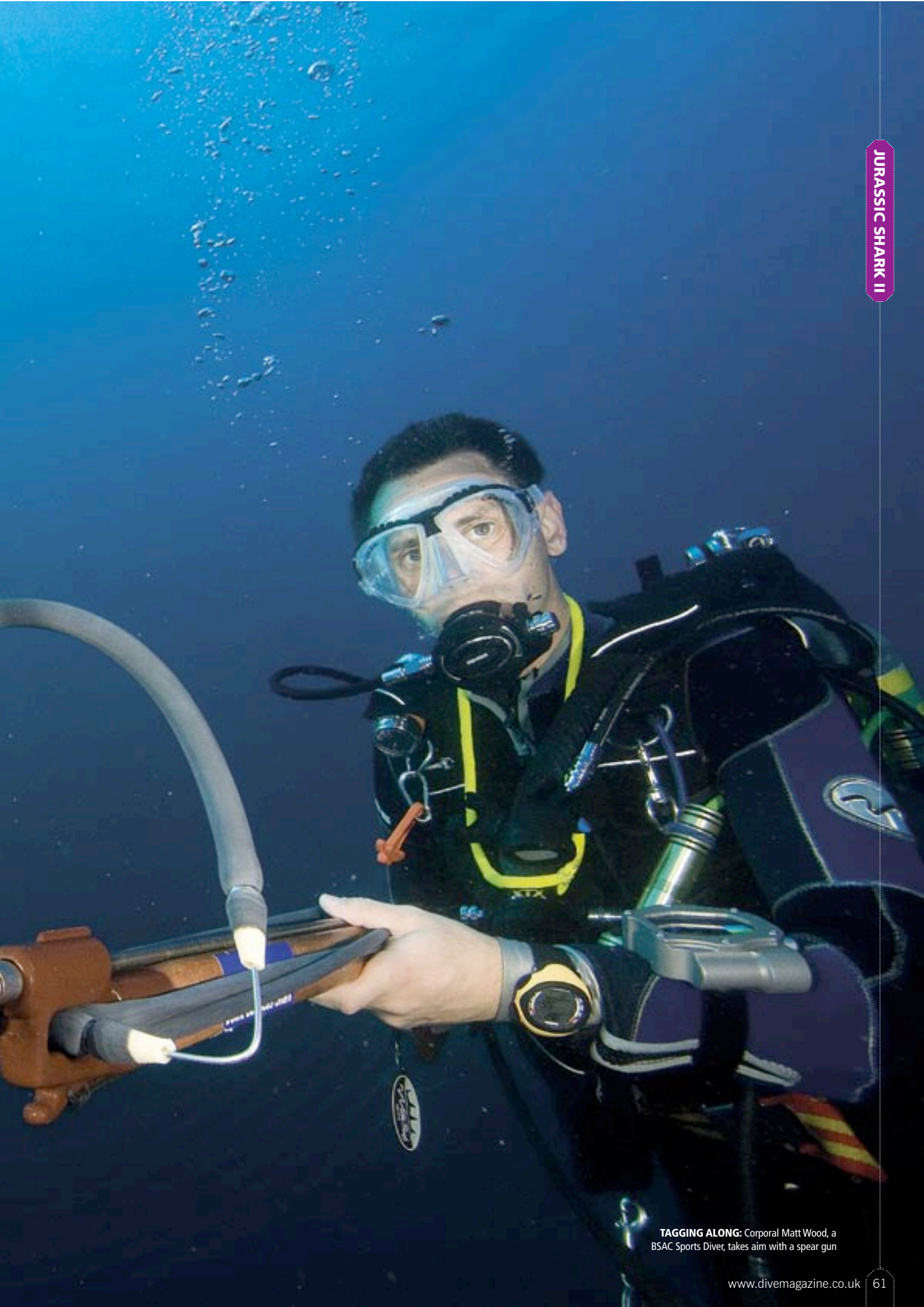
Great whites from all over the eastern Pacific are known to congregate at a location

between Guadalupe and Hawaii dubbed 'Great White Café', but little is known about their movements on either a daily or annual basis. The underwater radio receivers will enable scientists to continually record exactly when tagged sharks move in and out of residence around the island. Up to now, scientists have been following individual sharks around the island using handheld underwater hydrophones, but this system would – we hoped – prove more practical.

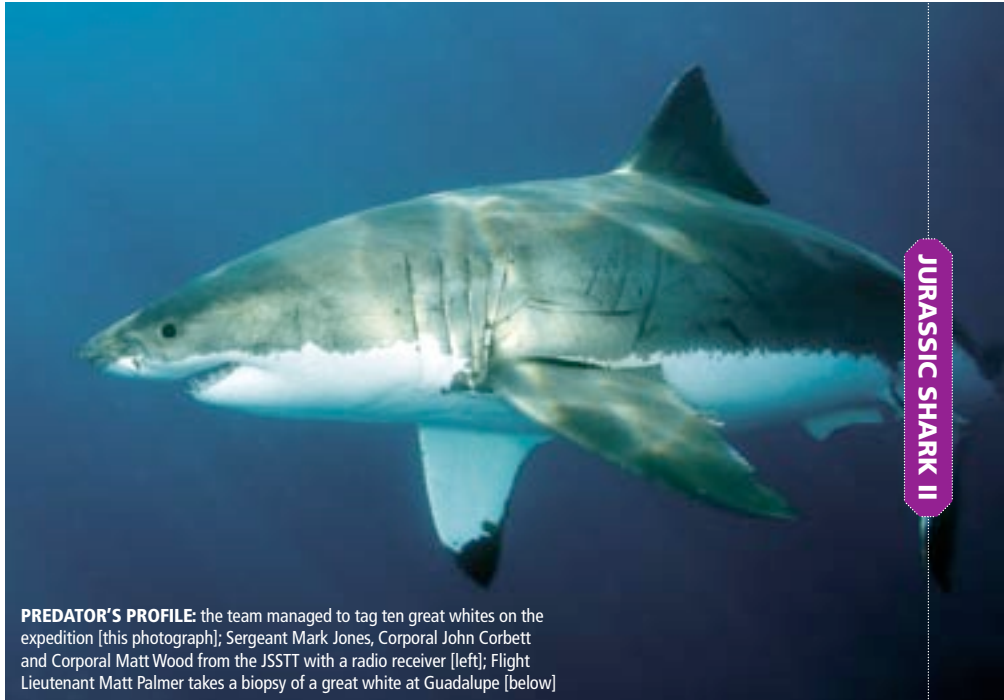
We tagged the shark and took tissue samples from the safety of a boat. It was a simple enough process: throw out some bait on a piece of string and sit and wait... for ages. Shark tagging is 95 per cent waiting and never more than five per cent action – it really can be incredibly boring.

The tagging itself is done using a radio tag mounted on a pole spear while the shark is videoed for identification purposes. Attempting to spear a 5m shark on the left flank below the dorsal fin is clearly an exciting thing to do, but the obvious parallel with hunting can be an uncomfortable thought. It does also result in the occasional soaking as the shark takes the bait alongside the small boat. >>





TAGGING ALONG: Corporal Matt Wood, a BSAC Sports Diver, takes aim with a spear gun



PREDATOR'S PROFILE: the team managed to tag ten great whites on the expedition [this photograph]; Sergeant Mark Jones, Corporal John Corbett and Corporal Matt Wood from the JSSTT with a radio receiver [left]; Flight Lieutenant Matt Palmer takes a biopsy of a great white at Guadalupe [below]

Guadalupe's great whites are named on the Marine Conservation Science Institute database at www.marinecsi.org. We were fortunate to encounter one female shark that had yet to be added to the database. This meant that we now had the privilege of deciding on a suitable name. She was the 86th shark to be photographed off Guadalupe and was distinctive in that she appeared to have anti-fouling paint or similar on her body.

From Guadalupe, we moved south on the long journey to the Revillagigedo Islands. We sailed down the entire Baja California peninsula, stopping in Cabo San Lucas for resupply, and beyond. Despite us being blessed with some good weather and the occasional pod of dolphins, it is not a journey I would recommend. After four days of tedium, we finally arrived at the island of San Benedicto in Mexico's Revillagigedo Islands.

Tagging sharks here proved to be unexpectedly difficult. This was primarily because the sharks were only present in relatively small numbers and were extremely timid, and not everyone had the requisite skills – patience, tenacity, marksmanship – required to tag sharks. This was compounded by the fact that the hammerheads did not appear to be making effective use of cleaning stations in the way that had been observed at Cocos Island.

So, we had our share of bad luck – partly as a result of changeable sea conditions and partly because we didn't have enough spear guns or tags to equip every set of divers. Half the team dived with a massive, heavily pregnant whale shark – but no one was equipped to tag her.

We moved rapidly from San Benedicto to the main island of Socorro with barely any shark sightings. The almost total absence of sharks meant that we had to move on via a compulsory check-in at the naval base,

where we discovered that the Mexican Navy regularly encounters five or six illegal fishing boats per month. These boats fish within the 12-mile protection zone round each of the Revillagigedo Islands and are totally indiscriminate in what they take – even catching manta rays, which are supposedly protected in Mexican waters.

Finally, we made the six-hour crossing from Socorro Island to an isolated 80m-long rocky pinnacle called Roca Partida. It is home to species such as silvertip, whitetip reef, Galápagos, silky, scalloped hammerhead and whale sharks. The rocky reefs are dominated by moray eels; you're likely to see up to a dozen in a single hole.

We needed co-ordinated teamwork to get the right people with the right kit for the job (different species required different tagging equipment and strategies) into the right place at exactly the right time. We finally

got this correct for the hammerhead and Galápagos sharks, but the whale sharks stopped playing much too early, with the result that there was no longer a right time or place. All this proved to be a useful case study in coping with constant, unpredictable change in a challenging environment, and with limited resources.

Despite the setbacks, the team managed to tag ten great whites, six hammerheads, three Galápagos sharks and one silvertip shark, in addition to placing two receivers at Guadalupe, one at Socorro and one at Roca Partida. We had also learned a crucial lesson with the whale shark – if you get an opportunity to tag one, you must go for it, as it will probably be your best chance. ■

• A further expedition, *Jurassic Shark III*, is being planned for 2010. To find out more, go to www.jurassic-shark.org.uk

