LINDSAY
WRIGHT

Munificence at the Bounties

Virgin dive spots are hard to find in this age of fast boats and GPS... but a team of DoC divers dipped deep into the Roaring Forties last month to check out a special spot. **Lindsay Wright** reports.

There is no PADI dive shop at the Bounty Islands. In fact, the nearest shop of any kind is 700km away in Bluff.

The 20 low islands are solid granite outcrops; the surface remnants of the submerged Bounty Plateau, their west coasts pounded by the relentless storms and sweeping seas of the Southern Ocean. To the east, sheer grey cliffs plunge into the surging sea, all devoid of vegetation.

But the Bounties teem with life. Above

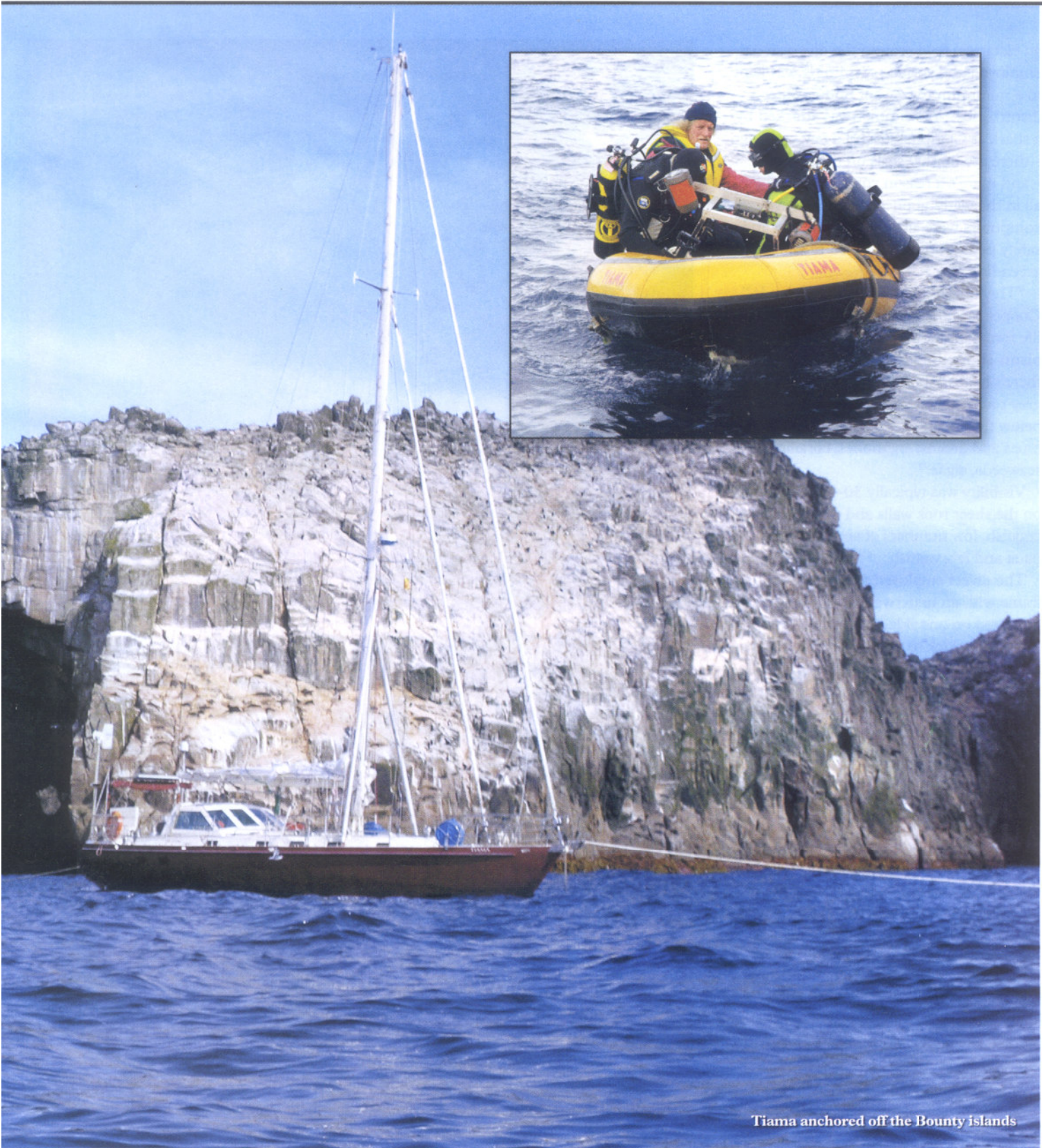
sea level, New Zealand fur seals and sea lions slumber around the shoreline like furry brown boulders, penguins waddle comically to and from their larder, the sea and overhead a dynamic panorama of Salvins albatross, fulmar prions, cape pigeons and storm petrels glide, wheel and dive.

The diversity of animals above sea level is mirrored by those below the constant swells – but they'd rarely been observed by human eyes before a Department of Conservation (DoC) dive team; Sean Cooper, Dr Franz



Smith and Louise Hunt, visited the islands in the charter vessel *Tiama* last April.

"As far as we know, only a few people have ever dived the Bountys before – or the Antipodes. There have only been a few research teams over the past 30 years and [photographer] Kim Westerkov later," conservation



Tiama anchored off the Bounty islands

officer Sean Cooper explained. “Otherwise, we were the first comprehensive survey of underwater biodiversity there ever.”

“There are a few basic precautions you’ve got to bear in mind for diving there. Water temperature is around 11-13 degrees Celsius, there’s a constant surge... and great

white sharks. In mainland New Zealand the sharks feed on a variety of prey – but in the sub-Antarctic’s they eat fur seals and sea lion pups, which look uncomfortably like someone in a dry suit. The nearest doctor is hundreds of kilometres away ... and because very few people have ever dived

here, we didn’t know what to expect,” he explained.

“For the temperature we wore dry suits, there’s not a lot we could do about the surge except be careful we didn’t get dumped on a reef or rocky outcrop.” Battery powered shark shields, which create

an electrical field around the divers, were employed and surface swimming was kept to a minimum to prevent undue water disturbance. "A swimmer was attacked by a shark at Campbell Island a few years ago – there are 20,000 seals on the Bountys – and there's a reason you never see them all in the water at once," he said. Dive computers were also used religiously and safety pauses strictly adhered to when ascending.

"The amazing thing about the islands," Cooper says, "is the incredible diversity of life forms under the water. There are no plants above the sea, but below the water there's heaps. Above the water they're all grey rocks, lichens and white guano, but below there's oranges, purples, yellows, blues and greens; anemones, coralline, seaweeds, algae."

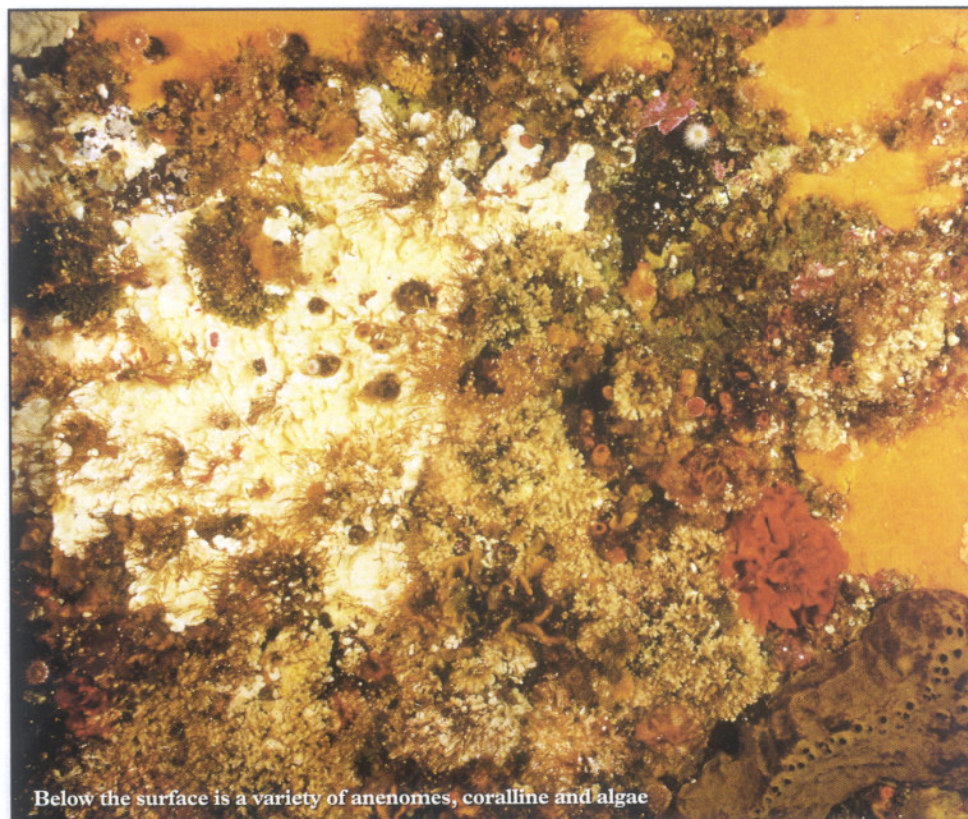
Visibility was typically 30–40m, he said, on the sheer rock walls and there were no crayfish, low numbers of small Virginia pua and few wetfish.

The divers employed a 1sqm aluminium frame with an underwater stills camera mounted on one side, which is pressed against the rock so a square-metre area can be photographed. Transept lines on the frame indicate area guidelines and images are taken at about 5m, 10m and 15m depth intervals. Dr Smith enlarges the images later, then identifies and counts the number of different species in that particular area. Video cameras and a remote operated vehicle (ROV) are also used.

"There's an amazing degree of diversity between different sites on the same island," he said. "We came across a species of seaweed, which previously had only been known to science by one specimen – but on the Bountys we saw groves of it."

The Wellington-based marine consultant is surveying other sites around the world in an attempt to establish global marine biodiversity guidelines for areas of special interest and says that New Zealand's sub-Antarctic islands rate in the top 80 percent of sites internationally. "That includes areas like the Seychelles, Galapagos and Patagonia," he says, "which you'd think would be full of life."

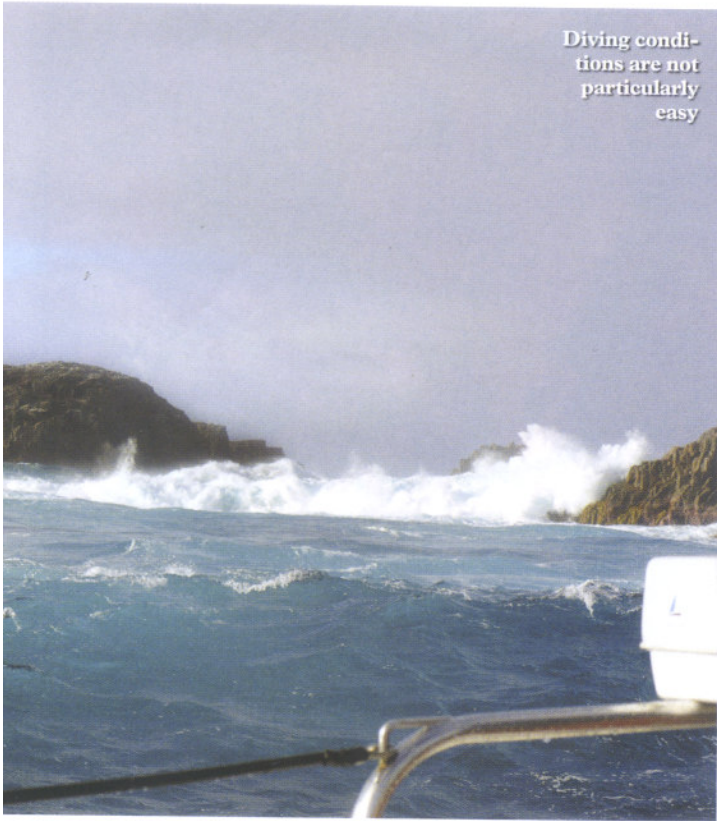
"The idea of this project is to establish baselines for the sub-Antarctics," Cooper says. "The data we gather will be used to help make decisions about their conservation in the future and observe how changing climatic conditions affect them. Their



Below the surface is a variety of anemones, coralline and algae



Diving conditions are not particularly easy



extremely high biodiversity adds value and significance to these islands and their conservation.

“The islands are designated as a nature reserve – and they’re protected by the weather and their remoteness – but otherwise there’s no special protection.”

A particular threat is the invasive Asian seaweed *Undaria*, which was accidentally imported in ships ballast water and has established itself at many mainland ports. *Tiama*’s underwater hull area was carefully searched by a diver for signs of the weed before she left Bluff.

“We need to get a better understanding of Southern Ocean biodiversity – to better manage the islands as a whole,” Cooper said, “everything depends on the ocean down here.”

After three days and nine +/- 30-minute dives at the Bounty Islands, *Tiama* retrieves her anchor from the rocky sea floor and heads for the Antipodes, 222km south. The geological variety between the two archipelagoes is immediately evident; from the Bounty’s low granite outposts to the Antipode’s soaring larval cliffs, topped by matted peat and tussock.

The first day is calm and several sites at the Windward Islands and a main island site at South Bay are investigated.

“There’s an astonishing difference between sites,” Smith enthuses, “people think of these islands as just marine mammals and albatrosses... but they’re only part of the story – the marine environment sustains everything here.”

Next day, the wind begins to shriek from the southwest at a steady 35-50 knots and *Tiama* anchors at Alert Bay, on the Antipodes east coast, while the divers check out more sheltered sites. A possible new species of coralline, or burrowing anemone, which attaches itself to rock faces, is discovered beneath the cliffs

of Bollons Island. Long tresses of kelp and endemic Antipodes bull kelp surge sinusously back and forth with the omnipresent Southern Ocean swell.

Samples of coralline algae, which are good indicator species for environmental change, are collected by the divers.

Water temperature here, 860km from Bluff, is 7-8 degrees Celsius and the inquisitive seals that badgered the divers at the Antipodes are absent, although a gang of pups porpoise across the bay to play later at a site near Leeward Island.

Two albatross researchers have spent six weeks at a hut on the island. But otherwise landing is by DoC permit only and visitors are rare.

"There's a greater difference between sites at the Antipodes – the Bountys have more barren areas which are interspersed with small areas of incredibly abundant niche habitat – but there's a wider spread of species here," Smith reported.

Again, the divers reported numbers of gastropods; limpets and bivalves, but no lobsters and few inshore wetfish.



Finally, after a week of underwater information gathering; Tiama collects the albatross researchers and six weeks worth of scientific equipment, personal effects and rubbish, off Antipodes Island. Accompa-

nied by a squadron of soaring antipodean albatross, she sets sail for Lyttelton.

"We'll be back," Cooper says, "this is a good start – we're just getting to grips with how things work down here." ■