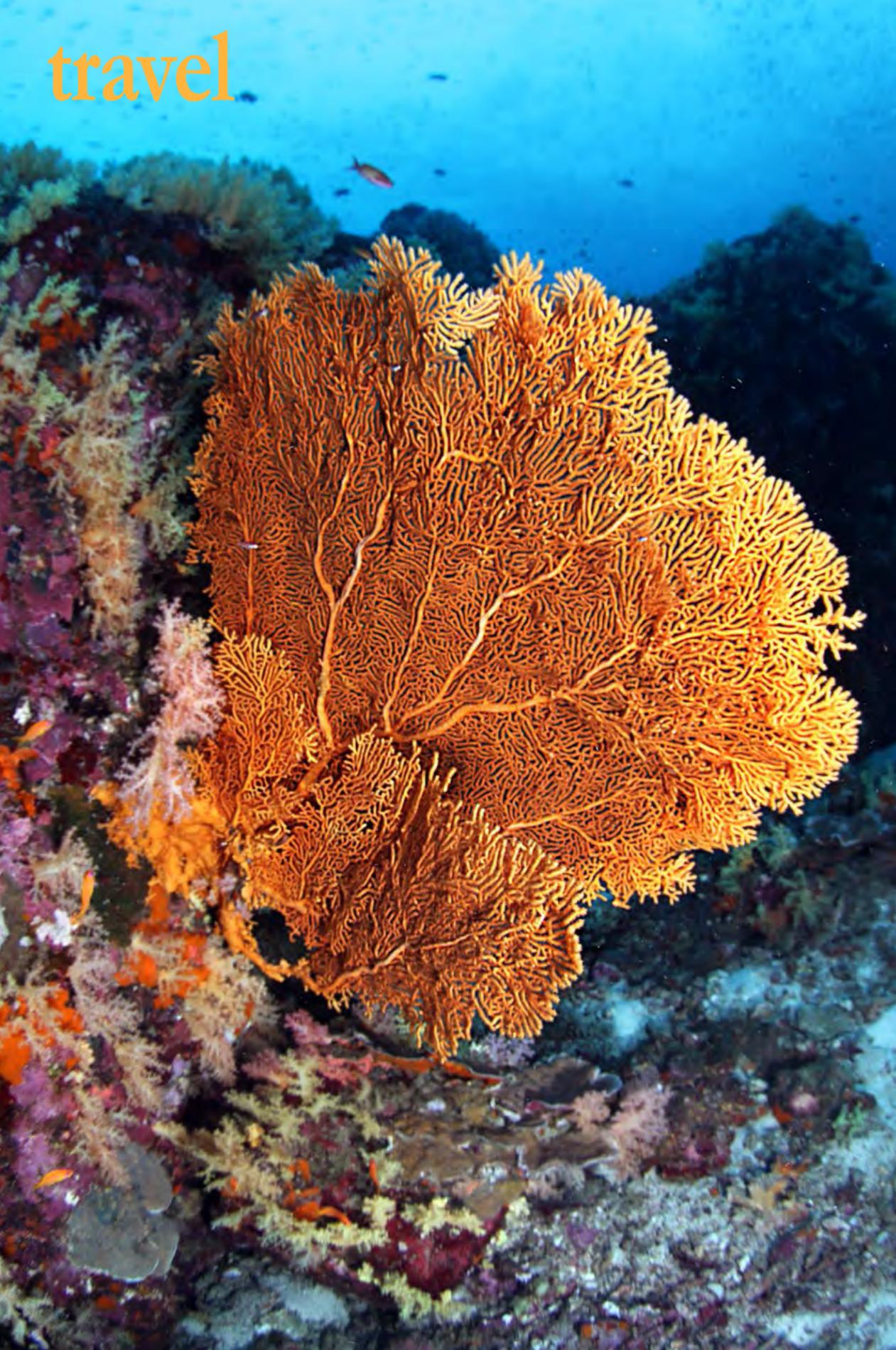


Thailand's Khao Lak

Text by Kelly LaClaire
Photos by Kate Clark

Diving the Similan Islands





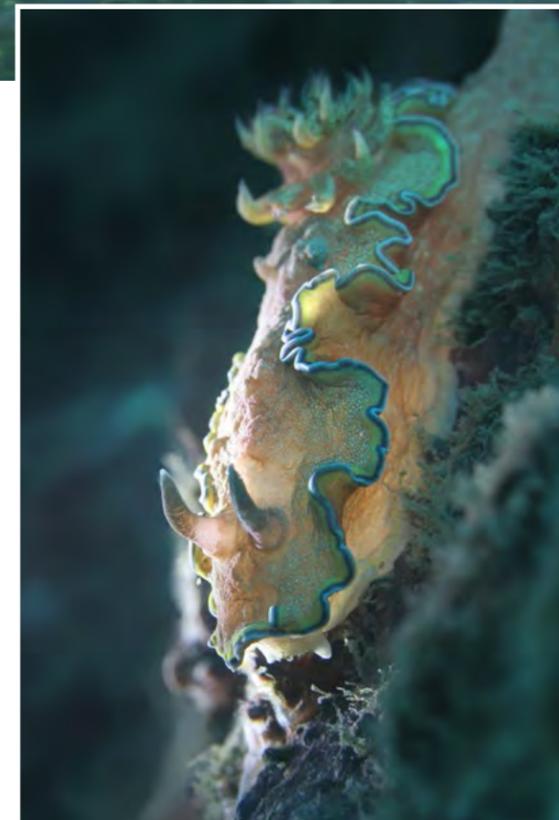
Gigantic orange fan coral on Koh Bon Pinnacle, Similan Islands National Park



Traditional longtail boat of Thailand (above). PREVIOUS PAGE: Harlequin shrimp on Richeleu Rock, Surin National Park

My dive buddy, Kate, is trying to get a shot of a purple sea fan but she's having trouble with her strobes and my ADD is kicking in. This happens occasionally. I try to be a good buddy, I really do, but there's just so damn much to see underwater and I get antsy if we stop too long for a photograph. This is horribly unfair I know, and I feel ashamed of myself at times, but I'm afraid we're going to miss something fantastic if we linger. I start whining to myself about the intricacies of Kate's insanely complex

camera because I'm absolutely positive there's 15 whale sharks and a half dozen great whites just around the next coral head... so hurry up already, Kate, and let's get moving! This is the conversation I'm having with myself when I feel something tickle the back of my neck. It's not physical—it's more like a soft breath against my brain, a whispering ghost of premonition. I look up and my eyes widen as my heart begins to pound involuntarily. My mind goes quiet and time seems to slow down.



Glossodoris cincta nudibranch on Boonsung wreck



CLOCKWISE FROM LEFT: Vendor at Bang Niang market; Local boy with elephant on beach in Taplamu; Rubber tree plantation in Khao Lak; Macaque monkeys in Khao Lak

Khao Lak

I wasn't even supposed to be in Thailand. Kate and I had just finished a two-week diving assignment in Indonesia and my flight back to the United States was already booked. My wife's birthday was only a few days away and I needed to get home. But, as sometimes happens, fate intervened.

Just before leaving, Joaquim Hedelin, a Swedish transplant and owner of Liquid Adventures, invited our team to tag along on a four-day liveaboard safari around the Similan Islands. Now you tell me, just how exactly does an avid diver say no to something like that?

So, that night I called my amazing wife and with her blessing ("You'd be silly to pass this

up!" she said. "We can celebrate my birthday when you get back.") I was flying with Kate to Thailand the next evening.

An hour-long taxi ride north of Phuket International Airport brought us to the bustling beachside village of Khao Lak. Since our boat didn't leave for two days, we had plenty of time to take a look around and soak up the culture. Thailand is unique and captivating—a mash-up of third and first world cultures.

Scooters and overfilled tuk tuks weave precariously among high-end SUVs and Mercedes sedans on the same highways. iPods and blue-ray discs sit incongruously next to fly-riddled pig skins and barbecued crickets at the same outdoor mar-

kets. It's a land of elephants and monkeys, jungles and temples, where the heat saps the life out of you and the natural beauty fills you up again.

But it's the people that truly make Thailand so endearing. Thai folk are friendly and warm, shy but curious. Invite them into conversation and they respond with polite affection and ready humor. Each and every local I met I liked immediately and they seemed genuinely interested in the happiness of others.

After the devastation of the tsunami that wiped out the entire village in 2004, I had fully prepared myself for locals still mired in the suffering and pain of so much dissolution. But what I found were people smiling and living their lives with resilience

and a seemingly unbreakable sprit.

Welcome aboard

It was to be my first trip on a liveaboard and I was feeling the anxious butterflies of anticipation. The boat crew, lithe men with quick movements, loaded our gear while the kitchen ladies welcomed us with friendly Thai greetings and broad smiles. After a quick tour of our new home, our group gathered on the foredeck for the departing ceremony.

Our captain and his family, who live on Liquid's 26-meter dive boat for six months a year, set out food and gift offerings to Buddha on the bow and then asked for safe travels. Fireworks concluded the prayers, frighten-



Writer Kelly LaClaire in swim-through at Deep Six off Island Seven (left) and Donald Duck Bay at Island Eight (right) of the Similan Islands



Similan Islands

The waters around the Similans are prolific and abounding. So much so, the Liquid crew aptly calls one dive site “Fish Soup,” an area so packed with massing snapper and juvenile barracuda that you literally get lost in the twisting swarms of sea life.

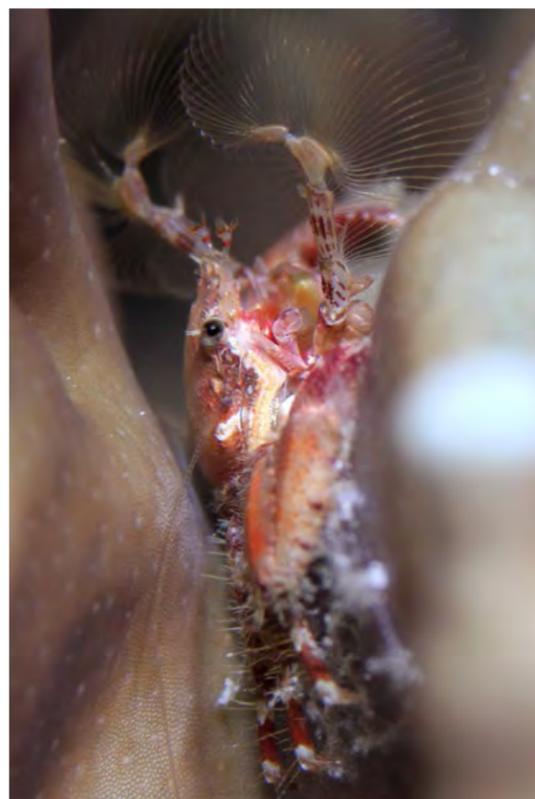
Our first site, Christmas Point, was surrounded by vast granite monoliths that towered over the sand and coral floor. Several groups of imposing trevally passed us as we finned among the giant boulders, eyeing us suspiciously like sentinels on patrol while a school of large sweetlips tried to hide under a rocky overhang.

ing away any evil spirits that may have been trying to stow away, and soon we were slipping out into the black night towards the Similan Islands.

The next morning, our little group of seven gulped down steaming mugs of coffee before hurrying to the stern to gear up, some of us with toast still in our mouths. For several of the guests,

it was going to be the first dive in months and their excitement was infectious. One couple, who hadn't been in the water for a year, couldn't stop laughing while they raced to see who got ready the quickest.

Kate smiled at me while turning on my tank valve, “This is gonna be awesome.”



Porcelain crab feeding, Koh Tachai Reef

Centuries of swift current and erosion have carved out numerous archways and long, cave-like swim throughs. Kate found one with a sizeable air pocket acting as a natural ceiling mirror and had me take a closer look while she readied her camera.

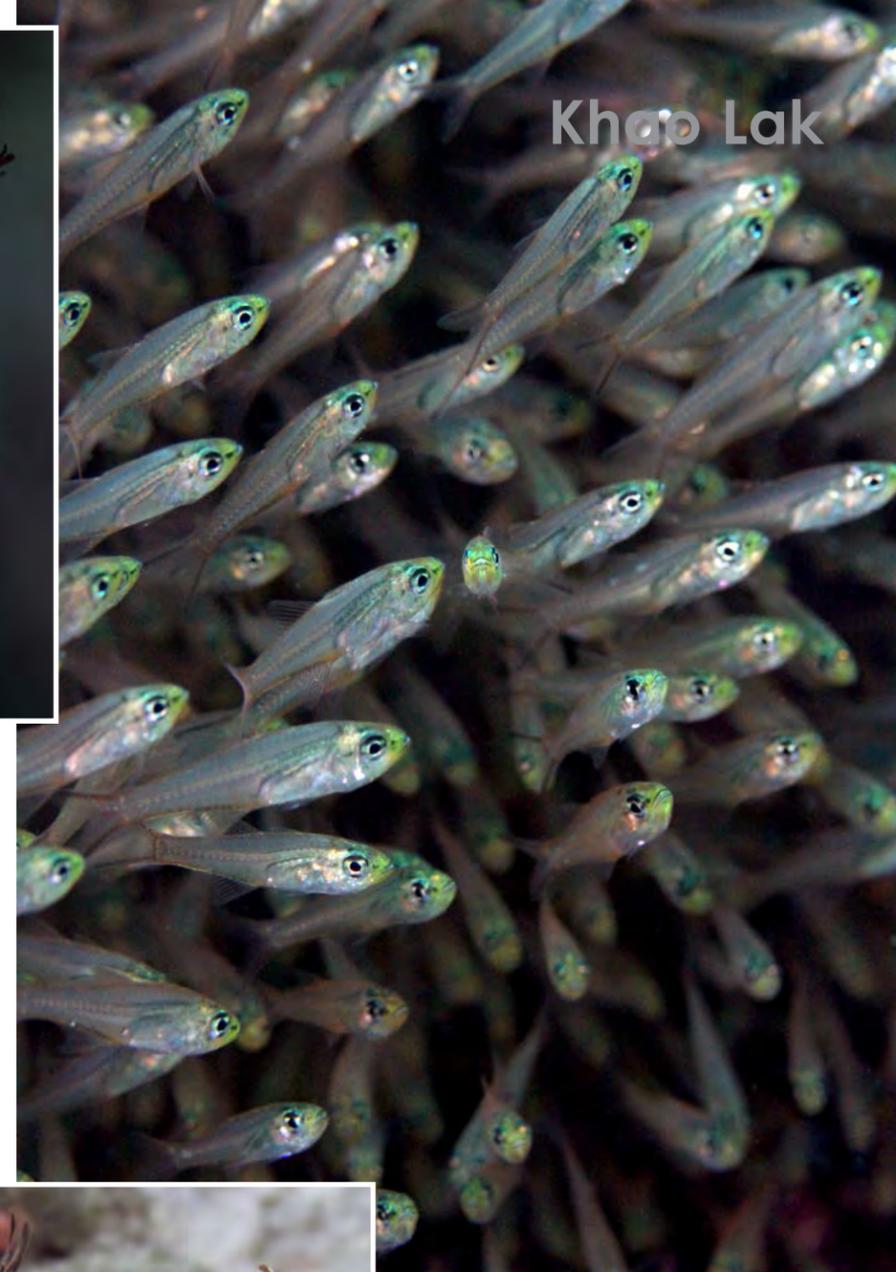
I marvel at Kate in these situations. All I have to do is swim where she directs me and smile on cue. She, on the other hand, has a much more arduous task. Capturing a magazine-quality underwater image isn't just difficult, it's damned near impossible. That may sound far-fetched, loyal reader, but let me assure you it isn't. Next time you're diving, try the following and see how you do:

While holding a 30-pound

camera, maintain perfect buoyancy even in swift current; direct your buddy with hand signals to get them into position and make sure the fish around you don't move; manually adjust your flash strobes into the correct position and check that they will fire with just enough light. Now, look through your leaky mask, through the tiny, foggy housing and focus your camera perfectly (remember if you get this step or any of these steps wrong, your picture will be worthless). Now, simply hold your breath so your bubbles don't get in the shot, conscientiously remembering to use only your fins to stay in exactly the same place without bumping into any coral around you and take the shot of a lifetime.



Squat shrimp at night, Koh Bon Reef



CLOCKWISE FROM LEFT: Diver over technicolor soft coral covering, Koh Bon Pinnacle, Similan Island National Park; Ornate ghost pipefish and glassfish on Richeleu Rock, Surin National Park; Juvenile rock mover wrasse, West of Eden, Island Seven, Similan Islands; Liquid liveaboard crew and guests with writer Kelly LaClaire and underwater photographer Kate Clark (sitting in the center)



Liveaboard lifestyle

Back on the boat, the galley crew had prepared breakfast: omelets, fresh pineapple, spiced pancakes and watermelon wedges. Our group attacked it, swapping stories about the last dive between sips of coffee and juice.

"What's next?" someone asked Joquim.

"Whatever you want," he replied smiling. "You're on holiday! Our next dive is scheduled in an hour and a half, but this is your vacation—make yourself at home and do as you please."

This sums up the liveaboard experience for me. And for the next few days, our group fell into a blissful fog of utter contentment—passing our time napping, reading, eating, diving and then starting the whole process all over again. In a word, it was perfect and I didn't want it to end.

Richelieu Rock

The Andaman Sea is famous for a fierce, bitterly cold current that rolls through it. Local divers call it the green monster on account of its unpredictable surges and pea soup

consistency.

As I followed Kate off the stern and dropped with the swift current into the horseshoe-shaped reef of Richelieu Rock, I could see the emerald colored thermocline below us, rushing around the giant limestone pinnacle like an angry underwater sandstorm.

The tides around Richelieu Rock are densely packed with plankton and other nutrients, creating incredible biodiversity, making Thailand's most coveted dive site the perfect



encounter with the occasional whale shark or a timid eagle ray can leave you slightly frustrated.

Kate had her macro lens on for this dive as one of guides had given us a map to a special rarity nesting at this site. We descended down into the frigid green monster and I immediately began cursing my decision to forgo a wetsuit. I gave Kate our "Holy mother of God—it's frickin' cold, so let's hurry this up!" hand signal and we fought the current toward a small collection of boulders.



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Khao Lak



Tornado of blacktail barracuda, Koh Tachai Dome, Surin National Park; Reef cuttlefish (left) on Koh Bon Reef, Similan Islands

this particular species before, and in a moment, I had forgotten all about my trembling arms.

Harlequin shrimp seem to glow underwater as if they are constantly backlit by some hidden light source radiating inside their tiny little bodies. We watched them feeding for several

The viz gets sketchy in that tidal wave of freezing green water, but somehow Kate managed to find the right spot and we were soon watching two striking harlequin shrimp feeding on the broken leg of a blue starfish. I had never seen

minutes before Kate wrapped her arms around herself and shivered—Bbbrrrrrr!

I nodded and we slowly finned upwards into warmer water, greeted by a cautious and hesitant cuttlefish. He flashed a multitude of

changing color patterns, extending his middle two tentacles at me. "You see this?" he seemed to say, "This gesture means the same below water as it does on the surface, big guy. So why don't you go back where you came from and leave me alone."

I wasn't too offended, I was intruding after all, and a quick look at my computer told me that my air was—shocker—running low anyway. So, we gave the guarded cephalopod an apologetic wave and headed up to our safety stop.

The Dome of Awesomeness

The single greatest day of diving in my life was spent at the island of Koh Tachai. Kate and I met on the top deck early to share a cup of





Great manta ray (left) off Koh Tachai Dome, Surin National Park; Koh Bon Island (right) off the West Ridge, is a famous spot for diving with mantas



The group was buzzing as we slipped into our gear. A quick check among the guests revealed that most all of us had yet to see a manta in the wild and the prospect had each and every one of us nearly shaking with anticipation.

We weren't three meters down the mooring line when a massive school of barracuda swam by us in a lazy, twisting cyclone. They were followed by a group of batfish and a leery pack of trevally.

The dive site came more into focus as we dropped and I could see a giant granite dome at the center of the site surrounded by coral heads and rocky outcroppings scattered along the sea bed. We leveled off at around 20 meters and were greeted by a large green moray hissing at a banded sea snake who was hunting too close the grumpy eel's den.

Thousands of fusiliers swarmed the site and I was astounded at the amount of life making this island reef their home. There was so much activity and so many species to see my attention was being pulled in a hundred different directions at once. I turned to Kate and gave her a large "Are you kidding me?!" smile. She nodded furiously in agreement.

A curious hawksbill turtle glided by and we followed it for a few meters to a giant purple sea fan. It was here that Kate stopped for a photograph and my lack of attention span began to get the best of me. So far, this dive site had been amazing and the thought of missing anything was almost too much for me. Then the giant manta

ray passed overhead and nothing else seemed to matter.

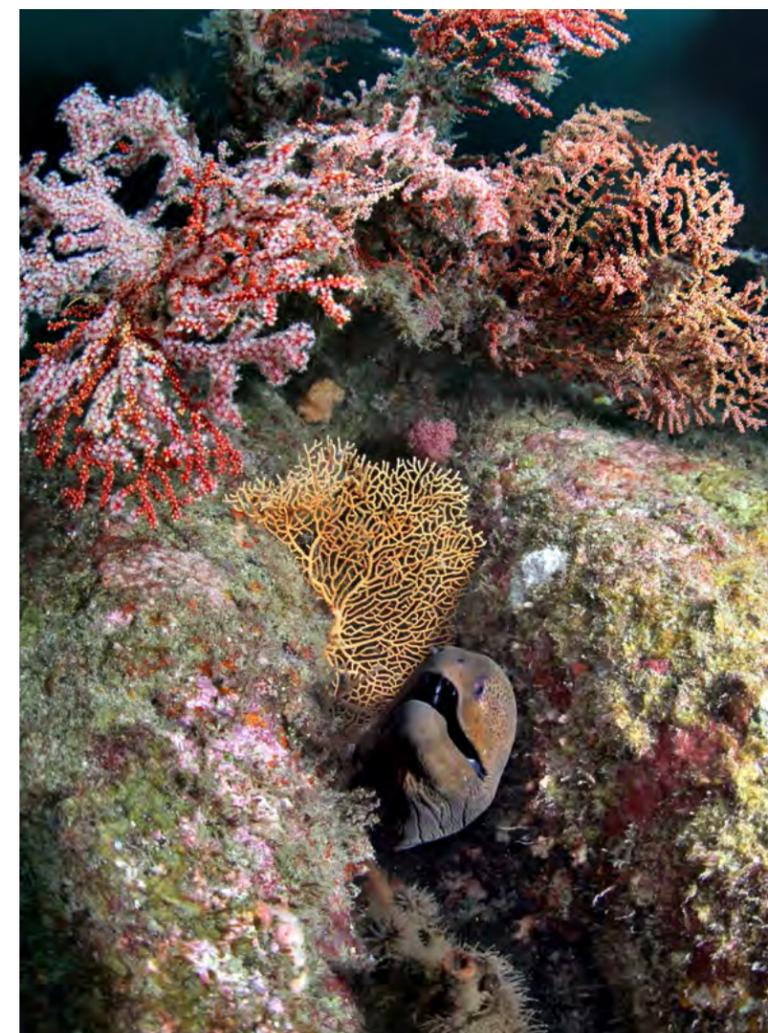
It was easily 15 feet from tip to tip, as big and alien as a flying saucer. The massive underbelly flashed gray and white while long, delicate gills rippled from its own wake. I was instantly mesmerized and my regulator almost fell out of my mouth, but somehow I managed to give Kate three soft taps on the shoulder.

Kate let out a shriek of surprise and shot off to get along side it, sea fan and buddy forgotten in her excitement. I generally don't have too much trouble keeping up with her but this was different; she was gone in an instant and I was swimming as hard as I could just to keep her fins and the shadow of the giant ray in my sights. Thankfully, after only a minute, Kate came to a stop and the manta turned on its side, wings displayed in a vast, far reaching triangle, and swooped back towards us.

By now the whole group had seen it and they swiftly gathered in a loose semi circle to marvel at its elegance. Our guides had their hands held out, asking us to stay put lest we spook the gentle giant and chase it away. As it

tea and watch the sunrise before joining our friends for a light breakfast and morning briefing. The currents could be fast here, we were told, and as such, lots of nutrients swirl around this dive site, attracting all kinds of life, including

manta rays. We were told that the last few groups had not seen any of the giant rays, and they might be gone for the year, but if we did have a chance at spotting them, this was going to be the place.



Giant moray eel and corals, Koh Tachai Dome





banked around us a second time, the manta gracefully fluttered its enormous wings and passed within touching distance of Kate and me.

The manta danced around us, swimming in wide dignified circles for the next few minutes while our wide-eyed group watched in delight. When my gauge reached 200 psi I knew I could wait no longer—I had to get to 15 feet or face the consequences. As I sat at my safety stop, holding onto the mooring line, I watched in envy as Kate joined the few

of our group who still had plenty of air.

At the surface I saw the captain on the upper deck, smiling and holding out his arms like an airplane. “Manta!” he laughed. “Manta, manta, manta-aaaaa!”

Take two

For the next hour and a half, we eyed our dive computers like school kids waiting for the summer bell to ring. Everyone in our group was itching to get back in the water. Another boat in the area had

spotted the manta again and the surface interval couldn't end fast enough.

As soon as the first computer squawked, we stepped off stern and sank down along the mooring line, and again, I was shocked at the multitudes of life. Thousands of Randall's fusiliers darted around the smooth granite boulders chasing swarms of powder blue surgeonfish in a dizzying game of tag among the corals.

We heard a frantic rattle from a guide's noisemaker and turned to see

the manta swooping in for another look, this time followed by a second giant ray, slightly smaller but every bit as breathtaking.

There is something ethereal about manta rays that pull you towards them, some inexplicable quality that cannot be defined. Perhaps it's their delightful gentleness or their prodigious size that does it; perhaps it's the sheer extraterrestrial quality of them. But whatever it is, they possess a sort of magnetic force that keeps your fascination piqued and

THAILAND TRAVEL TIPS

Thailand is a wonderful country, but the East is much different from the West, and if you're from the United States, Canada or Europe, you may want to keep the following in mind before you go:

Say no to plastic! – Most Asian countries love plastic, and Thailand is no exception. Anything you buy—a pack of gum, a candy bar, a single bottle of water, anything—will most likely be handed to you in a plastic bag. Please tell the person behind the counter you do not need it. The roadsides, beaches and oceans have enough plastic polluting them already; try your best not to add to it.

Tipping – Tipping your dive guide or an ex-pat waiter or waitress is totally acceptable in Thailand. However, if you stop by a roadside food cart (and I highly recommend you do, some of the best food to be found is from these local carts) tipping can be offensive. Local Thai people believe in helping others for the joy of it and handing them a couple bills for their service can be confusing and slightly distasteful for them. If you unsure what the protocol is in a specific establishment, don't tip and you will be safe.

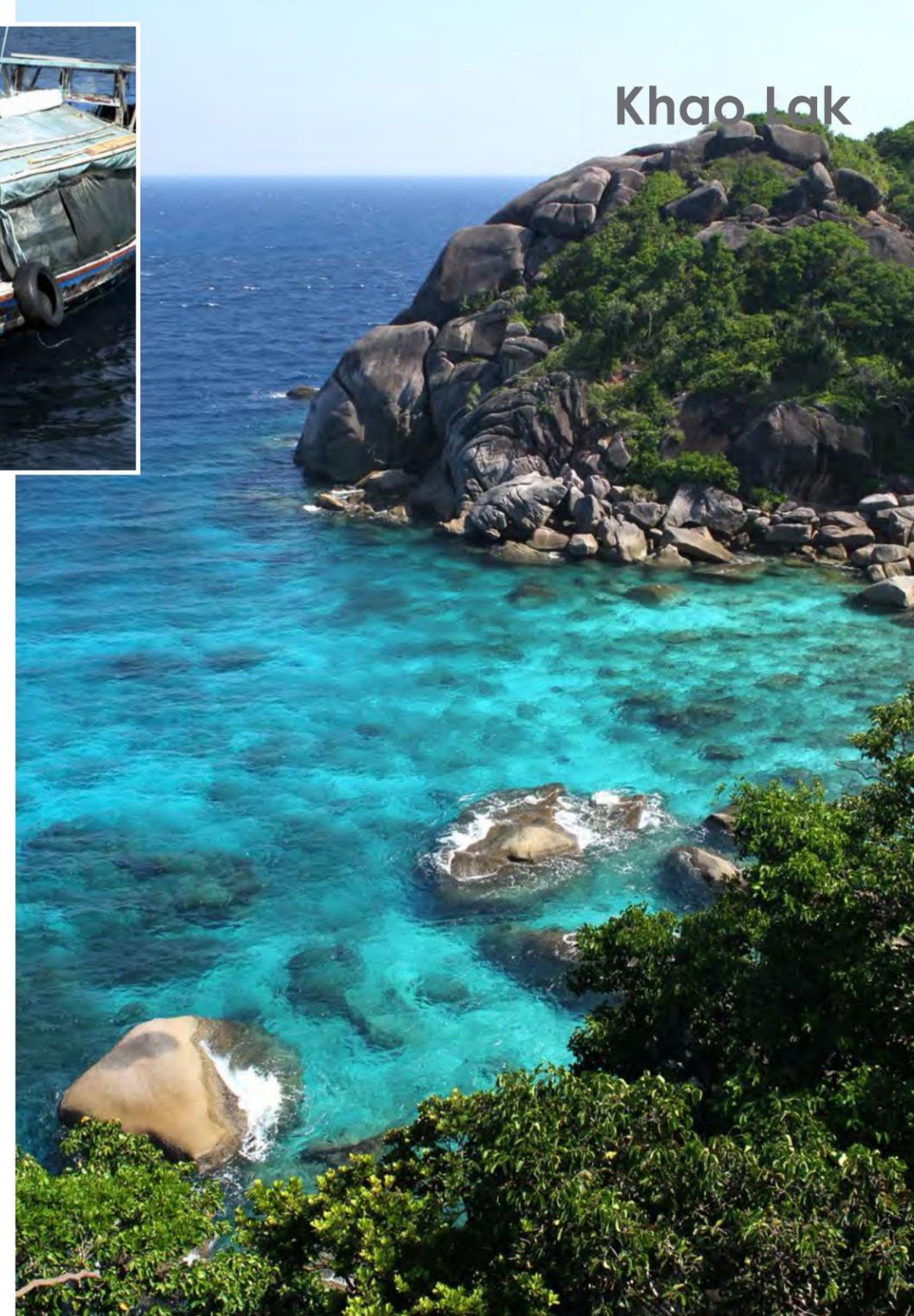
Bring hand sanitizer – Sanitation rules in Thailand are not the same as you may be used to. Many public bathrooms do not have sinks and a few restaurants won't either. It's not something to worry about, just bring a couple travel-sized bottles of hand sanitizer for you and the kids and you'll be fine.

Bring toilet paper! – I don't think this needs too much explanation; just please believe me and remember to put a few extra rolls in your suitcase. Make sure you keep some with you wherever you go.

Bring an anti-diarrheal medication – Again, this is probably self-explanatory and possibly self-evident, but Western stomachs are not always well adapted for Eastern cuisine and their preparations. □



PREVIOUS PAGE: View from bow of Liquid liveaboard. THIS PAGE: Liveaboards in the morning light just off Koh Bon Island, Similan Island National Park; The clear turquoise waters of Island Eight, Similan Islands (right); Local boat villager (above) and swing on Koh Tachai Beach (bottom left) in Surin National Park



we never seemed to tire of it.

They circled us for the next hour, swimming in great sweeping double helix patterns. Every diver in our group remained almost motionless, watching with awe as the slight current swept us around the granite monolith at the center of Koh Tachai. My tank lasted 80 minutes, although I had to suck my tank dry to do it, and for the first time Kate and I ended our dive simultaneously.

I know, as a “responsible diver” I’m not supposed to tell you that. I’m supposed to tell you that at 750 psi I slowly headed up towards the surface for a safety stop, but that isn’t what happened at all. I was completely enthralled by what I was seeing and the thought of getting out of the water any earlier than I absolutely had to was unthinkable.

By the time we surfaced, the needle of my air gauge was deep into the red (almost touching the pin, in fact) and as we passed our fins to the boat boy, he looked at it reproachfully, shaking his head. “Every time with the mantas,” he said under his breath. “Every time.”

Farewell

I knew I was going to enjoy the liveaboard experience; that was plainly obvious. I mean, seriously, what could be more satisfying than being on a beautiful boat (and Liquid’s boat is beautiful) and diving four or five times a day in pristine waters? What I wasn’t prepared for is just how much I would love it. I am not exaggerating when I tell you that spending a dive holiday on a liveaboard is just about the most insanely fan-

tastic thing anyone could do.

Guests are pampered from the moment they wake up to the moment their head hits the pillow. All the diving you can stand, all the tasty food you could eat, all the sunshine and beauty your body can absorb, combined with the absolute absence of everyday distractions. Every minute you spend out at sea and exploring the underwater environment acts as a soothing salve to the countless scrapes and bruises that day-to-day living inflicts upon you.

When you leave, you’ll feel both exhausted and invigorated at the same time and, like any goodbye, stepping off that ship won’t be easy. It will call to you again and again, when you’re at your desk, when you’re sitting in traffic, when you’re sleeping and dreaming your heavenly scuba

dreams, because liveaboards get in your blood like some strange addictive chemical—and once you’re hooked, you’re hooked.

So, if you’re planning on treating yourself to a diving vacation in the near future—and you should be planning one, you work hard after all and you deserve it—let me highly recommend several blissful and relaxing days diving

from a liveaboard. I promise you won’t regret it. □

Travel writer Kelly LaClaire and underwater photographer Kate Clark are cousins based in Portland, Oregon. They travel as a team because Kelly is afraid of spiders and needs Kate to kill them for him if one gets into his hotel room.



LIVEBOARD TIPS

If you have never been on a live-aboard before, here is a short list of helpful hints to consider:

Don't dive if you don't want to – This is the first rule of liveaboard trips. Diving is tiring and can wear you out. Diving four or five times a day can be downright exhausting and it is totally alright if you need to skip a dive or two, especially on the last couple days of the trip. You are on vacation after all, so if don't feel like diving and you would rather sit on the sun deck and read, by all means do so. No one will think less of you.

BYOC – That stands for Bring Your Own Coffee. In many Asian countries (and some other countries as well) instant coffee is all you will find. Therefore, if you like a nice quality cup of coffee in the morning, then remember to bring a couple pounds of your own favorite grind with you. Also, you may have to bring a small press or pour-over cup as some live-

aboards won't have actually coffee pots on hand. Ask your operator.

Take care of your ears – Diving 20 or 30 times in the span of four or five days is almost guaranteed to give you an ear infection if you're not very careful. To avoid this, ask your doctor about a prescription of Otic Domeboro Solution. It is a tad costly, but well worth it—having to stop diving for a day or two can be a real downer! There are over-the-counter solutions as well but the above has been proven to be the most effective.

Take electrolytes – Electrolyte packets can be purchased in almost any drugstore and are made to dissolve in a glass of water. You will be near the Equator and Thailand is both hot and humid, meaning you will be sweating and losing a lot of water and salt. Taking one or two packets a day with plenty of water will help keep your energy up and may assist in keeping your intestines happy.

Dietary needs – Although the boat will have plenty of amazing food and drinks, it may not have specific foods you may need or want. Usually, liveaboard operators are happy to store specific drinks or special foods for you if they can. So if you are vegan or vegetarian or diabetic, just ask the operator before you book your trip and they will do their best to accommodate you.

Bring a dive net – This isn't a must, but I would ask you to consider it. Small mesh bags can be purchased for very little money (or the boat may have their own) that can be attached to your BCD and used to store trash while you are diving. Unfortunately, on nearly every dive you take, a piece of discarded plastic or trash will be found somewhere around the dive site. Taking a mesh bag will allow you to pick up what you find and bring it back topside for proper disposal. The oceans need good stewards and divers should strive to be those people. □

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fact file



Khao Lak, Thailand



SOURCES: U.S. CIA WORLD FACTBOOK, WWW.SSSNETWORK.COM

History In the mid-14th century, a unified Thai kingdom was established. It was known as Siam until 1939. Out of all the Southeast Asian countries, Thailand is the only one that has never been taken over by a European nation. In 1932, a peaceful revolution led to the establishment of a constitutional monarchy. Thailand was allied with Japan during World War II. But in 1954, it became a U.S. treaty ally. Thailand sent troops to Korea and fought alongside Americans in Vietnam. In 2006, a military coup resulted in the overthrow of Prime Minister Thaksin Ch-

innawat. Since then, turmoil in the government between pro- and anti-Thaksin parties has wreaked havoc in the governing of the country, which was further tested by historic flooding in 2011. In addition, thousands of people were killed and wounded in separatist uprisings in the southern ethnic Malay-Muslim provinces in 2004. These challenges have hampered the plans of constitutional reform of the current government led by the Puea Thai party. Government: constitutional monarchy. Capital: Bangkok

Geography Thailand is located in Southeastern Asia. It borders the Andaman Sea and the Gulf of Thailand, southeast of Myanmar. Thailand is in control of the only land route from Asia to Malaysia and Singapore. Terrain consists of a central plain, the Khorat Plateau in the east and mountainous areas. Coastline: 3,219km. Lowest point: Gulf of Thailand at 0m. Highest point: Doi Inthanon at 2,576m.

Climate Thailand is tropical with a warm, rainy, cloudy southwest monsoon from mid-May to September and a dry, cool north-

east monsoon from November to mid-March. The southern isthmus is always hot and humid. Water temperature is 28-30°C. Natural hazards include droughts and subsidence of land in the Bangkok area due to depletion of the water table.

Environment Thailand suffers from air pollution due to vehicle emissions, water pollution due to organic and factory wastes, deforestation and soil erosion, as well as illegal hunting, which is threatening wildlife populations.

Economy Thailand has a well-developed infrastructure and an economy of free-enterprise, with pro-investment policies and strong export industries. It has enjoyed solid growth since 2000 after recovering from the Asian financial crisis of 1997-98. Thai exports, which consist primarily of machinery and electronic components,

RIGHT: Global map with location of Khao Lak
BELOW: Location of Khao Lak on Thailand map



agricultural commodities and jewelry, make up half the GDP. However, the country felt the effects of the global financial crisis of 2008-09, which severely cut Thailand's exports. Since then, the economy has contracted and expanded, until the historic flooding of Bangkok in 2011 crippled the industrial and manufacturing sector. However, recovery is expected with modest growth in 2012.

Population 67,091,089 (July 2012 est.) Ethnic groups: Thai 75%, Chinese 14%, other groups 11%. Religions: Buddhist (official) 94.6%, Muslim 4.6%, Christian 0.7%, other religions 0.1% (2000 census). Living with HIV/AIDS: 530,000 (2009 est.) Internet users: 17.483 million (2009)

Currency Thai Baht (THB). Credit cards are widely accepted in hotels and dive centres but incur a 3% charge. Exchange rates: 1USD=31.90THB; 1EUR=42.49THB; 1GBP=53.02THB; 1AUD=29.70THB; 1SGD=25.58THB

Language Thai, English (secondary language for upper class), ethnic and regional dialects

Visa Passports must be valid for at least six months upon entry. A 30-day visa exemption will be issued upon arrival for holders of Australian, U.S., European and New Zealand passports.

Health There is a high degree of risk for food or waterborne diseases such as bacterial diarrhea; vectorborne diseases such as dengue fever, Japanese encephalitis, and malaria; animal contact disease such as rabies; water contact disease such as leptospirosis. H5N1 avian influenza has occurred in this country but poses a small risk to tourists, those who have close contact with birds (2009)

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Websites
Tourism Authority Thailand
www.tourismthailand.org



Grasshopper snacks for sale at Bang Niang Night Market



Diver with bluespotted stingray, Boonsung wreck

Papua New Guinea's

Kimbe Bay

Text and photos by Don Silcock

The Coral Crucible





Kimbe Bay

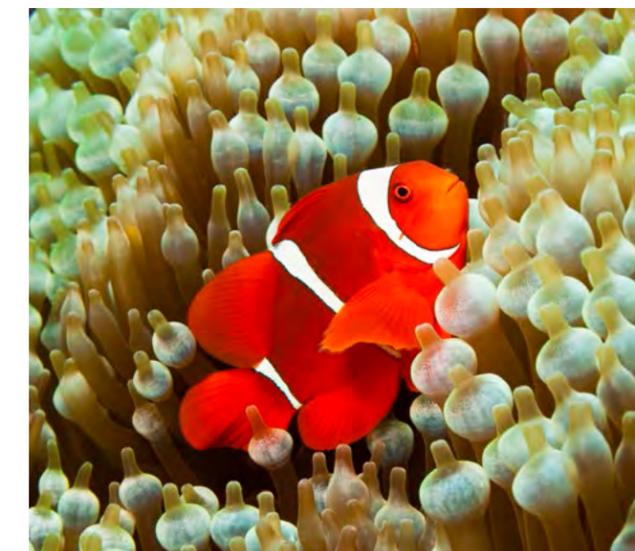
Superb sponges bask in the sunlight at Otto's Reef (left); Split shot of Restorf Island (above). PREVIOUS PAGE: Christine's Reef, Kimbe Bay

There is a line of thought in the scientific community that this is where it all began and the first corals originated... a large sheltered bay, roughly one third along the north coast of the island now called New Britain. The bay is called Kimbe and the country is Papua New Guinea—the wild and exciting nation crafted together in colonial times from the eastern half of the huge island of New Guinea and a string of other islands stretching out in to the Bismarck and Solomon Seas.

There can be no doubt regarding the profound fecundity of Kimbe Bay because the numbers, as they say, cannot lie and surveys by some of the best known names in marine biology, such as Professor Charles Veron and Dr Jerry Allen, and respected organizations like The Nature Conservancy, have helped to establish a bewildering array of statistics for the area.

Depending on which survey results are used, Kimbe Bay is host to around 860 species of reef fish, 400 species of coral and at least 10 species of whales and dolphins. To put that in a global perspective—in an area roughly the same size as California, Papua New Guinea is home to almost five percent of the world's marine biodiversity. Just under half of that fish fauna, and virtually all of the coral species can be

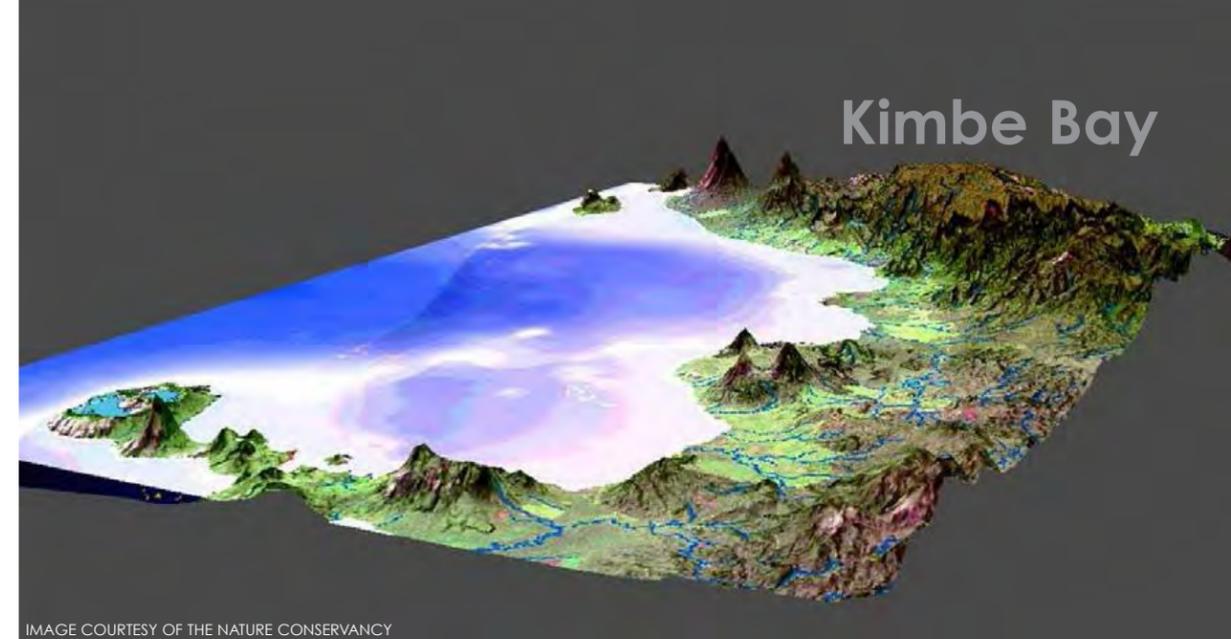
found in Kimbe Bay, which means that the bay can be considered as a kind of fully stocked marine biological storehouse.



Anemonefish at Susan's Reef



Sunrise over the volcanoes of Kimbe Bay (left); Topographical map of Kimbe Bay (right); Aerial view of Kimbe Bay Islands (bottom right)



Kimbe Bay

IMAGE COURTESY OF THE NATURE CONSERVANCY

Location, location, location

New Britain is part of the Bismarck Archipelago, which forms the southern ridge of the so-called Ring of Fire—the volatile and unpredictable, horseshoe shaped, seismic strip of oceanic trenches and volcanic arcs that wreak periodic havoc and destruction

around the Pacific Ocean basin. The islands of the archipelago were formed some eight to ten million years ago as a result of what geologists refer rather mildly to as *volcanic uplift*. The flight from Port Moresby into Hoskins Airport on the southern edge of Kimbe Bay will put the whole uplift

concept into a slightly more dramatic perspective.

As you cross the narrow Vitiaz Strait from the main island of New Guinea, you will catch your first glimpse of New Britain, and you will see the western tip of a narrow crescent-shaped island roughly 500km long, by about 30km wide at its narrowest point and 150km at its widest. Running along the spine of the island are huge mountain ranges, created by those volcanic uplifts, which are so high they effectively isolate the north coast from the south and create their own weather patterns, so that while the north coast follows the normal monsoonal seasons the south is completely opposite. The mountains also create a partial rain shadow over the north, making the south coast the second wettest place on earth, with annual rainfalls of between six and eight meters.

The approach into Hoskins Airport takes you over the Willau-

mez Peninsular, the western boundary of Kimbe Bay, and provides a spectacular introduction to the other visually defining feature of this part of New Britain—volcanoes. On the tip of the peninsular are two large freshwater lakes occupying the huge caldera left by the massive eruption of the Dakataua volcano some 1,150 years ago and then dotted along the long and narrow isthmus are three smaller volcanoes. The final approach into Hoskins is overshadowed by the large Mount Pago volcano, and its two smaller siblings, whose periodic

rumbblings provide very poignant reminders of the powerful seismic phenomena far underground that created those volcanic uplifts.

Beneath Kimbe Bay

Bounded by the long Willaumez Peninsular to the west and Cape Tokoro, some 140km to the east, Kimbe Bay is sheltered from the

worst of New Britain's weather. Along the coastal area of the bay, a 200m shelf runs parallel to the shore for about 5km before dropping down to around 500m and up to 1,000m in the eastern part. On the northern outskirts of the bay as it approached the Bismarck Sea, the seafloor drops off rapidly to in excess of 2,000m.



IMAGE COURTESY OF THE NATURE CONSERVANCY

Bathymetric map of Kimbe Bay



IMAGE COURTESY OF WALINDI RESORT



Schooling barracuda at Bradford Shoals (left); Coral crab at Susan's Reef (below); Incredible coral garden at Charmaine's Reef (right)

benign conditions function as a kind of marine nursery and are fundamental to the incredible biodiversity of Kimbe Bay, but the other significant element are the nutrient-rich currents of the Bismarck Sea that provide the nutrients to sustain the bay's residents and visitors.

To the south of New Britain are the 4,000m deep-water basins of the Solomon Sea which the Southern Equatorial Current crosses as it makes its way towards the Bismarck Archipelago. As this powerful current approaches the south



coast of New Britain, it creates upwellings that suck up the nitrogen and phosphorous laden detritus of the sea from the deep basins. Those nutrients are carried north through the Vitiaz Strait in the west, and the St Georges Channel (between New Britain and New Ireland) in the east, in to the Bismarck Sea where they enter the predominantly anticlockwise circulation produced by the regional current flows.

As those currents flow along the north coast of New Britain and around the top of the long and narrow Willaumez Peninsula, eddies are

produced in the western part of Kimbe Bay that direct the nutrient rich flows into the bay and induce further upwellings from the deep water basins to the north.

In a nutshell, the incredible forces of nature have combined to produce an almost perfect natural environment to create and sustain the coral crucible and the creatures that cohabit with it.

Diving Kimbe Bay

Kimbe Bay is one of the global locations that most divers want in their logbooks. But it is a special kind of diving, as it's not a shark-lover's paradise or somewhere

you go because manta rays or whale sharks aggregate at certain times of the year. My personal definition would be "fish-bowl" diving, as it is like being immersed

in a fully stocked aquarium, but with a considerable random factor of nature in that you never know what is going to come in from the blue—such as *that day* at Susan's Reef, when I left three other divers on the deco line at

the end of my safety stop and got back in the dive boat.

Vaguely wondering what was taking them so long, I am sure you can imagine my reaction when they eventually got in the boat

"I am hard pressed to think of anywhere on Earth that has this combination of vibrant health, diversity and beauty."

— Professor Charles Veron, chief Scientist of the Australian Institute of Marine Science, on the reefs of Kimbe Bay (March 2008)

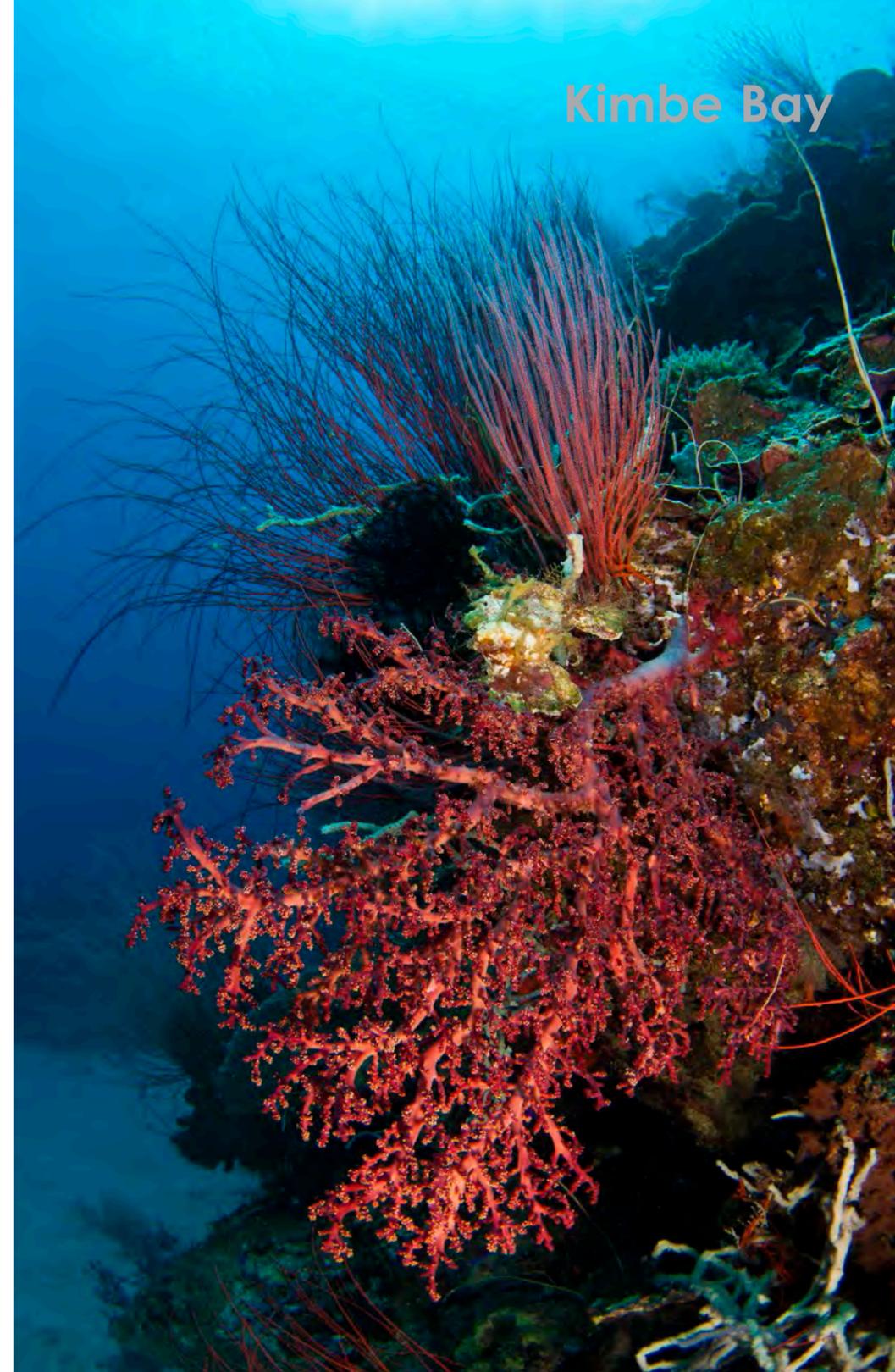
Across this deep seascape are dramatic seamounts and coral pinnacles that rise up towards the surface and provide isolated ecosystems for the marine creatures of the bay. The seamounts in particular act as

beacons to the bay's diverse and prolific pelagics and marine mammals—with 12 species of mammals identified to date, including sperm whales, orcas, spinner dolphins and dugong. The deep waters and generally



Beautiful sponges bask at Otto's Reef (left); Schooling barracuda at Bradford Shoals (below); Superb soft corals at Susan's Reef (right)

Kimbe Bay



no guarantees, but on any given day you are almost certain to see large schools of barracuda, big-eye trevally, dog tooth tuna, unicorn fish and fusiliers. Add in to that mix the meandering but skittish white-tip reef sharks, the cruising gray reef sharks out in the current and the chance to see a great hammer head on an occasional foray up from the deep.

Then there is the visibility of often in excess of 40m, and you can probably understand how I came up with the name fish-bowl diving.

When to dive Kimbe Bay

Kimbe Bay is protected from extreme weather by its unique topography and access to the reef systems is available throughout the year. September through

some ten minutes later and very excitedly explained that a large sailfish had come in just after I left, and repeatedly checked them out before heading back out in to the blue again.

The random factor is particularly prevalent at the seamount dives such as Bradford Shoals, which is located on the very edge of the bay where the seafloor is some 1,500m below. Rising from that abyss to within 20m of the surface, its reef structure is mainly flat plates of hard corals, which are not particularly photogenic, however, amongst the plates are numerous colorful small reef fish—but very few divers go to Bradford Shoals to see reef fish, because it is what is above the reef that catches the eye.

Surrounded by deep blue water and quite distant from the nearest reef structure, Bradford acts as a magnet for big fish and pelagics. The sea is the sea and offers



to the end of November sees calm seas and superb visibility in excess of 25m, but slightly colder water of 27°C, which usually more critters. December is changeable and hard to predict as the wet season approaches in January and goes through to March,

bringing with it calm waters again and warmer waters around 29°C, but lower visibility around 15m. May through June is the doldrums with very flat seas, hardly any wind and clear skies. The water temperature goes up to around 31°C and visibility is in the range



Coral garden at Otto's Reef (left); Diver with schooling barracuda at Joel's Reef (right)

Canada, but all that changed when they bought the 800-acre Walindi palm oil plantation in 1969.

The intention was to modernize and improve the plantation's operation, but by the early 1970s, they had started to scuba dive on the weekends and were literally the first people to discover the incredible biodiversity of Kimbe Bay. The rest is history, and in 1983, Max and Cecilie started Walindi Plantation Dive Resort, which has grown into a significant business complete with its own liveaboard dive boat capable of exploring the most remote locations of New Britain.

Walindi operates three day boats, each of which can accommodate six to eight divers and two to three dives per day, with two dives being the norm and the third available on request. Night dives are also available by arrangement. The dive boats leave about nine in the morning and return in the late



Kimbe Bay

afternoon with lunch being taken along and provided on one of the islands in Kimbe Bay.

The resort has 12 self-contained

bungalows, each with its own bathroom and located just back from the beach under the shade of the many palm trees. There is a central area with a swimming pool and sun deck, dining room, lounge and bar area and the whole resort has a very pleasant laid back feel.

The Benjamins' training as agronomists taught them to take a long-term and sustainable approach to their businesses, and by the early 1990s, they were seeing significant changes happening in the Kimbe Bay area, which if left unchecked could only degrade the pristine environment.

Up until the mid-1980s, the local population lived the same sustainable, subsistence lifestyle they

had for centuries, with virtually no impact on the marine life of the Kimbe Bay. But by the end of the 80's, it was becoming apparent that the development of the palm oil industry in New Britain was changing the traditional lifestyle in Kimbe Bay as economic migration into the area, along with high natural rates of population increase, had resulted in a steadily rising population density in the urbanized areas.

The increasing population placed far greater pressure on the local terrestrial and coastal ecosystems because of the rising demand for food, firewood and building materials plus a significant increase in pollution. Further compounding the situation, as new people and new ways flooded into the area, was the move away from traditional cultural practices, which had evolved over the centuries to support and

of 20m. July through August see the southeast trade winds start to blow at up to 20 knots, which means that the seas in Kimbe Bay can reach up to 1m and the water temperature starts to drop. Visibility is usually around 15m.

Preserving Kimbe Bay

When Max and Cecilie Benjamin

arrived in New Britain in the late 1960s, they had only minimal interest in what was below the surface of Kimbe Bay, as they were agronomists whose principal focus was what came out of the ground, rather than the sea. Their assignment in Papua New Guinea was supposed to be a short-term one on their way to a new life in



Main lodge at Walindi Plantation Resort





Superb sponge garden at Charmaine's Reef (above); Tube sponges at Restorf Island (top right); Mahonia Na Dari (left)

enhance the sustainable subsistence lifestyle of Kimbe Bay.

In 1993, the Benjamins joined forces with the local government and The Nature Conservancy (TNC) to develop an overall long-term conservation strategy for

Kimbe Bay faced environmental challenges going forward, it had largely escaped the ravages of cyanide and dynamite fishing associated with the live reef fish trade, which had wreaked so much damage to coral reefs

Kimbe Bay, which would also support sensitive and sustainable tourism development in the area. TNC is a respected not-for-profit organization which came on board knowing that while

across Southeast Asia.

The following year TNC, supported logistically by Walindi, conducted the first ever evaluation of the marine environment of Kimbe Bay to try and quantify its biodiversity. A Rapid Ecological Assessment (REA) was done with a specific focus on the coral reefs which, although considered to be little more than lifeless and indestructible rock formation by the native people of Kimbe Bay, play a very important role in local culture and mythology. The results of the REA were staggering as they revealed for the first time the magnitude of the bay's marine diversity, with a total of 860 species of fish and 345 species of stony corals identified on the 78 sites visited.

To safeguard that incredible

diversity would require an innovative and proactive approach, the key to which was education, for if the local people do not appreciate what is under the water in Kimbe Bay, how can they be expected to preserve it? A two-pronged strategy was developed consisting of the establishment of Mahonia Na Dari and Locally Managed Marine Areas (LMMA's)

Mahonia Na Dari

—*Reconnecting the Disconnect* Unusually for Papua New Guinea, the people of New Britain have a limited connection with the rich waters that surround the island—with few children learning to swim and many residents of inland villages never having even seen the ocean. Working together with TNC, and the EU's Islands

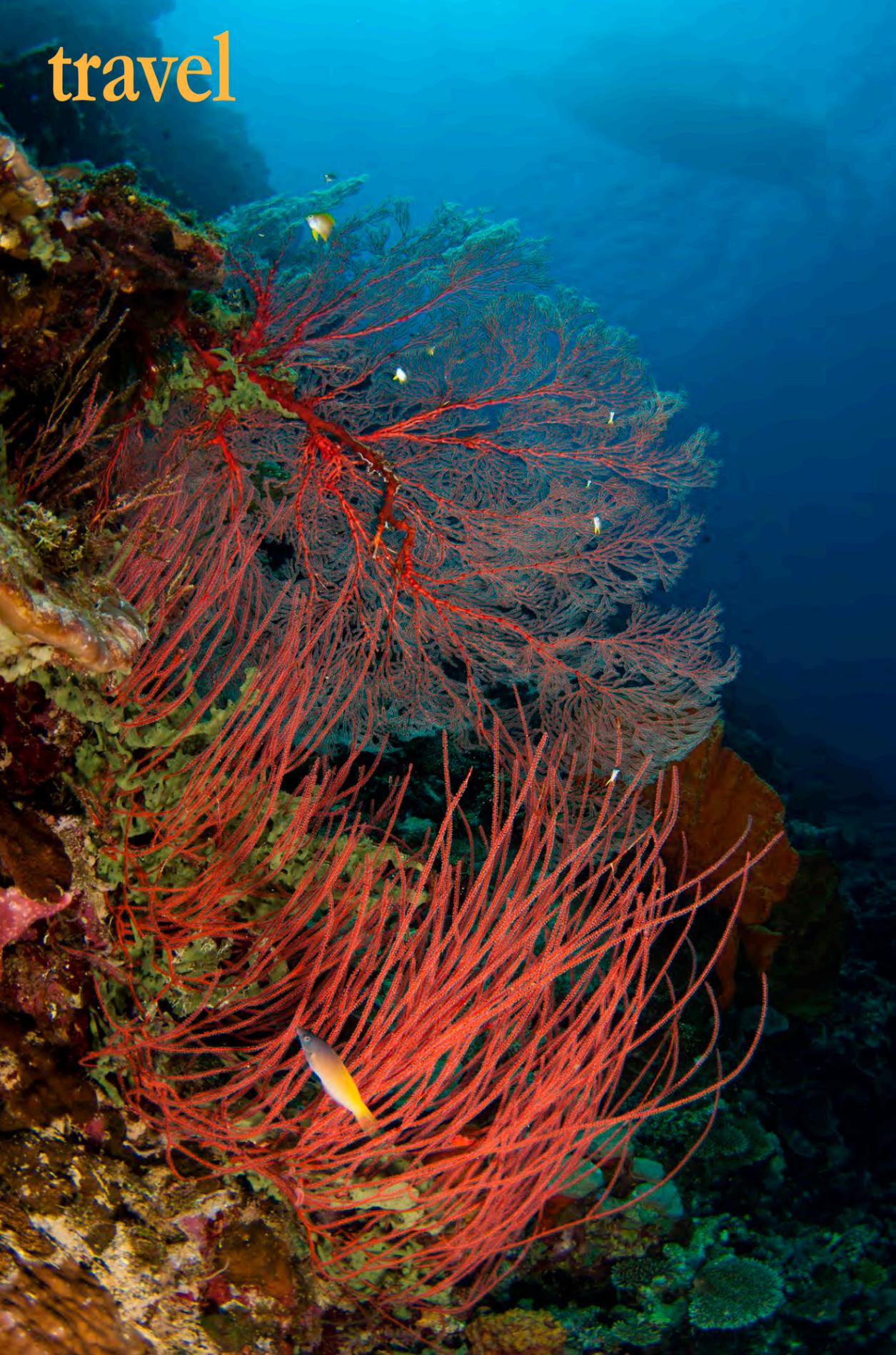
Region Environmental Program, Max and Cecile Benjamin established Mahonia Na Dari (Guardians of the Sea in the local Bakovi language) in 1997 on land they owned next to the resort.

The goal of Mahonia is to develop and instill an awareness of Kimbe Bay's unique environment so that its protection and conservation can become self-fulfilling, and it does this by educating the young people of the area through its Marine Environment Education Program (MEEP). The program takes students, many of whom have no experience whatsoever of the marine environment, out on the water where they can see things first-hand and better understand the need for the conservation and protection of Kimbe Bay.



Goby on soft coral at Susan's Reef





Sea whips and soft coral at Susan's Reef



MEEP has been very successful and has led to three student focused versions being developed: Baby MEEP for elementary schools, Junior MEEP for primary schools and Intensive MEEP for secondary schools, plus a Teachers MEEP to enable primary school teachers to conduct classes in their schools.

Since it was first established in 1997 it has been estimated that Mahonia Na Dari's programs have benefited directly or indirectly in excess of 200,000 people have. As the old Chinese saying goes: "If you are planning for a year, plant rice; if you are planning for ten years, plant trees; if you are planning for 100 years, plant education."

Locally Managed Marine Areas

Locally Managed Marine Areas (LMMA's) are a well-established strategy throughout the Pacific Islands and are considered the best way to help local communities self-manage their marine resources in a sustainable manner and ensure a high degree of protection for the environment. However, in an area such as Kimbe Bay where the sea is considered an unlimited resource and reefs are thought of as lifeless rocks, LMMA's in isolation would have little chance of success. The entire community has to embrace the concept for it to work and without the MEEP programs run by

Mahonia this simply would not happen—hence the two-pronged approach.

Much has been learned since the first LMMA was established at Kilu next door to Walindi in 1998, and the village elders have proven to be a key ingredient to success as they usually understand intuitively the basic need for conservation

and sustainability and will help to cascade the message down through the village ranks in the local dialect (Tok Ples).

A major obstacle to overcome as additional LMMA's were established was the culturally intricate nature of the Kimbe Bay area, which has more than 100 socially diverse communities, with each one holding complex and often overlapping traditional rights to sea resources. So it was essential to establish clear boundaries for the LMMA's and then quantify the initial situation through evaluations of coral growth, sea grass coverage and species count so that no-take zones to allow recovery on damaged reef areas and open areas where fishing is allowed can be established.

Another key component of the overall MEEP and LMMA programs was to halt and eventually eliminate the spread of *poison rope* fishing and prevent the encroachment of dynamite fishing. Poison rope fishing uses the Derriss Root,



Clown fish and anemone at Inglis Shoals; MV Febrina at anchor at Walindi (top center)



which grows naturally in Kimbe Bay, whereby the plant roots are smashed with a rock and then the fisherman swims down and sticks it in the corals. In the white pulp of the roots is the poison Rotenon, which kills small fish and coral polyps, but forces larger fish to

the surface where they are easily caught.

Dynamite fishing is not the scourge of PNG it is in other Southeast Asian countries, but does occur in Kimbe Bay from time to time on an opportunistic basis using dynamite that has



CLOCKWISE FROM LEFT: Sponges at Susan's Reef; Local village kids playing near Mahonia Na Dari; Sunrise in Kimbe Bay; Beautiful sea fan at Vanessa's Reef

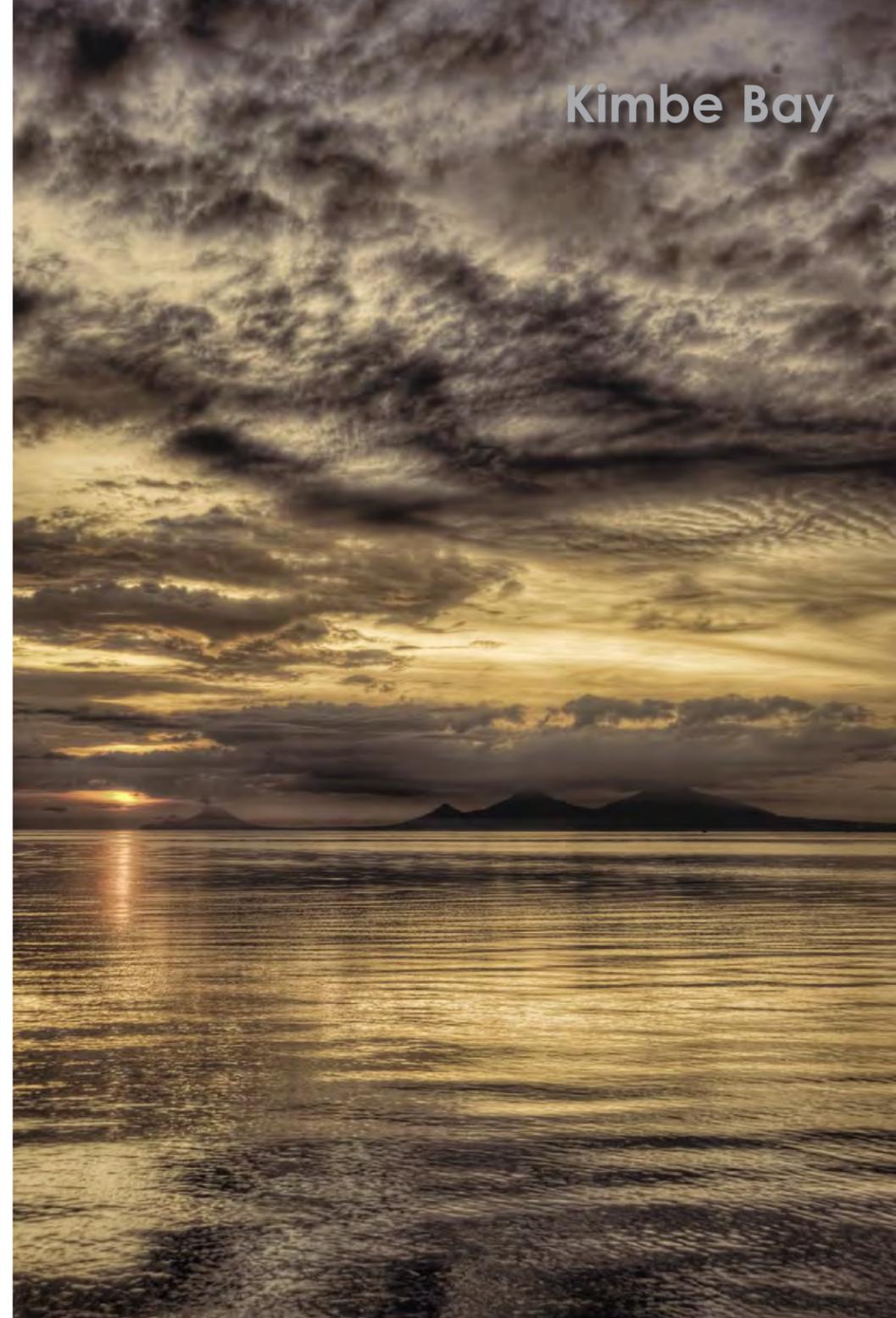
been "harvested" from WWII ammunition found in the rainforest and then shoved into SP beer bottles.

Funding for boats and engines by the provincial government enables the villagers to monitor their no-take and open area zones, and keep poachers at bay, while Mahonia provides periodic audits to keep the system honest and encourage sustainable fishing practices such

as hand lines and spears. There are now a total of eight LMMA's established in the Kimbe Bay area, with more planned going forward.

The Crucible

Papua New Guinea is very much a developing country but it is awash in minerals, amazingly diverse, physically stunning and surrounded by some of the richest waters anywhere in the world. It



Kimbe Bay

is also a difficult place to do business with a system of governance that leaves much to be desired. The perseverance of individuals like Max and Cecilie Benjamin to open up the wonders they find underwater in their backyard is admirable, but their sheer determination to protect and conserve it deserves a standing ovation. □

Asia Correspondent Don Silcock is based in Bali and travels widely throughout Asia. His website has extensive information and image galleries on the diving in Papua New Guinea and other great dive locations across the Indo-Pacific region. Visit: www.indopacificimages.com

fact file



Papua New Guinea



SOURCES: U.S. CIA WORLD FACTBOOK, WWW.PAPUANEWGUINEA.TRAVEL/DIVING

History Papua New Guinea is a developing country in the Southwest Pacific. The eastern half of the island is the second largest in the world. In 1885, it was divided between the United Kingdom (south) and Germany (north). In 1902, the United Kingdom transferred its half to Australia, which occupied the northern portion during World War I and continued to administer the combined areas until independence in 1975. After claiming some 20,000 lives, a nine-year secessionist revolt on the island of Bougainville ended in 1997. Today, Papua New Guinea relies on the assistance of Australia to keep out illegal

cross-border activities from Indonesia primarily, including illegal narcotics trafficking, goods smuggling, squatters and secessionists. Government: constitutional monarchy with parliamentary democracy. Capital: Port Moresby

Geography Oceania, Papua New Guinea is a group of islands east of Indonesia including the eastern half of the island of New Guinea between the Coral Sea and the South Pacific Ocean; Along its southwestern coasts, it has one of the world's largest swamps. Coastline: 5,152km. Terrain: mostly mountainous with rolling foothills and coastal lowlands. Lowest point: Pacific Ocean 0m; Highest point: Mount Wilhelm 4,509m.

Climate

Tropical climate with slight seasonal temperature variation; the northwest monsoon occurs December through March; the southeast monsoon

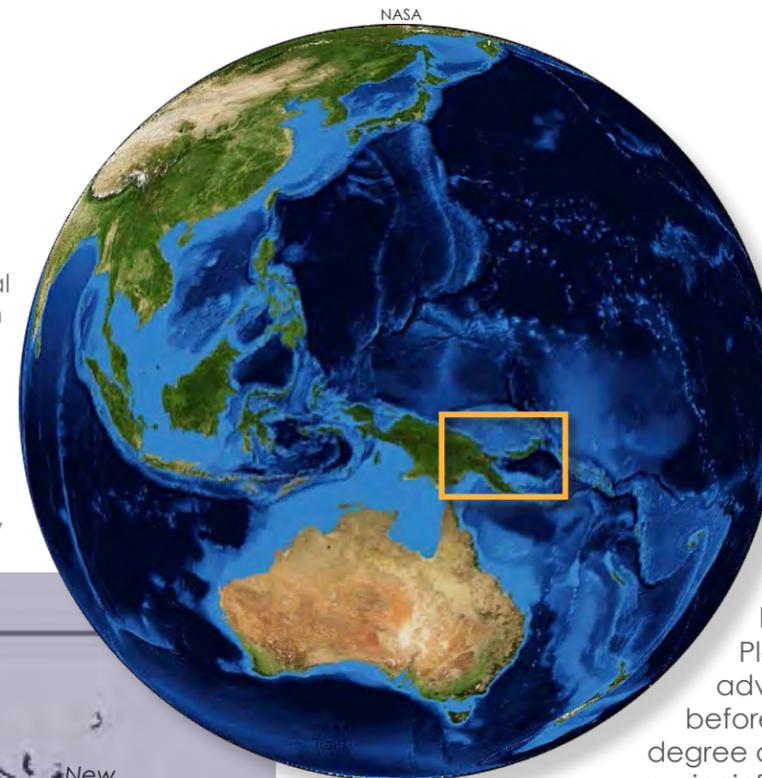
occurs May through October. Natural hazards: active volcanism, as PNG is situated along the Pacific "Ring of Fire". The country experiences frequent and at times severe earthquakes, mud slides and tsunamis.

Economy

Natural resources abound in PNG. However, getting to them has been difficult due to the rugged terrain, issues with land tenure as well as expensive infrastructure development.

Around 85% of the population live on subsistence farming. Two-thirds of export income comes from mineral deposits such as copper, gold and oil. Estimates of natural gas reserves come to about 227 billion cubic meters. Construction of a liquefied natural gas (LNG) production facility planned by a consortium led by a major American oil company could develop export of the resource in 2014. It is the largest project of its kind in the history of the country

RIGHT: Global map with location of Papua New Guinea
BELOW: Location of Kimbe Bay on map of Papua New Guinea
BOTTOM LEFT: Fire red sea whips at Kirsty Jane's Reef in Kimbe Bay



Motu is spoken in the Papua region; there are 715 indigenous languages—many unrelated.

Health & Safety

Papua New Guinea has a high crime rate. Please check state advisory consular information before travelling to PNG. The degree of risk is very high for major infectious diseases; food or waterborne diseases include bacterial and protozoal diarrhea, hepatitis A and typhoid fever; vectorborne diseases including dengue fever and malaria are high risks in some locations (2004)

Currency

Kina (PGK). Exchange rates: 1 USD=2.45PGK; 1 EUR=3.28PGK; 1 GBP= 4.09PGK; 1 AUD=2.28PGK; 1 SGD=1.96PGK

Decompression Chambers

Melanesian Hyperbaric Services Jacksons Airport, Port Moresby, Papua New Guinea Tel: +675 693 0305 or +675 693 1202 Port Moresby Medical Service Tel: +675 325 6633 or +675 693 4444

EVACUATION INSURANCE is compulsory for some PNG dive operators, liveaboards and resorts. See DAN for information and travellers insurance: www.diversalertnetwork.org

Websites

Papua New Guinea Tourism www.pngtourism.org.pg

betting economic efficiency through privatization of state institutions operating under par, and continuing good relations with Australia, which ruled PNG when it was a colony.

Environment

Growing commercial demand for tropical timber is causing deforestation of the PNG rain forest. It also suffers pollution from mining projects and severe drought;

Population

6,552,730 (July 2014 est.) Ethnic groups: Melanesian, Papuan, Negrito, Micronesian, Polynesian. Religions: Roman Catholic 27%, Protestant 69.4%, Baha'i 0.3%, indigenous beliefs and other religions 3.3% (2000 census). Internet users: 125,000 (2009)

Language

Melanesian Pidgin serves as the lingua franca, English is spoken by 1%-2%,

