

Undercurrent®

The Private, Exclusive Guide for Serious Divers

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New Frontiers of Dive Travel

—Special trips for true adventurers

Dear Readers,

One of our long time readers, Arthur Hardman of San Francisco, wrote this to me recently:

"I've gone on three or four trips that you've written about and found your words to be dead accurate. In one case, thanks to you, the meals were far better — your review had chased the chef out of town. Good going.

"Once in a while, can't you give us a broader run down of travel, especially on some of the new places cropping up? Divers Speak Out is a superlative guide, but it doesn't give me a head start on new areas. How about it? Let us have the benefit of all your information."

Why not? Having just returned from the Diving Equipment Manufacturer's show in Orlando, I got a chance to see what's coming down the pike for 1993 and 1994. Since the insiders get first pickings, let me make you an insider and give you the same headstart. Whether the diving is good and the trip meets our standards ... well, you can be the first one to let us know.

The discovery of Sipadan, as you might imagine, has led to the search for other isolated islands, unfished and untouched. Ron Holland of Borneo Divers claims to have discovered the next Sipadan at Sangkalakki, Indonesia. Trip leader Ken Knezick, claiming to be the first American ever to dive there last summer, reports plenty of cuttlefish, mantas, sharks, lionfish and even a "jellyfish lake" crammed with nonstinging critters. No beach diving. For information on two week trips beginning in May, contact Island Dreams Travel, 800/346-6116, 713/973-9300. Tab is \$3975 air included.

A 150-foot liveaboard, the Cehili, will take 8 day/7 night Indonesian trips to Sangie/Talau and Togian Islands (to dive on active volcanos), and to Molucca and West and East Banda. Prices start at \$1,960 plus airfare. Tropical Adventures (800/247-3483) and Adventure Express (800/443-0799) can supply dates and openings.

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For most divers, the bigger the animal the better the action, and you can't get much bigger than whale sharks. Renown marine biologist Eugenie Clark is leading a trip aboard the Don Jose into the waters off Baja Mexico to dive with and study whale sharks. \$2425/person, including airfare from L.A. Call 800/843-6967 for information from Zoo Life Dive Adventures.

Whale Shark viewing trips into the waters of Ningaloo Western Australia are being offered in March and April. Led by Marjorie Banks, seven days aboard a 57-foot dive boat carrying eight divers runs \$2295, plus airfare. People manning the booth claimed that, last year, divers saw up to 50 of the behemoths. The trip features a spotter plane to locate the critters. 800/24-SCUBA or Fax 310/404-6153.

Another Western Australia offering is a once-a-year trip to the Abrolhos Islands, the southern most islands in the Indian Ocean. Fly to Perth and travel to Geraldton to board the Jody M. Costs. The cost is \$1,750 per person for the 8 day April 28 to May 5, 1993 trip. Book through Adventure Express (800/443-0799).

Chickens Of The Sea

From a training manual used by tour guides at Sea World (Orlando, Florida), comes this:

Certain words and phrases have negative connotations. At Sea World, we call these "buzzwords." Avoid buzzwords and use more positive words— you'll give guests a better overall impression.

Buzzword	Alternative
sick	ill
hurt	injured
captured	acquired
cage	enclosure
tank	aquarium
captivity	controlled environment
tricks	behavior
sex	courtship behavior

Other words to avoid:

dead, die	If people ask you about a particular animal that you know has passed away, please say "I don't know."
kill	This word sounds very negative. Say "eat" or "prey upon."
play, talk, enjoy	Anthropomorphic; they give human traits to animals.
evolve	Because evolution is a controversial theory, use the word "adapt".

—Harper's magazine

A spectacular new 150-foot dive boat with 20 cabins, a sauna and whirlpool, will be launched this summer for Red Sea diving. The Fortune I, operated by the Movenpick hotel chain, will make one week trips to the Brother Islands or Daedalus Reef, and two week excursions to the coasts of Sudan and Ethiopia. Call any of the major dive travel agencies for booking information.

Pacific land-based diving is becoming popular with Americans, as they find Caribbean prices skyrocketing. Aero Tours (800/223-4555) offers 10 days in Fiji with six days of diving for \$2235, including airfare from L.A. Sea Safaris (800-821-6670) gives you six Fijian diving days, accommodations at the Pacific Harbour, and airfare from L.A. for \$1319. You'd be hard pressed to do Cayman for that. Or, you can go big time and lease Malcom Forbes' Laucala (La-tha-la) Island for the week. Only \$15,000. Dive when you want, eat when you want. You call it. Or, go with your sweetheart and join three other couples. \$4200 for the week. Dial 800/Forbes 5 or 719/379-3263 for information. Malcolm loved it so much, he's buried there.

For people wanting good diving, while visiting smaller islands with the remnants of South Pacific culture, there are emerging options. Two dive operators from the Cook Islands, long a favorite haunt of Kiwi's, were seeking visitors. It's a six

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Earthwatch a Ripoff?

Dear Undercurrent,

"In reference to your September story, I have always found it amazing that people actually pay Earthwatch to get dragged on these so-called scientific expeditions. Isn't Earthwatch just another travel agent that has managed to attain tax-exempt status?"

"First, your writer probably paid more than those divers on the "purely-for-pleasure" live-aboard dive boat *Lady of the Sea*. And by the sound of the horrible accommodations, I'm sure Earthwatch had far fewer expenses than *Lady of the Sea*. So, where does all that money go? And if the goal is really to study the Tubbataha reefs, then Earthwatch should get a suitable vessel for next year's study, not move the project to a reef that was closer to the hotel. I have to ask myself what is the motivating factor, science or money?"

"The greater question is, will the study even alleviate the stress the high-paying Earthwatch team caused by eating fish from the reef and by crawling around the bottom with tape measures? I think it's immoral and unethical for Earthwatch to use science to run a tour company and receive tax exempt status over other travel agents. If it helps your writer's conscience to aid science, then why not just send the \$3,000 (airfare and boat trip) to a favorite scientist, stay home and leave the reefs alone."

Fred Garth, Editor, *Scuba Times Magazine*

Dear Fred,

You're not the only reader who raised questions, so we contacted Blue McGruder, Director of Public Affairs for Earthwatch, who told us:

"Earthwatch is not a travel agency. We do not receive any money from airfares or hotel arrangements. We are a membership and volunteer organization directed solely to recruiting volunteers for scientific studies.

"Earthwatch is affiliated with the Center for Field Research. Their scientific staff uses academic peer reviewers, modeled after the US National Science Foundation, to select 162 out of 1100 proposals from colleges and private research laboratories to receive Earthwatch support.

"Earthwatch assists with the staffing through pro-

duction of a yearly catalog of accepted projects. We manage the recruitment to allow the scientists to concentrate on their projects. They must provide housing as part of the proposal. The Tubbataha reef project is a joint effort between Dr. Alan White, of the University of Rhode Island, and the Filipino research facility which provided the research vessel.

"In addition to paying their own airfare, each volunteer made a tax deductible contribution of \$1795 to the project; Earthwatch received \$718 or 40% to cover the staff costs at the Center for Field Research, promotion of the project, general bookkeeping and recruitment of volunteers. Volunteers arrange their own airfare and none of the commission. The \$1077 balance was applied to the cost of running and staffing the research facility, covering the costs of the researchers and supplies.

[Ed. note: The cost for *The Lady of the Sea* in 1992 was \$2520 for nine days plus airfare.]

"Just sending \$3,000 to your favorite scientist would not answer the need for volunteers to do the data gathering and the other nuts and bolts of a research project. So volunteers supply the money for the research and staffing to conduct it."

Dr. David Silverberg, Director of Research for Earthwatch, told us that "part of the peer review process is the evaluation of the data gathering techniques to be employed and how easily these techniques can be taught to non-professional volunteers. The use of line transects and tape measures are standard techniques, which are easily taught, and results in high quality data with minimal impact on the environment.

"As to the stress put on the reefs due to fishing for food by the project members, this area is commercially fished so what was taken for the members' food did not increase the stress of the ecosystem.

"Studies like this are needed because tropical coral reef ecosystems are complex and have not received enough study. We do not know how to manage them either for commercial fisheries or for tourism."

I hope that answers your questions. Now, are we going to see you on the next Earthwatch trip?

C.C., travel editor

hour, nonstop flight from Honolulu on Hawaiian or New Zealand Airlines. Split your stay, I'm told, between Rarotonga (Cook Island Divers, 682-22-483; fax 682-22-484) and Aitutaki (Aitutaki's Scuba Ltd.; 682-31103; fax 682-31310) and you'll get some pretty damn good diving and good prices. Cook Islands Tourist Bureau, 800-624-6250; fax 310-216-2828.

The atolls of Rangiroa and Manihi offer the better diving, I was told, in French Polynesia (and readers from Divers Speak Out testify to that). Try Islands in the Sun (800/828-6877 or 714/645-8300). And there is talk of opening Bikini Atoll for traveling divers. Ought to be especially good for night dives, since I don't imagine you'll need a light stick.

Off the east coast of Africa and 400 miles south of the Seychelles, Mauritius, with a heritage of French, Indian, African and Chinese cultures, beckons divers with a deep pocket - \$3595 for eight days plus air. Call 818/4578-8112. Nearby are the supposed virgin Aidabra Group of Islands, soon to be visited by the fine liveaboard the Fantasea. People claim this is the new great distant spot on earth. Find out in May 1994. Prices run between \$4600 and \$5900, depending upon the cabin. Sharon Thomas, Chestnut Travel: 415/931-3251.

And finally, the Caribbean, where for the most part, it's just more of the same. One new possibility is diving Colombia, aboard the liveaboard Tropic Surveyor. One hundred feet long with a capacity of 32 divers in seven cabins, she expects to visit both Caribbean and Pacific sites by traveling through the Panama Canal. Call 305/592-5888.

On Grand Cayman, Spanish Bay Reef resort, for which opening and closing is a common occurrence, is back in business again. I've always liked the property and the shore diving of the northwest tip; it might be a good choice for our more youthful readers, since they offer "couples games, swimsuit contests, reggae dance classes," and such sensible feats as a "suntan, burn and peel competition," a beer drinking contest, and best lies and jokes competition. Their dive package follows the typically restrictive Cayman rules: 100 feet for 20 minutes, a 20 minute surface

Dead Air Spaces

Two highly experienced divers lost their lives in a seemingly easy dive in Florida. They were found under a dead air space. They had used only 500 psi from their cylinders.

Apparently, they stopped to talk things over in the dead air space. The carbon dioxide levels were within breathing limits, but the oxygen content was insufficient to support life.

Experienced divers have lost their lives diving in wrecks, caves and springs from what may seem like unexplained causes. But, in many cases, they removed their regulator from their mouths and breathed in the air pockets.

Some air pockets are ancient, some are trapped air in sinking ships, others have been formed from the exhaust bubbles of previous divers. If the gas mix in the dead air space has inadequate oxygen or excessive carbon dioxide, divers can get in trouble.

Excess carbon dioxide can cause severe confusion and drowsiness, eventual muscle spasms and rigidity. As the level of carbon dioxide in the body increases, the breathing rate will increase noticeably; shortness of breath can occur. The cure for excess carbon dioxide is fresh air. The after effects are headache, nausea, dizziness, and sore chest muscles.

The normal percentage of oxygen is 21 percent. At 16 percent, minor signs of hypoxia (inadequate oxygen in the blood) begin and, at 12 percent, serious signs develop. Below 10 percent, unconsciousness results and death can occur.

The diver inflicted with hypoxia may be totally unaware of the imminent crises. There is no natural warning that tells the diver of the onset of hypoxia. A

unique risk of hypoxia is that as it develops, it causes a false sense of euphoria that may preclude the diver from taking suitable action soon enough. Many divers know a similar phenomenon of sudden unconsciousness from shallow water blackout.

After one diver's death, several air samples were taken from the death site and analyzed for their oxygen content. One sample had 10.7 percent oxygen and another had 12.4 percent oxygen, enough to create nearly sudden unconsciousness. When unconscious, the diver drops out of the dead air space into the water and, without his regulator in his mouth, he drowns.

An experienced diving instructor who regularly free dived to 100 ft would dive down to 47 ft and enter a large dead air space just inside a cave. He would take a few breaths and return to the surface. One day, he made this particular dive several times and, as we watched, he fell unconscious as he reached the surface. Laying face down in the water, he did not respond to our calls, so we swam out and towed him to the beach. He was still unconscious; we administered 100 percent oxygen to him and he regained consciousness. Apparently, he received a bad gas mix in the dead air space.

The best way to avoid these problems is to inhale only from your regulator while you're in dead air space. You exhale while you talk in a dead air space, but inhaling must be from your regulator. In this way, you know your air supply has the correct gas mixture. You cannot vouch for any dead air spaces, because you can die using a gas mixture from a dead air space.

Author Garry Howland is an honor graduate of the US Navy Underwater Swimmers school. He is a past president of both NAUI and the Institute of Diving with the Man in the Sea Museum.

interval, then a 50 foot dive for 40 minutes, but you can supplement it from the beach. Information: 809/949-3765.

Turks and Caicos, an hour and a half from Miami, seems set on becoming the next Cayman and their diving is certainly comparable, with prices about half. On Grand Turk, Guanahani Beach Hotel (809/946-2135) and Off the Wall Divers offer 7 nights of accommodations and 5 days of two tank dives for \$559. Blue Water Divers and the Homey Salt Raker Inn (809/946-2260) can house you for seven nights and give you five days of dives for \$550. Providenciales is busier, more modern, and more expensive.

Regardless of what you read elsewhere, Nitrox diving is catching hold. You can look for more Nitrox training facilities and resorts offering Nitrox in the Caribbean and the Bahamas. These operators not only see Nitrox as a safer gas, but also as a means of competing against the restrictive regulations of the Cayman Islands — their major competitor.

And to Stuart Cove (who thinks he'll be adding Nitrox at his Nassau Undersea Adventures, he told us at DEMA), I must send my apologies for erroneously identifying him with Nassau Scuba Centre in the January issue. My fault, entirely. And, Frazier Nivens, who runs Nassau Scuba Centre, complained that we took our reader's quote about short bottom times and a rude divemaster at the Centre out of context. Well, that I did, because the article was about bad dive guides, not resorts. Our reader's full quote appears in the 1993 Divers Speak Out. And while I'm on to apologies, Gerry Smith wrote to say I misquoted him about Rota in the January issue: "The Coconut Village people were wonderful. They set me up with Pau Pau when my travel agent failed to reserve diving with them; the shop at Pau Pau resort were the bad guys."

And finally, while the Cayman's and others increase their regulation of divers so they can herd more and more to the reefs, Australia is backing down from regulation. The provincial Queensland government — monitors of diving along the Great Barrier Reef — had established four-dive-a-day rules and other restrictions a few years ago, but Mike Ball, the super boat operator in Australia, reported that they've now wisely changed their rules to "advisories." Divers can now make as many dives a days as they wish, as long as the tables and computers say it's safe. The depth restriction has been extended to 140 feet, unless "prior arrangements" have been made with the operators. That means you deep divers can do your thing as long as you notify them of your intent prior to the trip so they can take precautions -- whatever that might mean.

C.C., travel editor

Tipping Practices

—Should you tip at a dive resort or on a liveaboard?

Several months ago, we included a questionnaire in these pages to determine the tipping practices of *Undercurrent* readers. Our questionnaire was motivated by a letter from one of your fellow subscribers:

"I have not been in the habit of tipping and have never had a dive operator intimate that it was expected. Having just returned from Riding Rock, San Salvador, the other divers were of the habit of tipping dive-masters anywhere from \$20 to \$150

for a week's diving."

"Am I cheap? Out of date? Please don't use my name, since I don't want to appear cheap."

To answer, let me tell you what our readers said in response to our survey — and in letters to me during the past year. And, as you might imagine, I'll offer a few of my own opinions.

An American practice:

Tipping, of course, is not

traditional throughout the world. Australia, New Zealand and Papua New Guinea are countries where it is not the practice (although that is probably changing as Americans and Japanese throw their money around).

Tips (some people claim it is an acronym meaning "To Insure Prompt Service") were once offered on a limited basis for special service. Today, many people tip without much thought, seeing it as a standard way of doing business. In the last few

years, Americans have extended that practice to the dive industry. As J. Johnson (Mt. Olive, MS) told us, "I am just in the habit of tipping guides, just as I tip a barber, waiter or taxi driver." In fact, of the 160 respondents to our survey, only two indicated that they never tip.

Europeans particularly find the American custom of routine tipping to be inappropriate and somewhat foolish. Subscriber J. Renaer of Belgium told us, "Tipping for us is only for special service, which is not included in the package price. We do not have to tip the crew on the plane."

"If the guide was genuinely interested in my getting the most from the diving, he'll get a tip."

Some even find tipping to be ostentatious as does J. Gulliver of Sweden who told us, "Many Americans brag about the big tips they give."

Many of our readers complained that many dive guides today expect tips — indeed almost push for them.

Rick and Lori Westbrook (College Station, TX) said of their trip last year to Del Mar Aquatics: "Dive-master Oscar constantly reminded us that tips were expected. He asked where we were from. When we told him Texas, he rolled his eyes and said 'some good ones, some cheap ones.' After being hounded from day one, we showed him 'cheap.' Neither Oscar nor the staff did anything to deserve a tip; they showed us nothing during the dive and several of the divers had to help each other back onto the boat with equipment."

Had I been diving with Oscar, I would have done the same.

Lin Moline, diving at Puerta Al Sol with Marina Aqua Rey, says that it was windy, but Marina Aqua Rey went out anyway though other dive shops canceled. "After an hour's delay, we battled cold, wind, rain, and motion sickness, and below battled

current, surge, low visibility, and found few fish. Instead of taking us to shore after the dives, they dropped us off on a platform in the ocean to wait 45 minutes for one of their sightseeing boats to take us to shore. During the boat ride back, the dive-master announced that tips were customary for the crew and they passed the hat. Forget it!"

Many operations even do the asking for their employees. To me, it often seems that it's just a way to squeeze more money out of the guests without sticking the tab in the announced price.

Curt Rich (Houston, TX) was on the *Cayman Aggressor* recently and says that he "wasn't thrilled with the tipping policy. They recommended \$150 per person for tipping, telling us the crew was getting paid about \$1 per hour and lived on tips. I pity the crew, but that's a pretty hefty surcharge for a \$1395 (+airfare) trip. I think it borders on false advertising to say it's a \$1395 cruise."

Yup, my experience is that, in many cases, the demand for a tip amounts to a thinly veiled surcharge. Sometimes it even gets more absurd. M. Vande Lune (Des Moines, IA) told us that at the Sunset House, "Sunset Divers had signs, mentioned it every day in conversation and kept a diary on individual's and group's tipping practices." Shades of H. Ross Perot!

Guideline: Tipping is a matter of personal choice. When it comes to diving, do what you're comfortable with and don't be intimidated.

If you are a tipper, consider signalling ahead to get the service you want. D. Matlock (Boise, Idaho) tells us, "We go to Cozumel 3-4 times per year. We tip the crew \$50 per day. The dive shop and personnel know and love us. They battle to see which guide gets to take us out."

I, too, have used this technique successfully and if you think it will get you what you want, then do it.

Guideline: Consider tipping early — or letting it be known that you intend to tip if the service is special. Tip to encourage special treatment.

Who Gets Tipped. And Why.

Our readers said that the dive

guide and support staff were the most frequent recipients of tips. Occasionally, people tip the skipper. Most people follow the generally accepted practice of not tipping the owner, even if he is the dive guide or skipper.

They tip for "exceptional service" or "high quality of service." Many mentioned the importance of the pre-dive briefing and the knowledge to point out the 'critters' as being part of their criteria for giving a tip. Other reasons for tipping included: not being hurried through a dive; pointing out things for photographers; helping when needed — and not helping when it's not wanted. And being friendly, caring, competent and safe.

D. Davis (Boise, ID) said, "I tip if the guide goes out of his way to accommodate special interests, for example, photography, as opposed to 'herding the cattle drive.'"

J. Pomento (Canoga Park, CA) wrote, "The dive guide can make a difference between mediocre and great diving. When I get good dives with plenty of marine life, I like to show my appreciation. I also realize that salaries are low. We like freedom in our diving."

"Many of our readers complained that many dive guides today expect tips —indeed almost push for them."

J. Andrews of Tiburon, CA tips "for good pre-dive briefings and competence. If the guide was genuinely interested in my getting the most from the diving, he'll get a tip."

Walter Croyo (Salt Lake City, UT) thinks his tipping in Cozumel has gone a long way to get him the best dives. "Santos at Dive Paradise is a great boat captain — always in the correct spot after dives. If you are friendly and tip fairly, you will be rewarded by your divemasters. Orlando was a great divemaster. We have seen eels, sharks, lobsters, turtles, octopus, you name it."

Reader L. Cameron of Waltham,

Making Sense About Tipping

Not long ago, we received the following letter about tipping practices, which pretty much agrees with our sympathies.

Dear Undercurrent:

I use a dive computer, and I do not care to be restricted by the dive tables, especially when I am in a group where everyone has dive computers. In several places, because of the restrictions of the dive master, I wonder why on earth I spent \$700 for a dive computer in the first place.

I also do not care to dive in a follow-the-leader fashion — unless, of course, a group is diving in a group so that the dive master can find a particularly unique fish or coral that the whole group would like to see.

And, nothing ticks me off more than a two tank morning when the first dive is on a nice wall and for the second dive the dive master takes you to a site that is relatively uninteresting and was obviously chosen because you would have to dig a hole in the sand to go below 30 or 40 feet.

One way to deal with this is tipping. Since I started diving ten years ago, I have gone with groups organized by the dive shop I frequent. They have done a superb job. They tip the dive master (who then divides the take

among his helpers) about \$30 to \$50 per diver depending on the place and circumstances; for example, more on liveboards, more for longer stays.

When I run into the types of practices identified above, I politely decline to tip the dive master anything — not one penny, which is the only way to communicate a strong message. Additionally, the instant I recognize the telltale pattern of unnecessary restrictions on diving, and it does not take long, I indicate my displeasure to the dive master and to the owner of the operation, if he or she is around.

If there is a wide spread practice among divers of tipping the dive master, then might I suggest that more people make their complaints known and follow up by not tipping — it's about the only recourse a diver has after arriving at the site. That might help some dive masters rethink their restrictive policies. And if it is the owner's policy, then still no tip — that's the dive master's problem (not mine) and something he or she has to work out with the owner.

Since *Undercurrent* has done so well in identifying a number of dive master problems, I would like to recommend that you follow this up with strong recommendations to all divers to stop tipping lousy dive masters.

Joe Douglass, McLean, VA

MA, has solved the problem of tipping those you have become friends with. She tells us, "When we become personal friends as opposed to tourist clients, tipping money is awkward, so I try to bring presents for the staff such as tapes, inexpensive radios or tools."

Guideline: If the service was exceptional and you're visiting an area where tips are customary, then some tip is called for. Consider it a cost associated with the trip.

However, tipping ought to be ignored when simple special services are not forthcoming. Placido Dos Santos (Tucson, AZ) says that the Lahaina Divers "crew was unfriendly, unhelpful, yet bucking for tips. Although Lahaina Divers was the repair rep for my BC, they refused to perform a simple repair. Divemaster had everyone stay in a group regardless of experience. She had us exceed our planned bottom time, PADI table limits, and forego a decompression stop so we would stay with the group."

On the other hand, if you need special service and get it, that is

reason enough for a tip. E. Russell (Greensboro, NC) wrote: "I have a herniated disc. Any physical help I get with my gear is appreciated unless it is given grudgingly. Also I appreciate being shown things that I might miss."

Guideline: If you require special service, a tip may help you get it.

Liveboard Boats:

The frequency of tipping and the highest tips are given on liveboard boats — where the crew serves you 24 hours a day. A rapport is developed and camaraderie established. The divemasters and crew may also wait tables, and you schmooze with the cook. Thus the service is apparent — if it's there.

Travel agents often send materials to readers suggesting tipping on specific trips. Some reported signs onboard telling them that "tips are expected" and in some cases this is also brought out in the initial briefing by the skipper. Others tell us that the tour leader explains that tipping is expected and how much to tip. Among our respondents, 22 always

tipped whatever the group leader suggested no matter what type of operation. This tip was usually \$20 per person and put into an envelope and given to either the dive guide or the skipper for distribution to everyone.

Tips are usually offered at the end of the trip, often put in a pot to be divided up among the entire crew. When the size of the tip wasn't suggested by the tour leader, it seemed to run much higher: ten percent of the price of the trip is the most common figure for the pot, but \$100 is also common. Many put in lesser amounts. Three of our respondents preferred to sidestep the pot and give tips directly to individuals who provided the service. One said "don't forget the cook." About 25 percent tipped the dive guide and the crew along with the pot, and several tipped the skipper. Reader J. Renaer of Belgium provided us with a litany of instances from her many dive trips: "The Aquanaut Explorer put the tip on the bill. On the Little Cayman Diver, we gave the captain \$100 and next morning, we did not have water in our cabin, breakfast was not

provided, and everyone had to transfer their own luggage to the shore using the dinghy."

"The Bilikiki had a sign which read 'although tipping is not customary in the Solomons, Bilikiki is an exception' and \$100 per person was suggested as a minimum."

Last I looked, the American buck went further in the Solomon Islands than just about anywhere. If a laborer earns \$5/day, he is lucky. So, where does this \$100 from a dozen divers go?

Practices such as this prompted many people to say that suggested tipping is a "hidden charge." Dive operations should pay a livable salary and if it costs more to do so, then the price of the dive package should be increased to pay those salaries.

Resorts:

Actual tipping levels for dive resorts range from \$1 per dive to \$100 for the week, with the majority falling into one of two groups: \$3-\$5 per day and \$5-\$10 per day. Some folks set an amount ranging from 10 percent of the cost of the dive package to 10 percent of the cost of the entire stay.

Some people give gifts instead of cash. Ollie McClung, Jr. of Birmingham, AL, tells us, "I tip with gifts of T-shirts." S. McCutcheon of Hollywood, FL, told us, "it is our Dive Club policy to tip but we also take along T-shirts and often give a 30

quart cooler to remote areas that appreciate hard-to-get consumer items. Some people took the staff out to dinner."

Some resorts — St. George's Lodge in Belize, for example — discourage tipping. The staff gets paid according to how many guests come to the lodge.

Service charge:

Many resorts add a "service charge" of 10 to 15 percent, but don't specify its use. The majority of the respondents (47 percent) believe that a "service charge" covers the dive staff, but a number of dive operators told us it does not include the dive staff. This charge was for room maids, waiters and perhaps bartenders.

In fact, I learned at one ritzy resort that it is used to put flowers and fruit in rooms, pay for "free" T-shirts, and for any other sort of "service" provided a guest. Not much of it ends up in the hands of employees. In effect, it's just a way to charge more for accommodations and diving, without showing it in the basic charge.

Guideline: If you are levied a service charge, find out to whom it goes. Ask the staff, themselves. Besides those operations we mentioned, our readers listed many others with objectionable tipping policies. These included: any of the Aggressor

Fleet, the Sea Dancer, Don Foster's; and Fisheye View on Grand Cayman; in Honduras, Anthony's Key and CoCo View; Belize's Turniffe Island Lodge; in Mexico, Scuba Cancun and Cozumel's Del Mar Aquatics.

In conclusion, I can't tell you what to do, but I'll tell you what I do. First, I like to avoid pots. I don't know what happens to that money.

At a hotel, I tip as I do in any hotel and restaurant. If I get exceptional service from a dive guide, I'll tip them \$20 to \$30 for a week. I've given \$50, but only for exceptional service.

On a small liveaboard with a small crew, I'll tip people who have served me well individually. About \$20 to \$30/person. On a large liveaboard, I'll put about half the recommended amount in the kitty, and tip those who have served me well.

But, I also consider the standard of living. I would tip more in Cayman than in the Solomons, more in Hawaii than in Grenada.

And, if crew members seem particularly poor or needy, I add a little extra, leave a T-shirt or Levis, a dive mask, a pair of fins. Something that might be especially difficult to get. I don't tip owners or captains.

Am I cheap? Out of date? Why does it matter?

C.C., travel editor

Camouflaged Skins, Disappearing Bubbles

— the new technology of diving

Each year, just about everyone in America with an economic stake in the diving business gathers to review new products, buy and sell, and otherwise ruminate about the industry.

The 1993 conclave sponsored by the Diving Equipment Manufacturers Association (DEMA), supposedly the largest ever, was held January 21 in Orlando's Convention Center. Along with American exhibitors, there were Scottish and Japanese wet suit manufacturers, English magazines, the Queensland Tourist Bureau and scores of resorts as distant as Raritonga to Rangiroa. To cover the more than 600 exhibitors required the stamina to stroll 1.8 miles of aisles, which is what just about every one of the 15,000 attendees did at least once.

The show itself was smooth and slick — at least on the surface. While some skin and wet suit purveyors used nubile young ladies to promote their products, most of the exhibitors let their products speak for themselves and presented their wares without sexual innuendo. It was just a few shows ago when scores of ogling men stood in line to get photographed with pouting babes in bikinis. This year, crowds of women and men queued for a snapshot with Jean Michel Cousteau, there to promote U.S. Divers. Goodbye 80's. Hello 90's.

Not all the activity was limited to the exhibition area. Manufacturers held repair clinics. Resorts presented slide shows. Travel agents and wholesalers presented dive packages and new destinations. Canada's DECIEM held

a seminar on how to use their dive table. Something was happening from 8 a.m. until 6:30 p.m., for four straight days.

Computers:

Among the computers promoted, US Divers, Beauchat and Mares displayed a new wrist model made by Uwatec that reads tank pressure by wireless transmission from the tank's high pressure port.

Orca displayed their new Nitrox Phoenix computer and Dive Rite had the software showing the capabilities of The Bridge — their soon-to-be-released computer that will handle oxygen mixes from 20 percent to 50 percent (air to shallow depth nitrox mix).

Tanks — and no tanks

Northland Pacific Development Company introduced Russian-made titanium tanks. Shorter but stockier than standard steel or aluminum tanks, these sturdy cylinders can tote 158 cubic feet at 4400 psi and 180 cubic feet at 5,000 psi. The manufacturer claims that the tanks are three times stronger than steel, negatively buoyant, and lighter in weight. At a suggested retail price of \$1,400, they'll indeed make your wallet lighter.

Are bubbles a thing of the past? Drager, Cis-Lunar and Oceanic are working on rebreathers that will clean and recirculate your exhaled air, never letting a bubble escape. Selling for around \$5,000 and requiring 40 to 50 hours of training, they're just the thing to guarantee good

shots from your \$10,000 Nikonos RS. Rebreathers are not new, by the way; the military has used them since WWII.

Drager will also be offering a full face mask with an internal display indicating available air supply; green, everything is fine; red, you are getting low; and flashing red, when the supply is getting critical.

Staying Warm:

For those wanting a more-sanitary-than-usual way to warm their wet suit, Repetitive Dive offers a portable chest-mounted heating element powered by a portable battery pack. The unit was developed for cave divers who did not want loose fitting dry suits that might snag, but needed a warmer garment. It should retail for about \$400 when available later this year.

***"...these sturdy cylinders can tote
158 cubic feet at 4400 psi and 180
cubic feet at 5,000 psi."***

D2 Marine Ltd of Nairn, Scotland was looking for a U.S. rep for their one piece zippered wet suit, which is worn with a short-sleeved beaver tail jacket. The zipper area of the main suit is backed by a large neoprene gusset that seals out any water entering through the zipper and

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Equipment Problems Questionnaire

So that *Undercurrent* can continue to remain on top of equipment problems, we are including this brief questionnaire to help you inform us about any problem with your diving gear that might need attention by the manufacturer.

Too often, individual problems go unreported. Your assistance will help us uncover any shortcomings in specific pieces of equipment before they create problems for others.

1. What piece of equipment has had a problem: _____

2. Brand _____ Model # _____
3. Year purchased _____ Bought New Used
4. Number of dives using that piece of equipment _____

(Over Please)

adds additional insulation around the core area. Each suit is custom made and will retail for around \$550.

If a concept developed by SSA (Sport Suits of Australia) catches on, it's curtains for fuschia, passion pink and canary yellow. They presented 1.2 mil Darlexx "Nature Skins" in mottled earth and ocean tones, with testimony from famous divers claiming that the subtle camouflage pattern permits them to blend into the reef and get closer to fish. Retail is \$229.95; matching hood is an additional \$35.95; and booties and tank cover are each \$33.95.

Miscellanea

Among the BC's, Zeagle is offering the 7600, a low profile, back-inflation unit with 44 lbs. of lift. As the bladder is deflated it contracts, thus reducing drag in the water. It has double strap tank bands and an integrated weight belt with a toggle pull-release mechanism. The 7600 has a suggested retail price of \$400 plus or minus, depending upon the bells and whistles desired.

The Aqua-Lume illumination system attaches in strips to the shoulders and the hood of wet suits, giving a battery-powered 12 hour glow similar to that of the Cyalume light stick. It will retail for \$39.95.

Representatives of Rodales' *Scuba Diver* were glowing in their claims of the circulation surpassing 200,000, noting that, at this time last year, they didn't even have an issue to show. More than half their subscribers, however, have come from the free subs they've

given DAN members, as well as buyouts of *Fisheye View* and *Pacific Diver*. Push comes to shove when the renewal cycle starts, which will let advertisers know their real cost of advertising. Another new magazine, *Sport Diver* will be launched in May.

"...famous divers claim that the subtle camouflage pattern permits them to blend into the reef and get closer to fish."

The Big Easy

Next year's DEMA show is in New Orleans. To gain admission to the DEMA show, one needs to be engaged in some diving-related business or be an instructor. For the typical sport diver, let me suggest two ways to gain entry.

First, every dive store and resort gets an invitation. If you're a regular customer, see if they'll pick up a pass for you (at your expense of course, about \$10).

Second, if you're a regular customer of a travel agent, perhaps they'll let you go under their auspices next year.

Ben Davison

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Equipment Problems Questionnaire (cont.)

5. What was the problem? (Be as specific as possible)

6. How did it affect the dive?

7. Were you or anyone else injured because of the problem? Yes No

8. If yes, please describe the injury

Name _____ Bus. # _____ Home # _____

Address _____

Return to Ben Davison, Undercurrent, P.O. Box 1658, Sausalito, CA 94966

A New Film for Photographers

—Kodak's Underwater Ektachrome

At last, a slide film exclusively for underwater photographers.

Thanks to a major advance by Eastman Kodak Company, we can now capture the warm colors of fish and coral down to 30 feet with only sunlight. Combine that film with a filtered strobe and restore warm colors to dull blue-green backgrounds.

I first heard about Kodak's then-experimental film last September when it percolated to the surface during a speech given at an international photo convention in Germany. It was hardly noticed, buried in a talk about the future of photography given Dr. Leo Thomas, President of Imaging for Kodak.

Thomas spoke of "...pictures [that] are nearly always too blue, unless the diver takes enormous pains with flash systems and filters." Then Thomas showed an experimental slide film that "get[s] rid of unwanted [blue] filtration."

Now, six months later, the experiment is headed for dealers' shelves - and into the cameras of underwater photographers who want a film that will fundamentally affect the quality of their pictures. I tested Kodak's UW film extensively in the Sea of Cortez and at UNEXSO in Freeport, Grand Bahamas. In nearly every respect, the film worked better than I expected.

Close-in subjects, photographed with a strobe and special filter, exhibit rich color, at least as brilliant as any shot with topside films. And, the scenery just behind the subject is more colorful than before.

For shallow subjects too large to illuminate with a strobe (a reef in 30 feet of water, for example), UW film brings out color that was impossible to get before. Large animals such as dolphins or sea lions are rendered in truer color.

On a sunny day in the Caribbean, you'll be able to shoot colorful, available-light photos down to 30 feet. Even at 40 feet, some color will be apparent, especially if colors on the subject fluoresce.

The film, created by Bob Niklewicz, Program Manager for Consumer Imaging at Kodak, and Brian Keelan, a senior researcher, is called Kodak Ektachrome Underwater Film — "UW" for short — or 5019 for its numerical code. At a speed of ISO 50, it will be available for 35mm cameras, in 36-exposure cassettes.

How It Works: Available Light

Below 15 feet, landscapes appear to be bathed in monochromatic blue-green light, leaving photographers with two choices: bring down a strobe to act as a portable sun, or filter out some of the excess blue and green light by screwing a red filter over the lens.

Neither method is ideal. Although light from a strobe

brings out brilliant hues in nearby objects, colors quickly pale and disappear at distances greater than three feet. Warm colors lose their punch and appear washed out just two feet farther away. This maximum shooting distance of three to five feet obviously imposes severe limitations.

A reddish colored filter removes some of the blue and green that descend the water column more efficiently than red. The filter cuts down the exposure of the other colors, thus letting the weakened red show up.

Photographers get a bit more red, but the standard underwater filter reduces exposure by two-thirds of a stop; for example, a metered exposure of f/8 drops to just above f/5.6 with the addition of a filter. The wider aperture opening reduces depth of field, making it harder to get sharply focused pictures in an already dim environment.

"...the experiment is headed for dealers' shelves--and into the cameras of underwater photographers who want a film that will fundamentally affect the quality of their pictures."

About one-sixth of the red available at the surface remains in Caribbean water as deep as 30 feet. Ordinary film is not sensitive to this tiny amount of red, but by increasing the sensitivity to red (its "red speed") beyond that of blue and green, the Kodak researchers discovered that the colors would balance in deeper water. They added just over two stops to the red speed, in effect multiplying the film's sensitivity to red by a factor of four. With this change in film chemistry, warm colors show up in deeper water.

Push Process in Low Light

The two Kodak scientists had to determine how sensitive to the total spectrum to make the film. A high light sensitivity or "speed" (say ISO 1000, for example) enables film to respond to very low light, but at a cost of reduced image quality. Film with a low number has improved image quality but requires more light.

Most underwater photographers shoot with film that has a speed of ISO 100, while professional photographers prefer slower film with better image quality. The compromise was to slow the underwater film's speed to 50, recognizing that many photographers would shoot it as if its speed were 100.

Achieving a doubled film speed in Ektachrome is simple. If the film's normal ISO is 50, as is Ektachrome Underwater film, expose the entire roll as if it were ISO

100. Then tell your film processor that you want it "pushed" one stop. Image quality will remain high, although there is a slight loss in contrast. The big difference is the photographer needs only half the light to get the exposure.

UW Ektachrome also improves blues and greens. All three primary colors reproduce better, with greater saturation than in other Ektachrome films. Image quality is also excellent, both in sharpness and grain.

Works with A Strobe

One problem remained. Because the illumination of an underwater strobe is balanced to mimic sunlight, flash pictures taken with UW film would turn out too red. In consultation with Tiffen Manufacturing Corp., Niklewicz and Keelan decided to fit a blue-green filter over the strobe to remove the extra red light.

Tiffen's filter balances the strobe's light so that UW film registers true colors of underwater objects. Pictures are taken as if the subject, for example a red cardinalfish, is momentarily popped to the surface on a sunny day, photographed, and returned to its depth.

Recognizing that the distance the strobe's beam travels through water affects the amount of red remaining in the light, Kodak and Tiffen decided that photographers should have a choice between two filters, one for close subjects and another for subjects farther away.

The UW0-2 cuts out the most red and works best for macro and closeup shots closer than one-and-one-half apparent feet from the camera.

The UW2-7 filter is slightly weaker. It is designed for normal and wide angle photography when subjects are just over five feet from the camera.

Match The Midground

A happy advantage of the UW2-7 filter concerns the area just behind the subject. Although corals and sponges in this midground are capable of reflecting warm colors, the water column normally filters out much of the red that would make this warmth noticeable on film.

By combining Kodak's UW film and a strobe fitted with the UW2-7 filter, the midground regains some of its original color. It shows more blue-green than the subject, but the color mismatch is much less obvious.

A nice feature of the filters is that they don't require an adjustment in exposure. Total light is reduced less than one-third of a stop, and this is compensated for by extra speed built into the film.

Limitations

Because UW film is extra sensitive to red light, photographs taken shallower than 10-15 feet may be too ruddy for your taste. For the same reason, up shots — when the lens is pointed towards the surface — exhibit unusual warmth if taken shallower than 20 - 25 feet.

UW film works best in the Caribbean and similar tropical waters. Because of differences in the kinds and quantities of material suspended in the water in other locations, such as along the Pacific coast, colors are

Highlights: UW Ektachrome

- For underwater photography only.
- Designed specifically for clear, warm ocean photography, like the Caribbean.
- Brings out reds and oranges without a strobe or filter between 10 and 40 feet.
- Excellent for photographing large or fast-moving subjects at shallow depths.
- Rich reds with blue water column in background.
- High image quality, both in resolution and grain.
- Easily developed on location (resort or dive boat) with E-6 processing.
- ISO 50. Pushable to 100 to gain extra depth of field and easier focusing.
- Warms up backgrounds just behind subject when combined with a strobe and special strobe filter.
- Pictures too red at depths above ten feet.
- Pictures too red if camera is aimed towards surface from depths shallower than 20 feet.
- Slow film speed can make shooting under available-light difficult, even when pushed to 100.
- Colors not as accurate in green Pacific coast water or

different. The water may be more green or blue, so colors will not be quite as true. UW film will render the underwater world vividly regardless of the water's color, and color change on nearby objects won't be noticeable.

While's UW's speed of ISO 50 offers the high quality needed by professionals, a film rated at ISO 100 would have helped less experienced photographers in dim underwater light. I tested an earlier version that was rated at 100 and the results were excellent, even when blown up to 16x20 inches. Of course, push processing is available for those who prefer the higher ISO 100 speed.

A Diving Photographer's Tool

Kodak is pricing 36-exposure rolls of Ektachrome Underwater film at \$10.50 each, but the street price probably will be a couple of dollars cheaper. Retail price of the UW0-2 or UW2-7 filter is \$29.95. Some photographers may find that they can do with just one filter, the UW2-7. A filter holder is being developed that will fit virtually any strobe.

The film will be available in early March in selected camera stores. Plans are being made to distribute it through dive stores as well.

For more information, write Eastman Kodak Co., R2 Riverwood, Rochester, NY 14650-0811, or call (800) 242-2424.

Author Dick Jacoby, who has run photo trips for twenty years, expects his students will get better results with the new film and filters. For information on his trips, contact the Shedd Aquarium, 1200 South Lake Shore Drive, Chicago, IL 60605 (312/939-2438).