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The true wonder of underwater encounters with rays, sharks, whales, and dolphins makes their popularity understandable. Global cruising enables you free access to such experiences, but are these always done in an environmentally sustainable way? Fish-feeding practices in places like the Caribbean or the South Pacific greatly impact the natural social patterns and seasonal breeding or mating of the sea creatures in question and can actually encourage uncharacteristically aggressive behavior towards the very tourists

we sailors find ourselves recounting again and again to our captivated audience of friends as a demonstration of just how wonderful the boating life is.

And why shouldn't we? People tend to have a genuine fascination with creatures of the sea, especially when the prospect of interacting with them in their natural environment is possible. Certain rules that are put in place for sailors which dictate our behavior in the marine environment are fairly obvious common sense: using mooring



seeking to interact with them. Another seasonal creature, the sailor, has an opportunity to promote some of the more harmless ways to seek out these magical meetings.

My first experience getting up close with dolphins was on my very first sailing trip. In the years since then we've been surrounded by sea turtles when becalmed off the coast of Costa Rica, snorkeled with manta rays in Panama, and were sprayed by the blowhole of a humpback whale swimming next to our boat in Tahiti. Longterm liveaboard cruising involves the happy accident of some extraordinary unplanned and impromptu encounters with all manner of exotic marine life. These are some of the stories

buoys rather than anchoring in coral reef areas and not throwing rubbish into the sea. But when it comes to best practice in the presence of marine animals there is no clear rulebook on how to act. Yet the keenness to meet with these animals in the water could potentially be doing them more harm than good, even resulting in putting those who choose to attract them at risk.

There have been many cruising grounds that we have sailed in so far where a particular fish or sea mammal has been spotted, either by locals or other boaters, and that location soon becomes a go-to spot for sighting the animals again and again. Whether this is just as an informal tip announced over the friendly VHF we may interact with them physically.

radio nets, or it blooms into an entire tourist attraction with yearn to see more. We won't be satisfied that we've gotten boats full of visitors ferried out to the same location to view the "value for our money" from our holiday or tour unless the animals, the prospective concerns remain very much we are surrounded by fish or animals. And the simplest way the same. These problems fall into two main categories: for anyone to guarantee a fish-filled experience is to load how we might disrupt their normal food balance and how the dice by introducing extra food into the equation. The sad truth is that when fish act naturally it does not fit our The common saying "memory like a fish" is not schedules and itineraries. And so you have "shark feeding" tours or "stingray experiences" in which the workers entirely accurate. Fish can form memories and behavior patterns and as a result become conditioned to receiving throw chummed fish into the water where they know the food from a certain location at a certain time. This in turn can animals are likely to be, probably because they've already lead the fish or any other species to becoming reliant upon been feeding them in that same place for some time. The feeding-frenzy that results is a sudden surge of frantic that food, expectant of it, and more and more aggressive to ensure that they receive it. Scientists have noted the feeding behavior from the larger predators, hustling to get negative changes in fish behavior, including changes in their fill as fast as possible. As a direct result of this there time spent obtaining food, the size of the animal's home are now huge numbers of fish in much larger schools range, reproductive activity, population density, migration rushing up to the snorkel boats with the expectation of patterns, and species composition due to an increase in food. This can even be true in some so-called marine sanctuaries, turning the ocean into a zoo choreographed the larger, more aggressive species. Aggression displayed by marine animals by man.

requires energy, and fish that wouldn't normally exhibit this type of behavior have only changed their conduct in order to ensure their survival. That is because the unnatural supply of food provided by the meddling and intrusion of us humans results in a boom in the local population of some fish, an increase that is only sustainable if the new, increased



level of food is kept stable. behave quite differently towards the visiting humans This shift in nature affects fish of all sizes: from the in their environment. Soon divers and snorkelers find tiniest reef fish to the sharks at the top of the food chain. themselves being nipped at. Bites large and small-even Constantly searching for food makes for more aggressive severed fingers and toes and other serious injuriesfish, meaning that their interactions with other species become more and more common in places where fishare significantly altered and they are intermingling with feeding regularly happens. Fish learn quickly. And when other fish that they wouldn't normally come into contact they are accustomed to getting food from a scuba diver's with as the higher food levels attract bigger animals to hands, they just might bite another scuba diver that has the scene, like sharks, where they wouldn't otherwise no food to offer. Having just been fed, a shark naturally live. This disrupts the biodiversity as only the most wants more, and yet divers seem surprised when the aggressive species can now endure and the more passive sharks start to butt into them demanding further chum in ones are wiped out. A new abundance of introduced the water. Even more docile fish have gotten aggressive food from humans also means that the smaller fish, who with grazers like damselfish and chubs in Hawaii biting predominantly feed off the algae growing on corals, no more divers every year. Fish with symbiotic relationships longer control the plant growth. It stops the fish from with larger predators, like the remoras and pilot fish doing what they do as part of a healthy marine ecosystem, which accompany reef and nurse sharks, have changed and once they no longer keep up their cleaning duties it from passive passengers to keen biters thanks to tourist leaves the reef smothered in algae and weeds, affecting a interference. We experienced this ourselves with the local

substantial change in the nutrient balance. But why is it that the fish are being fed by stingray population in Mo'orea, French Polynesia, where humans anyway? The simplest answer is that from the small boats of casual snorkeling tourists would be entrepreneurial tour operators keen to make more money encouraged to hold a closed fist full of tinned octopus down to the lone snorkeler admiring the wonders of the in the water in order to get the rays to swim close up to them. People wanted to be able to touch them and tease reef: we aren't content to witness just one of a species. We

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More food works like a charm, and now the numbers and variety of fish flocking to the scene are much greater. Yet the presence of more food makes it easier for predators to hunt and kill the very fish you might be trying to see in the water. But the extra food and competition breeds the additional hostility meaning that they

them with the food and got some gentle bites in return. What the tourists pass off as a sweet "nip" from a ray was actually a demonstration of the animals becoming increasingly stressed and frenzied being taunted with the promise of food. Given that we were in the water with them that day along with our tiny infant daughter, we suddenly became aware that what had been touted as a "must-see" visitor experience was quite clearly not as harmless as we had assumed. There are many other stingray hotspots in the world, such as in the Cayman Islands, where the injuries from this type of event are getting worse and worse. Later we guestioned why it was that we had been so keen to swim with them in Mo'orea in the first place, especially as we had experienced some lovely snorkeling with two dancing manta rays only a few weeks earlier while in the Marguesas islands. The answer, we sadly found ourselves admitting, was that we too had been suckered in by the promise of dozens of rays all together-surely only able to be guaranteed in such numbers as a direct result of the feeding.

Another point to consider is that it's not unusual for people's enthusiasm to blind them, and their eagerness to

bring the fish gathering around them leads them to throw totally unsuitable foods into the water. Commercial fish food or chum sold by dive shops may still break the equilibrium of the food chain, but it isn't the worst thing that could be offered to marine life as there have been countless reports of people throwing bread, rice, potatoes, bananas, hard-boiled eggs, frozen peas,

spray cheese, chicken, and even dry cat food to attract fish for the snorkelers to see. These offerings are poisonous to most fish, or at the very least can make them seriously ill or cause them to starve with their stomachs full of indigestible human food. In some sad cases this bad practice is even further entertainment for the misguided public, with videos posted online of green moray eels swallowing whole mesh bags of bread or hotdogs that they're offered, serving as just another example of how we're slowly turning these creatures into a circus attraction.

There is an almost bold and fearless acclaim that accompanies the act of swimming with sharks. Sharks are actually rather timid in their nature, inquisitive but cautious, and rather wary of humans. The one thing that can encourage them to overcome their fear of people and our boats is the promise of food. The scent of blood and fish oils in the water can attract sharks from a considerable distance, and the simple dumping of fish chum will send them racing towards an unnatural small pocket of bait fish, confusing their natural feeding habits and patterns,

repeating an inauthentic staged experience again and again. They can get a lot more aggressive towards humans when in feeding mode, investigating anything that could be food floating on the surface. Even more intense exchanges such as cage diving with sharks can be found in some places on the coast of South Africa. Here the humans themselves are sent down alongside the dumped chum for those tourists hungry for high-octane animal encounters, which only causes further stress to the animals themselves.

However, some places are starting to realize the detrimental effects of fish-feeding practices. Almost eight years ago the Coral Reef Alliance began a campaign called "Take a Bite Out of Fish Feeding" by directly approaching dive shops and tour boats in Hawaii. The project helped to educate both the local and tourist populations about the negative impacts of not allowing fish to feed by themselves. Similar programs were adopted to protect Australia's Great Barrier Reef, with conservationists hoping to implement some environmentally-friendly guidelines to help promote a more sustainable diving and snorkeling tourism industry. Many other countries and

> territories specifically ban or discourage feeding fish while diving or scuba snorkeling, and it is outright banned in natural preserves. But in spite of worldwide organizations like PADI having strict rules in their divemaster and instructor training about not upsetting marine life, there are few studies currently evaluating the effects of human

interaction on the behavior of sea animals.

But even if you would never dream of feeding fish while swimming with them, you may not know that our physical presence both on the surface and under the water when interacting with creatures of the sea may also be affecting them in ways that we might not be aware of. Encountering animals like whales, dolphins, rays, seals, turtles, and dugongs is a breathtaking part of our sailing experience. Yet the urge to follow them, track them, dive in with them, or possibly even chase or herd them is one that not all boaters are immune to. A good way to gauge how to respond to a whale or dolphin is to allow the animals themselves to control the nature and duration of the encounter.

Places like Tonga in the South Pacific are hugely popular, with tourists and boaters alike wanting to take advantage of the opportunity to jump in and swim and snorkel with the migrating humpback whales in this region. Yet whale and dolphin behavior is not thoroughly understood and the experts advise that it is best to

observe and appreciate the animals without entering the water in order to protect both yourself and them. Sailing in these waters we saw many small operator boats that would track the path of the whales each day, radioing one another so that they could all cluster in the places that the whales appeared. Yet the animals are there primarily to breed so it's important to pay attention to whether there are any calves in the area to avoid separating one from its mother.

It's also key to keep a lookout to do your best to prevent a collision. Things like keeping your boat at a still being sensitive to the animals' needs and behavioral steady speed and course, not trying to overtake them, patterns. It's clear that it's not necessary to meddle not trying to encircle or chase them, and not approaching by unnaturally feeding these creatures in order to fully them head-on or on their path are crucial. Anything that enjoy their existence in our oceans. The thought that forces the animals to change course or leaves them with our excitement to connect with them may have a hugely no escape route will understandably stress them and negative impact on their way of life would shock and make them agitated. Even tips like keeping your engine appall many of the travelers who have sought out some running can be helpful when in the company of whales of these wildlife experiences; often falsely-advertised and dolphins as it helps them know exactly where your under the guise of "ecotourism." boat is, especially important since whales have been Ultimately, the simplest way to enjoy a meeting with known to collide with boats under sail. Some signs that any form of marine life is to intrude as little as possible they might be feeling harassed by the meeting are if their and not introduce anything unusual into their environment.

behavior starts to seem erratic with prolonged dives, tail swishing and slapping, or rapid changes in direction or speed in order to escape. Driving through groups of dolphins to encourage them to ride the bow wave is another no-no. Our own experience of meeting dolphins at sea has so far been that they always rush towards us and clearly enjoy jumping at our bow for



a time, but this is not true of all dolphins all of the time. In fact, many are courted by tourist boats but don't want to ride the bow wave and find it intensely taxing.

In contrast to the dolphins who seem to follow our keep learning new approaches to make our presence in boat in even the wildest stormy conditions, most of the their home world less detrimental. Being more aware of sea turtles that we've come into contact with have been your body positioning when in the water will help avoid those dozing lazily on the surface of the water on a calm accidental contact with the reef as it can cause severe day. They accidentally bump into the boat as we slowly damage to the corals and small reef animals if they are motor along in the millpond-like sea. The collisions are bumped or trodden on. Resisting the temptation to touch, always extremely gentle, but we've taken to keeping a handle, feed, or even hitch rides on any sea creatures will turtle watch on such occasions now and trying to call help to keep our meetings with them authentic and all the more special for not being forced. out to them to rouse them from their watery sleep before the hull of the boat itself startles them awake. Running As boaters we learn to wait good-naturedly for into turtles underwater or on land, however, means you the right season, the best wind, the correct tide, or need to be even more considerate of encroaching on good-enough light in order to set off on our passage, their habitat. Turtles can drown if they are prevented from so perhaps it's good to have a gentle reminder to reaching the surface of the sea to breathe, so although demonstrate that same patience when it comes to our it's tempting to follow and track them if you see them watery comrades; taking the chance encounters with when snorkeling, it's vital to give them enough space them as they come and never losing the sense of wonder that they instill in us. 🦛 to get back up to the air when they want. They are



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particularly sensitive to light, so shining a dive torch in their faces or a flashlight if you see one on the beach at dark can scare them away from their colony and where they lay their eggs. While they can be guite receptive to human interaction, it's best to always move slowly and stay guiet when near them.

These are just a few examples of some ways in which it is still possible and encouraged to reap the benefits of both the spontaneous boating marine life encounters and those that any tourists might have while

> It's important that we realize just how easily our actions may cause stress to fish, sharks, dolphins, turtles, whales, and other marine animals, interrupting feeding and mating behavior, or provoking aggressive behavior in normally non-aggressive species. Easy common sense rules can be applied to most of the snorkeling, diving, and sailing interactions

with these animals-such as don't put anything into the water or over the side of the boat, and don't collect marine life souvenirs-but it's important that we strive to