11 Case Studies

In this section I offer a range of short case studies to illustrate issues covered in the text and provide detailed examples of what is happening in the relationship between tourism and the marine environment around the world at the time of writing, between autumn 2019 and spring 2020. As far as possible the sequencing of the case studies below seeks to mirror the structure used in the book starting at Chapter 1.

1: The impacts of tourism on the marine environment in 1820, 1870, 1920 and 1970

This book has focused, of course, on the impacts of tourism on the marine environment at the time of writing in 2019 and 2020. However, it is interesting to look back and compare the situation today with the past to see how much things have changed over the past two hundred years. In Table 11.1, I endeavour to show how these impacts developed over time

Table 11.1: The evolution of the impacts of tourism on the marine environment over time

1820	1870	1920	1970
The consumption of marine resources by tourism and tourists			
Very low levels of tourism so little consumption of marine resources by tourists	Domestic tourism to the coast is growing so consumption is growing but at a relatively slow rate	International travel is increasing, and domestic tourism is high in developed countries. Consumption by tourists is growing but is still at a modest level	Rapid increase in international travel increases the consumption of marine resources by tourists in the main tourist destination countries
The cruise industry			
No cruise industry but sailing ships were transporting business travellers and emigrants	Cruise industry has developed but is on very small scale and just for the economic elite	Cruising is fashionable with the economic elite but is still on a modest scale	Cruising has been in decline for several decades but is about to be reinvented and grow at a dramatic rate

1820	1870	1920	1970
Coastal tourist resorts			
Few established resorts and most have little purpose-built infrastructure	Growing number but with limited purpose-built infrastructure	More resorts exist and some have sophisticated purpose-built infrastructure. Visitor numbers rising	A large number of destinations are emerging, some of which did not exist before as settlements. Visitor numbers growing rapidly
Marine leisure activities			
None apart from bathing and swimming	A few rich people go boating	The economic elite go sport fishing and snorkelling	Surfing and all water-based leisure activities grow as the number of people vacationing at the coast rises rapidly
Marine wildlife-watching			
No organised marine wildlife-watching; marine wildlife is studied by travellers and specimens are collected	No organised marine wildlife-watching but individual travellers study marine wildlife and collect specimens	Land-based wildlife watching is popular with the economic elite although they often prefer shooting it! Sport or big game fishing likewise popular.	Tourists are beginning to show an interest in marine wildlife. The first whale-watching trips are launched in the 1950's
Geographical spread of the impacts			
Very limited to a few localities	Still very limited in geographical extent	The impacts spread to the Mediterranean and the coasts of Florida, as well as to the destinations favoured by the economic elite in Asia, Africa, and South America	The effects of tourism reach most inhabited parts of the world. The scale of the impacts is becoming substantial in more developed countries which are popular with both domestic and international tourists
Carbon emissions from tourism and their impact on global warming			
None – there are no aircraft, cars or trains and ships are powered by sail	Very low, but there are now cruise ships and trains powered by fossil fuels	Starting to grow significantly after the invention of cars and aircraft, and through the growth in tourism	Greatly increased due to the rapid rise in air travel and leisure use of private cars

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Obviously, this is a very simplistic picture, but hopefully it makes the point that between 1820 and 1920 the impacts of tourism environment were low and increasing relatively slowly. The impacts then grew at a significantly faster pace between 1920 and 1970. However, I want to make the point that from 1970 to 2020 the impacts have grown at an incredibly rapid rate, not least because the total number of international tourists grew from around 166 million in 1970 to some 1.4 billion by 2018!

We also need to recognise that the increases in impacts have also been a direct result of the rapid growth of the cruise sector, the popularity of marine wildlife-watching, and the invention of new marine leisure activities. And, compared to 1970, the impacts of tourism on the marine environment are now being felt literally everywhere in the world, virtually from the North Pole to the South Pole and all points in between!

It is worth saying that whereas in the past the impacts were largely based on ignorance, we no longer have that excuse; we know much more about how tourism can affect the marine environment so now we have to act on that knowledge.

2: What future for the Maldives?

The Maldives is the lowest lying country in the world with an average height above sea level between 1.5 and 2.4 metres, depending on which sources are used. It is an archipelago of some 1,190 islands, of which only a minority are inhabited. Some 87 islands have been set aside as resorts for tourists. Indeed, tourism represents 66.4% of the total GDP of the Maldives (www.knoema.com, 2019), meaning the country depends heavily on tourism for its economic survival. Economically, at least, tourism in the Maldives has been a success story. It began in 1972 with just 60 beds available for tourists, but by the first quarter of 2019 there were no fewer than 47,000 beds. Over the first three months of 2019, tourism generated tax revenues for the Maldives government of no less than £102 million (www.tourism.gov.mv, 2019). The Maldives was attracting 1.4 million tourists per annum by 2018 and has set an ambitious target of 2.3 million arrivals by 2023 (www.maldives.net.mv, 2019).

However, the very future of the Maldives and its people are under threat from rising sea levels due to global warming. In 2008-2009 articles were written saying the Maldives could disappear within ten years, and its President was talking about buying land in another country and moving the whole population there and abandoning the islands to their fate. Many readers will remember the government of the Maldives holding a cabinet meeting under water in 2009 to draw attention to the threat the country faced due to rising sea levels. This led to a spate of 'see it while you can' comments in guidebooks and travel features based on the idea that the Maldives would not be around for much longer.

In recent years, attitudes on the Maldives have changed and the government now seems committed to trying to save the islands from rising sea levels, using geoengineering projects. *New Scientist* reported in 2017 that some islands were being 'rented out' and the proceeds used to reclaim, fortify and even build new islands. A key part of the strategy is the construction of new islands which are higher above sea level than the natural islands (www.newscientist.com, 2017).

Of course, as we saw in the main text, the construction of artificial islands can cause significant damage to the marine environment and this could in turn harm the tourism industry in the Maldives. The government's intention to continue to grow tourism could also pose a threat to the natural environment. However, faced with the possibility of the Maldives disappearing under the waves, the government's desire to grow tourism is perhaps understandable, not least because its revenues can help fund some of the engineering projects mentioned above.

So, it remains to be seen if the Maldives can survive the impacts of global warming, but there are still plenty of commentators talking about the islands disappearing within 30 to 100 years. Ironically, by encouraging tourists to take long haul flights to the Maldives the government is actually contributing to global warming but in the circumstances, it is hard to blame them for they seem to have few alternatives if they are to save their country from destruction.

3: The plight of the coral reefs

Coral reefs are living organisms which provide a vitally important habitat within the marine ecosystem as well as protecting coastlines from strong currents and powerful waves. At the same time, they are a major attractor for tourists because of the opportunity to dive on them to see the marine wildlife that lives on and around them. However, our coral reefs are under threat globally. A random online search in December 2019 produced a number of articles with frightening headlines that suggested that:

- 50% of the coral reefs that existed in the mid-1980s had been lost by 2015.
- More than 90% of all remaining coral reefs could be lost by 2050.
- 80% cent of coral reefs in the Caribbean had been lost 'in recent years'.
- Coral reef loss is occurring at about twice the rate of the destruction of rainforest

While some of these figures may be exaggerations no one disputes that coral reefs are being destroyed and damaged at an alarming rate. The US National Ocean Service has produced an infographic that links global warming to the threat to coral reefs. It argues that '*climate change dramatically affects coral reef ecosystems*' citing the following:

- *a warming ocean*, [which is a cause of coral bleaching]
- *sea level rise*
- *changes in storm patterns*
- *altered ocean currents*
- *ocean acidification*

(www.oceanservice.noaa.org, 2019)

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All of these effects of global warming are harmful to coral reefs but in 2019 the International Coral Reefs Initiative (ICRI) identified a number of other ways in which humans were damaging the coral reefs including:

- *overfishing*
- *destructive fishing methods*
- *coastal development*
- *pollution*
- *the global aquarium trade.*

(www.icriforum.org, 2019)

They also identified unsustainable tourism as a major threat to the coral reefs. We have already noted in the book the various ways in which tourism contributes towards the destruction of coral reefs including: irresponsible diving and snorkelling; boating and anchor damage; seafood consumption and recreational fishing; sightseeing boats and cruise ships, souvenirs for tourists; the introduction of invasive species, and: human interactions with wildlife including fish feeding. Yet the tourism industry has a vested interest in conserving coral reefs because by attracting tourists they have a monetary value for tourist destinations. While it is difficult to quantify this value, a research team led by Mark Spalding in 2017 suggested a figure of US $36 billion per annum globally. The research also concluded that 70 countries had reefs that generated at least US $ 1 million per square kilometre in tourist revenue each year although they noted that only 30% of coral reefs across the world are currently being exploited because the rest are too difficult to reach (www.zmescience.com, 2017).

Other later case studies will look at voluntary codes of conduct for diving on coral reefs and the threats facing perhaps the world's most famous coral reef, the Great Barrier Reef in Australia.

4: The value of mangrove forests

Mangrove forests are a crucially important part of the marine environment, but they are also highly valuable to humanity in a number of ways. They protect shorelines from the effects of storms, provide timber and fish for many coastal communities and filter water running off the land to reduce the pollution of inshore waters. Yet, like coral reefs, they are under threat across the planet. It has been estimated that in the past two decades the world has lost some 35% of its mangroves (www.tourismimpacts.tumblr.com, 2019). According to the American Museum of Natural History: *'by some estimates less than 50% of the world's mangrove forests were intact at the end of the 20ᵗʰ century, and half of those that remain are in poor condition … Thailand has lost 84% of its mangroves … while the Ivory Coast, Guinea*

Bissau, Tanzania, Mexico, Panama, Malaysia, Myanmar, Pakistan and the Philippines have each lost more than 60% of their mangrove forests (www.amnh.org, 2019).

The destruction of mangrove forests has a number of causes. Aquaculture, particularly the raising of shrimps, involves clearing mangroves and replacing them with ponds, and also brings pollution of the marine environment due to the waste from aquaculture units. Mangroves have been cleared by agriculture to create rice paddies and palm oil plantations, while agricultural run-off polluted by fertiliser chemicals has done further damage to mangrove forests.

Tourism has played a major role in the destruction of mangrove forests in two main ways. First, the development of coastal resorts and infrastructure has led to the clearing of many mangrove forests. Even where mangroves are protected, some developers simply destroy them and pay a fine if they have to, because the fine is likely to be much less than the profits they will make. This demonstrates the weakness of many regulatory systems, where the penalties do not deter irresponsible development. Second, tourists visiting mangroves on boats cause damage from noise, engine fumes, fuel spillages, waste and light pollution at night.

Yet, as with the coral reefs, mangroves have an economic value due to tourism such that the industry has a vested interest in their protection. It is estimated that 'mangrove tourism' involves some 4,000 'attractions' in 93 countries and that in Florida alone recreational fishing in mangroves is worth some $1 billion per annum to the local economy (www.oceanwealth.org, 2019).

Research conducted by the World Conservation Union or IUCN suggests that in the tsunami of 2004, mangrove forests saved lives in some places by absorbing the energy of the storm (www.bbc.co.uk, 2005). In recent years, the message that mangroves can help mitigate the effects of tsunamis and extreme weather events in coastal areas has encouraged governments to take measures to protect mangroves in countries such as Sri Lanka, Indonesia, Madagascar and the Philippines.

However, every day more and more mangroves are being lost with the construction of resort complexes and tourism infrastructure.

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5: The operation of cruise ships in Alaska

The wilderness of Alaska in the USA has become a major destination for the cruise industry with an estimated 1.30 million tourists expected to visit on some 567 separate cruises in 2019, compared to 1.09 million two years earlier (www.seacc.org, 2019). The Cruise Lines Industry Association estimates that cruise passengers spend brought an estimated $2.2 billion dollars to the economy of Alaska in 2019 (www.cliaalaska.org, 2019). However, the South East Alaska Conservation Council (SEACC) published data in 2019 that highlighted the risk which cruise ships may pose to Alaska through the dumping of wastewater. They claimed that

up to 84,000 gallons of 'black water – treated sewage and medical effluent – could be potentially dumped per ship per week. The figure for 'grey water'– from showers, kitchens, laundries – was said to be up to 1,260,000 gallons per ship per week. Data was not available for 'Scrubber water' which includes sulphur dioxide emissions and exhaust gas cleaners. SEEAC claimed this water disposal could contaminate fisheries, cause the growth of algae and harm aquatic life (www. seeac.org, 2019). The State of Alaska Department of Environmental Conservation announced a new research project on the impacts of cruise ships on air quality in Juneau because of their concerns, in 2019 (www.dec.alaska.gov, 2019).

There are regulations in Alaska regarding the dumping of treated sewage and 'grey water' but they fall short of an outright ban. Ships can legally dump when a certain distance from the coastline or if they are travelling at more than six knots. Cruise ships are also required to comply with air quality regulations when in Alaska. However, it is clear that not all cruise lines are obeying the regulations, for in September 2019 it was reported that the Holland America Line had been fined $17,000 after one of its ships discharged 22,500 gallons of 'grey water' illegally in the Glacier Bay National Park (www.cruiselawnews, 2019). The ship concerned has capacity for nearly 2,000 passengers so the fine represented under $9 per passenger on a single voyage.

The cruise sector contributes greatly to the economy of Alaska, but at a time when the phrase 'over-tourism' is being widely used, some are asking if some ports of call in the state of Alaska are beginning to reach their capacities. Local media in the port of Juneau was certainly discussing such matters in 2018-19. In July 2019 alone, no fewer than 121 cruise ships were scheduled to visit Juneau for stays of between six and a quarter and fourteen hours. On some days no fewer than six cruise ships were due to be visiting the port (www.crew-center. com, 2019). There are also concerns about the impact of cruise ship tourism on local communities and their cultures in Alaska, as well as ethical questions about whether it is right that ships with capacity for more than 5,000 passengers should be sailing through this wild area of ocean.

6: Shark cage tourism in South Africa

Over the past 15 years or so South Africa has become the market leader in a new form of wildlife-watching, where tourists in diving gear observe sharks up close from within a cage. The coastal town of Gansbaai has become the 'capital of shark cage tourism' in South Africa although shark cage experiences are also available to tourists in Australia, New Zealand, Mexico and the USA. Shark cage tourism is an interesting mix of wildlife watching and adventure activity as the sharks get very close to the tourists and have on occasions 'attacked' the cages. It is far more

interactive than passive whale-watching from a boat but less interactive than swimming with dolphins, for obvious reasons!

A leading operator, White Shark Diving Company, was offering a range of one day shark cage experiences in 2019-2020 at prices ranging from 2,050 Rand to 3,300 Rand or between around £105 and £175 (www.sharkcagediving.co.za, 2019). A year earlier, an article in *The Independent* newspaper in the UK had published an article which looked at the cases for and against shark cage diving, based on an experience of the product offered by Marine Dynamics (www.independent. co.uk, 2018). The argument in favour of it was that some of the revenue generated by shark cage operators was being used to support conservation projects, such as the Dyer Island Conservation Project. The operators also work with scientists to help with research about sharks. Most of the main operators certainly use their websites to communicate messages about the number of sharks being killed every year and the need to conserve them.

The case against shark cage tourism appears to consist of two inter-related arguments. The first is that shark cage operators are changing the behaviour of sharks because of the fact that they use decoys, hooks baited with dead fish and a fishy concoction called 'chum' to attract the sharks to the cages. Several researchers have suggested that this practice is affecting shark behaviour.

Some critics of shark cage tourism claim it makes shark attacks on humans more likely, although at the time of writing there does not appear to be any firm evidence to support this claim. Operators seem conscious of this fear that shark cages might increase shark attacks. The White Shark Diving Company had an infographic on its website in December 2019 outlining what was being done to protect humans from shark attacks under a banner headline that read '273 million sharks are killed every year - help save our sharks' (www.sharkcagediving.co.za, 2019).

At a time when using animals to entertain tourists on land is becoming less and less acceptable, the growth of shark cage tourism is an interesting phenomenon. However, with shark attacks on humans apparently increasing it seems that this type of tourist experience is likely to remain controversial for some time to come.

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7: Whale-watching around the world – the good, the bad and the ugly

Few would argue with the idea that it is better to watch whales than hunt them and the evidence seems to indicate that a live whale that can be watched has a higher financial value than a whale that is caught for food. From the early days of whale-watching it has been recognised that irresponsible whale-watching could

also be harmful to whales, though, in terms of noise and disturbance that can affect feeding and breeding behaviour as well as injury from collisions.

A survey conducted in 2012 by Dr Carole Carson, sponsored by the International Whaling Commission, noted that some 50 countries had already developed regulations and/or guidelines for whale-watching. The majority had voluntary guidelines but there were many examples of statutory regulation, including the licensing of whale watching operators, although often the licensing process seems to be largely an administrative procedure. The International Whaling Commission has its own *General Principles for Whale Watching,* which date back to 1996 (www.iwc.int, 2020). The World Cetacean Alliance has also produced guidance on best practice in whale watching (www.worldcetaceanalliance.org, 2018).

Parsons noted in 2012 that '*the introduction of guidelines and regulations for whale watching has been the most common method of trying to mitigate the impacts of boat-based whale watching. However, there is great variety in the comprehensiveness of guidelines, and even if operators have guidelines, compliance with them can be poor'* (Parsons, 2012).

In the USA there is a mixture of regulation and guidelines in relation to whale-watching which cover watching from boats, from shore and from the air. In terms of the distance a boat should be from the whales, the emphasis appears to be on voluntary guidelines rather than legally binding rules. There are guidelines for viewing different species of cetaceans such as Humpback Whales and Killer Whales (www.noaa.gov, 2020).

In 2018 Rebecca Walker studied marine mammal watching legislation and codes of conduct in South Africa and Canada. Her conclusion was that '*regulations are essential. Regulations are clear and unambiguous … and make codes of conduct enforceable and standardised. I also came to the conclusion that …the issuing of licenses works. It can provide a control on the number of vessels allowed in an area and/or the number of hours spent with animals'* (Walker, 2019).

However, it is clear that despite all the regulations and codes of conduct irresponsible whale watching is still common. A random search of TripAdvisor found the following comments about Mirissa in Sri Lanka – a country that does have regulations for whale watching – from 2016:

'*Sad to see that most of the whale watching companies completely ignored the simple rules in place to protect the beautiful endangered Blue Whales that we saw today. A group of 6 large boats …chased a mother and calf at full speed to try to get as close as possible. Our experience was marred by some…irresponsible …tourists who had chartered a local fishing boat to come whale watching. The fishermen had absolutely no respect for the animal, charging up and down and scaring the whale into taking short surface breaks.'*
(www.tripadvisor.co.uk, 2020)

Whale watching has now been taken a step further to encompass swimming

with whales. For example, a San Francisco based operator, *Humpback Swims*, offers the opportunity to *swim up close and personal with humpback whales*, in Tonga. It acknowledges that *swimming with whales is illegal in the United States* (www.humpbackswims.com, 2020). The tourism authorities in Tonga promote this form of tourism and has a licensing system for operators. Given that swimming with whales brings no benefit to the whale and may well cause them harm in ways we do not yet even understand, this feels like exploitation of marine creatures for the enjoyment of privileged tourists. Interestingly, while the questions on the websites of operators frequently ask about the danger which whales pose to swimmers, there are rarely any questions about the impact swimmers might have on the whales! Yet again, I am left feeling that the future of marine wildlife will not be a bright one if it relies on industry self-regulation, voluntary codes of conduct and weak or poorly enforced government regulation.

8: Marine wildlife watching – personal experiences of the author

While writing this book I have been reflecting on some of my own wildlife watching experiences over the years. The opportunity to watch marine wildlife has never determined my choice of vacation destination and, with a few exceptions, all of my marine wildlife watching experiences have been largely coincidental and unplanned. The exceptions were largely when my son was young, and I thought it would be interesting for him to see marine wildlife in its natural habitat. I took him on a whale-watching trip in 2004 when he was 13 years old from the former whaling port of Husavik in northern Iceland. We travelled in an old wooden fishing trawler and the sea was rough; it was summer, but we still saw hail and snow as well as sun and rain on the trip. We saw a single humpback whale which was amazing, but the boat crew were very responsible and did not try to get too close. Ironically, most of our fellow passengers never saw the whale as they were too busy being seasick! On another occasion, we visited a sea turtle beach conservation project in Sri Lanka which was widely recognised for the good work it was doing. Visitors were kept a safe distance from the mother as she made her nest and laid her eggs, and no torches or camera lights were permitted, and the tourists had to be silent. I have to say I found it a very emotional experience but an uncomfortable one because I felt none of us should really have been there; it felt very voyeuristic.

In La Jolla Cove, near San Diego in California, sea lions and pelicans were part of daily life and we came across them by accident while out for an evening stroll. They seemed undisturbed by the presence of crowds watching them although they did look less happy when a few visitors got too close. In 2019, I had the

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chance to see a colony of sea lions on the beautiful coast of Kangaroo Island in South Australia. People were kept at a safe distance from them by the guides and there was an excellent visitor centre with information about them. In the same year, we saw an incredible scene when we stopped for lunch in Hamelin Bay in Western Australia. A small group of stingrays were swimming amongst the legs of swimmers, including children and they were being given food purchased from a nearby seller. This sems to have been a well- established phenomenon and no one seemed worried that their children were sometimes touching these potentially dangerous creatures.

Two of my most pleasurable marine wildlife encounters I can recall both happened purely by accident. In the Isles of Scilly off the coast of Cornwall, while taking a ferry between the islands we came across a large colony of seals basking on the rocks in the sun. And while taking a ferry from the Barbican to Royal William Yard in Plymouth our boat was accompanied by a dolphin swimming alongside.

I am afraid I am a bit of a dogmatist when it comes to marine wildlife-watching. I do not agree with people swimming with marine wildlife; as a sign I saw in Australia said, 'keep the wildlife wild'. Nor do I approve of people 'chasing' whales and dolphins in RIB boats or the use of artificial feeding to attract marine creatures for the enjoyment of tourists. I do not like to see any creature in captivity and would never go to see a whale or dolphin show. However, I need to recognise that I have the good fortune to be able to go and see wildlife in their natural habitat if I so choose. Many people do not have that opportunity, so maybe the aquaria found around the world do a valuable job raising awareness of conservation amongst those who may never otherwise see marine wildlife that is under threat such as sharks, rays, sea turtles, and some species of penguins, for example.

9: Sea turtle breeding beaches in Central America

Given our fascination with marine wildlife there is no doubt that the presence of sea turtles is a major attraction for many coastal destinations around the world. However, tourists are not just interested in seeing sea turtles in the water, they want to see the females come ashore to lay their eggs and be there when the tiny hatchlings begin their perilous journey to the ocean for the first time. Tour operators and destination marketers ensure that tourists are made aware of when this happens so they can visit at the right time of the year to see these spectacles.

For the countries of Central America, the sea turtle has become a vitally important part of their tourism offer, and the travel media has done much to promote 'sea turtle tourism' in the region. In 2018, for example, the online travel site, Culture Trip listed the best places in Central America to watch sea turtles hatch.

It said '*head down* [to Ambergris Caye in Belize] *between June and October to see the babies hatching and scuba dive with the adults*' (www.theculture.trip.com, 2018). The travel media has also promoted sites for sea turtle nesting and hatching in Panama, Guatemala, Costa Rica, and Nicaragua.

The tourism industry has sought to suggest that 'ecotourism' and responsible sea turtle watching can help protect sea turtles, not least by providing funding to support sanctuaries and conservation projects. However, it is not always clear how effective many sanctuaries and projects are, or even if their main motivation is conservation rather than income generation. This point is made by the tour operator Kuoni on its website, where it says about some so-called sanctuaries in Sri Lanka, that '*these places may be operating with good intentions, but their practice of retaining thousands of cute baby hatchling turtles in tanks to show paying tourists seriously compromises the life and future of the hatchlings. Turtle hatchlings must make their ways to the sea immediately after hatching….and the longer they are kept away from the sea in their first few days, the lower their chances of survival*' (www.kuoni.co.uk, 2019). However, there are a number of successful sea turtle conservation projects in Central America particularly in Costa Rica.

There is no doubt that responsible tourism can help with the plight of the sea turtles in ways which go beyond simply providing money to fund projects. In the Azuero region of Panama, tourists can volunteer to help with the nightly patrols to protect the sea turtles on the beaches and with scientific research to help conservationists improve their knowledge of sea turtles (www.realdealtours.com, 2015). On the other hand, some local entrepreneurs are still using turtle shell to make souvenirs which some tourists are still buying, sadly. However, it is unfair to blame tourism for all of the problems facing turtle populations; in some coastal communities in the region, the eggs and meat of the turtle are seen as a source of food, and irresponsible commercial fishing still injures and kills many sea turtles.

For tourists who want to watch sea turtles responsibly there is plenty of advice online such as at www.seeturtles.org. Despite this there is still too much irresponsible watching in Central America and the world as a whole ,with the egg laying and hatching being disturbed by tourists getting too close, or strong lights to help the tourists see what is going on and get good photographs.

10: Stingray interaction experiences – Hamelin Bay, Australia and Stingray City, Cayman Islands

The Margaret River area of Western Australia has become a fashionable place to visit for domestic and international tourists over the past decade or so because of its vineyards and coastal scenery. However, another motivation for visitors is the opportunity to see and interact with stingrays from the shore at Hamelin Bay. This

is heavily promoted by the local tourism industry and has been communicated to a wider audience by a number of travel writers and television programmes. The stingrays come close to the beach during the Australian summer and tourists can stand in the water as the stingrays pass over their feet and swim amongst them. They gather around the jetty where fishermen dump offal when bringing their boats ashore after recreational fishing trips. Some tourists feed them bits of fish and when I was there in February 2019, I was surprised to see children feeding them. In some ways it is nice to see human beings enjoying being in the presence of these potentially lethal creatures after the negative publicity surrounding the death of the Australian naturalist and TV presenter, Steve Irwin, who was killed by a stingray in Queensland in 2006.

The local media in 2011 reported that fishermen with spear guns had killed the oldest resident stingray, 'Stumpy' in full view of tourists and their children. While the fishermen were not doing anything illegal as this was not against the law, there was an outcry, and in 2012 regulations were introduced to protect the stingrays at Hamelin Bay. One cannot avoid thinking that these regulations were perhaps introduced as much to protect the local tourism industry as the stingrays. One often reads promotional material for Hamelin Bay describing the stingrays as 'gentle' and 'friendly' and suggesting they 'enjoy' interacting with humans. The latter may be true but may reflect the fact that they associate people with being fed. Researchers have suggested that currently the behaviour of the stingrays is being affected by their interactions with humans and the practice of people feeding them, but that the stingrays do not yet seem to be dependent on humans for their food.

While Hamelin Bay is an informal opportunity for tourists to interact with stingrays, Stingray City, in the Cayman Islands, is in effect a visitor attraction which focuses on organised interactions with stingrays, which are fed to ensure they are present, and where tourists are able to swim and dive amongst stingrays and other marine creatures. In 2003 it was estimated that Stingray City was attracting 100,000 visitors (www.onlinelibrary.wiley.com, 2019). A number of criticisms have been made about Stingray City in terms of them feeding stingray all day when they would normally feed only at night, sometimes feeding them food that would not normally be part of their diet, and making it too easy for them to find food, thus weakening their hunting instinct.

This case raises again the ethical issue of human interaction with wild creatures and the impact this may have on them and their behaviour in the longer term.

11: Marine wildlife in captivity in theme parks, aquaria, and zoos

In Chapter 4 we explored the issue of captive marine wildlife, and particularly killer whales, performing for visitors, focusing on two theme parks in the USA and Spain. We saw how this has become less popular and more controversial as many people have become uncomfortable at the sight of whales, in particular, performing tricks to amuse tourists. As a result, Sea World in Florida has said it will modify its whale 'shows' from 2020 to have a greater focus on conservation. Lora Parque in Spain was still advertising on its website in January 2020 a total of twelve 'shows' featuring whales (www.loraparquetenerife.com, 2020). Some tour operators are now bowing to pressure from consumers and conservation groups and ceasing to offer trips to attractions with performing whales.

However, there is also the question about whether or not marine wildlife should be kept captive in theme parks, aquaria or zoos at all, even if they are not being made to put on 'shows' for visitors. This is clearly part of the wider debate about keeping wildlife of any kind in captivity. Those who support keeping marine wildlife in captivity stress the role of zoos, aquaria and some theme parks in conservation work while opponents claim that the main motive of such operations is to generate income through attracting and entertaining visitors. They also claim that the wildlife suffers from being kept in captivity. According to a UK pressure group there were some 60 captive killer whales or orcas in zoos and theme parks around the world in August 2019, of which half were captured from the wild and half were born in captivity (www.uk.whales.org, 2019) These are to be found in the USA, Spain, Argentina, China, France, Canada, Japan and Russia.

Interestingly, in many aquaria around the world visitors can swim with the captive wildlife. For example, the Sea Life Centre in Skegness, in the UK, in January 2020, was promoting 'diving with sharks' experiences on its website for between £85 and £130, which gave visitors thirty minutes on the reef amongst the sharks. At the same time the Blackpool Sea Life Centre was offering the chance to snorkel with sharks and sea turtles for £50. Many zoos and aquaria also offer marine wildlife feeding experiences that include interactions with sea turtles, sharks, and penguins. It seems that even when marine wildlife is not putting on actual shows for visitors they still have to be used to entertain and satisfy the desires of visitors.

But it is dolphins that seem to be the marine creature that is most exploited for the entertainment of humans. In specially developed 'dolphinariums', dolphins are still putting on regular shows for visitors, being swum with and interacted with while in captivity. While some claim dolphins like this human interaction, the fact remains that unlike in the wild, the dolphins do not have the option of

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swimming away and avoiding interactions if they so wish. These 'dolphinariums' exist in dozens of countries including Australia, Bahrain, Belgium, Canada, China, Germany, Indonesia, Japan, Mexico, Russia, Singapore and the USA.

While many zoos and aquaria are doing valuable conservation work, it is hard to see many of them as anything other than places of entertainment for visitors where marine creatures are kept in artificial surroundings and are fed rather than hunting for their own food.

12: Seal-watching in Cornwall and the Isles of Scilly

Cornwall and the Isles of Scilly is home to 40% of the world population of grey seals and the largest breeding colony of them is found in Cornwall and the Isles of Scilly, with up to 500 grey seals living there all year round. In summer they tend to be found in the open sea but in autumn they come ashore to give birth and spend much of the winter looking after their young on beaches and in sheltered coves. They have become a popular attraction for tourists all year round and tourists can see them in a number of ways. In the tourist season in the summer there are marine wildlife 'safari cruises' from ports such as Penzance, St Ives, Padstow and Falmouth which take people on trips of between one and three hours duration to see marine wildlife that may include seals as well as sea birds, basking sharks, dolphins, sunfish and even whales. A two-hour trip cost around £40 in 2019. On the Isles of Scilly, the boatmen organise trips to the seal colony on the Eastern Isles. In recent years, commercial operators on St Martins, one of the Scilly Isles, have advertised the opportunity to 'swim with seals' for around £50; this has been featured in national newspapers, which has increased interest from tourists

Tourists can also see seals when they are on land particularly during autumn and winter. There is a large colony at Mutton Cove near Godrevy Point. In December 2019, I counted some 180 seals on the beach there at one time. Fortunately, this site is owned by a non-governmental conservation body, the National Trust, and tourists can only watch the seals from the clifftops where they are asked to be quiet to avoid disturbing the seals. Elsewhere people can get close to the seals and that is when most problems occur. Every year seal conservation groups highlight examples of inappropriate behaviour including:

- Tourists getting too close to seals so they can photograph them and in doing so disturbing and frightening them.
- People feeding seals which can harm them as well as making them dependent on humans rather than their own hunting skills.
- Tourists touching baby seals which can lead to them being rejected by their mothers.

- Visitors thinking the seal is ill and would be better off in the water encouraging or pressurising it to go into the sea which stresses the seal.
- People doing activities such as jet skiing too close to seals causing them stress.
- There are also cases where dogs attack and bite seals when owners let them off their leads.

Some say the tourists do this out of ignorance, yet many beaches have large and clear signs telling people how to behave around seals. The sad fact is that some tourists just seem interested in doing what they want regardless of its impact on the seals. Seal conservation groups try to 'educate' visitors about how to watch seals responsibly. They also tell them that if they are concerned that a seal may be injured or ill to report it to the various organisations that exist that have the expertise to rescue and rehabilitate injured or sick seals. They tell them not to approach the seal as that can make matters worse.

13: Coral reef diving voluntary codes of conduct

As we saw in Chapter 5, irresponsible diving can cause great damage to coral reefs which are already facing other threats. The diving community and the tourism industry is well aware of the impact which tourism can have on this vitally important element of the marine environment. As a result, there are a number of schemes underway based on voluntary self-regulation by dive tour operators using codes of conduct.

In Indonesia, an upmarket refurbished Buginese schooner offers trips involving diving. The company has a three-page long code of conduct, which it describes as rules for diving, of which two pages relate to safety, but the first page is entitled 'Conservation awareness'. It contains points about not removing any living or non-living natural resource from the sea, keeping away from any contact with the coral, not dumping rubbish and forbidding fishing during diving trips (www. thesevenseas.net, 2017).

In North Queensland, Australia, CHARRAO, the Cod Hole and Ribbon Reef Operators Association, has a Code of Practice '*with the aim of ensuring long-term sustainable usage of the Great Barrier Reef and Coral Sea reefs, preservation of the reef and safe vessel and diving procedures*' (www.charroa.org.au, 2019). The code contains 22 points, of which seven relate to the conservation of the marine environment. One of these points limits fish feeding to two kilograms on any dive trip, which shows that even responsible operators artificially 'bait the water' to attract marine wildlife for the enjoyment of divers.

In Bali, Indonesia, there is a code of conduct for diving amongst two specific species, the oceanic sunfish, or mola mola, and the manta ray. This code was

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developed jointly by the government, the industry and donor countries. The code contains over 30 points for divers and a further 13 for dive operators (ww.bali.com, 2019).

There are also global initiatives to make diving around coral reefs more responsible. In November 2019 *The Guardian* newspaper in the UK reported that a new partnership had been created involving PADI, the world's largest dive training organisation, and the UK-based but UN supported Reef-World Foundation. The partnership aims to '*encourage the industry to sign up to the Green Fins scheme, which helps dive centres to reduce their environmental impact and mitigate the damage the burgeoning sport causes to coral reefs worldwide*' (www.theguardian.com, 2018). Green Fins is a well-established organisation with its own internationally recognised standards based on a 15-point code of conduct. Its network includes more than 550 dive centres in 56 of what it describes as 'diving hotspots' across the world (www.greenfins.net, 2019).

The tourism industry trade press has had stories in recent months about the need to make diving more sustainable and help tourists to find the most responsible dive operators. An article in *Travel Trade Gazette* in October 2019 encouraged travel agents to support dive centres within the Green Fins network (www.ttgmedia.com, 2019). In the following month *Focus on Travel News* had an article entitled, '*How tourists and operators can protect Egypt's coral reefs*' which again promoted the Green Fins Network (www.ftnnews.com, 2019). The Green Fins scheme seems to be the nearest we have to a global code of conduct for diving, but it has only 550 dive centres in its network while PADI alone has 6,600 members, and many dive centres are not even members of PADI. There is clearly a long way to go and given the continuing damage to reefs, one is bound to ask whether regulation might be needed rather than relying on voluntary codes of conduct alone.

14: Jet skis and the marine environment

Jet skis are perhaps the most popular type of personalised water craft. Millions of people worldwide use them every year to give them an adrenalin rush, as they can travel at up to 100 kilometres an hour or more.

Invented in the 1970s they have been controversial from the beginning and have been banned in some locations, although often only temporarily. Bans have tended to be imposed because of the impact of irresponsible jet-skiing on those using the ocean for other leisure activities rather than because of their potential impact on the marine environment.

However, their impacts on marine wildlife have been recognised for some time. In 2014, an online article by a group representing jet ski users in the UK quoted several pieces of research which showed that jet skis:

■ Used two stroke engines that poured out gallons of unburned fuel annually.

■ Helped create photo toxicity in the sea which affected mussels, sea urchins and certain species of fish.

■ Caused noise pollution below the surface of the water that disturbed marine wildlife and disrupted communication for whales and dolphins that use sound waves to communicate.

■ Injured and killed marine creatures when they struck them.

(www.solentskiers.org.uk, 2014)

Bodies that represent jet skiers and some operators have their own codes of conduct or rules for the use of jet skis. However, most of them say little or nothing about how to minimise the impact of jet skis on the marine environment. Instead they focus on the safety of the jet skiers themselves and not disturbing other water users.

A random online search about jet skiing in Thailand in January 2020 produced some alarming results. There were reports of a 'shoot out' between rival operators on a beach in 2018 and a dangerous incident in 2019 involving irresponsible Chinese tourists on jet skis. On TripAdvisor one reviewer said it was great to be able to stop for a beer midway through a jet ski trip in Koh Samui!

The regulation of jet skiing varies enormously around the world. Many countries do not allow jet skis to be used within a certain distance of the shore, usually between 200 and 500 metres, although it is not clear how this is enforced. I surveyed the regulations in some 19 countries around the world, none of which had regulations specifically addressing the impact of jet skiing on the marine environment, although two countries specified that jet skis could not be used in marine protected areas. However:

■ In Croatia there is no speed limit for jet skis more than 300 metres from shore.

■ In Egypt there is no legislation in place for the use of jet skis and there is no license required to drive them unlike most other countries.

■ In the US Virgin Islands anyone over 14 years of age can operate a jet ski if they have taken a safe boating course.

■ On the other hand, jet skis are not allowed at all in Anguilla and the British Virgin Islands.

(www.jetskiandpowerboattraining.co.uk, 2019)

One is left with the impression that regulators have failed to catch up with the growth of jet skiing and its impact on the marine environment in many parts of the world.

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15: 'Surfers against sewage' in the UK

'Surfers Against Sewage' (SAS) is a voluntary organisation in the UK which was set up by a group of surfers concerned about the pollution of the sea by sewage, something they personally experienced when they went surfing. Their early work focused on reducing sewage pollution in the marine environment, something that was assisted by the EU Directive on Bathing Water Quality that was introduced in 1991. Over time, as it grew, SAS broadened its area of concern to include all types of marine pollution and the conservation of marine wildlife, internationally as well as in the UK. Its activities now include:

- Organised beach cleans by volunteers, both locals and tourists.
- Education work particularly with schools.
- An All-Party Parliamentary Group on the theme of 'Protect our Waves' which consists of 23 Members of Parliament from different political parties.
- International campaigning including the first ever 'Global Wave' conference held in Cornwall in 2015.

In recent years they have become heavily involved in campaigning for plastic-free oceans. Indeed, they are the force behind the 'Plastic Free Communities' movement in the UK, where communities commit to moving towards being plastic-free through various measures such as no longer offering plastic bags to shoppers. At the time of writing there are 648 communities involved in the scheme, which includes verification and certification. They also campaign on keeping plastic out of the oceans, suggesting that in 2019 there were thought to be on average some 3,000 plastic items found in the sea in each kilometre of the UK coast every year. (www.sas.org.uk)

They receive no government funding and have to raise money from memberships, donations, sale of merchandise and applying for various grants.

Surfers Against Sewage have been active in Cornwall from the beginning, as it is one of the top surfing destinations in Europe. In Cornwall there are a number of other voluntary and not-for-profit sector organisations that work to protect the marine environment and beaches. These include local groups such as the Friends of Portheras Cove, just a short walk from my home, wildlife sanctuaries such as the Gweek Seal Sanctuary and the National Lobster Hatchery at Padstow which breeds lobsters to release into the wild. There are marine conservation groups in coastal settlements in places such as Looe and Falmouth while the Cornwall Wildlife Trust runs 'Seaquest Southwest', a citizen science marine environment recording project.

I believe that such voluntary citizen activism is crucial if we are to develop more responsible tourism and protect our marine environment.

16: Sport fishing in Africa

In recent years the continent of Africa has become a popular destination for so called 'sport fishing' or 'game fishing'. Here the emphasis is on catching record sized specimens of the largest species rather than catching fish to eat. While some fish may be retained by the boat operators and sold ashore for food, the main aim of the angler is to have a photograph taken with their specimen. I find it interesting that 'big game fishing' has taken off on the continent where big game hunters destroyed so much land-based wildlife in the past.

Game or sport fishing itself has a long history, the main governing body, the International Game Fishing Association was founded back in 1939. To many people this 'sport' seems cruel, using big hooks and vicious looking 'gaffs' to catch and land fish weighing hundreds of kilos for sport rather than food. However, in Africa it has become a major component of the tourism offer, in the oceans and the major rivers. It has developed its own infrastructure of tour operators, boat operators, fishing lodges, and fishing camps and as a sector now employs thousands of people and generates millions of dollars of revenue each year.

In late 2019, the website of one tour operator, Sportquest Holidays, talked about the opportunities for game fishing off the coasts of Guinea, Bissau, South Africa, Gabon, Kenya, Namibia and Madagascar. While most of the species mentioned are not currently on the endangered list, the bronze whaler shark is on the list, but anglers were being encouraged to fish for them from the shore in Namibia (www.sportquestholidays.com, 2019). Given the decimation of shark populations, it is particularly sad to see sharks still being targeted by sport anglers.

A fishing blog in 2019 identified 'Anglers' Ten Most Wanted Fish in South Africa' (www.fishfishme.com, 2019), of which experts say that one is 'vulnerable' in terms of its population while another is said to be near to being under threat. It was depressing when I searched a random selection of the websites of operators who offer game fishing experiences that hardly any mentioned conservation or the protection of the marine environment. On the other hand, the governing body, the International Game Fishing Association does have rules about fishing tackle and techniques. Furthermore, in terms of records, the association will not consider any fish for inclusion in the record books unless it is released back into the wild in good condition. However, in recent years, criticism has grown of such 'catch and release' schemes, claiming that it still inflicts cruelty on the fish and leads to them being harmed even though most will survive the experience.

Criticism is also growing about the accidental harm caused by game fishing to marine creatures which are accidentally 'hooked', such as sea turtles. I wonder if one day catching big fish for 'sport' will be as socially unacceptable as gig game hunting on land seems to have become.

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17: Cruise company private islands – a step too far?

A major theme of this text has been the growth of cruising globally, its success as a sector and the suggestion that the sector has not yet fully engaged with the idea of sustainable or responsible tourism. We have noted that cruise ships can have negative impacts on the ocean and on the ports of call where they bring large numbers of people into a small geographical area for intense experiences over just a few hours. However, in the past 40 years we have seen a new phenomenon, whereby cruise lines have developed private islands for the exclusive use of their passengers. To date this has development been focused in the Caribbean region as can be seen from Table 11.2.

Table 11.2: Cruise line private islands in the Caribbean, 2019

Name of island	Location	Cruise Line
Amber Cove	Dominican Republic	Carnival
Castaway Cay	Bahamas	Disney Cruise
CocoCay	Bahamas	Royal Caribbean
Great Stirrup Cay	Bahamas	Norwegian Cruise Line
Half Moon Cay	Bahamas	Holland America
Harvest Caye	Haiti	Norwegian Cruise Line
Labadee Hispaniola	Haiti	Royal Caribbean
Ocean Cay MSC Marine Reserve	Bahamas	MSC
Princess Cays	Bahamas	Princess Cruises

(www.cruisecheap.com 2019 and www.cruisecritic.co.uk 2019)

'These islands are owned by the cruise lines and are for the exclusive use of their guests for the day ... A cruise line private island is its own little city with full-time inhabitants, a power plant, water treatment facilities and even a post office. The islands have bars, restaurants, restrooms, shopping, first aid stations, water-sports and tour huts. Each day, before a ship arrives, the island crew prepares the island by making sure the beach is raked, beach chairs and umbrellas are in position and the floating mats are ready for their guests for the day... All of the best cruise ship private islands include open air dining areas…. These all-you-can-eat buffets include everything you'd want in a private buffet.' (www. cruisecheap.com, 2019) They also feature mini theme parks and waterslides and are like all-inclusive resorts that welcome visitors for a day and then return them to their ship to continue their vacation.

While most private islands to date have been in the Caribbean, MSC operates one in Abu Dhabi and two off the coast of Mozambique while Paul Gauguin Cruises has one in French Polynesia (www.cnntraveller.com, 2019). A report in 2018 suggested that Royal Caribbean were scouting for potential private islands in Asia (www.asean.cruising.com, 2018).

The Ocean Bay MSC Marine Reserve is an interesting project, where MSC claims to have created a private island which has a focus on conservation, with the island being surrounded by 64 square miles of protected waters. They have earmarked funds for a coral nursery to help protect the existing reef (www.cnn-traveller.com, 2019).

Since the 1990s academics have been writing about this phenomenon and suggesting it poses a threat to the marine environment around these islands although there seems to have been little empirical research conducted to date. However, it is hard to believe that so many people arriving on large cruise ships does not have a negative impact on the marine environment, no matter how well managed the island may be. Some of the islands were formerly industrial sites rather than pristine islands, so negative impacts on the surrounding ocean will not be a new experience for them. Finally, these islands also raise an ethical issue around the extent to which a commercial organisation should be able to have exclusive use of an island for the hedonistic pleasure of its customers.

18: Artificial reefs in the USA

According to the National Ocean Service in the USA, artificial reefs are '*manmade structures that may mimic some of the characteristics of a natural reef* '. The same source acknowledges that '*submerged shipwrecks are the most common form of artificial reef* [and]… *marine resource managers also create artificial reefs in underwater areas that require a structure to enhance the habitat for reef organisms'* (www.oceanservice.noaa.gov, 2019). In other words, artificial reefs can be created accidentally through shipwrecks or as a result of a deliberate action to sink a vessel or create a purpose-built structure underwater.

Artificial reefs are not a new phenomenon, having existed in Japan for 400 years with the aim of protecting fish stocks. However, in recent decades their purpose has broadened to include:

- Providing new wildlife habitats that will attract fish thus providing new opportunities for recreational angling.
- Attracting visitors to a destination by offering a range of opportunities for diving and wildlife-watching.
- Trying to compensate for the destruction of natural reefs.

The first two examples demonstrate that a major motivation for the creation of artificial reefs today is the desire to attract tourists because of the economic benefits they bring. Artificial reefs have been developed in many popular tourist destinations from New Zealand to the Cayman Islands, Malta to Thailand. However, it is perhaps in the USA that their development has reached an unprecedented level.

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In 2016, the Florida Fish and Wildlife Conservation Commission estimated that there were some 3,000 artificial reefs along its coastline of around 1,350 miles, varying in depth from around one metre to over one hundred metres. The development of artificial reefs has been encouraged by local government in Florida and other states. North Carolina for its part had some 42 artificial reef systems in 2019. The USA has a *National Artificial Reef Plan*, developed in 1985 and reviewed in 2007. This is a document that sets out '*guidance on various aspects of artificial reef use, including types of construction materials, and planning, siting, designing and managing artificial reefs for the benefit of aquatic life'* (www.bsee.gov, 2019). Interestingly, the Plan says little about tourism, despite the fact that the economic benefits for tourism have been a major motivator for new artificial reefs to be developed along the US coast.

On its website, the Florida Keys National Marine Sanctuary noted that '*the negative ecological impacts of artificial reefs may outweigh potential economic gains … if artificial reefs are not carefully planned or constructed, they can actually damage natural habitats…monitoring observations indicate that many artificial structures are quickly becoming habitat …for invasive species'* (www.floridakeys.noaa.gov, 2019).So, while artificial reefs could help to reduce visitor pressure on natural reefs, they can also harm the marine environment, particularly if those who develop them lack the resources and knowledge to maintain them and monitor their impacts effectively.

19: How sustainable are coastal 'eco-resorts'?

It is clear that the term 'eco-resort' is fashionable and has market appeal; a search for the term on Google in January 2020 produced 174 million results! The first page of results included headlines such as '*World's best eco-luxury resorts',* and '*20 world's most beautiful eco-resorts'.* At this point it is worth mentioning that' eco-resort' is a term for which there is no officially recognised definition and no agreed set of criteria that needs to be met. In other words, anywhere can be marketed as an 'eco-resort'. The term sits alongside eco lodge and eco hotel in the vocabulary of the tourism industry. One website which promotes eco-resorts says '*the biggest difference between eco resorts and eco lodges and an eco-hotel is the setting. Eco-resorts and eco lodges tend to be more remote, located in relatively pristine natural environments such as exotic islands, forests and mountains. Eco hotels, on the other hand, are more often associated with cities and towns'* (www.greenglobetravel.com, 2020). This perfectly captures the point that many eco-resorts on islands or on the coast are developed in places that were wholly natural and undeveloped before. So, no matter how sensitively designed they are, their creation will have had negative impacts on the natural environment. At the same time, eco-resorts or lodges are most commonly found in destinations that involve lengthy flights from the main source markets.

This must call into question whether they can ever be seen as sustainable regardless of how responsibly the unit itself is managed. An eco-resort should surely be judged on the carbon footprint of its guests, including their journey to and from the resort rather than just being based on their time in the resort?

It is also clear that most eco-resorts are sold as luxury experiences, where the use of the term 'luxury' is taken to include qualities such as exclusivity and high levels of personal service. But luxury hospitality can often be in conflict with responsible tourism, as high spending guests demand food that may not be available locally, alcohol and bottled water that needs to be imported, energy consuming air conditioning and so on.

While there are no official criteria for being an eco-resort, a number of websites make suggestions to help consumers make their choice of accommodation. One lists ten criteria which include:

- Ensuring the seafood served is ASI/MSC accredited
- Chocolate and coffee from Rainforest Alliance certified sources
- Paper and toilet paper from producers certified by the Forestry Stewardship Council
- Having food waste reduction initiatives in place
- A 'no single-use plastic' policy
- Carbon offsetting of the flights of guest flights
- Global Sustainable Tourism Council certified hotel operations
- Having renewable energy plans
- Leadership in Energy and Environmental Design certified buildings
- The resort is EarthCheck certified.

(www.greenisthenewblack.com, 2019)

This is not an official list, but it contains some important criteria that one would think should apply to any 'eco-resort'. However, when I checked out a number of properties in coastal locations around the world which used the term eco-resort, many did not meet these criteria. It is tempting to conclude that the term is being used in some cases as a deliberate marketing ploy or represents an exercise in 'green-washing'. Furthermore, it appears that guests are happy to buy into the term because it brings status for them and reduces any feelings of guilt they may have about flying halfway across the world to visit a resort by the ocean.

When considering whether something should be seen as an eco-resort in a coastal region or on an island the criteria should cover four elements, namely:

- The siting of the resort. Does it require the cutting down of trees and does it require motor vessels or even seaplanes to transport guests to it?

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- The design of the buildings, spaces and landscapes. Will building materials need to be imported and have they been designed to encourage natural air conditioning rather than requiring electric air conditioning?

- The construction process. How disruptive will it be to marine and land-based wildlife and what effect will it have on sea water quality?

- The operation of the resort. How much will be done to minimise the carbon footprint of the resort, waste, and the use of energy and water resources?

Perhaps the final point is that if we are to make tourism more sustainable, then all coastal resorts will need to become 'eco-resorts', not just those which target high spending tourists who want luxury vacations in exotic destinations.

20: Lessons from the Indian Ocean Tsunami of 2004

On 26 December 2004, around 225,000 people were killed when a huge tsunami struck coastal communities in the countries around the Indian Ocean. The largest loss of life was seen in the Aceh province of Indonesia, but thousands also died in Sri Lanka, India and Thailand. The tourism industry in the Indian Ocean was seriously affected as a number of coastal resorts were devastated and left in ruins. Within days commentators were seeking to learn lessons from the disaster. In January 2005, a report from the UN Office for Disaster Risk Reduction (UNDRR) suggested these lessons included:

- *'We are all vulnerable to natural disasters.*

- *Coastal zones and small islands are often densely populated areas that increase people's risk and vulnerability.*

- *Public awareness and education are essential to protecting people and property.*

- *Early warning saves lives.*

- *Countries in the Indian Ocean need to develop a regional early warning system for tsunamis*

- *Reducing risk depends on communication ... between the scientific community and politicians*

- *Develop and enforce building codes where .... tsunamis are common.*

- *Humanitarian aid needs to invest more in prevention.*

- *International, regional and national organisations should ....be better coordinated.*

- *The media have a social responsibility to promote prevention.'*

(www.reliefweb.net, 2005)

The fact that some of these points needed making illustrates how ill-prepared the region was for such an event or for any other extreme weather event for that matter.

In 2014 on the tenth anniversary of the tsunami, the UNDRR looked at the lessons learned ten years on through a conference. Various speakers noted that:

- *'Ten years after the Indian Ocean tsunami the world has taken significant measures to make the world a safer place against disasters. We now have more efficient early warning systems and better evacuation procedures in place.*

- *One life-saving measure to emerge from the disaster was the Indian Ocean Tsunami Warning System…It is an efficient system which disseminated early warnings within eight minutes of the Banda Aceh earthquake in 2012.*

- *One great lesson …is that we must build and plan our coastal urban areas in a more sustainable and responsible way.*

- *Hotel resilience can become a competitive advantage as the entire world will be affected by more severe and frequent weather-related disasters in the future.*

- *Indonesia has been … investing a lot in decentralisation to empower local communities to deal with disaster risks.'*

(www.undrr.org, 2014)

Based on my travels and research, this seems a rather rosy picture of what has happened since the tsunami in 2004. Many homes have been rebuilt on the shore, particularly by those too poor to be able to build elsewhere, so that they remain at risk. And the tourism and hospitality sector has not always heeded the lessons of the tsunami, with hotels being built right on the beach despite it being clear that this maximises the risk for staff and guests.

However, some of the big companies have learned lessons. '*At Starwood, safety starts with the site of the hotel and a comprehensive risk assessment is conducted. Location is important, and assessing risk, is the key to better protect people and assets'* (www.undrr.org, 2014). Unfortunately the vast majority of hotels are small and medium sized enterprises, which lack the expertise and resources of these larger companies. On the other hand, UNESCO produced *A Guide to Tsunami for Hotels* which provides advice and a toolkit for hoteliers (www.greenhotelier.org, 2015).

In 2011 Erik Cohen claimed that '*the devastation left behind after the 2004 Indian Ocean tsunami ….led to numerous attempts to 'land grab', the displacement by powerful individuals and authorities of the weaker groups of local inhabitants from their land, in order to re-allocate it to tourism development'* (Cohen, 2011).

There is little evidence that lessons from the widespread corruption that accompanied the distribution of aid and the reconstruction work have been learned, such that it will not be seen after any future natural disasters. Perhaps inevitably, but nevertheless unfortunately, one lesson that was clear to many observers was that the international media paid a disproportionate amount of attention to tourist victims of disasters than it did to the victims who are local. The foreign media was understandably full of stories about their nationals who lost their lives, but I read

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no such stories about individuals from the local area, even those who rescued international tourists. The coverage also seemed to focus on the impact in tourist destinations, despite the fact that around three-quarters of those who died were from parts of Indonesia that receive hardly any tourists. Furthermore, tragically 5,000 international tourists were killed but this figure needs to be set against at least 220,000 local residents who died.

It remains to be seen whether the lessons learned from the 2004 tsunami will help reduce the risk for coastal communities from future natural disasters.

21: Hurricanes and the tourism industry in the Caribbean

We have already recognised that global warming is causing more frequent and increasingly severe extreme weather events across the planet. These events include typhoons, cyclones and hurricanes. In addition to the cost of such phenomena in terms of lives lost and homes destroyed there is also the damage done to local economies, and this is especially true in relation to the tourism industry. This can be seen clearly in the Caribbean, which is prone to major hurricanes and where the economies of many islands are highly dependent on tourism. Hurricanes can damage local tourism economies in several ways as follows:

- Cruise ships, on which Caribbean tourism relies heavily, have to modify itineraries to avoid hurricanes and that may mean them abandoning planned visits to ports of call.

- Tour operators may bring guests home early or cancel flights to destinations if a hurricane is forecast.

- Tourists who remain in a destination during a hurricane 'hunker down' in their hotels and so are not out and about in the destination spending money.

- Tourists may postpone or abandon plans for a trip during the hurricane season, particularly in light of media reports about hurricane risks.

During the 2017 Hurricane season, the worst hurricanes only badly affected around a third of the Caribbean, but they still resulted in an estimated loss of some 826,000 visitors who would have spent around 740 million US Dollars. Research suggested that it may take the affected islands up to four years to get tourism up to previous levels, during which time they would miss out on an estimated 3 billion US Dollars in revenue (www.wttc.org, 2018). In 2019, Hurricane Dorian devastated large parts of the Bahamas, a popular summer destination for tourists, where 60% of the economy is dependent on tourism. In addition to a large loss of life this storm devastated many hotels and other tourism businesses and seriously damaged the main international airport. It is expected to take years for the Bahamas to get back to where it was before the hurricane.

Recognising that hurricanes are becoming more frequent and severe, destinations in the Caribbean are focusing on building resilience in the tourism industry. An article published in 2019 reported a number of initiatives including:

- The work of the recently created Global Tourism Resilience and Crisis Management Center, based at the University of the West Indies in Jamaica. It is a regional centre for research covering the forecasting of natural disasters, mitigation measures and recovery strategies.

- A new sustainable draining system developed by the Grenada Hotel and Tourism Association.

- Efforts in St Lucia between the public and private sectors to improve the sharing of information on the effects of climate change to strengthen their ability to respond to crises.

(www.devex.com, 2019)

Resilience is now a 'hot topic' in tourism and seems likely to remain so as global warming leads to more extreme weather events that affect tourist destinations. Its about how to best prepare, so as to limit the impacts and how to ensure that recovery afterwards is as quick as possible.

22: The Cruise Lines International Association (CLIA) and responsible tourism

In Chapter 3 I suggested that, despite improvements in recent years, the cruise industry as a whole is not yet fully embracing the idea of responsible tourism. While it is taking action on a range of impacts which its activities have on the marine environment I believe that these actions are too often piecemeal and lack ambition and urgency. However, there have been some positive developments in recent years, not least amongst the professional associations in the cruise sector. The Cruise Lines International Association (CLIA) claims to be the world's largest cruise industry association, bringing together ocean and river cruise lines, travel agents, ports, destinations and industry suppliers (www.cruiseexperts.org, 2020). Its membership includes pretty well all the major cruise brands worldwide.

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Its website recognises that '*no industry has a stronger interest in protecting the oceans we sail and the destinations we visit than. It is not simply our responsibility: operating sustainably is a business imperative* (www.cruiseexperts.org. 2020).

CLIA also has a separate section of its website that deals specifically with sustainability. including a set of fact sheets and infographics on issues such as technological innovations, the health of the oceans, and exhaust gas cleaning systems.

It communicates some key messages including:

■ *We are reducing the rate of carbon emissions across the industry fleet by 40% by 2030 (compared to 2008 levels),*

■ *We recycle 60% more than the average person on land,*

■ *Our cruise lines never release untreated wastewater into the ocean,*

(www.cruiseexperts.org, 2020)

This sounds positive and is to be welcomed. However, the carbon emissions target relates to 2008 levels, not current levels so may not be as good as it appears. The recycling figure does not recognise that cruise ships may create more waste per cruise passenger than the average person generates at home. And, ironically in the context of the untreated wastewater message, on the day I am writing this (3 January 2020), the US media is reporting that a Carnival cruise ship has allegedly dumped 5,900 gallons of untreated grey water into the ocean at Port Canaveral in Florida against company policy and government regulations (www.triblive.com, 2020).

The CLIA website provides sustainability reports from the companies and brands that are members. These reports vary dramatically from brand to brand. Some are comprehensive and include measurable targets and information on performance against the targets. Others are more generic and talk of ambitions without measurable targets. A number focus largely on donations to environmental causes and projects, more than on how the company is reducing the impacts of its own activities on the marine environment. A few others say very little and in one case there was nothing at all about sustainability.

CLIA has tried to communicate the importance of sustainability to cruise operators and cruise consumers. Its website also includes useful industry-wide information on the progress being made on reducing the negative impacts of cruising on the marine environment. On the other hand, CLIA is very keen to balance what it says about sustainability with the fact that the cruise industry supports over a million jobs worldwide. This is perfectly valid but does not compensate for the damage cruise ships can do to the marine environment.

Hopefully, the CLIA will build on what it has done so far and try to raise the bar for its members so that progress can be made more rapidly across the whole sector. In doing this it could, perhaps, benefit from studying the experience of the International Tourism Partnership which is considered in Case Study 23.

23: Lessons from the International Hotels Environmental Initiative and the International Tourism Partnership

In Chapter 9 we looked at how the industry is responding to the negative impacts of tourism on the marine environment. With a few exceptions, the response has been fragmented and based on the actions of individual operators rather than coordinated across whole sectors or destinations. Where businesses are taking effective action to reduce negative impacts, it is being done in an attempt to gain competitive advantage. This means that actions can sometimes be seen as tokenistic gestures rather than evidence-based attempts to fundamentally reduce negative impacts. In the case of the cruise sector it appears the industry is yet to fully embrace responsible tourism and take effective action to address its impacts on the marine environment. This is all disappointing as the tourism industry has examples within it of self-regulation that could serve as a model if the industry is to effectively address its impacts on the marine environment.

The International Tourism Partnership (ITP), formerly known as the International Hotels Environmental Initiative, was set up as a direct response to the Rio Earth Summit in 1992. It is a sector-wide organisation designed to make the global hotel industry as a whole more responsible and sustainable based on cooperation and the sharing of good practice. From the beginning it has focused on practical help rather than strategies and mission statements. Its *Environmental Management for Hotels* manual and its *Green Hotelier Magazine* provide practical advice for hoteliers. In 2005, they published guidelines about the siting and design of new hotels and two years later introduced a guide to minimum environmental standards for sustainable hotels. In 2011, working with the World Travel and Tourism Council, the ITP launched the Hotel Carbon Measu rement Initiative, to develop an industry-wide way of calculating the carbon emissions of hotels. In 2020, its 18 corporate members managed 23,000 hotels with more than 3,400,000 rooms and 1,500,000 employees in over 100 countries (www.ihei.org, 2020).

Having begun with a focus on environmental issues the ITP has now broadened its focus to embrace the whole corporate social responsibility agenda and its goals now embrace six issues, namely:

- Carbon emissions
- Water resources
- Sustainable supply chains
- Youth unemployment
- Fair labour standards
- Youth unemployment

(www.tourismpartnership.org, 2020)

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Despite its success, the ITP could be criticised potentially because of its focus on large hotel chains rather than privately owned hotels, which represent the vast majority of the hotel industry worldwide. However, many of their resources are available to non-members such as the *Green Hotelier Magazine.* ITP could also be criticised because it just focuses on hotels despite the fact that its name embraces the broader area of tourism. However, tourism does have its own umbrella organisation, the Global Sustainable Tourism Council (GSTC), which represents tour operators and destinations as well as accommodation. The GSTC currently offers training and accreditation and certification schemes for its members.

However, neither the ITP or the GSTC embraces the cruise sector and both tend to focus on land-based issues in tourism rather than the impacts of tourism on the marine environment. Perhaps, the Cruise Lines International Association could develop its own version of the ITP to improve responsible practice across the cruise industry. At the level of individual destinations, it would be good to see the creation of organisations bringing together transport, accommodation, visitor attractions and leisure activities of all kinds within a particular destination with the aim of making coastal tourism more sustainable.

24: Airlines and carbon offsetting

According to Emma Featherstone, '*carbon offsetting is the act of doing something to negate the impact of the CO2 your actions or travel have produced. It is seeking to balance out – or go some way to reduce – your carbon footprint to zero'* (www.telegraph.co.uk, 2019). This usually involves activities such as tree-planting. Carbon offsetting has been around some time, but it has come back into focus recently, not least because the rise of the 'flight shaming' movement (see Case Study 35) has highlighted the impact of air travel on the environment.

A number of tools exist to allow passengers themselves to find out the actual scale of their carbon footprint each time they fly. A random check on the myclimate website in January 2020 suggested that a single passenger making a return trip from Paris to Sydney in business class would generate 11.6 tons of CO2. The figure for a return from Copenhagen to Palma de Mallorca in economy class was 0.7 tons. The website then offered to offset the latter flights for the passenger at a cost of around US\$ 34 for the business class flight and US\$ 21 for the economy class trip (www.co2.myclimate.org, 2020).

Many airlines already have their own voluntary carbon offsetting schemes which passengers can buy into if they so choose. Table 11.3 presents the average cost of the schemes of ten airlines in US Dollars per 1,000 miles in 2019. It is based on economy class travel although some airlines charge more to passengers in premium economy and business class.

Table 11.3: Average rate to carbon offset per 1,000 Miles for Economy Class passengers in US Dollars

Airline	Average rate per 1,000 Miles in US$
Alaska	1.70
United	1.49
Air Canada	3.68 (International, domestic 2.86)
Austrian	4.63
Cathay Pacific	0.34
China Airlines	1.25
Eva Air	1.00
Japan Airlines	7.05
Lufthansa	2.21
Qantas	1.68

(www.thepointsguy.co.uk, 2019)

Although one might expect some variations based on the age of an airline fleet and the nature of the airline's operations, the fact that the figure for some airlines appear to be less than a tenth of others suggests that are some significant differences between the schemes. Presumably some are more ambitious than others and are offsetting a higher proportion of the carbon emissions than others? There is also concern over some of the projects funded by carbon offsetting. Some have been more effective and transparent than others. And while the passengers carbon footprint has an immediate effect, the projects funded by their offsetting donation may take months or even years to have an impact. Furthermore, some schemes simply do not have the results they promised.

Mindful of public concern over the impact of air travel on the environment, in 2019, British Airways and Air France announced they were to start offsetting all carbon emissions on domestic flights. Shortly after EasyJet announced that it would become '*the first carrier to start offsetting carbon emissions on flights across its whole European network*' (www.ft.com, 2019). However, many people do not believe that offsetting is a solution to the environmental impacts of air travel. Andrew Murphy of campaign group Transport and Environment said '*airlines paying others so they can go on polluting is not a solution*' (www.ft.com, 2019). Meanwhile, Justin Francis of Responsible Travel stated that '*carbon offsets are no substitute for carbon reduction. We are still advocating for a Green Flying Duty to reduce demand in the meantime, with the proceeds ring fenced for R and D into decarbonised aviation*' (www.telegraph.co.uk, 2019).

Whatever its merits, carbon offsetting looks set to remain part of the airline scene for years to come. Under the recently agreed UN Carbon Offsetting and Reduction Scheme for International Aviation (CORSIA), there will be an industry-wide carbon offsetting scheme in place on a voluntary basis from 2021 that will become compulsory for airlines from 2027 (www.ft.com, 2019).

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I will leave the reader to decide if carbon offsetting represents a genuine solution to the carbon footprint of the airline industry, a way of letting passengers feel less guilty about their trip, or simple 'green-washing' by the industry.

25: The Great Barrier Reef Marine Park, Australia

The Great Barrier Reef in Australia is almost certainly the world's most famous coral reef. It is one of the major reasons for international tourists to visit Australia and is a major destination for domestic tourists. The Great Barrier Reef Marine Park was established in 1975 through the Great Barrier Reef Marine Park Act. It covers 344,000 square kilometres and in 2018 received 2.26 million visitor days, a figure derived from the number of visitors and their length of stay.

It has been estimated that the Great Barrier Reef contributes 5.6 billion Australian Dollars (AUD) to the national economy and supports around 70,000 jobs (www.gbrmpa.gov.au, 2019). It is the world's largest coral reef ecosystem and is 2,300 kilometres long and between 60 and 250 kilometres wide. It is home to 600 types of coral, 1625 types of fish, 100 types of jellyfish, 30 species of whales and dolphins, and 600 species of molluscs (www.gbrmpa.gov.au, 2019).

The primary purpose of the Marine Park is '*the long-term protection, ecologically sustainable use, understanding and enjoyment of the Great Barrier Reef for all Australians and the international community through the care and development of the Marine Park.*' It seeks to do this through four programme areas as follows:

1   Providing expert knowledge to influence and advise key decision makers on managing, reducing or avoiding significant threats to the reef.

2   Regulating and ensuring Marine Park use compliance.

3   Educating and fostering stewardship to enhance protection of the Reef.

4   Enhancing reef resilience through continuous improvement and new initiatives across all aspects of management.

The annual budget of the Marine Park in 2018-19 was 79.7 million AUD or around £42 million, of which just over two-thirds came directly from the government of the state of Queensland and the federal government of Australia (Great Barrier Reef Marine Protected Area Authority, 2019). However, revenue was also generated by the Environmental Management Charge which is levied on all tourists who visit the reef through a tourism industry operator. In 2020 this charge stood at 3.50 AUD for visitors staying less than three hours and 7.00 AUD for those staying for longer than three hours.

The park authority places a great emphasis on its governance and accountability, and it engages in a range of activities to safeguard the reef including:

- Research to increase its knowledge about the reef environment.
- Monitoring of wildlife populations including the corals and water quality.
- A huge amount of education and community engagement work both on site and digitally.
- Practical work 'in the field' to help conserve the reef.
- Working closely with stakeholders including indigenous people and the traditional owner groups.

However, perhaps its most important role is the granting of permissions for any activity that takes place within the Park. The system places permission applications into four types based on their scale and perceived level of risk. Only the highest category requires an Environmental Impact Statement to be produced. In 2018-2019, 369 applications for permits were received. None were refused because the Park Authority explained that it works closely with applicants to ensure that their proposals comply with Park policies. In the same year there were 136 alleged cases of non-compliance in relation to existing permissions. (Great Barrier Reef Marine Park Authority Annual Report for 2018-2019, 2019)

It is clear that the Park Authority is highly motivated and professional, but its task is a difficult one. It has to reconcile the need to protect the Great Barrier Reef with allowing visitors to enjoy it and being conscious of the value of reef tourism to the local economy. The tourism lobby is a powerful one in Queensland and one would imagine that its influence must be felt by the Park Authority in some way. The Authority has little or no influence over activities outside the Park which have an impact on it, whether that be global warming or pollution from agricultural and industrial run off from the land. As a result, despite the efforts of the Marine Park Authority the Great Barrier Reef continues to suffer deterioration including coral bleaching and damage from irresponsible diving.

26: Marine protected areas in Asia

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Marine Protected Areas (MPAs), such as marine national parks and marine reserves, can play an important role in the conservation of the marine environment. However, in Case Study 25 we saw that even a well-resourced and managed MPA can struggle to protect vulnerable marine ecosystems from the threats they face. Many Asian countries have seen enormous growth in visitor numbers in recent years, due partly to the opportunities they offer for enjoying pristine beaches and marine leisure activities such as diving. It is interesting, therefore, to look at how countries in the region use MPAs to help them conserve the natural resource on which much of their tourism depends, whilst also protecting the marine environment from the negative impacts of tourism.

In 2020 it was reported that there were 16,977 MPAs in the world covering around 8% of the world's oceans. There has been a huge increase in MPAs in the past 20 years worldwide; in 2000 they covered 2 million square kilometres of ocean compared to over 27 million in 2020 (www.protectedplanet.net, 2020). The countries of Asia have been involved in the designation of MPAs from the early days of such designations and as far back as 2002 ASEAN was publishing a review of MPAs in nine ASEAN countries (Cheung et al., 2002). Given this fact I was surprised to see how little of the territorial waters of Asian countries is covered by MPAs, as can be seen in Table 11.4.

Table 11.4: MPAs as a percentage of the territorial waters of selected Asian countries, 2018

Country	MPAs percentage
Japan	8.2
China	5.4
Bangladesh	5.4
Indonesia	3.1
Thailand	1.9
Malaysia	1.5
Philippines	1.2
Pakistan	0.8
Vietnam	0.6
India	0.2

(www.data.worldbank.org, 2018)

To set this data in context, here are the equivalent figures for some other countries:

Table 11.5: MPAs as a percentage of the territorial waters of selected countries, 2018

Palau	83%
France	45%
USA	41%
Australia	41%
Jordan	36%
Brazil	27%
Mexico	22%
Dominican Republic	18%
Belize	10%
Bahamas	8%

(www.data.worldbank.org, 2018)

Even allowing for the fact that the data might not be wholly accurate or up to date, it is clear that Asian countries are using MPAs to protect their oceans less than most other countries across the world. However, what protects oceans is not the designation of MPAs alone but rather their regulation and management. A review of MPAs in Thailand conducted by a team from the University of Victoria in 2012

found significant weaknesses in the management of the MPAs. They made ten recommendations which included: updating the relevant legislation; addressing the threat of uncontrolled fishing; making funding more sustainable; developing partnerships with the tourism industry; and including local communities in decision-making (www.icriforum.org, 2012). These issues reflect those found in many other MPAs based on my personal investigations.

Academics have also not always been impressed with the performance of MPAs in Asia. Yunzhou and Fluharty in 2017 said that '*China has established more than 250 MPAs… but the overall management effectiveness is unimpressive'* (Yunzhou and Fluharty, 2017). In 2004 Christie was describing MPAs as '*biological successes and social failures in southeast Asia'* (Christie, 2004). In 2017 a review of literature review about MPAs by Kamil suggested that *MPA strategy has both positive and negative impacts on southeast Asia* (Kamil et al., 2017).

However, there are encouraging signs in Asia. In Indonesia, the WorldWide Fund for Nature is supporting the authorities with the designation and management of MPAs (www.wwf.org, 2019). And in 2019 the IUCN was able to report that the Tun Mustapha Marine Reserve in Malaysia was committed to joining the IUCN Green List, inclusion on which is based on '*good governance, sound design and planning, effective management and successful conservation outcomes'* (www.iucn.org, 2019).

27: Regulation of the cruise industry

The industry trade body, the Cruise Lines International Association (CLIA), says '*the cruise industry is one of the most heavily regulated industries in the world. The average ship undergoes dozens of … safety inspections per year involving … the implementation of thousands of specific requirements set by the International Maritime Organisation (IMO)'* (www.cruising.org, 2020).

The IMO sets international standards for all ships including cruise ships across a range of areas including labour protection, ship safety, security, and environmental practice.

There are other authorities involved in the regulation of cruise ships including:

- **Port states:** the countries with ports visited by ships, including cruise ships. They are responsible for ensuring that ships meet international, national and local regulations, usually by inspecting vessels when they are in port.

- **Classification societies**, which check compliance with regulations as well as setting their own safety and environment guidelines.

- **International Labour Organisation** regulates labour protection on cruise ships.

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■ **Countries of registration**, the country where a ship is registered has a responsibility to ensure that cruise ships comply with all international regulations.

Many cruise lines choose to register their vessels not in the country in which they are owned or operate from, but in countries whose registration regimes are often described as offering 'flags of convenience'. By registering in such countries cruise operators may enjoy preferential taxation rates, but critics claim that it means the cruise companies may benefit from less rigorous enforcement of the various regulations. The three leading 'flags of convenience' nations are Panama, Liberia, and the Marshall Islands, yet none of these countries is traditionally seen as a major maritime trading country. It appears that the majority of cruise ships are now registered in flag of convenience countries even when their operations are based in the USA.

The IMO has introduced a new regulation from 2020 which means that ships will have to reduce their sulphur emissions by some 85%. However, concern has been expressed that some port authorities currently lack the resources to enforce this new rule. It has also been suggested by some critics that the fines in some countries for breaching this new regulation seem modest and they add that the use of scrubbers to help achieve the reduction in emissions may have unintended and unwelcome consequences. (www.skiff.com, 2019)

A number of governments have been active in enforcing environmental regulations in respect of cruise ships. In April 2019, the Norwegian authorities imposed a fine on the Greek-owned *MS Magellan* cruise ship after its fuel was found to contain 0.17% sulphur compared to the 0.10% permitted at the time, before the new IMO regulation was introduced (www.worldmaritimenews.com, 2019). The US courts, as we saw in Chapter 3, have imposed fines on US based cruise lines which broke environmental protection rules. Indeed, in 2019, a judge in the USA threatened that the ships of one cruise line could be banned in future from US ports if they continued to infringe environmental regulations! While this is very unlikely to happen, it may reflect frustration on the part of the judiciary about alleged repeat offending by cruise companies.

We note in Case Study 28 that a number of ports of call have begun to act to limit the number of cruise ships that visit them for environmental reasons and because of the impact large cruise ships have on the local community. This trend seems likely to continue as politicians face increasing pressure from local communities and the climate change lobby.

However, I would argue that there is a need for further regulation of the environmental impacts of the cruise industry and less reliance on self-regulation by the industry. I believe that while progress is being made, it is not happening quickly enough given the crisis facing our planet from global warming. It is also my contention that some areas where the marine environment is particularly

fragile should be made 'off limits' to cruise ships, if their operators do not voluntarily agree to do this themselves.

28: Cruise ship ports of call and over-tourism: Is the tide turning?

As we noted in Chapter 3, the cruise industry has been one of the most successful sectors of the tourism industry worldwide. The market for cruising has grown year on year and the cruise lines have invested more than ever before in bigger and better ships. It is now possible for tourists to cruise to virtually every place on earth including uninhabited wildernesses. For many port cities around the world, cruise ships inject hundreds of millions of US dollars into the local economy and support many thousands of jobs. However, there is increasing concern over the impacts which cruise ships can have on the coastal destinations they visit, and these concerns have played a major role in the growing debate over the concept of over-tourism. This focuses on the impacts which tourism can have on the lives of local residents and the point at which locals begin to perceive tourism as a negative rather than a positive influence in their communities.

This judgement can be based on the sheer volume of tourists, when they visit and the behaviour of the visitors. Demonstrations about over-tourism have been seen in recent years in a number of European cities including Barcelona, Venice, Amsterdam and Berlin. Academics have also begun to study over-tourism as something which appears to be gaining traction, not least due to the additional concern over the carbon footprint of the tourists visiting these cities, as well as their impact on the local community. The cruise sector has found itself at the centre of the over-tourism debate in the last few years because:

- Cruise ships are getting bigger and bigger with thousands of passengers.
- They disgorge thousands of people into the port for just a few hours, overwhelming the infrastructure and crowding the streets, shops and eating places.
- Most of the excursions involve little or no meaningful contact with the local community nor do they provide a real opportunity for visitors to have authentic experiences.

However, it was a single event in June 2019 that had perhaps the greatest impact, when a cruise ship and a river cruise vessel collided in the centre of the historic city of Venice. Photos of the cruise ship towering over the iconic city skyline made a stark point that perhaps things had gone too far, when huge cruise ships could travel right into the heart of this unique place. After this incident much media attention in summer 2019 was focused upon the impact of cruise ships on their ports of call and most of it was negative. In August 2019 the authorities in Venice

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announced that large cruise ships would no longer be able to dock in the city centre. They also announced that from 2020 a third of all cruise ships would be diverted away from the Venice Lagoon altogether. According to a UK newspaper report, the Chairman of the northern Adriatic Sea port authority wrote to eight other port authorities '*asking them to join forces to oblige cruise lines to launch ships compatible with our structures and the environment*' (www.telegraph.co.uk, 2019). The Venice incident also led to some calls for cruise ships to be banned altogether from destinations that were also World Heritage Sites.

In September 2019 the French Riviera destination of Cannes announced that it was to ban the most polluting cruise ships from 2020 in an effort to improve air quality in the town. Their mayor said, '*it's not about being against cruise ships, its about being against pollution*' (www.voanews.com, 2019). And these are not two isolated cases, as can be seen from the following news stories from 2019:

- In Dubrovnik from 2020 there will be a limit of 4,000 cruise passengers per day and each will pay a two Euro tourist tax (www.theguardian.com, 2019).

- The Belgian government has reduced the number of cruise ships that dock in Zeebrugge to protect Bruges from over-tourism. The Bruges mayor is reported to have said that '*we have to control the influx more if we don't want to become a complete Disneyland here*' (www.ship-technology.com, 2019).

- From 2019, cruise passengers visiting Amsterdam have been required to pay an eight Euro tax (www.ship-technology.com, 2019).

- From 2021, the number of cruise ships docking in Dublin will be limited to 80 compared to 160 scheduled to visit in 2019 (www.ship-technology.com, 2019).

- The Greek island of Santorini has imposed a daily limit of 8,000 cruise passengers (www.ship-technology.com, 2019).

- In Barcelona, a local councillor described cruise passengers as '*a plague of locusts who devour the public space and then leave*' (www.ship-technology.com, 2019).

The industry has made efforts to reach voluntary agreements with ports on ship sizes, passenger numbers and environmental impacts. Perhaps the pressure coming onto the cruise sector from some ports of call might be a vital catalyst in encouraging the cruise industry to improve its environmental performance more quickly than it had planned. Back in 2017 the head of Carnival Cruise Lines had acknowledged that the industry '*must listen to locals on over-tourism*'. He is reported to have said that '*the solution is a bit of regulation*' in an article that did seem to display an attitude that could have been seen as a little complacent (www.travelweekly.co.uk, 2017). However, in fairness, this comment was made two years before the June 2019 incident in Venice and the subsequent ban on large cruise ships.

The question of over-tourism also relates to the impact of cruise ships on wildlife and the environment when visiting uninhabited wilderness areas. One

article about this issue in 2018 was headlined '*will cruise ships destroy the wonders their passengers claim to love'* (www.theguardian.com, 2018). The article focused on cruises to arctic regions to see polar bears and the natural environment and included a quote from Ricky Gervais, the British comedian, that '*lets get too close to a polar bear in its natural environment and then kill it if it gets too close. Morons.'* (www.theguardian.com, 2018).

There seems little doubt that the over-tourism debate will grow and spread further around the world and that the cruise industry will remain at the heart of this debate. I believe the answer will be more controls on the numbers of cruise passengers visiting ports of call each day and stricter environmental regulation of ships in ports, as well as 'no go' areas in uninhabited wilderness locations with fragile ecosystems. If the industry is smart it will do this voluntarily, if not it seems likely that public pressure will force politicians to introduce regulation.

29: The role of Environmental Impact Assessments in coastal tourism

We have seen that poorly designed coastal developments can have a negative impact on the marine environment. Of course, this should not happen if there is an effective development control and land use planning system in place. However, public sector decision makers need information in order to be able to evaluate the potential impacts of a proposed project. In many countries Environmental Impact Assessments (EIAs) are built into the planning process to provide information about these impacts, both positive and negative, for any large-scale proposed project or development, including environmental, economic and social impacts.

EIAs originated in the USA in the late 1960s and are well established in North America and Europe, through both a European Union Directive and national legislation. The use of EIAs has spread around the world although their quality can be variable. Each country has its own legislation for EIAs which can vary significantly. It is also important to recognise that often the decision as to whether an EIA will be required for a particular project can be left to the discretion of officials or politicians. It should be noted that the purpose of an EIA is often to improve the quality of a proposal rather than being used simply to refuse permission for the development. The EIA will propose changes to the proposal to mitigate potential negative impacts.

One also needs to remember that final decisions on proposals are taken usually by elected politicians rather than officials, so issues such as the economic benefits for the community or potential tax revenues a proposal may bring can influence decisions as much if not more than the EIA.

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The EU believes that the following principles should underpin EIAs:

- Opportunities for participation by interested parties
- Transparency in decision-making
- The process and timescales agreed in advance
- Accountability of decision-makers
- Undertaken with professionalism and objectivity
- Cost effectiveness – environmental protection at the least cost to society
- Flexibility
- Information and outputs that are readily usable in decision-making

(www.ec.europa.eu, 2019)

In 2008 Jennifer Li highlighted areas of bad practice in some EIAs including:

- Inconsistent application to development proposals with some types of development not required to have an EIA
- Being a 'standalone' not clearly integrated into the decision-making process
- Weak follow up with a lack of monitoring and enforcement of conditions
- Public consultation that is perfunctory
- Results in reports which are descriptive and overly technical
- Providing irrelevant information for decision-makers
- Being costly in relation to the benefits delivered
- Understating and insufficiently mitigating the environmental impacts

(Li, 2008; Sadler, 1996; Glasson et al., 2005)

The Li paper is more than ten years old, but such criticism can still be found about EIAs in some countries today.

EIAs are technical documents and need to be produced by specialists, so developers may enlist experienced consultants. One such company, Atkins, offered three examples of EIA related work, on its website including:

- Undertaking a sub-tidal survey in connection with a proposal to strengthen sea defences at Newbiggin Bay in the UK
- Blue City in Oman where the company produced a holistic assessment of the proposed large new urban development to be built on the coast
- Mapping the coastal habitat in St Lucia to help inform future planning decisions

 (www.atkinsglobal.com, 2020)

In relation to tourism and the marine environment, the main use of EIAs relates to infrastructure development, including cruise ship terminals, marinas, artificial islands and large resort hotels. Recent high-profile examples involving EIAs for coastal projects include:

- The World Islands project in the UAE which critics claim will damage marine habitats and disrupt ocean currents.

- Malaysia, where a proposed new artificial island as part of the Penang South Reclamation Project was rejected following a negative EIA; the government has since apparently pressed on with the plan having made improvements to the design.

- Proposed new cruise terminals in Liverpool in the UK and Falmouth in Jamaica.

- A plan to improve cruise ship dock facilities in the Cayman Islands which was rejected following a critical EIA which noted that the development would damage the local coral reef. The project has been redesigned and the authorities still plan to go ahead with it, saying that corals will be relocated before the dredging commences.

- A number of proposed new marinas in Scotland.

With a few notable exceptions, EIAs are rarely used to allow authorities to make decisions relating to tourism industry operations, including wildlife-watching boat trips, scuba diving or granting cruise ships permission to visit a port. That is not to say that the potential impacts of these operations are not considered, but it tends to be done informally without a formal EIA being conducted. Furthermore, EIAs only focus on development proposal for specific sites and do not take into account the impacts on the wider environment of the journeys tourists will make to visit the new development.

30: Zoning tourism uses in the marine environment

Zoning, whereby activities or uses are permitted or prohibited in certain areas of the sea, is a well-established technique for managing marine environments. It can be based on the need to conserve rare resources so, for example, it is widely used to control commercial fishing to protect fish stocks. Zoning is also used to avoid problems where particular activities or uses conflict with each other. In the UK, for example, zoning is used in territorial waters to manage fisheries, shipping, military activities, underwater archaeological remains, nature conservation, and oil and gas exploration (Gubbey, 2005).

It is a technique used in the growing field of Marine Spatial Planning (MSP) which seeks to apply some techniques used in spatial planning on land. MSP is a '*public process of analysing and allocating the spatial and temporal distribution of human activities in marine areas to achieve ecological. Economic and social objectives that are usually specified through a political process*' (www.mspglobal2030.org, 2019). Therefore, zoning is usually based on government regulation or legislation, although in tourism there may be local schemes based upon a voluntary agreement amongst

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different user groups and local authorities. One particular form of zoning is the designation of Marine Protected Areas (MPAs). These are designed to protect vulnerable or exceptionally important marine environments from human activities including tourism. Ironically though, these designations can actually make the areas even more attractive to tourists which can increase pressure on them.

In the context of tourism and the oceans there are two main dimensions to zoning, namely:

■ Zoning which allocates particular areas of the sea to tourism rather than other economic activities or seeks to exclude tourism or certain tourist activities from areas, usually to protect vulnerable marine environments or ecosystems.

■ Zoning based on the fact that some marine leisure activities are incompatible and need to be separated, such as jet skis and swimming, or fishing and powerboating.

The former is more common, but the latter is found in locations where there is a fear that conflicting uses may be a safety risk to tourists themselves.

In terms of the zoning of tourism specifically, it is primarily seen in inshore waters where marine leisure activities and wildlife-watching are concentrated rather than in the 'the open sea'. This is because these areas are under the control of national governments and are where conflicts between uses or activities are most common and affect the largest number of people.

In the state of South Australia in 2012, the following four categories of marine zone were being used:

■ General Managed Use Zone
■ Habitat Protection Zone
■ Sanctuary Zone
■ Restricted Access Zone

In the General Managed Use Zone all marine leisure activities were permitted while in the Restricted Access Zone all leisure activities were prohibited, including diving, boating, surfing and swimming. In the Restricted Access Zone, in addition to leisure uses, all fishing was prohibited – apart from traditional fishing practiced by aboriginal people – together with the anchoring of vessels, marina construction, renewable energy infrastructure, and aquaculture (www.portvictoria.org.au, 2012). Also in Australia, the Great Barrier Reef Marine Park uses a system which features eight different types of zones with each having both a name and a colour which is used on maps (www.gbrmpa.gov.au, 2020).

The approach on Canada's Northern Pacific coast in 2016 was based on two matrices that focused on the compatibility of uses with the natural environment and on the vulnerability of the marine environment or rather of particular elements within the marine ecosystem including kelp, seagrass, and deep sea corals

and sponges. This resulted in the creation of three types of zone. (www.map-pocean.org, 2016)

I was intrigued by a draft report produced by a working group in the Seychelles in 2014 which talked in terms of '*sustainable tourism zones'*, suggesting that when zoning, different types of tourist activity might be treated differently depending on whether they were considered to be sustainable tourism or not (www.seychellesmarinespatialplanning.com, 2014). Interestingly, this working group report also drew upon the experiences of other destinations including St Kitts and Nevis which was discussed in a paper published in 2014 (Agostini et al., 2014)

In general, it can be said that most zoning of marine environments covers all activities and uses rather than just tourism. However, in many coastal destinations there are zoning policies limiting where certain leisure activities can take place, notably jet skiing and powerboating. Beaches may also be zoned with specific areas set aside for everything from exercising dogs to naturist bathing!. The common denominator for such zoning appears to be the perceived incompatibility of certain uses or activities. The final point about zoning relates to enforcement, which can be logistically difficult, expensive and unpopular with tourists who resent limitations on their activities.

31: The concept of carrying capacity in tourism and the oceans

The concept of carrying capacity in tourism dates back to the 1980s and has been widely studied by academics. While several definitions exist, it is basically the idea that every destination has a measurable limit to the number of tourists it can receive before negative impacts are experienced. There are several types of carrying capacity including:

- **Physical** – the area cannot physically accommodate any more tourists.
- **Environmental** – the point after which further tourists will lead to damage to the physical damage.
- **Ecological** – any increase in tourist numbers will cause harm to the ecosystem.
- **Socio-cultural** – an increase in tourists will harm the society or culture of the host community.
- **Economic** – an increase in visitors will damage the functioning of the local economy.
- **Visitor satisfaction** – the point at which the visitor experience begins to be adversely affected by the number of tourists.
- **Perceptual** – the threshold beyond which the perception is that the sense of place and what makes it special is harmed.

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From the idea of carrying capacity developed the concept of 'limits to acceptable change' which suggests that a point may be reached when intervention is needed to prevent impacts occurring which are seen as unacceptable. These two related concepts have come to the fore recently with the debate over 'over-tourism'.

In Figure 11.1 I identify the contexts in which the idea of carrying capacity might apply to tourism and the marine environment.
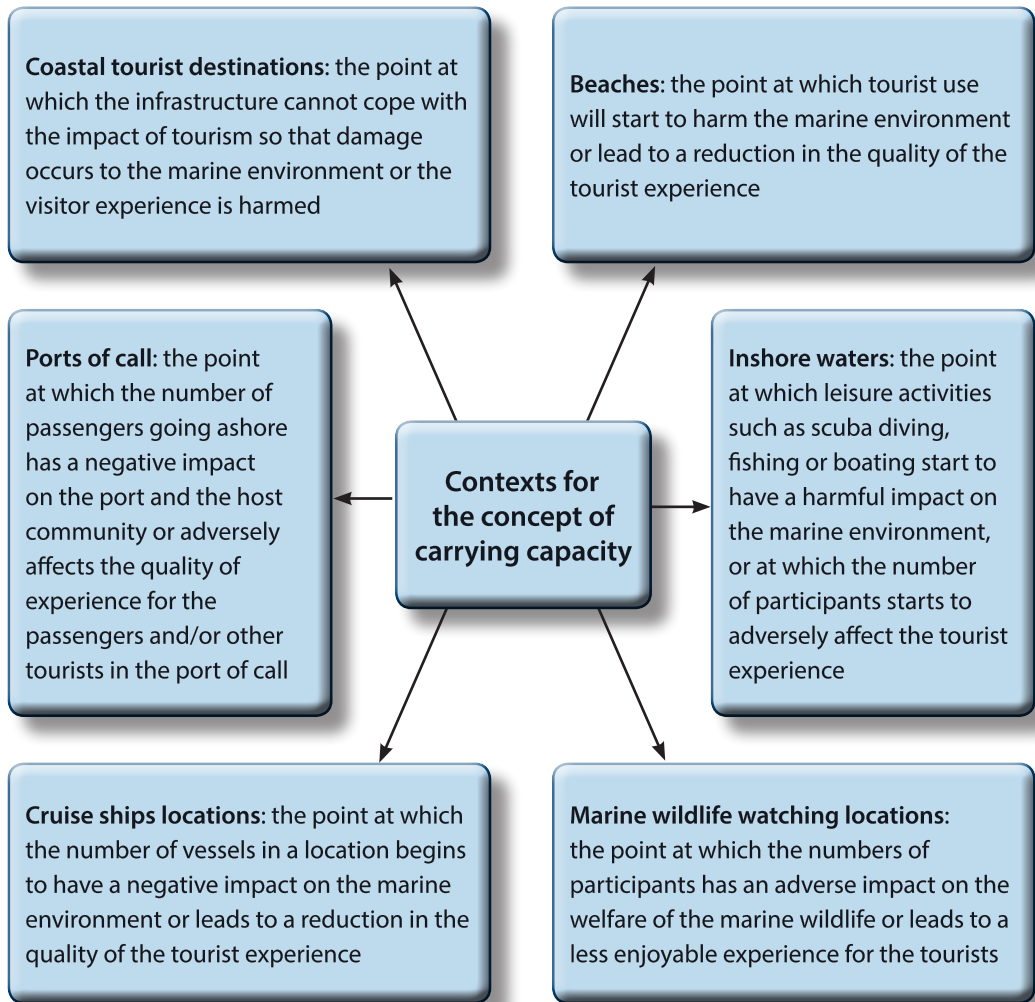
Coastal tourist destinations: the point at which the infrastructure cannot cope with the impact of tourism so that damage occurs to the marine environment or the visitor experience is harmed

Beaches: the point at which tourist use will start to harm the marine environment or lead to a reduction in the quality of the tourist experience

Ports of call: the point at which the number of passengers going ashore has a negative impact on the port and the host community or adversely affects the quality of experience for the passengers and/or other tourists in the port of call

Contexts for the concept of carrying capacity

Inshore waters: the point at which leisure activities such as scuba diving, fishing or boating start to have a harmful impact on the marine environment, or at which the number of participants starts to adversely affect the tourist experience

Cruise ships locations: the point at which the number of vessels in a location begins to have a negative impact on the marine environment or leads to a reduction in the quality of the tourist experience

Marine wildlife watching locations: the point at which the numbers of participants has an adverse impact on the welfare of the marine wildlife or leads to a less enjoyable experience for the tourists

Figure 11.1: The different contexts for the concept of carrying capacity in relation to the marine environment

Although most of the work on carrying capacity has tended to be based in protected areas on land, some academics have looked at carrying capacity in relation to the marine environment. Most studies have focused on tourism in marine protected areas, activities such as scuba diving and the use of beaches. However,

with the growing debate on the phenomenon of over-tourism we will probably see work being done on measuring the carrying capacity of the ports of call of cruise ships.

There are several observations to be made about carrying capacity in relation to tourism and the marine environment.

- First, it assumes that up to a certain number of tourists no harm will occur, yet in fragile marine environments even the presence of one tourist may well have a detrimental impact which may be irreversible.

- Second, the impacts of tourism are not just a result of the number of visitors, they also depend on their behaviours and the activities they are pursuing.

- Third, deciding how many tourists a location can carry is incredibly complex, based on the resilience or fragility of the environment, which may change from season to season, based on everything from weather systems to the migration and breeding behaviour of marine creatures.

- Fourth, at a time when the oceans are in crisis, perhaps our priorities should be focused on the impact of tourism on the marine environment rather than on the quality of the visitor experience.

- Fifth, given its focus on a particular coastal destination or area of ocean, the idea of carrying capacity ignores the impact of the tourist journey to the destination on the wider environment.

Perhaps the key point is that even if the carrying capacity of a location could be measured it is extremely difficult to implement in most locations in the open sea or in coastal destinations. It is perhaps, therefore, more useful as a theoretical idea than as a management technique for tourism and the marine environment.

32: The impact of tourism in Antarctica

Until the 1960s, the only visitors to Antarctica, which has no native population, were research scientists. Since then Antarctica has found itself increasingly on the tourist map, thanks almost exclusively to cruise ships. With no culture, a harsh climate, a limited variety of wildlife and no infrastructure, the only reasons to visit are the austere beauty of the scenery and perhaps the status of visiting somewhere that is unlikely to have been visited by the tourist's acquaintances. The main reason for visiting appears to be simply 'because it is there'. While some tourists call it an adventure, the fact that they are normally sleeping in luxurious cabins on board ship, seems to rather undermine this argument, although the voyage itself may be an adventure given the rough seas!

In 2016-2017, 44,202 tourists visited Antarctica, and 36,907 of these actually went ashore. Of those who landed 30% came from the USA, 14% from China, and

10% from Australia. Of those who land most simply sightsee or take small boat trips to explore with a guide. For those who undertake leisure activities, the most popular are kayaking, walks, and swimming (www.coolantarctica.com, 2019).

Interestingly, and perhaps worryingly, tourism in Antarctica is currently self-regulated by the industry in the form of the International Association of Antarctic Tour Operators which was set up in 1991. Tourism has a number of impacts on the marine environment in Antarctica including:

- Disturbance of breeding birds that may result in nest sites being abandoned.
- Inadvertent introduction of invasive species on the clothes of tourists and in food they bring ashore.
- Erosion of fragile environments due to trampling by large numbers of feet.
- Accidental oil spills by ships and boats.
- Debris left behind by small private group expeditions, which is not always removed as required under the Antarctic Treaty.

(www.coolantarctica.com, 2019)

The impacts noted above are made worse because they are concentrated in small geographical areas and take place over short periods of time when ships disgorge their passengers ashore for a limited period of time.

Furthermore, there are no local native communities to benefit from tourist expenditure to set against the environmental costs of tourism.

There is also always the risk that accidents will cause devastating damage to this fragile marine environment. In 2007 the cruise ship M/V Explorer sank and in 1979 an Air New Zealand sightseeing flight crashed on Mount Erebus. Neither caused an environmental catastrophe but the risk is real. And, as British researcher John Durban says, '*The rate of climate change around the Antarctic Peninsula is rapid. Increasing tourism* obviously *means burning more fossil fuels here*' (www.nationalgeographic.co.uk, 2018). A worrying development in the context of global warming is the reported launch of flights to Antarctica by an Argentinian airline and plans for a service from China after a successful experiment in December 2017 (www.nationalgeographic.co.uk, 2018) .

I believe that given the effects of global warming on Antarctica and its fragile environment, together with the huge number of other vacation opportunities open to affluent travellers, perhaps tourists should just not go to Antarctica at all. As we have noted throughout this book, tourism is not a necessity of life and no one will suffer through not visiting Antarctica. It is hard to see how any kind of tourism on that continent could be seen as responsible at the moment.

33: The World-Wide Fund for Nature and the impact of tourism on the marine environment

Based in the UK, and founded in 1961, the World-Wide Fund for Nature is probably the largest independent conservation organisation in the world. They rely on donations, membership revenue and income from activities such as 'adopt an animal' schemes. WWF are active all over the world and have become an influential lobbying group on the world stage. Their mission is to help create a world in which '*people and wildlife can thrive together'* (www.wwf.org.uk, 2019). They have been involved for many years in endeavouring to protect the marine environment and have become increasingly involved in '*promoting the adequate use of marine and coastal resources and increased marine protected areas, while creating economic benefits for local communities'* (www.panda.org, 2019). On their website, they stress their desire to work with industry as partners and recognise that marine and coastal tourism worldwide generates 200 million jobs, but they also say that cruise ships in the Caribbean produce more than 70,000 tons of waste water per annum. Their priorities for tourism and the marine environment include:

■ *Encouraging smart coastal planning and zoning of critically important areas*

■ *Providing support for the establishment and management of marine protected areas and key species*

■ *Providing the skills for people to rely on tourism activities that are not destructive*

(www.panda.org, 2019)

WWF operates all over the world, with offices in many countries, which undertake their own projects. For example, in 2010, five national WWF offices combined to create the Mediterranean Marine Initiative which covered tourism, commercial fishing, and plastic and other forms of pollution.

Over the past decade WWF has undertaken a wide variety of initiatives aimed at reducing the negative impacts of tourism on the marine environment including:

■ Working in partnership with Royal Caribbean Cruises Ltd to set targets for environmental sustainability for the cruise line including carbon emissions and sustainable seafood procurement, minimise the effects of marine leisure activities organised by operators and try to ensure that accommodation is not built too close to the shoreline.

■ An 'adopt a sea turtle' scheme to raise funds for turtle conservation projects.

■ A Global Marine Programme that encouraged the tour operators to play a pro-active role in reducing the negative impacts of tourism on the marine environment. They wanted them to work with accommodation that had some form of environmental practice certification, and provided financial assistance for protected areas.

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■ Launching in 2019 a 'Coral Reef Rescue Programme' in partnership with Vulcan Inc and the governments of Fiji and Indonesia.

WWF has developed an approach which tries to build mutually beneficial bridges between the conservation movement, industry and governments. It works quietly behind the scenes to influence industry practice and government policy, as well as publicly raising awareness of the issues. This seems to be producing results, but critics might argue that cooperation with WWF gives businesses and governments something of an umbrella when criticism is rained down upon them.

34: Crisis planning for tourist destinations in Australia

At the time of writing, parts of Australia are being ravaged by wildfires on a scale not seen before. While these have mostly been impacting inland areas, they have had a devastating impact on tourism across much of the country. The wildlife, which is the main reason for tourists to visit the unique ecosystem of Kangaroo Island in South Australia, has been devastated and air quality in the coastal city of Sydney has been amongst the worst in the world due to smoke from the fires.

Given the subject of this book it is interesting to note that there are already suggestions that the fires will lead to the oceans becoming more acidic due to the CO_2 produced by the fires but absorbed by the sea. This can harm shellfish and coral while the ash contains heavy metals and other materials which harm phytoplankton which is vital to the marine food chain.

Natural disasters, from catastrophic floods to wildfires to droughts, are common in Australia and despite the views of a few people, there is a general consensus that such crises will increase in frequency and severity due to climate change. This could have a devastating impact on the tourism sector, so it is little wonder that state governments have been developing strategies and advice for businesses. *Victoria's Tourism Strategy 2020*, published in 2013 by the state government, said '*It is becoming increasingly common for the tourism sector to be adversely affected by natural disasters such as bushfires, floods, drought, blue green algae outbreaks and locust plagues…There will be an increasing need for the industry to consider crises as a normal part of business.*' (www.ecotourism.org.au, 2020). The state government cites four types of crises which are focused on the ocean, including tsunamis, water safety, shark sightings and storms. It also offers a range of resources to help tourism businesses with their crisis planning (www.business.vic.gov.au, 2020).

In 2018 the state government of Queensland published *Building a Resilient Tourism Industry: Queensland Tourism Climate Change Response Plan*. This states that '*for Queensland's tourism business community climate change is both a risk and an opportunity too big to ignore. A strategic plan, underpinned by ambitious actions, will support Queensland's tourism industry to respond to climate risks and opportunities …*

A recent report by the Climate Council concluded that Australia's tourism industry is the most vulnerable and the least prepared to manage climate risks' (State of Queensland, 2018) The report is detailed and based on impressive research, although it remains to be seen how fully and quickly its many suggestions will be implemented.

The risks for the tourism industry were said to include heatwaves and sea-level rise, biodiversity loss and ocean acidification. At the same time as recognising the need to do more to reduce global warming, the report went on to say climate change might also provide opportunities to develop new products and diversify visitor experiences. Barriers to tackling climate risk were identified as a lack of specialist knowledge, short termism in planning and business decision-making, and inadequate resources and investment.

By 2019 the state government was providing detailed advice for tourism businesses in Queensland to help them prepare for emergency events including those caused in some way by climate change. This advice covers the following:

■ *Assess the likelihood and impact of risks*

■ *List key contacts and communication strategies*

■ *Create an evacuation plan or emergency shut-down procedure*

■ *Build an emergency kit*

■ *Prepare a crisis response plan*

■ *Minimise risks*

■ *Form a crisis management team*

(www.business.qld.gov.au, 2020)

The buzz words in crisis planning in tourism appear to be *resilience* and *recovery* and while crisis planning in Australia is well established and professional it does seem to be based on the idea that crises will be generally short-lived and that recovery will be possible within a relatively short period. In terms of climate change, that may not be the case. Rising sea level may make flooding of existing coastal communities the norm, while some extreme weather events may so devastate an area that recovery could take years or be impossible or not cost-effective.

35: The 'flight-shaming' movement in Europe

'Flight shaming' is about encouraging people to fly less by making them feel guilty about the environmental impact of their flights. It has its origins in Sweden in 2017 and has become associated with the Swedish climate activist, Greta Thunberg, who in 2019 travelled by boat rather than air to New York to address the United Nations, to highlight the impact of air travel on global warming. In Sweden in 2019 some 23% of the population of Swedes claimed not to have set

foot on a plane in the past year to reduce their impact on the environment, with many switching to train for journeys within Scandinavia (www.whatsorb.com, 2019). And in January 2020 it was reported that '*Sweden has seen a 4% drop in the number of people flying via its airport, a rare decrease in recent years for a European country*' (www.bbc.co.uk, 2020*).*

In October 2019, Reuters reported the results of a survey of 6,500 travellers in France, Germany, the UK and the USA, saying that 27% of respondents indicated that they were thinking about reducing their personal consumption of air travel. (www.reuters.com, 2019). The flight shaming movement has begun to have an impact on governments and the airline industry in Europe. In June 2019, the French government introduced an 'eco-tax' on all flights taking off from France, with the revenue being used to support other forms of transport. The Dutch airline KLM has launched a sustainability campaign that urges travellers to fly less over short distances where the train is a viable alternative (www.washingtonpost. com, 2019).

While the movement has made progress in Europe, it is yet to make a real impact in much of the world. Hannah Simpson in the Washington Post in June 2019 said '*Europe's 'flight shame' movement doesn't stand a chance in the U.S.'* (www. washingtonpost.com, 2019). Her view was largely based on the size of the country and the fact that high speed rail travel, which is common in Europe, is in the USA '*a dream that may never come true'* (www.washingtonpost.com, 2019). There is no doubt that the airline industry as a whole sees the flight shaming movement as a threat and there are rumours that the International Air Transport Association is planning a campaign to counter the effects of the movement. If true this may be understandable, as a report by CiTi in October 2019 suggested that flight shaming was '*gaining traction and could cost airlines billions'* (www.cnbc.com, 2019).

At the beginning of 2020 a debate had begun that did involve the USA as it revolved around celebrities flying to work and award ceremonies. The actions of celebrities seem to have a big impact on consumer behaviour these days, so a few film stars saying they will cut down their use of air travel could influence a large number of consumers. But if we are to reduce the impact of air travel on global warming, we need fewer flights rather than just fewer people flying on the same number of flights.

Fight shaming is an example of responsible tourism where consumers change their own behaviour voluntarily and make sacrifices for the benefit of the planet. It remains to be seen whether it is the start of a truly global phenomenon that will have a long-term impact on the world of air travel.

36: The International Panel on Climate Change 2019 Report on the Oceans

In September 2019, the International Panel on Climate Change produced a major report entitled, *The Ocean and Cryosphere in a Changing Climate* which received enormous media attention across the world. Produced by a team of international experts its findings made uncomfortable reading. The report stated that:

- *It is virtually certain that the global ocean has warmed unabated since 1970 and has taken up more than 90% of the excess heat in the climate system.*
- *Since 1993, the rate of ocean warming has more than doubled.*
- *By absorbing more CO_2, the ocean has undergone increasing surface acidification.*
- *Global mean sea level is rising, with acceleration in recent decades due to increasing rates of ice loss from the Greenland and Antarctic Ice Sheets as well as continued glacier mass loss and ocean thermal expansion.*
- *Increases in tropical cyclone winds and rainfall, increases in extreme waves, combined with relative sea level rise, exacerbate extreme sea level events and coastal hazards.*
- *Coastal ecosystems are affected by ocean warming including marine heatwaves, acidification, salinity intrusion, and sea level rise, in combination with adverse effects from human activities on ocean and land.*
- *Changes in the oceans have impacted marine ecosystems and ecosystem services with regionally diverse outcomes, challenging their governance. The impacts on ecosystem services have negative consequences for health and well-being and for indigenous peoples and local communities dependent on fisheries.*
- *Coastal communities are exposed to multiple climate-related hazards, including tropical cyclones, extreme sea levels and flooding.*
- *The Greenland and Antarctica Ice Sheets are projected to lose mass at an increasing rate throughout the 21st century.*
- *Sea level continues to rise at an increasing rate. Extreme sea level rates that are historically rare are projected to occur frequently at many locations by 2050. Extreme sea levels and coastal hazards will be exacerbated by projected increases in tropical cyclone intensity and frequency.*
- *A decrease in global biomass of marine animal communities, their production, and fisheries catch potential…. The rate and magnitude of decline are projected to be highest in the tropics.*
- *Warm-water corals are at high risk already and are projected to transition to very high risk even if global warming is limited to 1.5°C.*
- *Increased mean and extreme sea level, alongside ocean warming and acidification, are projected to exacerbate risks for human communities in low-lying areas.*

(www.ipcc.ch, 2020)

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While the predictions are accompanied by caveats relating to levels of confidence, the overall message is clear – the situation is serious and is getting worse. The report also notes that the worst impacts are likely to be felt most strongly in two types of location, namely:

■ 'The tropics', areas of the world where some of the poorest and most vulnerable people on Earth live in communities which are often increasingly dependent on tourism

■ The Arctic where indigenous peoples are likely to pay a high price for what humanity as a whole has done

37: United Nations Sustainable Development Goal 14

UN Sustainable Development Goal 14 is to '*conserve and sustainably use the oceans, seas and marine resources for sustainable development*' (www.sustainabledevelopment.un.org, 2019). It is one of 17 goals agreed by the UN in 2015 as part of its 2030 Agenda for Sustainable Development. This is the latest stage in a process that began with the Earth Summit in 1992 in Rio de Janeiro. There are a number of target indicators to help monitor progress, although most of them do not include measurable performance indicators, but they do have target dates. For example, three of the target indicators are as follows:

■ *By 2020 effectively regulate harvesting and end over-fishing.*

■ *By 2025 prevent and significantly reduce marine pollution of all kinds.*

■ *By 2020 sustainably manage and protect marine and coastal ecosystems to avoid significant adverse effects.*

(www.sustainabledevelopment.un.org, 2019)

Each year, the UN reports progress on the goal as a whole and on the individual target indicators. These can make dismal reading as in reality there seems little progress to report! The 2019 report focuses on the problems that still remain and the only three sets of figures used to show where progress has been achieved are as follows:

■ In December 2018, 17% of waters under national jurisdiction (those waters 0-200 nautical miles from a national border), were covered by a protected area compared to 12% in 2015.

■ The global mean percentage of each marine key biodiversity area covered by protected areas increased from 31% in 2000, to 45% in 2015, and 46% in 2018.

■ The number of parties to the 2016 Agreement on Port State Measures to Prevent, Deter and Eliminate Unreported and Unregulated Fishing stood at 58 in February 2019.

(www.sustainabledevelopment.un.org, 2019)

Clearly, any improvements in the protection of our oceans are to be applauded but progress appears very limited to date. Still, 83% of waters under national jurisdiction are not part of protected areas. And, in terms of the percentage of key biodiversity areas covered by protected areas the rate of growth has actually fallen since SDG 14 was agreed! Finally, just because nations sign agreements does not mean they will be implemented. It is easy to be critical of the lack of progress on SDG 14, but in fairness the United Nations is in a difficult position. It has to adopt a 'lowest common denominator' approach to ensure that all members will agree things and in general it has no real power to ensure that governments pursue any of the SDGs.

That is why I believe that only a bottom up, rather than a top down, approach can bring about the rapid changes needed if we are to protect our oceans effectively.

38: Towards more responsible tourist behaviour

Throughout this book we have focused on the tourism industry and the public sector and their responsibilities in relation to the impacts of tourism on the marine environment. However, it could be argued that we should focus on the tourists themselves, for they are the key to making tourism more responsible because:

- It is their decisions and behaviour which actually creates the negative impacts of tourism in the marine environment.
- It is the consumers who buy the products and experiences offered by the tourism industry; if no one bought them the industry would not offer them.
- The tourists are also voters who elect local, regional national politicians so they have the power, potentially, to influence public policy.
- Tourists are also citizens who can become activists and campaigners based on their experiences as tourists.

Unfortunately, most tourists seem to be part of the problem rather than part of the solution currently. Perhaps this is because, psychologically, people see vacations as a time when you can escape from routine and get away from the responsibilities of work and daily life for a week or two. Whatever the reason, few tourists can argue that they were not aware of the plight of the oceans, global warming and the impacts of tourism, for the global media covers these stories regularly, in the main tourist generating countries at least. Irresponsible behaviour is everywhere though despite this media attention including tourists:

- Damaging coral reefs while diving
- Disturbing marine wildlife by jet skiing
- Disposing of plastic waste from boats and on the beach

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- Making too much noise or getting too close when on wildlife watching trips.
- Buying souvenirs that are not sustainable and/or are made from marine creatures.
- Taking cruises to uninhabited places with fragile marine environments where every tourist has a negative impact on the environment simply by being there.
- Making long-haul flights to vacation destinations so their trip has a substantial carbon footprint.

Some observers would say that tourists need to be 'educated' to improve their behaviour, but I am not convinced that this will work, and it seems patronising in the extreme. Perhaps it is better to suggest that behaving more responsibly makes the tourist feel good and can thus enhance their enjoyment of their trip. This means encouraging them to ask questions before they buy. However, I believe that there will always be people, unfortunately, who do not respond to such an approach and in those cases strong regulation, backed by substantial penalties, will be required for those who are not willing to behave more responsibility. The crisis facing our oceans and the contribution of tourism to this crisis is so great and the need for action so urgent, that everyone needs to be on board as soon as possible. On the other hand, I believe there is reason for hope that things may improve because of developments such as:

- The rise of the 'flight shaming' movement in Europe.
- Tourists who become activists such as 'Surfers against Sewage in the UK.
- The rise of 'catch and release' in sea angling.
- The growing willingness of passengers to contribute to carbon offsetting schemes when taking flights, although many would argue these are not a solution but merely assuage the guilty feelings of the tourist.
- Individual tourists using social media to highlight examples of irresponsible tourism.

However, I would like to see things go further, with more tourists:

- Exercising self-control and self-censorship and getting away from the idea that tourists need to try to go everywhere and see everything, regardless of the impact this may have on the marine environment.
- Just enjoying wildlife rather than being obsessed by photographing it and sharing the images on social media. Much of the disturbance of wildlife is caused by getting too close because of the desire to take a good photograph.
- Joining together more with like-minded people to campaign to influence industry practice and boycott those operators who continue to behave irresponsibly.

Casual observation might lead one to suggest that levels of interest in responsible tourism vary between countries, with the highest level of interest being seen in

Scandinavia, Germany, and the UK. I believe that this is partly a function of history and the fact that some nationalities have been travelling longer than others, and their national tourist markets are at different stages of maturity as a result.

The sector where I see least evidence of increasing consumer interest in responsible tourism is the cruise sector. I have spent hours watching television channels in the UK which focus on cruising. In all that time I have never seen anything that encourages cruise passengers to try to reduce food waste or water use, move away from single-use plastic, or make sure they buy things which contribute directly to the local economy. The main motivation for buying cruises appears to be simply the seductive notion that it is all about hedonism and luxury with no thought to the consequences or the impact on the marine environment. Given the continued rapid growth in the cruise market this is a major concern.

Ultimately, all any individual can really control is their own behaviour and choices, and if everyone made more responsible choices the negative impacts of tourism on the marine environment could be greatly reduced. This will probably only happen if:

■ Industry advertising is controlled more rigorously to eliminate false or unproven claims made by some businesses that risk making tourists cynical about the idea of responsible or sustainable tourism.

■ Credible accreditation schemes, including independent verification, are developed, so tourists who want to 'do the right thing' can buy products which are genuinely more responsible.

39: 'What's in the news this month'

I thought it would be an interesting exercise to look at the media over a month and see what was being written that related to tourism and the marine environment in any way, to see how many stories there were and what kind of issues they covered. I intended to do this for a whole month but actually found that I had more than enough stories after just the first nine days! Below the reader will find a selection of stories I found, which makes it clear that there is a lot happening in our oceans that is related in some way to tourism. By way of context readers should note that during this month the global media was primarily focusing on the emerging Coronavirus crisis in China and the upcoming US Presidential election, both huge stories for the media.

❑ February 1st. CBS News in the USA reported that '*scientists alarmed to discover warm water at "vital point" under Antarctica's "doomsday glacier".*' (www.cbsnews.com, 2020) This story claimed that for the first time, warm water had been discovered underneath one of the fastest melting glaciers. It suggested that this might mean that the retreat of this glacier is now unstoppable which

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would have huge implications for global sea level rise. It went on to say that Dr Daniel Holland from New York University had suggested that if this glacier system were to melt completely, global sea levels could rise by nearly one metre.

❑ February 2nd. An online industry news website reported that the cruise line MSC had launched a new programme of shore excursions under the name of 'Protectours'. This was said to be '*part of the cruise line's mission to offer passengers an environmentally conscious vacation while making a positive contribution to the planet'* (www.travelpulse.com, 2020). It is for the reader to decide if this is a genuine attempt to make shore excursions more responsible or an exercise in green washing. It is interesting that this story appeared at a time when cruise passenger numbers were predicted to rise to 32 million in 2020 compared to 23 million just five years earlier (www.statista.com, 2020). The story also noted that a survey had shown that for some 54% of Generation Z consumers, the environmental impact of travelling affected their vacation choices.

❑ February 4th. The BBC reported that '*the UK's aviation industry is promising to reduce its net carbon emissions to zero by 2050'*. It suggested the industry believed this could be achieved through technological developments such as cleaner engines, new fuels and tree planting to offset emissions. However, this claimed was criticised by environmental campaigners who stated that the '*only way to cut airline emission is by reducing air travel'* (www.bbc.co.uk, 2020).

❑ February 4th. US broadcaster CNN had a story under the heading of '*nearly $1 million worth of shark fins seized by wildlife inspectors in Florida'* (www.cnn.com, 2020). They claimed that around 600 kilograms of shark's fins had been intercepted on their way to Asia from South America. It is against the law in Florida to trade shark's fins. The report claimed that Hong Kong is the world's largest shark's fin trading hub and that the populations of some species of sharks had fallen by 90% largely as a result of the trade.

❑ February 5th. The Seychelles News Agency stated that '*the World Bank will help the Seychelles with the provision of experts and financial support to help the island nation deal with coastal erosion as a result of climate change'* (www.seychellesnewsagency.com, 2020). The article also stressed the importance of the terrestrial and marine ecosystems to the economic well-being of the country in terms of attracting tourists.

❑ February 6th. CNN reported on progress being made on the conservation of mangroves in Sri Lanka through the work of volunteers and local communities. The value of mangroves was recognised after the 2004 tsunami, when it was noticed that casualties were fewer in areas protected by mangroves. In 2015 the government announced it would conserve all of its mangroves (www.edition.cnn.com, 2020).

❑ February 6th. A New Zealand news source had a headline which stated, '*divers to move marine life before Waikawa marina expansion*' (www.i.stuff.co.nz, 2020). This was a community-led project to relocate starfish, sea cucumbers, tube worms and other marine creatures to a nearby bay in Queen Charlotte Sound, because local people were worried that they would not survive the construction process as the Waikawa marina was expanded. This followed an Environmental Impact Assessment for the project which suggested that the project would have significant adverse effects on marine wildlife in the area. The local volunteers apparently believed that they could not save all the marine life that would be impacted by the development, but they wanted to save as many as they could.

❑ February 6th. The US Space Agency NASA reported that '*Arctic ice melt is changing ocean currents ... a major ocean current in the Arctic is faster and more turbulent as a result of rapid sea ice melt'*. The report suggested that, ultimately, this process could lead to a modification of ocean currents worldwide which would in turn have a significant impact on climate and weather patterns worldwide (www.climate.nasa.gov, 2020).

❑ February 9th. Reporting a study by scientists at Herriot Watt University, The Times newspaper, in the UK, reported that *every blade of seagrass in ocean habitats that are havens for fish and other marine life has been contaminated by tiny pieces of plastic.* The report claimed that plastic particles cling to the seagrass blades and are consumed by fish, sea snails and shrimps. (www.thetimes.co.uk, 2020)

From this selection I believe we can make some useful observations.

■ First, the global media appears to have bought into the idea that our oceans are in crisis and that climate change is at the heart of this crisis.

■ Second, the stories come from across the world showing that the problems facing our oceans and the communities that live around their fringes are a truly global issue.

■ Third, the reports featured show examples of citizens taking action themselves rather than relying on governments to do what needs to be done.

■ Fourth, the stories show that industry recognises that it is under pressure to respond to environmental concerns, but that it remains to be seen whether this will result in meaningful action or in initiatives that could be seen as 'green-washing'.

I have mixed feelings about the plethora of media stories about the oceans and tourism, for it indicates growing media interest in these issues which is raising public awareness, but this growing level of interest reflects the increasing severity of the challenges we face.

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