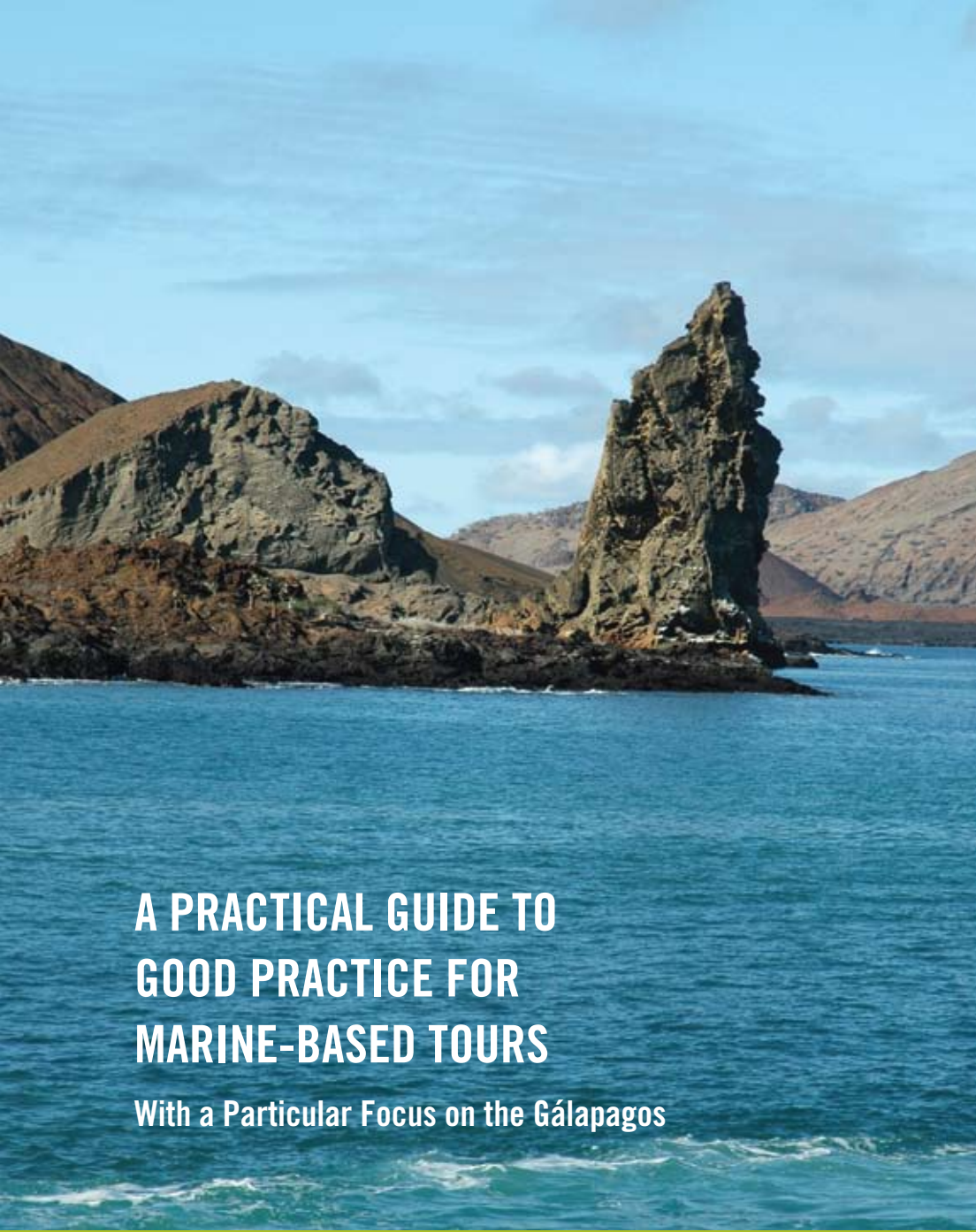

A PRACTICAL GUIDE TO GOOD PRACTICE FOR MARINE-BASED TOURS

With a Particular Focus on the Gálapagos

GLOBAL ENVIRONMENT FACILITY
Rainforest Alliance
UNEP
CONSERVATION INTERNATIONAL

ACKNOWLEDGMENTS

This publication was developed by Conservation International in partnership with Rainforest Alliance and the United Nations Environment Programme.

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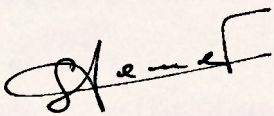
FOREWORD

This guide is based on *A Practical Guide to Good Practice: Managing Environmental Impacts in the Marine Recreation Sector*, which was a joint effort by The Center for Environmental Leadership in Business (CELB), the Coral Reef Alliance (CORAL) and The Tour Operators' Initiative for Sustainable Tourism Development (TOI). The original document was published in 2004 and distributed to marine recreation providers in the Caribbean and made available for tourism industry experts around the world. This guide has been adapted from the original to place special emphasis on marine tourism and conservation issues in the Galápagos Islands. Tour operators in the Galápagos are adopting these guidelines and have been trained on the implementation of the good practices.

This *Guide to Good Practice* was developed through a collaborative process by the United Nations Environment Programme, Rainforest Alliance, Conservation International, and our partners. The guide also draws from the experiences and collaboration with members of the International Galapagos Tour Operators Association (IGTOA) and other tour operators that were actively supported by the United States Agency for International Development (USAID) and the United Nations Educational, Scientific and Cultural Organization (UNESCO). The Guide was created for tour operators who recognize that their rights and expectations should go hand-in-hand with their responsibilities and obligations. It will be an important resource for tour operators to assess their own business activities, and those of their suppliers and colleagues, in order to identify areas of good performance and areas where they can take action to improve sustainability.

We invite you to read this guide and to work with us in promoting sustainable tourism development that benefits the marine and coastal environment, its people and your business.



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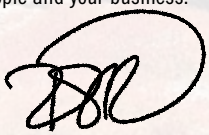

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INTRODUCTION

WHY WE CREATED THIS GUIDE

In response to growing demand by tourists for environmentally and socially responsible products and services, marine- and coastal-based tour operators are increasingly seeking to improve their environmental and social performance, both by changing their own practices and by contracting with marine recreation providers that follow recognized good practices. This publication is designed to help marine tour operators improve their environmental and social performance, as a way to both contribute to marine conservation and the economic development of coastal communities, and increase their attractiveness to increasingly discerning consumers.

This guide focuses particularly on the Galápagos Islands, where sustainable tourism is critical to the preservation of this unique destination. We begin with an overview of the Galápagos marine and terrestrial ecosystems and the types of tourism activities that take place there. Tourism's economic, social and environmental impacts are summarized and the importance and benefits of adopting good practices are highlighted. Next, we offer information on general good practices for marine tour operations as well as for specific recreational activities that may be part of any particular tour. For each topic we give an overview of the key issues to consider, the rationale for good practice, practical suggestions for improving performance in that area, and examples of what other operators around the world are doing. Links to sources of further information are provided at the end of this document.

A self-assessment sustainability checklist is provided to help businesses identify areas for improvement and facilitate the selection of responsible business partners and suppliers based on sustainability criteria. The checklist can also help suppliers understand the issues important to companies committed to responsible product sourcing.

ECOSYSTEMS OF THE GALÁPAGOS

The uniqueness and abundance of the Galápagos's marine and terrestrial ecosystems result from the coming together of diverse ocean currents with rich deep ocean waters that surge to the surface throughout the area. These waters are stocked with life brought from various source areas by the currents, resulting in ecosystems high in diversity, endemism and biomass. The Galápagos archipelago consists of 130 volcanic islands and islets, with each major island home to unique species not found on any other island. The unrivalled assemblage of specially adapted species inspired Charles Darwin's theory of evolution by natural selection.

The Biodiversity Vision for the Galápagos Islands (Charles Darwin Foundation and World Wildlife Fund 2002) documents 2,909 marine species for the archipelago. Shark diversity and abundance is particularly high and includes the Whale Shark. The islands' coastal-marine fauna includes many endemic and/or threatened species, such as the Galápagos sea lion, Galápagos fur seal, marine iguana, and green sea turtle, as well as many threatened species of fish, seaweed, coral and other invertebrates. An estimated 750,000 seabirds are found in the islands, including 30 percent of the world's blue-footed boobies, the world's largest red-footed booby colony, the largest concentration of Nazca (masked) boobies and the entire world population of six other seabird species, including two gulls, the waved albatross, the Galápagos penguin, the Galápagos petrel and a flightless cormorant. In addition to extraordinary species diversity, the Galápagos also has a wealth of habitat diversity, including rocky flats, vertical walls, sandy beaches, mangrove forests, coastal lagoons and coral reefs.

TOURISM IN THE GALÁPAGOS

In 1978, the Galápagos Islands were designated a UNESCO World Heritage Site, in recognition of their "outstanding value to humanity," and today the archipelago is one of the world's most desirable tourist destinations. Tourism in the Galápagos has been developed using a low-impact model that provides significant economic benefits to Ecuador and the Galápagos National Park. Popular tourism activities include snorkeling, scuba diving, hiking, whale watching and other wildlife viewing. Tourists enjoy up-close encounters with animals, which are completely at ease among human visitors.

Growth and development in the tourism industry has resulted in a dramatic increase in visitors from about 41,000 in 1990 to more than 100,000 in 2005.[1] Although the economic benefits are considerable, increased visitation to the islands threatens both terrestrial and marine ecosystems. The most serious threat to the delicate ecological balance of the Galápagos comes from the accidental and intentional introduction of non-native plants and animals, brought by tourists and other visitors from the mainland. Other serious threats from tourism include contamination from boat engines, oil spills, over-use of sites and over-exploitation of fresh water. Illegal and excessive fishing has led to over-exploitation of sea cucumbers, sharks and lobsters. In addition, the substantial growth of tourism, especially in the past decade, has brought a rise in immigration from mainland Ecuadorians in search of economic opportunities created by tourism. Despite immigration restrictions, a high cost of living and the limited land available for settlements (only three percent of the islands is unprotected), immigration continues.

BENEFITS FOR BUSINESSES AND COMMUNITIES

Responsible marine tourism activities are critical to both preservation of the Galápagos's unique ecosystems and the continued economic health of the archipelago's tourism sector. Adopting good practices can help protect the integrity of the unique landscapes, habitats and species that attract visitors in the first place and sustain the high-quality visitor experiences that will ensure the ongoing financial viability of tourism businesses. Sustainable and responsible tourism development can also help maintain support for tourism among local coastal communities, by providing employment, income and higher levels of self-sufficiency, and conserving natural and cultural resources and heritage for future generations.

Good practices also make good business sense, as improved performance in these areas can enhance a tour operator's reputation and recognition in a tourism marketplace that is increasingly showing a preference for responsible products and suppliers. Improved performance can also contribute to more positive relationships with suppliers, staff and local communities, who are more likely to support operators that are conserving local environments and contributing to the well-being of local communities.

BOATING PRACTICES

ANCHORING

WHAT IS THE ISSUE?

The use of anchors for mooring commercial and recreational boats can cause extensive damage to near-shore marine ecosystems, including coral reefs and sea-bottom habitats, such as sandy, gravel bottoms and rocky reefs. Anchors, and the chains connected to them, sweep the ocean floor, destroying slow-moving animals, benthic (bottom) species and fish nesting sites, resting and feeding grounds. They can crush and destroy coral reefs through sediment disturbance and fragmentation. From an operational perspective, anchoring involves the use of windlasses, anchor chains, anchors, hydraulic systems and other devices that deteriorate and require replacement when used frequently.

WHY SHOULD I CARE?

While it is possible for sea-bottom habitats, especially coral reefs, to recover from anchor damage, this is a very slow process that can take many decades. In areas of intense anchor damage, it is unlikely that a reef, either rocky or coral, will ever make a full recovery. In these cases, much of the diversity of life — and thus the economic basis of many marine recreation activities — may be lost forever. Preventing anchor damage requires minimal investment or operational change, but can return significant benefits in terms of increased revenues from tourists who want to see healthy, intact reefs, as well as from operational savings in maintenance and replacement of the different components of the anchoring system. Among the specific impacts of anchoring are:

- FEWER FISH. Degraded habitat reduces the number and variety of fish, which are important for both attracting visitors and ensuring the health of the reef.
- FEWER LIVING CORALS. Anchors and chains scar coral reefs by breaking and crushing coral colonies and other reef-dwelling organisms, reducing the attractiveness of the area to tourists.
- FEWER ROCKY REEF INVERTEBRATES. Sea fans, sea cucumbers, starfish, barnacles (and their associated fauna), which require a steady, undisturbed substrate to attach to for their growth and development, can be swept away by the action of an anchor chain.

- DESTRUCTION OF FEEDING, RESTING AND NESTING SITES FOR FISH AND MARINE INVERTEBRATES. The sandy ocean bottom is the only habitat for many types of fish, including trigger fish, garden eels, snake eels, batfish, puffer fish and stingrays. Some of these species, in turn, serve as food for attractive large predators such as hammerhead sharks, which may be a draw for visitors to the area. Marine invertebrates, including crabs, shrimp and tube anemones, also thrive only on sandy bottoms, which are often described as underwater deserts.
- CLOUDY WATER. Anchoring can cause an increase in sand and sediment in the water, making once-clear water appear cloudy or murky and preventing corals from getting the sunlight they need to survive. Reduced visibility due to cloudy water negatively affects the quality of the visitor experience in a reef environment.
- DESTRUCTION OF SEAGRASS BEDS. Boats generally swing around in different directions when anchored, and the chains and lines attached to anchors can cause severe damage to seagrass beds, diminishing the quality of the underwater environment and its value as a tourist attraction.
- WEAR AND TEAR OF ANCHORING SYSTEMS. Even if well-maintained, the different components of the mooring system on board a boat will deteriorate and need to be replaced sooner if they are used frequently.

WHAT CAN I DO?

- USE MOORING BUOYS. Mooring systems provide permanent lines that allow boaters to fix their position without dropping anchor. An effective mooring program includes the installation of moorings that are suitable for near-shore marine and coral reef areas, use of moorings by all boats, and regular maintenance and correct use of moorings.
- PROMOTE AND SUPPORT MOORING BUOYS INSTALLATION PROGRAMS. Local environmental and merchant marine authorities should install and maintain mooring lines to manage the number of boats at a site at any given moment and to avoid the destruction of ocean-bottom ecosystems. If there is such a program already implemented in your area, report any problems the system may have and offer your full support to the initiative.

- CHANGE BOATING PRACTICES. Small adjustments to standard practice can help save near-shore marine and coral reef ecosystems, for example:
  - Correctly use mooring buoys whenever possible. For reasons of safety, always run a check when you tie up to a mooring point (a buoy). Give yourself more room to maneuver by passing a mooring line about half the length of your boat through the eye of the buoy and securing both ends to a cleat on the deck.
  - If anchoring is absolutely necessary, make sure your boat is anchored in a designated area, away from important ecosystems and reefs and where it will not be dragged near these areas and accidentally cause damage.
  - Consider the use of drift dives instead of anchored dives when no moorings are present.
- EDUCATE CUSTOMERS. Many tourists who rent boats, sailboats, kayaks or canoes (if allowed in an area) have little understanding of how harmful anchors can be to near-shore marine environments and reefs. Educate your customers by:
  - Explaining what mooring buoys are and that renters should use them whenever possible.
  - Explaining the proper way to anchor, before the renters set out.
  - Providing waterproof written reminders of proper anchoring practices on all vessels.
  - Explaining the potential impacts of poor anchor use.

GOOD PRACTICE IN ACTION

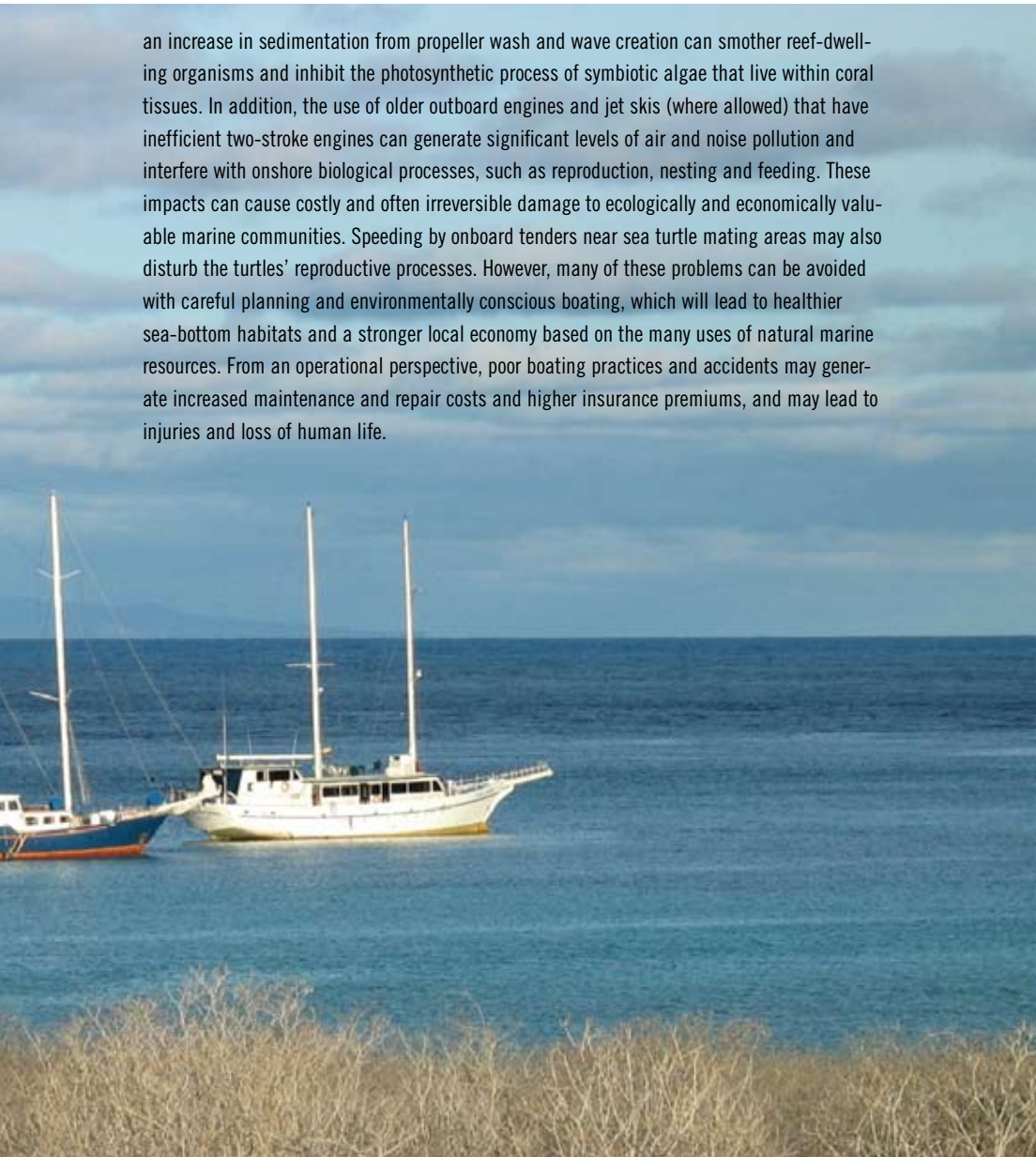
Conservación & Desarrollo is the Quito based Ecuadorian NGO facilitating the Smart Voyager sustainable tourism certification program. Smart Voyager certifies tour boat operators and hotels in Ecuador that meet a set of stringent conservation standards for protecting the environment, wildlife, and well-being of workers and local communities. Ships certified by Smart Voyager maintain strict control of anchoring practices to prevent coral reef damage from anchor dragging.

BOAT OPERATION

WHAT IS THE ISSUE?

Each year, poorly conducted or irresponsible boat operation and accidents damage shore and reef environments in popular marine coastal destinations around the world. If a boat collides with a coral reef, it can crush and kill large areas of corals and other reef-dwelling organisms. A fuel spill resulting from a collision can affect coastal organisms from birds to reptiles (such as the Galápagos marine iguanas) and innumerable species of marine invertebrates and fish. Although large commercial ships are known to have caused significant damage when running aground, smaller private or commercial boats can also severely impact a sea-bottom habitat. While vessel groundings can have the most immediate and destructive impact on coral reefs,

an increase in sedimentation from propeller wash and wave creation can smother reef-dwelling organisms and inhibit the photosynthetic process of symbiotic algae that live within coral tissues. In addition, the use of older outboard engines and jet skis (where allowed) that have inefficient two-stroke engines can generate significant levels of air and noise pollution and interfere with onshore biological processes, such as reproduction, nesting and feeding. These impacts can cause costly and often irreversible damage to ecologically and economically valuable marine communities. Speeding by onboard tenders near sea turtle mating areas may also disturb the turtles' reproductive processes. However, many of these problems can be avoided with careful planning and environmentally conscious boating, which will lead to healthier sea-bottom habitats and a stronger local economy based on the many uses of natural marine resources. From an operational perspective, poor boating practices and accidents may generate increased maintenance and repair costs and higher insurance premiums, and may lead to injuries and loss of human life.



WHY SHOULD I CARE?

- FEWER LIVING SPECIES AND LESS OVERALL DIVERSITY. Degraded marine habitats harbor fewer marine mammals, fish and other species that are key components of a healthy nearshore marine ecosystem and a viable marine recreation industry.
- FEWER NEW CORALS. When a reef is altered by boat groundings or increased sedimentation, the substrate on which new corals attach is disturbed and often destroyed, leading to slower reef recovery.
- CLOUDY WATER. Boat groundings, propellers and waves often cause an increase in sand and sediment in the water, reducing the sunlight available for marine organisms to produce food through photosynthesis and negatively affecting the quality of the visitor experience.
- DISTURBED BIOLOGICAL PROCESSES. Even minor oil spills, fumes, noise and wreck debris can interfere with the feeding, reproductive, nesting and resting processes necessary for coastal marine fauna to thrive. Birds, reptiles, marine mammals, fish and marine invertebrates are affected by irresponsible boating practices.
- HIGHER OPERATIONAL COSTS. Extra maintenance and repair costs associated with accidents can increase operational expenses.

WHAT CAN I DO?

- FOLLOW PROPER NAVIGATION AND MOORING PRINCIPLES BY:
  - Staying within designated anchoring sites and staying beyond the furthest visible reef patch in unknown or unmarked coral reef areas.
  - Obeying all speed signs (where available) and using common sense to avoid hurting or harassing marine mammals and other large marine animals.
  - Identifying dark water areas as possible important shallow ecosystems, such as shallow reefs.
  - Knowing how to properly read and interpret a navigational chart.
  - Using mooring buoys where available. If anchoring, always drop anchors in designated anchoring sites or rubble areas, well away from living reefs and allowing sufficient scope to avoid dragging along the bottom.
- KEEP BOATS IN PRIME CONDITION FOR OPERATIONS AND EMERGENCIES BY:
  - Having boat engines regularly serviced by a certified mechanic and, when possible,

replacing older two-stroke engines with more fuel-efficient, cleaner burning four-stroke outboards.

- Carrying a supply of basic tools for engine repairs out at sea.
- Always carrying both a primary and secondary anchor line, so vessels can be securely moored in emergency situations.
- Keeping absorbent sponges on board to deal with hazardous chemical spills.
- Using nontoxic oils wherever possible. Wait until you get to a marina or to a village to dispose of any waste oil.
- Refueling. Filling up at sea could result in fuel spills into the water.
- Developing and implementing a preventive maintenance plan and sticking to it, to reduce unexpected engine failures, avoid unsatisfied costumers and complaints, and save money in the long run. Proper maintenance also reduces CO_2 emissions from poorly tuned engines.

EDUCATE CUSTOMERS AND TOURISTS WHO RENT KAYAKS AND OTHER BOATS BY:

- Instructing renters in basic navigation, boat handling and safety principles.
- Explaining the sensitive nature of the ecosystem and the importance of avoiding shallow areas with motorized vessels.
- Providing easy-to-use waterproof navigation and location charts.

GOOD PRACTICE IN ACTION

The vessels *Tip Top I, II, and III* are first class motor boats which place special attention on the reducing the environmental impact of their engines. Utilizing an oil filtration system, the vessels reuse diesel engine lube oils to keep their motors running efficiently. This filtration system reduces the volume of lube oils consumed while cutting operating costs. Additionally, all three ships are equipped with rechargeable lamp systems which eliminate the need for toxic alkaline batteries, further reducing waste. Along with all Smart Voyager certified crafts, these vessels utilize quieter, more efficient 4-stroke engines to reduce the noise pollution and CO2 emissions. Through these actions the Tip Top family of tour boats demonstrates a commitment to reducing the operational impacts on the local environment and proves that environmental practices and efficiency can go hand-in-hand.

BOAT MAINTENANCE

WHAT IS THE ISSUE?

Proper preventive boat maintenance can significantly reduce costumer complaints, repair costs and down time, and unintentional and unnecessary environmental impacts. Environmental damage can be caused by leaks of toxic substances, such as oil or fuel, the release of heavy metals from antifouling bottom paints, releases of untreated bilge residues, or directly releasing or emptying tanks for grey and black waters at anchoring sites. Although one small fuel leak from a tour boat may not cause long-term damage, over time the cumulative effects of pollution from many boats in a popular area can lead to significant degradation of the marine environment. These impacts can have negative consequences for both the ecological and economic health of an entire coastal community.

WHY SHOULD I CARE?

- DISTRIBUTION OF TOXINS IN THE FOOD CHAIN. Toxic antifouling paint can accumulate in a sensitive environment in the form of small chips that settle on a reef. Once these chips begin to grow algae on them, they can be consumed by herbivores in the ecosystem, leading to the distribution and buildup of heavy metals throughout fish populations and negatively affecting other consumers, from carnivorous fish to marine mammals and humans. Known health threats or problems with fish supplies in an area can diminish the attractiveness of a destination to tourists.
- INCREASE IN STRESSED AND DISEASED CORALS. Fuels, oils and antifouling bottom paints contain known carcinogens and heavy metals. Studies have shown that these substances can stress and kill living corals and other organisms. Increased levels of stress and death in corals can lead to an overall reduction of diversity in a reef ecosystem, which will also negatively impact the experiences of potential visitors to the reef.
- LOWER FISH AND REEF DIVERSITY NEAR HARBORS AND OTHER VISITOR'S SITES. The cumulative effects of pollution from poorly maintained vessels permanently moored in local marinas, harbors and coastal visitor's sites can reduce ecosystem health and increase toxicity levels in consumable fish and coral reefs in nearby waters. This can lead to fewer fish, corals and other key components of sea-bottom habitats and other marine ecosystems, on which charismatic species such as penguins, cormorants and sea lions (in the case of the Galápagos Islands) depend for their survival.

- DAMAGE TO MARINE LIFE FROM TOXIC WASTE. Illegal or accidental dumping of toxic waste, black water, grey water and untreated bilge fluids at sea can kill marine wildlife, including fish, marine mammals, turtles, seabirds and smaller species, such as plankton and other microorganisms. Many of these species are key attractions for tourists, and their loss can harm the viability of the tourism industry in an area.

WHAT CAN I DO?

- PERFORM REGULAR ENGINE MAINTENANCE. Have a mechanic perform regular servicing of engines, fuel tanks and associated components, to maximize operating capacity and minimize fuel consumption. Use clean-burning four-stroke engines whenever possible.
- REGULARLY INSPECT AREAS THAT ARE SUSCEPTIBLE TO POTENTIAL LEAKS OF TOXIC SUBSTANCES. This can include regularly checking fuel lines and tanks, filters, separators, vents and bilge pumps.
- KEEP TOXIC-ABSORBENT SPONGES IN BILGES. These sponges can significantly reduce and/or eliminate discharge of oils and fuels. Many types of sponges are available that absorb fuel and oil, but not water. Absorbent sponges should always be kept on hand while a vessel is being fueled in a marina or harbor. In areas where the use of bilge water separation devices are mandatory, such devices should be used in place of sponges.
- WHEN APPLICABLE, USE NON-TOXIC ANTIFOULING PAINTS ON BOAT HULLS. International laws are beginning to ban commonly used antifouling paints. These paints are known to contain biocides and heavy metals that can negatively affect both human health and the marine environment. Less harmful antifouling paints are now commercially available, including paints that are made from biodegradable substances and are significantly less toxic than past products.

- USE BIODEGRADABLE CLEANING AGENTS. Several commercial non-toxic biodegradable cleaning agents are now available that reduce the amount of toxic pollutants and chemicals that boats release into the environment.
- AVOID ONBOARD REFRIGERATION UNITS THAT USE CHLOROFLUOROCARBONS (CFCs). CFCs have been shown to cause damage to the earth's ozone layer, which filters out harmful ultraviolet radiation (UV) from the sun. As a light-sensitive animal, corals can be damaged by significant increases in UV exposure. Use newer air conditioning units that use special gas mixtures without CFCs in their chemical composition.
- AVOID PUMPING OILY BILGE WATER OR OTHER HAZARDOUS SUBSTANCES INTO THE SEA. Unless the boat is in danger, wait to pump out oily bilge water, particularly when you are near sea-bottom habitat. Avoid using detergents or emulsifiers as bilge cleaners. Avoid draining black (toilet) and grey (kitchen, shower and wash basin) water directly into the ocean at harbors or coastal visitor's sites.

GOOD PRACTICE IN ACTION

The Beagle is a 105-foot sail boat that has operated charters to the Galapagos Islands since the mid 1990s. This majestic ship harnesses the carbon-free power of wind to power its sailing excursions. The Beagle also runs hiking tours on several islands in the Galapagos. As a Smart Voyager certified vessel, The Beagle undergoes annual maintenance in a dry-dock, utilizes lead and other toxin-free paints, and runs on cleaner, more efficient 4-stroke engines fueled by unleaded diesel oil when the winds are low. By embracing these environmental practices the operators of The Beagle have declared their commitment to sustainable tourism in the Galapagos.

MINIMIZING THE INTRODUCTION AND DISPERSAL OF NON-NATIVE SPECIES

WHAT IS THE ISSUE?

The biological diversity of the Galápagos Islands is recognized worldwide for its high degree of endemic species, those that are found nowhere else in the world. The islands' terrestrial endemism is well-established, with nearly all species of birds, mammals and reptiles unique to the area. The intentional or accidental introduction of new species to the Galápagos is the most serious threat to its terrestrial biological diversity and to the integrity of its evolutionary processes. The control and eradication of introduced species in the Galápagos is a difficult and expensive problem to solve. The Galápagos National Park Service has spent a lot of money for a long time on prevention, eradication and hunting campaigns. Though a local institution is responsible for inspecting boats, luggage and airplanes in order to avoid potential infestations, such a task requires a coordinated multi-stakeholder effort. Tour operators and marine recreation providers have an important role to play in controlling the introduction of non-native species to the islands.

WHY SHOULD I CARE?

- INCREASE IN THREATS TO WILDLIFE AND ECOSYSTEM HEALTH. Non-native species can quickly spread throughout an area, threatening native species through crowding, predation and disease.
- FEWER LIVING SPECIES AND LESS OVERALL DIVERSITY. If the overall diversity of species in an area is diminished by competition with non-native species, the destination will become less attractive to tourists seeking a unique wildlife experience.
- DETERIORATION OF THE IMAGE OF THE SITE. Unsightly or dangerous non-native species can diminish the value of a destination as an attractive tourist site.

WHAT CAN I DO?

- CONTROL FOOD IMPORTS. Food should be introduced only under strict environmental health controls and according to law.
- PREVENT THE UNINTENTIONAL TRANSPORT OF INSECTS AND OTHER SMALL ANIMALS. Inspect equipment, vessels and supplies regularly to ensure that no wildlife is transported from one island to another.

- DECREASE THE NUMBER OF BULBS KEPT ON DECK AND MINIMIZE THE USE OF LIGHTS. This can help reduce the attraction of insects to your vessel. Use bulbs that do not attract insects and shut off external lights two hours prior to night departure from any destination.
- DO NOT HANG BANANAS AND OTHER FRUIT TO RIPEN ON THE OUTER DECKS. This practice attracts insects that could be spread to other islands.
- FUMIGATE BOATS REGULARLY TO AVOID INFESTATIONS. Ensure that fumigations are performed by authorized personnel and use a control register. Use bait traps rather than chemical products to control infestations in the kitchen. Outside of the kitchen, use repellents and screen doors to control insects.
- STORE CARGO AND PRODUCTS FROM THE MAINLAND IN STORAGE ROOMS THAT PREVENT THE INFILTRATION OF ORGANISMS. Secure ventilation systems and passageways to prevent the entrance of organisms such as insects and rodents. Transport cargo in clean and disinfected containers and properly pack and seal it to avoid the introduction of organisms. Strictly supervise the loading and dispersal of all cargo.
- EDUCATE TOURISTS ABOUT THE THREAT OF ALIEN SPECIES. Inform visitors about the role they can play to reduce the threat such checking their shoes, boots and gear which can be the most vectors for alien species.

GOOD PRACTICE IN ACTION

The vessels ***Lefty, Eric, Flamingo and Sky Dancer*** are all operated by Ecoventura, which in 2006 became the first carbon neutral tour operation in the Galapagos. Ecoventura tours include coastal and marine wildlife watching, hiking excursions on the islands of San Cristobal, Espanola and Isabela, and scuba diving north of Wolf and Darwin islands. To reduce the chance of introducing non-native species, Ecoventura sources the meat and vegetables served on their ships from local island agricultural cooperatives. Additionally, all four ships are fumigated quarterly and utilize special on-deck lamps to prevent their introduction to uninhabited islands.

BOAT SEWAGE AND GARBAGE DISPOSAL

WHAT IS THE ISSUE?

As marine tourism associated with near-shore marine and sea-bottom habitat has grown in recent years, sewage and garbage disposal from small vessels has become a subject of concern for many within the tourism industry. Vessels discharging raw or partially treated sewage and dumping garbage in coastal waters pose an increasing threat to both people and the environment. Human waste contains nutrients, pathogens and viruses that can contribute to disease and detrimental algal blooms in near-shore marine environments. These blooms reduce available oxygen in the environment and smother sea-bottom habitats, leading to a decrease in coral cover and negatively affecting populations of fish and other species. Increased levels of bacteria, viruses and diseases associated with human waste can also pose serious risks for human health and food resources in a local community by contaminating a variety of harvestable fish and other species.

Garbage disposed into the marine environment is both unsightly and dangerous. Plastic objects, fishing lines, cigarette butts and Styrofoam debris are often consumed by turtles, seabirds, fish and marine mammals and cause the death of millions of these animals every year. When garbage becomes entangled on coral and rocky reefs, it smothers and kills coral colonies and can pose a safety hazard to snorkelers and divers. Juvenile sea lions as well as cetaceans play with rope and fishing lines, getting them stuck around their necks or embedded in their mouths and posing serious risk to their health.

WHY SHOULD I CARE?

- INCREASED LEVELS OF VIRUSES, BACTERIA AND DISEASE. Fecal coliform is a common bacteria associated with human waste. The buildup of this and other pathogens in the environment can cause contamination of food supplies, threatening both reef ecosystems and human populations in a region and diminishing the attractiveness of an area as a tourist destination.
- RED TIDES. These may be triggered by a high concentration of human waste and other nutrients (e.g. laundry and galley effluents laced with detergent) in areas with low water exchange such as tidal lagoons. Also, thick films of benthic diatoms can cover sandy bottoms, choking their inhabitants.

- FEWER FISH. Many species of reef fish depend on living coral as a food resource as well as for habitat and shelter. When algal blooms or garbage damage reef communities, fish populations decline, negatively affecting ecosystem health and diminishing the experience of visitors to the reef.
- STRESSED AND DISEASED MARINE ORGANISMS. Pathogens associated with microorganisms contained in human waste can cause disease in marine organisms, in particular among species found in sea-bottom habitats.
- INCREASE IN THREATS TO WILDLIFE. In addition to the threats posed by sewage, garbage is often mistaken as food by wildlife and can kill seabirds, turtles, fish and marine mammals. When garbage becomes entangled in near-shore marine ecosystems, it can smother and kill living organisms, particularly species found in sea-bottom habitats. Because many of these animals are prime attractions for tourists to a destination, their loss can seriously hurt the tourism industry in an area.
- EFFECTS ON ECOLOGICAL INTEGRITY AND LANDSCAPE. In the case of the Galápagos, human waste may carry seeds from previous meals, that, if deposited on the islands under the right conditions, may create an infestation of invasive, edible plants such as tomato, passion fruit or black berry. Toilet paper left on the trails can diminish the attractiveness of the landscape.

WHAT CAN I DO?

- RECOMMEND THAT PASSENGERS USE LAND-BASED RESTROOM FACILITIES PRIOR TO DAY TOUR EXCURSIONS. Most land-based facilities are connected to some kind of municipal waste treatment facility, which can significantly reduce discharge of untreated sewage at sea.
- TREAT SEWAGE PRIOR TO RELEASE FROM YOUR VESSEL. If pump-out facilities are not available, there are several biodegradable chemicals and mechanical methods that can be used to reduce solids and pathogens in waste prior to disposal in the environment. It is also important for small vessels to proceed as far offshore as possible before discharging treated sewage, to prevent contamination of bottom sediments and sea-bottom habitat in shallow coastal regions. Avoid discharging toilets or sewage holding tanks in confined or crowded places, environmentally sensitive areas or marine protected areas.
- CONTROL THE DISPOSAL OF ORGANIC FOOD WASTE. Dispose of food waste on land only if it is adequately treated, through sterilization and avoidance of the introduction of organ-

isms. When disposing organic waste, be sure it is done within a given area, as established and approved by the regulatory agencies that handle waste on the islands. Only dispose of organic waste into the sea if you are as far as possible from shore, and at least 4 km away, the minimal distance established by national and international regulations. Crush any waste disposed of into the sea before discharging it.

- KEEP MARINE VESSEL SANITATION DEVICES IN GOOD OPERATING CONDITION. Regularly inspect and maintain all hoses, fittings and mechanisms associated with waste storage, to prevent accidental discharge of untreated sewage.
- SUPPORT THE ESTABLISHMENT OF NO DISCHARGE ZONES. The creation and enforcement of No Discharge Zones helps protect ecologically and economically important coastal areas.
- REDUCE AND REUSE. Reduce the use of disposable products made from aluminum, plastic or paper and use reusable containers whenever possible. If disposable items are to be used, select compostable items.
- PICK UP DAMAGED FISHING NETS OR LINES CUT AWAY FROM PROPELLERS. Leaving fishing nets or lines in the sea could harm marine wildlife.
- EDUCATE TOURISTS. Many tourists are unaware of the potential damage that something as small as a cigarette butt can cause in the marine environment. Supply information to tourists regarding the threat that improper garbage disposal poses to marine life. Before visiting the Galápagos, tourists should have information on the norms of appropriate behavior so as to minimize their impact on visited areas. Tourists should also be educated on the solid waste management problem and the danger of introducing exotic species in the Galápagos.

GOOD PRACTICE IN ACTION

All *Smart Voyager* certified vessels are required to follow pre-disposal sewage which includes processing waste water in a separate bilge. Additionally, these ships provide reusable water containers and promote on-board recycling in conjunction with the municipality of Santa Cruz which helps to reduce the volume of waste generated by tourists. By supporting the Galapagos Foundation, Isabella II and the Santa Cruz contribute to onshore recycling centers, shoreline waste clean-up, environmental education and training programs throughout the local Galapagos communities. Expanding their responsibility for sustainability beyond their own operation and into the community, these vessels become pro-active partners in ensuring the ongoing maintenance of their environment.

TOURISM AND ENVIRONMENTAL ACTIVITIES

MARINE BIODIVERSITY AND CLIMATE CHANGE

WHAT IS THE ISSUE?

Climate change is already impacting the unique biodiversity and marine ecosystems of the Galápagos Islands. Sea level rise threatens low lying coastal communities and critical habitats for species such as the Galápagos Penguin, Waved Albatross and sea turtles. Other consequences of climate change include changing rainfall patterns and increased frequency and intensity of storms leading to coastal erosion, habitat degradation and damage to coastal infrastructure. Increased storm events cause higher levels of sediments to flow into coastal waters and onto coral reefs.

Warming of ocean water and its consequent impacts on coral reefs is already visible in the Galápagos and across the world's oceans. Several endemic species of coral and algae are critically endangered or near extinction due to climate change. Another significant impact of climate change is the acidification of oceans caused by increasing levels of carbon dioxide in the ocean. Ocean acidification affects a large number of marine plants and animals important to the Galápagos including corals, lobsters, sea cucumbers and mussels by reducing their ability to grow and reproduce.

Every two to seven years, the phenomenon known as "El Niño" brings warm ocean water from across the Pacific to surround the Galápagos. This blocks the usual source of ocean nutrients and the whole marine ecosystem suffers, from the green marine algal plants to the fish that feed on them to the seabird and sea lion populations that rely on fish for their survival. Climate change is predicted to bring about stronger and more frequent El Niño conditions thus magnifying the impacts of El Niño beyond anything that the region has seen before.

WHY SHOULD I CARE?

Increased Erosion and Damage to Coastal Facilities. Increased storms resulting in larger waves and coastal flooding cause destruction of low lying coastal habitats and infrastructure. Sea level rise will also result in coastal erosion and flooding. The combination of higher storm surges and sea level rise will affect low lying communities and facilities such as ports and boat docks first. Coastal flooding and erosion will also have significant impact on species reliant on coastal habitats such as birds nesting on low lying islands, sea turtle nesting sites and mangrove forests.

Decreased Fish and Marine Mammals. Changing ocean conditions will change the basic web of life in the Galápagos. Increased El Niño conditions impact entire groups of animals and plants in the food web. During the 1997-98 El Niño, sea lions and marine iguanas suffered from widespread mortality. In recent years, severe El Niño events have resulted in losses of more than 95 percent of the region's coral reefs; populations of Galápagos penguins decreased by almost 80 percent; and the Galápagos Damsel fish has not been sighted since.

Decreased Corals. Corals provide critical habitat to the region's many important species and are impacted by the increasing ocean water temperatures brought on by climate change. Prolonged exposure to warmer water has drastic impacts on corals, often causing them to lose the algae that provide their color. As a consequence, the corals bleach white. Bleaching that lasts longer than one week can kill the coral and decimate the habitats they provide for coral reef ecosystems. In recent years, warm ocean water caused by severe El Niño events has resulted in losses of more than 95 percent of the region's coral reefs.

Changes in Rainfall Seasonality. A change in rainfall patterns—an increase in the severity of rainstorms, shortening of the rainy season—has consequences for all plants and animals of the region. The growing season for many plants depends upon a stable rainy season and excessive rainfall can inundate nesting sites for birds and sea turtles. Similarly a prolonged dry season affects the availability of food and adequate water for animals. Tourism development in the Galápagos will be impacted by the availability of freshwater resources and is subject to large scale damage from strong storms and floods.

WHAT CAN I DO?

Reducing Emissions of CO2. The single most urgent action needed is the reduction of carbon dioxide emissions to minimize climate change.

- Reduce energy consumption as much as possible for both electricity and fuel.
- Install alternative fuel sources such as solar heaters for water or solar power generators.
- Promote carbon offset initiatives to tourists as a means of reducing their carbon footprint.

Ensure Tourism Development Accounts for the Impacts of Climate Change.

- Avoid habitat degradation and pressure on water resources

- Take into account increasing coastal erosion and storm events when setting up new developments.
- Ensure that new infrastructure and practices do not harm critical marine habitats, such as kelp and mangroves that help reduce the extent of coastal erosion.
- Pay attention to changing rainfall patterns and water resource needs to ensure that developments are not impacting critical marine ecosystems that are also being affected by climate change.

Minimize and Eliminate other Stresses on Marine Habitats. Other impacts on species reduce their ability to survive the changes that climate change will bring to the region. It is therefore critical that these other impacts be minimized such as:

- Pollution (through dumping of wastewater, garbage, or other waste)
- Destruction of habitat (such as through anchor impacts on corals, or divers damaging corals or kelp)
- Intensive fishing which removes species critical to the survival of the whole ecosystem

Educate Customers on Climate Change and its Impacts on the Galápagos Islands.

- Educate visitors about the effect of climate change on the Galápagos Islands.
- Include information about climate change and ways to minimize its impacts in welcome packages for tourists.
- Donate money to conservation projects which provide benefits of climate change mitigation, biodiversity conservation and sustainable livelihoods.
- Build the business case for improved practices, and identify potential incentives to encourage better practice among key suppliers.

GOOD PRACTICE IN ACTION

Ecoventura Cruise Company (www.ecoventura.com) offsets all its' emissions through NativeEnergy (www.nativeenergy.com/). Ecoventura became the first Carbon Neutral operation in the Galápagos Islands in 2006 when they offset carbon emissions from the company's four yachts, offices and operations including business travel. ***SURTREK*** offsets emissions for tours on mainland Ecuador and the Galapagos Islands (http://www.ecuadorgalapagosincentives.com/responsible_tourism.html)

HIKING

WHAT IS THE ISSUE?

Guests on day-tour or live-aboard tour boats usually visit coastal sites as part of their itineraries. Because of the rapid growth of such visits, their impacts have become a subject of concern for many within the tourism industry. Visitors may collect shells or rocks, introduce exotic species, harass wildlife, feed animals, step off of trails, leave garbage or graffiti behind, or light fires, leading to a wide range of environmental impacts. Providing visitors with proper environmental interpretation about the effects they may cause by visiting coastal areas can help reduce unintentional or unnecessary impacts.

WHY SHOULD I CARE?

- DISTURBANCE OF COASTAL HABITATS AND WILDLIFE. Careless behavior by tourists in coastal areas can disrupt habitats and disturb wildlife, affecting the health of the ecosystem and diminishing its value as a tourist attraction
- REDUCTION IN COASTAL BIODIVERSITY CAUSED BY INTRODUCTION OF NON-NATIVE SPECIES. Leaving garbage or food waste, or feeding animals can result in the unintentional introduction of non-native species that may compete with native plants and wildlife for space or food and may prey on local species, reducing the local diversity and reducing the opportunities for unique wildlife sightings and experiences.
- DETERIORIATION OF THE IMAGE OF THE SITE. Problems with trash, graffiti, trail degradation and other issues can decrease the value of a destination as an attractive tourist site

WHAT CAN I DO?

- ESTABLISH A NO-COLLECTION POLICY. Promote a voluntary no-collection policy among visitors by advising them of the consequences for coastal habitats of collecting shells, sand or rocks.
- DISCOURAGE FEEDING AND HARRASSMENT OF COASTAL WILDLIFE. Excessive interaction with animals can cause them to become aggressive in seeking food or protecting their territories or young, posing a threat to visitors. Wildlife may also become overly wary of humans and abandon an area, decreasing the opportunities for animal sightings.
- EDUCATE VISITORS. Conduct environmental awareness briefings for visitors before landing ashore, to educate them about the sensitive nature of coastal ecosystems and of the potential impacts they can cause by littering, leaving graffiti, stepping off of trails and other actions. Promote a voluntary policy of "Take only memories and photographs, leave only footprints." Visitors should also be informed of the steps to take to prevent the introduction of alien species such as checking their shoes and gear.

GOOD PRACTICE IN ACTION

The Galapagos National Park strictly monitors the visitor group sizes to prevent over-crowding throughout the islands' popular destinations. ***The Monserrat*** is a 16-passenger cruise ship, offering terrestrial hiking excursions as one of many of its tours. This ship has taken great efforts at raising funds for conservation by collecting donations from tourists. All donations then go to the Terranova Foundation, which supports ecosystem conservation and sustainability throughout the Galapagos. The Monserrat, also certified by Smart Voyager, is a proven leader for sustainable tourism throughout the Galapagos.

COASTAL AND MARINE WILDLIFE VIEWING

WHAT IS THE ISSUE?

As the importance of coastal-marine tourism has grown in recent years, tour operators and recreation service providers have seen the economic value that many coastal-marine species can generate through wildlife viewing opportunities for tourists. Yet, seemingly harmless viewing of wildlife can have serious impacts if not conducted responsibly. While habitat destruction, direct harvesting, pollution and marine debris remain the most important threats to coastal-marine animals, intrusive or irresponsible methods of coastal-marine wildlife observation can potentially harm and even kill popular animals, such as whales, dolphins, turtles, sea lions, seals, seabirds and marine reptiles.

The primary threat to coastal-marine life from wildlife viewing tours comes from improper boating practices and corralling of animals during viewing. Many marine mammals, particularly large whales, migrate to tropical coastal regions to mate and give birth to calves, and are very sensitive to disturbance. An intrusive tour boat can easily separate or create stress between a whale cow and her calf. Noise from large numbers of boats creates stressful conditions for coastal-marine animals and may interfere with their hunting and diving behaviors. Propellers from power boats or outboards are also known to scar or kill coastal marine wildlife, such as sea lions, seals, turtles and manatees, that swim near the surface in coastal areas. Moreover, direct collision with fast moving boats can kill or wound these or other coastal-marine animals.

In addition to poor boating practices, intrusive actions by water sports enthusiasts, such as snorkelers and kayakers, can disturb marine life and, in some cases, drive animals from their primary habitat. For example, the chasing or handling of marine turtles can cause them to abandon primary feeding grounds, while excessive approaches by kayakers to cliff areas with nesting sea birds can force them to abandon eggs or chicks.

WHY SHOULD I CARE?

- DISTURBANCE OF WILDLIFE BIOLOGICAL PROCESSES. Birds, sea turtles and other wildlife may abandon feeding, mating, nesting and resting grounds if overstressed by human interaction. Mothers may abandon chicks or pups if they feel endangered; territorial males may become aggressive towards human beings or so scared as to abandon their previous turf and go away. Declines in these species in popular destinations may diminish their attractiveness to visitors.
- DISTURBANCE OF COW/CALF PAIRS. Marine mammals such as whales and dolphins are commonly located in shallow, coastal tropical waters when nursing their young. Intrusive viewing can create stress in mothers, separate cow/calf pairs, or decrease survival rates in newborn calves.
- DEATH OF WILDLIFE. Slow-moving marine animals, particularly manatees and marine turtles, can be injured and killed by propellers and fast-moving boats. Scarring caused by propellers can make marine animals more susceptible to infection and disease. These animals are often popular attractions for tourists, whose experience may be diminished if such wildlife is not present in a destination.

WHAT CAN I DO?

- AVOID CHASING MARINE ANIMALS. Whether in the water or on a boat, always operate at a slow speed and never chase marine animals. If whale watching, it is best to approach animals very slowly from the side, as opposed to head-on or from behind, keeping steady and low engine RPMs, and keeping a safe distance from the animals. Engines should be shut off at 100 meters from whales. If you operate in an area that is well-known for encounters with marine mammals, use low-noise propellers. If animals approach the vessel, slow down or stop and put propellers in neutral. Always let the animal determine its own path and behavior. For underwater photographers, remember the animal's well being is more important than your photo.
- PRACTICE A NO-CONTACT POLICY. Always avoid touching and handling marine animals such as turtles, whales, whale sharks, dolphins, sea lions, seals and manatees.

- NEVER FEED WILD ANIMALS. Providing artificial food to sharks, reef fish or other marine wildlife can alter their behavior and impair their natural feeding abilities and survival mechanisms.
- DO NOT "CHUM" THE WATER. Cleaning fish in the back of a boat or "chumming" (throwing meat, blood or other animal effluents in the water to attract sharks) may endanger swimmers if the sharks learn to associate the presence of boats with food or food aromas.
- AVOID SURROUNDING ANIMALS. If several tour boats or kayaks are engaged in whale watching, for example, a concerted effort should be made to avoid surrounding the animals and causing unnecessary stress. This same concept applies to individuals or small groups that are in the water viewing wildlife.
- OBSERVE THE LAW. In recent years, many destinations have passed laws banning or limiting the use of thrill craft or fast boat operations in sensitive marine habitats, in order to protect slow-moving or endangered marine animals such as manatees, turtles and whales. Additionally, in many places it is illegal to touch or handle marine wildlife, particularly if the animals are threatened or endangered.
- BE LITTER CONSCIOUS. Marine debris is one of the greatest threats to wildlife in the oceans today. If engaged in boating or coastal activities, always make sure that trash goes in its proper place and does not end up in the marine environment.
- AVOID ILLEGAL IMPORT OF CAPTIVE ANIMALS. Companies that participate in the purchasing of marine wildlife for entertainment shows should complete all purchases solely through legal channels.
- ENSURE A HEALTHY ENVIRONMENT FOR CAPTIVE ANIMALS. Companies should ensure that animals are properly and adequately cared for by professionals and are not used in ways that are cruel or threaten the health of the animal.

SNORKELING, DIVING AND SNUBA*

WHAT IS THE ISSUE?

In many popular coastal destinations, near-shore marine ecosystems are beginning to show signs of damage as a result of the snorkeling and diving industry. The consistent presence of small and large groups of people in shallow coral and rocky reefs and other habitats can lead to significant degradation of an ecosystem over time. Irresponsible or inexperienced snorkelers and divers regularly crush and break corals and other reef-dwelling organisms with fins, equipment and body parts. This damage usually comes as a result of people who are unable to maintain control in the water, stand or walk in a shallow area, fight a current, or get a closer look at, photograph, handle, touch and feed wildlife. In places with strong currents, surge and wave action, getting close to the reefs is downright dangerous. While a great deal of contact with coral and rocky reefs is inadvertent, many snorkelers and divers knowingly engage in practices that are detrimental to reefs. All these impacts can lead to a decline in living corals and other reef-dwelling organisms, increases in sedimentation, and disturbance to wildlife. Moreover, impacts from snorkelers and divers compound damage to reefs and other habitats that are already suffering from other forms of environmental stress.

WHY SHOULD I CARE?

- DISRUPTED SEA BOTTOM HABITATS. Contact from fins, equipment or body parts crushes and kills bottom dwelling organisms and their habitats. In heavily used areas, the cumulative effects of many snorkelers and divers can lead to increased levels of degradation in the ecosystem and a decrease in the quality of the visitor experience.
- INCREASE IN SEDIMENTATION. Stirred-up sediment can disrupt sea-bottom communities, smothering and choking coral colonies and causing broader impacts in the ecosystem.
- DISTURBANCE OF MARINE WILDLIFE. Excessive disturbance can cause animals to leave primary feeding and reproductive areas, which can lead to an overall decline in habitat health and a decrease in the primary features that attract tourists. When animals become habituated to being fed by divers or snorkelers, they may lose some of their ability to find food on their own, which can affect population size and change natural behaviors.
- REMOVAL OF CORAL MUCUS. Repeated contact between divers and snorkelers and coral removes the coral's mucus covering and causes physical damage to coral tissue. This can increase the susceptibility of corals to pathogens, diseases and other competitive organisms.

WHAT CAN I DO?

- ESTABLISH A NO-CONTACT POLICY. Promote a voluntary no-contact policy for recreational snorkelers and divers. These policies can be supported by encouraging the use of flotation vests for inexperienced snorkelers and discouraging the use of gloves by divers.
- CONDUCT ENVIRONMENTAL AWARENESS BRIEFINGS FOR TOURISTS AND OTHER MARINE ENTHUSIASTS. Educate tourists, photographers, videographers and others about the sensitive nature of near-shore marine and reef ecosystems and the potential impacts that can result from irresponsible snorkeling and diving.
- CONDUCT BUOYANCY REFRESHERS. Offer buoyancy refreshers and other basic dive-skills training for inexperienced, out-of-practice or infrequent divers, addressing the importance of issues such as proper weighting and streamlining of gear.
- RECOMMEND THE USE OF REEF HOOKS. In places with strong currents, a reef hook that can be placed in a crevasse or other indentation will help divers avoid being carried away by the ocean, allowing them to stay put without touching the sea-bottom organisms.
- DO NOT USE TANK BANGERS. These elastic bands, designed to be put around the bottom of a scuba tank and used to get other divers' attention, often fall off and end up around the necks of sea lions.
- DISCOURAGE FEEDING AND HARASSMENT OF SHARKS, REEF FISH AND OTHER MARINE WILDLIFE. The level of wildlife disturbance caused by snorkelers and divers can be significantly reduced with a voluntary policy of "take only photographs, leave only memories" that discourages fish feeding and harassment of wildlife.
- SUPPORT MOORING BUOY PROJECTS. The establishment of permanent mooring buoys at popular snorkel, dive and visitor's sites significantly reduces anchor damage to near-shore marine environments, particularly coral reefs. Use drift dives to avoid anchoring when no mooring buoy is available.

- SUPPORT THE ESTABLISHMENT OF MARINE PROTECTED AREAS (MPAs). Designation of MPAs often results in an increase of protective measures in an area, including the reduction or elimination of anchoring, fishing, harassment of wildlife, and harvesting of corals and other species. These protections often enhance the economic and ecological value of an area and create market advantages for businesses that operate there.
- ADDRESS DIVER CARRYING CAPACITY. Work with other marine recreation providers and the local government on issues of diver carrying capacity, in order to avoid overcrowding at popular sites, thus diminishing the threat to these sites while at the same time enhancing the visitor experience.

GOOD PRACTICE IN ACTION

Virtually all tour boats operating in the Galapagos offer scuba, snorkeling, or snuba activities as part of their tours. While the Galapagos National Park must pre-approve all scuba, snorkeling and snuba itineraries while also regulating group size and site locations, the enforcement of these regulations can be a difficult and cost-intensive activity. For this reason the ***Eclipse*** provides economic support to the Galapagos Marine Reserve (GMR) to help facilitate the patrolling and monitoring of activities within the park. By supporting the GMR, the Eclipse is helping to ensure the standard is high for all operators in the park. This support benefits the preservation of these delicate underwater ecosystems which are the main tourist attractions.

**Snuba is a relatively new water sport for non-certified divers that combines snorkeling and scuba. Participants breathe air from a standard regulator underneath the surface, but do not wear the buoyancy control device and air tank associated with traditional scuba. Instead, a tank is kept on a small raft at the surface, and air lines are fed underwater to participants.*

SEAFOOD CONSUMPTION AND SOUVENIR PURCHASING

WHAT IS THE ISSUE?

The over-harvesting of marine resources for seafood or as ornamental souvenirs poses a serious threat to the health of near-shore and coral environments. There is great potential for short-term monetary gain through the sale of popular seafood such as fish or lobsters, as well as ornamental souvenirs, including corals, turtle shells and other reef-dwelling organisms. As a result of consumer demand, many species are now harvested from coral reefs and other marine habitats in an unsustainable manner. Removal of key components of an ecosystem leads to cascading changes that are often not visible until serious environmental degradation begins to occur. For example, the popularity of particular seafood dishes has already led to serious declines of spiny lobsters, crabs and conchs, and fish such as groupers, jewfish, snappers and jacks throughout the oceans. Compounded by other existing environmental problems, over-consumption can negatively impact the health and marketability of the same natural areas that attract and support tourists in the first place.

Tourists are often unaware that a seemingly harmless purchase of a seafood dish or marine ornamental souvenir can have serious negative consequences for the environment. Tour operators and marine recreation providers have a unique opportunity to influence the choices tourists make by practicing and promoting low-impact, non-consumptive activities. Additionally, operators can provide information to tourists on where they acquire seafood and what types of local species – whether for sale as seafood or souvenirs – are threatened, endangered or otherwise protected by law and thus should be avoided.

WHY SHOULD I CARE?

- LOSS OF KEY ECOSYSTEM SPECIES. Over-harvesting of particular species that play a vital role in the ecosystem can lead to numerous environmental changes. For example, when too many carnivorous fish such as grouper and sharks are harvested, it triggers the survival of sick, deformed and unhealthy individuals that will eventually affect the species as a whole, creating a ripple effect of negative changes throughout the ecosystem.
- REDUCTION IN MARINE BIODIVERSITY. The over-harvesting of ornamental objects, such as corals, aquarium animals and shells, negatively impacts overall near-shore marine health and diversity and diminishes the attractiveness of an area to visitors. Some species, such as black coral, are protected under international agreements and their introduction to most countries is illegal.
- INCREASE IN ILLEGAL AND DESTRUCTIVE FISHING. Driven by the potential for short-term financial gain, many fishers will turn to destructive fishing methods to harvest popular seafood or ornamental species. In reef systems, this often includes nets that damage reef structure, dynamite blasting and the use of cyanide to poison and catch fish.
- FEWER FISH. The popularity of seafood species such as groupers and snappers has already led to severe declines in these types of fish. Further consumption will likely lead to the listing of several of these species as endangered, threatening the survival of the species and limiting their availability for food and sport.

WHAT CAN I DO?

- EDUCATE CLIENTS TO BE INFORMED CONSUMERS. Provide information to clients about the sensitive nature of coral reef ecosystems, including which species in a given region should not be consumed as seafood or purchased as souvenirs because they are rare, threatened or endangered.
- SUPPORT ECOLOGICALLY SUSTAINABLE FISHERIES PRACTICES. If you serve seafood cuisine, do not choose fish that are threatened or endangered. Instead, support suppliers that harvest non-threatened or endangered fish and other species in an ecologically sustainable manner. Provide tourists with this information, in order to promote sustainable fisheries.
- AVOID SELLING OR PURCHASING MARINE ORNAMENTAL SOUVENIRS. Inform tourists how they can help prevent the removal of key components of marine ecosystems for short-term gain by avoiding the purchase of marine ornamental souvenirs.
- OBSERVE THE LAW. Abide by all regional, national and international laws regarding the harvesting of marine species.

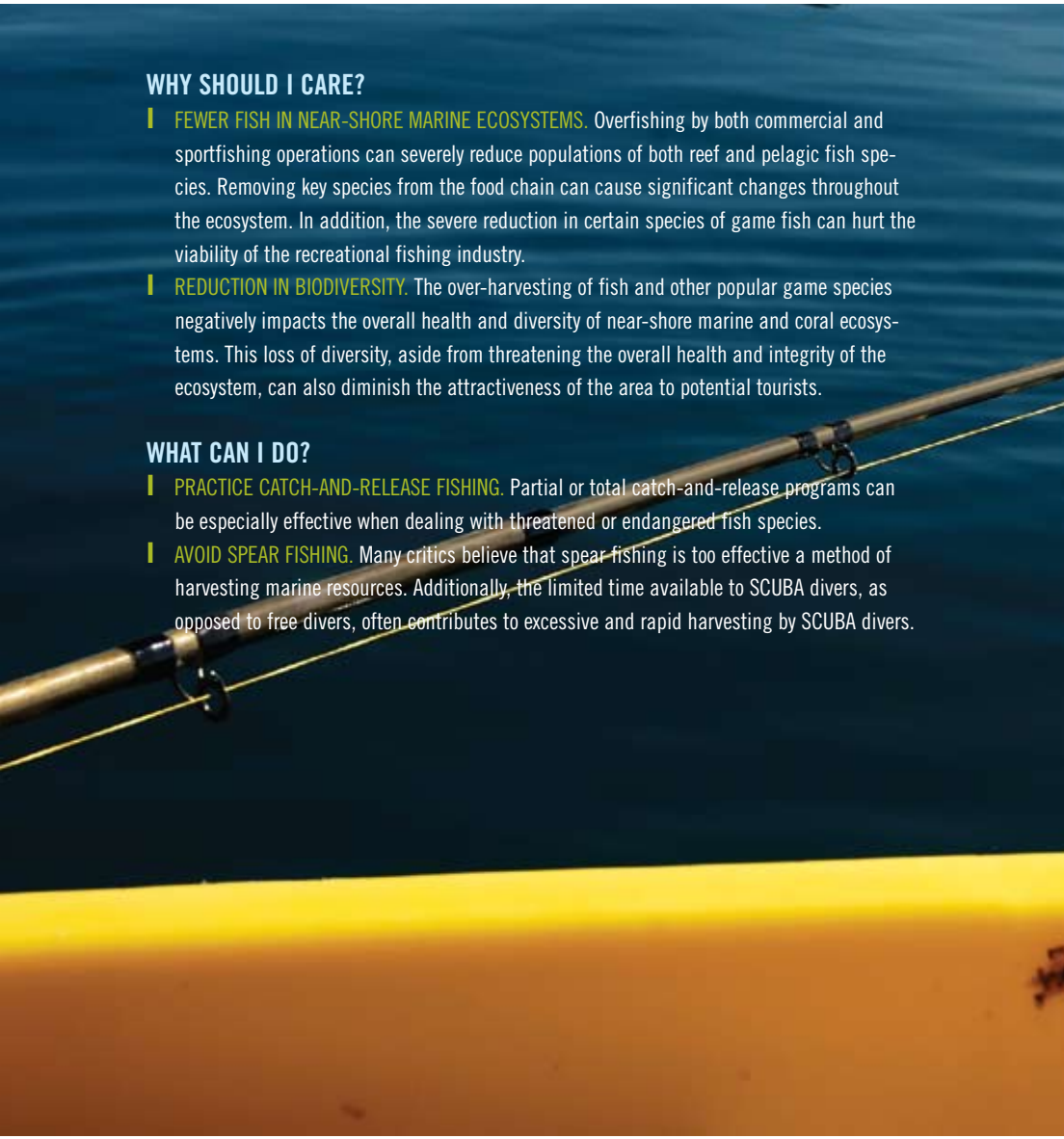
RECREATIONAL FISHING

WHAT IS THE ISSUE?

Recreational fishing has long been a popular activity. Throughout the world's coastal destinations, tourists regularly seek out sport fishing charters that target popular and ecologically important game fish, such as marlin, dorado and wahoo. Spear fishing and pole fishing in coral reef areas have also gained in popularity in recent years, among both tourists and local people. An overall decline in reef fish in coastal environments has been linked to spear fishing and overconsumption of marine resources, and studies have shown that spear fishing can negatively impact populations of reef fish such as grouper and various types of parrotfish. According to critics, spear fishing is too effective as a method of harvesting certain types of reef fish. For example, because parrotfish rest within the reef at night, they are an easy target. Spear fishers also often target the largest fish on a reef, thus drastically reducing the reproductive capacity of particular species in an area.

Recreational fishing, compounded by subsistence and commercial fishing, has led to the over-harvesting of a number of marine species throughout the world. Spiny lobsters have virtually disappeared from reef environments all over the Caribbean, and Hawaiian groupers are now extremely rare in the main Hawaiian Islands. Other popular game fish, including groupers, jewfish, jacks, wrasses and snappers, have been significantly reduced throughout the Caribbean and other areas in recent years. Decreases in these key species can lead to cumulative impacts throughout a marine environment. For example, many species of parrotfish are important algae grazers within a reef ecosystem. Along with other grazers, parrotfish prevent algae from overgrowing and smothering a coral community and a decline in these species can have serious negative consequences for an entire reef community.

Given the decline of many popular game fish species in recent years, catch-and-release fishing is a growing practice among sportfishing charters. Catch-and-release programs support conservation through the protection of game fish, while simultaneously promoting an increasingly valuable sector of the marine tourism industry.

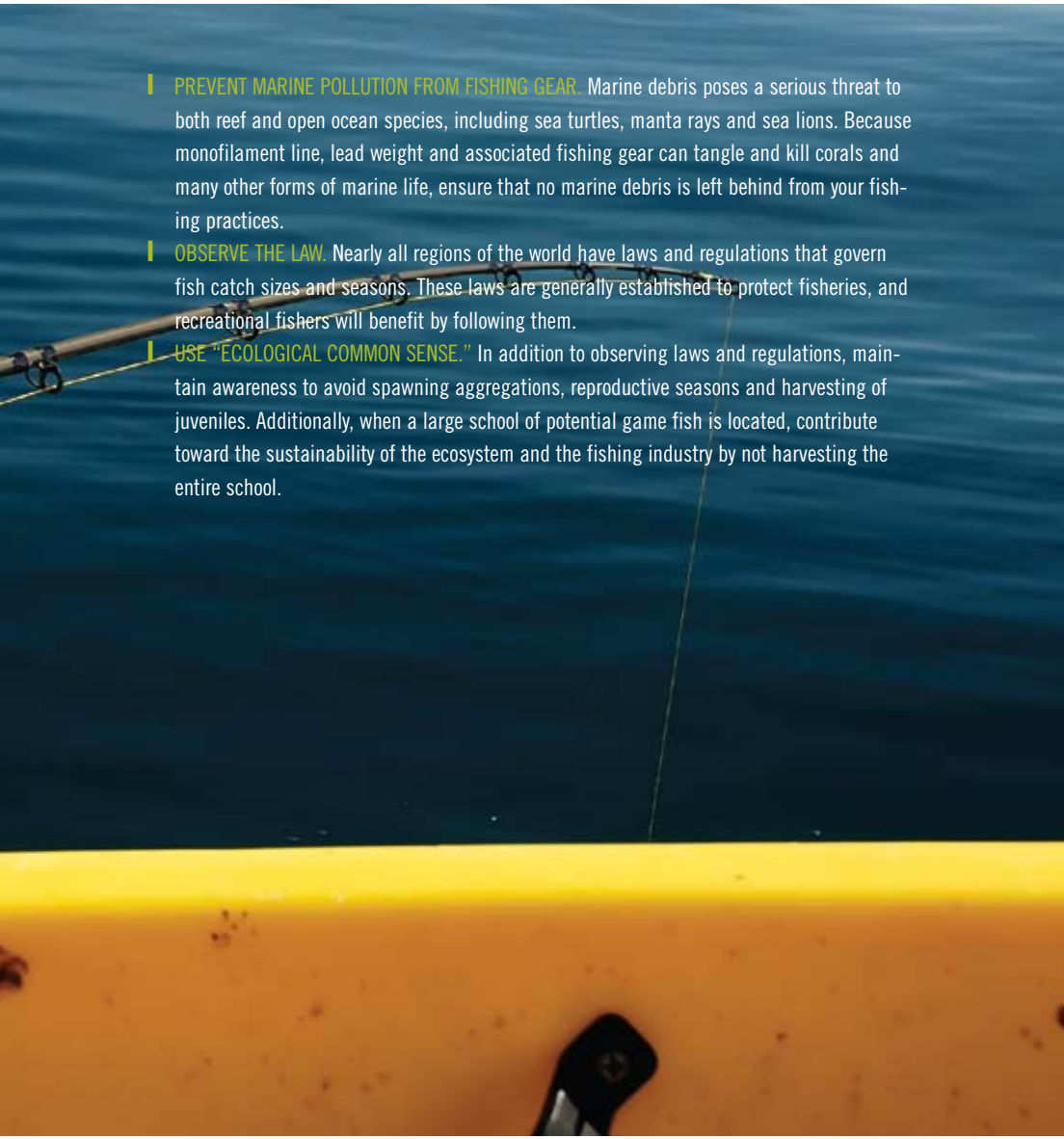


WHY SHOULD I CARE?

- FEWER FISH IN NEAR-SHORE MARINE ECOSYSTEMS. Overfishing by both commercial and sportfishing operations can severely reduce populations of both reef and pelagic fish species. Removing key species from the food chain can cause significant changes throughout the ecosystem. In addition, the severe reduction in certain species of game fish can hurt the viability of the recreational fishing industry.
- REDUCTION IN BIODIVERSITY. The over-harvesting of fish and other popular game species negatively impacts the overall health and diversity of near-shore marine and coral ecosystems. This loss of diversity, aside from threatening the overall health and integrity of the ecosystem, can also diminish the attractiveness of the area to potential tourists.

WHAT CAN I DO?

- PRACTICE CATCH-AND-RELEASE FISHING. Partial or total catch-and-release programs can be especially effective when dealing with threatened or endangered fish species.
- AVOID SPEAR FISHING. Many critics believe that spear fishing is too effective a method of harvesting marine resources. Additionally, the limited time available to SCUBA divers, as opposed to free divers, often contributes to excessive and rapid harvesting by SCUBA divers.



- PREVENT MARINE POLLUTION FROM FISHING GEAR. Marine debris poses a serious threat to both reef and open ocean species, including sea turtles, manta rays and sea lions. Because monofilament line, lead weight and associated fishing gear can tangle and kill corals and many other forms of marine life, ensure that no marine debris is left behind from your fishing practices.
- OBSERVE THE LAW. Nearly all regions of the world have laws and regulations that govern fish catch sizes and seasons. These laws are generally established to protect fisheries, and recreational fishers will benefit by following them.
- USE "ECOLOGICAL COMMON SENSE." In addition to observing laws and regulations, maintain awareness to avoid spawning aggregations, reproductive seasons and harvesting of juveniles. Additionally, when a large school of potential game fish is located, contribute toward the sustainability of the ecosystem and the fishing industry by not harvesting the entire school.

SOURCES OF FURTHER INFORMATION

CONSERVATION GUIDELINES AND CONVENTIONS

Biological Diversity and Tourism

CBD Guidelines on Biodiversity and Tourism development
http://www.cbd.int/programmes/socio-eco/tourism/guidelines.asp

The Convention on International Trade in Endangered Species of Wild Fauna and Flora
http://www.cites.org

Sustainable Tourism in Protected Areas
Guidelines for Planning and Management
http://www.unep.fr/pc/tourism/library/sust_prot_areas.htm

The World Conservation Union
http://www.iucn.org/themes/wcpa/pubs/guidelines.htm

A Practical Guide to Good Practice: Managing Environmental and Social Issues in the Accommodations Sector
http://www.celb.org/xp/CELB/publications-resources/

A Practical Guide to Good Practice: Managing Environmental Impacts in the Marine Recreation Sector and Self-Assessment Checklist
http://www.celb.org/xp/CELB/publications-resources/

A Practical Guide to Managing the Environmental and Social Impacts of Mountain Tours
http://www.ecotour.org/xp/ecotour/resources/publications_factsheets.xml

A Practical Guide to Managing the Environmental and Social Impacts of the Desert Recreation Sector
http://www.unep.org/publications/search/title_search.asp?search=Tourism+and+Deserts

A Practical Guide to to Good Practice for Tropical Forest-Based Tours
http://www.ecotour.org/xp/ecotour/resources/publications_factsheets.xml

EXAMPLES OF OPERATORS DEMONSTRATING GOOD PRACTICES

Adventure Travel Trade Association
http://www.adventuretravel.biz/default.asp

Rainforest Alliance
http://www.rainforestalliance.org/programs/tourism/certification/tourism_practices_guide.pdf

Tour Operators' Initiative for Sustainable Tourism Development
http://www.toinitiative.org/good_practices/case_studies.htm

World Travel and Tourism Corporation Tourism for Tomorrow Awards
http://www.tourismfortomorrow.com/

OTHER PUBLICATIONS

Guidelines to good practice in other business areas, such as choosing responsible suppliers, responsible marketing, staff training and labor practices can be found in the following publications:

Integrating Sustainability into Business—A Management Guide for Responsible Tour Operations
Tour Operators Initiative and United Nations Environment Program (2005)
http://www.world-tourism.org/tour/about/documents/Sustainability%20in%20Business%20%Management.pdf

Marketing Sustainable Tourism Products
http://www.uneptie.org/pc/tourism/library/marketing-sustainable-tourism.htm

ABOUT THE UNITED NATIONS ENVIRONMENT PROGRAM

UNEP, established in 1972, is the voice for the environment within the United Nations system. UNEP acts as a catalyst, advocate, educator and facilitator to promote the wise use and sustainable development of the global environment. UNEP provides leadership and encourages partnership in caring for the environment by inspiring, informing, and enabling nations and peoples to improve their quality of life without compromising that of future generations. UNEP works with a wide range of partners, including United Nations entities, international organizations, national governments, non-governmental organizations, the private sector and civil society.

http://www.unep.org

ABOUT CONSERVATION INTERNATIONAL

CI believes that the Earth's natural heritage must be maintained if future generations are to thrive spiritually, culturally and economically. Our mission is to conserve the Earth's living natural heritage, our global biodiversity, and to demonstrate that human societies are able to live harmoniously with nature. Founded in 1987, CI is a global non-profit organization, working in more than 30 countries on four continents. Practical and people-centered, we draw upon a unique array of scientific, economic, awareness-building and policy tools to help inhabitants of the Earth's biologically richest ecosystems improve the quality of their lives without depleting natural resources.

www.conservation.org

ABOUT RAINFOREST ALLIANCE

The Rainforest Alliance works to conserve biodiversity and ensure sustainable livelihoods by transforming land-use practices, business practices and consumer behavior. Rainforest Alliance works with people whose livelihoods depend on the land, helping them transform the way they grow food, harvest wood and host travelers. From large multinational corporations to small, community-based cooperatives, we involve businesses and consumers worldwide in our efforts to bring responsibly produced goods and services to a global marketplace where the demand for sustainability is growing steadily.

www.rainforest-alliance.org

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