

Hawai'i Hotel Reef Stewardship Guide

Table of Contents

1. Overview/Introduction	3	Calendar of Events	29
Purpose of this Guide	3	Sustainable Seafood.....	30
Sustainable Tourism	4	Sundry Stores and Other Vendors	33
The Accommodations Industry's Role.....	4	5. Your Hotel's Stewardship	34
Watershed Stewardship	5	How "Green" is Your Property?	34
2. Hawai'i's Coral Reefs	6	Creating a Sustainability Plan.....	37
Basic Coral Biology and Ecology	6	Marketability of Sustainability.....	38
Importance of Reefs	7	6. Recognizing Your Sustainability Initiatives:	
Reef Status	7	Certification and Recognition Programs in	
Reef Threats.....	8	Hawai'i and Beyond	39
Solutions.....	10	Overview of Certifications	39
Economic Context and Urgency for Action ...	10	Appendices	45
3. Reef Stewardship Activities that Reduce		Appendix A: Sustainable Seafood Menu	
Land-Based Pollution	11	Checklist	45
Reefs and Wastewater	11	Appendix B: Monterey Bay Aquarium's Seafood	
Stormwater Management	12	Watch Consumer Guide for Hawai'i and	
Low Impact Development and Design.....	14	Chef Buyer's Guide	47
More Best Practices.....	17	Appendix C: Community Engagement	
4. Reef Stewardship Activities that		Opportunities.....	49
Engage and Educate	21	Appendix D: Theme Days, Weeks and	
Staff Education.....	21	Months.....	58
Guest Education	22	Appendix E: Resources to Explore.....	59
Sustainable Marine Recreation	24	Appendix F: Seafood Comparison Chart.....	61
"Voluntourism"	25	Appendix G: Sample Sustainability	
Beach Cleanups	26	Statement	66
Citizen Science	27	References	67
Community Involvement.....	28		

Acknowledgments

This guide was collaboratively developed through the contributions of CORAL staff members (Liz Foote, Julianne Diamond, Lisa Owens Viani, Joseph Clerici, Sarah Freiermuth, Marissa Stein, Julia Stewart, Erica Perez, and Wesley Crile), and includes additional contributions by Lauren C. Roth Venu (Roth Ecological Design Intl.), Matt Moore (Roth Ecological Design Intl.), Chris Barzman (Barzman Consulting), Jon Chin, and Laura Suur. All photo credit goes to CORAL staff, unless otherwise noted.

Case studies were compiled through observations made by our team, information submitted by resort representatives, and publicly available information online, particularly the Hawai'i Green Business Program's "Their Stories."

Additional resources and an electronic version of this guide can be found on CORAL's website, coral.org/hotelstewardship. Please feel free to provide any feedback or content suggestions, as well as proposed edits or corrections, to CORAL at info@coral.org.

Numerous programs, companies, resorts, organizations, and individuals are mentioned in this guide. Although they are introduced in this publication, CORAL does not endorse any particular business, program, or product.

Funding for this publication was provided by The Keith Campbell Foundation, The Tiffany and Co. Foundation, NOAA Coral Reef Conservation Program, Hawai'i Tourism Authority, and The Harold K. L. Castle Foundation.



CORAL REEF ALLIANCE

Overview/Introduction



Purpose of this Guide

The Coral Reef Alliance (CORAL) has created this resource guide as a means to assist Hawai'i's accommodations industry in recognizing the importance of, and providing key guidance for, the implementation of stewardship and sustainability measures within the resort community of Hawai'i. We recognize that there are many resources from within our community and internationally and therefore wanted to compile and make them readily available to empower those of you in the Hawai'i resort community to take on new and additional sustainability initiatives. We have also made it a point to connect these activities to our coral reef ecosystem, as there are many things your property can do to directly and indirectly support reef conservation. We will also demonstrate the value of taking these steps, not just from a conservation standpoint, but from a marketing perspective. An increasing number of visitors worldwide—and particularly in

Hawai'i—are seeking a genuine natural and cultural experience in the place they are visiting, and are becoming more discerning and aware of “greenwashing.” This guide was developed to assist your property in taking meaningful steps toward sustainability, with the health and well-being of our coral reefs in mind.

This resource guide can help your property take stock of its own operations, review and be inspired by examples of others' efforts, and find resources to assist in implementing new strategies within your own property. As many resorts in Hawai'i are situated along the shoreline, they play an important role and shoulder significant responsibility to serve as a “line of defense” for the coastal ecosystem. Suggestions in this guide, and additional technical resources will provide the accommodations industry the tools you need to ensure that you are helping to maintain a healthy coastal environment.

Going Above and Beyond
Energy, water, and wastewater are the most popular sustainability areas focused on by the accommodations industry. Your property can make a difference in terms of its “ecological footprint” by systematically addressing these areas of concern, while realizing significant cost savings in the process. However, there is much more you can do to promote, support and perpetuate Hawai'i's unique natural environment and host culture. This guide will assist you and your property in exploring new approaches, tools, and resources in support of sustainability.

Did You Know?

The Term ‘Greenwashing’ Originated in the Hospitality Industry

The term “greenwashing” originated in the mid-1980s, inspired by the emerging practice of hotels to display a placard offering guests a choice not to have their towels and linens laundered daily. In some cases, this initiative—framed as a means of “saving the environment”—was seen as less than genuine if the practice was not properly executed, or while other less-than-environmentally-friendly practices were occurring within the same property at the same time. The term has been generalized and now essentially means disingenuous marketing focused around unsubstantiated or dubious “green,” “eco-friendly,” or “sustainable” claims. More and more consumers are becoming highly attuned to greenwashing and will instead seek out more genuine experiences and products.

Overview/Introduction

Sustainable Tourism

The World Tourism Organization (www.unwto.org) defines sustainable tourism as tourism that meets the needs of present tourists and host regions, while protecting and enhancing opportunities for the future of the tourist sector. It takes into account environmental, economic, and socio-cultural aspects of development (Cox et. al, 2008). Sustainable tourism in Hawai'i "honors Hawai'i's host culture, its people and their history; protects its unique natural environment; and engages local communities" (Hawai'i Tourism Strategic Plan 2005-2015, p.27).

Hunter and Green (1995) developed a list of criteria for sustainable tourism that includes: 1) follow ethical principles that respect the culture and environment of the area, the economy and traditional way of life, and the political patterns; 2) involve the local population, proceed only with their approval, and provide for a degree of local control; 3) keep intragenerational equity in mind, including fair distribution of benefits and cost; 4) plan and manage tourism



Highlighting and interpreting Hawaiian culture is a key part of sustainable tourism.

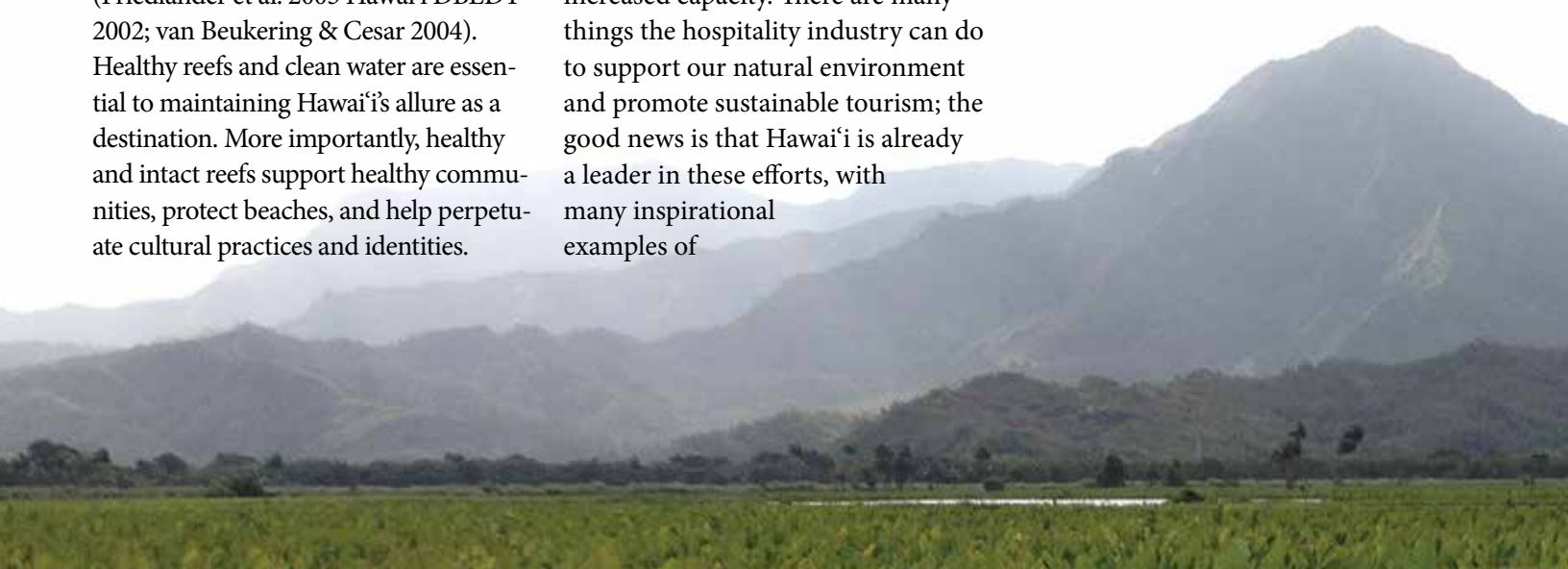
with regard for the protection of the natural environment for future generations; 5) plan in a manner integrated with other economic sectors; and 6) continuously assess and evaluate impacts and initiate action to counter any negative effect.

The Accommodations Industry's Role

Hawai'i's tourism industry is absolutely dependent on the state of Hawai'i's natural environment. It has been estimated that 80 percent of Hawai'i's nearly 8 million annual visitors engage in marine-related recreational activities during their stay (Friedlander et al. 2005 Hawai'i DBEDT 2002; van Beukering & Cesar 2004). Healthy reefs and clean water are essential to maintaining Hawai'i's allure as a destination. More importantly, healthy and intact reefs support healthy communities, protect beaches, and help perpetuate cultural practices and identities.

Leaders within Hawai'i's resorts are well aware of the individual and collective impact on the environment which sustains the accommodations industry, including both direct and indirect effects of tourism, such as the burden and strain on local infrastructure from increased capacity. There are many things the hospitality industry can do to support our natural environment and promote sustainable tourism; the good news is that Hawai'i is already a leader in these efforts, with many inspirational examples of

stewardship and sustainability that can be cited. However, many of Hawai'i's resorts' sustainability initiatives are "behind the scenes" or are not directly communicated to guests or the local community.





Watershed Stewardship

A watershed is defined as an area of land, such as a mountain or a valley, which catches, stores, and ultimately delivers rain into the ocean. In traditional Hawaiian culture, the ahupua'a concept was developed using the physical boundaries of the watershed from the top of the mountains out to the coral reef as the basis for political stratifications and resource management practices.

In each watershed, water from precipitation is either delivered into above ground bodies of

water or stored in organic matter or aquifers. Topography influences whether this water moves toward the sea via rivers and streams or via movement underground. Management of our water in Hawai'i is important for safeguarding drinking water supplies, as well as for protecting water quality and quantity for recreation, irrigation, industrial activities, downstream ecosystems, and cultural practices.

Spotlight

West Maui

Ridge to Reef Initiative

The West Maui Ridge to Reef (R2R) initiative is an all-encompassing approach across multiple agencies and organizations to address adverse impacts to coral reefs in West Maui. The state has recognized that an integrated and comprehensive approach to reducing land-based sources of pollution is one of the most important steps to help restore coral reef ecosystems. The R2R Initiative builds on already established efforts that are underway and leverages resources across a number of agencies and community groups to implement actions to reduce one of the key sources of reef decline: land-based sources of pollution.

Spotlight

South Kohala

Coastal Partnership

This collaborative group includes community members, associations, organizations, resource managers, and state and federal agencies, and is dedicated to the implementation of the South Kohala Conservation Action Plan. Its emphasis is on fostering community partnerships to develop and promote coastal marine stewardship and conservation strategies. The implementation of projects is being coordinated through a partnership between the University of Hawai'i Sea Grant College Program and the Division of Aquatic Resources. Please contact the coordinator Sierra Tobiason at tobiason@hawaii.edu for more info on projects and how to get involved. Visit the website southkhalacoastalpartnership.com or Hawai'i Coral Reef Strategy website: hawaiicoralreefstrategy.com/index.php/southkohala.

Hawai'i's Coral Reefs

The coral reefs found within the Hawaiian Islands account for over 80 percent of the reefs under the United States' jurisdiction. Coral reefs are extremely valuable to Hawai'i: they are significant culturally, ecologically, and socially, providing food, shoreline protection, and

major economic benefits from recreation and tourism. An economic study conducted in 2002 estimated the value of coral reefs at \$10 billion, with direct economic benefits of \$360 million per year (Cesar and van Beukering, 2004).

Basic Coral Biology and Ecology

Tropical coral reefs are ecosystems that rival rainforests in diversity. They grow over thousands of years, as individual animals—coral polyps—slowly deposit layers of calcium carbonate to form a skeleton. The polyps live in colonies, and obtain the energy they need to sustain themselves and build reefs by consuming small floating organisms, and through a beneficial relationship with algae housed in their tissues that allows them to capture the sun's energy. Over time, these polyps create elaborate three-dimensional habitat that is key to the whole ecosystem. Reefs provide food and shelter for hundreds of species of fish and invertebrates in Hawai'i's waters, enabling amazing biodiversity, astounding scenery, and a source of sustenance.

Although coral reefs may seem extensive and durable, they are vulnerable ecosystems that can only exist under very specific conditions. Corals require crystal clear water so sunlight can reach the algae living within their tissues. If the water contains suspended sediment that block the sunlight, the corals will not be able to feed themselves via their internal algae, or produce enough energy to build their skeletons. When reef building stops, burrowing invertebrates, coral-eating fish, and storm damage can then erode



Healthy reefs require clean, clear water and high biodiversity.

the reef. When corals cannot regrow the material lost to these forces, they are eventually destroyed; the once complex and three-dimensional living reefs break down into flattened, lifeless rubble.

Because of its geographic isolation, Hawai'i has the highest percentage of endemism—species only found in a particular area—of anywhere in

the world. Hawai'i's uniqueness is an important theme to share with guests; for instance, while they may not see as many different types of fishes on the reef as they have seen in other places, much of what they do see is only found here. This uniqueness also makes our environment more vulnerable, so it is our *kuleana* (responsibility) to *mālama* (care for) this special place.

Importance of Reefs

Coral reefs are unlike anything else on the planet. In addition to providing valuable habitat for fish and other animals, they are incredibly beautiful, with seemingly infinite structures and growth forms. Their intricate crevices and three-dimensional structures shelter many species of fish, invertebrates, and algae, all of which play a unique and vital role in the coral reef ecosystem. The beneficial products and processes that coral reefs provide, known as their “ecosystem services,” are numerous: fishing grounds, gathering areas, habitat for important species, coastline

protection, potential medicinal compounds, and, of course, tourism opportunities. The annual value of the ecosystem services provided by coral reefs to millions of people is estimated to be over \$375 billion (Costanza et al., 1997).

In Hawai‘i, coral reefs have special meaning; their “value” cannot be quantified but it is evident in the interconnectedness of Hawai‘i’s natural and cultural history. In the Kumulipo, one of the Hawaiian origin genealogies, the coral polyp was the first living thing to appear in the world. Reefs sustained Native Hawaiians not only as a resource

*Hanau ka 'Uko-ko'ako'a,
hanau kana, he Ako'ako'a,
puka. (Born the coral
polyp, born of him a coral
colony emerged.)*

—Kumulipo

for food, but in support of traditional and spiritual practices. Early land and ocean management practices developed by Native Hawaiians recognized the critical importance of healthy reefs, and promoted sustainability of reef resources through a number of community roles and responsibilities to mālama, or take care of, this ecosystem.

Reef Status

The World Resources Institute presented the results of a global analysis of reef threats in a 2011 publication, *Reefs at Risk Revisited*. They found the majority (60

percent) of the world’s reefs are threatened by human activities, and that coastal development and watershed-based pollution threaten a quarter of all reefs (Burke et al., 2011).



Degraded reefs (left, as compared to the image on the right) are characterized by their lack of living coral and three-dimensional habitat necessary for marine life.

Hawai'i's Coral Reefs

Reef Threats

Reefs in Hawai'i—and in other locations around the world—face a suite of threats that include impacts from global climate change, unsustainable and destructive fishing, invasive species, coastal development, land- and marine-based pollution, and other direct human impacts such as unsustainable marine recreation activities.

The earth's climate is changing: our atmosphere is getting warmer and the amount of carbon dioxide in the atmosphere is increasing. This reality is challenging the survival of reefs worldwide. While global threats are more difficult to address at a local scale, the solution lies in tackling local threats to improve the resiliency of reefs and bolster their ability to withstand the impact of global pressures such as climate change and its accompanying impacts to the coral reef ecosystem.

Warming and rising seas

Many corals have a narrow temperature tolerance. As the ocean warms, many coral reefs will not be able to adapt quickly enough to the resulting changing conditions, and incidents of bleaching and disease will increase (Hoegh-Guldberg, 2007). Coral bleaching occurs when corals become stressed, most often when water gets too warm. Corals will “eject” their algae tenants (zooxanthellae), causing the corals to become white in appearance (their tissues are left without the algal pigments that give them their color, thus showing their calcium carbonate skeletons). They are then left without nutrition from the photosynthesizing algae (Schmidt, 2008). Although corals can survive a bleaching event, this

added stress can ultimately lead to their death.

In addition, when the ocean warms, glaciers melt, causing sea level to rise. A predicted impact from sea level rise is slower coral growth (Hubbard et al., 2008). The Intergovernmental Panel on Climate Change has found that sea level is rising at a rate of .12 inches per year—60 percent faster than the .08 inches per year it predicted in 2007. Unfortunately, the vertical growth rate of coral is likely to be slower than this increase. As a result, corals will be deeper, receive less sunlight, and grow more slowly.

Ocean acidification

In the past few decades, the amount of carbon dioxide (CO₂) in the air has increased by one-third.



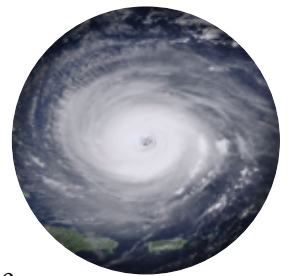
As the ocean absorbs carbon dioxide, a greenhouse gas, from the atmosphere, it becomes more acidic and coral polyps have difficulty creating their skeletons (Caldeira and

Wickett, 2003). The calcification rates of corals and other reef organisms have already begun to decrease, leading to fears that reef building will not keep pace with climate change. With increased CO₂ in the water, coral may also form weaker skeletons, making the reefs more vulnerable to storm damage, trampling, and destructive fishing practices.

More frequent and severe storms

Another predicted climate change

impact is an increase in the frequency and intensity of tropical storms. As reefs become less robust or die, their ability to buffer and protect coastlines from severe storms is diminished. More frequent and intense storms may also damage reef structure more significantly, and the corals' regrowth may not be able to keep pace.



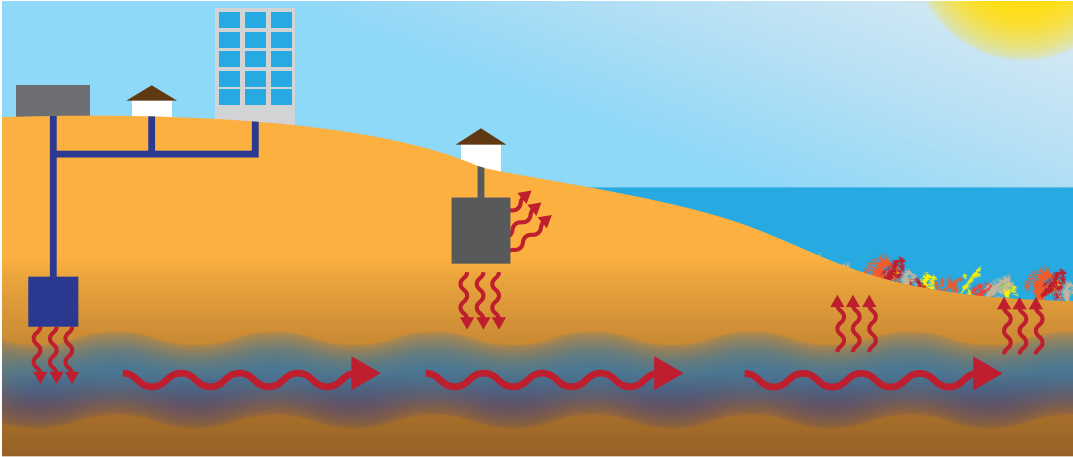
Ozone depletion

The destruction of the ozone layer, which accompanies global warming, is caused by the presence of chlorofluorocarbons (CFCs) and other chemicals in the atmosphere. When the protective ozone is depleted, the intensity and nature of ultraviolet radiation that reaches the earth's surface increases. Although corals have a natural sunscreen to protect themselves from the tropical sun, studies show that increased levels of ultraviolet radiation can damage coral in shallow areas (Gleason & Wellington, 1993; Brown, et al., 1994a, 1994b; Lyons et al, 1998).

Overharvesting and unsustainable fishing practices

Human populations that rely on fisheries for food and income have a short-term incentive to remove more fish than is sustainable in the long-term.





Wastewater can be managed in different ways, such as being processed and treated at wastewater reclamation facilities, or by entering groundwater untreated through septic tanks and cesspools. This wastewater ultimately seeps into the marine environment offshore.

Overharvesting of herbivorous fishes and urchins in particular, which eat the fast-growing algae that can outcompete and kill corals, is especially problematic. Unsustainable fishing affects the entire food web. If too many herbivores are taken, algae (seaweed) can overgrow and suffocate reefs. In addition, taking too many large fish, which have the best reproductive and grazing potential, can result in a much less healthy and robust fishery and reef over time. Overharvesting of sharks, a top level predator on the reef, can start a cascade of effects in which populations of other fish collapse (Rohwer, 2010).

When fishing is done carelessly, non-target species often end up as bycatch. Destructive fishing techniques, anchors, and gear (like nets) can also physically damage reefs.

Water pollution

Coral reefs thrive in clean, clear water. Pollution from both point sources (specific places) and non-point sources (runoff from the land that contains many pollutants from many sources) can affect the health of reefs. Too many nutrients (usually from agricultural runoff or discharges of treated

wastewater), excess sediment (from activities like agriculture, deforestation, and development), or stormwater runoff can stress reefs, impeding their growth and reproduction, or even kill them. Pollution can also impact sensitive species and alter the ecological functioning of the reef.

Marine debris, trash that makes its way into the ocean, can harm or kill corals and the life that depends on them.

Coastal development and sedimentation



Development to accommodate the growing human population along coastlines has put additional stress on reefs. At one time, big cities such as Hong Kong, Singapore, Manila, and

Honolulu had thriving coral reefs offshore. Many of these reefs were effectively destroyed by impacts from growing human populations. Now, reefs near other coastal communities are experiencing the same pressures.

Many land-based human activities, including deforestation, construction, road building, and improper agriculture and landscaping practices, produce

sediment that eventually makes its way into the coastal zone. Sedimentation, along with nutrient input, is a key contributor to the pollution affecting Hawai'i's reefs. Sediment not only creates murky and aesthetically undesirable coastal waters, which hinder marine recreation and negatively affect visitor experience, but also disrupts photosynthesis and reduces the corals' ability to obtain food. Sediment can also settle on and smother the corals. The chemicals and toxins carried with sediment, including hydrocarbons, pesticides, and herbicides, can also be problematic (Piniak, 2004).

Unsustainable tourism—direct impacts to reefs

Hawai'i's tourism industry brings thousands of people into contact with its reefs. Uninformed and unsupervised divers who touch or accidentally trample living corals can have a cumulative and significant impact over time, especially when concentrated in small areas. In addition, marine tour operators may cause anchor damage when day-use mooring buoys are not available and anchors are not set properly, destroying coral that will take decades to centuries to recover.

Hawai'i's Coral Reefs.....

Solutions

There is no one-size-fits-all solution to conservation, nor is it possible to successfully conserve natural resources without support and involvement from the people who are most closely connected to and rely on these resources. In Hawai'i, that means developing and implementing overarching conservation strategies (such as watershed management plans, ridge to reef initiatives, and Conservation Action Plans) that involve components like the following:

- Reduction of local threats to reefs, including overfishing, poor water quality, and unsustainable development
- Helping communities benefit socially, culturally, and economically from conservation
- Improving reef management so those responsible for the creation, enforcement, and durability of protected areas have the tools and

financial support they need to be successful

- Working directly with the tourism industry to decrease its environmental footprint and to educate visitors about the importance of coral reefs



Interpretive signs help convey key ecological and cultural information to residents and visitors, and provide them with guidance on how to reduce their impact and respect the environment.

Economic Context and Urgency for Action

Hawai'i's tourism economy and its environment are inextricably interconnected. Yet while we can see beaches eroding, and respond with resources to restore them, the degradation of our coral reefs and coastal water quality is not always apparent. However, healthy reefs and clean water are arguably as much of a draw for visitors as expansive sandy beaches. Moreover, healthy and intact reefs support healthy communities, protect beaches, and help perpetuate cultural practices.

Long-term monitoring by state and federal agencies that demonstrate significant reef declines, coupled with degraded water quality, is a call to engage in solutions. If Hawai'i's reefs continue upon their current trajectory

of decline, Hawai'i's reputation is at risk and the state will have difficulty marketing itself to the increasing numbers of visitors who seek sustainable travel opportunities.

Fortunately, an increasing amount of research suggests that reefs can recover, particularly those in areas with effective management where local stressors are sufficiently reduced. A recent study examining historical data uncovered examples from Hawai'i's pre-history of reef recovery following over-exploitation of resources. The recovery was attributed to improved and effective resource protection measures (Kittinger et al. 2011). Then, as it does now, our healthy environment depended on our ability to manage our collective impact.



Gear-rental shops can go above and beyond by educating customers about how to reduce their impacts on the reef when snorkeling, diving, or surfing.

Reef Stewardship

Activities that Reduce Land-Based Pollution

Your resort can engage in a host of reef stewardship activities that will help the reef. By engaging different sectors of your resort and the broader community, you

can reduce land-based pollution—an identified threat to coral reefs and the overall health of the watershed—and actively be a “line of defense” for the coastal environment.

Reefs and Wastewater

Nutrients such as nitrogen and phosphorous have multiple ways of reaching the near-shore marine environment; when excessive, they can harm coral reefs. Since corals grow slowly, they cannot compete with algae (seaweed, or limu) that can more efficiently absorb nutrients and grow rapidly. Coral reefs are adapted to an environment with very low nutrient levels and thrive under those conditions. When nutrient levels are too high, algae can grow quickly, overgrowing the living coral. “Turf” algae can also outcompete and overgrow the reef, killing coral. Turf algae is not one particular type of algae, but rather a multi-species assemblage of small algae that forms a fuzzy looking “mat” over the reef. Recent and ongoing research has indicated that turf algae play a significant role in chronic, or ongoing, reef degradation (Ross et al., 2012).

When a reef is subjected to ongoing or chronic nutrient inputs over time, it will degrade from a healthy system dominated by living coral to an algal-dominated system, with a decrease in biodiversity and marine life. This is known as a “phase shift.” An example of a reef system that has undergone this phase shift is Ma‘ālaea Bay.



A degraded reef on Maui, where a phase shift from predominantly coral to predominantly algae has occurred. Photo by Division of Aquatic Resources Staff.

In Hawai‘i, wastewater is a significant source of nitrogen and phosphorus input. In West Maui, treated—but nutrient-rich—wastewater is disposed of in gravity-fed injection wells, from which it has been found to emerge in as little as 84 days through nearshore submarine springs (also known as seeps) among the coral reefs (Glenn et

al., 2013). On other Hawaiian Islands the source of nutrient-rich wastewater is most likely residential cesspools and septic tanks, stormwater runoff, and agriculture. Efforts to address and reduce the impact of nutrient pollution from wastewater, including increasing water conservation overall, are paramount.

Reef Stewardship Activities that Reduce Land-Based Pollution

Case Studies:

Stormwater Management

UHMC's Sustainable Living Institute of Maui (SLIM) partnered with the Water Institute of Sustainability Education and Tri-Isle Resource Conservation and Development to install a rain garden on campus; the purpose: to treat and infiltrate rainwater from a culvert that collects water from the Kupa'a and Science Buildings. It is estimated that the rain garden will treat and recharge up to 270,000 gallons of stormwater annually. The rain garden sits within the SLIM Community Garden which is open for use by the students and community. The goals of the community garden are to increase awareness of food security and to learn and teach the importance of sustainably managing stormwater. The SLIM rain garden team also hosted a workshop for Maui County educators to share details about the project with schools around the island.

The **Four Seasons Resort Maui at Wailea** contracted a local landscape architect firm—Walters, Kimura, Motoda, Inc.—to design a vegetated roof over the parking structure and ballroom areas. The roof, which consists of flowering shrubs, groundcover, seating areas, water features, and sculptures, was primarily designed to improve the view from many of the rooms at the luxury hotel; however, this green roof also helps to reduce stormwater runoff through the plants' uptake of rainwater.



Honua Kai Resort and Spa and the **Westin Kā'anapali Ocean Resort Villas** have both undertaken dune-restoration projects onsite.

Stormwater Management

When rain touches the earth it becomes stormwater. In undisturbed ecosystems, stormwater is often slowed by the natural drainage ability of groundcover and organic soils. Once slowed, the stormwater gets processed by living organisms, evaporates, or recharges the groundwater. This groundwater is either stored in aquifers or feeds streams and rivers which may flow into wetlands or estuaries (muliwai). From there, it reaches the ocean and is recycled back into the atmosphere. This life cycle of water is termed the water, or hydrological, cycle.

What is stormwater runoff?

Stormwater runoff occurs when stormwater flows over the land instead of sinking into the ground. When there is significant flow, it erodes the landscape and picks up loose materials as it flows downhill; in more natural settings, the particles could include soil and organic debris, while in the urban environment, they could include oils and grease, fertilizers, pesticides, paint particles, tire treads, and other manmade substances. Stormwater pollutants are considered nonpoint source of pollution (versus point source pollution that can be traced to a specific point source such as a discharge pipe or wastewater disposal site.)

The most significant concentrations of pollution in stormwater are typically found during the first minutes of a rain event. This is coined the first flush effect. The first flush is the runoff that occurs at the beginning of a rainstorm, and is most concentrated with the particles and debris that have accumulated between storms. Generally this effect is thought to be more pronounced when generated from impervious surfaces (i.e. surfaces that do not allow for water infiltration) such as roads and parking lots and eroding landscapes. The severity of the

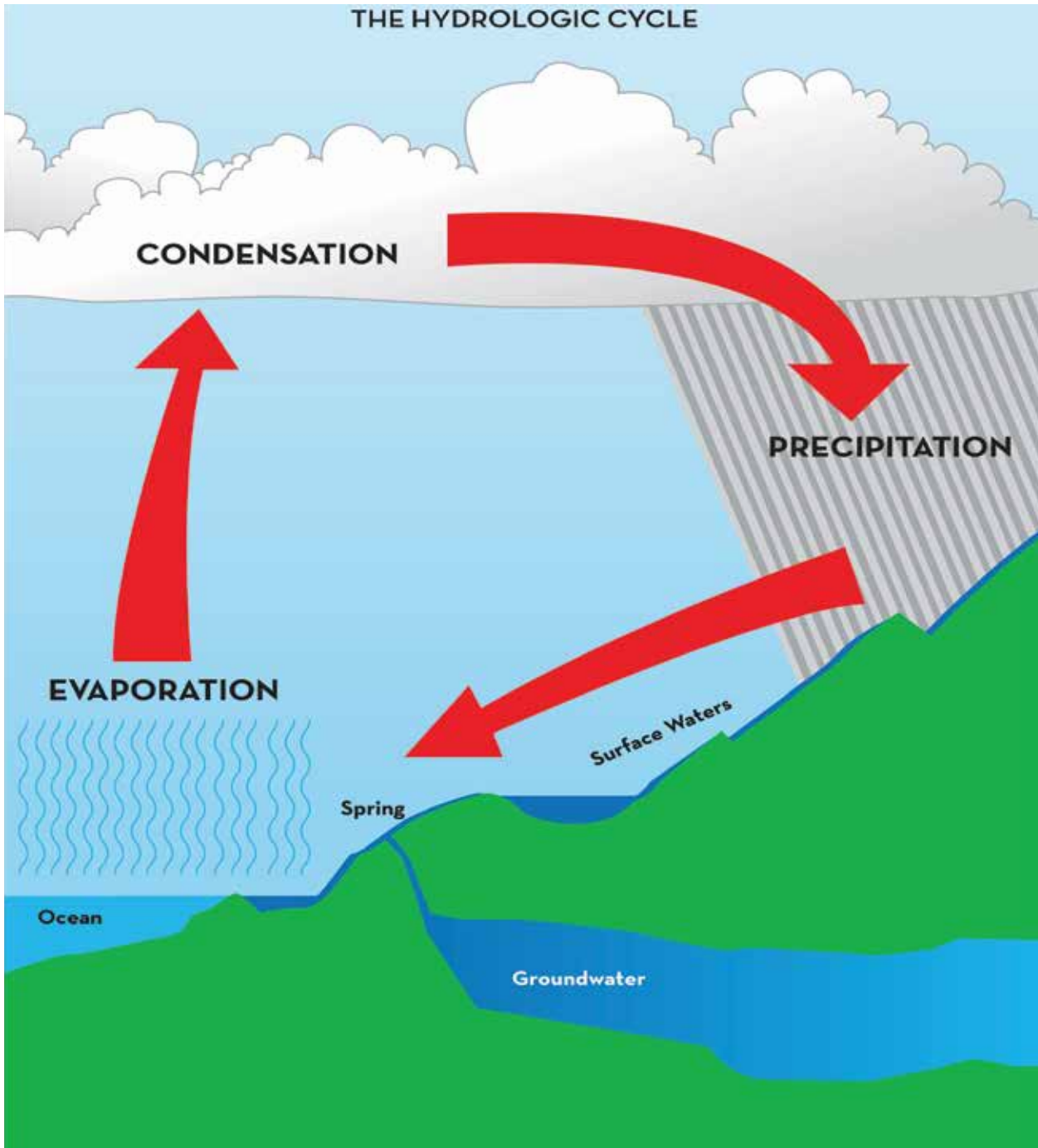
pollutant load of the first flush depends on a number of other site characteristics that include: the time of particle accumulation within the catchment basin, the severity of precipitation events in the basin, and the pollutants of concern.

The major stormwater pollutants of concern regulated by government bodies are suspended solids (otherwise known as turbidity or sediment), nitrogen, and phosphorus. Inorganic pollutants such as hydrocarbons and heavy metals are seen in much smaller quantities than the organic pollutants. In stormwater regulation, much like in wastewater regulation, nitrogen and phosphorus are labeled pollutants because of their high concentrations and displacement into ecosystems where they may cause disruption to the ecological balance. These nutrients can come from organic debris, fertilizers, and animal waste.

Nitrogen is what is coined a limiting nutrient in most ocean ecosystems. When an influx of nitrogen comes into the system, this supports the growth of algae which can suffocate corals; when the algae decays, it creates a low oxygen environment that may lead to fish kills. Just as nitrogen is the limiting nutrient in saltwater ecosystems, phosphorus is the limiting nutrient in freshwater ecosystems. When high concentrations of phosphorus enter freshwater, the same effect could occur.

Turbidity, or the murkiness of the water, is caused when suspended particles are mixed with the stormwater. Turbidity is often associated with the speed the stormwater is traveling and the size of the suspended matter: the faster the flow, the larger the size particles the water can carry; when the flow is slow, the particles deposit. Suspended solids are an issue because they cloud the water, diminish the ability for organisms to photosynthesize, and, when they settle in larger quantities, disrupt the coastal ecosystem.

Managing the quantity and quality of



A simplified look at the hydrologic cycle—how water moves through the environment. Graphic courtesy of Geoff Moore.

stormwater is equally important. Conventional engineering over the last fifty years has primarily addressed managing stormwater quantity by moving it to centralized locations onsite or off property as quickly as possible, viewing it as a liability rather than a resource. However, this may harm nearby streams and the ocean by increasing turbidity, and often results

in 'brown water' advisories that affect recreational use of the nearshore ecosystem for visitors and kamaʻāina (local residents) alike. Although there are requirements set forth by the Environmental Protection Agency (EPA), enforced by the Hawaiʻi Department of Health and local counties, to protect the water quality leaving any given site, issues with stormwater remain a grow-

ing concern, as watersheds experience more development and associated disturbances. Increased runoff not only has the potential to increase pollution in receiving waters, but also decreases the overall volume of water entering into groundwater supplies, affecting downstream users and reducing the availability of water for the community.

Reef Stewardship Activities that Reduce Land-Based Pollution

Case Studies:

Reef-friendly Landscaping

The West Maui Ridge to Reef Initiative (westmauiR2R.com) is working with Oahu-based landscape architecture firm Ki Concepts, along with several resorts in the Kā'anapali region in West Maui, to develop property-specific reef-friendly landscape management plans, which will include the calculation of pollutant load reductions anticipated as a result of these plans' implementation. The purpose of reef-friendly landscape management plans is to attain environmentally sensitive landscape maintenance practices while preserving the beauty of the resort properties. The main goal of the management plan is to meet the needs of aesthetically pleasing grounds while minimizing polluted runoff from pesticides, fertilizers, and irrigation water that may impact the health of the coral reefs in the area (Ki Concepts, pers comm).

These landscape plans are slated for completion in the Fall of 2014. It is anticipated that while they will be designed as property-specific, they will have broader applications throughout the Hawai'i resort community, and could easily be adapted to other properties' needs with minimal effort.

The **Kohanaiki** resort community has developed a natural resource management plan in collaboration with Audubon International, and their golf course is slated to become the first on Hawai'i Island to receive Audubon's Silver Signature Course Certification. The resort constructed a reverse-osmosis system to support its irrigation, powered by photovoltaic panels. In addition, the property uses "a plant palette that is sensitive to water conservation and the coastal environment, employing native plants whenever practical."

Low Impact Development (LID) and Design

Low Impact Development (LID) and Design is a methodology for managing stormwater at its source, mimicking the natural drainage processes found in undisturbed ecosystems. The EPA defines LID as "an approach to land development (or re-development) that works with nature to manage stormwater as close to its source as possible. LID employs principles such as preserving and recreating natural landscape features, minimizing effective imperviousness to create functional and appealing site drainage that treats stormwater as a resource rather than a waste product." LID practices have also been characterized as a sustainable stormwater practice by the Water Environment Research Foundation and others (water.epa.gov/polwaste/green). By implementing LID principles and practices, water can be managed in a way that reduces the impact of man-made environments and promotes the natural movement and treatment of water within an ecosystem, development, or watershed. Applied on a broad scale, LID practices are able to maintain or restore a watershed's hydrologic and ecological functions.

Although it is optimal to apply LID during the planning and design of a new development project, LID is also effective and desirable for redevelopment and retrofit projects to improve water quality coming off any given site. The LID approach maximizes the use of natural onsite drainage and manages stormwater as close to its source as possible by using natural or engineered, distributed small-scale controls otherwise known as LID Best Management Practices (BMPs). By implementing LID BMPs, you replicate the site's predevelopment hydrology by:

- Minimizing grading/compaction and conserving the natural drainage ability of the site

- Minimizing the development impact on hydrology by using the natural site topography to strategically place buildings and impervious surfaces
- Maintaining runoff rate and duration from the site (don't let the water leave the site)
- Scattering LID BMPs throughout the site, thereby decentralizing and adding microscale controls to slow, infiltrate, store, evaporate, and/or detain runoff close to the source; this method improves the overall treatment of the stormwater by capturing it closer to its source
- Implementing pollution prevention, proper maintenance, and public education programs

Undisturbed sites are typically characterized by mature foliage and topsoil that are naturally designed to retain and recharge stormwater into the ground. Grading the site with heavy equipment can notably affect the natural drainage ability of a property since this activity compacts the underlying soil. When an ecosystem is disturbed via removal and/or compaction, its ecological services are often removed. In addition, less pavement and roof space on the site and maintained open spaces should also improve overall drainage (as long as compaction is minimized). For example, even if a development has vegetated open spaces, if the site is entirely graded, compaction of the soils from the grading process could still result in partly to completely impervious surfaces depending on the soil type. For this reason, thoughtful site planning is critical. After impervious areas have been optimized, structures, roads, and parking lots should be placed strategically and when feasible, in areas where the disturbance to the natural drainage of the site is min-



The West Maui Ridge to Reef Initiative, supported by community volunteers, used native plants to help stabilize a slope and reduce erosion and sedimentation that can harm reefs.

imized. Selection and placement of LID BMPs should then be considered to achieve a net-zero stormwater balance for quality and, when feasible, quantity. There are a wide variety of LID practices to choose from, ranging from directing roof drainage to an attractive rain garden and/or catchment tank, to completely designing streets with features that capture, infiltrate, or store rainwater for non-potable water uses.

For more information on implementing LID BMP on your property please see CORAL's Recycled Water for Reefs Guide—Stormwater Management Appendix.

Reef-friendly landscaping

The purpose of reef-friendly landscaping is to institute environmentally sound maintenance practices that preserve the beauty of the resort properties. A notable result from this landscaping approach is the minimization of polluted runoff from pesticides, fertilizers, and irrigation water that may impact the health of coral reefs.

Fertilizers and pesticides are indispensable when it comes to maintaining lush gardens, lawns, and landscapes. However, if proper products or suitable measures are not used, coral reefs can be at risk. Wastewater effluent and non-point runoff from urban areas carry nutrients which can alter the normal marine habitat and create a long-term imbalance (Dailer et. al. 2009). Currently no state laws regulate the use of fertilizers and other garden products in Hawai'i.

“Reef-friendly” landscaping products are those that have been determined to be less harmful to coastal ecosystems, yet still provide a beneficial effect for gardens and lawns. West Maui Kumuwai (westmauikumuwai.org), an educational campaign in support of ocean health, has identified several brands of lawn care and pest management products that are safer for coral ecosystems, as determined by their composition and concentration of components. These products are available in retail stores on Maui and have been labeled with an “Ocean Preferred” sticker.

Case Studies Reef-Friendly Landscaping

The Four Seasons Resort Maui at Wailea has created an experimental native plant garden surrounding the employee parking lot. The property also uses aki aki grass and 'akia as native ground cover throughout the property.

The Westin Kā'anapali Ocean Resort Villas uses sustainable landscaping practices such as drip irrigation in all planter beds to reduce water use and runoff, a rain catchment system for irrigation, and Maxicom, an evapotranspiration (ET) based system to control irrigation.

Starwood Hawai'i's hotels and resorts have installed upgraded equipment throughout their properties to ensure that Hawai'i's precious water is used efficiently. The properties' water conservation measures include low-flow plumbing fixtures in guest rooms, landscaping with native, drought-resistant plants, and the use of a weather station to monitor rainfall and control irrigation at the Sheraton Maui Resort & Spa.

Reef Stewardship Activities that Reduce Land-Based Pollution

Energy Consumption from Heating and Cooling

The number one energy conservation measure suggested by the Hawai'i Green Business Program is to complete regular maintenance on heating, air conditioning, and refrigeration systems at least two times a year. For large buildings and hotels, air conditioning represents the single largest source of energy demand and cost, with an estimated 42 percent of Hawai'i's hotel energy consumption being used for AC (Konan, 2004). Less power is spent on maintaining desired temperature and ventilation levels if air leaks, duct sealing, clogs, and obstructions of air intake and vents are avoided. In addition, more savings could be achieved if AC is turned off in unoccupied rooms and larger areas during low occupancy season when guests are zoned to a designated part of the facility.

Cool roofs work as reflectors to reduce the heat buildup from radiation during the day, reducing demand for air conditioning (epa.gov/heatisd/mitigation/cool-roofs.htm).

Seawater air conditioning is an innovative approach to cooling air in places with nearby access to deep cold water. SWAC uses the natural process of heat transfer between the cold ocean water and the hot indoor air and could save you up to 75 percent on electrical costs and maintenance compared to a conventional AC (University of Hawai'i Sea Grant College Program). It can be installed into existing conventional AC facilities and has been successfully implemented in Hawai'i, New York, Canada, and French Polynesia. See Honolulu Seawater Air Conditioning (honoluluswac.com), Makai Ocean Engineering (makai.com/pipelines/ac-pipelines) and Hawaiian Electric.

The following products are reef-friendly alternatives to conventional choices; they are listed with their Maui retailers (though many of these products should be available statewide).

Landscaping and maintenance brands

Alaska Fish Fertilizer	Ace Hardware
Andersons	Hawai'i Grower Products
Best	Hawai'i Grower Products
Down To Earth	Waikiki Worms Co.
Fox Farms	Ace Hardware Lahaina
Green Lava Brand Premium Hydraulic Mulch	Island Shell LLC
Happy Frog Brand	Ace Hardware Lahaina
Humic DG	Hawai'i Grower Products
Island Supreme Organic Chicken Manure	City Mill
Maui Earth Compost	Maui Earth Compost
Miracle Grow - Shake and Feed Continuous	
Release All Purpose Fertilizer	Ace Hardware Lahaina, Longs Drug
Miracle-Gro Organic Choice	Longs Drug
ORCHISTORM'S MAXICROP Liquid Seaweed	Waikiki Worms Co.
Osmocote	Hawai'i Grower Products
Perfect Blend	Hawai'i Grower Products
Whitney Farms - Organic and All Natural Plant Food	Ace Hardware Lahaina

Pest-management brands

Bayer Advanced Natria	Ace Hardware Lahaina
Concern Weed Prevention Plus	Ace Hardware Lahaina
Ecosmart Organic	Ace Hardware
Garden Safe	Ace Hardware
MONTEREY Sluggo	Waikiki Worms Co.
Polesock Termite Barrier	Termimesh Hawai'i, Inc.
Safer Brand	Ace Hardware Lahaina
Termimesh Pest Control	Termimesh Hawai'i, Inc.
Tri-Star	Hawai'i Grower Products
Whitney Farms	Ace Hardware Lahaina
Worry Free Weed and Grass Killer	Ace Hardware Lahaina, Longs Drugs (Cannery Mall)

Vendor contact information

Ace Hardware Lahaina 840 Wainee St. Lahaina, HI 96761 808.667.5883	Longs Drug 1221 Honoapiilani Hwy Lahaina, HI 96761 808.667.4390	Termimesh 1406 Colburn Street #201C Honolulu, HI 96817 808.843.1968	Island Shell LLC 98-736 Moanalua Loop Aiea, HI 96701 808.487.1100
Hawai'i Grower Products 400 Lehuakona St. Kahului, HI 96732 808.877.6636	Maui Earth Compost 808.877.0403	Waikiki Worms Co. 1917 S King St, Honolulu, HI 96826, 808.945.9676	City Mill 8 store locations

Many of these products are also made locally, reducing the carbon emissions of shipping or air travel and supporting Hawai'i-based businesses. *Developed and reprinted from westmauikumuwai.org.*



A look behind the scenes at the Chlor-King pool system.

More Best Practices

Energy conservation

Primary uses of energy for hotels are cooling/heating (50%), lighting (10%), heating water (15%), kitchen functions (25%), and miscellaneous equipment (elevators, plug loads, in-room refrigerators, microwaves, TVs, etc.) (Bohdanowicz, 2001). Reduced energy usage can be achieved by:

- integrating high efficiency equipment and controls
- implementing operational procedures to minimize wasted energy
- promoting and training staff on energy-saving behaviors.

Hawaii has the highest electricity costs in the nation, so taking actions to reduce energy use has significant potential for saving money.

Water reduction

Primary uses of water for hotels are in-room use (30%), irrigation/landscaping (16%), onsite laundering operations (16%), kitchen

functions (14%), cooling/heating (12%), cleaning (11%), and pools (1%) (EPA, 2012). Reduced water usage can be achieved by:

- integrating high efficiency fixtures (aerators, toilets, showerheads, etc.)
- adjusting irrigation schedules
- optimizing maintenance protocols for HVAC and pool equipment

Purchasing

Purchasing relates to all materials and services entering your property. Opportunities to reduce the environmental impact of your purchasing include:

- procuring recycled-content products (such as paper products)
- purchasing green cleaners/products
- contracting services from green providers

This extends beyond the built environment to your property's sundry stores or

Case Studies:

Energy and Water Conservation

The Fairmont Kea Lani uses a laundry water recycling system known as the Aqua Recycler, installed in 2005 to filter detergents and reuse water. The system is capable of recycling over one million gallons of water each month; according to the resort, as of the end of 2013, they had recycled over 87 million gallons.

The Four Seasons Resort

Maui at Wailea uses a system for its pool (Chlor King) that has halved energy usage and increased water clarity. Its system does not use liquid chlorine or chlorine gas.

The Fairmont Kea Lani, Maui, uses a rock salt treating system in all resort swimming pools instead of chlorine, effectively reducing the usage of chemicals.

The Ritz-Carlton Kapalua Resort reduced its consumption of water by 26 million gallons from 2010 to 2011 through measures such as adjusting its sprinkler systems to account for time of day and seasonality, integrating moisture sensors, only operating dishwashers when completely full, and using dual-flush toilets. LED ceiling lights have been installed throughout the property, with the remaining CFL bulbs being phased out.

Starwood reports that its Westin Kā'anapali Ocean Resort Villas property's cogeneration facilities allow the resort to generate much of its electricity on site, while lowering demand on the grid and decreasing the use of propane. The resort's tap water, pools, and jacuzzi are heated using waste heat recovered from the property's generator. Over a three-year time frame, the cogeneration facility saved the resort nearly 751 MWh and kept 476 tons of CO₂ from being discharged into the atmosphere.

Continues on next page

Reef Stewardship Activities that Reduce Land-Based Pollution

Case Studies: Waste Reduction

The **Sheraton Maui Resort & Spa** launched an HI-5 recycling program for cans, bottles, and glass. Items are redeemed at a local redemption center by managers. All generated income is donated to an in-house nonprofit organization, Starwish. The organization funds scholarships for associates' children. Also, bath amenities are recycled and are donated to The Salvation Army, who picks items up every Tuesday and Friday to help Maui community members in need.

The **Fairmont Kea Lani's** High Five Redemption Program donates all HI-5 recyclables (bottles, cans, etc.) to a local nonprofit organization, who then redeems the items for cash. This initiative has raised an average of \$11,000 each year for Youth Education and Service (YES), a group at St. Anthony Junior-Senior High School which funds educational trips abroad.

The **Ritz-Carlton Kapalua** reclaims all of its recyclable materials, including cardboard, mixed paper, white ledger paper, newspapers, HI-5 bottles and cans, food waste (via composting), and wood pallets. Bath amenity bottles and caps are made from post-consumer recycled material and are recyclable; soap boxes are also recyclable and are made from recycled materials.

The **Fairmont Kea Lani's** logo cups, disposable containers, and utensils made from plastic have been replaced with products made from cornstarch, recycled paperboard, and sugarcane bagasse. Clear plastic cups have been replaced with compostable cups made from 100% corn, and utensils are made from potatoes instead of plastic. All the new products are biodegradable, with most reaching the majority of decomposition within 60 days.

third-party vendors where consumer goods are used and made available to guests.

Transportation

Transportation represents your hotel's fleet and the ways by which your staff and guests get to and from your hotel. Opportunities to reduce the environmental impact of your transportation department include:

- having a fleet of vehicles that are fuel-efficient, flex-fuel, or alternative-fuel capable
- promoting or providing the use of public, mass, or shared transportation
- providing electric vehicle charging stations (mandatory for all properties with more than 100 parking stalls according to Hawai'i State Legislature bill SB2747 SD1 HD2 [HSCR 1183-12]) or preferred parking for high-efficiency vehicles

Pollution prevention

Pollution prevention involves reducing the hazardous materials or chemicals on or leaving your property. Primary sources of pollution for hotels are onsite energy generation, stormwater runoff, cleaning products and procedures, pest control products, and storage of hazardous materials such as paints, oils, refrigerants, and cooling tower chemical treatments.

Also, encouraging dry cleaning methods such as sweeping or damp mopping will reduce water consumption and prevent polluted runoff. However, if wet cleaning is necessary, route the water away from the storm drain into the sanitary drain which directs it to a proper treatment facility.

Waste reduction

Waste reduction involves reducing the volume of materials leaving your property. Opportunities to do this include:

- reducing the amount of waste produced
- diverting or recycling certain materials from the waste stream
- reusing, repurposing, or donating waste materials

Implementing changes in these areas will not only reduce the environmental impact, but also lower waste disposal costs.

Ultimately, the best method to green your property is to track, monitor and report. By tracking the six categories above (energy, water, purchasing, transportation, pollution, and waste), monitoring progress, and reporting back to stakeholders, hotels can constantly improve by identifying which methods are working best, and then communicate their progress to investors, staff, and guests.



Making recycling easy and accessible at many locations on your property is a great way to promote and facilitate the practice.

Case Studies:**Energy and Water Conservation**

Resorts using recycled water for irrigation, or supporting/implementing greywater recycling where available :

By repurposing an existing unused underground storage tank, the **Westin Kā'anapali Ocean Resort Villas** will be recycling pool water for use in irrigation on its property. This will supplement the hotel's existing rainwater catchment system and will be used during the dry season when rainwater is not always readily available.

The **Honua Kai Resort & Spa** is using R1 (recycled) water in its water features and to irrigate its property.

The **Hyatt Regency Maui Resort & Spa** uses R1 water available from the Kā'anapali Golf Course for its irrigation on property.

Marriott's Maui Ocean Club uses low-flow shower heads (2.5 gallons per minute (GPM)), low-flow toilets (1.6 GPM), low-flow faucets (1.5 GPM), and water-conserving toilet fill valves (Hydrofill) to conserve water.

Hawaii Water Conservation Plan

In February 2013, the State of Hawaii Department of Land and Natural Resources Commission on Water Resource Management and the United States Army Corps of Engineers issued a Hawaii Water Conservation Plan. This document serves to raise awareness about the issues around the high demand of fresh water by the increasing population and tourism industry in Hawaii and identifies general best management practices for increasing the efficiency of the delivery and use of fresh water.

(dlnr.hawaii.gov/cwrm/planning/hiwaterplan)



"Safety Purple" aka "OSHA Purple" is the required color for piping and fixtures for R1 water. The official color designation is Pantone 512. To read more about R1 water please refer to CORAL's Recycled Water for Reefs guide published in August 2013.



R1 water supports beautiful landscapes.

Reef Stewardship Activities that Reduce Land-Based Pollution

Case Studies:

Energy and Water Conservation

“If you can measure it then you can improve it.” While many people have said this in many different contexts, the staff at **The Whaler on Kā'anapali Beach** are applying this premise to sustainability by installing a “smart stats” monitoring system at their facilities. The system measures and tracks energy use, allowing management and guests to actively reduce consumption of this valuable resource, saving money as well as the environment. “Our owners and Board of Directors recognized the importance and cost savings opportunity associated with tracking our energy usage . . . knowing where we are was the first step toward improvement, and now we can reduce the load by ensuring that energy is not being wasted on unoccupied units,” says Mila Salvador, General Manager.

According to Shawn Racoma, Chief Engineer, “Calculating the return on investment (ROI) will now be much easier and we’ll be able to quantify precisely how much energy we’re saving. For example, our lower level hallways had ceiling fixtures using 64 watt fluorescent U-bulbs. We replaced them with a 22 watt LED fixture, reducing overall consumption from 32,517 kilowatt hours to 11,177 kilowatt hours. On top of this we added timers that further increased our savings and reduced our energy consumption, giving us an eight month ROI.”

The **Fairmont Kea Lani** has installed the state-of-the-art eco-MODE Thermostat in all guest rooms; the smart thermostat is connected to the hotel’s database and automatically turns on when a guest checks in and shuts off when a guest checks out. It also detects when a door is opened, signaling motion detectors to scan the room. If no motion is detected, the temperature adjusts 5 degrees higher. It also shuts off when doors to the lanai are opened, and monitors humidity.



Photo courtesy of Lauren Roth

Storm Drains: A Direct Route to the Ocean

Pollutants that make their way into the drains around your property can contribute to degraded water quality. Hosing down kitchen mats and trash containers from your property’s restaurant kitchens is of particular concern due to the grease and other contaminants. The Hawaii Green Business Program’s checklist addresses this, and suggests minimizing “kitchen grease from washing down sewer drains by scraping grease from trays, grills, and pans into a waste grease can. Consider installing grease traps if applicable—maintain trap and keep a maintenance log.” Also, simply making sure that dumpsters are covered can help reduce pollutants from making their way to drains.

Case Studies:

Waste Reduction

The **Fairmont Kea Lani’s** Vivreau® Advanced Water System allows the resort to serve its own purified sparkling and still water in reusable glass bottles, reducing the need for plastic bottles. The hotel is also decreasing its carbon footprint, as bottles don’t need to be shipped to the island and packaging waste (cardboard and plastic) is eliminated. The system also saves energy by chilling water on demand, reducing refrigerated storage requirements. The bottled water system is initially being implemented in the resort’s signature restaurant, Kō, and during meetings and banquet functions.



Rain gardens are engineered to capture a predetermined volume of water when it rains (or from areas with regular runoff), treat that water using plants, and allow it to sink into the ground where it will recharge groundwater and/or make its way to the ocean cleaner than when it entered the rain garden.

Reef Stewardship Activities that Engage and Educate

Need some inspiration and guidance for implementing various efforts in support of reef stewardship and environmental sustainability? Ranging from those that involve your staff, your guests, and media, to those that give back to the local community outside the walls of

your property, the following information will help you engage and educate. For more specific examples, see Appendix C for a list of opportunities by organization and refer to the companion website (coral.org/hotelstewardship) for updates and additions to this resource.

Staff Education

There are many opportunities in your local community for your staff to get more educated about sustainability and Hawai'i's natural environment and pass along their knowledge to Hawai'i's visitors. By supporting your staff in continuing education and training opportunities, you are demonstrating your commitment to sustainable tourism and providing the best possible experience for your guests.

Opportunities range from one-off lectures at the local university, to presentations by a conservation group, to more structured programs like Ocean Awareness Training, an informal lecture series that has been offered periodically on Oahu, Maui, and Hawai'i Island.



Continuing Education Opportunities

Hawai'i Energy offers energy efficiency workshops and training opportunities, many of which offer continuing education credits. Workshops offered previously include: "Creating Value with Energy Efficiency," "Learning to S.E.E. (Sell Efficiency Effectively)," "Financial Analysis of Energy Efficiency Projects," "Taking Control of Your Energy Use," "Making Efficiency Happen," and "Benchmarking Your Commercial Building and What's Next."

The Ritz-Carlton Kapalua developed a program across all its properties called R.E.A.C.T. (Ritz-Carlton Environmental Action Conservation Team), which educates staff and guests on stewardship actions they can take and promote.



Reef Stewardship Activities that Engage and Educate

Case Studies

In partnership with the Coral Reef Alliance, **The Fairmont Kea Lani** produced a “Be Reef Responsible” guide for each guestroom within the hotel. The guide encourages guests to explore Maui’s coral reef ecosystem with tips on how to protect and preserve the reef. Guests can also use the guide to identify the Hawaiian fish that are most commonly found in the coral reef fronting the hotel.

Hilton Waikoloa has an Ocean Explorers Program for guests; participants receive a reef ID sheet, an underwater camera, coloring books, and a glass bottom boat cruise with onsite watersports company Ocean Sports. The resort has also adopted a wildlife viewing code of conduct and shares it with its guests.

The Ritz-Carlton Kapalua is home to Jean-Michel Cousteau’s Ambassadors of the Environment program. This program teaches guests about coral reefs, tide pools, the native forest, humpback whales, and local ecosystems through interactive activities with trained naturalists. It also involves guests in volunteerism activities in the local community.

Hualalai Resort has a Natural Resources Department, which strives to provide a sense of place, respect the traditions of the past, and promote a harmony with the land. They employ marine biologists, and offer marine education programs that include offerings such as an Anchialine Pond Tour, Shark Adventures, Ocean Art Day, Ocean Life Exploration, a Catch and Release Fishing Tournament, a Junior Marine Biologist program, and more. Details on these programs may be found in the Natural Resources section at hualalairesort.com.

Guest Education

Many of your guests will want to learn more about Hawai‘i’s natural history during their stay, and your property can provide an array of value-added opportunities along a spectrum from passive (e.g., in-room programming) to active (e.g., hands-on experiential education), depending on your resources and capacity. The following sections will provide you with more details about some of these approaches, so that you can determine which is/are right for your property and guests’ needs.

1. Outreach materials

There are many places throughout your property where you can incorporate outreach materials (pamphlets, handouts, booklets, posters, etc.), including in guest rooms or at the concierge desk, watersports center, restaurant, or other venues like your

day care, kids’ camp, or even at your activity center’s “breakfast briefings.”

Whenever possible, to minimize the amount of waste, provide displays rather than hand-outs. By laminating a few key publications and/or utilizing plexiglass displays, you can ensure your materials last longer and share information with your guests without a high cost or unwanted debris.

2. Signage

Interpretive signage is an ideal way to convey essential information in an engaging manner. Resorts are in the perfect position to install signage on their property in coastal areas; these signs will be seen by thousands of guests and site visitors on a monthly basis, and can make a difference in promoting awareness and driving behavior change. By installing signage on your own



Spotlight

CORAL's Flip Charts

The Coral Reef Alliance (CORAL) produces easy-to-use educational flip charts that engage guests and share interesting and accurate information about Hawai‘i’s coral reefs, marine mammals, and manta rays; they also provide tips on how to respect the marine environment and reduce our impacts.



CORAL's Underwater Treasures

The CORAL has produced collateral materials available for your property. Our Underwater Treasures highlights some of Hawai‘i’s most interesting marine life, and shares tips for reducing one’s impact while diving or snorkeling.



Case Study

Building from the framework of Our Underwater Treasures, The Fairmont Kea Lani developed their own in-room interpretive materials that feature reef etiquette tips and identify species of fish commonly found on the reef in front of the property; volunteer fish survey data from the area drove the species list.

“We are excited to feature the latest material that the Coral Reef Alliance provided to us! In addition, we feature our aquarium to educate our guests about sea urchins and how they should avoid contact with our spiny friends. Our Hui Holokai program speaks to the cultural and ecological significance of our native Hawaiian green sea turtles and our tide pool education class introduces our guests to all the diversity that can be found along our coasts,” said Scott Pirscher, of the Fairmont Orchid.

property, you capitalize on a highly visible way to demonstrate your commitment to conservation to guests and the local community.

The Coral Reef Alliance (CORAL) coordinates an Adopt-a-Sign program, whereby community and business sponsors can purchase a Respecting Coral Reefs sign (coral.org/what-we-do/where-we-work/Hawaii/respecting-coral-reefs). These signs were developed to convey key reef etiquette messages as well as interesting ecological information about Hawai'i's reef life.

Other signage is available, such as a series produced by the Watchable Wildlife program, that includes seven individual sign designs about forest birds, monk seals, reef fishes, seabirds, turtles, wetlands, and whales, all specific to Hawai'i.

Developing a site-specific sign could be a fun way to engage your Green Team, and provides an opportunity to reach out to local groups for consultation on ecological as well as cultural content.

3. Presentations

As noted above, many of your guests are eager to learn more during their stay and will seek out opportunities to do so. By facilitating these opportunities on-property, you can provide value-added experiences for your guests, and provide linkages to other amenities offered in-house or by your vendors. Presentations do not need to be long and drawn out PowerPoints at an



2 Signage

Resorts on Maui that have Sponsored Respecting Coral Reefs Reef Etiquette Signs: Sheraton Maui

Resort & Spa, Marriott Maui Ocean Club, Kā'anapali Ali'i, Westin Maui Resort, Westin Kā'anapali Ocean Resort Villas (2), Ritz Carlton Kapalua, Maui Eldorado, The Mahana, Honua Kai Resort and Spa, Napili Surf Resort, Napili Kai Beach Resort, and Fairmont Kea Lani (15)

Resort on Hawai'i Island that has Sponsored a Sign: Fairmont Orchid

Resort on Oahu that has Sponsored a Sign: Halekulani

Resort on Kauai that has Sponsored a Sign: St. Regis Princeville Resort

Don't have a sign? Make one, or sponsor one! The Mauna Lani Bay Hotel and Bungalows has developed its own signage for its property, highlighting the reef life found in the area.

intimidating academic level; they can be as short as 3 minutes to share a single theme and convey a few simple messages. All you need are things like a few laminated photos, a model of a humpback whale or jellyfish, or other simple materials.

Schedule theme-based quick and easy presentations during the week at your concierge or watersports company desk that you can use as an engagement and selling tool; use flip charts or laminated photos, and come up with a simple 5-minute module for each theme. Put it on your events calendar (e.g. Monday: coral reefs and common fishes; Tuesday: sea turtles; Wednesday: whales and dolphins; Thursday: monk seals; and Friday: sharks).

Your guests may appreciate longer more in-depth presentations as well, and if you are short on staffing capacity, consider inviting conservation professionals from your area, or even local high school students

Case Studies

Kā'anapali Beach Resort's Pōokela Program partners with charter company Trilogy Excursions to host a 2-hour sail (or classroom-based experience). During the program, a community cultural leader teaches about the history of West Maui's coastline (from Kā'anapali to Olowalu), points out streams, riverbeds, and changes in landscape due to population pressure and land use, and describes how those changes have affected the ecosystem, mauka to makai.

Every month when the full moon rises, **Mauna Lani Bay Hotel & Bungalows** invites hotel guests and Hawai'i residents to join Danny Akaka for an evening of storytelling and entertainment at Talk Story Under a Full Moon at the oceanfront Eva Parker Woods Cottage.

The **Four Seasons Resort Maui at Wailea** created a special website for guests, In Our Gardens (inourgardens.com). Guests can find and learn about the plants on property, with a focus on native plants, through beautiful photography. The website also features Na Mo'olelo O Hawai'i (stories and legends) to promote cultural awareness and a sense of place. The resort is also in the process of building a Moon Garden, based on the concept of the Hawaiian Moon Calendar, on its property; according to Assistant Director of Engineering Kevin Gavagan, "If we share the stories of this place, people will know how special it is and treat it with respect."

Four Seasons Hualalai has an on-staff marine biologist, and holds daily presentations about sea turtles and touch tank critters. The resort has also developed a marine-themed educational treasure hunt activity for kids and its own in-room information on coral reefs and reef etiquette.

Continues on next page

Reef Stewardship Activities that Engage and Educate

4

PSAs

The Four Seasons Resort Maui at Wailea worked with CORAL and VERB TV to produce a property-specific PSA focusing on reef etiquette; the video is available on the resort's website.



seeking community service credit, to give periodic presentations for guests.

4. PSAs

If your property has the capability, consider showing targeted Public Service Announcements (PSAs) that provide key guidance on ocean etiquette, as well as ocean safety.

In 2012-2013, a project funded by the Hawai'i Tourism Authority in partnership with the State of Hawai'i Department of Land and Natural Resources and the Hawaiian Islands Humpback Whale National Marine Sanctuary,

resulted in a series of PSAs that focus on reducing instances of visitors harassing marine wildlife, trampling corals, and feeding wildlife. These PSAs were developed in response to a survey that demonstrated that a majority of visitors are unfamiliar with Hawai'i's marine conservation laws (Bernstein et al., 2012). The PSAs can be viewed on and obtained through the ROAR Hawai'i website (roarhawaii.org).

For the Sea (forthesea.com/reefetiquette-psa.html) also produced a Hawai'i-specific reef etiquette PSA which can be obtained through their website.

Sustainable Marine Recreation

With so many of your guests seeking to engage in some form of marine recreation during their stay, it is important that your property's staff and vendors provide them with not only a safe and fun experience, but one that seeks to reduce impact to the environment. This can be accomplished by adopting, sharing, and following best practices, and providing effective briefings and active supervision of guests. To support these efforts, a variety of interpretive materials can be used to share key information with guests.

Take the necessary steps to ensure that your in-house watersports company, and/or any vendors you contract with, are following best practices and effectively communicating and enforcing these practices to your guests.

West Hawai'i Voluntary Standards for Marine Tourism

The West Hawai'i Voluntary Standards for Marine Tourism (WHVS) are the state's first and only set of consensus-based, community-derived volun-

tary standards for marine tourism in Hawai'i. They outline best practices for SCUBA, SNUBA, Snorkeling, General Boating (including surf schools and kayak tours), and Wildlife Interactions (including marine mammals, manta rays, fishes and invertebrates). In support of these standards, CORAL has produced educational materials and assessment tools, and has a series of training videos online at coral.org/standardstraining.

Hawai'i Ecotourism Association's Sustainable Tour Operator Certification

The Hawai'i Ecotourism Association, with support from the Hawai'i Tourism Authority, developed a Sustainable Tourism Certification Program, and maintains a listing of certified operators at hawaiiecotourism.org/travelPono.

This program maintains a comprehensive checklist of performance measures and other resources available online that can help provide guidance and inspiration to any company



Visually demonstrating a commitment to a cause—in this case the discouragement of fish feeding—helps guests understand a policy and provides an opportunity for further engagement and education.

wishing to become more sustainable. Consider encouraging your in-house watersports company to seek certification in any of these programs or other locally available offerings, and ask your third-party vendors to obtain certification as well. Inform your concierge or activity booking company about the programs, and let guests know about them too.



Maui Cultural Lands welcomes volunteers to join them every Saturday for maintenance work in Honokowai valley, where they have a chance to care for native plants and learn about Hawaiian culture. Photo courtesy of Maui Cultural Lands.

‘Voluntourism’

“**V**oluntourism,” meaning “a form of tourism in which travelers participate in voluntary work, typically for a charity” is a relatively new term, only having been officially accepted into the Oxford Dictionary in 2013. In fact, it has been in practice and in demand here in Hawai‘i for some time, and is one of the fastest growing segments in the travel industry, according to the World Heritage Alliance. Many visitors want to make a tangible difference in the community they are visiting, but need guidance to do so in a respectful and genuine manner. Fortunately, there are increasing opportunities available statewide that accommodate individual guests as well as groups. By facilitating your guests’ participation in volunteer activities,

you provide them with meaningful activities in which to engage and support local community efforts as well.

Voluntourism opportunities include beach cleanups, trail maintenance, weed-removal, lo‘i restoration, or native planting efforts. All of these activities can indirectly promote the health of our coral reefs by reducing erosion, sedimentation, and land-based pollution. Involving guests in both land- and ocean-based voluntourism reinforces the critical theme of interconnectedness, the concept that everything we do on land affects the ocean—and in Hawai‘i, our coral reefs. Visitors will carry this theme, once ingrained through service while in Hawai‘i, home, promoting watershed stewardship on an even larger scale.

Voluntourism: Resorts facilitating community service activities for guests to engage in and support the efforts of local organizations.

Case Studies

As part of a corporate initiative, the Giveback Getaways Volunteer/Voluntourism program, the **Ritz-Carlton Kapalua** Mālama Ka Aina program partners with Mālama Kahalawai to restore the watershed, coordinating native planting activities for community members and guests. This effort is re-establishing native plants on 30 acres of former pineapple lands located above Honolua Bay in West Maui.

Starwood’s “Events with Aloha” program provides an opportunity for groups to participate in a variety of locally based volunteer efforts that promote connections with and support of Hawai‘i’s culture and natural resources. Groups that stay at Starwood properties throughout Hawai‘i can take part in conservation activities that benefit reefs and watersheds, including caring for hydroponic vegetable gardens and lo‘i (taro patches), repairing fishpond walls, maintaining heritage hiking trails, restoring habitat for native birds, and eradicating invasive plant species.

Reef Stewardship Activities that Engage and Educate

Taking Your Cleanup a Step Further

You may want to use a beach cleanup event as a larger educational platform, and pass along ‘what you can do’ tips and messages. For example, give away reusable bottles or bags with your hotel’s logo. Create an educational display about recycling, and highlight the areas on your property where items can be recycled. If you have a Green Team, have them available the day of the cleanup to answer questions from your guests and talk about your property’s sustainability efforts. Involve the youth from your day care or kids camp program, and give out educational materials. Invite your staff to bring their children that day to participate as well. These are just a few ideas and suggestions—engage your team and see what you can come up with.

Case Study

Keep Puakō Beautiful

This volunteer group based out of Puakō is a branch of Keep Hawai‘i Beautiful. They coordinate regular beach cleanup efforts in the region. For more info about this event and more, please contact Cynthia Ho at kpb@hawaii.rr.com.



Beach Cleanups

A simple, yet surprisingly fun, activity your property can coordinate is a beach cleanup. It’s a great way to promote stewardship; gathering people together for a cleanup also fosters camaraderie, and is a highly rewarding way to make a difference. Furthermore, your guests will feel empowered and appreciate the opportunity to contribute and give back to Hawai‘i. A beach cleanup is a great way to instill and reinforce an overall environmental ethic in your staff, guests, and the local community.

There are a couple of ways you can conduct beach cleanups—as “one-off” events with your staff and/or guests held on a periodic basis, or as larger-scale, scheduled events involving guests and/or the local community. There is also a yearly event held every September, International Coastal Cleanup Day, that coordinates cleanups around the world, and takes involvement a step further by providing a checklist for participants to sort and count the debris; the data collected are then made available and can contribute to conservation and awareness efforts. To help your property coordinate and conduct beach cleanups, CORAL



has compiled resources and key instructional guidance at coral.org/cleanupchallenge.

As a follow-up to your beach cleanups, you can review your observations and analyze the data to determine any patterns or issues of concern, and take actions to respond, such as securing trash bins so debris doesn’t fly away, reducing the sale and promotion of single use plastics, setting up a water station for guests, or making straws in drinks available only by request.

Water quality monitoring can be done simply with inexpensive and easily found test kits.



Citizen Science

Citizen science projects are collaborative efforts between the scientific community and volunteers who possess varying degrees of expertise and formal training in the discipline in question. The reality is that “laypeople” far outnumber scientists, and with sufficient training and knowledge, everyday volunteers can make a major difference—by monitoring, collecting abundant and valid data, and noticing key trends. Informed volunteer networks can serve as the “eyes and ears” of an ecological community and will often provide the first indications of changes to a system.

Citizen science efforts vary in the amount of training, expertise, and equipment needed for one to participate. Many people worldwide participate, not just to assist with local resource management needs, but because above all else it’s fun and personally rewarding. At its core, the goal of citizen science is “engagement,” to promote and facilitate resource stewardship; in other words, it’s less about the data and more about getting involved and taking those first steps. However, in time, community volunteers can go from apprehensive novices to fully dedicated experts, contributing data that really make a difference.

It is absolutely possible for your property to take part in citizen science efforts and involve your guests at the entry level.

Get Social

Encourage your guests to share underwater photos taken during their tours with your watersports company by posting them on your property’s Facebook page or Instagram account (or set up a special one for this purpose). Use your social media presence to routinely share reef etiquette and conservation tips, and create a special hashtag to aggregate content provided by your staff and guests.

Fish identification is an easy and engaging example; the Reef Environmental Education Foundation (REEF, reef.org) provides a simple and fun fish survey method that anyone can jump in and do with minimal training and materials. Another program that resorts can get involved with is the Eyes of the Reef Network (eorhawaii.org), a community-based early warning system. Your watersports company staff can quickly and easily learn how to distinguish “normal” conditions on the reef from those that are cause for concern, such as disease and bleaching. Your team can then “adopt” your reef, and involve guests in monitoring it through simple observations and photos.

For a listing of citizen science efforts and community groups that coordinate these efforts in your area, visit the Coral Reef Monitoring Data Portal at monitoring.coral.org, and also refer to Appendix C.

What’s “Turbidity?”

Get your guests involved in water quality monitoring with simple, but important, tests that measure the turbidity (clarity of the water). Coral reefs need clean, clear water, and by using a simple secchi disk—you can make your own or get a test kit that includes one from worldwatermonitoringday.org/TestKits.aspx—you can easily get a reading of turbidity and share that with your guests; post it up on your watersports company’s weatherboard, or even involve kids from your kids camp in checking out the sample. For more ideas on how to perform water quality monitoring activities on your property, download the publication, “Taking Care of Hawai‘i’s Waters—A Guide for Getting Started in Volunteer Water Monitoring” from the Coral Reef Monitoring Data Portal at monitoring.coral.org/resources/download.

Coral Reef Monitoring Data Portal

monitoring.coral.org
This online resource was established as a clearinghouse for citizen science opportunities in Hawai‘i, and also incorporates data from water quality monitoring and fish surveys coordinated by the Division of Aquatic Resources. The site houses a variety of educational resources, guidance on how to get involved in citizen science efforts, and links to other programs with online data entry.

C-Water Toolkit

University of Hawai‘i Sea Grant and the South Kohala Coastal Partnership is launching a Coastal Community Seawater Monitoring toolkit and citizen science program. Water quality workshops and training opportunities and monitoring equipment will be available for interested parties.

Reef Stewardship Activities that Engage and Educate

Makai Watch Program

The statewide Makai Watch program, a partnership between the Hawai'i Department of Land and Natural Resources (DLNR) and NGOs, provides community members with the opportunity to play an active role in site-based stewardship efforts. Trained volunteers participate in citizen science efforts, monitoring marine resources and human activities, help with education and outreach, and serve as the “eyes and ears” for DLNR’s enforcement agency, the Division of Conservation and Resource Enforcement (DOCARE). Connect with your local Makai Watch group to explore ways you can support their work.

For a listing of Makai Watch programs in your property’s region, visit HawaiiCoralReefStrategy.com/index.php/local-action-strategies/makai-watch.

Spotlight

Kā'anapali Makai Watch is a community-based Makai Watch program in the Kā'anapali region of West Maui that supports a local marine managed area, the Kahekili Herbivore Fisheries Management Area (KHFMA). As the coast in the region is dominated by resort and condominium properties, the program is increasingly aiming to involve guests and part-time residents in education and outreach as well as citizen science opportunities. There are many ways your property can support this effort and get involved. For more information, visit facebook.com/KaanapaliMakaiWatch or contact the coordinator at KaanapaliMakaiWatch@gmail.com.



Have your resort support local community organizations and participate in conservation and stewardship opportunities coordinated by local groups

Community Involvement

There are numerous ways in which you can give back to the community by actively involving and supporting local groups; accordingly, there are also many wonderful examples already being employed by the Hawai'i accommodations sector.

A few ideas, opportunities and inspirations:

- **Support local groups** by providing a venue for their gatherings—even making a small room periodically available for meetings makes a big difference and can be valued as an in-kind donation.
- **Provide a venue and host groups** for larger events such as Earth Day or Ocean Day gatherings.
- **Sponsor local groups' beach cleanups** or other coastal conservation efforts by providing drinks and/or food.
- **Invite local youth and school groups** to your property to learn about career opportunities in the hospitality industry.
- **Hold a community “open house”** hosted by your Green Team to showcase your sustainability efforts firsthand and introduce your team.
- **Enlist your food and beverage department** to sponsor and host “science cafes,” where researchers and conservation professionals can share their work; provide a discount for food and/or drinks, and invite your staff to participate as well!
- **Install interpretive signage** and invite a local halau to help you celebrate its installation.
- **Install a rain garden** and/or “edible landscape” garden on your property, and invite local students, youth groups, and other community members to care for the native plants and food crops. Refer to the Stormwater Management section of CORAL’s Recycled Water for Reefs Guide for more information.
- **Designate a parking space** or two in your lot for community members to support fishing families in your region and promote sustainable gathering and public access to coastal resources. A common complaint is that there are too few parking spaces available within areas dominated by resorts, limiting locals’ access to beaches and favored fishing areas.
- **Reach out to and support community groups** in your area that are directly engaged in the conservation and stewardship of nearshore marine resources; many of these groups are part of the E Alu Pu Community Network (KUAHawaii.org), Community Managed Makai Areas, and/or Statewide Makai Watch program (see left). Ask them how you can help.



Other Activities

- Brainstorm with your Green Team to create fun opportunities for guests and/or the local community structured around theme days or weeks (see calendar of examples); for instance, on International Sushi Day (6/18), prominently feature and publicize sustainable seafood choices available in your restaurants.
- Develop an onsite sustainability scavenger hunt self-guided tour for guests, providing an opportunity to showcase your property's stewardship actions, especially those behind the scenes; incentivize it with giveaways or discounts at your food and beverage establishments. Promote this as an ongoing opportunity as well as a rainy day activity.
- Create a branded rash guard with reef conservation messaging to sell in your sundry stores; promote it as reducing the need for sunscreen. Work with a local group to develop the content.

Calendar of Events

Nationally and internationally designated “theme” days, weeks and months provide a great opportunity for education, awareness, and action. With some creativity, your resort can harness the opportunity to celebrate and promote green practices, as well as the conservation of local resources and species of interest. These events can support and actively involve education

and conservation organizations and agencies from your area; enlist them to give lectures about related topics, guide tours in the respective ecosystems, and lead or help coordinate other value-added activities to promote best practices and raise awareness. See Appendix D for a list of days and dates of nationally and internationally designated days, weeks, and months.

Spotlight

With support from the Puakō Community Association and The Nature Conservancy, the Puakō community created the **Puakō Makai Watch**, a Makai Watch program to support proper management of marine resources.

The Makai Watch program “provides interested community members with opportunities to become involved and help monitor and manage Puakō’s marine resources,” according to the program’s website (puako.org/makai.html). For more info about the program or its volunteer opportunities in Puakō, please contact the coordinator, Randy Clarke at prkclarke@gmail.com.

Case Studies

Westin Kā'anapali Ocean Resort Villas is partnering with Ka Hale A Ke Ola Homeless Resource Center (KHAKO) and Ho'opono Farms to educate local youth about farm-to-table initiatives, local culture, and intergenerational learning and values.

The **Four Seasons** has committed to planting 10 million trees around the world to offset the effects of climate change and promote watershed stewardship. The Four Seasons Resort Maui at Wailea participates in this international “10 Million Trees” program by involving its staff in restoration efforts on the Island of Kaho'olawe; the Four Seasons Hualalai Resort partners with Hawaiian Legacy Hardwoods to save the native koa trees and forests of Mauna Kea.

Reef Stewardship Activities that Engage and Educate

Programs and Tools

Seafood Watch Recognition Programs and Tools for Businesses and Consumers. See Appendices B, E, and G for links to these sites.

Restaurant Program

To be listed on Seafood Watch's Restaurant Program website, restaurants must no longer serve items from the program's red "Avoid" list. "They also train their staff members, and help raise awareness in their communities." To date, there is one restaurant in Hawai'i (Fish Hopper in Kona, Hawai'i Island) on the list.

Project FishMap™

The Seafood Watch program also has a mobile app which includes Project FishMap™, allowing users to note locations where they encounter "best choice" or "good alternative" seafood options; it also lets users search near their current location for businesses and restaurants where sustainable seafood has been spotted and recorded.

Buyer's Guide for Chefs

A listing consolidating the program's recommendations is available on the Seafood Watch site, with the intention of making it easier for chefs to identify and source sustainable seafood.

Sustainable Seafood

The high demand for seafood in Hawai'i is more than apparent. Between 2000 and 2009, the majority of seafood consumed in Hawai'i was internationally imported; imports from the continental United States accounted for a very small percentage, and locally caught seafood came in at about a third (Geslani et al., 2012). According to another recent study, the most widely consumed seafood in Hawai'i between 2000 and 2009 was tuna, followed by salmon, mahi mahi, and shellfish. While shrimp accounts for the top spot for the whole of the U.S., it was the fifth-most consumed type of seafood in Hawai'i (Loke et al. 2012). The global demand for seafood is resulting in an alarming decrease in fish populations globally; nearly 85 percent of the world's fisheries are fished to capacity, or overfished (Myers and Worm, 2003).

When it comes to seafood, there are many factors to consider when evaluating the best choices. There are a number of programs, guides, labels, and certifications to help you make the most sustainable selections, but they can be difficult to navigate. How can your property ensure it is making the best decisions when it comes to the sustainability of your seafood offerings? To assist you, we have shared some broad information within this publication; more information, resources and guidance on this issue can be found at coral.org/hotelstewardship.

According to NOAA's Fishwatch program (fishwatch.gov) sustainable seafood considers the "long-term health of the environment and the livelihoods of the people that depend upon the environment," and meets today's needs "without compromising the ability of future generations to meet their needs."

When evaluating whether a species is sustainable, analysts take into account factors such as the life history and population status of the species being harvested, the

methods used to harvest it, and the impacts of these methods to the surrounding environment and local populace. Bycatch is a significant concern, as some fishing methods result in the inadvertent harvesting of non-target species, including threatened and endangered seabirds, turtles and marine mammals; in fact, a report by the Natural Resources Defense Council indicates that a majority of imported seafood to the U.S. violates the Marine Mammal Protection Act (Smith et al., 2014).

It is important to consider all these factors when attempting to implement a sustainable seafood policy for your property. Furthermore, "locally caught" may not necessarily always be the best choice, depending on how the species is currently faring and how it was harvested. Another consideration is the species' place within the food chain, where lower is better; some good choices include anchovies, sardines and tilapia.

Through examination of a number of the existing sustainable seafood programs and resources, it is apparent that there is not always 100 percent agreement between programs as to what constitutes a "sustainable" seafood option. Some programs' findings have been called into question due to lack of accountability and third-party verification, particularly when it comes to the supply chain traceability, and disagreements over population status and inconsistencies in labeling (Jacquet et al., 2010). That being said, the Monterey Bay Aquarium's Seafood Watch program is arguably the most relied upon resource for sustainable seafood, having been developed from a synthesis of government reports, peer-reviewed journal articles, and white papers, and reviewed by a panel of experts from diverse backgrounds.

Nevertheless, for comparison purposes and to identify a degree of alignment between programs, we looked at several to compare their findings regarding the top seafood con-



To make a better choice in your seafood consumption, you can reference tools provided by sustainable seafood programs, and also ask the servers or managers about their policies. This not only informs you as the consumer, but sends a message to management that it is an issue of concern to you.

sumed in Hawai'i: tuna, mahi mahi, shrimp, and salmon. Summaries provided by Seafood Watch, Environmental Defense Fund's (EDF) Seafood Selector, and the Blue Ocean Institute's sustainable seafood program are presented below. Greenpeace produces a Red List indicating species to avoid; their recommendations are also included.

Tuna (Ahi, Aku, Albacore, Bigeye, Skipjack, Yellowfin): Tuna are fast growing and produce many offspring at an early age, life history characteristics that usually help safeguard a population; however, the high demand for tuna offsets these ecological features. Typically, troll- or pole-caught tuna is more sustainable, as those methods result in less bycatch. While long-lining in general is often a harmful fishing method due to bycatch, Hawai'i's regulations have resulted in the ahi (yellowtail) fishery receiving a "good alternative" rating from Seafood Watch. EDF's "best" eco-rating for tuna went to US and Canadian fisheries that were troll or pole caught. Imported tuna caught with longlines or purse seine nets should typically be avoided. Bluefin tuna populations are at risk and should also be avoided.

Salmon: Alaskan wild-caught salmon (types include chinook/king, chum, coho, pink, sockeye) has been deemed a best choice by all the programs examined. This is due to population status and the gear used, which causes little harm to the environment. Also, Alaskan wild salmon has been found to be low in contaminants. Wild-caught salmon from the US Pacific Northwest region (CA, WA, OR) is considered a "Good Alternative" by Seafood Watch, has an "OK" Eco-Rating by EDF, and a moderate [yellow/yellow fish] rating by Blue Ocean Institute.

Atlantic farmed salmon is on all programs' "avoid/worst" lists, including Greenpeace's Red List. Farmed salmon are typically raised in open pens and cages, and the farms can contribute pollution and introduce parasites and diseases into the surrounding waters, harming local populations. The exception noted by Seafood Watch is "U.S. Farmed in Tank Systems and Farmed Verlasso® Brand from Chile," as environmental impacts of the inland farming method are minimized.

Case Studies

The **Marriott** is the largest hotel chain to have an official sustainable seafood policy; it has partnered with CleanFish Alliance to create its "Future Fish" program, with the goal of ensuring all its properties purchase at least 50 percent sustainable seafood. As an example, none of Marriott's restaurants will serve bluefin tuna or Chilean seabass.

The **Westin Kā'anapali Ocean Resort Villas** has "eliminated threatened seafood" from its restaurants and provides guests with a sustainable food menu.

Japengo, a restaurant located within the Hyatt Regency Maui, highlights its commitment to sustainability on its menu.

Four Seasons Resort Hualālai at Historic Ka'upulehu offers a Farm to Table program that encourages guests to visit local farmers markets on island and then provides chefs at the resort to prepare the ingredients.

Kohanaiki has an organic community farm on property which produces most of the fruits and vegetables used in its restaurant and catering services. It serves only locally caught fresh fish.

Continues on next page

Reef Stewardship Activities that Engage and Educate

Case Studies

The Ritz-Carlton Kapalua Resort uses compostable dishes and utensils, composting food waste and scraps, and purchasing food from local vendors or growers. They have also established an organic garden on property, and have a chef-led, complimentary interactive tour, “Ai Pono” (Eat Well).

At Fairmont Kea Lani, serving sustainable cuisine has always been a resort-wide priority. Executive Chef Tylun Pang works with local purveyors, purchasing ingredients like Surfing Goat Dairy cheese, Maui lavender honey, locally caught fish, Maui Cattle Company beef, and produce from 16+ farmers. All fish entrees at Kō are from sustainable fisheries and over 90 percent of produce is sourced locally; this commitment earned Chef Pang the “Friend of Agriculture” award in 2012 from the Maui County Farm Bureau.

Mahi mahi (dolphinfish, dorado): Mahi mahi is another highly targeted species which benefits from its life history characteristics, being fast-growing and early to mature and reproduce. Mahi mahi locally caught by trolling, pole, or handline are the most sustainable and are the best choice. However, longline fisheries for mahi mahi in the US and Ecuador are considered a “good alternative” with an “OK” eco-rating due to strict regulations minimizing bycatch. Mahi mahi caught by longline and imported from other areas should be avoided because of its bycatch (often turtles, seabirds, sharks, and marine mammals).

Shrimp/Prawns: The sustainability level of shrimp or prawns is mostly focused upon the method used to catch or farm it, and the resulting impact upon the environment. Shrimp can be caught using trawling techniques which differ in their impact; shrimp caught by otter trawl are preferable because this method uses TEDs (Turtle Excluder Devices; required in all US areas except Louisiana), whereas skimmer trawls do not employ TEDs. Farmed shrimp is often problematic and unsustainable due to coastal habitat destruction and pollution associated with the aquaculture methods. However, there are some farming strategies employed in the US (open and recirculating systems) that have received a “good alternative” rating from Seafood Watch; some of these are certified by the relatively new Aquaculture Stewardship Council (asc-aqua.org), which is in the process of developing standards for sustainable shrimp production. This program is related to the Marine Stewardship Council, which also certifies fisheries including those that harvest shrimp; the MSC website (msc.org) provides a search tool to find locally available certified seafood.

In general the shrimp type receiving all around “Best” ratings is wild-caught pink shrimp from the Pacific Northwest, as well as spot prawns from Canada (spot prawns from the US are “good alternatives”).

More Seafood Watch Tools

Use any of these options to determine which category to assign your seafood menu item:

Website search: seafoodwatch.org/cr/cr_seafoodwatch/sfw_recommendations.aspx

Consumer Regional Pocket Guide:

(Hawai‘i-specific and sushi options are available)

- seafoodwatch.org/cr/cr_seafoodwatch/download.aspx
- seafoodwatch.org/cr/cr_seafoodwatch/content/media/MBA_SeafoodWatch_HawaiiGuide.pdf

Consolidated Buyer’s Guide for Chefs:

www.seafoodwatch.org/-/m/sfw/pdf/business-es/mba-seafoodwatch-buyers-guide.pdf

Mobile App

(available for iOS and Android phones):

seafoodwatch.org/cr/SeafoodWatch/web/sfw_iphone.aspx



Evaluate Your Property

You can use the chart in **Appendix G** to quickly assess how sustainable your property’s seafood offerings are, according to the Seafood Watch program.

Shrimp that is farmed in fully recirculating inland ponds in the US also earned a “best” rating from Seafood Watch, while shrimp farmed in open systems in the US is a “good alternative.”

Giant tiger prawns or black tiger shrimp, one of the most widely marketed and desired type of shrimp, have EDF’s “Worst” eco-rating and Seafood Watch’s “Avoid” list due to habitat impacts from farming and trawling; shrimp from Selva Shrimp® Verified Farms, however, are designated a “Best” choice.

Sundry Stores and Other Vendors



Evaluating and adjusting the products available in sundry stores is one way to demonstrate a property's commitment to sustainability.

Resorts' purchasing departments can play an important role in the sourcing and promotion of more sustainable products available for sale on property. The products you stock can have various degrees of impact upon the natural environment, particularly coral reefs.

Coral reefs are impacted by the direct and indirect efforts of harvesting for the souvenir and jewelry markets. If coral and marine life themed décor (such as coral, shells, dried sea stars, and seahorses) is desired by your guests, or by your property itself for decoration purposes, use "faux" products; they can look surprisingly real and do not have a negative ecological impact. However, be sure to highlight to guests that these are in fact artificial, to avoid the ongoing promotion of this practice.

Your purchasing department should also consider what sunscreens and personal care products (PCPs) it sells. The relative impact of sunscreen in particular has tended to be overblown in the media, and is often seen as a convenient scapegoat for reef decline. There is currently no regulation of "ocean" or "reef-safe" sunscreen labeling, so consider claims accordingly. However, emerging research does indicate that some compounds in sunscreens and other personal care products—such as benzophenone or "BP-2"—can be harmful to the environment, and these effects are exacerbated in bays and other areas with reduced water

Coral Jewelry

Tiffany & Co. and Na Hoku both have policies prohibiting the use of coral in their products, and clearly communicate this to customers. Tiffany & Co., in addition to participating in the "Too Precious to Wear" campaign regarding coral jewelry, has a robust Corporate Social Responsibility Policy, which is readily available on their website tiffany.com/csr and includes information on sustainability and sourcing of materials.

circulation. Look at the ingredients on the sunscreens and other products you stock in your sundry store and choose options that do not contain BP-2. The team from Haereticus Labs (which conducted this ecotoxicological research) has provided general guidance that sunscreens with zinc oxide are environmentally preferable to those containing benzophenone or oxybenzone, so look for these on labels as well.

To further reduce potential impacts, promote the use of rash guards instead of sunscreens and choose biodegradable and waterproof sunscreen options.

Another item to avoid selling in your sundry stores is recreational fish food. Fish feeding is actually prohibited in some areas because of its ecological effects. Many types of fishes play an important role as grazers, keeping the population of algae or seaweed in check. They don't need feeding, and furthermore, some species have been known to become aggressive and bite humans.

Science Spotlight

A study published in 2013 by Downs et. al. showed that benzophenone-2 (BP-2), a common additive to personal-care products and sunscreens as a protector for UV-light, has adverse effects on coral larvae survival and development. BP-2 is a common component of soaps, bath salts, body lotions, shampoos, paints, and plastics, and it gets released to the oceans through municipal and industrial wastewater. Increasing concentrations of BP-2 were shown to cause coral bleaching, high rates of genetic mutations, various cell and tissue deformations, and immobility during the early life-stage of young corals. The concentrations tested were between 25 parts per billion and 250 parts per million (one part per billion is equivalent to 1 drop of ink in an Olympic-size swimming pool), which indicates that even incredibly small traces of this chemical can result in harmful effects for coral reef ecosystems.

Case Studies

The **Ritz-Carlton Kapalua's** Ambassadors of the Environment Program sells only environmentally safe sunscreens and educates guests about the issue in person and through a PSA.

The **Fairmont Kea Lani** on Maui offers an Eco-Shopping program. Each eco-friendly item at The Fairmont Store is marked with a Turtle Tag made of biodegradable material and forget-me-not seeds to plant once at home.

Your Hotel's Stewardship

How 'Green' is Your Property?

When starting to assess your property, first focus on your hotel's impacts in the following main areas of sustainability: waste, energy, water, purchasing, transportation, pollution, outreach, and education. An abbreviated checklist is provided below to help you identify areas for adoption, expansion, and improvement.

Waste

Action	Y/N	Notes
Track solid waste and recycled materials leaving your property		You can use WasteWise, US EPA's free online tool: epa.gov/osw///conserve/smm/wastewise/about.htm
Conduct a waste audit		Characterize your waste stream and identify areas for improvement
Have systems or processes in place to recycle the following: paper, glass, metal, plastic, and cardboard		Recycling reduces the amount of material going to landfill or incineration and reduces the need for new materials to make new products
Use permanent ware when possible		Using permanent items such as plates, glasses, and tableware can reduce waste
Donate partially used in-room amenities such as shampoo, conditioner, and soap to local shelters and halfway homes		Clean the World (cleantheworld.org) and Global Soap Project (globalsoap.org) will take these items
Donate excess post-consumer food to local homeless shelters and animal feed farms		Food waste is often heavier than other wastes, so removing it from your waste stream can significantly reduce your hauling fees

Energy

Action	Y/N	Notes
Track energy use on a monthly basis		Use ENERGY STAR® Portfolio Manager®, US EPA's free online tool: energystar.gov/buildings/facility-owners-and-managers/existing-buildings/use-portfolio-manager
Conduct an energy audit		Look at your property's energy use profile and identify energy-saving potential
Use energy efficient bulbs in 75% of your interior lighting		Energy efficient lighting includes LED, CFL, and T5 and T8 fluorescent
Perform regular inspections and maintenance of your HVAC system		Make sure to change filters, locate leaks or obstructions, and clean coils

Water

Action	Y/N	Notes
Track water use on a regular basis		Use ENERGY STAR® Portfolio Manager®, US EPA's free online tool: energystar.gov/buildings/facility-owners-and-managers/existing-buildings/use-portfolio-manager
Put in place a towel and linen reuse plan, which includes housekeeping training and periodic checks		Policies like this allow for the washing of towels and linens every few days rather than every day, saving water, energy, and staff time, and reducing chemicals
Use low-flow water fixtures		WaterSense® labelled aerators, showerheads, and toilets are more water efficient: epa.gov/WaterSense/products
Install a rain garden on your property		Rain gardens are engineered to capture a predetermined volume of water when it rains, treat that water using plants, and allow it to sink into the ground where it will recharge groundwater
Use pervious over impervious pavement on your property		Examples of pervious pavement include gravel, bricks, pavers, grass paving cells, or even "pervious concrete"
Install bioswales on your property		A bioswale is a drainage area that helps trap silt and pollutants from stormwater
Construct wetlands on your property		Constructed wetlands (sometimes referred to as "artificial wetlands") are designed to filter and treat larger volumes of stormwater by mimicking a natural swamp or wetland
Design a vegetated roof on your property		Plants and soil on a vegetated roof absorb and evaporate stormwater, and can also help cool a building by providing a reflective and insulating layer on the roof

Purchasing

Action	Y/N	Notes
Establish a green purchasing policy		<ul style="list-style-type: none"> • Use third-party labels such as Green Seal, Forest Stewardship Council, EPEAT, ENERGY STAR®, WaterSense®, and Design for the Environment when documenting purchasing preferences • Ensure your sundry store(s) do not have coral-derived jewelry or products made from marine life (e.g., shells, dried seahorses, sea stars) or sell recreational fish food • Offer only seafood considered Best Choices or 'Good Alternatives' (see seafoodwatch.org) in your restaurants

Transportation

Action	Y/N	Notes
Provide your guests and staff convenient alternatives to single occupant vehicles		Offer guests options such as bicycles, walking maps, and information on public transportation
Offer secure bike parking and shower facilities for your employees		Allow staff to safely store their bikes and start the day fresh and clean
Provide employer-subsidized public transportation passes		Alternatively, provide shuttles and/or rideshare options

Your Hotel's Stewardship

Pollution Prevention

Action	Y/N	Notes
Evaluate actual and potential sources of pollution on your property and identify ways to reduce their risk and/or find safer alternatives		Use Material Safety Data Sheets (MSDS) and label all products
Reduce or eliminate the use of chemical pesticides by implementing an Integrated Pest Management (IPM) program		For tips, consult the EPA recommendations: epa.gov/opp00001/factsheets/ipm.htm

Management and Training

Action	Y/N	Notes
Create a Green Team		A Green Team is useful in identifying areas of improvement, formulating strategies, and keeping green initiatives moving forward
Train staff on energy and water conservation procedures as well as ecological awareness		Integrating conservation into your culture helps reduce operational waste and supports continuing educational opportunities for your staff

Education

Action	Y/N	Notes
Communicate your sustainability efforts to guests; provide information on your property's green practices		Include information on your website, in collateral materials, and on signage to make guests aware of—and to help them understand—your efforts to be “green”
Provide education for your guests about coral reef ecosystems		Include practices your guests can take to reduce their impact while on vacation
Work with your watersports company to ensure best practices are followed and communicated to guests		Refer to Hawaii Ecotourism Association's Sustainable Tourism certification program (hawaiiecotourism.org/TravelPono) and/or the West Hawaii Voluntary Standards for Marine Tourism (WestHawaiiMarine-Tourism.org)
Provide opportunities for staff and guests to support local groups and conservation initiatives		Through engagement in voluntourism, citizen science, or other community service
Coordinate periodic onsite conservation activities that encourage guest participation		Beach cleanups, Earth Hour, etc.

Creating a Sustainability Plan

One of the first steps on the path to sustainability is a sustainability plan. The plan is important because it puts into writing your company's commitment to pursue sustainability and clearly communicates your goals, values, and intentions to guests, staff, and investors, while guiding your organizational decisions. Your sustainability plan, or key elements of it, should be available to guests to review; consider dedicating a page of your website to showcase your property's plan.

A sustainability plan can take many forms, but it should clearly articulate:

1. Your property's commitment to achieve sustainability and protect the environment, your vision of sustainability, and the reasons you have chosen to undertake this commitment
2. Roles, responsibilities, reporting, and procedures
3. Specific near-term and long-term goals, the intermediate steps necessary to achieve these goals, and the metrics and methods you will use to measure progress toward these goals
4. A schedule with milestones and set review dates (Clubs Queensland, 2011)

The process of writing a sustainability plan should involve collecting input from various departments, especially ones responsible for implementing any operational/procedural changes. For example, garnering ideas and feedback from housekeeping, engineering, and maintenance/grounds staff may give insight into additional opportunities and potential issues with proposed actions, and will foster a sense of ownership among staff. It is also beneficial to involve and get the full support from a visible leader in the company. This person will play a critical role in communicating key messages and encouraging participation from departments and staff.

Other considerations include creating a dedicated "Sustainability Coordinator" position



"The Fairmont Kea Lani's Sustainability Team is dedicated to achieving the highest standard of environmental stewardship within the hotel, meeting regularly to develop new environmental initiatives and programs. Over the past 10 years, the Sustainability Team has successfully created and implemented over 50 environmental initiatives throughout the hotel."

—Megan Hardesty,
Director of Public Relations,
The Fairmont Kea Lani, Maui

More at fairmont.com/kea-lani-maui/promotions/environmentalinitiatives

to oversee the implementation of the plan and ensure continuous dedication. Also, forming a "Green Team" is a great way to move sustainability initiatives forward. A Green Team is a self-organized committee of employees who meet regularly to advance sustainability goals. The business value of Green Teams includes cost savings, attracting/retaining top talent, strengthening your brand, and increasing your market share (Fleisher, 2009).

Keep your goals aggressive, but achievable. Committing to goals and timelines that are not realistic can be discouraging and render the plan meaningless.

For a sample Sustainability Plan that can be tailored to fit your organization's needs, see Appendix G.

Case Studies

Marriott International makes its Environmental Public Policy Statement readily available on its website under its About section; the document outlines environmental goals for all its brands. See marriott.com/Multimedia/PDF/CorporateResponsibility/Environmental_Public_Policy_Statement.pdf

Fairmont Hotels and Resorts highlight their green partnerships within their Corporate Responsibility section directly accessible from the homepage.

Your Hotel's Stewardship

Marketability of Sustainability

While “doing the right thing” and “making a difference” can be benefits in and of themselves, you also need to meet market demands and adjust to accommodate new market segments.

A growing segment of travelers are interested in travel experiences more commonly known as ecotourism, sustainable tourism, green tourism, or responsible tourism. These terms encapsulate the notion of travel experiences that have a net positive impact on the local environment, community, and economy. This group of travelers seeks out businesses and operations that support their values.

Consider the following: it is estimated that over \$24 billion was spent in 2005 on ecotourism and that responsible tourism will grow 25 percent year over year (Center for Responsible Travel, 2009). “Luxury Ecotourism” is the fastest growing market in the tourist industry (Natural Marketing Institute, 2007). According to a 2007 study, 54 percent of respondents said they would be more likely to patronize hotels and resorts they knew practiced environmental responsibility (Center for Responsible Travel, 2009). Further, it has been shown that ecotourists’ incomes are higher on average than regular tourists and that they spend more money while traveling (SNV, 2009). And, it is not just individual travelers. Nearly a quarter of respondents to a 2010 survey reported that their organizations utilize travel policies that direct their employees to choose green options on business travel (CMI Green, 2010). The conference/meeting market is also moving in this direction. ASTM International, a globally recognized leader in the development and delivery of international voluntary



Demonstrating awards and recognitions to guests is a great way to showcase a resort's sustainability efforts and achievements, many of which are “behind the scenes” and not typically observed by guests on property.

consensus standards, has developed a green meeting standard, and 53 percent of event planners report incorporating green aspects into their events (CMI Green, 2010).

As responsible travel demand increases, your property's sustainability becomes a marketable characteristic. It can boost your reputation within the community and provide a new angle for advertising your property and attracting visitors. There are a variety of avenues to communicate your efforts and reach the growing market of responsible travelers. Most of the major travel sites such as TripAdvisor, Travelocity, Expedia, and AAA indicate or allow users to search for hotels that employ sustainable practices. Being designated as a green hotel can help to differentiate your hotel

from others. Green certifications and standards also offer opportunities for positive exposure and can tie in easily to traditional and social media advertising campaigns (Bustam, 2012). For example, the Hawai'i Green Business Program has an annual recognition ceremony at the State Capitol where participating businesses receive an award and commendation from the Governor. The event is covered by local media and the businesses' profiles are posted on the Hawai'i Green Business Program's website.

Responsible environmental and social operations at a hotel can do more than save money and foster good will within the community; savvy businesses can also turn these practices into a marketing tool for attracting a fast-growing segment of travelers.

Recognizing Your Sustainability Initiatives: Certification and Recognition Programs in Hawai'i and Beyond

Navigating the landscape of green certifications can be tricky as there are numerous programs with varying levels of stringency, scale, and legitimacy, and differing requirements and focuses. Evaluating

and choosing between them can be difficult. Following is a selection of certification programs in Hawai'i— as well as useful national and international programs—that your property may want to consider.

Overview of Certifications

Hawai'i Green Business Program

The Hawai'i Green Business Program (HGBP) is a statewide program, jointly run by the State of Hawai'i Department of Health, Department of Business, Economic Development, and Tourism, Honolulu Board of Water Supply, and the Chamber of Commerce of Hawai'i, that recognizes and assists businesses that strive to operate in an environmentally and socially responsible manner. It is a free program and requires onsite verification. Also of note, it should be considered as a good precursor to LEED certification.

The HGBP utilizes sector-specific checklists for hotels and resorts, offices and retail, restaurants and food service, and events. The hotel and resort program checklist comprises several sections, covering key areas such as



waste, energy, water, pollution prevention, and community involvement, with each section containing a number of required and elective actions. Participating hotels fill out the checklist and receive a score based on the number of actions they have implemented. Recommendations and assistance are provided to participants as they complete the checklist.

There are four levels of certification that hotels can achieve. Successful participants are recognized annually in a ceremony held in the Governor's Office at the State Capitol, receive an award and commendation from the Governor, are able to use the HGBP logo for up to five years after certification, and are listed on the HGBP website.

For more information, visit the HGBP website: energy.hawaii.gov/green-business-program.

Kuleana Green Business Program

The Kuleana Green Business Program is a recognition program run by the Kona-Kohala Chamber of Commerce that encourages and promotes ethical business practices. Participating businesses submit an application with a \$20 fee to the Kuleana Program committee for review.

The committee assesses a company's level of performance in the following categories:

- **Product/Service Quality:** unique products/services that deliver benefits to consumers, society, and the environment
- **Community Relations and Benefits:** activities that help the community to flourish socially, culturally, and economically
- **Customer Relations:** strategies to

Continues on next page

Recognizing Your Sustainability Initiatives

Green Business Program Certification Awardees

(green highlighting indicates property is currently certified from 2013)

Oahu	Maui	Kauai	Hawaii Island
<i>Aqua Aloha Surf Waikiki Hotel</i>	Fairmont Kea Lani	Grand Hyatt Kauai Resort & Spa	Hilton Waikoloa Village
Aqua Bamboo Hotel	Grand Wailea Resort	Kilauea Lakeside Estate	Mauna Lani Bay Hotel & Bungalows
Hale Koa Hotel	Hyatt Regency Maui Resort & Spa	Marriott Waiohai Beach Club	
Hawaii Prince Hotel Waikiki	Marriott Maui Ocean Club	Sheraton Kauai Resort	
Hilton Hawaiian Village	Ritz-Carlton Kapalua		
Holiday Inn Waikiki Beachcomber	Wailea Beach Marriott Resort & Spa		
<i>Hyatt Regency Waikiki</i>	<i>Westin Ka'anapali Ocean Resort Villas</i>		
JW Marriott Ihilani, Ko Olina			
Kahala Hotel & Resort			
Ko Olina Marriott Beach Club			
Moana Surfrider			
Sheraton Princess Kaiulani			
Sheraton Waikiki			
Turtle Bay Resort			
Waikiki Beach Marriott			
<i>Wyndham at Waikiki Beach Walk</i>			

“Recently, we created a Sustainability Vision for our resort. We adopted goals for conserving electricity and water and community outreach. Our associates and management team are pleased to assist local partners in their efforts to achieve island sustainability. We will inspire Hawai‘i’s hospitality by leading by example and working with the community to achieve island sustainability.”

— Westin Kā'anapali Ocean Resort Villas Sustainability Council

2013 Hawai‘i Green Business Program Award and

Maui No Ka ‘Oi magazine’s Aipono Award for Excellence in Sustainability

provide outstanding service and attain customer loyalty

- **Employee Relations:** policies for hiring and retaining employees and for promoting accountability
- **Environmental Stewardship:** actions to minimize the business’s impact on the land, and efforts to conserve and regenerate resources.

The Committee may conduct an interview and/or onsite inspection, request manuals and reports, examine peer performance and relevant industry standards, and check the business’s standing with the Better Business Bureau and/or other relevant organizations. There are three levels of membership that a business may achieve

based on their efforts and success.

Members of the Kuleana Green Business Program can use the certification logo for up to three years, are included in collective marketing campaigns, are recognized on the Chamber website and in Source magazine with other members, are eligible for the annual Kuleana Award, receive access to educational workshops and technical assistance, and are listed in the member directory.

For more information, visit the Chamber of Commerce website at: kona-kohala.com.

Sustainable Tourism Education

Program (STEP) eco-certification

STEP was developed by the non-profit organization Sustainable Travel International (STI). Certification is a voluntary procedure through which a facility, product, process, or service is assessed, subjected to an audit, and issued a written guarantee stating it meets and complies with specific standards. As of June 2014, there were 45 certified properties participating in the program internationally, with approximately 200 more pending certification. There are four levels of achievement possible (Bronze, through Platinum); however, only Bronze can be attained without an onsite inspection. Certification fees are based on business size (number of employees) and range

from \$250-\$750/year for Bronze level certification and an additional cost of \$400-\$1,000/assessment day for onsite Silver/Gold/Platinum certifications.

STEP certification is based on both process and performance criteria that verify quality, health and safety, employee engagement, guest communications, environmental management, and social responsibility. STI awards certifications on completion of baseline criteria, verification of sustainability systems, and recommendations from independent assessors based on a percentage of total possible points.

Each business has the opportunity to work its way up from the Bronze (Baseline) award all the way to Silver (Intermediate), Gold (Advanced), and Platinum (Industry Leader). The program encourages businesses to ramp up sustainability investments and make incremental progress over time. The process is intended to provide a framework for setting goals, tracking progress, and long term planning.

Eco-certified members can:

- use the STEP certification logo for one year
- gain access to management tools critical to assessing operations, identifying industry best practices, and creating positive returns
- realize cost savings through resource efficiencies, lower operating costs, and supply chain optimization
- gain access to the Sustainable Travel International's marketing team who help develop each hotel's sustainability story and teach hotels how to communicate their efforts to current and future visitors

For more information, visit the Sustainable Travel International website at sustainabletravel.org.

Green Globe International

The Green Globe Standard is a structured assessment of the sustainability performance of travel and tourism businesses

and their supply chain partners. Businesses can monitor improvements and document achievements, leading to certification of their enterprises' sustainable operation and management. There are currently 450 certified properties participating in the program from 40 different countries. Certification rates are based on hotel size (number of rooms) and range from \$750-\$5,000 plus auditor fees (varies).



The Green Globe Standard is a collection of 337 compliance indicators applied to 41 individual sustainability criteria. The applicable indicators vary by type of certification and geographical area, as well as local factors. The Green Globe Standard is reviewed and updated twice per calendar year. The four major areas of consideration are Sustainable Management, Social Economic, Cultural Heritage, and Environment. To guarantee compliance to the highest international standards, a third-party independent auditor is appointed to work with clients on site. The international standard ISO 19011 provides guidance on the management of audit programs, the conduct of internal and external management system, and the competence and evaluation of auditors.

Members of Green Globe:

- are allowed to use the certification logo for one year
- gain access to their database of information about the certification criteria, including updates regarding new standards
- gain access to accredited consultants and auditors who can guide members through certification
- receive marketing services, including promotion through media outlets, representation at major industry trade shows, discount advertising opportunities, and promotion to other travel professionals

For more information, visit the Green

Dolphin SMART

Dolphin SMART is a voluntary education and recognition program for dolphin tour businesses, with criteria for responsible wildlife viewing to encourage activities that reduce disturbance to marine mammals. The Dolphin SMART program's goals are to:

1. Minimize the potential of wild dolphin harassment caused by commercial viewing activities
2. Reduce expectations of close interaction with wild dolphins in a manner that may cause harassment
3. Eliminate advertising that creates expectations of engaging in activities that may cause harassment
4. Promote stewardship of local coastal waterways

Participating businesses receive incentives for joining through cause marketing and product branding. Businesses that do not conduct dolphin tours, but would still like to support the program, its mission, and the businesses involved, can join as Proud Supporters. Dolphin SMART Proud Supporters raise awareness about the program and encourage the public to book with a Dolphin SMART recognized business. More information can be found on the website at: dolphinsmart.org.

Continues on next page

Recognizing Your Sustainability Initiatives

Hawai'i Hotels Earning Green Key Ratings:

Best Western The Plaza Hotel, Oahu (3 keys)

Grand Hyatt Kauai Resort & Spa, Kaua'i (4 keys)

Hyatt Regency Waikiki Beach Resort and Spa, Oahu (4 keys)

Kona Coast Resort, and Kona Coast Resort, Phase II, Hawai'i Island (3 keys)

Royal Sea Cliff Resort, Hawai'i Island (3 keys)

The Fairmont Kea Lani, Maui (4 keys)

The Fairmont Orchid, Hawai'i (4 keys)

Wyndham at Waikiki Beach Walk, Oahu (3 keys)

Globe International website: greenglobe.com.

Green Key

The Green Key Eco-Rating Program is an international rating system designed to recognize hotels, motels, and resorts that are committed to improving their environmental and fiscal performance. There are currently 3,051 properties participating in the program internationally. Members pay \$600 annually.



The Green Key Eco-Rating Program assesses the five main operational areas of a property (Corporate Environmental Management, Housekeeping, Food and Beverage Operations, Conference and Meeting Facilities, Engineering) and covers nine areas of sustainable practices (Energy Conservation, Water Conservation, Solid Waste Management, Hazardous Waste Management, Indoor Air Quality, Community Outreach, Building Infrastructure, and Land Use).

Based on the results of a comprehensive environmental self-assessment, lodging facilities are awarded a rating from one to five Keys, five Keys being the highest. After completing the program and receiving a Green Key Rating, the property may receive an onsite inspection to confirm the rating. A minimum of 20 percent of rated properties are audited annually.

Members are provided with guidance on reducing utility consumption, waste, emissions, and operating costs. Additional recommendations are also outlined for employee training, staff and customer engagement, supply chain management, community involvement, and more. A variety of marketing materials are available to assist members in the promotion of their initiatives; a selection of tools and resources to support ongoing sustainable programs is also available. Green Key Global also maintains relationships with affiliates such

as Travelocity, AAA, and Expedia and showcases members' initiatives through social media channels, the website, and an e-newsletter.

For more information, visit the Green Key website: greenkeyglobal.com.

TripAdvisor GreenLeaders

The TripAdvisor GreenLeaders Program recognizes hotels that engage in environmentally-friendly practices, making it easier for travelers to find and book a greener stay. Qualifying properties are marked with a badge on their TripAdvisor page. The program is completely voluntary and available to properties with green practices interested in promoting their activities through TripAdvisor, the most visited online travel site with an estimated 38 million unique visitors each month (ebizmba.com/articles/travel-websites). Properties do not pay to participate in the program, but a third-party verification may be necessary.

All hotels and bed and breakfasts must submit an application survey and be accepted into the TripAdvisor GreenLeaders Program as either a GreenLeader or GreenPartner. GreenLeaders have achieved one of four levels: Bronze, Silver, Gold, and Platinum. The higher the level, the greater the impact of a property's green practices. GreenPartners have met the program's minimum requirements. All participants must reapply on an annual basis to ensure their continued enrollment in the program and maintain the badge on their property's TripAdvisor page.

The GreenLeader application survey evaluates hotels and bed-and-breakfasts by looking at the variety and impact of their green practices, both simple and advanced. The questions in the survey are weighted according to the environmental importance of the practice, and the scale of that practice's impact.

For more information, visit the TripAdvisor GreenLeaders website: tripadvisor.com/

vpages/green_leaders_lander.html.

ENERGY STAR®

ENERGY STAR® is a voluntary U.S. Environmental Protection Agency (EPA) program that delivers environmental benefits and financial value through superior energy efficiency. Most people are familiar with the ENERGY STAR® label from energy-efficient consumer products, but, since 1992,



EPA has also worked with businesses and public-sector organizations to transform the way that commercial buildings and industrial plants use energy.

Today, thousands of facility owners and managers use ENERGY STAR® to assess how their properties are performing, adopt an energy management strategy, identify ways to save energy, cut costs, and reduce greenhouse gas emissions, earn recognition, and communicate their energy-saving efforts to the public. On average, ENERGY STAR® certified buildings use 35 percent less energy and generate 35 percent less greenhouse gas emissions than similar buildings.

To participate in the ENERGY STAR® program, businesses utilize Portfolio Manager®, EPA's online energy management and tracking tool. By inputting some basic characteristics of your property, such as square footage, hours of operation, and percentage of space that is air conditioned, as well as a minimum of 12 months of electricity use data, Portfolio Manager will calculate an ENERGY STAR® score of 1-100 to compare your property's performance with similar facilities nationwide. A score of 50 indicates typical performance, while a 75 or more means that your building performs better than 75 percent of similar buildings nationally and makes your property eligible for ENERGY STAR® certification. Once your property is certified, you will receive an ENERGY STAR® decal to display. Portfolio

Manager also allows you to track improvements over time, compare similar buildings within a portfolio, generate reports, and quantify greenhouse gas emissions.

For more information, visit the ENERGY STAR® website: energystar.gov/buildings.

Leadership in Energy and Environmental Design (LEED)

LEED, or Leadership in Energy and Environmental Design, is a program overseen by the U.S. Green Building Council that provides third-party verification of green buildings. Through this program, building projects satisfy prerequisites and earn points to achieve different levels of certification. Prerequisites and credits differ for each rating system, and teams choose the best fit for their specific project. For hotels, the Existing Buildings: Operations and Maintenance rating system or the New Construction rating system is the best fit. LEED is the most recognized green building standard and has certified 10 billion square feet of space.

In all of the LEED rating systems, there are five main credit categories:

- Sustainable sites—encourages strategies that minimize the impact on ecosystems and water resources
- Water efficiency—promotes smarter use of water, inside and out, to reduce potable water consumption
- Energy and atmosphere—promotes better building energy performance through innovative strategies
- Materials and resources—encourages using sustainable building materials and reducing waste
- Indoor environmental quality—promotes better indoor air quality and access to daylight and views.

For more information, visit the USGBC website: usgbc.org.

Case Studies

ENERGY STAR® certified properties include the Sheraton Waikiki, The Royal Hawaiian, a Luxury Collection Resort, Moana Surfrider, a Westin Resort & Spa, and the Sheraton Princess Kaiulani.

Andaz Maui at Wailea is Hawai'i's first LEED certified resort under the U.S. Green Building Council's Leadership in Energy and Environmental Design (LEED) program. The resort has implemented sustainability measures such as a food waste dehydrator that diverts food waste from the landfill, a 190 array solar hot water system, a UV water feature, high efficiency chillers, LED lighting, utility sub-metering, variable frequency drives installed on majority of the equipment, and the use of a guest room automation/energy management system.

Waikiki Parc participated in the ENERGY STAR® Technical assistance program and in 2012 earned the ENERGY STAR® Building Label. After upgrading equipment including chillers, water pumps, cooling towers, and condenser water pumps, the resort's efficiency significantly improved and the property is saving approximately \$135,000 annually in electricity costs.

Continues on next page

Recognizing Your Sustainability Initiatives

Hawai'i Hotels that are Members of the Green Hotels Global Program

- Courtyard by Marriott Maui Kahului Airport, Kahului
- Waikiki Beach Marriott Resort & Spa, Waikiki
- Courtyard King Kamehameha's Kona Beach Hotel, Kailua-Kona
- Waikoloa Beach Marriott Resort & Spa, Waikoloa
- Wailea Beach Marriott Resort & Spa, Wailea
- JW Marriott Ihilani Ko Olina Resort & Spa, Ko Olina-Oahu
- The Ritz-Carlton, Kapalua, Kapalua
- Kaua'i Marriott Resort, Lihue

Green Hotels Global

This program, which partners with TripAdvisor's GreenLeaders by aligning rating criteria, is an environmental sustainability benchmarking system that provides metrics-based information on the environmental footprint of hotels. It utilizes an online interactive software system to allow hotels to quantify and report to prospective clients—particularly meeting and event planners—the carbon footprint, energy consumption, water usage, and waste generation of the property. Green Hotels Global, according to its website, “drives new business to those properties that participate due to the usefulness of the qualitative and quantitative environmental data submitted to the decision makers around room-night bookings, and meeting and event site selection.” In addition, this program was designed to help hotels qualify for industry standards for green meetings and events. A key benefit of the program to hotels is that it differentiates properties to travel managers and meeting planners based on the data they track and report, specifically regarding their carbon footprint, energy consumption, water usage and waste generation.



Global Sustainable Tourism Council Criteria for Hotels and Tour Operators

The Global Sustainable Tourism Council (GSTC) serves as the international body for

fostering increased knowledge and understanding of sustainable tourism practices, promoting the adoption of universal sustainable tourism principles, and building demand for sustainable travel. Their Global Sustainable Tourism Criteria for Hotels and Tour Operators performance indicators are designed to provide guidance when measuring compliance for certifying organizations. They are not intended to be the definitive set or all-inclusive, but aim to provide a solid sample set for users of the GSTC to develop their own indicator sets. This organization does not certify hotels; they certify other certifying organizations, ensuring that the other certifications are in line with their core values.

There are currently 18 recognized standards, including two mentioned earlier: Sustainable Tourism Eco-Certification Program and Green Globe.

For more information, visit the Global Sustainable Tourism Council website:

gstcouncil.org

The programs outlined above are some of the more recognizable local, national, and international certifications that your property can participate in to improve your sustainability initiatives and receive the much deserved recognition useful for communicating your achievements to the growing responsible-tourism market.

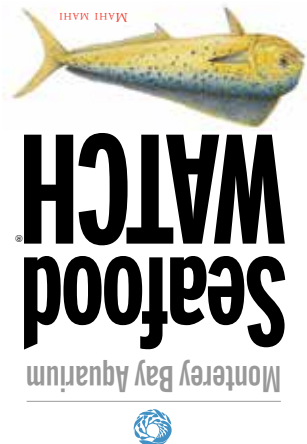




Appendix B

Monterey Bay Aquarium's Seafood Watch Consumer Guide for Hawai'i and Chef Buyer's Guide

Monterey Bay Aquarium® Seafood Watch®

The Monterey Bay Aquarium Seafood Watch program creates science-based recommendations that help consumers and businesses make ocean-friendly seafood choices. Carry this pocket guide with you and share it with others to help spread the word.

BEST CHOICES	GOOD ALTERNATIVES	AVOID	<p>This guide has a limited number of seafood items due to its size. For a full list of our recommendations please visit us online or download the app.</p> <p>Check every column, your favorite seafood could be in more than one.</p> <p>Best Choices Well managed, caught or farmed in environmentally responsible ways.</p> <p>Good Alternatives Some concerns with how they are caught or farmed.</p> <p>Avoid Overfished, or strong concerns with how they are caught or farmed.</p>
<p>'Ahi/Yellowfin Tuna (US troll, pole) Aku/Skipjack Tuna/Light canned (FAD-free, US troll, pole) Akule/Big-eye Scad (HI) Arctic Char (farmed) Barramundi (US) Bass: Striped (US hook & line, farmed) Black Cod/Butterfish (AK & Canada wild) Clams, Mussels, Oysters Crab: Dungeness Crab: Kona (Australia) Halibut (US Pacific) Lobster: Spiny (Mexico) 'Ōpelu/Mackerel Scad (HI) Salmon (AK) Sardines: Pacific (Canada & US) Scallops (farmed) Shrimp: Pink (OR) Shutome/Swordfish (Canada & US harpoon, troll, pole) Tilapia (Ecuador & US) Tombo/Albacore Tuna/White canned (Canada & US troll, pole)</p>	<p>'Ahi/Yellowfin Tuna (HI longline) Aku/Skipjack Tuna/Light canned (imported troll, pole and US longline) Black Cod/Butterfish (CA, OR & WA wild) Crab: Kona (HI) Grouper (HI) He'e/Octopus (HI & Spain) Kajiki/Blue Marlin (HI) Lobster (Bahamas & US) Mahi Mahi (Ecuador & US) Onaga/Ruby Snapper (HI) Ono/Wahoo (US) Opah/Moonfish (HI) 'Opakapaka/Pink Snapper (HI) Scallops (wild) Shrimp (Canada & US wild) Snapper (HI) Squid (US) Tilapia (China & Taiwan) Tombo/Albacore Tuna/White canned (US longline) Uku/Gray Snapper (HI) Yellowtail: California</p>	<p>Abalone (China & Japan) 'Ahi/Yellowfin Tuna (except troll, pole and US longline) Aku/Skipjack Tuna/Light canned (imported longline and purse seine) Crab: Red King (Russia) Hebi/Shortbill Spearfish (imported) Kajiki/Blue Marlin Mahi Mahi (imported) Manō/Shark Nairagi/Striped Marlin Opah/Moonfish (imported) Orange Roughy Salmon: Atlantic (farmed) Shrimp (imported farmed) Shrimp (LA & Mexico wild) Shutome/Swordfish (imported) Squid (imported) Tombo/Albacore Tuna/White canned (except Canada & US troll, pole and US longline) Tuna: Bluefin</p>	
 <p>Monterey Bay Aquarium Seafood WATCH Hawai'i Consumer Guide January – July 2014</p>	 <p>Monterey Bay Aquarium</p> <p>The seafood recommendations in this guide are credited to the Monterey Bay Aquarium Foundation ©2014. All rights reserved. Printed on recycled paper.</p> <p>Stay Connected</p> <ul style="list-style-type: none"> • Visit seafoodwatch.org • Download our free app • Join us on Facebook and Twitter 	 <p>Take Action</p> <p>Support ocean-friendly seafood in three easy steps:</p> <ol style="list-style-type: none"> 1. ASK: "Do you sell sustainable seafood?" Let businesses know this is important to you. 2. BUY: From our Best Choices list. If not available, choose from the Good Alternatives list. 3. LOOK: For the Marine Stewardship Council blue eco-label in stores and restaurants. 	<p>Your Choices Matter</p> <p>Worldwide, the demand for seafood is increasing; yet many of the fish we enjoy are in trouble due to overfishing or destructive fishing and farming practices. Purchase fish caught or farmed using environmentally responsible practices to support healthy, abundant oceans.</p>

To use your pocket guide: 1. Cut along outer black line
2. Fold on grey lines

Appendix C

Community Engagement Opportunities

Ala Kahakai Trail Association; Hawai'i National Parks

(808) 326-6012

nps.gov/alka

Opportunities to volunteer with the National Parks — V, POL
nps.gov/getinvolved/volunteer.htm

A Junior Ranger program is also available for kids — M
nps.gov/alka/forkids/index.htm

Amy B.H. Greenwell Ethnobotanical Garden

Kona, Hawai'i Island

Peter Van Dyke

808-323-3318

agg@bishopmuseum.org

bishopmuseum.org/greenwell

The Amy B.H. Greenwell Ethnobotanical Garden is landscaped with plants from the forests and farms of Kona in the time before foreign contact. Drop-in visitors can tour the garden 9:00am-4:00pm, Tuesdays through Sundays. A Guided Hawaiian Plant Walk is offered every day at 1:00pm. The Garden is closed on Mondays and holidays. — PS, PG

Volunteers can help care for native plants and Hawaiian crops at Amy Greenwell Garden in Captain Cook in South Kona. Call to sign up, there is no cost. The variety of tasks range in strenuousness, so there are opportunities for people in most levels of fitness. However, for all of the tasks, volunteers must be able to work in the hot sun. — V

The Amy Greenwell Garden hosts the Grow Hawaiian Festival from 9:00am to 2:30pm every February on the last Saturday. This festival brings together conservation biologists, horticulturists, and Hawaiian cultural practitioners to celebrate their shared love of Hawai'i's natural history. — SE

Big Island Invasive Species Committee

biisc.org/volunteer

BIISC organizes regular volunteer workdays and community trainings focused on invasive species removal. — V, POL

Dolphin SMART

Oahu/Statewide

Laura McCue, Dolphin SMART Regional Coordinator

(808) 725-5153

Laura.mccue@noaa.gov; contact@dolphinSMART.org

dolphinSMART.org

Dolphin SMART is available to give a presentation that would provide an overview of the Dolphin SMART program, what it means to be Dolphin SMART operator or Proud Supporter, and why this program is important. The presentation will go over the issues experienced in Hawai'i with human interactions and wild dolphins, and give examples of responsible viewing guidelines. There are opportunities for hotels to get involved as Proud Supporters, where they raise awareness about the Dolphin SMART program. The duration of the presentation is flexible depending on the hotel's needs. Dolphin SMART Regional Coordinator is available to give this presentation as often as needed (depending on the island). — PG, POL

A Dolphin SMART presentation to hotel guests would include content of the Dolphin SMART program, and would cover spinner dolphin biology, the issue with human interactions with wild dolphins, and how the Dolphin SMART program helps aid in dolphin conservation. Kid-friendly content, activities, and hand-outs are available, depending on the audience. — PG, M

Dolphin SMART holds trainings as needed for interested operators that hotel guests/employees can attend (open to public). They also have provide outreach materials for booths at festivals/events, as well as kids' activities that can be shared and help run at events at the hotels. — SE

Department of Land and Natural Resources — Division of Aquatic Resources

Maui

Darla White, Special Projects Coordinator

808-281-4916

darla.j.white@hawaii.gov

hawaii.gov/dlnr/dar

DLNR Division of Aquatic Resources offers three presentations: Status of Maui's Coral Reefs; the Importance of Herbivores on the Reef; and Coral Reefs and Climate Change. These presentations are one hour in duration, twice a month on Friday and other days by appointment. — PS, PG

Continues on next page

PS Presentations, Hotel Staff	PG Presentations, Hotel Guests	CS Citizen Science	V Voluntourism (community service for staff and guests)	SE Special Events (other outreach for staff and guests)	POL Presentations at Other Locations	M Collateral Materials
-------------------------------------	--------------------------------------	-----------------------	--	--	--	------------------------------

Community Engagement Opportunities

Sign up for the email list to be informed of multiple opportunities, from informative talks to volunteer opportunities to the latest in scientific research on our coral reefs and ways to participate in the public process. Please contact Darla.J.White@hawaii.gov to be put on the list. — CS

Staff is welcome to attend Eyes of the Reef workshops and become part of a network of ocean users, educated to identify and report potential problems on the reef such as coral bleaching, disease, invasive species, and native species blooms. Join the email list for public workshop announcements, or request a workshop for your staff by appointment. Workshops are free, three hours in length, and no further commitment is required, except to be the eyes of the reef and report problems when you see them. — SE

Fish Identification Network

Maui

Facebook Groups: Fish Identification Network
maui.fin@gmail.com

Fish Identification Network conducts underwater surveys of the reef. They count fish species and abundance and record the data online with the Reef Environmental Education Foundation (www.reef.org) for public use. There is no charge for participating, and guests are welcome; however, Fish Identification Network does not carry insurance or have a lifeguard available, so participants carry their own risk. They have underwater slates that may be borrowed for use while with the group, and will give a brief description of the procedure used for recording data. Most of all, Fish Identification Network has fun and shares snacks at the meets. — V

Fish Identification Network

Oahu

Mike and Terri Fausnaugh, 808-944-6081
msfuzz@hawaii.rr.com

Fish Identification Network can give presentations on reef etiquette and local reef fish identification. The presentations would not usually exceed one hour in duration and could be given on approximately a monthly basis. — PS, PG

Training and opportunities are available for volunteers to do surveys of reef fish populations following the protocol of REEF (Reef Environmental Education Foundation). The activities are free of charge and details are coordinated to the unique needs for each individual event. Participants must be good swimmers and must be willing to assume sole responsibility for their own well-being. — CS, V

Great Annual Fish Count is an annual REEF event to promote awareness of ocean conservation and their organization every July. Citizen scientists can be included in ongoing FIN O'ahu events by contacting FIN at msfuzz@hawaii.rr.com and adding their contact information to the FIN

email list. — CS

Limited amount of survey materials available for those interested in continuing survey activities.— M

Hawai'i Ecotourism Association

Honolulu

Annette Kaohelauii

808-235-5431

www.hawaii.ecotourism.org

Contact HEA to arrange presentations for hotel/concierge about HEA members who are certified ecotour operators. Presentations and opportunities would depend on the individual members. — PS, SE

Hawai'i Forest & Trail

Hawai'i Island

Chris Colvin, Director of Sales & Marketing

808-331-8505; 1-800-464-1993

info@hawaii-forest.com

www.hawaii-forest.com

Hawai'i Forest & Trail is available to give the presentation Mysteries & Masterpieces of Hawai'i (general Hawai'i natural history, 45 minutes). — PS, PG

Special tours and events are offered periodically throughout the year. Typically they are of limited availability and for a fee. Examples include visits to wildlife refuges, native habitat restoration areas, etc. They also offer the Kilauea Volcano Adventure Tour—a small group guided ecotour that includes 30–45 minutes of native rainforest restoration through invasive plant removal. Reservations are required. — V

Hawaiian Islands Humpback Whale National Marine Sanctuary

Maui/Statewide

726 South Kihei Road, Kihei, HI 96734

Patty Miller, Outreach Coordinator

1-888-55-WHALE

hawaiihumpbackwhale.noaa.gov

“45 Ton Talks”: one-hour lecture about the humpback whales and the sanctuary program. Hotels need to call the Sanctuary to check for availability. Depending on availability, sanctuary staff could host occasional outreach tables at hotel sites. — PS, PG

The Sanctuary hosts public lectures on Maui and Kaua'i. See the Sanctuary web site calendar for upcoming events. The Sanctuary conducts a statewide project called “Ocean Count”.

PS Presentations, Hotel Staff	PG Presentations, Hotel Guests	CS Citizen Science	V Voluntourism (community service for staff and guests)	SE Special Events (other outreach for staff and guests)	POL Presentations at Other Locations	M Collateral Materials
-------------------------------------	--------------------------------------	-----------------------	--	--	--	------------------------------

Volunteers participate in a citizen scientist monitoring project to record numbers of whales and their behaviors seen during specific days. This takes place on the last Saturdays of January, February and March. See the Sanctuary website for more information. — V, CS

The Sanctuary has a variety of “one-pager” information sheets on the Sanctuary and the Humpback Whales. These are available for hotels to print and distribute to staff and guests. These materials can also be printed and placed into in-room guest information notebooks. — M

Hawaiian Islands Land Trust

Maui/Statewide

Scott Fisher, Director of Conservation

808-244-5263

scott@hilt.org

www.hilt.org

Hawaiian Islands Land Trust offers a series of lectures on their protected property known as the Talk Story on the land. These are open to the public. They can accommodate discussions to hotel guests and staff at the site, but these would have to be limited. — PS

They can provide discussions about land conservation, Hawaiian cultural and natural history. These would ideally be offered on their protected lands, at Waihe'e or Nu'u for example. — PG

Hawaiian Islands Land Trust can provide discussions about land conservation, Hawaiian cultural and natural history. Ideally these would be offered on their protected lands, at Waihe'e or Nu'u for example. — POL, PS, PG

They do invasive species removal and native plantings from 8:00am to noon on Fridays at their Waihe'e Coastal Dunes and Wetlands Refuge. — V

There are also annual gatherings on their land to showcase their work in restoring the habitat on the Waihe'e Refuge. They offer free food and other conservation organizations participate as well. — SE

Hawai'i Nature Hui

Oahu

Jennifer Barrett, Co-founder

808-271-1721

aloha@naturehui.org

naturehui.org

Hawai'i Nature Hui offers Ocean Awareness Training, a 15-hour training program that combines classroom learning with hands-on stewardship experiences. It is offered two to three times per year on Oahu. Participants who attend all training sessions, and complete a three-hour field activity and certification test, receive a CORAL Certification card. — POL, PS

They offer additional monthly activities connecting people with nature on various topics and locations across Oahu. — POL, V

Individuals can participate in REEF Fish Identification Training and Snorkel Surveys. — CS

They provide consulting services to help hotels develop their own on-site programs, facilitate the creation of collaborative programs and partnerships with community conservation programs, and create internal staff training programs related to Hawai'i's natural history. — SE

Hawai'i Wildlife Center

808-884-5000

P.O. Box 551752

Jojo, Program Manager

volunteer@hawaiiwildlifecenter.org

www.hawaiiwildlifecenter.org

www.facebook.com/hawaiiwildlifecenterorg

The Hawai'i Wildlife Center is a rehabilitation center on Hawai'i Island offering tours and volunteer opportunities. Tours are a wonderful opportunity for visitors to see what the facility has to offer. The duration of the visit will depend on the number of people coming, and can be formatted to fit a certain time slot. As HWC is a newly established non-profit organization, with minimal staff, tours will require advanced booking. Visitors are welcome to drop in and visit our retail store Tuesdays through Saturdays, from 9:00am–3:00pm. — POL

Volunteers are welcome year round, and can spend as little or as much time helping out as they wish. HWC offers opportunities in gardening, housekeeping, retail, docent, special events, wildlife care, among others. To join the HWC Volunteer Ohana, please complete a volunteer application form, available from HWC, on their website hawaiiwildlifecenter.org/volunteer.html, or by sending an email to volunteer@hawaiiwildlifecenter.org. New volunteers will be given a tour and then complete a short orientation and training prior to starting. Depending on the area/s you have chosen to work in, such as gardening, you may need to bring extra clothes or covered shoes etc. Please bring your own refreshments and lunches. Restrictions apply pertaining to youth participation; please visit the website or call the Center for details. — V

Continues on next page

PS Presentations, Hotel Staff	PG Presentations, Hotel Guests	CS Citizen Science	V Voluntourism (community service for staff and guests)	SE Special Events (other outreach for staff and guests)	POL Presentations at Other Locations	M Collateral Materials
-------------------------------------	--------------------------------------	-----------------------	--	--	--	------------------------------

Community Engagement Opportunities

Hoaloha 'Aina/ South Maui Volunteers

Kihei, Maui

Lis or Bob Richardson, Volunteer coordinators

808-264-1798

LisBob@hawaii.rr.com

www.SouthMauiVolunteers.com

HoalohaAina/South Maui volunteers perform dune and trail maintenance, native plant restoration, beach access path maintenance, etc. There is no cost, though it can be fairly strenuous. Locations vary week to week along the south Maui coastline, and notification of location may be found by Wednesday of each week at SouthMauiVolunteers.com. No sign up is required, but please call 808-246-1798 for location confirmation or more information.

Workdays are most Mondays from 7:30-9:30am; HoalohaAina provides tools, gloves, and water. Please wear closed shoes. Hat and sunscreen advised. — V

Hui Aloha Kiholo

Uilani Macabio

macabio@hawaii.edu

www.huialohakiholo.org

The group includes "all those who are linked to Kiholo for cultural, community, ecological, sustenance, and spiritual reasons in an effort to steward Kiholo in perpetuity." They are actively recruiting volunteers for various projects along the coastline including anchialine pool restoration and 'auwai repairs as necessary. — V

Hui o Ko'olaupoko

1051 Keolu Drive #208

Kailua Hawaii 96734 OAHU

Todd Cullison, Executive Director

808-277-5611

huihawaii.org

info@huihawaii.org

Hui o Ko'olaupoko offers presentations on practices that could be implemented on hotel sites to incorporate green building design, low impact retro-fits, use of native plants, and opportunities to volunteer. — PS

They offer presentation or display/print material on opportunities to volunteer with HOK while on island. — PG, M

They also offer a variety of regularly scheduled events each month, and can work with groups to arrange a private weekday service trip or educational visit. The best way see what events are coming up is to visit the Get Involved page on their website and sign up to receive their monthly newsletter: huihawaii.org/get-involved.html

Volunteers for Hui o Ko'olaupoko often work on projects involving erosion control, water quality monitoring, invasive species removal and habitat restoration using native Hawaiian plants. They offer volunteer

opportunities suitable for all ages. — SE, V

Special events and opportunities are sporadic and announced via the HOK website and newsletter. — SE

If HOK is not available on the desired day, they can work with their project partners and other local groups to help staff/guests (in groups of 10 or more) find an opportunity that will work with their schedule. — V

Kealia Pond National Wildlife Refuge

Maui

Mile 6 Mokulele Hwy,

Kihei, Hawaii 96753 (PO Box 1042)

Courtney Brown, Park Ranger (Visitor Services)

808-875-1582

courtney_brown@fws.gov

fws.gov/kealiapond

Once or twice a year visitors can see a PPT presentation focusing on Kealia National Wildlife Refuge, its mission, wetland management, birds, plants, and unique environment. — POL, PG

When the refuge hosts special events, there will often be PPT presentations on endangered Hawaiian wetland birds, as well as bird viewing opportunities at the public viewing ponds. Access to the refuge is always free and children are welcome. — SE, POL

Once or twice a year, the refuge will host invasive plant removal service projects that involve about a four hour work commitment, either at the refuge wetland ponds or Kealia Coastal Boardwalk. The refuge and boardwalk are located in North Kihei and the work involves pulling weeds, cutting kiawe, hauling and removal of plant material, and occasional outplanting of native plants in wetland pond areas. These projects happen occasionally and interested parties may contact the refuge for more information. — SE, V

They offer a Kealia Pond National Wildlife Refuge Brochure, and are in the process of completing a new brochure that will include maps, hours and more bird viewing information. They can provide a few brochures to hotels. — M

Kahalu'u Bay Education Center

A program of The Kohala Center

P.O. Box 437462

Kamuela, HI 96743

Jean BevanMarquez, Manager

808-640-1166

Kahaluubay.org

jbevanmarquez@kohalacenter.org

Kahalu'u Bay Education Center provides opportunities for citizen

PS Presentations, Hotel Staff	PG Presentations, Hotel Guests	CS Citizen Science	V Voluntourism (community service for staff and guests)	SE Special Events (other outreach for staff and guests)	POL Presentations at Other Locations	M Collateral Materials
-------------------------------------	--------------------------------------	-----------------------	--	--	--	------------------------------

science. Participants collect samples twice weekly at three predetermined sites in the bay. Citizen scientists are responsible for collecting water samples using proper sampling protocol learned during training. This community-based environmental monitoring is a great opportunity for participants of all ages to learn how to properly collect water samples and, more importantly, understand the lab results and their implications. Contact us for details of how to be involved - CS, V
KBEC is happy to work with hotel management to set up Reef Etiquette presentations at their hotels for staff and guests. — PS PG

Staff and guests are encouraged to get involved and participate in KBEC's volunteer programs. — V, SE

KEEP PUAKŌ BEAUTIFUL

Cynthia Ho
kpb@hawaii.rr.com

Ocean Environment and Education Stations (OEES), managed by Keep Puakō Beautiful & Hawaii Wildlife Fund, are located at Puakō Boat Ramp, Wialea Beach, and Hapuna Beach State Park. Allowing everyone the option to become a steward at park locations on their own time, OEES stations provide materials and supplies for users to hold their own beach clean up and become informed stewards while they conserve Hawai'i's ocean environment. OEES include a QR Code Directory and Resource Guides (providing digital access to partners and supporters), beach clean up supplies, and educational brochures. OEES helps give its users a rich experience they can take away with them by downloading the QR Code Directory on to their smart device and storing it for future reference. Duplication of the OEES and participation by hotels is encouraged. For more information contact Keep Puakō Beautiful. — M

Keep Puakō Beautiful is available to show a video, discuss their partners, and share what the station has to offer. — PS PG.

KPB has many clean ups during the year. Winter, Earth Month and Summer and coming up Get The Drift & Bag It in September and October. They need volunteers to work from Hapuna Beach State Park south to the Mauna Lani Hotel. Local shop owners and businesses partner by supplying kayaks, jet skis, free tank air and expert support on water recovery work. The goal is to clean up the water and land from things that could become marine debris or is currently a threat to a healthy ocean environment. If the interest is there water clean ups are always welcome when we work on the land. — V SE

The KPB OEES Kids program meets weekly during the school year for speed cleanups that last about 30 minutes; participants also count and document the debris that are collected. KPB is available to give presentations at cleanup site for guests, and if possible will invite partners to share their conservation programs. Cleanup dates will be posted. — SE, POL, V

Kua'Aina Ulu 'Auamo (KUA)

Oahu
info@kuahawaii.org
(808) 672-2545

KUA maintains a calendar with community events which can be found at kuahawaii.org/events. — V, SE

Mālama Maunalua

Oahu
Rae DeCoito, Executive Director
808 395-5050
Rae@malamamaunalua.org
malamamaunalua.org

All Mālama Maunalua events are open to the public and posted on malamamaunalua.org's event calendar. Events include stream clean-ups, invasive algae pulls and rain garden tours. There are free activities, no physical requirements, but kids under 12 need a 1:1 ratio with adults. —V

They offer a promo video [youtube.com/watch?v=cBCEAv0x450&nooredirect=1](https://www.youtube.com/watch?v=cBCEAv0x450&nooredirect=1), pledge forms, and watershed handbook. While they can produce the materials, hotels need to pick up from their office. — M

Mālama Kai Foundation

www.malama-kai.org
info@malama-kai.org

The Mālama Kai Foundation implement projects that help conserve Hawai'i's coastal and marine resources, and educate people about these resources. Their projects include installation of day-use moorings, and a K-12 outreach and education program in North Kohala called "Ocean Warriors". —M -SE

Manta Pacific Research Foundation

Kona, Hawai'i Island
Keller Laros
808-895-1791
keller@mantapacific.org
www.mantapacific.org

Manta Pacific Research Foundation offers a 45-minute PowerPoint presentation about the Kona Manta Rays —PS, PG

Continues on next page

PS Presentations, Hotel Staff	PG Presentations, Hotel Guests	CS Citizen Science	V Voluntourism (community service for staff and guests)	SE Special Events (other outreach for staff and guests)	POL Presentations at Other Locations	M Collateral Materials
-------------------------------------	--------------------------------------	-----------------------	--	--	--	------------------------------

Community Engagement Opportunities

Maui Cultural Lands

Maui
Ekolu Lindsey
 808-276-5593
MCL@hawaii.rr.com
mauiculturallands.org

MCL welcomes volunteers to join them every Saturday for maintenance work in Honokowai valley. Meet at the Pu'ukoli'i "Sugar Cane Train" Station parking lot. Groups and families are welcome. Please call or email to get more details. — V

Maui Forest Bird Recovery Project

Maui
 808-573-0280
info@mauiforestbirds.org
mauiforestbirds.org

MFBRP encourages visitors and residents to report sightings of any banded forest birds they see on public hikes. They can report them by e-mailing info@mauiforestbirds.org or by calling their office at (808) 573-0280. Helpful information includes a description of the bird, the location, the order of the color bands, and the date and time the bird was sighted. — CS

MFBRP actively seeks residents and visitors alike for volunteer projects at our home office in Olinda to support education and outreach activities. — V

MFBRP is eager to expand their public outreach efforts and can be contacted to give presentations for any hotel or business interesting in hosting an outreach opportunity. — PS, PG, SE

Maui Invasive Species Committee

Makawao, Maui
Lissa Strohecker
 808-573-6472
miscpr@hawaii.edu
www.mauiinvasive.org

Maui Invasive Species Committee can customize 45-minute presentations on the impacts of invasive species in Hawaii and how to identify and report those species of particular concern to tourism, i.e. coqui frogs and fire ants. More in depth/interactive presentation could be planned for a 2-hour period quarterly. — PG, PS

They are in the process of developing invasive species reporting apps for smartphones, and could provide cards or brochures to hotel guests. They could also do trainings for staff. — CS, SE

Maui Ocean Stewards

Maui
Rick Long
 808-298-5559
moceanstewards@gmail.com

Maui Ocean Stewards gives a monthly 60-minute slideshow presentation, Introduction to The Corals of Hawai'i. It is focused on island formation, corals, health of reefs and the ocean, best and safest places to see corals. — PS, PG

Visitors can participate in coral species identification on-the-reef. This requires an intermediate swimming/snorkeling ability, snorkel gear, pre-requisite reading and/or on-line review of safety, and compliance with federal and state regulations, reef etiquette, and basic principles of ecology. This is in various locations, ocean and weather conditions permitting. They also offer a 60-minute slide show and talk on novice level Hawaiian reef fish identification. — CS, V

NOAA Fisheries Pacific Islands Regional Office

Maui/statewide
Nicole Davis, Maui Nui Marine Mammal Response Coordinator;
Rachel Sprague, Hawaiian Monk Seal Recovery Coordinator
 808-292-2372; 808-725-5163
nicole.davis@noaa.gov; rachel.sprague@noaa.gov
fpir.noaa.gov

NOAA has 30 to 60-minute presentations available on Hawaiian monk seals, whales and dolphins, and NOAA marine mammal response. There is a 1x/month limit. — PS, PG, POL

Staff and guests are asked to call in any sightings of monk seals to the Maui Monk Seal Sighting Hotline at (808) 292-2372.

NOAA recruits and trains volunteers for Hawaiian Monk Seal and Stranded Cetacean Response. It takes place on Maui beaches, and extensive training is required — V, CS

They offer a semi-annual Main Hawaiian Islands Hawaiian Monk Seal Count. It takes place on the 3rd Saturday of May and October, 9:00am-12:00pm. A 1-hour pre-count training is required. — SE

Signage and video are provided by NOAA. Handouts can be provided by NOAA to a certain extent, but there may be a way to use other funding for large printing jobs if needed.

Handouts offered include: — M

- NOAA Monk Seal Sighting Hotline Business Cards
- NOAA Monk Seal Natural History Brochure
- NOAA Marine Protected Species Respectful Viewing Brochure
- NOAA Marine Protected Species 1-Page FAQs

PS Presentations, Hotel Staff	PG Presentations, Hotel Guests	CS Citizen Science	V Voluntourism (community service for staff and guests)	SE Special Events (other outreach for staff and guests)	POL Presentations at Other Locations	M Collateral Materials
-------------------------------------	--------------------------------------	-----------------------	--	--	--	------------------------------

- NOAA Monk Seal 1-Page FAQs

Signage offered includes: — M

- Monk Seal Viewing Guidelines And Laws
- Keeping Dogs On A Leash Around Seals

Video includes:

- Minute NOAA Video “Good Neighbors” – Sharing Hawai‘i’s Beaches with the Hawaiian Monk Seal — M

NOAA Marine Debris Program

Kyle Koyanagi, Pacific Islands

1-808-725-5266

MarineDebris.Web@noaa.gov

marinedebris.noaa.gov

kyle.koyanagi@noaa.gov

NOAA Marine Debris Program provides informational/educational materials on marine debris. — M

Ocean Girl Project

4134 Pahoehoe Ave, Oahu

Colleen Kudo, Founder

808-852-0106

colleen@oceangirlproject.com

www.oceangirlproject.com

Ocean Girl Project offers presentations on Ocean Safety for Hawai‘i, including sustainable ocean practices, preventing marine debris, caring for our reefs — PS, PG

Once a month on beach and PowerPoint — POL

Volunteers are invited to local monthly beach cleanups. This is a no cost, outdoor activity; signup not required but provided on website. — V

They do regular permaculture workshops and invite the public to attend. They also offer lessons in safe snorkeling, surfing, Hawaiian sustainable practices, yoga, and marine art. — POL, SE

Ocean Girl Project demonstrates sustainable surf lessons and SUP introduction. — SE

Sierra Club Maui

Maui

Lucienne de Naie, Outings Committee

808 214-0147

laluz@maui.net

mauisierrclub.org

Sierra Club Maui offers quarterly 30 min slideshow presentations: Pro-

tecting Our Heritage Sites, Caring for Maui’s Watersheds, Maui’s Energy Future, and Maui’s Unique Native Species: Why They Are Important — PS, PG

They have weekly outings to beautiful places on Maui. All visitors are welcome. Some outings involve service opportunities: trail maintenance, invasive plant removal, outplanting native plants, or caring for cultural sites. All details are posted on the website — V

The Sierra Club leads periodic conservation and education themed hiking excursions at locations around Maui. Visit their website for more information and a schedule of events. — SE

They have educational booths at community events and visitors are welcome to come by and view displays. They put on various events, including an annual meeting (February), educational starwatches (2 times a year), and John Muir Birthday Party (April). — SE

South Kohala Reef Alliance

68-1030 Mauna Lani Point Drive, HI 96743

Mel Malinowski, Chairman

808-345-2001

kaniku.net

mel@reefalliance.org

South Kohala Reef Alliance’s mission is to help promote conservation of the region’s nearshore coral reef habitat through the development and production of educational materials for our local community. Visitors can help us conserve and improve our nearshore reef by viewing the above materials, and using them to guide them about how to enjoy the reef without damaging it. — M

Free educational resources developed by or with the support of SKRA that may interest visitors include the following:

The free iOS app Kaniku, available from the Apple app store, provides a wealth of information about the history and importance of marine reserves in Hawai‘i. Published as a public service by Indigo Publications, South Kohala.

The free iBook Tutu’s Dream, available in the Apple iBook Store, a colorful children’s book about a way to restore fish abundance in Hawai‘i.

The free iBook Ezzy goes snorkeling, which is an introductory guide to exploring our Hawaiian reefs.

The educational trifold brochure Marine Reserves in Hawai‘i, available in local libraries.

The website kaniku.net, which covers some of the material in the iOS app Kaniku.

Continues on next page

PS Presentations, Hotel Staff	PG Presentations, Hotel Guests	CS Citizen Science	V Voluntourism (community service for staff and guests)	SE Special Events (other outreach for staff and guests)	POL Presentations at Other Locations	M Collateral Materials
-------------------------------------	--------------------------------------	-----------------------	--	--	--	------------------------------

Community Engagement Opportunities

The Surfrider Foundation – Kauaʻi Chapter

P.O. Box 919, Waimea, HI 96796 Kauaʻi
Dr. Carl J. Berg, Vice-Chair, Executive Committee
808 639-2968
cberg@pixi.com
kauai.surfrider.org

The Surfrider Foundation hosts water quality testing along beaches on monthly basis, usually the morning of the 2nd Saturday of the month. — V, CS

They host monthly beach cleanups with the community on the 4th Saturday of the month. Volunteers can participate in Weekly Net Patrol, as large debris and nets are discovered. Contact the website for current information and description. — V

They coordinate an annual community event for International Surfing Day (June 20) in partnership with the Grand Hyatt Kauaʻi. — SE

South Kohala Coastal Partnership

Sierra Tobiason
tobiasons@gmail.com
www.southkohalacoastalpartnership.com

Provides Presentations, education and outreach, site visits, facilitation of partnership meetings, project development and implementation of South Kohala Conservation Action Plan. — PS, PG, POL, SE

The Nature Conservancy

nature.org/ourinitiatives/regions/northamerica/ unitedstates/hawaii/index.htm
Kiholo Fishpond restoration: Rebecca Most at rmost@tnc.org

(TNC) protects and preserves natural areas for conservation. TNC facilitated the development of the South Kohala Conservation Action Plan (CAP), and is involved in helping various community groups with their own coastal management projects, such as the Puakō Makai Watch program and the Kaʻūpulehu Marine Life Advisory Committee. They are now beginning their restoration efforts of some fishponds and anchialine pools at Kiholo. Please contact TNC to find out ways to get involved as these projects and programs move forward in the region. — V

CREEEL fish surveys at Kaupulehu, for information on how to volunteer contact Keo Lopes at klopes@tnc.org. — V

Trilogy Blue Aina Program

Maui
808 879-2818 x39
blueainareservations@gmail.com
blog.sailtrilogy.com/blueaina-program

Blue Aina program offers special charters aboard Trilogy Excursions' vessels, providing the opportunity for guests to participate in underwater cleanups and citizen science efforts. Offered 1 to 2 times per month either out of Lahaina or Maalaea Harbor, it is from 9:00am-12:30pm and costs \$30. Signup and payment can be done via the Hawaiian Islands Humpback Whale National Marine Sanctuary: — CS, V

University of Hawaiʻi Maui College — Sustainable Living Institute of Maui

Maui
SLIMinfo@hawaii.edu
808-984-3379
sustainablemaui.org/programs-projects

The Sustainable Living Institute of Maui offers education, training, and certification opportunities for resort staff, including energy efficiency, renewable energy, water efficiency, and other sustainability themes such as Green Team Development (coming soon!). — PS, SE

University of Hawaiʻi Sea Grant & County of Maui Planning Department

Maui
Tara Owens
808-463-3868
taram@hawaii.edu
seagrant.soest.hawaii.edu

University of Hawaiʻi Sea Grant & County of Maui Planning Department can provide information about coastal processes (beach erosion, waves, currents, sea level rise) and associated methods for managing erosion. County and state permitting requirements for activities and development near the shoreline can also be addressed. Of particular interest to hotels may be information about dune restoration, including prescriptive methods for accomplishing restoration. Presentations offered upon request. — PS, PG

PS Presentations, Hotel Staff	PG Presentations, Hotel Guests	CS Citizen Science	V Voluntourism (community service for staff and guests)	SE Special Events (other outreach for staff and guests)	POL Presentations at Other Locations	M Collateral Materials
-------------------------------------	--------------------------------------	-----------------------	--	--	--	------------------------------

UH Sea Grant periodically offers educational workshops, and most often groups are notified through points of contact in the community. If they have worked previously with a particular group (hotel, conservation group, AOA), then they can include those groups on relevant opportunities. — V, SE

UH Sea Grant offers many types of publications in the focus areas of Hazard Resilience in Coastal Communities, Healthy Coastal Ecosystems, Marine Science Education, Safe and Sustainable Seafood supply, and Sustainable Coastal Development. Some publications are available in hard copy and others are electronic only. A library of UH Sea Grant publications can be found on the website at: seagrant.soest.hawaii.edu/publications — M

University of Hawai'i, Sea Grant: Reef Talks

West Hawai'i

Chantal Chung

cechung@hawaii.edu 329-2861

Presentations on marine environment; open to the public and typically offered at one of the National Parks sites. — POL

University of Hawai'i, Sea Grant in partnership with the South Kohala Coastal Partnership: Coastal Community Seawater Monitoring Toolkit and Citizen Science Program. (C-Water Toolkit)

West Hawai'i

Sierra Tobiason

808-313-2653

tobiason@hawaii.edu

University of Hawai'i Sea Grant offer water quality workshops and training opportunities; monitoring equipment will be available for interested parties. — CS

Waikoloa Dry Forest Initiative

68-3720 Lua Hoana Place Waikoloa, HI 96738 HAWAII ISLAND

Jen Lawson, Executive Director

808-494-2208

waikolodryforest.org

wdfi@waikolodryforest.org

Waikoloa Dry Forest Initiative can provide presentations to hotel staff at the hotels or in the form of a guided tour in the Waikoloa forest preserve. They have ready-to-go power-point presentations and various outreach materials that they can bring to the hotels. The presentations can run from 15 minutes to 1 hour and focus on dryland forest ecosystems, the beautiful species that comprise the dryland forest, cultural connections to plants and place, and their efforts to reforest Waikoloa. They can do these presentations several times a year, depending on need. — PS

Waikoloa Dry Forest Initiative likes to focus on the beauty of native places when engaging a visiting audience and stress the importance of good stewardship. Presentations are available monthly. — PG

Guided tours of the Waikoloa Dry Forest during Tuesday through Saturday are also available if scheduled in advance. They show guests the forest preserve, talk about the history of the land, the forest and the preserve itself, as well as information about the wiliwili forest, the plant species that they work with and the restoration efforts of their group. Guests will see outplanting efforts, get to experience the forest up close, and tour their on-site nursery. These tours can be scheduled weekly and last about two hours. — POL

Waikoloa Dry Forest Initiative hosts at least two volunteer opportunities a month, usually on Saturdays from 8:00am-12:00pm. Volunteer days usually involve a short tour and planting trees within the preserve. Volunteers must wear shoes, preferably hiking boots, and can sign up for our mailing list to find out about upcoming opportunities. Visit waikolodryforest.org or facebook.com/WaikoloaDryForest for more information. — V

They will also be hosting the Wiliwili Festival in September and will be giving tours, providing workshops, and hosting a variety of local vendors and educators at the festival. — V, SE

Staff and guests are invited to get involved in our volunteer days, outreach events, and special events such as the Wiliwili Festival. Partnering hotels would also be invited to present information at their events. — V, SE

They have brochures and other educational hand-outs developed. They can provide small numbers of printed brochures but would require assistance if large volumes became necessary. — M

West Maui Ridge to Reef Initiative

Maui

Tova Callender, West Maui Watershed and Coastal Management Coordinator

808-214-4239

tovacallender@westmauir2r.com

westmauir2r.com

Watershed management and planning process are underway in West Maui. West Maui Ridge to Reef Initiative can highlight the actions that hotels can take to reduce stress to coral reefs. This could be presented quarterly, or as requested. — PS, PG

They have public meetings, educational workshops, technical colloquium sharing sessions and a social marketing campaign. Involvement could be through attendance or helping with promotion for the events. — SE

PS Presentations, Hotel Staff	PG Presentations, Hotel Guests	CS Citizen Science	V Voluntourism (community service for staff and guests)	SE Special Events (other outreach for staff and guests)	POL Presentations at Other Locations	M Collateral Materials
-------------------------------------	--------------------------------------	-----------------------	--	--	--	------------------------------

Appendix D

Theme Days, Weeks and Months

** Indicates activities that are specific to 2014; check with coordinating agency/organizers to determine future years' dates*

January 10th National Cut Your Energy Costs Day

First week in February National Green Week

February 2nd Groundhog Day

February 14th-17th Great Backyard Bird Count (Audubon)

February 15th World Whale Day

March National Nutrition Month

March 3rd World Wildlife Day

March 17th-23rd * National Wildlife Week

March 17th-21st National Flood Safety Awareness Week

March 20th Vernal Equinox

March 21st The International Day of Forests and the Tree

March 22nd World Day of Water

March 23rd World Meteorological Day

March 23rd-29th World Agriculture Week

March 25th World Agriculture Day

March 26th Make Up Your Own Holiday Day *

March 29th Earth Hour (8:30-9:30pm) *

April 2014 World Habitat Awareness Month / National Garden Month

April 4th National Walk to Work Day

April 6th-13th * National Volunteer Week

April 11th- 13th * Global Youth Service Day

April 13th-19th * National Environmental Education Week / National Environmental Crimes Prevention Week

April 14th National Dolphin Day

April 15th Bicycle Day

April 19th-27th National Park Week

April 21st-25th National Public School Volunteer Week

April 21st John Muir Day

April 22nd Earth Day

April 25th National Arbor Day *

April 27th-May 4th Stewardship Week

April 28th May 2nd Air Quality Awareness Week

May 2014 National Bike Month * / American Wetlands Month *

May 3rd Join Hands Day

May 4th-10th * Drinking Water Week

May 5th-10th * International Compost Awareness Week

May 5th-11th * Screen-Free Week / National Wildflower Week

May 7th Bike to School Day

May 9th National Public Gardens Day

May 10th International Migratory Bird Day / Astronomy Day

May 12th-16th Bike to Work Week

May 16th Endangered Species Day and Bike to Work Day (Third Friday in May)

May 22nd World Biodiversity Day

May 23rd World Turtle Day

June 2014 Great Outdoors Month * / National Rivers Month * / National Oceans Month *

June 5th UN World Environment Day

June 7th National Trails Day

June 8th World Oceans Day

June 14th National Get Outdoors Day

June 15th Global Wind Day

June 16th-22nd * Pollinator Week

June 18th International Sushi Day

June 20th International Surfing Day

June 21st Summer Solstice

June 29th International Mud Day

July (monthlong) Great Annual Fish Count

July 1st-7th Clean Beaches Week

July 3rd International Plastic Bag Free Day

July 11th World Population Day

August 29th-September 7th * Hawai'i Food & Wine Festival Week

September 4th National Wildlife Day

September 16th International Day for the Preservation of the Ozone Layer

September 18th World Water Monitoring Day *

September 21st International Coastal Clean Up Day / Zero Emissions Day / International Day of Peace

September 22nd Autumnal Equinox / Car Free Day

September 27th National Hunting and Fishing Day

Third weekend in September Clean Up the World Weekend

October 2014 National Energy Awareness Month *

October 6th UN World Habitat Day (First Monday of October)

October 8th-12th Cephalopod (i.e., Octopus and Squid) Awareness Days

October 17th Alternative Fuel Day

October 24th International Day of Climate Action

October 25th Make a Difference Day

November 15th America Recycles Day

November 16th International Day of Tolerance

December 4th World Wildlife Conservation Day

December 5th World Soil Day / International Volunteer Day

December 21st Winter Solstice

December 14th-Jan 5th Audubon's Christmas Bird Count

Appendix E

Resources to Explore

Continuing Education Opportunities

Hawai'i Energy

eefg.com/hawaiienergy; 808.333.7225; info@eefg.com

Native Hawaiian Hospitality Association

nahha.com

Ocean Awareness Training

oceanawarehawaii.org

West Hawai'i Voluntary Standards for Marine Recreation

coral.org/west_hawaii_standards/

Certification/Recognition programs

Hawai'i Ecotourism Association—

Sustainable Tourism Certification Program:

hawaiiecotourism.org/travelpono

Hawai'i Green Business Program

energy.hawaii.gov/green-business-program

Green Key

greenkeyglobal.com

Kuleana Green Business Program

kona-kohala.com

TripAdvisors Green Leaders

tripadvisor.com/vpages/green_leaders_lander.html

Global Sustainable Tourism Criteria

gstcouncil.org/sustainable-tourism-gstc-criteria.html

ENERGY STAR®

energystar.gov/buildings

US Green Building Council—LEED Program

usgbc.org

Dolphin SMART

dolphinsmart.org

Voluntourism

Hawai'i Conservation Alliance Conservation Connections

conservationconnections.org

Preserve Hawai'i

facebook.com/preserveHawaiiVolunteering

Misc/Other

Hands On Maui (County of Maui Volunteer Center)

handsonmaui.com

Makai Watch Program

hawaiicoralreefstrategy.com/index.php/local-action-strategies/makai-watch

E Alu Pu Community Network

kuahawaii.org

Great Annual Fish Count

fishcount.org

In Our Gardens, Four Seasons Maui Resort at Wailea

inourgardens.com

Respecting Coral Reefs Sign

coral.org/what-we-do/where-we-work/Hawaii/respecting-coral-reefs

State of Hawai'i Dept. of Business, Economic Development and Tourism (DBEDT) Data Book

dbedt.hawaii.gov/economic/databook/

Hotel Beach Cleanup Support

coral.org/cleanupchallenge

West Hawai'i Regional Fisheries Management Area Rules

dlnr.hawaii.gov/dar/regulated-areas/west-hawaii-regional-fishery-management-area

Plant Pono

plantpono.org

LID Resources

EPA Low Impact Development

water.epa.gov/polwaste/green

CORAL's Recycled Water for Reefs Guide

coral.org/hawaiewater

PSAs

Respect Ocean and Aquatic Resources (ROAR) media page (PSAs)

roarhawaii.org/media

For the Sea—Hawai'i Reef Etiquette PSA

forthesea.com/reefetiquette-psa.html

DLNR's The Rain Follows the Forest

dlnr.hawaii.gov/rain/video

Resources to Explore

Water Quality Monitoring:

Water Monitoring Test Kit

worldwatermonitoringday.org/TestKits.aspx

EPA: Using a Secchi Disk

water.epa.gov/type/rsl/monitoring/155.cfm

Annual Event: Secchi Dip In

secchidipin.org

The Alliance for Water Efficiency, Condensate Water Introduction

allianceforwaterefficiency.org/1Column.aspx?id=1350&Lang-Type=1033&terms=air+conditioning+condensate

Sundry Stores/Sunscreen Reference/ Ecotoxicology

Haereticus Lab

haereticus-lab.org/ecotox-sunscreen-chemical.html

Seafood

Monterey Bay Aquarium Seafood Watch Program

seafoodwatch.org

Seafood Watch Buyer's Guide

seafoodwatch.org/cr/SeafoodWatch/web/sfw_regional.aspx

seafoodwatch.org/cr/cr_seafoodwatch/content/media/mba_seafood-watch_buyersGuide.pdf (downloadable pdf)

EDF Seafood Selector

seafood.edf.org/guide/best

Blue Ocean Institute's From Sea To Table Sustainable Seafood Program

blueocean.org/programs/sustainable-seafood-program/

Blue Ocean Institute Green Chefs/Blue Ocean Free Online Course for Chefs

blueocean.org/programs/sustainable-seafood-program/green-chefs-blue-ocean-online-course

National Geographic's Seafood Decision Guide

ocean.nationalgeographic.com/ocean/take-action/seafood-decision-guide

Good Catch Program for Chefs, Caterers and Restaurants

sustainweb.org/goodcatch

NOAA's Fishwatch

fishwatch.gov
fishwatch.gov/buying_seafood/choosing_sustainable.htm

Hawaii's Seafood Council

hawaii-seafood.org

Aquaculture Stewardship Council

asc-aqua.org

Marine Stewardship Council "Certified Sustainable Seafood"

msc.org

MSC Product Finder

msc.org/where-to-buy/product-finder

An Overview of Seafood Consumption and Supply Sources

fpir.noaa.gov/SFD/pdfs/seafood/EI-22.pdf

Conservation International Hawai'i's Local I'a Community-Supported Fishery

facebook.com/local.ia.csf

localiahawaii.com

Appendix F

Seafood Comparison Chart

Action	Seafood Watch	EDF Safe Seafood	Blue Ocean Institute	Greenpeace Red List
Ahi/Bigeye—worldwide except U.S. Atlantic				
Ahi/Yellowfin Tuna—Canadian and U.S. Pacific				
Ahi/Yellowfin Tuna—troll/pole (except Pacific and U.S. Atlantic)				
Ahi/Yellowfin Tuna—worldwide except HI and U.S. Atlantic longline				
Aku/Skipjack Tuna				
Aku/Skipjack Tuna—HI and U.S. Atlantic				
Aku/Skipjack Tuna—imported				
Akule/Bigeye Scad—U.S. Atlantic; troll/pole				
Akule/Bigeye Scad—worldwide except U.S. Atlantic longline				
Akule/Bigeye Scad—worldwide; troll/pole				
Amberjack				
Anglerfish				
Arctic Char—farmed				
Barramundi—U.S. farmed				
Bigeye Tuna—Canadian and U.S. Pacific				
Bluefin Tuna—worldwide wild				
Caviar, Sturgeon—U.S. farmed				

Best
choiceBetter
alternative

Avoid

N/A

Seafood Comparison Chart

Action	Seafood Watch	EDF Safe Seafood	Blue Ocean Institute	Greenpeace Red List
Caviar, Sturgeon—wild				
Chilean Seabass/Toothfish				
Clams—farmed				
Cobia—U.S. farmed				
Cod—Atlantic				
Crab—Dungeness, Snow; Kona (Australia)				
Crab, King—Kona (HI), U.S. trap, Argentina trap				
Crab, King—Russia				
Edu/Red Snapper—HI				
Eel				
Ehu/Red Snapper—U.S. South Atlantic, wild				
Haddock				
Haddock—MSC Certified				
Hake				
Hake—MSC Certified				
Halibut—Canadian Atlantic; farmed in tanks				
Halibut—U.S. Pacific				
Halibut, Atlantic				
Halibut, Greenland				
Hapu'u/Grouper—Main HI				

Best choice	Better alternative	Avoid	N/A
-------------	--------------------	-------	-----

Action	Seafood Watch	EDF Safe Seafood	Blue Ocean Institute	Greenpeace Red List
Hapu'u/Grouper—NWHI				
Hebi/Spearfish—HI wild				
Hebi/Spearfish—imported, wild				
Hoki				
Hoki—MSC Certified				
Kajiki/Blue Marlin—HI				
Kajiki/Marlin, Blue—imported				
Lobster—American, wild MSC certified				
Mahi Mahi—U.S. Atlantic				
Mahi Mahi/Dolphinfish—HI; troll/pole				
Mahi Mahi/Dolphinfish—imported				
Monchong/Pomfret—HI				
Mussels—farmed				
Nairagi/Striped Marlin—worldwide, wild				
Onaga/Ruby Snapper—HI				
Ono/Wahoo—HI and U.S. Atlantic				
Opah/Moonfish—HI				
Opah/Moonfish—imported				
Opakapaka/Pink Snapper—HI				
Opelu/Mackeral Scad—U.S. Atlantic				

Best
choiceBetter
alternative

Avoid

N/A

Seafood Comparison Chart

Action	Seafood Watch	EDF Safe Seafood	Blue Ocean Institute	Greenpeace Red List
Orange Roughy—worldwide, wild				
Oysters—farmed				
Prawn—Giant Tiger				
Salmon—Alaska wild				
Salmon—farmed except U.S. Farmed in tank systems				
Salmon—wild from CA, WA, OR; Chile Verlasso Farm				
Sardines—U.S. Pacific				
Scallops—farmed				
Scallops—U.S. and Canada wild				
Shark/Mano—wild worldwide				
Shrimp—imported				
Shrimp—Louisiana				
Shrimp—Mexico				
Shrimp—verified farms				
Shrimp—wild from U.S. and Canada; certified farmed				
Shutome/Swordfish—HI harpoon/handline				
Shutome/Swordfish—imported longline				
Shutome/Swordfish—U.S. and certified farmed				
Sole				
Sole—MSC Certified				

Best choice	Better alternative	Avoid	N/A
-------------	--------------------	-------	-----

Action	Seafood Watch	EDF Safe Seafood	Blue Ocean Institute	Greenpeace Red List
Striped Bass—U.S. Atlantic				
Tilapia—Naturland and China certified farmed				
Tilapia—U.S., Canada and Ecuador farmed				
Tombo/Albacore Tuna—HI, MSC Certified wild, worldwide troll/pole				
Tombo/Albacore Tuna—imported longline except HI				
Tombo/Albacore Tuna—U.S. and Canadian Pacific; troll/pole				
Tongol Tuna				
Uku/Gray Snapper—HI wild				

Best
choiceBetter
alternative

Avoid

N/A

Appendix G

Sample Sustainability Statement

Adapted from Tourism Queensland

[ORGANIZATION NAME] SUSTAINABILITY POLICY

Following consideration of the importance of environmental sustainability and a commitment to be a benefit to the [LOCAL COMMUNITY NAME] community, [ORGANIZATION NAME] is committed to strive to achieve environmental and social sustainability for [DESCRIBE SCOPE OF TOURISM PRODUCT].

[PARAGRAPH DESCRIBING LOCAL ENVIRONMENTAL SIGNIFICANCE, IF ANY NATURAL ENVIRONMENT NEARBY]

[ORGANIZATION NAME] commits to continually improve its environmental and social sustainability performance.

[DESCRIPTION OF ENVIRONMENTAL APPROACH]

Waste
Energy
Water
Purchasing
Education
Pollution Prevention
Transportation
Management and Training of Staff

[ORGANIZATION NAME] will comply with all relevant legislation and regulations; we strive to achieve international best practice in [NOMINATE AN AREA FOR FOCUS].

We have appointed [NAME OF CONTACT] as the Sustainability Coordinator, who has responsibility for ensuring ongoing environmental performance, identification of environmental risks, recording and monitoring of impacts, and implementing environmental and social sustainability measures.

Special consideration will be given to employing and empowering the local staff and, wherever efficient and environmentally sustainable, products and services will be sourced locally.

We encourage staff to present our commitment to environmental and social sustainability to our guests, suppliers, contractors, agents, and wholesalers. [HOW YOU WILL INVOLVE STAFF].

Signed,
[NAME, POSITION [e.g., General Manager, CEO]]
[INSERT DATE]

References

- 2012 Hawaii State Senate. (2012) Senate Bill 2747: Relating to electric vehicle parking [Internet]. Honolulu (HI): 2012 Hawaii State Senate; [cited 2014 January 15]. Available from capitol.hawaii.gov/session2012/bills/SB2747_HD2_.pdf
- Bernstein, J., Courbis, S., Herman, E., Watson, T.K., Rieser, A. 2012. Understanding Hawai'i visitor attitudes, knowledge, and behaviors to develop a public service announcement to reduce wildlife harassment. Report to Honua Consulting for HTA Natural Resources Program, 22 pp.
- Brown, B.E., Le Tissier, M.D.A. and Dunne, R.P. 1994a. Tissue retraction in the scleractinian coral *Coeloseris mayeri*, its effect upon coral pigmentation, and preliminary implications for heat balance. *Marine Ecology Progress Series* 105: 209-218.
- Brown, B.E., Dunne, R.P., Scoffin, T.P. and Le Tissier, M.D.A. 1994b. Solar damage in intertidal corals. *Marine Ecology Progress Series* 105: 219-230.
- Bohdanowicz, P., Churie-Kallhauge, A., Martinac, I. (2001) Energy-efficiency and conservation in hotels—towards sustainable tourism [Internet]. Stockholm, Sweden: Departments of Energy Technology and Regional Planning, Royal Institute of Technology (SE); [cited 2014 January 15]. Available from greenthhotels.com/eng/BohdanowiczChurieKallhaugeMartinacHawaii2001.pdf
- Business for an Environmentally Sustainable Tomorrow (BEST) Business Center. (Date unknown) Writing a Sustainability Plan. Portland (OR): Business for an Environmentally Sustainable Tomorrow (BEST) Business Center; [cited 2014 January 15].
- Bustam, T., Stein, T. (2012) How to Develop a Marketing Plan for Your Ecotourism Business [Internet]. Gainesville (FL): University of Florida, School of Forest Resources and Conservation Department; [cited 2014 January 15]. Available from edis.ifas.ufl.edu/pdffiles/FR/FR34000.pdf
- Burke, L., K. Reyntar, M. Spalding and A. Perry. (2011) Reefs at Risk Revisited. World Resources Institute, Washington. 130 p.
- Caldeira, K.; Wickett, M. E. (2003). "Anthropogenic carbon and ocean pH". *Nature* 425(6956): 365–365.
- Center for Responsible Travel. (2009) Responsible Travel: US Trends & Statistics [Internet]. Washington DC: Center for Responsible Travel; [cited 2014 January 15]. Available from responsibletravel.org/news/Fact_sheets/Fact_Sheet_-_US_Eco_tourism.pdf
- Van Beukering, P.J. H. and Cesar, H.S. J. 2004. Ecological economic modeling of coral reefs: evaluating tourist overuse at Hanauma Bay and algae blooms at the Kihei coast, Hawaii. *Pacific Science*. 58: 243-260.
- Clubs Queensland. (2011) Guide to Sustainable Clubs [Internet]. Queensland (AUS): Clubs Queensland; [cited 2014 January 15]. Available from clubsqld.com.au/wp-content/uploads/2012/02/FINAL-NOV-2011-Clubs-Queensland-Guide-to-Sustainable-Clubs2.pdf
- CMI Green/Community Marketing, Inc. (2010) Green Traveler Study [Internet]. San Francisco (CA): CMI Green/Community Marketing, Inc; [cited 2014 January 15]. Available from cmigreen.com/wp-content/uploads/2012/02/cmigreen2010_11.pdf
- Costanza, R., et al. (1997). The value of the world's ecosystem services and natural capital. *Nature*. Vol 387: 253-260.
- Cox, L., Saucier, M., Cusick, J., Richins, H., McClure, B. (2008). Achieving Sustainable Tourism in Hawai'i Using a Sustainability Evaluation System. College of Tropical Agriculture and Human Resources, University of Hawai'i at Manoa.
- Dailer M, Knox R. S., Smith J. E., Napier M., Smith C. M. (2010) Using delta-15 N values in algal tissue to map locations and potential sources of anthropogenic nutrient inputs on the island of Maui, Hawai'i, USA. *Marine Pollution Bulletin*. 60: 655–671.
- Department of Business, Economic Development, and Tourism. (2014) Hawaii Green Business Program [Internet]. Honolulu (HI): Department of Business, Economic Development, and Tourism ; [cited 2014 January 15]. Available from energy.hawaii.gov/green-business-program
- Downs, C.A., Kramarsky-Winter, E., Fauth, J.E., Segal, R., Bronstein, O., Jeger, R., Lichtenfeld, Y., Woodley, C.M., Pennington, P.,

References

- Kushmaro, A., and Loya, Y. Toxicological effects of the sunscreen UV filter, benzophenone-2, on planula and in vitro cells of the coral, *Stylophora pistillata*. *Ecotoxicology*. DOI 10.1007/s10646-013-1161-y
- EbizMBA Guide. (2014) Top 15 Most Popular Travel Websites [Internet]. Location unknown: eBiz; [cited 2014 January 15]. Available from ebizmba.com/articles/travel-websites
- ENERGY STAR® Portfolio Manager: energystar.gov/buildings/facility-owners-and-managers
- Hawaii Department of Business, Economic Development and Tourism (DBEDT). 2002. State of Hawaii data book 2002: A statistical abstract. Honolulu, HI: DBEDT Research and Economic Analysis Division, Statistics and Data Support Branch.
- Hawaii Department of Health. Guidelines for the Treatment and Use of Recycled Water: health.hawaii.gov/wastewater/files/2013/06/reuse-final.pdf
- Hawaii Tourism Authority. (2013) Historical visitor statistics: 2012 Monthly Final [Internet]. Honolulu (HI): Hawaii Tourism Authority; [cited 2014 January 15]. Available from hawaiitourismauthority.org/research/reports/historical-visitor-statistics/
- Hawaii Tourism Strategic Plan: 2005-2015, Hawaii Tourism Authority
- Hawaii Water Conservation Plan: state.hi.us/dlnr/cwrm/planning/hwcp2013.pdf
- Hoegh-Guldberg, O. et al. Coral reefs under rapid climate change and ocean acidification. *Science*. 2007. 318 (5857), pp. 1737-1742.
- Hubbard, D.K. et al., Depth and species-related patterns of Holocene reef accretion in the Caribbean and western Atlantic: a critical assessment of existing models, (2008) in: Swart, P.S. (ed.), IAS Special Pub. No. 40: 1-18.
- Hunter, C. and H. Green, 1995. *Tourism and the environment: A sustainable relationship?* Routledge, New York.
- Fleischer, D. (2009) Green Teams: Engaging Employees in Sustainability [Internet]. Mill Valley (CA): Green Impact; [cited 2014 January 15]. Available from greenbiz.com/sites/default/files/GreenBizReports-GreenTeams-final.pdf
- Friedlander, A., Aeby, G., Brown, E., Clark, A., Coles, S., Dollar, S., 2005. The state of coral reef ecosystems of the main Hawaiian Islands. NOAA/NCCOS Center for Coastal Monitoring and Assessment Biogeography Team, Maryland, USA.
- Geslani, C., M. Loke, B. Takenaka, and P.S. Leung. Hawaii sea-food consumption and its supply sources. SOEST 12-01 JIMAR Contribution 12-0379, Honolulu, HI, 2012.
- Gleason, D.F. and Wellington, G.M. 1993. Ultraviolet radiation and coral bleaching. *Nature* 365: 836-838.
- Global Sustainable Tourism Council (GSTC). (2014) Global Sustainable Tourism Criteria [Internet]. Salt Lake City (UT): Global Sustainable Tourism Council; [cited 2014 January 15]. Available from gstcouncil.org
- Green Globe Certification. (2014) Green Globe Certification Standard [Internet]. Los Angeles (CA): Green Globe Certification; [cited 2014 January 15]. Available from greenglobe.com/green-globe-certification-standard
- Green Hotelier. (2012) Responsible procurement [Internet]. Location unknown: International Tourism Partnership; [cited 2014 January 15]. Available from greenhotelier.org/our-themes/responsible-procurement
- Green Key Global. (2014) The Green Key Eco-Rating Program [Internet]. Location unknown: Green Key Global; [cited 2014 January 15]. Available from greenkeyglobal.com
- Jacquet, J., H. Hocevar, S. Lai, P. Majluf, N. Pelletier, T. Pitcher, E. Sala, R. Sumaila, and D. Pauly. Conserving wild fish in a sea of market-based efforts. *Oryx* 44(1): 45-56.
- Kona-Kohala Chamber of Commerce. (2014) Kuleana Green Business Program. Kailua-Kona (HI): Kona-Kohala Chamber of Commerce.; [cited 2014 January 15]. Available from kona-kohala.com/home/kuleana-green-business-program.html
- Konan, D. E. (2004). *Tourism and Climate Change in Hawaii*. Report delivered at 2nd International Workshop on Integrated Climate Models: An Interdisciplinary Assessment of Climate Impacts and Policies. Sea Grant, University of Hawaii: sct.seagrant.soest.hawaii.edu/swac
- Lyons, M.M., Aas, P., Pakulski, J.D., Van Waasbergen, L., Mill-

- er, R.V., Mitchell, D.L. and Jeffrey, W.H. 1998. DNA damage induced by ultraviolet radiation in coral-reef microbial communities. *Marine Biology* 130: 537-543.
- Myers, R.A., Worm B. 2003. Rapid worldwide depletion of predatory fish communities. *Nature* 423: 280-283.
- Piniak, G. (2004) Sediment Impacts on Reef Corals in Maui, Hawai'i. Sound Waves: Coastal and Marine Research New from Across USGS. Accessed March 26, 2014: soundwaves.usgs.gov/2004/11/
- Rohwer, F. Coral Reefs in the Microbial Seas. 2010. Plaid Production, Inc. pp. 203.
- Schmidt, C., In Hot Water: Global Warming Takes a Toll on Coral Reefs. *Environmental Health Perspectives*. 2008, 116(7), pp. A292-299.
- Sea Grant, University of Hawai'i. Center for Sustainable Coastal Tourism: sct.seagrant.soest.hawaii.edu/benefits-swac
- Smith, Z. et al. (2014) The Natural Resource Defense Council Report. Net Loss: The Killing of Marine Mammals in Foreign Fisheries: nrdc.org/wildlife/marine/files/mammals-foreign-fisheries-report.pdf. Pp. 48
- SNV Netherlands Development Organisation. (2009) The Market for Responsible Tourism Products [Internet]. Netherlands: SNV Netherlands Development Organisation; [cited 2014 January 15]. Available from responsibletravel.org/resources/documents/reports/The%20Market%20for%20Responsible%20Tourism%20Products.pdf
- State of Hawai'i, Department of Business, Economic Development and Tourism, Research and Economic Analysis Division. 2012. State of Hawai'i Data Book, dbedt.hawaii.gov/economic/databook
- State of Hawai'i Department of Business, Economic Development and Tourism ENERGY STAR® Benchmarking and Labeling Program. 2012. Case Study: Waikiki Parc Hotel.
- Sustainable Travel International. (2014) STEP Eco-Certification [Internet]. Washington DC: Sustainable Travel International; [cited 2014 January 15]. Available from sustainabletravel.org/program/step-eco-certification-standard
- Tourism Queensland. (Date unknown) Preparing a Sustainability Policy [Internet]. Queensland (AUS): Tourism Queensland; [cited 2014 January 15]. Available from tq.com.au/fms/tq_corporate/industrydevelopment/Factsheet%201_3-Preparing%20a%20Sustainability%20Policy.pdf
- TripAdvisor LLC. (2014) GreenLeaders Program [Internet]. Newton (MA): TripAdvisor LLC; [cited 2014 January 15]. Available from tripadvisor.com/vpages/green_leaders_lander.html
- US Environmental Protection Agency. (2012) Saving water in hotels [Internet]. US Environmental Protection Agency; [cited 2014 January 15]. Available from epa.gov/watersense/commercial/docs/factsheets/hotels_fact_sheet_508.pdf
- US Environmental Protection Agency. (2014) ENERGY STAR® Buildings & Plants [Internet]. Washington DC: US Environmental Protection Agency; [cited 2014 January 15]. Available from energystar.gov/buildings
- US Green Building Council. (2014) Leadership in Energy and Environmental Design [Internet]. Washington DC: US Green Building Council; [cited 2014 January 15]. Available from usgbc.org
- WaterSense: epa.gov/watersense



CORAL REEF ALLIANCE

www.coral.org