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Environmental Audits for Sustainable Tourism

Environmental Management Audit
The Grand Lido
Negril, Jamaica, W.I

Preliminary Report
EAST Report No. 97-194

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Prepared for
EAST Project
c/o Jamaica Hotel and Tourist Association
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U S A

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I. Background

The Environmental Audits for Sustainable Tourism (EAST) Project is an activity funded by the U S Agency for International Development (USAID) that is designed to assist the tourism and hospitality industry implement effective environmental management systems (EMS)

The specific objectives of this project are (1) to develop greater awareness and understanding of the benefits of environmental management systems and audits among hoteliers, restaurateurs, allied tourism businesses, as well as in the manufacturing industry, (2) to train Jamaican consultants on EMS auditing techniques, (3) to assist a select, representative number of tourism establishments in carrying out environmental audits, and (4) to help finance, on a cost-sharing basis, specific audit recommendations in the participating establishments to demonstrate the financial benefit of the systematic application of environmentally friendly practices and, thereby, encourage others in the tourism industry to do likewise EAST is being implemented by Hagler Bailly Services (USA) under the direction of USAID/Jamaica and the Jamaica Hotel and Tourist Association

2 Introduction

The audit of the Grand Lido was conducted by an interdisciplinary team in September 1997 The team members included Hugh Cresser, EAST Project Coordinator, Peter Illig, Team Leader and EMS Specialist, Hagler Bailly Services (USA), Patricio Gonzalez, Environmental Engineer, Hagler Bailly Services (USA), Kimberly Moffitt, Hotel Operations Specialist, HVS International (USA), Adam Abelson, Hotel Operations Auditor, HVS International (USA), Lloyd Marsh, Senior Energy Engineer, Metrocad (Jamaica), Dinsdale Williams, Energy Engineer, Metrocad (Jamaica)

The EMS audit consisted of a detailed analysis of all departments and key service areas designed to identify the environmental aspects and impacts of the property's activities, and to formulate recommendations on how to improve the property's environmental performance and its environmental management system (EMS) This preliminary report contains a summary of the audit team's findings and recommendations, it will be followed by a comprehensive report that will provide detailed descriptions of the recommendations and specific guidance on how the property can upgrade its EMS

3 ISO 14001 EMS Gap Analysis

The audit team examined the property's policies, practices, procedures and management structure in order to determine how the existing environmental management process could be improved and brought closer to the requirement of ISO 14001. The ISO 14001 standard, which is used as the model for the property's EMS evaluation, is an internationally recognized standard that describes the basic elements of an effective and comprehensive EMS. This standard does not dictate specific environmental performance requirements, but rather describes the basic building blocks of a management system that can help a property establish and achieve its own environmental performance objectives. ISO 14001 is applicable to a broad range of industrial and service sectors, including the hospitality industry. The basic concept behind the ISO 14001 standard is that better environmental management leads to better environmental performance.

The Jamaica Bureau of Standards has formally adopted ISO 14001, and Jamaica's Natural Resources Conservation Authority recognizes ISO 14001 as a demonstration of an organization's commitment to meeting applicable Jamaican and international environmental laws and regulations.

The EMS gap analysis, summarized in Table 1, is designed to identify the discrepancies between the property's current practices and the ideal EMS model given by ISO 14001. The first two columns of this table present the main elements of the ISO 14001 EMS, the third column contains a rating which indicates how the property's current practices compare with the requirements of each element of the ISO 14001 EMS (the three ratings used in this evaluation are ● fully implemented, ◐ partially implemented, and ○ non-existent), and finally, the last column contains the audit finding upon which the ISO 14001 compliance rating is based.

TABLE 1 SUMMARY OF THE EMS GAP ANALYSIS FOR THE GRAND LIDO

ISO 14001 EMS element	Description of the EMS element and requirements	Rating	Finding
Environmental policy	The property must develop an environmental policy statement which describes its intentions and principles towards the environment. This policy sets the goal for the property's environmental responsibility and performance, and the benchmark against which the achievements of the property's EMS will be judged. The environmental policy must be documented, communicated to all employees, available to the public and appropriate to the scale and nature of the property's activities.	○	The Grand Lido is in the process of formalizing its environmental management process. However, this property does not currently have a formal and documented environmental policy.
Planning - Environmental aspects and impacts	The property must establish a procedure to identify the environmental aspects of its activities and determine which of its activities have a significant impact on the environment. The identified significant environmental impacts must be taken into consideration in setting the property's environmental objectives.	◐	The Grand Lido does not have an established procedure to identify and evaluate the environmental impacts of its activities. However, management and employees are aware of many of the environmental impacts of the hotel's activities.
Planning - Legal and other requirements	The property must establish a procedure to identify and access the legal and regulatory requirements that are applicable to the environmental aspects of its activities.	◐	Grand Lido's management is aware of the applicable environmental regulatory requirements. However, this property does not have an established procedure to identify and access the applicable environmental laws and regulations.
Planning - Objectives and targets	The property must establish and document its environmental objectives and targets. Whenever possible, these targets must be quantified, specific and measurable.	◐	The Grand Lido does not establish formal environmental objectives and targets. However, several environmental objectives and targets are informally set by the hotel's management (e.g., installation of water saving devices in guest rooms, implementation of a towel and linen reuse program, installation of passive solar collectors, collection of rainwater).

Key ● The EMS element is in place and meets ISO requirements, ◐ EMS element is in place but doesn't meet ISO requirements, ○ EMS element does not exist

ISO 14001 EMS element	Description of the EMS element and requirements	Rating	Finding
Planning - Environmental management program	The property must establish a program and designate responsibility for achieving its environmental objectives and targets. It must also provide the resources and define the time-frame for achieving the objectives and targets.	○	This property does not have a formal and documented program for achieving environmental objectives and targets.
Implementation and operation - Structure and responsibility	The property's top management must give selected staff members the authority and responsibility for implementing the EMS. Top management must also provide the necessary resources for the implementation of the EMS.	○	Since the Grand Lido does not have a formal EMS, it cannot assign the responsibility for its implementation.
Implementation and operation - Training, awareness and competence	The property must identify training needs and provide appropriate training to all personnel whose work may create a significant impact on the environment.	◐	Although management does provide training to its employees, little of this training addresses the environmental impacts of the hotel's operations.
Implementation and operation - Communications	The property must establish a procedure for the internal communication of issues related to its environmental impacts and EMS. It must also establish a procedure for receiving, processing, documenting and responding to relevant requests from external parties on the property's environmental impacts and EMS.	○	The Grand Lido does not have a formal procedure for handling the internal or external communications related to its environmental impacts and EMS.
Implementation and operation - EMS Documentation	The property must develop a document which describes the core elements of the EMS.	○	Given the lack of an established EMS, the Grand Lido does not yet possess such a document.
Implementation and operation - Document control	The property must develop a mechanism to control, maintain, review and store all documents related to the EMS.	◐	The Grand Lido does not currently have any EMS documentation. It could however extend its current document control mechanisms to include any future EMS documentation.

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ISO 14001 EMS element	Description of the EMS element and requirements	Rating	Finding
Implementation and operation - Operational control	The property must develop written procedures for all activities which have or could have a significant impact on the environment	◐	The Grand Lido does not have a formal process for developing written procedures targeted at environmentally sensitive activities
Implementation and operation - Emergency preparedness and response	The property must be ready to respond to abnormal operating conditions, accidents and emergency situations which may negatively affect the environment It must establish a procedure to identify and respond to possible environmental incidents and emergencies	○	No formal procedure is in place at the Grand Lido to identify and respond to possible environmental incidents
Checking and corrective action - Monitoring and measurement	The property must establish a procedure to regularly monitor its environmental performance and measure the main characteristics of its environmentally sensitive operations	◐	<p>The Grand Lido' engineering department has a detailed water and energy monitoring program which is used to define the property's normal consumption patterns, identify any unusual shifts in its consumption pattern, and track the results of its water/energy conservation efforts</p> <p>The Grand Lido should extend this monitoring effort to the other environmentally sensitive activities (e g , generation of solid waste, consumption of housekeeping chemicals, use of pesticides and fertilizer) that will be covered in this property's future EMS</p>
Checking and corrective action - Nonconformance and corrective action	The property must be prepared to correct and to prevent the recurrence of problems associated with its EMS In order to do so, it must establish a procedure to define responsibility and authority for handling and investigating episodes of nonconformance with the property's EMS, and for completing corrective and preventive action	○	Since the Grand Lido does not currently have a EMS, it has no mechanism to deal with nonconformance issues

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ISO 14001 EMS element	Description of the EMS element and requirements	Rating	Finding
Checking and corrective action - Records	The property must establish procedures for the identification, maintenance and disposition of all relevant environmental records. These items include training activity records and the results of EMS audits and reviews.	◐	Currently the Grand Lido does not have a formal process for handling its environmental records. This property could however extend its current record keeping mechanisms to include any environmental records generated by its future EMS.
Checking and corrective action - Environmental management system audit	The property should periodically audit its EMS to insure that it conforms with the ISO standard and that it is properly implemented and maintained. The results of these EMS audits should be used as a source of information for the management review process.	○	The Grand Lido does not have a formal EMS and does not therefore conduct any EMS audits.
Management review	Top management must periodically review the EMS to ensure its continuing suitability, adequacy and effectiveness. The management review process must address the possible need for changes to the property's environmental policy, objectives and other elements of the EMS.	○	The Grand Lido does not have a formal EMS and does not therefore conduct any management reviews.

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4. Environmental Aspects and Impacts

One of the principal requirements of the ISO 14001 EMS is that a property must examine its operations to identify the environmental aspects of its activities -- an environmental aspect is an element of an activity which interacts, in a beneficial or detrimental manner, with the environment. It must be noted that this identification process must focus only on the environmental aspects which the property can control or influence -- the property is obviously not expected to tackle issues that are beyond its grasp. Once the environmental aspects have been identified, the property must then determine the impact of these activities on the environment -- an impact is a change to the environment which results from a specific activity. While environmental aspects are interactions with the environment, impacts are the changes in the environment resulting from that interaction, the relationship between environmental aspects and impacts is, therefore, one of cause and effect. The identification of environmental aspects and impacts provides the property with a sense of its current environmental performance and enables the property to establish the environmental targets and objectives of its future EMS activities.

During the evaluation of the property's activities, the audit team identified the property's primary environmental aspects and impacts. The audit team also determined that most of the property's activities could be classified in at least one of the following environmental aspect categories:

- water use,
- energy use,
- solid waste generation,
- generation of water pollutants,
- use of hazardous products,
- generation of air emissions, and
- damage to the eco-system

A description of the environmental impacts and the types of activities associated with the Grand Lido's principal environmental aspects is given in Table 2. This table also includes a list of the possible objectives for this property's future EMS efforts.

TABLE 2 SUMMARY OF THE GRAND LIDO'S ENVIRONMENTAL ASPECTS, IMPACTS AND EMS OBJECTIVES

Type of environ aspect of the hotel's activities	Type of activities which have these environmental aspects	Environmental impact of the activities	Objective of the property's EMS
WATER USE	<ul style="list-style-type: none"> - Use of guest room and public bathrooms - Laundry room and operations - General housekeeping and cleaning operation - Kitchen and bar operations - Garden upkeep 	<ul style="list-style-type: none"> - Inefficient use of a valuable resource - Excessive consumption reduces the amount of clean water available to the Negril community 	- Reduce water consumption

TABLE 2 SUMMARY OF THE GRAND LIDO'S ENVIRONMENTAL ASPECTS, IMPACTS AND EMS OBJECTIVES

ENERGY USE	<ul style="list-style-type: none"> - Operation of a/c units, water heaters, washing machines, dryers and pool pumps - Use of hot water and lighting 	<ul style="list-style-type: none"> - Inefficient use of valuable and non-renewable resources - Generates air pollution (mainly at the power plant), greenhouse gases and acid rain 	<ul style="list-style-type: none"> - Reduce energy consumption
SOLID WASTE GENERATION	<ul style="list-style-type: none"> - Office operations (paperwork) - Food purchasing, preparation and serving - Bar operations - Maintenance operations - Garden and beach upkeep 	<ul style="list-style-type: none"> - Disposal of solid wastes in inadequate municipal dumps - Contamination of groundwater and surface water - Loss of raw materials 	<ul style="list-style-type: none"> - Reduce the amount of solid waste generated by the property
GENERATION OF WATER POLLUTANTS	<ul style="list-style-type: none"> - Laundry room operations (e.g., excessive use of detergents) - General housekeeping and cleaning operations (excessive use of chemical cleaning and disinfecting products) - Maintenance operations (improper disposal of used oil and spent solvents) - Food preparation (disposal of grease and oil in the sink) 	<ul style="list-style-type: none"> - Increases pollutant load discharged to surface and groundwater - Reduces the effectiveness of septic tanks and wastewater treatment systems 	<ul style="list-style-type: none"> - Reduce the pollutant load contained in the hotel's effluent
USE OF HAZARDOUS PRODUCTS	<ul style="list-style-type: none"> - Laundry room operations (use of bleach, and acid or caustic chemicals) - General housekeeping and cleaning operations (use of bleach, toxic cleaning chemicals, insecticides) - Maintenance operations (use of lead paint, drain clearing chemicals) - Grounds keeping (use of pesticides and insecticides) 	<ul style="list-style-type: none"> - Exposes guests and employees to hazardous products 	<ul style="list-style-type: none"> - Reduce the number and amount of hazardous products used on the property
GENERATION OF AIR EMISSIONS	<ul style="list-style-type: none"> - Maintenance operations (use of solvents) - General housekeeping and cleaning operations (use of CFC containing aerosols) - Grounds keeping (insecticide fogging) 	<ul style="list-style-type: none"> - Release of CFCs to the atmosphere - Exposes guests and employees to hazardous air pollutants 	<ul style="list-style-type: none"> - Phase out CFC refrigerants from the property - Reduce the use of solvents, insecticides, pesticides and other air pollutants used on the property
DAMAGE TO THE ECOSYSTEM	<ul style="list-style-type: none"> - Excessive use of fertilizer, insecticides and pesticides on the property's gardens 	<ul style="list-style-type: none"> - Damages the environment and ecosystem surrounding the property 	<ul style="list-style-type: none"> - Reduce the damage caused by the property's operations on the ecosystem

5 Environmental Aspects of the Property's Activities and Recommendations

Table 3 provides a summary of the recommendations proposed by the audit team to help the property address many of its activities that have a negative impact on the environment. It is important to note, however, that this list only contains the recommendations identified during the course of a three day audit, these recommendations should therefore be viewed as only a the first phase of the property's continuous EMS process.

The recommended actions listed in Table 3 are classified by department or area of activity (e.g., maintenance department, housekeeping department, guest rooms, gift shop) and by the environmental aspect category addressed by each recommendation (e.g., water use, energy use, solid waste generation).

An evaluation of the environmental impact, the implementation cost and the cost effectiveness of each recommended action is provided in the last three columns of Table 3. The ratings used to qualify the recommendations are defined as follows:

Criteria	Rating	Description of rating
Environmental benefit of the action	High (H)	Significant reduction of the property's impact on the environment (e.g., a large reduction in the toxicity or volume of generated waste, a significant improvement in the use of water, energy, chemicals or other products)
	Moderate (M)	Moderate reduction of the property's impact on the environment
	Low (L)	Low or insignificant reduction of the property's impact on the environment
Cost to implement the action	High	Significant investment of labor or capital
	Moderate	Moderate investment of labor or capital
	Low	No or negligible investment of labor or capital
Cost effectiveness of the action	High	Immediate payback (payback < 1 month)
	Moderate	Payback < 1 year
	Low	Payback > 1 year

The property's management and staff can use the ratings to select the recommendations that should be implemented first and to identify the recommendations that yield the greatest benefits -- that is, High environmental benefit, Low implementation cost and High cost effectiveness. The high priority actions listed in Table 3 are highlighted with the "⊗" symbol. These actions are those which either have an immediate payback (cost effectiveness = H) or have a high environmental benefit combined with a moderate payback (cost effectiveness = M).

TABLE 3 ENVIRONMENTAL ASPECTS OF THE GRAND LIDO'S ACTIVITIES AND RECOMMENDED ACTIONS

Env aspect of the property's activity	Recommended action	Environ benefit of the action	Cost to implement the action	Action's cost effectiveness
MAINTENANCE/ENGINEERING DEPARTMENT		H = high	M = moderate	L = low
General issues	Use the maintenance department's detailed water and energy monitoring program to evaluate the progress of the hotel's water and energy conservation efforts	M	L	Not applicable
Water use	Water consumption at the Grand Lido (235 gallons per guest night) is greater than the industry average for a water efficient property (160 gallons per guest night) Since the cost of the water used by the Grand Lido is high (321 J\$/1,000 gallons -- this value includes the fee paid to NWC and to the Urban Development Corporation), it is in this property's best interest to engage in an aggressive water conservation program	H	See specific recommendations	See specific recommendations
	☉ Install faucet aerators Most of the water faucets located in employee or work areas (e g , kitchen and bar sinks, wash basins in employees' bathroom, sinks in the linen closets located by each guest room block) are not equipped with flow aerators The use of flow aerators is particularly important in places such as kitchen sinks where taps are left running for long periods of time Unless a specific location <u>absolutely</u> requires a high flow, all faucets should be equipped with flow aerators which limit the flow to less than 2 gallons per minute	M	L	H
	☉ In most cases, the water lines which bring water to the faucets are equipped with individual shut-off valves Generally, these valves are wide open and thus subject the faucets to the full pressure carried by the hotel's water distribution system In order to conserve water, these valves should be adjusted to reduce the pressure acting on the faucets and, thereby, lower the output of the faucets This water conservation measure should be applied especially for all faucets that cannot be equipped with flow aerators (e g , male employees' bathroom) If deemed necessary, the handles of these shut-off valves should be removed to prevent employees from changing the flow output of the faucets	M	L	H
	Continue the installation of "hand free" (spring loaded, infrared or foot valve) faucets in locations where the taps are likely to be left running when not in use (e g , hand washing station in the kitchen, employee restrooms)	M	M	L
	Install low flow shower heads in the main employees' bathroom Because of theft problems, the three showers stalls in the men's bathroom are not equipped with shower heads These "open pipe" showers generate more than 8 gpm and, therefore, significantly exceed the 2.5 gpm output of low flow shower heads The Grand Lido should find a way to install "theft proof" low flow shower heads or, in the worst case, home made shower heads in these stalls	M	L	M

Env aspect of the property's activity	Recommended action	Environ benefit of the action	Cost to implement the action	Action's cost effectiveness
	<p>⊗ Promptly fix all leaks in faucets, toilets, pipes and others fixtures Although the maintenance department has an aggressive leak repair program, the audit team detected several leaks while inspecting the property Since even minor leaks can waste thousands of gallons of water in a year, the Grand Lido should persevere in its efforts to detect, report and repair water leaks in a timely fashion</p>	M	L	H
	Equip all hoses with spray guns and repair all damaged hoses	M	L	M
	<p>⊗ Use rainwater for the hotel's laundry operations Each year, the Grand Lido's laundry room consumes ~6,600,000 gallons of water at a cost of 2,100,000 J\$ This water is also treated in a water softening system which uses approximately 36,000 lb of salt per year and consumes a large volume of water in its daily regeneration cycles Rainwater is naturally soft, virtually free and plentiful in Negril, therefore, the Grand Lido's laundry room operations should be an ideal outlet for the rainwater collected on the hotel's rooftops</p>	H	M / H	M
	⊗ Investigate proposal to recycle the discharge from the laundry	H	H	M
	<p>⊗ Consider capturing and storing the storm water runoff which is currently discharged to the sea The collected storm water runoff could then be used for irrigation Benefits of implementing this measure include reducing the volume of surface runoff discharged to the sea (thus reducing the excessive growth of algae along the hotel's beaches), eliminating the unsightly PVC pipes that currently drain the storm water off the beaches, and reducing the amount of NWC water used for irrigation</p>	H	M / H	M
Energy use Electricity and lighting	The main building's service supply has a low power factor Consider taking action to improve this power factor (Note the overall system power factor for the East and West Wings are good)	M	Not yet determined	Not yet determined
	Provide adequate ventilation to transformer stations	M	M	Not yet determined
	Lighting levels are inadequate in some areas and excessive in some and should be corrected	M	M	Not applicable
	Gradually phase out incandescent lamps wherever possible	M	M	M
	<p>⊗ Use high efficiency lighting fixtures in the staff areas</p> <p>⊗ Maintenance and management should implement a "lights out" policy Numerous lights are left on unnecessarily in areas that receive sufficient natural illumination (e g , scuba diving desk, Garden Terrace) or in areas that are seldom occupied (stores, utility rooms, video theater, library, meeting rooms, Italian restaurant) This problem exists property-wide and proves to be extremely wasteful</p>	M	L	H

Env aspect of the property's activity	Recommended action	Environ benefit of the action	Cost to implement the action	Action's cost effectiveness
	<p>⊕ Although pool filter pumps are generally operated continuously, experience has shown that pool water quality can be maintained by running the filter pumps for 12 to 16 hours per day. The Grand Lido should therefore shut off its filter pumps at night, this measure will save energy and increase the useful life of the pumps</p>	M	L	H
	<p>Install photo-sensors on all outdoor lights which do not currently have them</p>	M	M	L / M
Energy use Air-conditioning and refrigeration	<p>⊕ The louvered windows and the large gaps under many entrance doors result in a significant heat gain in the guest rooms and add to the load on the a/c units. Install durable weather stripping on the louvered windows (or seal the windows, as proposed by Mr. Robertson) and at the base of the entrance doors to reduce heat gain and the energy consumed by the a/c units</p>	M	L / M	M / H
	<p>Most of the hotel's guest leave their a/c units operating (often at a high cooling setting) after leaving their rooms for their daily activities. The Grand Lido should consider installing sensor-stats to shut off or, if this is unacceptable to the guests, lower the cooling setting on the a/c units</p>	M	M	M
	<p>Rooftop condensers and the kitchen's refrigerators, chill rooms and freezers are in need of servicing. The Grand Lido should implement a planned maintenance program for a/c and refrigeration equipment</p>	M	M	M
	<p>⊕ Install a door on the main ice machine, the existing door only covers half of the opening</p>	M	L	H
Energy use LPG	<p>According to the kitchen staff, stoves, grills and ovens are left on because pilots are broken. Repair pilot system for kitchen equipment and encourage kitchen staff to turn off the main burners for these equipment whenever they are not in use</p>	M	L	M
	<p>Monitor LPG consumption in order to identify conservation opportunities at the various cost centers</p>	M	L	Not applicable
Energy use Hot water supply	<p>⊕ Hot water supply temperature is high (125F). Set the hot water control thermostat to a lower temperature</p>	M	L	H
	<p>⊕ Solar panels should be cleaned more frequently. Since this operation is easy to perform, nothing prevents the Grand Lido from keeping its solar panels clean</p>	M	L	H
	<p>Most water pipes on the rooftop of the main building are insulated regardless whether they carry hot or cold water, and most of this insulation is in poor conditions. Damaged insulation on the <u>hot water pipes</u> should be replaced. All polyurethane insulation (black foam) should be protected from sunlight</p>	M	M	M
	<p>The heat exchangers designed to use the waste heat from the rooftop a/c condensers are either missing or bypassed. The Grand Lido should consider repairing or replacing these defective heat exchanger units</p>	M	M / H	M

Env aspect of the property's activity	Recommended action	Environ benefit of the action	Cost to implement the action	Action's cost effectiveness
	Hot water discharge from the laundry process has high thermal content (120F) The Grand Lido should consider recapturing the heat content of the laundry room discharge	M	M / H	M
Solid waste generation	☉ The Grand Lido should implement a hotel-wide recycling program to segregate glass, metal, cardboard, paper and green waste from its general waste stream	H	M	M
	Whenever possible, sell old equipment to the scrap metal dealer rather than throwing it away This will divert the smaller items from the compactor and may even become a revenue-generator for the hotel	M	L	M

FRONT OFFICE / FRONT DESK

Solid waste generation	Consider computerizing the reservation system This will significantly reduce the amount of paper used significantly and streamline labor	M	M	M
	Consider purchasing a voice-mail message service The continued use of paper logs is unreliable and creates a significant amount of paper waste and adds undue burden to a five-star hotel phone system	M	H	L
	☉ Implement a paper reuse program Once-used paper (i e , printed on one side only) can be reused as scrap paper, for inter-office memos, or placed in a three-ring binder and given to the telephone operators as notebooks	M	L	H
	☉ Discontinue the practice of placing guest bills in envelopes which unnecessarily wastes envelopes In order to maintain privacy, bills can be folded and stapled shut	L	L	H
	Consider using biodegradable tissue paper instead of the plastic that is currently used to wrap honeymoon roses	L	L	Not applicable

LOBBY AND GIFT SHOP

Solid waste generation	Purchase recycled paper towels for the public restrooms	M	L	Not applicable
	☉ Whenever feasible, don't automatically give out plastic bags for gift shop purchases, instead ask guests if they would like one Replace plastic bags with paper bags	M	L	H

Env aspect of the property's activity	Recommended action	Environ benefit of the action	Cost to implement the action	Action's cost effectiveness
PURCHASING DEPARTMENT				
Solid waste generation	<ul style="list-style-type: none"> ☉ Purchase as much recycled paper products as possible (office paper, toilet paper, facial tissues, paper towels, etc) Most paper products manufacturer have environmentally friendly alternatives which contain a minimum of 20% POST CONSUMER waste The price and quality of recycled paper products are often comparable to those of virgin paper products 	H	L	Not applicable
	<ul style="list-style-type: none"> ☉ Implement a policy to track container returns There appears to be great deal of confusion concerning who is responsible for collecting and tracking containers (e g , detergent containers, chemical containers, milk jugs, produce crates, egg cartons, and banana boxes) that should be returned to the distributors Some employees stated that these items where discarded while others claimed they where reused, given away, or collected by the manufacturer Since the Grand Lido receives a rebate for any returned containers, it would be worthwhile to develop a formal policy outlining responsibility for their collection and processing 	M	L	H
HOUSEKEEPING DEPARTMENT				
Water use	<ul style="list-style-type: none"> ☉ The Grand Lido should improve the effectiveness of the towel reuse program The audit team discovered that the housekeeping staff regularly changes the used bathroom towels that are properly hung by the guests on the towel racks It appears that many housekeepers feel that used towels will never fully dry in Negril's humid weather and, therefore, take it upon themselves to replace them even if this goes against the guests' wishes 	H	L	H
Energy use	<ul style="list-style-type: none"> ☉ Before leaving a guest room, the housekeepers should ensure the bathroom and balcony windows are firmly closed, all lights are turned off, and the a/c is turned off or, if this is not acceptable, adjusted to a low cooling setting 	H	L	H
Solid waste generation	<ul style="list-style-type: none"> ☉ Reuse old guest room soap We recommend collecting and using old bars of soap for cleaning equipment such as water sports equipment 	M	L	H
GUEST ROOMS				
Energy use	<ul style="list-style-type: none"> ☉ Many guests leave the air conditioner running and lights on after leaving the room for the day's activities The Grand Lido should place a tactful note in the rooms to encourage guests to turn off air conditioners and lights whenever they leave their rooms for extended periods 	H	L	H
Solid waste generation	<ul style="list-style-type: none"> ☉ Eliminate the use of paper covers on the in-room glasses Simply turning the glasses over will eliminate the need for these wasteful covers 	L	L	H
	Eliminate door menus for room service	L	L	M

Env aspect of the property's activity	Recommended action	Environ benefit of the action	Cost to implement the action	Action's cost effectiveness
LAUNDRY				
Water use	<p>⊗ The faucets in the laundry room are often left running or are improperly shut off. This problem is mainly due to the fact that the sinks are hidden behind the washing machines and that the faucets are difficult to reach and operate, it could probably be minimized by replacing the current faucet fixtures with quick shut-off valves that can be easily operated (i.e., a butterfly valve that can be opened or closed with only a quarter of a turn). On one instance, the audit team observed that one of these faucets was left partially open overnight. To prevent this waste, one of the laundry room employees should be made responsible to insure that all faucets are properly closed at the end of the last shift.</p>	M	L	H
	<p>⊗ Whenever possible, reduce the number of rinses in the wash cycle from three to two.</p>	M	L	H
Energy use	<p>⊗ Fix the steam leak on the laundry room's steam generator.</p>	L	L	H
Solid waste generation	<p>Discontinue the practice of wrapping guest laundry in plastic. Consider using a paper wrap instead.</p>	M	L	Not applicable
KITCHEN				
Water use	<p>⊗ Reduce water consumption by washing vegetables in a basin or a sink with a stopper rather than under running water.</p>	M	L	H
	<p>⊗ Prevent the kitchen staff from thawing items under running water. Whenever possible, use the refrigerator or a basin of water to thaw all items. During one of the team's visit to the kitchen, the staff of the cold preparation room was defrosting a piece of meat in a sink using a continuous flow > 6 gpm.</p>	M	L	H
Solid waste generation	<p>Discontinue the use of doilies on buffet lines, platters, high-tea service, and in bread baskets. These non-reusable liners can easily be eliminated or replaced with linen napkins.</p>	L	L	L
	<p>⊗ Control the use of wax/butcher paper in the pastry shop. During the audit, it was noted that plated deserts were unnecessarily set on top of trays lined with this paper.</p>	L	L	H
RESTAURANTS AND BARS				
Water use / Solid waste generation	<p>⊗ Discontinue the practice of supplying guests with new glasses for each drink they order while sitting at the bar. If a guest orders the same beverage twice, offer to refill the glass as an alternative to giving a new glass. This measure will cut down on water used for dish washing, chemical use, and the generation of solid waste.</p>	M	L	H

Env aspect of the property's activity	Recommended action	Environ benefit of the action	Cost to implement the action	Action's cost effectiveness
Solid waste generation	Reduce packaging waste by purchasing sugar, jellies and jams, butter and cereal in bulk	M	L	M
	☉ Do not give straws out automatically with drinks. Guests should be asked if they would like one. The need for straws could be greatly reduced if the bars used ice cubes instead of ground ice. Replace plastic straws with paper straws.	L	L	H
	Reuse old and tarnished silverware. We recommend that utensils which are not presentable to the guest be used in the employees cafeteria or donated.	L	L	M
	Beach bar employees should provide ashtrays for guests on the beach in order to keep the beaches free of cigarette butts which currently litter the entire property.	L	L	L

MEETING ROOMS

Energy use	☉ Turn off the lights when not in use. During inspection, the audit team found that the meeting room lights were left on for days. Management may consider wiring the lighting controls to the timer which controls the HVAC system. Security should double check to ensure lights are off in unoccupied areas in the meantime.	M	L	M / H
Solid waste generation	Purchase a reader board for meeting information. Currently, a paper flip chart displays this information. We recommend a system similar to the daily scheduling information in the Terrace Dining Room as a paper free alternative.	L	L	L
	☉ Reuse note pads left from previous meetings within the offices. Currently, the staff discards half empty pads, which is an unnecessary waste.	L	L	H

RECREATIONAL AREAS

Water use	☉ In order to conserve water, the Grand Lido should consider changing its current practice of backwashing the pool filters every day. In most cases pool filters must be backwashed only once or twice per week.	M	L	H
Energy use	Place readily visible and accessible switches for the Health Club lights and television. Currently, the control switches are difficult to locate and, as a result, the television and lights are continuously on.	L	L	L
Solid waste generation	Purchase new trash receptacles for the beach areas. The ones currently used are inefficient and hard to find. As a result, there is an inordinate amount of trash left on the beach.	L	L	L
	Implement a program to recycle old batteries and used oil from the motor boats.	M	L	L

Env aspect of the property's activity	Recommended action	Environ benefit of the action	Cost to implement the action	Action's cost effectiveness
GARDENS				
Water use	☉ Sweep patios and walkways instead of hosing them down A continuously running hose is a very costly alternative to a broom	M	L	H
Solid waste generation	☉ Discontinue the practice of compacting green waste We strongly recommend that the Grounds crew expand the compost facility in order to include all green waste, most of the kitchen waste, and the seaweed collected from the beach This compost can be used on the hotel grounds in place of chemical fertilizers	H	L	M
	Consider purchasing a wood chipper for the grounds department The wood chipper will eliminate the need to dispose of the large branches collected around the property, the wood chips can be used as mulch	M	M / H	L
	Use durable and reusable canvas bags rather than disposable plastic bags to gather green garden waste	M	L	M