

# Sustainability Report 2019

**The Cliffs at Princeville  
3811 Edward Road**

**Princeville, Kauai, Hawaii**



**April 2020**

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## Summary

This Sustainability Report 2019 is the second year The Cliffs at Princeville (hereafter The Cliffs) published a Sustainability Report. The Sustainability Plan was developed in 2018, and the first report was issued in April 2019 for calendar year 2018. This Report compares performance against the baseline year of 2018 for the six key metric categories, highlights accomplishments and recognition, and defines the 2020 goals.

This Sustainability Report addresses six categories:

1. Climate Change and Resiliency
2. Operations and Community Engagement
3. Energy Consumption and Renewable Energy Production
4. Land Use and Maintenance
5. Water Use and Conservation
6. Waste Management and Recycling

### The 2019 sustainability report highlights:

- Issued annual update to the Cliffs' Emergency/Resiliency Plan.
- Received 2,604 Guest Survey inputs to the Cliffs' Cloud Cherry system :
  - Reply rate of 42%
  - Delight Score : 84%
  - Net Promoter Score : 74%

- The Cliffs maintained the highest ratings available from RCI and Interval International (II) organizations as well as earned the following notable honors:
  - *Pacific Edge* magazine winner for “Commitment to Green” category
  - *RCI Green Award for sustainability activities; award to top resort out of 1,800 worldwide resorts*
  - *Hawaii Green Business Program Recognition*
- The Cliffs continued to participate in Community Engagement activities with Hawaii Lodging and Tourism Association of Kauai, Northshore Shuttle Development project, Society of Human Resource Management of Kauai, Boys and Girls Club of Kauai, Kauai Community College Hospitality School as an Advisor, Kauai Tourism Strategic Plan panel member and the Kauai Rotary.
- Renewable Energy production increased 13% in 2019 in producing 881,538 kWh of electricity which is equal to 510 barrels of imported oil. The renewable energy system produced 62% of total electricity demand at the Cliffs in 2019. We did correlate renewable energy production with amount of rainfall.
- Because of the increased renewable energy production in 2019, the Cliffs purchased 9% less electricity from KIUC (at retail rates) and exported 26% more electricity to KIUC (at wholesale rates).
- A tree canopy assessment has been made to define number, nature and health of trees on property.
- New tree & shrubbery planting occurred to optimize public health, appearance and storm water benefits; a total of 13 trees were planted.
- Employee “Sunshine Fund” established to assist employees during times of difficulty; Sunshine Fund is supported by donations from Cliffs management and Association Board members.
- Achieved water reduction of 581,000 gallons equal to 5.4% reduction over 2018.
- 2019 water consumption decreased 2 million gallons over 2017, a reduction of 16% in two years.
- Installed two FloWater stations in September, 2019 to encourage Guests & Owners to refill containers rather than buy small plastic water bottles; these stations offset 31,386 plastic bottles (almost 8,000 bottles per month) that otherwise would have been purchased and used at the resort by our Guests, and ultimately been recycled.
- Cardboard recycling increased by 5% (9 cubic yards) however extra yardage increased 26% in 2019, indicating that additional disposal bins are needed.
- Solid waste volume was marginally reduced by 1.6%:
  - Progress made in reducing extra yardage in 2019 with 16% reduction over 2018 however extra yardage volumes have more than doubled since 2017.
  - There is a need for more solid waste reduction or consolidation actions
- Total material recycled was 21% of total waste generated and was largely unchanged from 2018. Waste recycled in 2019 was 422.4 cubic yards which was slightly more (0.8 cubic yards) than 2018. The Cliffs did increase the recycled amount of cardboard (+5%), glass (+8%) and paper (+10%) year over year however quantity of plastic (-14%) and metal (-8%) recycled decreased.



# Sustainability Focus at The Cliffs

## Sustainability Overview

Sustainability is defined as per the United Nations World Commission on the Environment and Development, as “development that meets the needs of the present without compromising the ability of future generations to meet their own needs.” The three pillars of sustainability are economic, environment and social elements which embrace the natural environment and human resources. With increasing urbanization sustainability concerns have increased in the last two decades. To this point the United Nations issued 17 Global Sustainable Development Goals (SDG) and 169 targets in 2015:



Expanded recycling center adjacent to building 4

The Cliffs at Princeville core metrics align with several Sustainable Development G goals as illustrated in table 1.

**Table 1. The Cliffs at Princeville Sustainability Metrics Alignment with Sustainable Development Goals 2020**

UN Sustainable Development Goals	Climate	Ops	Energy	Land Use	Water	Waste	Sustain. Comm.
1.No Poverty							
2.Zero Hunger							
3.Good health/well being							
4.Quality education							
5.Gender equality							
6.Clean water/sanitation							
7.Affordable Clean Energy							
8.Recent Work/Economic Growth							
9.Industry Innovation/Infrastructure							
10.Reduced inequalities							
11.Sustainable Cities							
12.Responsible Consumption/Production							
13.Climate Action							
14.Life Below Water							
15.Life on Land							
16.Peace, justice, strong institutions							
17.Partnerships for the Goals							

### The Cliffs at Princeville

The Cliffs is a self-managed, boutique resort on the north shore of Kauai in Princeville. There are 202 units that are used for time share (130) and whole unit owned condominiums (72 Units).

Dramatically situated between shimmering sea and sculptured emerald mountains on a bluff overlooking the Pacific Ocean, The Cliffs Resort is situated on 22 acres of lush tropical greenery.

On-site recreation opportunities include a putting green, tennis courts, pickle ball courts, basketball half court, shuffleboard, a botanical walking path, a children's playground, two swimming pools and two Jacuzzis. Adirondack chairs are situated on the ocean bluff as well as a hammock, and a gazebo with barbeque grills. Guests often walk through the Resort's grounds and gardens or enjoy the ocean view from the open space. The Cliffs at Princeville provides bicycles for riding around the Princeville area. There is also a walking path that extends from the Princeville entrance and shopping center to the Princeville Resort. Several wellness programs are offered at the resort.

To coordinate activities across the Cliffs Resort, a Joint Sustainability Committee was formed with participation from all three Associations.

#### **The Cliffs Joint Sustainability Committee has the following Mission Statement:**

*The Joint Sustainability Committee is responsible for the development of the Sustainability Plan for The Cliffs at Princeville. The Committee also periodically updates the Sustainability Plan and contributes to the preparation and issuance of the annual sustainability report, which is released by the Annual Meeting for the previous calendar year of activity.*

*To this end, the Committee reviews progress in achieving the sustainability goals across the dimensions of energy consumption, water use, waste disposal including recycling of cardboard, glass, plastic, paper and HI 5 containers, land use, emergency preparedness and community engagement. The Committee reviews both ongoing progress on the above key metrics and provides insight and guidance on future objectives and new initiatives to reduce the environmental footprint of The Cliffs.*

*Renewable energy production, by both the Administration Building system (which is a Cliffs-owned system) as well as energy purchased under the Valta Power Purchase Agreement, is an important aspect that falls within the scope of this Committee and includes usage trends, billing and overall cost and system performance. Liaison and interface with Valta remain the responsibility of the Cliffs General Manager.*

*Other aspects considered in the Sustainability plan which may have annual achievement goals include reducing the solid waste produced, increasing the quantity of waste recycled, reducing the amount of water consumed, development and updating emergency plans, and consideration of land use features (tree canopy, reduction of invasive species, etc.). The Committee is also involved in the identification of opportunities to participate in sustainability initiatives on the north shore, for all of Kauai and the Hawaiian Islands. The Committee considers sustainability recognition opportunities to highlight the performance of The Cliffs Sustainability Plan.*

#### **The 2019 Sustainability Report**

Sustainability at The Cliffs is a journey with continuous consideration of social, environmental and economic effects of development and ongoing operations. This Sustainability Report addresses the four interconnected domains of ecology, economics, politics and culture.

The objective of the 2019 Sustainability Report is to communicate progress made against goals established in the 2018 Sustainability Plan gauging results against the baseline 2018 Report. This report focuses on 32 core metrics. Progress against these core metrics and qualitative goals set in 2018 are presented in the following pages.

## Climate Change and Resiliency



The frequency and intensity of tropical storms increased over the last 30 years and the likelihood of an extreme event is high therefore prompting the need to continuously review and update the Emergency Response Plan and an ongoing evaluation of resiliency actions. While there have been only two tropical storms and two hurricanes since 1959, the resulting damages caused can be significant. Furthermore, fewer than 10% of people in Hawaii have flood insurance.

There were five tropical storms in the Central Pacific in 2019 which is near the seasonal average. Hurricane Erick was a category 4 and passed south of Hawaii. Tropical Storm Flossie, Akoni, Kiko and Ema brought wind speeds of 35 to 60 mph with rainfall; however, the total annual rainfall on Kauai was more in line with annual averages (70 inches per year) and much lower than 2018. Rainfall does affect renewable energy production: the more rainfall the less energy produced. Given the near average rainfall in 2019 which was much less than 2018, the solar energy production increased 13% over 2018.

According to the National Oceanic and Atmospheric Administration, evidence of climate change was noted in 2019 with recorded temperatures over 90 degrees Fahrenheit: in May alone, there were 27 records set or matched in Hawaii including Lihue. Influenced by warm ocean temperatures, many locations across Hawaii including Kauai, experienced a record-warm year. This elevation in temperature has resulted in more requests for fans and/or air conditioning in the Units at the Cliffs.

### Results:

January brought with it a winter storm on the north shore of Kauai with significant wind gusts resulting in tree destruction and property damage. Minimal damage was recorded at the Cliffs however several trees were uprooted on the Makai Golf Course and in the Princeville Community. Our solar panels were not affected by this high wind – high rain event.

- ❖ Sustainability Metric: Issue annual update to an emergency/resiliency plan at the Annual meeting each year: **Achieved**
- ❖ Source rainfall data and extreme temperature data for the Princeville community and correlate with solar energy production: **Achieved**
- ❖ Given increased intensity and frequency of tropical storms, conduct assessment of infrastructure and public safety threats and define actions to reduce these threats: **Achieved**





## Operations and Community Engagement

Daily operations emphasize sustainable considerations in the conduct of routine maintenance activities. Social cohesion and connectivity to the local community is important to resort operations and guest enjoyment. As a long-standing member in the Princeville Community Association, The Cliffs puts a premium on community engagement locally, on the island of Kauai and across the Hawaiian Islands.

### Results:

There are several routine activities at The Cliffs which demonstrate sustainability considerations in daily operations and community engagement:

- ❖ Exclusive utilization of battery-operated Utility service carts: **Achieved**
- ❖ Successful pilot tests using electrically powered landscape tools: **Achieved**
- ❖ Pursue RCI Green Award in 2019: **Awarded RCI Green Award as #1 facility of 1,800 resorts**
- ❖ Pursue Hawaii Green Business Program recognition: **Achieved**
- ❖ Conducted quarterly sustainability training and reporting to Cliffs staff quarterly and expand safety committee to become Safety & Sustainability Committee: **Achieved**
- ❖ Participated in Princeville Community Association Sustainability activities: **Achieved**
- ❖ Received recognition for sustainability achievements:
  - Aloha+ Challenge: **On-going**
  - State of Hawaii Green Business Certification: **Achieved**
- ❖ Promoted Kauai Sunshine Market Activities (aka Farmers Market): **Achieved; Weekly on-site**
- ❖ Achieved Resort Occupancy of 86% in 2019 as compared to 89% in 2018.
- ❖ Guest Satisfaction Survey conducted using the online Cloud Cherry instrument. Cloud Cherry results are reported for period September 2018 to August 2019 to align with annual RCI and Interval International (II) Surveys. The Cloud Cherry results for this period were:
  - **Survey Size:** 2,604 responses out of 6,132 Guests for 42% response rate
    - 2018 Result: 1,310: **Achieved a near doubling of responses**
  - **Delight Score:** 84% rating on weighted average out of 100 points; **No Change**
    - 2018 Result: 85%;
  - **Net Promoter Score:** Willingness to Promote Resort: 75% out of 100 points
    - 2018 Result: 80%; 2019 decline heavily influenced by lowest score in December (66) during stormy weather and in July (69) during hot weather noting lack of air conditioning at the Resort.
- ❖ RCI and Interval International (II) conduct Guest surveys to provide a rating of each resort. Their reporting cycle is September,2018 to August,2019 was the following:
  - For Interval International: 73 surveys received to calculate the Cliffs rating as **“Premier”** receiving a score of 87.4; the qualifying Premier level is 86. The II Premier rating is Interval International highest Resort rating. **Achieved**
  - RCI rates resorts on five categories as listed below earning **“Gold”** status. The RCI data for September 2018 to August 2019, based upon 104 responses was the following:



	<u>Check In/Out</u>	<u>Resort Hospitality</u>	<u>Resort Maintenance</u>	<u>Unit Maint.</u>	<u>Housekeeping</u>
<b>RCI Gold Criteria:</b>	4.6	4.5	4.5	4.4	4.5
<b>Cliffs Scores:</b>	<b>4.6</b>	<b>4.6</b>	<b>4.6</b>	<b>4.3</b>	<b>4.5</b>

**Overall Achieved Gold Rating which is highest resort rating**

- ❖ Participate in several Community Engagement activities: **(Achieved) Hawaii Lodging and Tourism Association of Kauai:** General Manager Jim Braman is a member of the Executive Committee.  
**Northshore Shuttle Development:** Jim participated in the Kauai Transportation Initiative and Hanalei Initiative for implementation of a Northshore Shuttle to reduce traffic congestion.  
**Society of Human Resource Management of Kauai:** Human Resources Manager Hasina Mitchell served as President of this Society.  
**Boys and Girls Club of Kauai:** GM Jim Braman is Board President  
**Kauai Community College Hospitality School Advisor** and participates in the Host Sector Partnership (a state-wide panel consisting of hospitality and education communities)  
**Kauai Tourism Strategic Plan panel member** (Jim Braman)  
**Kauai Rotary** member including hosting of meetings and activities (Jim Braman)
- ❖ The Cliffs at Princeville selected the **Hawaii Lodging Association’s Charity Walk** as our charity of choice. Several employees have participated in a variety of activities. All monies raised on Kauai stay on Kauai.  
**Achieved:** In 2019, nearly \$450k was raised for over 50 local charities from island-wide participants and organizations including the Cliffs. More information on this charity maybe found at <http://www.charitywalkhawaii.org/kauai.html>
- ❖ Continued to fund and support employee “Sunshine Fund” to assist employees in time of need.  
**Achieved**
- ❖ Offer several Guest and Employee wellness and activity programs: **Achieved**  
 Activities routinely offered include Cliffs Botanical Walk, Scuba lessons, Yoga, Pickleball Clinic, Water-color Class, Coconut Basket Weaving, Hula lessons, Lei Making, and Hawaii Language Class
- ❖ Demonstrate community engagement as measured by labor hours and money raised,
  - Number of hours dedicated to community engagement in 2019 **was over 350**
  - Funds raised during year for charitable causes was **\$700**





## Energy Use

Hawaii is a leader in renewable energy and has a statewide goal to produce 100% of energy from renewable sources by 2045. The island of Kauai is a leader nationally and locally in renewable energy production and has the aggressive goal to produce 70% of energy demand from renewable sources by 2030.

The Cliffs is a pioneer with installation of solar energy systems on the Cliffs' Administrative Building in 2009. The Administrative Building system operates on a net metering basis with KIUC hence some energy is exported during the day when production exceeds demand. The Administrative Building, with air conditioning, computers and laundry operations has the highest use of electricity on the property.

The Cliffs contracted for electricity under a 20-year power purchase agreement with Valta Energy. Valta Energy invested the capital and knowledge to install a large-scale solar energy system on the nine residential buildings which included 3,000 LG310 watt solar panels, 198 inverters and 142 Tesla Powerwall batteries to store energy produced, but not consumed, during daylight hours. A total of 27 building closets were added to the property to house the Tesla battery systems; five of these closet structures are free standing. All closets have matching vinyl siding and gable roofs to blend with existing structures.



The Valta renewable energy system became operational in quarter 4 of 2017. The electricity produced and consumed from solar panels during the day is charged to the Cliffs at \$0.20/kWh while electricity from battery sources is billed at \$0.04/kWh below KIUC rates. Surplus electricity is sold to KIUC at wholesale rate of \$0.15676/kWh. The weighted renewable energy rate is \$0.24/kWh.

### Results:

The Cliffs is conducting an ongoing evaluation to determine why the Resort has consumed more electricity since installation of the renewable energy system. The reported usage in 2019 was approximately 21% higher than the three-year average before renewable installation. It is anticipated that a combination of remedies will be instituted in 2020 based upon a third party evaluating the electricity production and consumption patterns. Additionally, the Cliffs took advantage of an offer from KIUC to conduct an energy audit; two separate assessments were conducted in 2019 and certain conservation actions were taken such as replacement of all incandescent lighting with LED bulbs in the common areas of the resort.

Performance in 2019 against 2018 baseline are summarized below:

- ❖ **The Administrative solar system provides 38% of the required electricity** for the offices and support facilities during daytime hours. The Laundry room, with air conditioning, uses 77% of electricity produced by the Administrative Building solar energy system. Administration offices and the laundry room required 137,457 kWh, of which 62% was purchased from KIUC:
  - 2017 Admin solar energy system production: 70,416 kWh
  - 2018 Admin solar energy system production: 52,394 kWh (decrease of 26%)
  - 2019 Admin solar energy system production: 85,064 kWh
  - Solar energy allowed the Cliffs to purchase less electricity from KIUC in 2019, saving \$27,220. The electricity produced by the Administrative solar system avoided purchase of 50 barrels of oil

- ❖ **The larger renewable energy system plus Admin system produced 62% of electricity demand:**

	<b>Total Electricity Demand (kWh)</b>	<b>Renewable Energy Produced (kWh)</b>	
○ 2017:	1,038,307	74,830	7% of demand
○ 2018:	1,465,344	778,796	53% of demand
○ 2019:	1,414,063	881,538	62% of demand
○ <b>Electricity production increased 13% in 2019 due to more favorable weather (less rain):</b>			
▪			The 2019 production is equal to 519 barrels of oil
▪			Electricity production during daylight hours exceeded demand: excess energy was exported to KIUC
▪			Because of increased electricity production, The Cliffs bought 9% less electricity from KIUC and exported 26% more to KIUC in 2019
▪			Production increase in 2019 attributed to less rainfall (70") for the year as compared to 2018 when rainfall was significantly more (130")
○ <b>Renewable energy represented 62% of total electricity demand at the Resort as opposed to 2018 which was 53% of total electricity demand.</b>			
○ <b>Estimated Resort electricity savings given weighted energy price (between solar panels and battery) of \$0.24/kWh from Valta versus \$0.32/kWh from KIUC in 2019 was \$155,697</b>			
○ <b>Electricity demand decreased by 51,281 kWh in 2019 equal to a savings of \$12,307</b>			

- ❖ Whole Unit Owners received 56% of their energy from the renewable energy system indicating a concerted effort to better align supply of renewable energy with demand activities.
- ❖ Time share and common area renewable energy was 43% of the total energy demand with 57% purchased from KIUC.
- ❖ The need to better align energy demand across the facility with solar energy production is an ongoing educational activity to our timeshare Owners and Guests.
- ❖ The production of renewable energy exceeded the demand during the day, even after fully charging all the batteries, such that 432,574 kWh were exported to the KIUC grid, further reducing Kauai dependency on imported fuel by 692 barrels in 2019.
- ❖ **Overall, renewable energy production in the form of solar generated electricity increased 13% in 2019.**
- ❖ Initiated education programs to inform Owners and Guests to use high energy consuming appliances during daylight hours to the extent possible.
  - Reviewed electricity consumption (demand) and production (supply) data from 2018-19 to further define the next steps to utilize a higher percentage of the renewable energy produced and hence rely less on purchasing energy from KIUC.
- ❖ Parking lot lights were replaced with LED bulbs; LED bulbs installed in public areas.



## Land Use and Maintenance

The Cliffs is situated in a beautiful natural setting with an abundance of trees, shrubs and plants. It is a priority to conserve the natural topography, views, drainage patterns, and existing vegetation. There is a concerted effort to replace invasive trees and shrubs with naturally occurring vegetation. Buildings 1, 2 and 3 have undergone significant landscape redevelopment and enhancements with naturally occurring vegetation including fruit trees.

Ongoing sustainability activities include the following:

- Vegetation that is cut down is recycled as compost on the property (green waste);
- Pesticide and herbicide use are strictly restricted, and limited;
- Biodegradable fertilizers are used on the property;
- Glyphosate-containing products are not used on the property (i.e., Roundup);
- Educational Nature walks are conducted on the facility as part of overall guest activity offering;
- Weekly there is an on-site farmer's market where local farmers bring their locally-grown garden products for sale to Cliffs' owners and guests;
- Open space areas have been maintained to restrict development and preserve and protect the natural environment;
- Given natural rainfall and the importance to prevent erosion, special attention was taken to maintain natural drainage patterns and avoid flooding;
- Ongoing action including taking steps to control and eliminate invasive plant species in natural areas across the property.

## Results:

- ❖ Landscape is designed and maintained to enhance and compliment overall facility. The estimated number of hours per month dedicated to landscape maintenance activities is 640 hours. [Achieved](#)
- ❖ A tree canopy assessment has been made to define number, nature and health of trees on property with the results as indicated below: Per Kaleo’s Tree Service, all trees on property are healthy. Recommendations for future pruning schedules were included. Number and type were not specified as part of this assessment. [Achieved](#)
- ❖ Continue to encourage Owners and Guests to harvest local fruits grown on property; [Achieved](#)
- ❖ Continue to encourage Owners and Guests to participate in both weekly on-site “farm to plate” events and local Farmers Markets; [Achieved](#)
- ❖ New tree and shrubbery planting occurred during 2019 to optimize public health and storm water benefits while enhancing the overall appearance of the property. A total of 13 trees were planted in 2019 of the following types: Koaia, Ohia, Lonomea, Loulu, Hao, Munroidendron, Plumeria (6)
- ❖ Inform Guest and Owners of nearby trails to hike; and [\(Achieved\)](#)
- ❖ Maintain the open spaces accessible to Owners and Guests. [Achieved](#)



## Water Use and Conservation

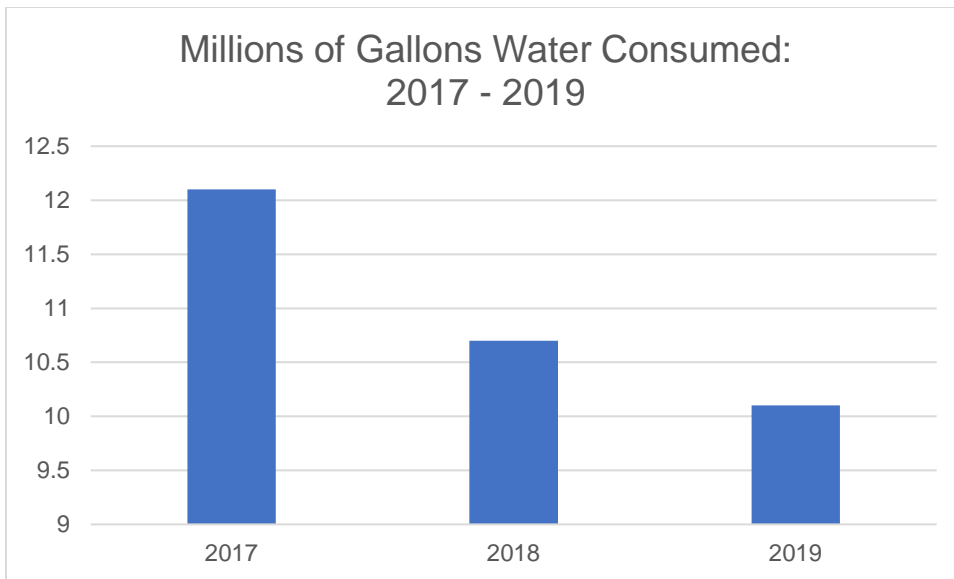
Water is an abundant resource in Hawaii; however, the pumping and distribution of irrigation water, drinking water and wastewater consume a significant amount of energy. Water bills are determined based upon the amount of water consumed, hence our concern is the optimal use of water. While Kauai is regarded as the Garden Island and is considered to be the ‘wettest place on earth’, there are times during the year when irrigation is required.

One step taken in this regard was the upgrading and restoration of the landscape sprinkler systems. Moisture sensor technology was installed in 2018 in place of timers. Other on-site irrigation systems are operated manually rather than on timers. Both actions limit the amount of water used for landscape irrigation only when necessary.

Other major activities to restrict water use is the installation of water flow restrictors, low-flow water toilets and high-efficiency (low water use) washing machines and dishwashing machines. Since the drinking water quality in Princeville is good, owners and guests are encouraged to use tap water rather than purchasing bottled water in plastic containers.

## Results:

- ❖ The Cliffs continued to support the community in preparing for and managing flooding events;
- ❖ Water usage is monitored monthly and reported annually using 2017 as a benchmark year. Because the sprinklers were restored late in 2018, reduction in water use was minimal. Performance metrics (gallons of water consumed) is listed below using 2017 as a baseline year:  
2017 Water usage: 12,122,000 gallons  
2018 Water usage: 10,703,0004 gallons  
2019 Water usage: 10,122,000 gallons - a reduction 581,000 gallons equal to 5.4% of total use



- ❖ Compared to 2017, The Cliffs has reduced water consumption by 2 million gallons in two years which is equal to a reduction of 16%.
- ❖ Installed two FloWater stations in September 2019 to encourage guests & owners to refill containers rather than buy small plastic water bottles; these stations offset 31,396 plastic bottles (nearly 8,000 bottles per month displaced) that otherwise would have been purchased and used at the resort by our Guests. [Achieved](#)
- ❖ Labeled storm drains indicating ocean destination of discharge. [Achieved](#)
- ❖ Use only low-flow toilets in the common areas of the property. [Achieved](#)



## Waste Management and Recycling

The Cliffs has practiced solid waste management and recycling for several years by encouraging residents to recycle bottles and cardboard through centralized centers on the property.

Activities taken in 2019 to further encourage solid waste reduction and recycling include the following:

- ❖ The waste recycling facility by Building 4 across from the Recreation Center was rebuilt and reconfigured to encourage more recycling. [Achieved](#)
- ❖ Re-usable utility sacks provided to Guests at check-in to discourage plastic bag use from shopping centers. [Achieved](#)
- ❖ Re-fillable water bottles offered for sale at the Cliffs store to encourage use of FloWater Stations, [Achieved](#)
- ❖ Every timeshare unit has waste baskets to separate recyclable plastic and cans from trash. [Achieved](#)
- ❖ Installed recycling bin in proximity to Building 7, 8 and 9 to increase recycling. [Achieved](#)
- ❖ Establish public events to be 'zero waste' with use of recyclable or reusable materials. [Achieved](#)

**Results:**

- ❖ **Overage charges on cardboard indicate more disposal space is needed:**
  - Extra yardage increased 26% over 2018 to 43.5 cubic yards
  - This is a more than double the amount from 2017 (20 cubic yards) and area for improvement
- ❖ **Similar trend in the amount of solid waste produced:**
  - Overage charges have more than doubled since 2017; however, some progress made in reducing extra yardage in 2019 over 2018 (16% reduction)
  - Area for further improvement in 2020
- ❖ **Slight volume reduction in the amount of solid waste produced:**
  - 2017 Solid waste disposed at landfill: 1,503 cubic yards
  - 2018 Solid waste disposal at landfill: 1,601 cubic yards
  - 2019 Solid waste disposal at landfill: 1,574 cubic yards, a reduction of 1.7%
- ❖ **Some improvement in the amount of materials recycled:**

	<u>2018</u>	<u>2019</u>	
Cardboard recycled in cubic yards: 5% increase	179	188	5% increase in content
Plastic recycled in cubic yards:	104.4	89	15% decline in plastic recycled
Glass containers recycled in cubic yards:	37.2	39.8	7% increase in glass recycled
Paper recycled:	68.6	75.7	10% increase in paper recycled
Metal recycled:	<u>32.4</u>	<u>29.9</u>	8% reduction in metal recycled
<b>Total material recycled (cubic yards):</b>	421.6	422.4	Modest increase

*Recycled materials represented 21% of total waste produced at the Cliffs*





## 2020 Core Sustainable Metrics and Goals

### Climate Change/Resiliency:

- Issue annual update to emergency plan
- Reduce use of gas engines to reduce GHG emissions
- Conduct property assessment to improve resiliency as part of QC audits

### Operations/Community Engagement:

- Use battery-operated carts only
- Conduct employee survey (2020)
- Provide quarterly employee training program
- Process Cloud Cherry Data: Delight, Net Promoter - September to August cycle
- Process RCI/II Guest Surveys: Gold/Premier
- Establish cross functional team for sustainability
- Participate in Community Events: Charity Walk
- Offer wellness & activity programs to Guests and Employees
- Partner with local government on sustainability

### Energy Use/Conservation:

- Record kWh produced from renewable energy systems
- Review consumption vs demand cycles to optimize renewables
- Record kWh consumed on property
- Implement energy conservation measures to reduce consumption
- Measure propane usage across the property

### Land Use/Maintenance:

- Utilize green waste composting
- Restrict/eliminate pesticide/herbicide use
- Inform Guests of nearby walking trails
- Use biodegradable fertilizers
- Continue natural vegetation planting on Botanical Walk and Grounds
- Install additional native plants, trees
- Reduce/eliminate invasive species onsite

### Water Use/Conservation:

- Reduce quantity of water consumed onsite
- Restrict use of sprinkler system-no automatic timers
- Install water flow restrictors in timeshare units, common areas
- Procure low water use appliances, fixtures
- Encourage use of tap water and FloWater systems instead of bottled water

### Waste Management/Recycling:

- Reduce amount of solid waste produced
- Increase amount of cardboard recycled
- Install additional cardboard recycling station Building 4,5, and Building 6,7,8
- Increase plastic, glass, metal, paper recycled
- Strive to make public events “zero solid waste” events
- Conduct solid waste audits to reduce waste produced
- Create public events such that they are ‘zero solid waste’ with use of recyclable or reusable materials.
- Support proper disposal of household hazardous waste, pharmaceutical, electronic and personal care product waste by working with Kauai County to advertise options for proper disposal



