

ADDENDUM

**ENVIRONMENTAL IMPACT ASSESSMENT FOR
SANDALS MONTEGO BAY
OVERWATER BUNGALOWS & VILLAS**



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1 Introduction

This addendum to the Environmental Impact Assessment (EIA) for the Sandals Montego Bay (Overwater Bungalows & Villas), addresses issues and comments raised at the public meeting convened on May 7, 2025 at the UWI western campus.

1.1 Issues Raised and comments From the First Meeting:

- Does this project actually support the definition of sustainable tourism, and in particular the second and third objectives, for ecological and socio-economic balance, as indicated by the St James Parish development order?
- What are the likely income inequality and human development effects from livelihood loss and the disruption of the Whitehouse fishing community?
- An updated socioeconomic survey to include the fishing community should be conducted with a larger sample size
- Consideration (if any) to facilitation of beach access
- EIA overlooks Community Prescription Rights
- Public Trust Doctrine Violation
- Cultural and Historical Desecration
- impact to mangrove
- impact to seagrass
- Impact to boat channel

The comments and issues raised along with responses are presented in the following spreadsheet. Where deemed necessary, technical notes to the spread sheet are attached for more detailed responses. For greater clarity these notes are indexed to the spreadsheet and numbered No. 1 to No. 6.

2 Impacts & Mitigation Construction of Overwater Structures

Impacts:

Environmental impacts can arise from using construction equipment and the processes involved in building infrastructure, such as piling. The operation of heavy machinery generates considerable noise and disturbance, which can disrupt the natural behaviours of both terrestrial and marine wildlife. Movement of equipment and installation of underwater structures cause increased turbidity, blocking sunlight crucial for the photosynthesis of marine plants (seagrass) and corals.

Increased turbidity can lead to lower oxygen levels in the water, adversely affecting aquatic life. Additionally, contaminants like oils and chemicals from the construction machinery can deteriorate water quality, presenting long-term ecological risks. Runoff and effluent from the construction site can compound these issues, introducing more pollutants into the marine environment and amplifying the negative impacts.

Direct impacts to seagrass during construction include potential damage from pile installation and heavy equipment, affecting about 150 to 200 m² of the resource.

Loss of community-used beach was identified as an issue of importance by community members.

Mitigation:

Using silt curtains to contain sediment, scheduling construction activities to avoid sensitive wildlife periods, and implementing strict protocols for handling and disposing of hazardous materials.

USD 10,000.00 (EST)

Seagrass removal/relocation

USD 65,000.00 (EST.)

Allow public access to a section of the beach at the most eastern end of the property

3 Comments/Issues and Responses

No.	Entity	Public Comments / Questions	Response to Comments
1	Patricia Northover - The University of the West Indies	Does this project actually support the definition of sustainable tourism, and in particular the second and third objectives, for ecological and socio-economic balance, as indicated by the St James Parish development order?	The EIA process is a means of addressing this issue. Impacts and mitigation measures are identified. This process is for the examination of the physical and socioeconomic environment to ensure that the development is sustainable.
2		Beyond the private benefits to the developer, 50 direct jobs are promised as well as an enhanced tourism product giving non-locals new recreational services, what are the social and economic benefits to the community of Whitehouse and those volatile communities in St James, who will witness their further displacement from enjoying the right of accessing the beach and marine resources, and an erosion of their human and constitutional right to a clean healthy and safe environment?	Having evaluated this location and the current situation of the site it indicates there was little use of the area. The reason for the thriving tourist industry is because the environment is clean, the marine resources will be protected as much as possible. The area consists of significantly degraded areas, has experienced beach loss and there a number of derelict building.
3		What are the long term consequences to the communities from this increased profit stream to SRI, being secured at the cost of high risks and losses to the local communities and the socio-ecological system being impacted by the proposed project?	The objective of the EIA is to ensure that the due diligence is done to ensure sustainability and minimise loss and risk to the community.

No.	Entity	Public Comments / Questions	Response to Comments
4		Can the country afford the degradation of another local community for private gains, in a bid to advance a volatile industry characterized by a high rate of economic leakages and is susceptible to global shocks, climate change and negative travel advisories?	The history of Sandals indicates the importance of the organisation to the tourism industry. The importance of tourism to our GDP (about 10%) and as a major source of FE cannot be overstated. This hotel was established in 1982 and has been able to weather the global shocks. It has remained successful over the years. Tourist arrival increased steadily post covid 19.
5		What is the level of existing food security in the communities that are supported by the Whitehouse fishing economy?	The development would not be a hindrance to the White House fishing community and is not expected to have a detrimental impact on the fish stock that fishers would utilize in their livelihood
6		What would be the impact on food security for household members, if fishers have 50 percent or more reduced marine resources and disrupted coastal access?	The assumption is incorrect (see item 7)
7		What are the economic linkages that fishers sustain in the affected community and what are the implication for the fishing economy if they are disrupted?	No disruption is expected given the nature and foot print of the project
8		What are the social and cultural relations between Whitehouse and the surrounding communities of Flankers, Norwood, Providence Heights based on the common and traditional access rights that they enjoy to the beach that would be impacted by the project?	Based on our assessment there is minimal usage of the beach by members of the public as indicated by the state of the beach.

No.	Entity	Public Comments / Questions	Response to Comments
8		What are the implications for fisher folk fishing habits if they lose their access to the fishing channel with the planned development of the overseas bungalows?	Groundtruthing of the channel indicates that craft navigating the channel would need to divert north of the Over Water Suites. Need to determine from users (boat Captains) if they can navigate that area safely with the intrusion and what navigation aids they will need in order to be able to navigate the area in the day and at night. (Note 1) .
10		What are the likely income inequality and human development effects from livelihood loss and the disruption of the Whitehouse fishing community?	livelihood loss and disruption of the Whitehouse Fishing Community is not expected, given the nature and foot print of the project
11		What is the potential for flooding of the residential areas that are within the 1 km radius of the project, with the complete loss, with 75 % loss, or with 50% of the coral reef species and sea grass?	While coral reefs and seagrass do serve as natural buffers by attenuating wave energy, the existing reef crest farther offshore will be unimpacted by the project and remain the primary wave energy buffer. Even if there were a significant loss of sea grass, it could not directly result in increased flooding potential of inland areas within a 1 km radius. Many other factors, like property elevation/slope, property shoreline protection (Please note that the project will add additional shoreline protection at the project site), local municipal stormwater/storm surge infrastructure and local drainage planning, design, cleaning and maintenance of drains will play a much more critical role.

No.	Entity	Public Comments / Questions	Response to Comments
12		What are the potential implications for infrastructural loss, (roads, airport runway) with the loss of ecological services provided by the remaining wetlands and coral reef systems. What are the likely health impacts of increasing noise pollution from the projected 18 months of construction planned, in communities where the nose pollution levels are already exceeding the standards set for the area in light of the proximity to the airport?	Noise levels determined for the EIA indicate that levels due to aircraft activity would mask noise from the construction. Typically noise mitigation involves regulating hours of construction activity as well as proper maintenance of construction equipment.
13		What is the principle of sustainability that is being used in the evaluation of the findings of the report?	The EIA process is considered a part of the sustainability principles as such it expected that all the findings will be evaluated to the satisfaction of NEPA and any other responsible government entity.
14			
15	National Environment and Planning Agency	An updated socioeconomic survey to include the fishing community be conducted with a larger sample size	The survey has been redone (Note 2) to include a much larger sampling size (427 compared to the sampling size of 124 used in the previous survey).
16		Results of updated socioeconomic survey	Note 2
17		Proposed seagrass relocation sites and expected success rates	Sites for relocation of 9044 sq-m of seagrass have been identified (See attached Note 3)
18		Consideration (if any) to facilitation of beach access	SRI has taken the decision to allow public access to a section of the beach at the most eastern end of the property. Rendering/layout of the proposed public access is shown in Note 4 .
19			

No.	Entity	Public Comments / Questions	Response to Comments
20	Flankers Resource Center	EIA Overlooks Community Prescriptive Rights	The laws/regulations section has been revised to include the Prescription Rights Act. However there was no evidence of any occupation or regular use of the beach e.g tracks or regularly used pass.
21		Failure to adequately assess socioeconomic impact on neighbouring communities	New assessment has been done with a larger sample interviewed
22		Inaccurate Room Capacity Reporting	This has been corrected
23		Misrepresented Socioeconomic Benefits	The benefits will be contributed by the stakeholders post the new socioeconomic survey
24		Significant Loss of Public Beach Access	SRI has taken the decision to allow public access to a section of the beach at the most eastern end of the property. Rendering/layout of the proposed public access is shown in Note 4 .
25		Cultural and Spiritual Loss Not Accounted For	The property is presently not being utilized therefore there is no cultural and spiritual loss. The Archaeological Impact Assessment (AIA) by JNHT, indicates no cultural or historical significance of the site.
26		Flawed Socioeconomic Study	Violence in the area at the time of the survey resulted in limited access to the communities. The survey has been redone to obtain greater community participation
27		Increased Burden on Vulnerable Communities	See #10
28		Recommendation for NEPA and Relevant Authorities	
29		Reject this EIA under Section 9(5) for inadequate consultation.	Violence in the area at the time of the survey resulted in limited access to the communities. The survey has been redone to obtain greater community participation
30		Require a new socioeconomic study co-designed with Flankers residents.	The survey has been redone to obtain greater community participation (Note 2)
31		Host a public hearing with Sandals	

No.	Entity	Public Comments / Questions	Response to Comments
		representatives.	
32	Zita Vigier	Public Trust Doctrine Violation	Marine resources will be relocated by the developer as required by NEPA.
33		Ecological Corridor Disruption	Marine resources will be relocated by the developer as required by NEPA.
34		Climate Resilience and Sea Level Rise	This is included in the coastal dynamics study which modelled various scenarios
35		Cultural and Historical Desecration	JNHT did an assessment of the area and found that there was no significant cultural or historical features that needed preservation.
36		Economic Justice and Community Access	the proposed development does not negatively impact the economic environment of the communities. SRI has taken the decision to allow public access to a section of the beach at the most eastern end of the property (Note 4).
38		Island beaches are irreplaceable community assets that require collective stewardship, not private extraction.	This is true. However private beaches are allowed under the Beach Control Act.

No.	Entity	Public Comments / Questions	Response to Comments
39	Jamaica Environment Trust:	<p>The acknowledgment of the site’s natural vulnerability in the EIA only reinforces the argument against further development in this area—particularly the construction of overwater bungalows. It underscores why the preservation of seagrass meadows is critical. Seagrasses help stabilize sediment, reduce wave energy, and protect the shoreline. Proposing overwater bungalows in an already high-energy, erosion-prone zone is counterintuitive. Removing healthy seagrass beds in such a setting risk worsening coastal erosion and degrading marine ecosystems. Rather than introducing further stress, this area should be prioritized for protection—not further development.</p>	<p>Development inescapably involves pros and cons. Mitigation of seagrass loss is emphasised in this project in recognition of the importance of this resource (Note 3).</p>
40		<p>The EIA reveals that while Sandals Resorts International would benefit most from the proposed development—which adds 18 rooms and 50 jobs—it would also restrict long-time community access to the beach and harm vital marine ecosystems, including seagrass beds, mangroves, and coral reefs. True development should ensure equitable benefits for local communities and protect natural resources. The "no-action" alternative better preserves public access and critical coastal ecosystems already under pressure from tourism.</p>	<p>Development inescapably involves pros and cons. Mitigation of seagrass loss is emphasised in this project in recognition of the importance of this resource. Removal of coral reefs is not a part of this project.</p>

No.	Entity	Public Comments / Questions	Response to Comments
41		At the public consultation held on May 7, several residents from Montego Bay and nearby communities raised concerns that this development will further restrict beach access. With so few public beaches remaining in Jamaica, the loss of another community-used beach is significant. The EIA fails to address this issue, including the potential social impact or how it will be mitigated or managed.	SRI has taken the decision to allow public access to a section of the beach at the most eastern end of the property (#29 Note 4).
42		JET urges NEPA to assess whether this project offers any real public value beyond the interests of SRI. Protecting Jamaica's coastal ecosystems and communities demands development models that prioritise long-term sustainability and equity over short-term private gain. JET does not support the granting of an environmental permit for the proposed works.	
43		Seagrasses	Sites for relocation of 9044 sq-m of seagrass have been identified (See attached Note 3)
44		Mangroves	The proposed project area may be generally defined as a coastal forest, with areas of mangrove trees , which have been historically developed and impacted by dumping and disposal activities (over 30 years ago), and more recently impacted by the Airport Runway expansion works. The majority of the proposed project's footprint is therefore not wetland, but rather secondary coastal forest growing atop mounds of fill material and rubble. White mangroves encountered appear severely stressed, and are not likely to survive due to the aforementioned hydrology changes

No.	Entity	Public Comments / Questions	Response to Comments
			associated with the airport expansion and the subsequent Kent Avenue realignment. The paucity of mangrove seedlings throughout the “wetland area” is also a strong indication of high stress levels within the overall area.
45		From this text, it is clear that the primary beneficiaries of the proposed development are the project proponents—Sandals Resorts International (SRI). At what point do we, as a country, begin to seriously question the model of development that prioritizes private gain over public good? Development should not be assessed solely by its benefits to investors, but by whether it delivers meaningful, equitable gains to surrounding communities and protects our natural resources.	The development is designed to deliver broader national and community benefits through employment, local procurement and sustained economic activity. The project complies with Jamaica’s environmental and planning frameworks and includes measures to protect natural resources and mitigate potential impacts. Community engagement forms a core part of the process, ensuring stakeholder input informs project design.
46		The "no-action" alternative clearly preserves critical marine ecosystems like seagrass beds and maintains the integrity of the shoreline—resources that benefit the public. Choosing to build overwater villas, on the other hand, not only threatens these ecosystems but may also further restrict public access to the beach and coastal waters, which are already under pressure from tourism development. Development should not deprive communities of shared natural spaces or worsen existing inequalities in access to Jamaica’s coastal resources.	SRI has taken the decision to allow public access to a section of the beach at the most eastern end of the property. Rendering/layout of the proposed public access is shown in Note 4 .

No.	Entity	Public Comments / Questions	Response to Comments
47		Cumulative impact assessment	Cumulative impacts to the coastal ecosystems considers decades of progressive disturbance and habitat loss intensified by recent and proposed developments. The recent runway extension and associated works have further accelerated this trend, with the removal of approximately 3.2 hectares (8 acres) of remaining wetlands, including over 2 hectares (5 acres) of relatively intact, functional mangrove. Cumulative impact on the coastal and marine habitats will be exacerbated with the construction of overwater bungalows, landside villas and groynes. Construction activities, including the use of heavy equipment would further contribute to the physical disturbance and possibly to the additional/unintentional loss of seagrass. (Note 5)
48		Natural resource valuation	See Note attached (Note 6)
49		Project Phasing	The project phasing presented had no absolute dates and was intended to show the tasks that would be involved and the time frame should the project be approved.

4 Note 1: Effect of OWS on Boating Channel¹

Image 1 shows our overlay of the development footprint on the depth information in the Olsen report² (Olsen 2022). Note that the boat channel (red line) runs right through the proposed development footprint.

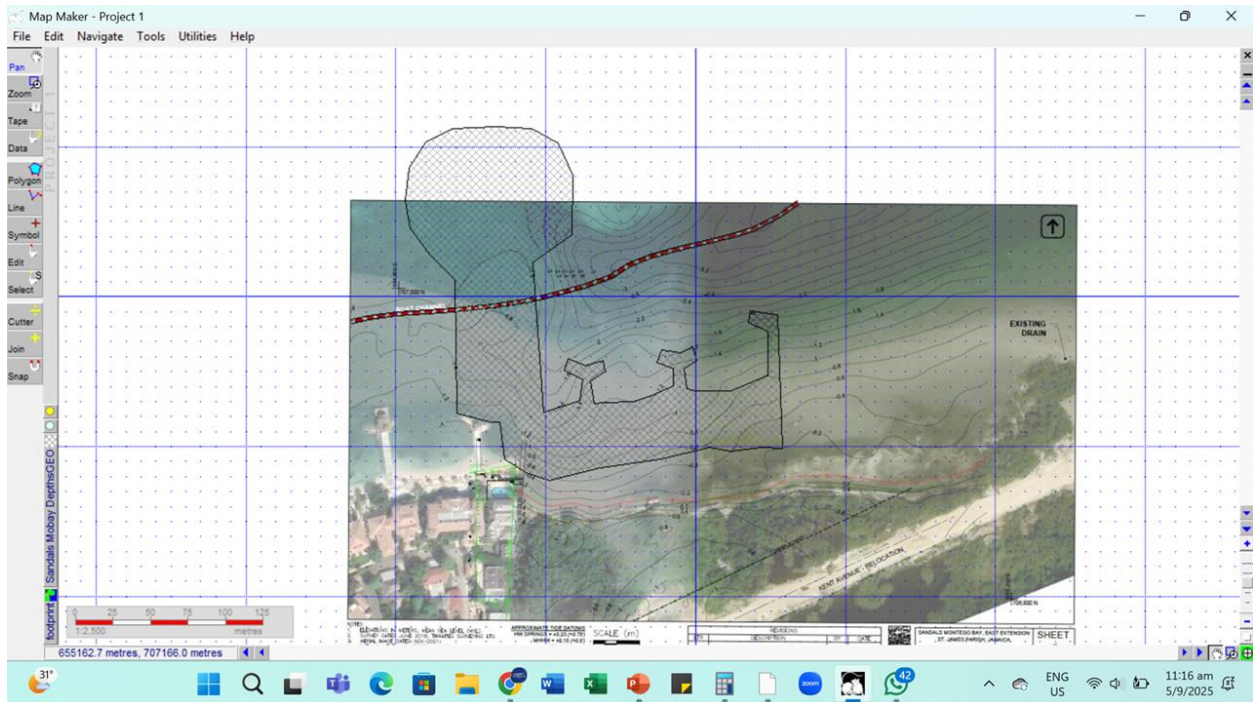


IMAGE 1: Development Footprint Overlaid on Depth from Olsen Report

Image 1 shows our overlay of the development footprint on the depth information in the Olsen report. Note that the boat channel (red line) runs through the proposed development footprint.

A plot of the linear extent of the OWS onto a Google Earth image (red line on **Image 2**) indicates a gap of about 100 meters in width from the northern tip of the OWS footprint to a point where the seafloor shallows to unnavigable depths for vessels like dive boats. A bathymetric survey of this area would be done to confirm depth and establish suitability for navigation.

¹ Peter Wilson-Kelly (MPhil) & Associates, Effect of OWS on Boating Channel Sandals Montego Bay, St. James. Prepared For TEM Ltd. September 2025.

² Olsen Associates, Inc. Recommended Plan for East Beach Improvement at Sandals Montego Bay. Prepared by Kevin R. Bodge, Ph.D., P.E. 12 July 2022

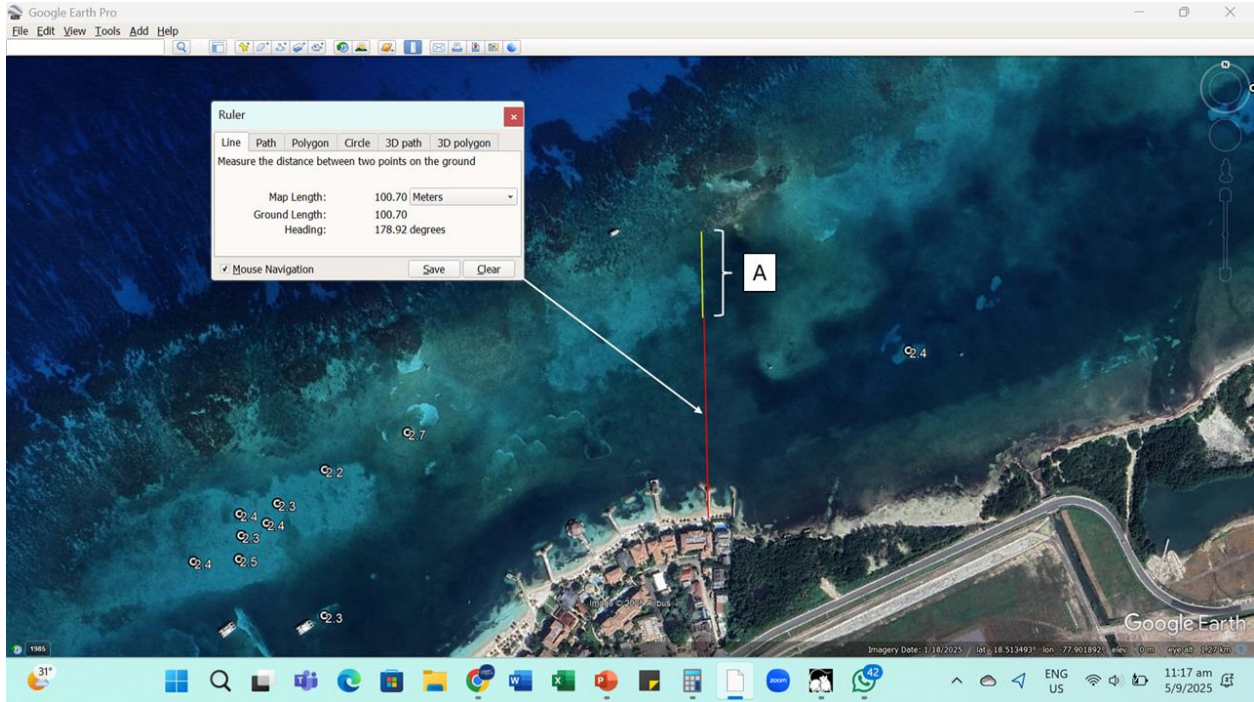


Image 2: Linear Extent of the OWS

NAVIGATION OPTIONS TO ADDRESS USE OF BOAT CHANNEL

From Image 3, the white line represents where the dive boats and the catamarans journey

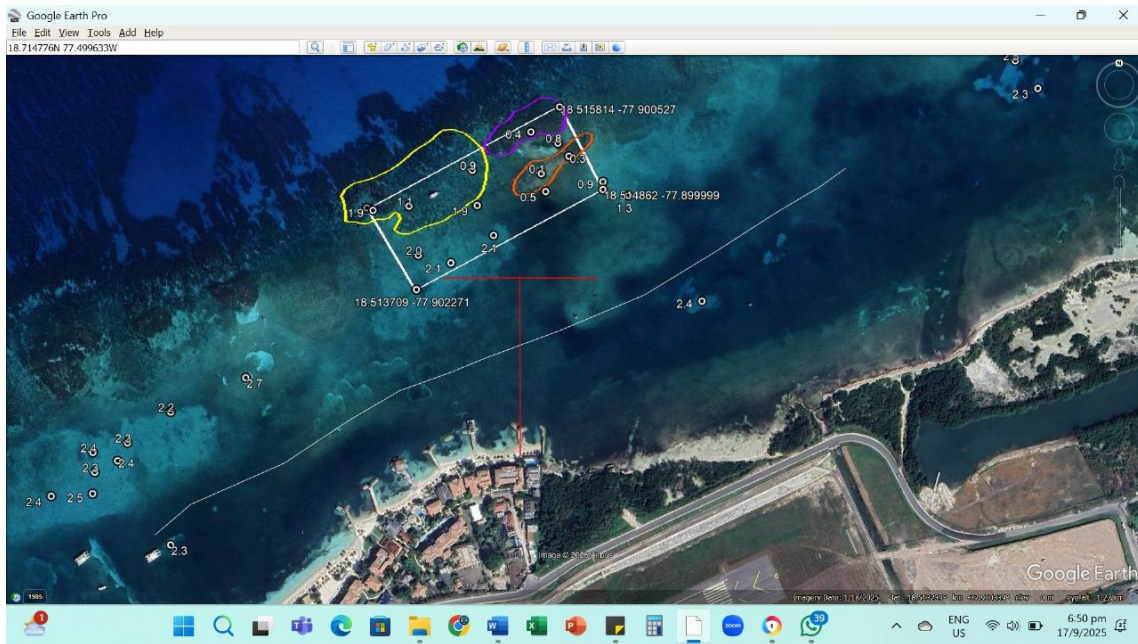


Image 3: Evaluation Area for Possible Diversion of Boat Traffic (Dive Boats and Catamarans).

out of the back reef area. They also go to the west. Dive boats were going either way. The white box represents the area evaluated, through which boats would be diverted and the red T represents the centre line of the development running from north to south and the northernmost border of the development. The area circled red is a shallow back reef patch that varies in depth between 0.1m to 0.3m in depth. The yellow and purple polygons are hard bottom reef areas with depths varying from 0.4m to 1.9m in depth. The southern areas of the study box deepen to 2m.

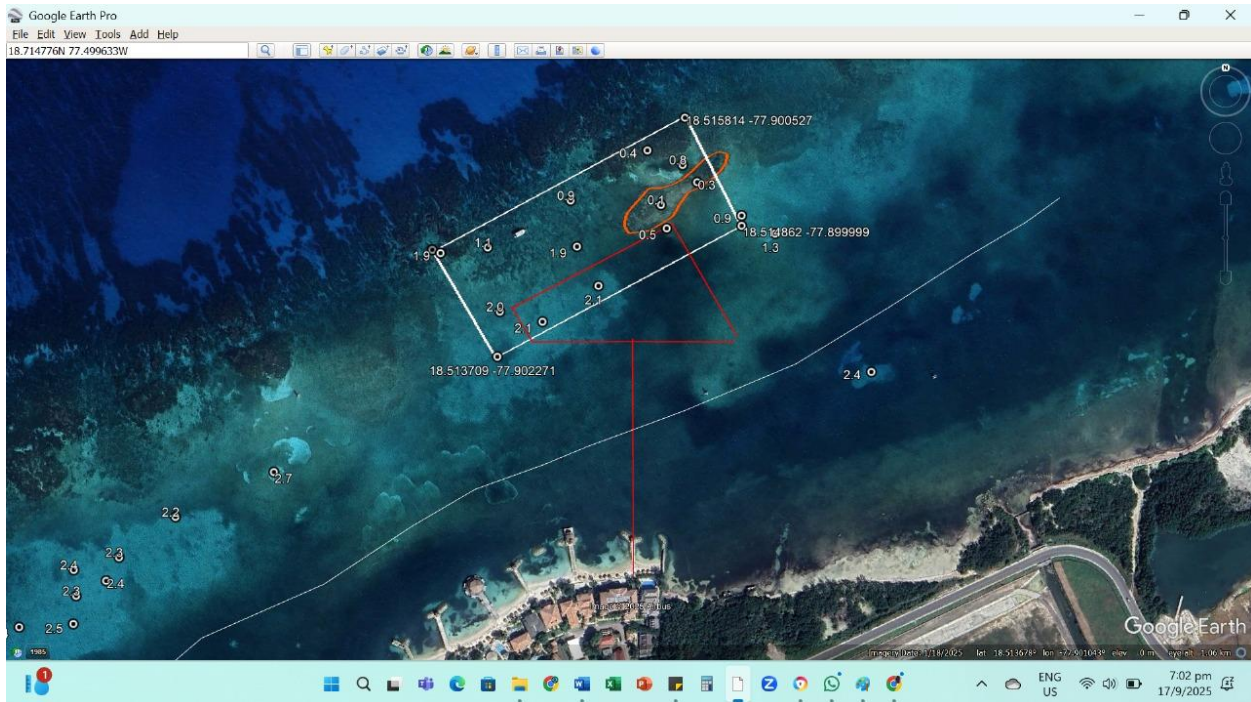


Image 3: Evaluation Area for Possible Diversion of Boat Traffic (Bigger Vessels)

For bigger vessels traversing the area with the OWS in place, there would be a trapezoid shaped area of navigable water with an approximately 40 meter wide constriction at its western end (Image 3).

OPTION 1: A possible alternate boat channel has been identified and included below. The white lines represent a possible channel just north of the proposed development. Discussions have been initiated with fishing interests regarding this being an acceptable alternative to ensure safe passage through the area adjacent to the proposed development site. The same will apply for any other users of the area.



Image 4: Option 1

The bathymetry provided (Image 5), shows a 2m depth channel which should be adequate for small craft that operate in the area.

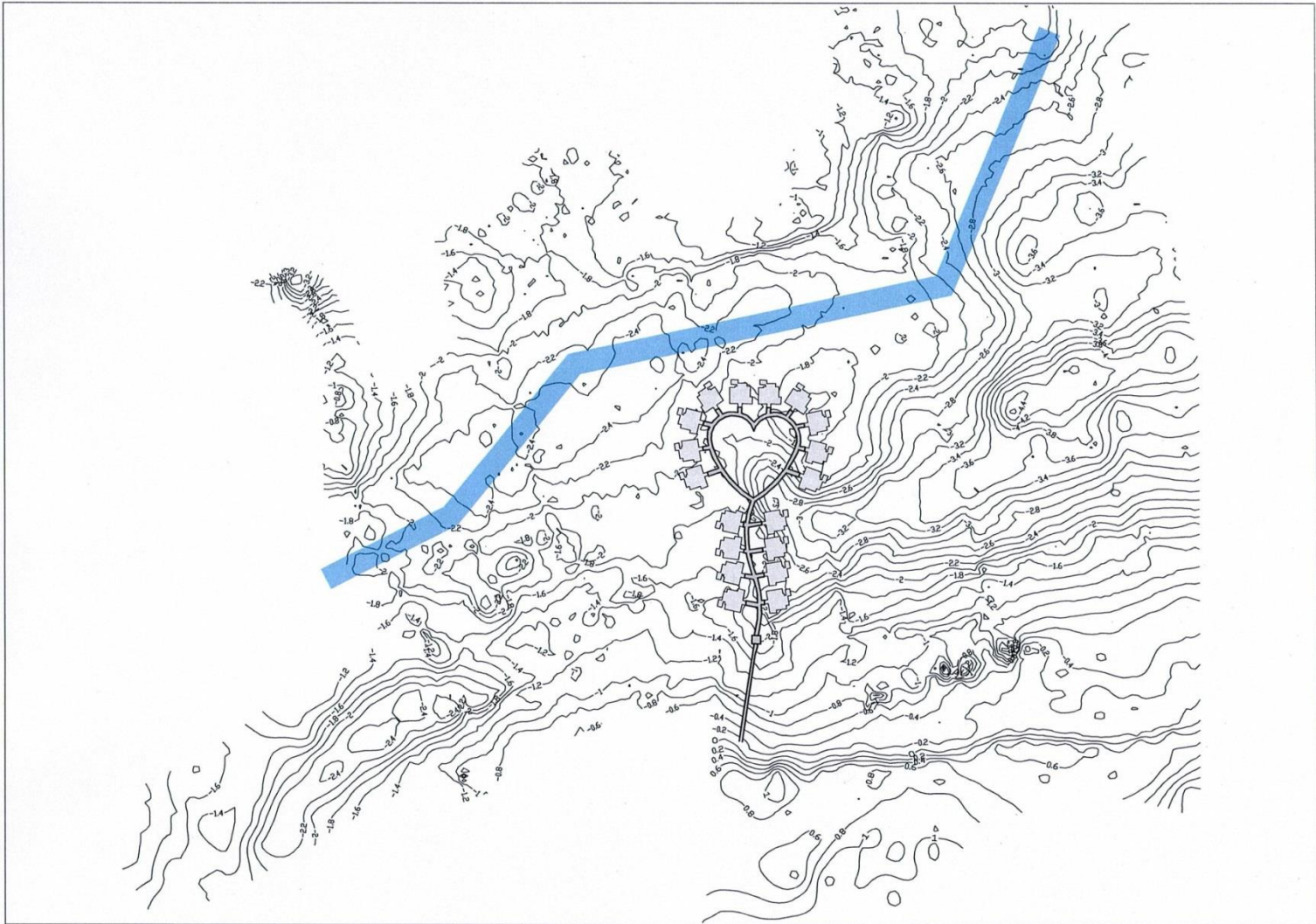


Image 5: Bathymetric Contours With Overwater Suites Overlay

OPTION 2: Divert boat traffic to the west to exit the area. There are natural channels to both the east and west of the hotel that can allow vessels to leave the back reef area to get to open water (Image 6). This would be verified with boat captains and fishers.

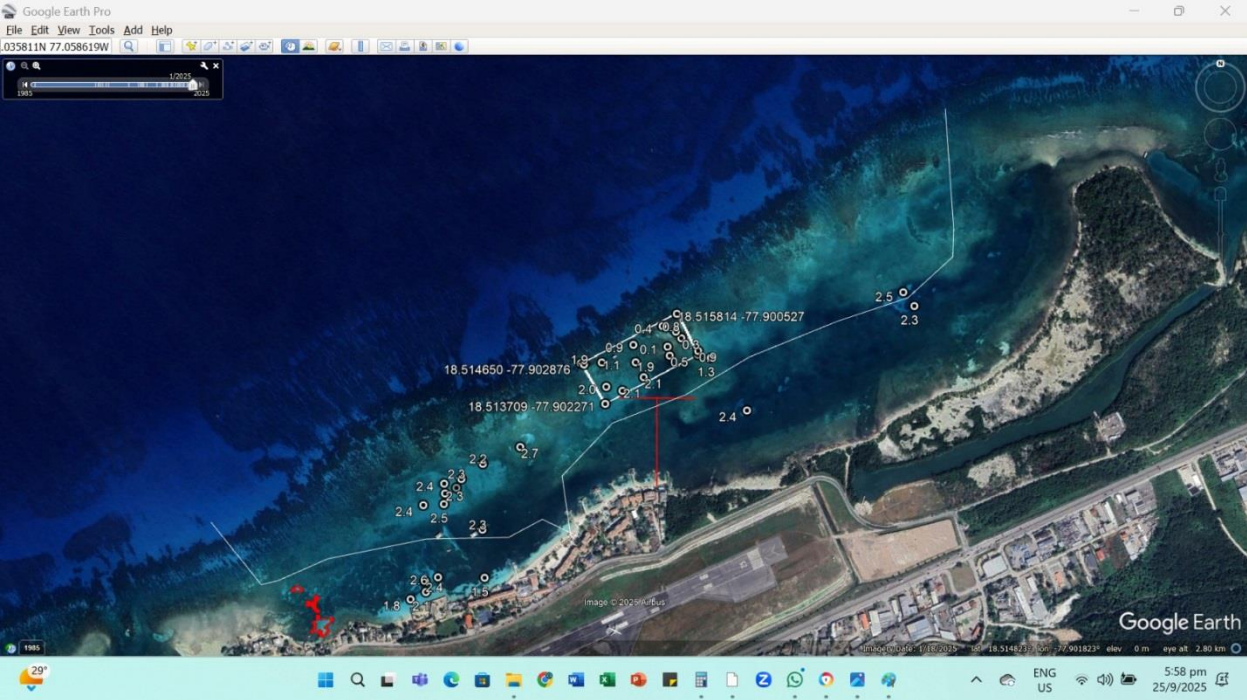


Image 6: White Line Represents Natural Channels to both the East and West of the Hotel That Can Allow Vessels to Leave the Back Reef Area to Get To Open Water

SOCIO-ECONOMIC SURVEY REPORT



SANDALS MONTEGO BAY OVER WATER BUNGALOWS AND SUITES FINAL REPORT

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5 Socioeconomic Report-Revised - Introduction

5.1 Purpose

The socio-economic survey was requested by Sandals Resorts International (SRI) in an effort to obtain more robust data through an increased sample size for more accurate representation of the views and perceptions of community residents within a 2km sphere of influence of the proposed project site. Through this assessment exercise, the results and potential positive and negative impacts of the proposed project will strengthen the socio-economic environment and public participation component of the report on “Environmental Impact Assessment (EIA) for Sandals Montego Bay (Overwater Bungalows and Suites).” This report was completed on 18 March 2025 and was presented at a public meeting, which constituted part of the approval process of the National Environment and Planning Agency (NEPA) to provide public notification of planned projects. The meeting was held at the University of the West Indies, Montego Bay on 7 May 2025, and it provided a forum to disseminate the EIA findings, and an opportunity for community representatives to seek further clarification and to express their views of the proposed project.

The assessment findings would also be of value to other key stakeholders including government ministries and agencies to guide future development interventions being planned for the area.

5.2 Context/ Background

Sandals Resorts International (SRI) is proposing to construct eighteen (18) single-storey overwater bungalows and ten (10) single-storey villa style suites at its Sandals Montego Bay property located on Kent Avenue in Montego Bay, St. James. With a present capacity of 272 rooms, the property boasts the largest, exclusive white-sand beach in Jamaica and offers an array of accommodation types, amenities, entertainment and activities. The proposed expansion will increase the room capacity to 290 rooms. With the expanded room capacity, 50 new permanent post-construction jobs will be created for butlers, housekeepers, cooks, chef, landscaper,



Images of two possible locations for proposed construction

waiters, concierge representative and lifeguards. Additional features proposed will include:

- beach improvements that will feature the construction of a sea wall, rock groynes, a rock revetment; and
- construction of boardwalks/linkways, a swimming pool, and a bar all supported by piles.

Located on the headland to the east of the Montego Bay harbour, and within close proximity to the Sangster International Airport, Montego Bay, Sandals Montego Bay is the first ever Sandals all-inclusive resort. The shoreline that cushions the resort is protected by a shallow reef crest about 300 to 500 m seaward and is considered to be relatively shallow (0.5 m to 1.0 m) deep. The proposed development is expected to take place on the eastern border of the Sandals Montego Bay resort site and an adjoining wetland to the east, an area of approximately 2Ha being part of parcel registered to the Airport Authority of Jamaica.

As part of the proposed constructions, SRI is also proposing to modify an existing wetland area to facilitate the construction of the villa-style units. It will therefore include coastal modifications for beach improvements and will feature the construction of a sea wall, rock groynes, a rock revetment on the eastern side of the property, as well as extending the beach area with sand fill.

5.3 Objective of Socio-Economic Survey

The main objective of the socio-economic Survey was to provide improved and more robust data on the knowledge and perceptions of persons who reside and operate within a 2km sphere of influence of the proposed project to be constructed by Sandals Resorts International (SRI). In addition, via an analysis of the potential socio-economic benefits to be derived, as well as the possible adverse impacts, the assessment will facilitate data-driven decision-making, and allow for the adoption of anticipatory actions thereby mitigating any likely harmful effects to the lives or livelihoods of persons.

5.4 Scope

The socio-economic survey was conducted to obtain data to analyse the potential social and economic benefits, as well as the possible harmful and adverse impacts of the proposed project. The questionnaire followed a similar format as the original one, but for some questions the language was

changed, so as to provide respondents with an opportunity to share both positive and negative views and perceptions of all issues.

The survey officially commenced on 9 July 2025. Interviews with key informants began 30 July 2025. The original plan to commence community perception surveys from 28 July 2025 was revised on account of the General Elections in Jamaica which was held on 3 September 2025. Community surveys were conducted during the period September 15-30, 2025.

5.5 Approach and Methodology

5.1.1 Approach

A mixed methodology approach was used for the collection of data that included both quantitative and qualitative methods. The following data collection tools and techniques were used to fulfil the objectives of the socio-economic survey.

5.1.2 Qualitative

The qualitative aspects of the approach involve the review of secondary data sources-documents and reports.

It also involved the conduct of key informant interviews with specific identified stakeholder/business representatives, some of whom had participated in the public meeting. For the key informant interviews that were conducted in-person and virtually, permission was requested and was obtained to record the discussions solely for the purpose of the assessment.

5.1.3 Quantitative

A community perception survey was administered to 427 community residents in Flanker, Norwood and the Business District. The instrument was the same as that which was used in the original socio-economic impact assessment.

5.6 Methodology

5.1.4 Review of secondary data sources

For the review of secondary data sources, the ESL representative provided copies of the necessary project documents electronically and /or links to sites where specific public documents could be accessed.

5.1.5 Conduct interviews with key informant/persons in business

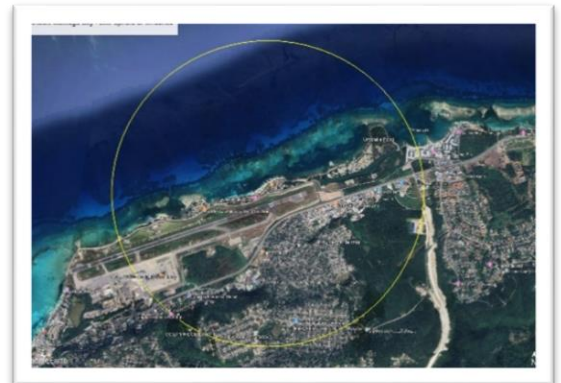
The list of participants who attended the public meeting that was held on May 7, 2025 was shared with the consultant. From the list, nine (9) persons who were selected based on the professions which they listed on the attendance sheet. Formal correspondence was prepared by ESL inviting the selected individuals to participate in an in-person or virtual discussion on the proposed project. The data collection tool that was used was the same questionnaire that was administered in the original survey to persons in various types of businesses. From the original list of nine persons, five (5) responded and completed interviews (one in-person, two-virtual, two completed questionnaires). Due to changed telephone and/or emails contacts for some persons, alternative names were identified. Despite efforts to reach to the additional persons, no confirmations were received.

5.1.6 Community Perception Survey

Coming out of the public meeting held on May 7, 2025, it was noted that there was a low level of awareness among community members and key stakeholders about the proposed project, nor were persons contacted to participate in the survey to share their views and perceptions. In the original survey, eighty-one (81) community members, thirty-two (32) persons from business establishments and nine (9) fisherfolk from White House fishing beach were interviewed. It was therefore essential to have a more representative sample of community members. By increasing the sample size there was also a greater likelihood of obtaining a wider cross-section of views on the proposed project.

5.1.7 Sampling Procedure

A map highlighting the target communities within a 2km sphere of influence of the proposed project site was shared with the Statistical Institute of Jamaica (STATIN), from which it identified the enumeration districts (EDs) and communities in that geographical space. Using data from the STATIN's Population and Housing Census 2011 as the sampling frame the total population of the target communities was **12,137** persons. Based on available project funding for field activities to administer the community perception survey, a sample size of 3.5% of the population was used, which when calculated was **425** community members to be interviewed. Using a proportional sampling technique, the number of persons who were interviewed in each target community was proportional to the total number of persons in the site study area.



Site study area- communities within 2km sphere of influence of proposed project site.

Data collectors were in the field from September 15 – 30, 2025. Using Kobo Toolbox, they employed the purposive sampling technique and conducted interviews with persons over the age of 18 years, who provided verbal consent and were available and willing to participate in the survey. Table 1 provides a breakdown of the sampling distribution.

5.1.7.1 Sample Distribution by community

Community	Male	Female	Total	% of Pop	Survey distribution
Flanker	4020	4261	8281	68%	290
Norwood	1667	1861	3528	29%	123
Business District	168	160	328	3%	11
TOTAL	5855	6282	12,137	100%	425

Table 1 Sample distribution by community

5.1.8 Integration of Data protection principles

As an integral part of the process of inviting persons to participate in the community and business survey, they were informed about the objectives and purpose of the survey. For the key informant interviews, formal correspondence was shared via e-mail with prospective participants which also invited them to suggest appropriate dates and times for in-person or virtual discussions. All key informants who participated in in-person or virtual interviews, were asked for and provided their verbal consent to have the discussions recorded. There was a slow response rate to in-person and virtual options, so some participants were provided with a copy of the business perception survey electronically to complete. For community perception surveys that were administered in the three target areas, there was lawful and fair collection of data, as respondents were informed of the specified and legitimate purpose of the survey and told that no personal information would be collected. Data was stored in a secured location and protected from unauthorized access.

5.1.9 Limitations

The main limitation of the socio-economic survey was the fact that 55% of business representatives participated. While some others had offered to participate, and time extensions were given for the completion of the surveys, no additional information was received. Notwithstanding this, one was

able to obtain a clearer understanding, from their perspective, of some of the broader issues surrounding the proposed project.

5.7 Socio-Economic Survey Findings

5.1.10 Community Perception Survey Results

Based on the calculations that were done to determine an appropriate sample size, 425 respondents were targeted to be interviewed. During the data collection stage, field officers were able to surpass the target and interviewed two additional community residents. Therefore 427 respondents completed the majority of questions on the data collection instrument.

5.1.11 Community socio-demographic data

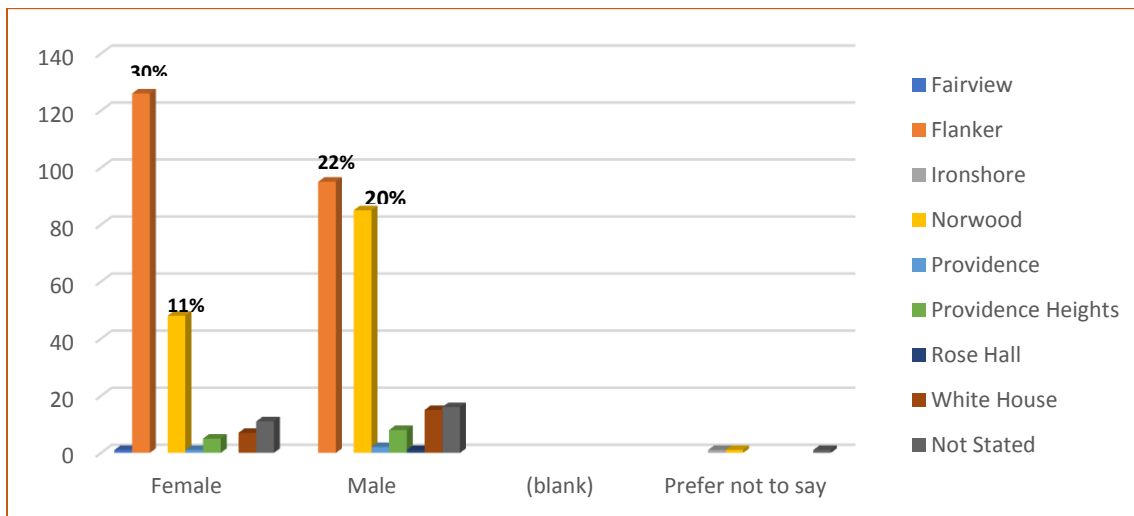


Figure 1 Community by sex

Figure 1 provides a breakdown of the sample disaggregated by residential community and sex. Out of the sample, 424 respondents shared information on the community in which they lived, with 52% (N=221) from Flanker and 31% (N=134) from Norwood. When disaggregated by sex, female and male respondents from Flanker represented 30% (N=126) and 22% (N=95) respectively, while for Norwood female and male respondents represented 11% (N=48) and 20% (N=85) respectively. Another 5% (N=22) were from White House. The remaining respondents (N=19) were from Fairview, Ironshore, Providence, Providence Heights and Rose Hall, while 28 persons (7%) chose not to state a residential community.

5.1.12 Age Range by sex

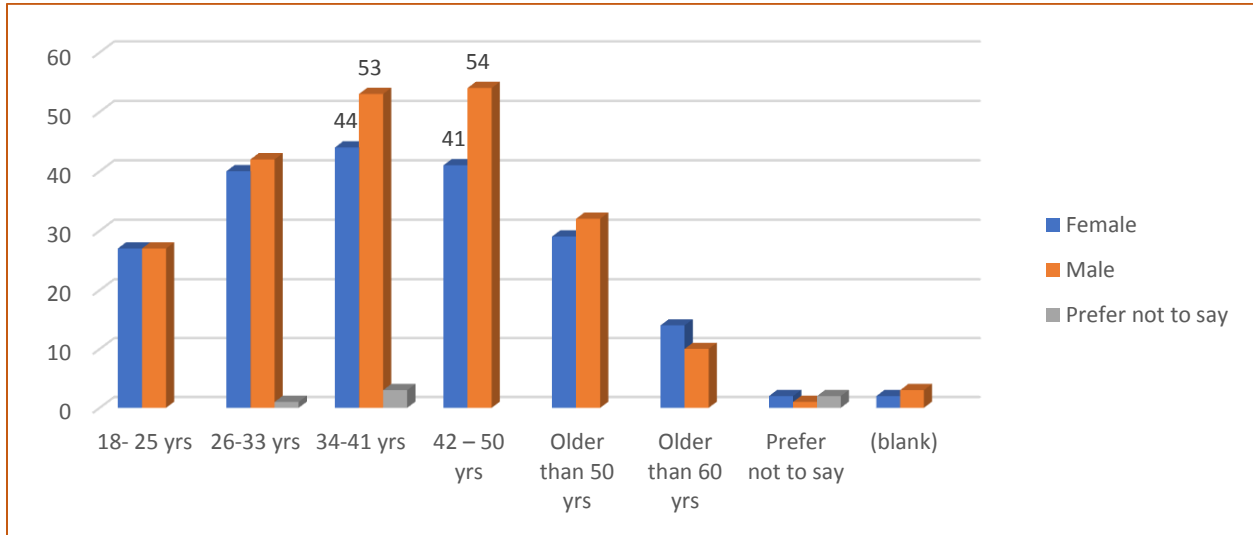


Figure 2 Age range by sex

Of the 427 residents who responded to this question, males represented 52% (N=222), females 47% (N=199) while 1% (N=6) preferred not to state sex. As illustrated in the chart, male and female respondents in the 34-41 year age range and the 42-50 years age range with 48% (N=107) and 43% (N=85) respectively were the most represented in the sample.

5.1.13 Residential community by length of time residing there by sex

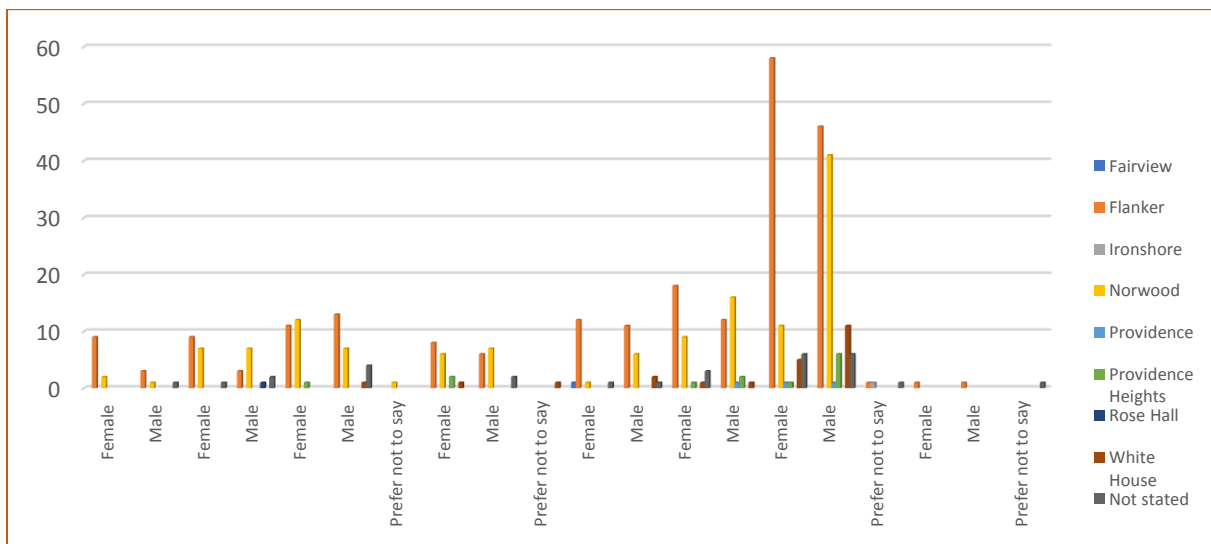


Figure 3 Community by length of time residing by sex

Upon examination of the length of time in which respondents were residing in the residential community, of the 427 respondents, 46% (N=196) resided in the community all their life, while 15% (N=64) resided in the community >20 years while 12% (N=50) resided between 6-10 years. The bar chart displays the information broken down by community, number of years living in community and sex.

5.1.14 Employment Status, Occupation and Income

Row Labels	Count of Current employment status	
Employed (by a third-party)	142	33%
Self-employed	182	43%
Unemployed	66	15%
Retired	24	6%
Not stated	13	3%
Grand Total	427	100%

Table 2 Employment status of respondents

Table 2 which provides a breakdown of the sample by employment status indicates that the largest segment of the sample are self-employed at 43% (N=182), while employment with a third party is the second highest category at 33% (N=142).

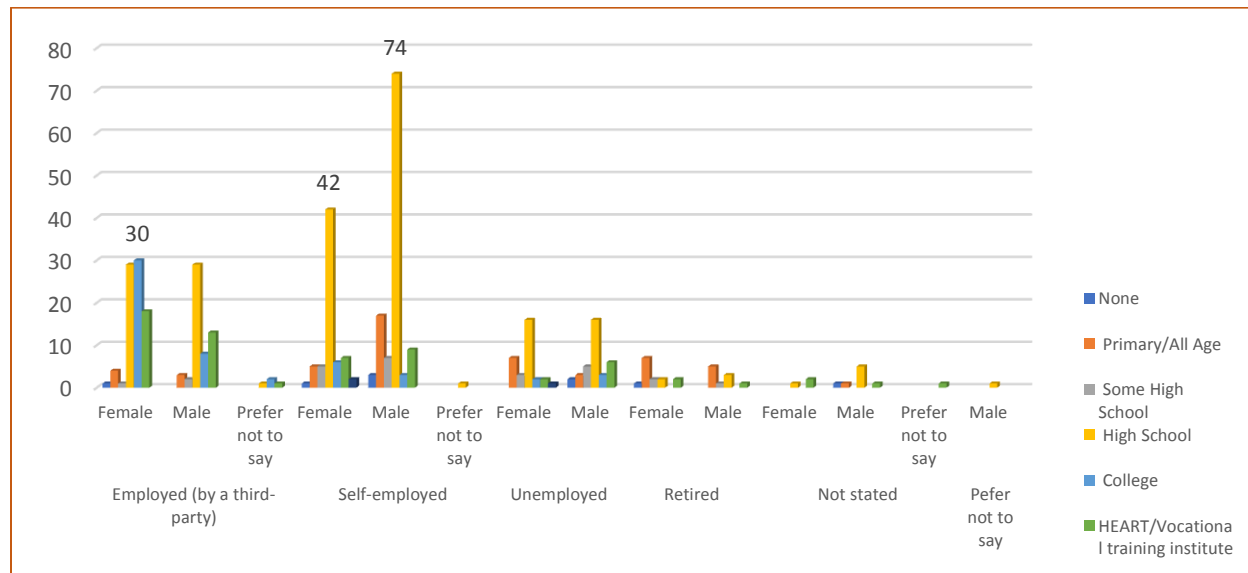


Figure 4 Employment status by education by sex

When the data is further disaggregated by education status and sex, self-employed males and females (N=74, N=42 respectively) who attained up to a high school education represented 43% of all persons who had attained a high school education (N=220), and they also represented 27% of the overall sample. More females (N=30), compared to males (N=8) had attained college level education and were employed by a third party. Fifteen per cent (15% or N=63) of the respondents had attained certification from HEART Institute, and of this number, 33(18 females, 13 males) were employed by a third party, while 16 (7 females, 9 males) were self-employed.

As it pertains to employment status and types of occupations, the main occupations in each category together with the number and percentages of respondents:

Employment Status	Occupation	%/ No. of respondents
Employed by a third party	Business/Retail	4% (N=17)
	Construction	3.5% (N=15)
	Education	5.2% (N=22)
	Government	5.4% (N= 23)
	Tourism	10% N(= 42)
Self-employed	Business/Retail	23% N=97)
	Construction	6% (N=26)
	Fisherfolk	3.7% (N=16)
	Tourism	3.3% (N=14)
Unemployed	Not stated	15.5% (N= 66)
Retired	Not stated	5.6% (N=24)

Table 3 Employment status by type of occupation

The list of areas of employment shared by respondents included administration, bakery, bar, BPO, business/ retail, car wash, chef, cleaner/janitor, construction, cook shop, craft vendor, domestic jobs, education, entertainment, farming, fisherfolk, furniture, government, hairdresser, hustling, mechanic, pharmacist, scamming, technician, telecommunication, tourism, transportation, vendor.

5.1.15 Head of Household by sex

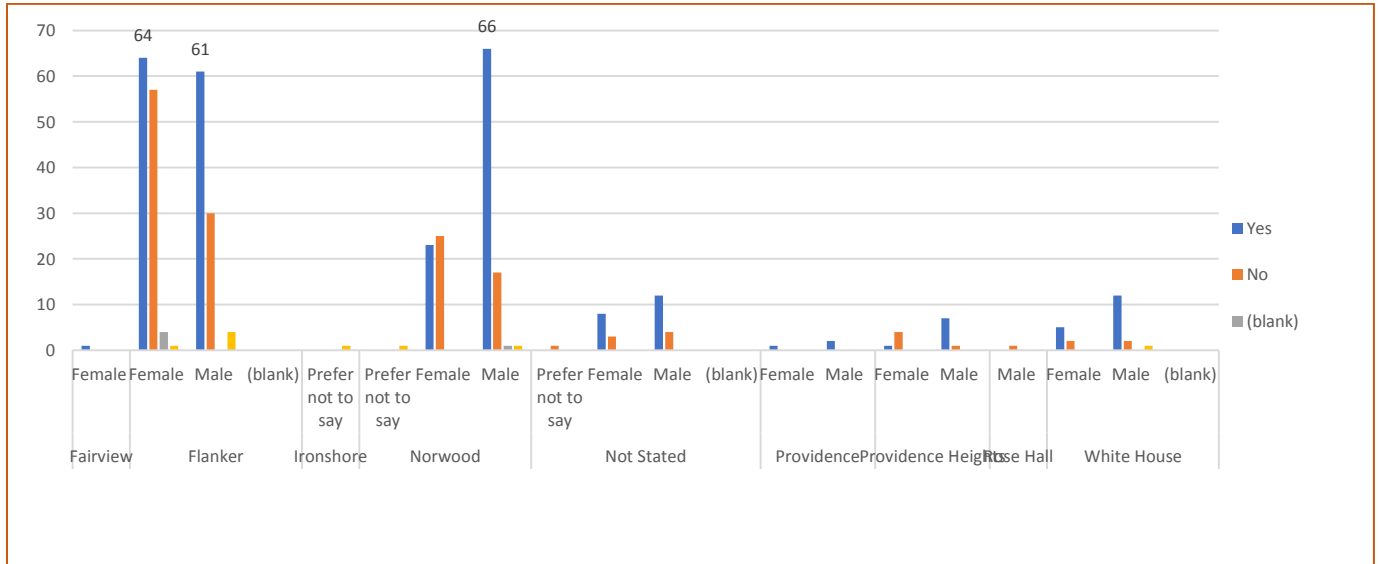


Figure 5 Head of household by sex

In analyzing the sample, it was noted that more female-headed households were reported in Flanker (15%-N=64) when compared to all the other communities where it was reported that they were male headed households

5.1.16 Income Earned

Count of Gender of income earner	Column Labels- income earned by sex					
	Female	Male	Prefer not to say	(blank)	Grand Total	% Total
No income	31	25			56	13%
Under \$13,000 per week	7	6			13	3%
\$13,001 - \$16,000 per week	21	18			39	9%
\$16,001 - \$20,000 per week	18	16	1		35	8%
Over \$20,000 per week	36	54			90	21%
Prefer not to say	85	103	2		190	45%
(blank)	1				1	0%
Grand Total	199	222	3		424	100%

Table 4 Income earned by sex

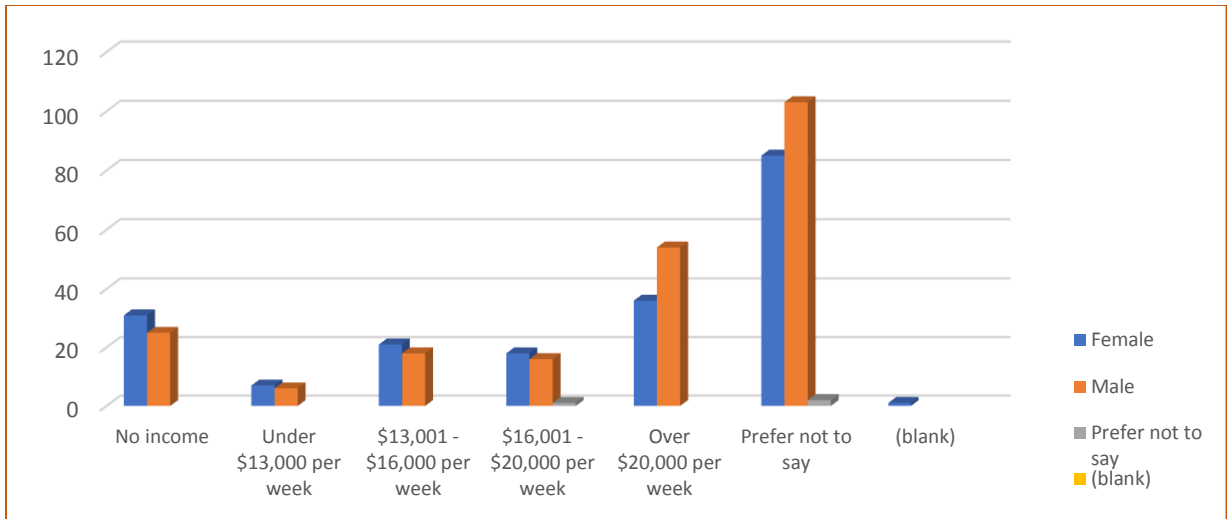


Figure 6 Income earned by sex

The table and chart provide a breakdown of income earned by sex. A large portion of the sample 45% (N=190) preferred not to share information on income earned. Apart from these respondents, 21% (N=90) indicated that they earned over JMD\$20,000. per week.

5.1.17 Perceptions about proposed project

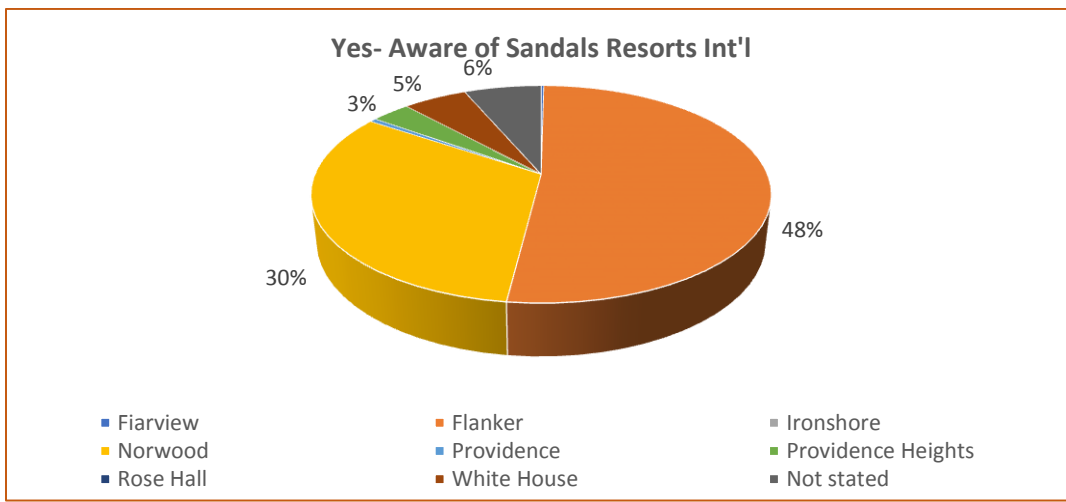


Figure 7 Awareness of Sandals Resorts Int'l

5.1.17.1 Awareness of SRI

Of the 423 respondents who provided information on their awareness of Sandals Resorts International (SRI), 94% (N=397) stated that they were aware of SRI, while the remaining 6%

(N=26) stated they were not aware of SRI. The pie chart in Figure 7 illustrates how the 94% is broken down by residential community.

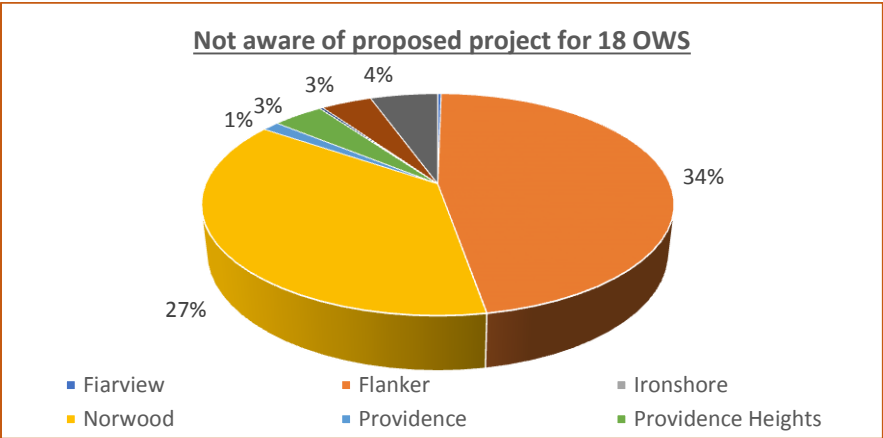


Figure 8-Awareness of 18 OWS

5.1.17.2 Awareness of 18 OWS

When respondents were questioned about awareness of the proposed project to construct 18 over water suites, 71% (N=305) were not aware, 27% (N=114) were aware, and 2% (N=8) did not state whether or not they were aware. The pie chart in Figure 8 provides a breakdown of 71% of respondents who were not aware of the OWS.

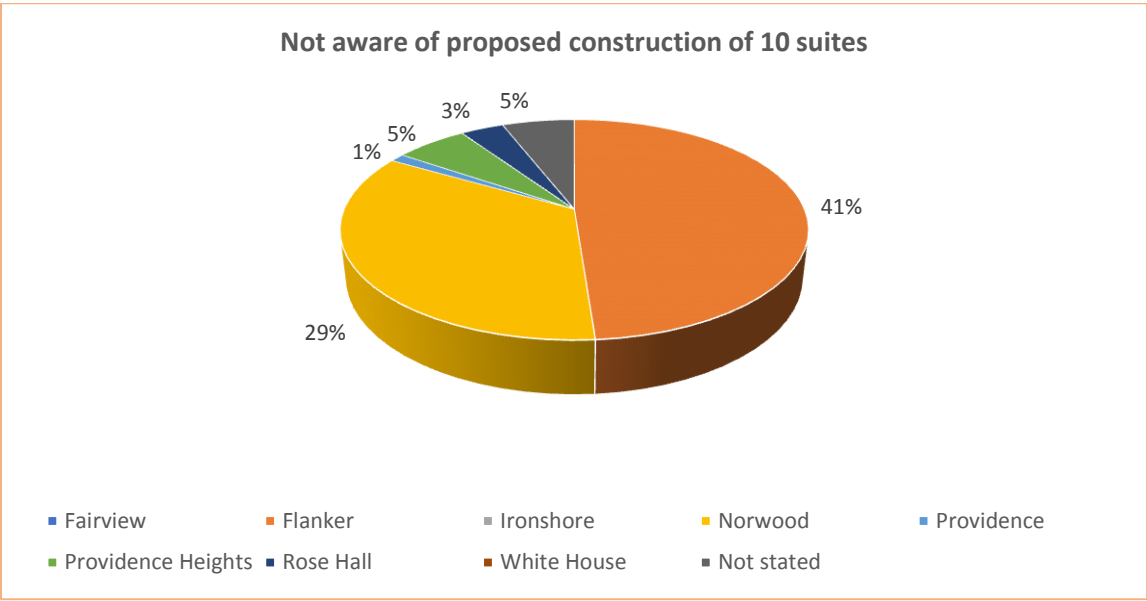


Figure 9 Awareness of construction of 10 suites

5.1.17.3 Awareness of proposed construction of 10 suites

In terms of the level of awareness of respondents of the proposed construction of 10 suites, of 426 respondents, 84% (N=359) stated they were not aware, 15% (N=62) were aware and 1% (N=5) did not state their awareness. The pie chart in Figure 9 illustrates the percentage breakdown of the 84% per residential community.

5.1.17.4 Awareness of project details

Similar patterns were found when respondents were asked about their awareness of the project details that included the following:

Respondents' awareness of project details	Yes	No	Not stated
a swimming pool, bar area, boardwalk/linkways and installation of piles to facilitate the construction of the suites (N=427)	12%	86%	1%
Include modifying a section of wetlands (N=427)	11%	88%	1%
Include coastal modification work (N=425)	11%	88%	1%

Table 5 Awareness of project details

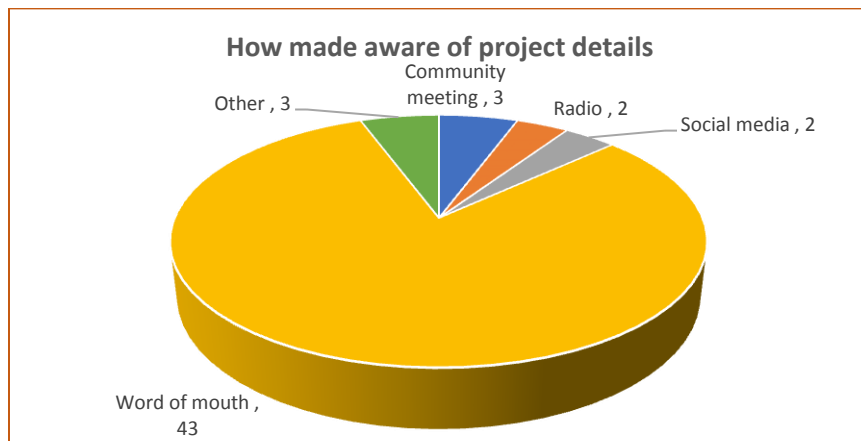


Figure 10 Medium of awareness of project details

5.1.17.5 How respondents were made aware of proposed project

For the 11%-12% (N=53) of respondents who indicated that they were aware of the project details, 81% (N=43) of these persons became aware via word of mouth, while the rest heard via a community meeting, social media or radio.

5.1.18 Thoughts/perceptions about proposed project

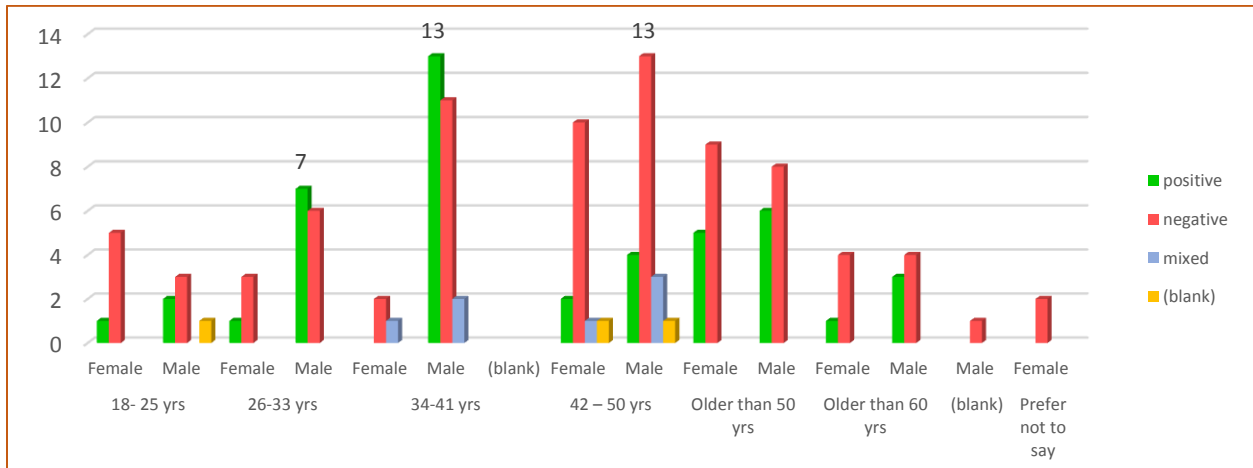


Figure 11 Thoughts/ perceptions about proposed project

Respondents were invited to share their views about the proposed project. Of the **136 respondents who shared views**, 33% (N=45) were positive and 60% (N=81) were negative, 5% (N=7) had mixed views, while the balance of 2% (N=3) did not state. The bar chart in Figure 11 illustrates respondents who shared views disaggregated by sex and age range. It is noted that more males in age ranges 26-33 years (N=7) and 34-41 years (N=13), when compared to other age ranges, expressed positive views about the proposed project. This may be on account of the fact that there is an expectation that the proposed project will provide employment opportunities.



Figure 12 Views of proposed project

The word cloud provides a pictorial representation of the positive and negative views that were expressed by respondents, where some expressed that the proposed construction should take place as it would provide employment for youth, while the more predominant negative views were that the SRI construction should not be done in the community.

5.1.19 Thoughts/ perceptions about the Over Water Suites

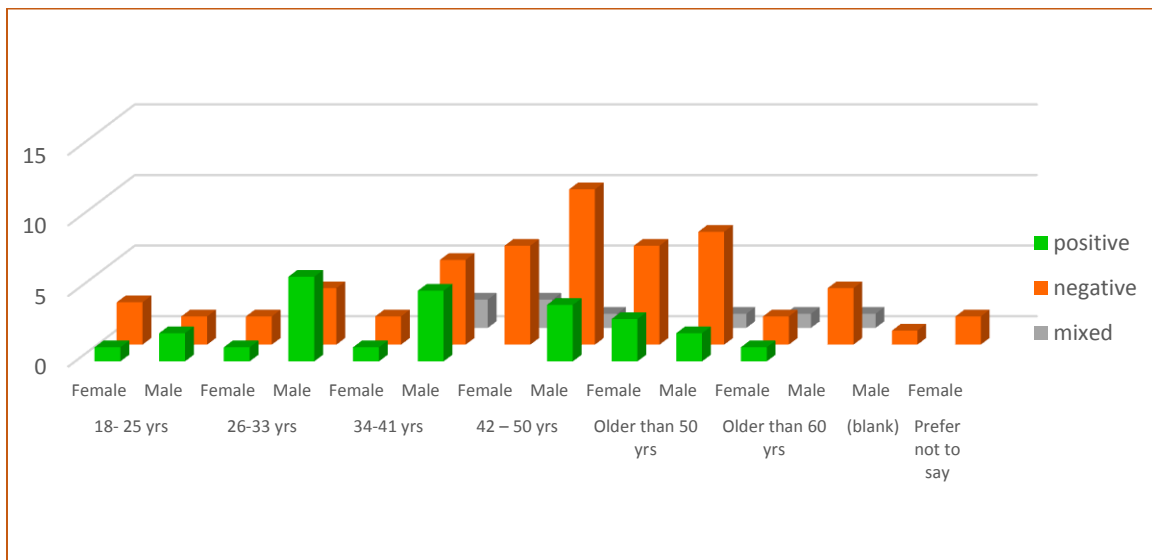


Figure 13 Thoughts about OWS



Figure 17 Thoughts on wetlands and coastal modification

Nine per cent 9% (N=39) if respondents shared thoughts about the wetlands and coastal modification as part of the proposed project. The word cloud presents the views expressed by respondents.

5.1.22 Thoughts/ perceptions to proximity to the airport runway

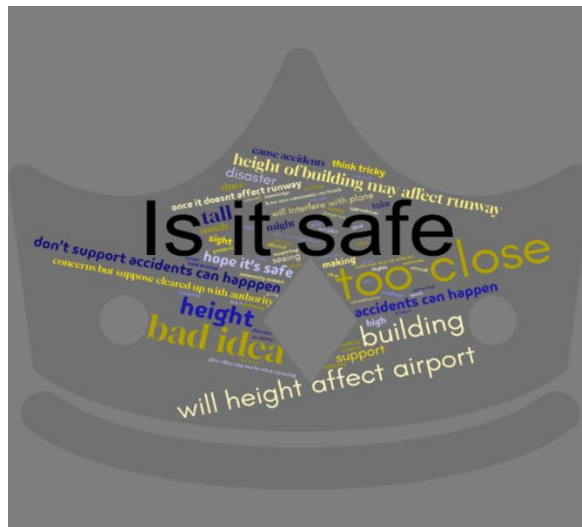


Figure 18 Thoughts on proximity to runway

For the overall sample, 14% (N=59) provided feedback on the proximity of the proposed project to the airport runway. The feedback shared was captured in the word cloud above. For the rest of the sample, 58%(N=236) said they did not have any thoughts, and 27% (N=117) did not know or were unsure, and 1% (N=4) did not state anything.

17% (N=70) of 424 respondents indicated that they depended on the proposed area for their activities. The main purposes were:

- to access the beach/for recreation (identified by 62 of the 70 respondents)
- fishing (identified by 39 respondents)

The chart illustrates the breakdown by dependence/ use by age group by sex and indicates that females in the 26-33 years age group and males in the 34-45 years age group represented the highest percentages of persons who depended on the proposed area at 4% (N=20).

5.1.25 Respondents who knew someone who depended on proposed site

Count of Gender	Column Labels Knew someone dependent on site			Grand Total
	Yes	No	(blank)	
Female	47	149	3	199
18- 25 yrs	5	22		27
26-33 yrs	13	26	1	40
34-41 yrs	9	34	1	44
42 – 50 yrs	11	30		41
Older than 50 yrs	8	21		29
Older than 60 yrs	1	13		14
Prefer not to say		1	1	2
(blank)		2		2
Male	52	163	7	222
18- 25 yrs	7	18	2	27
26-33 yrs	14	28		42
34-41 yrs	10	41	2	53
42 – 50 yrs	11	41	2	54
Older than 50 yrs	7	24	1	32
Older than 60 yrs	2	8		10
Prefer not to say		1		1
(blank)	1	2		3
Prefer not to say	2	1		3
34-41 yrs	1			1
Prefer not to say	1	1		2
(blank)				

Count of Gender	Column Labels Knew someone dependent on site			
Row Labels	Yes	No	(blank)	Grand Total
26-33 yrs				
34-41 yrs				
Grand Total	101	313	10	424
% Total	24%	73%	3%	100%

Table 6 Respondents who knew persons who depended/ use project area.

As shown in the table, 24% (N=101) respondents indicated that they knew someone who depended on the proposed project site. Access to the beach for recreation and for fishing were the main reasons provided by respondents.

5.1.26 Proposed project's effect on livelihood

Count of Gender	Column Labels -proposed project will affect livelihood					
Row Labels	Positively	Negatively	Not at all	Not sure/don't know	(blank)	Grand Total
Female	13	40	109	35	2	199
18- 25 yrs	2	2	16	7		27
26-33 yrs	2	12	16	9	1	40
34-41 yrs	3	10	30	1		44
42 – 50 yrs	2	11	19	9		41
Older than 50 yrs	3	4	15	6	1	29
Older than 60 yrs	1	1	10	2		14
Prefer not to say			2	1		3
(blank)			1			1
Male	19	45	107	47	4	222
18- 25 yrs	3	8	9	6	1	27
26-33 yrs	3	8	20	11		42
34-41 yrs	6	12	24	9	2	53
42 – 50 yrs	4	9	30	10	1	54

Count of Gender	Column Labels -proposed project will affect livelihood					
Row Labels	Positively	Negatively	Not at all	Not sure/don't know	(blank)	Grand Total
Older than 50 yrs	2	5	16	9		32
Older than 60 yrs	1	3	5	1		10
Prefer not to say			2	1		3
(blank)			1			1
Prefer not to say			4	2		6
26-33 yrs			1			1
34-41 yrs			2	1		3
Prefer not to say			1	1		2
Grand Total	32	85	220	84	6	427
% Total	7%	20%	52%	20%	1%	100%

Table 7 Effect on livelihoods



Figure 21 Effects on livelihoods

The table and word clouds provide information on the positive and negative effects on livelihood of the proposed project where 7% (N=32) of respondents expressed the positive effects, which mainly spoke to the availability of jobs and employment opportunities, while 20% (N= 85) expressed that the proposed project would have a negative effect on their livelihoods.

Table 8 indicates that 56% of respondents either agree (17%) or strongly agree (39%) that the proposed project will increase the chance of beach erosion.

I would be more accepting of mangrove removal or modification if the project incorporated mangrove restoration/replanting

Count of Gender	Column Labels -more accepting of mangrove removal or modification if incorporated restoration						
Row Labels	Agree	Strongly Agree	Neither Agree nor Disagree	Disagree	Strongly Disagree	(blank)	Grand Total
Female	54	36	66	25	12	6	199
Male	39	54	72	37	16	4	222
Prefer not to say		1		1	1		3
Grand Total	93	91	138	63	29	10	424
% Total	22%	21%	33%	15%	7%	2%	100%

Table 9 Mangrove restoration/ replanting

For the statement on mangrove removal or modification, 43% indicated that they either agree (22%) or strongly agree (21%) if the project incorporated mangrove restoration/ replanting.

Any alternation of the beach will negatively affect seagrass beds and the environmental purpose they serve

Count of Gender	Column Labels -any alteration of beach will negatively affect seagrass beds						
Row Labels	Agree	Strongly Agree	Neither Agree nor Disagree	Disagree	Strongly Disagree	(blank)	Grand Total
Female	47	71	64	9	2	6	199
Male	45	78	73	15	5	6	222
Prefer not to say	1		2				3
Grand Total	93	149	139	24	7	12	424
% Total	22%	35%	33%	6%	2%	3%	100%

Table 10 Effect on seagrass beds

With respect to beach alteration affecting seagrass, 57% of respondents shared that they agreed (22%) or strongly agreed (35%) with the statement.

5.1.29 Impact of removing mangrove

Of 417 respondents to the question on the impact of removing the mangrove, 1% (N=6) stated that the impact would be positive, 38% (N=162) stated it would be negative. Upon closer review of the views on the positive impact of removing the mangroves, the feedback shared by some respondents suggest that the mangroves are a vital part of the ecosystem. For the rest of respondents, 24% (N=102) said there would be no impact (not at all) and 34% (N=147) stated that they were not sure/ did not know.



Figure 23 Thoughts on impact of removing mangroves

5.1.30 Perceptions of impact of proposed project

Air quality

Count of Gender	Column Labels Impact on air quality				
Row Labels	Female	Male	Prefer not to say	Grand Total	% Total
Positive	4	8		12	3%
Negative	110	116	3	229	54%
No Impact	23	19	1	43	10%
Not Sure	60	74	2	136	32%
(blank)	2	5		7	2%
Grand Total	199	222	6	427	100%

Table 11 Perceptions on impact on air quality

Marine water quality

Count of Gender	Column Labels-Impact on marine water quality				
Row Labels	Female	Male	Prefer not to say	Grand Total	% Total
Positive	2	8		10	2%
Negative	112	128	3	243	57%
No Impact	18	8	1	27	6%
Not Sure	66	75	2	143	33%
(blank)	1	3		4	1%
Grand Total	199	222	6	427	100%

Table 12 Perceptions on impact on marine water quality

Marine wildlife/ fish population

Count of Gender	Column Labels -Impact on marine wildlife/ fish population				
Row Labels	Female	Male	Prefer not to say	Grand Total	% Total
Positive	3	6		9	2%
Negative	119	134	3	256	60%
No Impact	14	9	1	24	6%
Not Sure	61	70	2	133	31%
(blank)	2	3		5	1%
Grand Total	199	222	6	427	100%

Table 13 Perceptions on impact on marine wildlife/ fish population

Noise levels

Count of Gender	Column Labels -Impact on Noise levels				
Row Labels	Female	Male	Prefer not to say	Grand Total	% Total
Positive	3	8		11	3%
Negative	105	124	3	232	54%
No Impact	23	13	1	37	9%

Not Sure	65	72	2	139	33%
(blank)	3	5		8	2%
Grand Total	199	222	6	427	100%

Table 14 Perceptions on impact on noise levels

Fisherfolk

Count of Gender	Column Labels-Impact on fisherfolk				
Row Labels	Female	Male	Prefer not to say	Grand Total	% Total
Positive	2	7		9	2%
Negative	124	127	3	254	59%
No Impact	14	10	1	25	6%
Not Sure	56	70	2	128	30%
(blank)	3	8		11	3%
Grand Total	199	222	6	427	100%

Table 15 Perceptions on impact on fisherfolk

Businesses and services nearby

Count of Gender	Column Labels-Impact on businesses and services nearby				
Row Labels	Female	Male	Prefer not to say	Grand Total	% Total
Positive	20	30		50	12%
Negative	74	97	3	174	41%
No Impact	27	15	1	43	10#
Not Sure	73	75	2	150	35%
(blank)	5	5		10	2%
Grand Total	199	222	6	427	100%

Table 16 Perceptions on impact on businesses and services nearby

Residential communities nearby

Count of Gender		Column Labels-Impact on residential communities nearby			
Row Labels	Female	Male	Prefer not to say	Grand Total	% Total
Positive	30	27		57	13%
Negative	79	93	4	176	41%
No Impact	22	20		42	10%
Not Sure	65	73	2	140	33%
(blank)	3	9		12	3%
Grand Total	199	222	6	427	100%

Table 17 Perceptions on impact on residential community

Employment opportunities

Count of Gender		Column Labels-Impact on employment opportunities			
Row Labels	Female	Male	Prefer not to say	Grand Total	% Total
Positive	91	105	3	199	47%
Negative	35	36	1	72	17%
No Impact	20	24		44	10%
Not Sure	53	55	2	110	26%
(blank)		2		2	.5%
Grand Total	199	222	6	427	100%

Table 18 Perceptions on impact on employment opportunities

Nearby communities

Count of Gender	Column Labels-Impact on nearby communities				
Row Labels	Female	Male	Prefer not to say	Grand Total	% Total
Positive	38	39		77	18%
Negative	76	81	4	161	38%
No Impact	14	26		40	9%
Not Sure	70	73	2	145	34%
(blank)	1	3		4	1%
Grand Total	199	222	6	427	100%

Table 19 Perceptions on impact on nearby communities

Tourism product

Count of Gender	Column Labels-Impact on tourism product				
Row Labels	Female	Male	Prefer not to say	Grand Total	% Total
Positive	82	88	3	173	41%
Negative	27	29	1	57	13%
No Impact	23	35		58	14%
Not Sure	65	63	2	130	30%
(blank)	2	7		9	2%
Grand Total	199	222	6	427	100%

Table 20 Perceptions on impact on tourism product

Impact of project on following	Positive (%)	Negative (%)	No impact (%)	Not sure (%)
marine water quality	2	57	6	33
marine wildlife/fish population	2	60	6	31
air quality	3	54	10	32
noise levels	3	54	9	33
fisherfolk	7	59	6	30
businesses and services nearby project area	12	41	10	35
residential communities nearby project area	13	41	10	33
employment opportunities	47	17	10	26
nearby communities	18	38	9	34
Tourism product	43	13	14	30

Table 21 Overview of all impacts

The tables above provide data on respondents' perceptions of the impact of the proposed project on various areas disaggregated by sex. In Table 21, where all the factors are merged, it is noted that respondents considered that the two main areas in which the proposed project would have a positive impact were employment opportunities (47%) and the tourism product (43%).

Areas identified by respondents in which the proposed project would have negative impacts were marine wildlife/ fish population (60%), fisherfolk (59%), marine water quality (57%) air quality and noise levels (54%). These percentages suggest a sound understanding of the value of, and the need to preserve the ecosystem which the communities inhabit.

It should also be observed that between 26%-35% of respondents indicated that they were not sure of the proposed project's impact on the specific areas, which may suggest a clear level of uncertainty about the final outcome. When added to the fact that a large percentage of the respondents (over 80%) indicated that they were not aware of the project details, this further speaks to the need to enhance the communities' awareness about the various elements of the proposed project.

5.1.31 Natural Hazards and Social Amenities

There were some questions pertaining to natural hazards and social amenities for which respondents also shared views.

Problems with frequent flooding

Response	Count	%
Yes	13	3%
No	248	58%
Not sure/don't know	157	36%
Not stated	14	3%
Total	427	100%

Table 22 Knowledge of problems with flooding

How frequently it rains to cause flooding

Just under 3% (N=12) of the respondents shared information on the frequency of rainfall to cause flooding with responses varying among the following: once in 3 months (N=3), once weekly (N=3), once monthly (N=3), once in 6 months (N=2) and less than once a year (N=1).

In terms of the water level during flooding, the 3% who responded 'yes' that there was flooding gave responses that the water level rose to either less than 1 ft (1 person) or 1 to 5 ft (6 persons) or more than 5 ft (6 persons).

Proposed area affected by tidal waves such as storm surges/ sea level rise

Response	Count	%
Yes	44	10%
No	218	51%
Not sure/don't know	159	37%
Not stated	6	1%
Total	427	100%

Table 23 Knowledge if area affected by tidal changes

5.1.32 Knowledge of any site or area nearby considered to be of environmental or historical significance

Of the 418 community residents who responded to the question on knowledge of the area nearby being considered to be either a protected area or environmental importance or one of historical

significance, 4% (N=15) responded yes, 51% (N=214) stated no, and 45% (N=189) stated they did not know.



Figure 24 Feedback on knowledge about and reasons why area is of environmental and historical significance

5.1.33 Business Perception Survey Results

Alongside the community perception survey, representatives from the business community were also invited to participate in the socio-economic survey. The survey methodology that was provided in the earlier section of the document described the approach that was used to engage with representatives from the business community who served as key informants for the exercise. A total of nine (9) individuals were approached and formal correspondence was sent inviting them to participate in the discussion. Of this number, six (6) responded indicating their interest to participate. Two (2) were unable to schedule a time or to complete the questionnaire. An alternate name was substituted for one of the individuals. The small research team made ongoing efforts to reach out to three (3) other invitees, but was not successful. Out of a list of nine (9) individuals, five (5) participated and data were collected using various methods- in person/face-to-face, virtually and instruments were also sent electronically.

5.1.34 Business cohort description

Of the 5 business persons, two (2) worked in the field of education while the other three (3) operated their own businesses. The business locations included Flanker, Hip Strip, and St Ann. With respect to the length of time in business, one key informant operated <2 years, one between 6-10 years, one for 11-15 years, and two for >15 years. All key informants worked for 5 days or more than 5

days per week. Only one respondent indicated suffering from sinusitis, and one from asthma. None of the respondents were aware of anyone else in the business suffering from these ailments.

5.1.35 Business project awareness

In terms of awareness of Sandals Resorts International, all key informants stated that they were aware of the company, and that they became aware of the proposed project through a community meeting/ consultation that was held in May 2025. It was also in that forum that were made aware of the project details that included the proposed construction of 18 OWS and 10 single storey villas, as well as the modification to be done of a section of the wetlands and the coastal modification works.

5.1.36 Business thoughts about the proposed project

The text boxes provide some of the feedback that was shared by business representatives about the proposed project.

..... concerned about the impact this development will have on the local communities, beach access and impact on

.....do not think the project as proposed should be permitted without the provision of beach access

think the project is a very advantageous and really pushes development but.....
in this situation, it is very unlikely that the standards of sustainable development will be able to be maintained due to the sensitive and fragile status of the ecosystem now.

..... the site- is impacted by the airports and by the drain to the east, then ultimately, it is a beach...it is a public beach. It is one of the very few places where children can swim on that whole stretch these days, where children learn how to swim.

in terms of livelihood -I is an active thoroughfare on rough days for fishermen to get out and back to fish

So the fishermen won't have enough facility... what will be done for them

5.1.37 Thoughts about suites being built over the water

Business representatives shared their views about the 18 OWS suites

.....concerned about the impact it will further have on marine life, the sewage management of living quarters within vicinity of the communities and residents

..... don't think over water suites should be built due to clear environmental and socio-economic costs

know that it is almost impossible to successfully relocate seagrass. Therefore, any promise of ecological sustainability simply cannot be met.

..... not sure what they would look like

don't agree with the construction of overwater bungalows because the ecosystem within that area is already struggling due to past coastal development from other nearby places

everything that was going to be shaded and killed through shading may not be considered.....

a project like this can be ecologically positive but it requires having somebody...having an ecologist on the design team

5.1.38 Thoughts on installation of piles to facilitate construction

The installation of piles in this situation is not a good idea....close to Montego Bay Marine Park which over the years has significantly deteriorated over time...the piles will kick up sediment in the water and even with the installation of several silk netsstill impossible to prevent the sediment from getting through and significantly affecting the marine park

.....think this proposed method of construction is too environmentally invasive. I would support the structure if it were floating

..... the sound, the noise, the hammering of a piling into the sea floor carries for tens of kilometers and is highly impactful to every sea creature

How will these impact the logistics for the area for transportation and the impact construction normally has on air quality and dust nuisance

.not in sleeved PVC -not aesthetically appealing....., If there was a way to do them in cement- that would be preferred...in electrified steel or something like that,these are largely aesthetic.... and there are also pollution questions

if the construction would affect any of the residents going back to the edge...there are a lot of residents living out there..... I don't know if that will affect them

5.1.39 Thoughts about the construction of 10 villa style single-storey units

...jobs to be available to the local communities, highlight the role Sandals will play in upskilling the community to access good paying jobs

yes, it is it would be good...because there'll be a lot ... probably more employment also...but what about the fishermen...their livelihood....they are self-employed...are they looking at that ...they won't have access going out there to do their fishing

The construction of villas..... requires the cutting down and relocating of mangrovesissue at hand not solved mangroves act as natural barriers to strong weather conditionsalso act as a source of habitat for many marine and coastal organisms.....relocation of the mangroves which might not be successful....

the villa style units...considered to be less of an issue-however..... worry about the gentrification of the beach and that the villas may cut off access to the beach

based on NEPA's guidelines relocation does not need to be successful they just need to be attempted, would still result in that area having no natural defense and further degradation...long term effects on the surrounding ecosystem and on people who live within the area

5.1.40 Thoughts on wetlands and coastal modifications

The impact this will have on the natural habitation that exists, the impact on fishing channels being used by the fishing community will be negative

okay with the expansion and protection of the beach, but Sandals MUST make the beach accessible

.....an outcry from both local and international organizations..... recognize many of our marine ecosystems are deteriorating significantly due to coastal development and climate change.....Sandals should be moving towards more sustainable and conservation related development...not boost the deterioration rate regardless of the lives of numerous locals who rely on the ecosystems.....against coastal and wetland modification currently especially with the proximity to the marine park.

Insufficient wetlands on the north coast- part of the productivity issue for fisheries etc.

.....will not be a modification but destruction.....it's infilling. Villas will be placed on top of it- they will not be stilted over a mangrove space - wetlands will be destroyed

5.1.41 Thoughts on proximity to airport runway

Only one business representative expressed a view about the proximity of the proposed project to the runway.

....depends on the weather...if the weather is very bad...heavy flooding....the plane will be landing from the other end

5.1.42 Suggestions on how the views expressed could be addressed

suggest that this project be halted or relocated to a different branch or area on the property that doesn't require the relocation of mangroves or seagrass. The silk nets could work for the stilts being placed in the water but not if it is a combination of sedimentation, mangrove deforestation and seagrass being removed

.....need a holistic... not a piecemeal approach to how EIAs are done children's ability to swim is being taken away...if another way can be found children can still be able to go and learn how to swim and to do it as a public beach.....Sandals sponsor lifeguards, for example, and swimming lessons that may be a reasonable trade-off

...that the construction site be done elsewhere given the varied impacts that will or may result in the displacement of marine life, impact on communities and people.....the fact so much has already been given up by the communities, visitors and the loss of beach access to both locals and visitors

Preserve public beach access...re-design suites to float over water--and permit fishermen to access seas

.... main suggestion to express views...for any other organization to come to a community meeting in this community....we have a center at Morning View.....we have two centers on campus...it would be good for all to be on the same page....to have this project up.... would like a face to face meeting where everybody can state their concerns

the community needs to be involved in the design of projects like these from inception... sustainability has a social component

5.1.43 Dependence on the proposed project area

The business representatives all indicated that they were not dependent or used the proposed project area for their businesses. Four out of five business representatives identified that they knew others who depended on the proposed project area for the following purposes

- To access the beach for recreation
- For fishing

5.1.44 Effect of proposed project on business

	Positively	Negatively	How it may be addressed	Not at all
1	More business in alternative remediations/ mitigation and aesthetics projects			
2		Area of workto protect and conserve the coastal and marine ecosystems..... the disregard from the environment as well as careless development directly puts livelihoods of many stakeholders in the field at risk	think that Sandals need to prioritize more sustainable development and steer away from projects that clearly put the marine environment at risk	
3		The loss of beach access and recreation for clients who wish to enjoy the space and interact with locals as part of the tourism product	for it to be left alone and invest in corporate social responsibility in developing the space as part of community/private partnerships	
4				Not at all
5				Not at all

Table 24 Effect of proposed project on business

5.1.45 Impact of removing mangroves

Positive	Negative	How it may be addressed
	Mangroves play a key role in the protection of coastal communities, inland protection from wave destruction and also the loss of habitat for local marine life	For a more thorough environmental assessment to be done to inform the pros and cons of the proposed constructions
	Mangroves are part of the environment and when they are removed -more flooding	
	it may reduce the resilience of the coast against storms	maintaining a buffer of mangroves and building the villas on stilts and rehabilitating the mangrove to health
	Mangrove forest is an important for coastal protection from storms and hurricanes, provides numerous habitats for marine and coastal organisms and acts as a carbon sequester. Cutting down these mangroves would result in significant long term and short-term impact on coastal communities and environment. _	The main way this could be addressed would be if NEPA had it as a requirement that the mangrove replanting be a success.concerned whether NEPA allows organizations to remove and replant mangroves to a different location but majority of the times that replanting is unsuccessful because mangroves are delicate....require specific conditions to be successful.replanting is not successful but construction seems to be allowed to continue despite the degradation of the environment
though the site has been degraded, rocky...may have some white and some black mangrove...may not be particularly productive,but it should not be excuse to say that it is ruined and one will get rid of it	Should be assessed

Table 25 Impact of removing mangroves

5.1.46 Statements on beach erosion

Statement	Strongly Agree	Agree	Neither agree nor disagree	Disagree	Strongly disagree	Not sure
The project as proposed will increase the chance of beach erosion	20%	20%		20%		20%
I would be more accepting of mangrove removal if the project incorporated mangrove restoration/replanting		20%		20%	20%	20%
Any alteration of the beach will negatively affect seagrass beds and the environmental purpose they serve	40%	20%	20%			20%

Table 26 Statements on beach erosion

One of the business representatives expressed that the first and second statement were more complicated and none of the response options were satisfactory, so no responses were entered for those statements.

5.1.47 Possible impacts during and after construction

Views were also shared on the proposed project's possible impact on certain key areas during construction and in the post-construction phase. The table below highlights some of the main points that were raised.

Impact of project on following	During construction	After construction
marine water quality	<ul style="list-style-type: none"> • machines will change water quality • the existence of living accommodations will produce human waste that has a history of poor management by the hoteliers in Jamaica • the drilling of piles will create silt • sedimentation and potential pollutants will reduce water clarity and harm coral/seagrass • turbidity will be increased; residue of materials from hands and feet from construction site (equipment dripping oil, nails, paint, screws falling into sea; anything with copper (copper goes directly into moray eels, corals, zinc are very toxic) 	<ul style="list-style-type: none"> • Continued runoff and reduced seagrass • Degradation of the seagrass for the first decade. through shading; changes in light and all other use processes of the space...presence of the structure and the shade will probably increase the numbers of fish...big schools of sprats and small fish...underneath the structures...would decrease the water quality because they pee; spillage from cleaning materials/chemicals used in villas

Impact of project on following	During construction	After construction
marine wildlife/fish population	<ul style="list-style-type: none"> • fish will get scared, different species will move away- displace marine life from a natural habitat • habitat destruction, reduced biodiversity, and migration due to noise and sedimentation 	<ul style="list-style-type: none"> • seagrass habitat will be at risk • continued displacement of marine life from a natural habitat • permanent loss of nurseries and habitats will weaken fish populations.
air quality	<ul style="list-style-type: none"> • dust and toxic chemicals from construction may affect persons with respiratory issues 	<ul style="list-style-type: none"> • some improvement, respiratory issues may persist
noise levels	<ul style="list-style-type: none"> • construction will bring its own noise issues with the level and power of equipment likely to be used 	<ul style="list-style-type: none"> • addition of entertainment at nights
fisherfolk	<ul style="list-style-type: none"> • will not be able to access beach- • may have to go as far as Westmoreland or Falmouth • will displace the channels used by fisherfolk to leave and return to home • reduced fishing grounds and lower catch due to habitat loss. 	<ul style="list-style-type: none"> • will displace the channels used by fisherfolk to leave and return to home • they would not be allowed to fish in the area • reduced fish stocks from habitat loss will threaten livelihoods in long-term.
businesses and services nearby project area	<ul style="list-style-type: none"> • Dust, noise and logistics impacts in a negative way • Access to White House community may be impeded 	<ul style="list-style-type: none"> • hope there may be some business over spill from proposed project
residential communities nearby project area	<ul style="list-style-type: none"> • noise from equipment 	<ul style="list-style-type: none"> • may not have access to the beach
employment opportunities	<ul style="list-style-type: none"> • Unemployed persons will get jobs in construction and in villas • Villas and suites require a lot of staff, as guests want a lot of services 	<ul style="list-style-type: none"> • Hoped that jobs provided will raise the standard of living for the persons employed even from the communities • Increased tourism will increase jobs for entry level workers.
nearby communities	<ul style="list-style-type: none"> • Displacement, noise pollution, air pollution and denial of access to local and natural resources 	<ul style="list-style-type: none"> • denial of access to local and natural resources
Tourism product	<ul style="list-style-type: none"> • the tourism impact per se will be positive...it is something that people want • attract more guests, • would like for community tourism to be facilitated 	<ul style="list-style-type: none"> • could displace the current tourism product, removing the direct benefit from the communities and shifting to the corporation/private business • may be a tourist attraction...need

Impact of project on following	During construction	After construction
	<ul style="list-style-type: none"> • The tourism product is already alive and well in the area, it however needs greater support not reconstruction • Initially attractive to luxury tourists, but long-term decline if ecosystems collapse 	<p>to be aware of cost/benefit factor</p> <ul style="list-style-type: none"> • there is initial appeal, but environmental decline may reduce Jamaica's eco-tourism value

Table 27 Possible impacts during and after construction

5.1.48 Natural hazards and social amenities

Specific statements relating to natural hazards and social amenities were also shared with business representatives. The table below provides information on the responses that were shared.

Statement	Yes	No	Don't know
Is the area affected by flooding	20% -During times of heavy rainfall, about once per month =water level rises to 1-5 ft 20%-area was wetland space and prone to flooding		60%
Is the area affected by tidal waves such as storm surges	60% impacted by reef degradation; as reef goes down due to erosion, acidification, loss of coral-causes more wave energy		40%

Table 28 Natural hazards and social amenities

5.1.49 Knowledge of any site or area nearby considered to be of environmental or historical significance.

Business representatives shared views on their knowledge of any site or area nearby that was considered to be either a protected area or one of historical or national significance.

Historical significance

The whole coast is..... arguably the coral reef is important.....has history.....one does not have to dig very deep before one finds artifacts.....500 years of very clumsy nautical history

Protected area

the Montego Bay Marine Park is nearby. It is a protected area established to conserve coral reefs, seagrass beds, and mangroves, which are critical for biodiversity and coastal protection. The Park is important for local fisheries, eco-tourism, and overall marine health in the bay

Historical significance

The entire beach area.....part of the local history for nearby communities, nostalgia and a reason for returning residents to visit to support an area that was part of their upbringing..... for those who would have migrated locally or internationally
A recreational space for families

5.2 Conclusion

The findings from the socio-economic survey highlight some key issues. These are summarized below.

There is a markedly low level of awareness among community residents of the project that is being proposed to be constructed. For the 12% of the respondents who were aware of the proposed project, the majority obtained the information via word of mouth. There remains a need to build a greater sense of awareness of the project details. Some community respondents and business representatives also articulated the need to facilitate greater participation of affected communities in all elements of project development, especially in an effort to understand their concerns and to determine appropriate solutions for the benefit of all.

Among community residents and business representatives, the findings suggest that there is sound knowledge and understanding of possible impacts on the immediate environment and on the livelihoods of specific groups. There is also a clear expectation that there would be a noticeable improvement in employment opportunities, particularly for persons in the 26-33 and 34-41 age

ranges who expressed positive views in anticipation of better employment opportunities. Consideration should also be given to these positive views that were also shared by community residents and business representative. They also need to be weighed against the possible long-term negative impacts on the coastal and marine environment and communities' way of life.

6 Note 3: Identification and Description of Seagrass Relocation Areas

Based on groundtruthing carried out over August 18 to 19 2025³, the areas defined in **Figures 1 and 2** below are suitable for seagrass replanting. The total substrate surface area defined in both figures is approximately 9044 sq-m. Replanting would occur as layers initially deployed adjacent to existing seagrass margins, in order to encourage biological integration into an existing plant system.

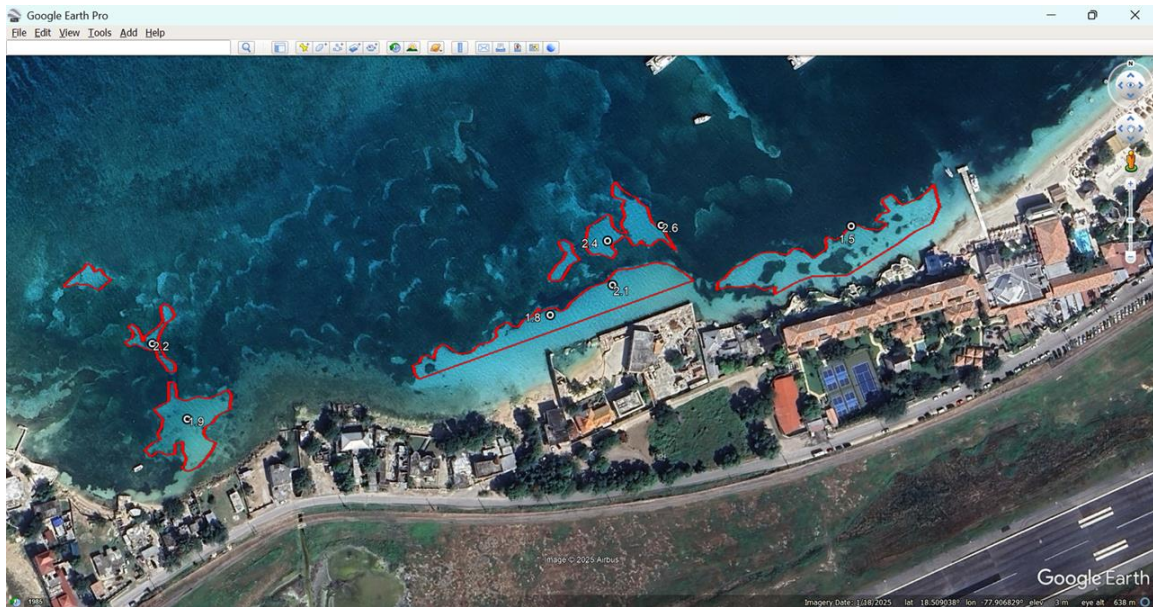


Figure 1: Proposed Seagrass Replanting Areas (red polygons).

³ Peter Wilson-Kelly (MPhil) & Associates Identification and Description Of Seagrass Relocation Habitats, Sandals Montego Bay, St. James. Prepared for TEM Network August 2025.

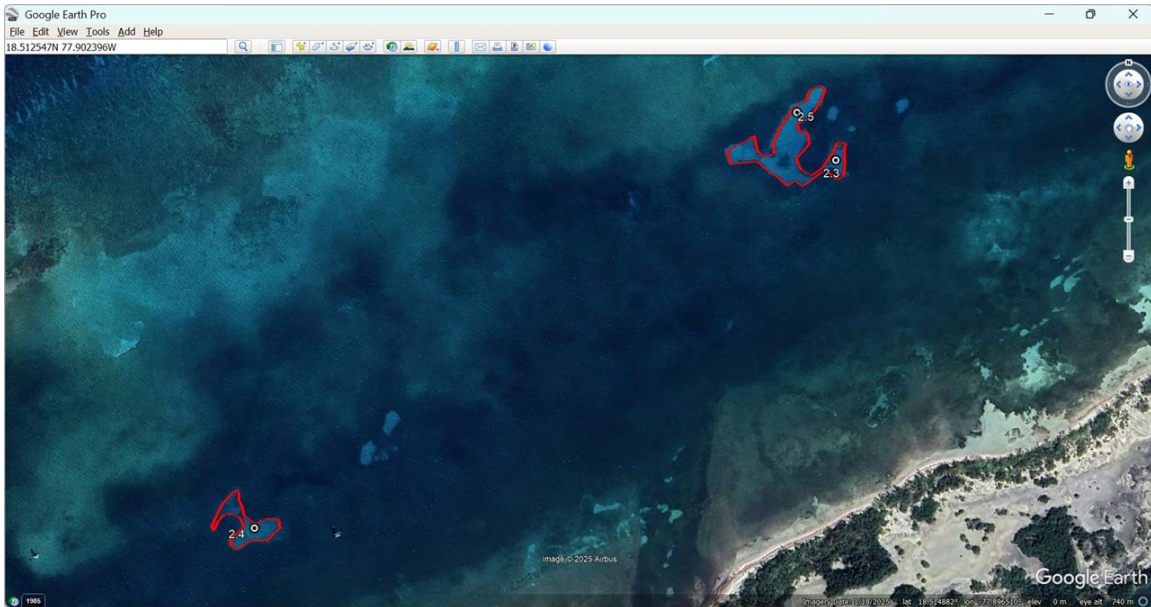


Figure 2: Proposed Seagrass Replanting Areas - Cont'd (red polygons).

Note the proposed seagrass border (A) on **Figure 3** (a replica of **Figure 1**). The line depicted was deliberately designed because it is believed that a setback from the shoreline hard surfaces present will be required, out of an abundance of caution, to protect from possible wave-related impacts. Fonseca et al (1998)⁴ describes the use of sediment filled biodegradable burlap bags to protect the exposed roots of replanted seagrass while creating a substrate upon which new rhizome propagated growth can occur to stabilize the new seagrass margin. It is therefore proposed that the landward replanted seagrass margin be protected from potential reflected wave influences with a single layer of burlap bags deployed landward of the replanted seagrass.

⁴ Fonseca, M.S., Kenworthy, W.J., Thayer, G.W., 1998. Guide-lines for the conservation and restoration of seagrass

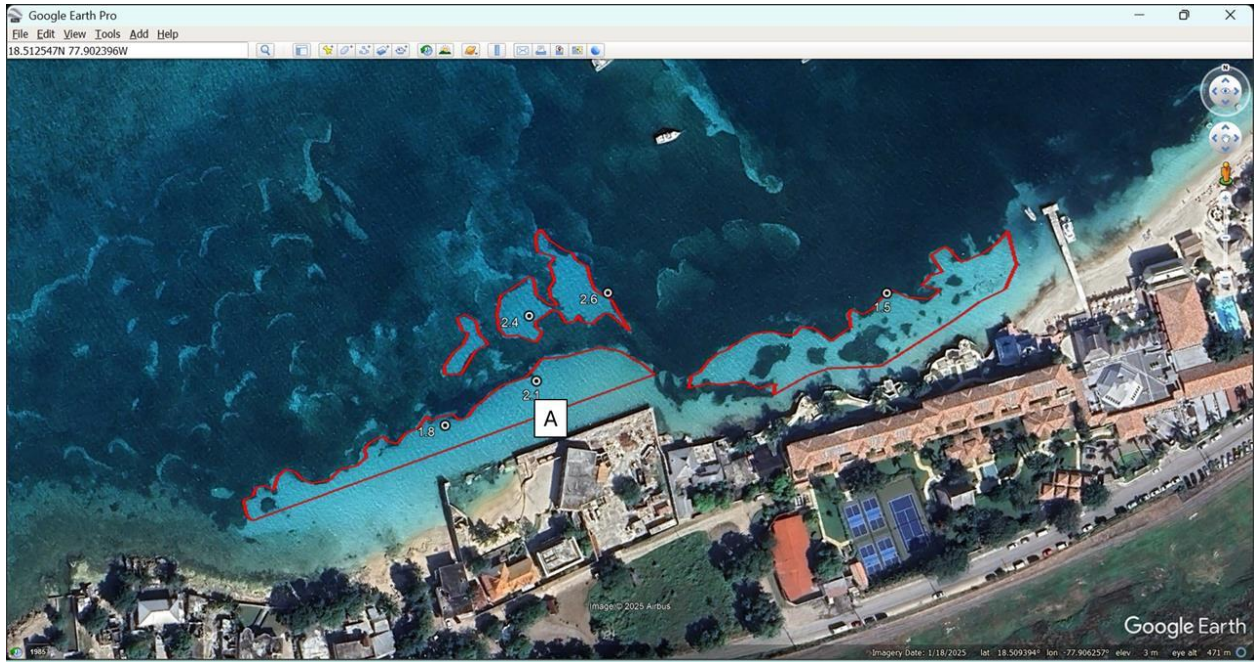


Figure 3 Proposed seagrass border (A)

7 Note 4 - Rendering/Layout - Beach Access



Legend:

- A. Public Access Point
- B. Public Parking
• 6 Spaces
- C. Walkway
- D. Open Lawn Area
• Picnic Tables and Seating Areas
- E. Existing Bridge
- F. Existing River
- G. Rock Retevment for Road Protection
- H. Decorative Security Boundary Wall
- I. Security Station
- J. Dense Landscape Buffer
- K. Existing Roadway
- L. Proposed Seawall
- M. Coastline

Public Area Summary:

Land Area: 2,950 m² / 0,73 Acres *
Coastline: 120 Meters Total

* Land area estimate calculated up to approximate high water mark. Actual area may vary with proper parcel survey.

Note: All areas and dimensions are approximate.

Scale 1:250



Landscape Master Plan
East Village Public Area



8 Note 5: Response to Jet - Montego Bay Overwater Structures Cumulative Impacts

This assessment of cumulative impacts to the coastal ecosystems (seagrass beds, wetlands) at and in the immediate vicinity (i.e., SIA) of the Sandals Montego Bay property considers decades of progressive disturbance and habitat loss intensified by recent and proposed developments. Historically, mangrove-lined wetlands dominated this area, but major land changes associated with the airport's construction and other coastal development projects, including large-scale vegetation clearing, infilling, and the creation of hard infrastructure, have resulted in a significant reduction and fragmentation of wetland habitats. The recent runway extension and associated works have further accelerated this trend, causing the removal of approximately 3.2 hectares (8 acres) of remaining wetlands, including over 2 hectares (5 acres) of relatively intact, functional mangrove systems (ESL, 2019).

Superimposed on this already impacted landscape are impacts from the proposed construction of overwater bungalows, and villas on the remaining wetland, along with a series of new coastal groynes, further compounds the ecological stress. Cumulative impact associated with the construction of overwater bungalows, landside villas and groynes on the coastal and marine habitats, is expected to be pronounced resulting in the direct removal of approximately 200 square meters of healthy seagrass for pile installation. Construction activities, including the use of heavy barges, would further contribute to the physical disturbance and possibly to the additional/unintentional loss of seagrass. In the operational phase, an additional 0.33 hectares of seagrass may be impacted by shading under the structures, with reduced light availability negatively affecting seagrass growth and the nursery functions they provide for marine fauna.

The proposed groyne construction and related beach nourishment are expected to affect approximately 0.7 to 1.0 hectares of seagrass habitat. Impact from construction activities would temporarily increase water turbidity and pollution risk, intensifying the stresses on marine flora and fauna.

The resulting habitat changes will contribute to the loss of local biodiversity, affecting a wide range of species, from fish and urchins to coral species, and may create conditions that are likely to favour more opportunistic and disturbance-tolerant marine species rather than those typical of a healthy ecosystem. Increased turbidity and sediment disturbance from

construction will reduce light penetration, stressing seagrasses, coral and associated marine fauna. There is also a risk of contamination from hydrocarbons and solid waste during construction and subsequent operations with increase in boat traffic, particularly during the construction phase.

The presence and health of key species, such as the long-spined sea urchin *Diadema antillarum*, critical for controlling algal overgrowth on reefs, are already threatened throughout the region, and additional stressors would have consequences on the local population. Corals on the reef crest, including species like *O. annularis* and *O. faveolata*, which are classified as 'Endangered', could experience both direct physical damage (due to barge activities and passage through the boat channel) and indirect pressure through sedimentation, pollution, and increased visitor use.

These diverse stressors negatively impact essential ecosystem functions, including carbon sequestration, storm buffering, the provision of fish nursery grounds, and biodiversity support. The degraded wetland area east of the current resort, historically a coastal buffer and nursery, is unlikely to recover on its own, given current and anticipated stressors. Climate change, including increased storm intensity and rising sea levels, is expected to further negatively impact these already stressed systems.

Cumulative impact also considers community concerns about restricted access to beach areas. The view is expressed that expansion of resort infrastructure, including the overwater bungalows, landside villas and groynes, would limit traditional access points, affecting recreation, fishing, and livelihoods tied to the area. Displacement and the loss of shared social spaces may contribute to community tensions, especially if it is perceived that the new development primarily benefit the proponent rather than the community.

9 Note 6: Natural Resource Valuation

Response to the sentence highlighted. Other components are not within the purview of the NRV.

Comment:

"Seagrass sites not identified; Mangrove loss mitigation not clear; Cumulative Impact assessment inadequate; Comprehensive cost-benefit analysis should be done to consider not just environmental impacts but also social and economic effects; Phasing assumes that project approval is a foregone conclusion."

Response:

It is best practice in policy decision making contexts to conduct cost benefit analysis. This should be guided by the project context. Note that in some cases economic impact analyses are instead used as part of the decision-making criteria. Cost-benefit analysis and economic impact analysis both provide the ability to assess projects' economic impacts, but through different methodological approaches and perspectives. In the context of environmental impact assessments, cost-benefit analysis can be complemented by economic impact analysis to provide decision-makers with more complete information.

The natural resource valuation assessment is but one component of a full CBA used to assess a project's net impacts. The information provided on the values of the ecosystems assessed can be used alongside the other social components to provide decision makers with the relevant information. Key to the process is the role all components of a CBA can play in assessing tradeoffs. For this project there are some extenuating circumstances beyond the direct control of the developers. Namely the significant deleterious impacts from the Airport expansion on the last remaining wetland area. Noting that the values that could be feasibly estimated were for the already impaired wetlands and nearshore seagrass ecosystems. This meant that in the context of assessing the ecosystem service values – that would be forgone due to construction (costs) – relative to the benefits of maintaining the status quo (severely impaired ecosystems) it is likely that the benefit cost ratio may still be in favour of development. This does not excuse other non-monetary considerations such as social and equity concerns. However, in the strict context of a full CBA the goal would be to provide information that guides trade off decisions.

This may be something that the regulatory agencies consider including explicitly in future TORs. As mentioned previously, NRV or other non-market valuation approaches are designed to feed into a broader CBA framework if that is the regulatory context.

See my previous responses below to the original NEPA feedback.

I've also made some additional comments re page 337 and page 339

Comment:

There is an error for the calculation for equivalency value between one tonne of carbon (tC) and its related tonne of carbon dioxide (tCO₂) value.

“One tC is equivalent to 3.67 (44/12) tCO₂ (Edwards, 2019).”

Based on the information in the beginning of the section, one tC is equivalent to 4tCO₂ (48/12).

This would affect the calculation of the average carbon stock (MgC Ha⁻¹) in Table 7-2: Annual Values of Sequestered Carbon at the Impacted Site.

Response

The carbon stock presented in the table is reported as per Megagramme of Carbon (MgC) or in other words per Metric Ton (T). The in-situ carbon calculations are therefore based on multiplying the global **Per Hectare average for Carbon** stock for the relevant ecosystems (seagrass and wetland areas) multiplied by the actual number of **hectares** as estimated for each impacted area (overwater, groyne – seagrass and wetlands respectively). The result is a simple estimate of the estimated carbon (NOT CARBON DIOXIDE) for the given spatial extent.

For example, Overwater Impacted Seagrass - **241 MgC Ha⁻¹ x 2.5Ha = 604.5 MgC OR T Carbon** – This estimated ton of carbon for the 2.5 Ha is then multiplied by the proxy prices (SCC and Market Price). Carbon Price is usually represented per T (aka T⁻¹) per Dollar per annum.

Unless there was a typo in transferring the data I am not sure what they are referring to.

The discussion above about CO₂ equivalent is just for broader context and as such has nothing to do with the price calculations.

To minimize confusion the Row Label - Table 7.2. will be changed from from “**Average**” Carbon Stock to “**Estimated**” Carbon Stock.

Comment:

The value transfer approach is reasonable but uses global and regional data. The valuation would be more robust if site-specific or fisheries data from local studies or stakeholder consultations were used.

Response:

There is a difference between site specific economic information (direct use and provisioning values such as fisheries sales) vs broader Natural Resource Economic Valuation which includes some of the direct values but mostly nonmarket values which are either estimated through empirical analyses (travel cost or contingent choice) or value/benefit transfer. The former which is prohibitively expensive for a comparatively small project site. (\$250,000 to \$450,000 USD for a study that might take a year plus to develop and implement). This is why the use of value transfer is appropriate in this context. See also comments below. What is more appropriate is a repeat or updated national coastal ecosystem natural resource valuation study that allows for full coverage of the island which might then allow for a per unit extrapolation – depending on the method used for the study, that regulatory agencies could use to inform decision-making. I recommend NEPA referring to the WRI Guidebook for Valuation Practitioners (Waite et al 2014) that outlines the various ways ecosystem valuation can be used in data poor situations. <https://www.wri.org/initiatives/coastal-capital-economic-valuation-coastal-ecosystems-caribbean>

Comment:

While the recreational and coastal protection services of coral reefs are described, their valuation is not directly tied to the project site. The report should instead state how the estimates relate specifically to the Montego Bay area and the proposed development’s impacts.

Response:

Site specific economic values for a small site such as the project site are not feasible or appropriate given the methods for estimating values. The purpose of Benefit and Value transfer is to use reasonable proxy values to inform decision making. Some of the values cited were based on Jamaican specific estimates (Edwards 2009 and Kushner et al 2011) that gave estimates for coral reef values important for Jamaica's tourism product namely on the countries north coast. In a sense the Jamaican estimates are highly relevant to the Montego Bay beach tourism recreational values estimated in those studies. The main difficulty is the unfeasibility and excessive cost of assigning a specific per unit area estimate for the specific coastal ecosystems at the site because of the aggregate approach of consumer surplus estimates. The studies referenced had a valuation context of "Jamaica's coral reefs" primarily tourism areas but more broadly speaking. These points were highlighted in the discussion section of the report. Namely *"It is theoretically and professionally inappropriate to assign per unit values coral colonies that are demonstrable not performing services that can be reasonably valued as such a small unit area."*

Similarly, the coastal fisheries estimates are admittedly based on global estimates. It would have been possible to assess if there was/is existing fishing activity at the reef offshore the property and the estimated catch by fishers. If the socio-economic assessment of the EIA includes qualitative or quantitative information from fishers and their livelihoods it could be included in the discussion. However, these catches (or losses due to construction and operation) would have to be tied directly to the reef areas. This is also likely to be very difficult for a near shore patch reef that is associated with the hotel.