



ENVIRONMENTAL AUDIT
COASTAL DEGRADATION - GUNN HILL

LESSONS-LEARNED REPORT



June 2019

**COASTAL DEGRADATION - GUNN
HILL**

This is a Report of an Environmental
Audit conducted by the Office of the
Auditor General

Marsha V E Meade
Auditor-General (Acting)
Office of the Auditor General
17 June 2019

PREAMBLE

Vision Statement

“To be a proactive Supreme Audit Institution that helps the nation makes good use of its resources”.

Mission Statement

“The OAG is the national authority on public sector auditing issues and is focused on assessing performance and promoting accountability, transparency and improved stewardship in managing public resources by conducting independent and objective reviews of the accounts and operations of central government and statutory agencies; providing advice; and submitting timely Reports to Accounting Officers and the Legislative Assembly”.



The Goal

“To promote staff development, enhance productivity, and maintain a high standard of auditing and accounting in the public sector, thereby contributing to the general efficiency and effectiveness of public finance management”.

Contents

PREAMBLE.....	3
Vision Statement.....	3
Mission Statement.....	3
The Goal.....	3
ENVIRONMENTAL AUDIT ON COASTAL DEGRATION – GUNN HILL	5
Background & Brief Description of Gunn Hill.....	5
Review Objective, Scope, Methodology & Standards Used	6
Key Success Highlighted.....	7
Key Losses, Impacts or Shortcomings Resulting from Removal.....	7
Lessons-Learned.....	10
Recommendations.....	11

**ENVIRONMENTAL AUDIT ON COASTAL DEGRADATION – GUNN HILL
LESSONS-LEARNED REPORT**

Description and Key Lessons-Learned	
<p>Background & Brief Description of Gunn Hill</p>	<p>The Government of Montserrat engaged Halcrow Group Ltd in 2013 to design a proposed port and produce an Environmental Impact Assessment (EIA) for the development of a Port Facility at Carr’s Bay. A key decision stemming from the proposed development was the need to remove Gunn Hill to make way for the new port.</p> <p>Gunn Hill was in the lower Collins Ghaut River Valley near Carr’s Bay on the north-western flanks of the Centre Hills between the Silver Hills and Centre Hills volcanic centres. The coastline was classified as rocky coastal cliff. These cliffs are a common feature of the Montserrat coastline, comprising 32km or 71% of the coastline.</p> <p>The Planning and Development Authority (PDA) requested that an environmental screening note be provided in support of the Government of Montserrat’s (GOM’s) decision and application to remove Gunn Hill which was completed in April 2013. It was reported that following the application of this screening exercise, in conjunction with a site assessment by the Department of Environment and consultations with representatives of the Public Works Department, it was confirmed that the project to remove Gunn Hill was unlikely to have significant effects on the environment.ⁱ</p> <p>The removal of Gunn Hill was procured and contracted within the Ministry of Finance and Economic Management (MOFEM). The MOFEM contracted Selsi Limited for the removal of Gunn Hill. The area was reduced from an altitude of between 31.5 – 45.7m at its highest point to 4.0m as shown below.</p> <div style="display: flex; justify-content: space-around;">   </div>



(Photo Credit: The Montserrat Reporter, 2013)

The southern part of the hill was sloped up at a 1 in 2 slope to blend in with the existing hill adjacent to the prison facility. During the excavation/removal an estimated 86,000m³ of primarily coarse grain material and boulders were removed. The bulk of the material was transported to Little Bay and was used as general fill at various sites.

Review Objective, Scope, Methodology & Standards Used

In April 2016, an article published by Mr John “Capt. Johnnie” Howes stated “Since Gunn Hill was first cut down, slowly bit by bit the ocean waves have been eroding that area, and as the sand is being harvested, it is undermining the shore line, by about some fifty plus feet.”ⁱⁱ This and other concerns, visual of the ongoing erosion and some preliminary work conducted showed that there was a clear public interest for the Office of the Auditor General to conduct a review of the impact on the beach and coastline and the road and bridge infrastructure adjacent to the base of the hill.

An environmental audit is an assessment of the condition of the environment, or the nature and extent of harm (or risk of harm) posed by an industrial process or activity, waste, substance or noise.

Our objective of this review was to determine whether the removal of Gunn Hill has had any significant impact on coastal areas or infrastructure in accordance with the Conservation and Environmental Management Act 2014.

The audit was performed from March to August 2018 and reviewed all activities performed by the Ministry of Finance and Economic Management (MOFEM), Ministry of Agriculture, Trade, Lands, Housing and the Environment (MATLHE), and Ministry of Communications, Works, Energy and labour (MCWEL) from 2013 to 2018. To accomplish the audit objective, we:

	<ul style="list-style-type: none"> • reviewed applicable laws and regulations related to environmental aspect on the removal of land. • reviewed documents submitted by Ministries & Departments and literature review relating to coastal erosion. • held discussions with key Ministries and Departmental officials to determine actions taken prior to, during and after the removal/remodelling or to identify and or mitigate risks or negative impact. • held discussions with key stakeholders such as Business Owners, Environment Specialist, Citizens and Residents of Carr’s Bay. <p>We conducted this environmental audit in accordance with International Standards for Supreme Audit Institutions (ISSAI) 5110 and 5120 relating to Environmental Auditing. Those standards require that we plan and perform the audit to obtain sufficient, appropriate evidence to provide a reasonable basis for our findings and conclusions based on our audit objectives.</p> <p>They also require us to provide assurance that the government activities are conducted in accordance with relevant environmental laws, standards and policies, both at national and international level. Since our review was limited due to lack of expected documentation, it was not possible to disclose all the positives or deficiencies that may have existed at the time of our review.</p>
<p>Key Success Highlighted</p>	<p>Multiple colonies of endangered coral species were discovered prior to the excavation of Gunn Hill. A project was implemented to relocate corals approximately 4.5km south of the excavation site. A total of 1,295 new coral colonies were created on an artificial reef system.ⁱⁱⁱ</p>
<p>Key Losses, Impacts or Shortcomings Resulting from Removal</p>	<p>Our research revealed that MOFEM was the lead Ministry on the project to remove Gunn Hill with very little input from key stakeholders – MCWEL, MATLHE, the Montserrat National Trust and others at the onset. This further highlighted that there is a clear need to ensure the establishment of the National Conservation and Environmental Advisory Council as stipulated in Section 6 of the Conservation and Environmental Management Act 2014.</p> <p>The initial EIA undertaken did not address the impact on the environment at the conclusion of each phase of the construction/implementation. The EIA</p>

recommended that monitoring be conducted and supplementary plans be prepared. We found no evidence of monitoring of the EIA and no Environmental Management Plan (EMP) was put in place. The EMP is usually derived from the EIA, implemented by the contractor and is monitored by the regulators i.e. the Department of the Environment whose mandate it is to preserve and protect the environment.

We found that beyond the screening note developed by the Department of Environment, the involvement of this department, MCWEL and the Montserrat National Trust was minimal.

Gunn Hill's removal had immediate adverse effects such as loss of scenic quality, loss of resilience to storm attack and reduction of sediment supply to the coast. To date, no man made coastal landscape was created as a result of the discontinuation of the port development project.

Medium term effects including beach narrowing and loss of sediment as a result of the openness to wave action.

The coastal area is more open and accessible resulting in increased fishing activity where a drowning occurred in recent years.

Discontinuation of the port development opens nearby infrastructure – roads, bridge and business owners to greater risk of flooding in the absence of the hill.

The appearance of sinkholes in and around the site highlighted the danger of using the area for fishing or increased dumping of soil, derelict items and vehicles and boulders. The constant dumping of soil and boulders is adding some protection to the area in the event of high waves according to officials we interviewed; however, loose materials can be easily moved during strong wind and heavy rains, thereby creating potential problems for nearby infrastructure.



(Photos: Captured by Auditor – May 10th, 2018)

- Extraction of a significant portion of Gunn Hill has weakened the superstructure; there is also evidence of landslides to the south of the hill and continuous separation or further break off of the cliff's edge.
- Existing caves on the north western and south sides have eroded further inland and there is the risk that the base will collapse with the various activities occurring on it.



(Photo Credit: Adrian Ryan, N&B Servicentre)

Ongoing mining of significant amount of sand using excavators also threatens the possibility of further erosion to the base and the infrastructure that was previously being protected by the natural landscape before its removal. Many times this activity has occurred without the knowledge of key government officials including the Permanent Secretary, MATLHE. Beach Protection Act Section 3(1) highlighted that it's a criminal offence for anyone to use a motor vehicle to remove sand from any beach without a written permit issued by the Permanent Secretary to the Minister responsible for beach protection matters. Anyone in contravention of this condition is liable to a fine of \$2,000 or 3 months imprisonment.

There are a number of watercourses or channels that require dredging throughout the year to ensure water flows easily and prevent excessive blockage which may cause flooding to nearby infrastructure(s). The Physical Planning Act requires written planning permission from the Planning and Development Authority before any watercourse or channel is dredged. However, it was reported that this opportunity is used to also excavate sand throughout the year. There has been considerable public interest in the removal of sand especially from the Carr's Bay area which is considered to be a direct violation to the Laws of Montserrat and damaging of the said beach and other beaches.



(Photo Credit: Discover Montserrat)

- Loss of revenue as a result of compensating the contractor for the removal of Gunn Hill with no way of making a return on the investment.

Lessons-Learned

As in past infrastructure developments on Montserrat, we have seen a recurrence of some major projects not reaching their final stages of implementation. **The EIAs conducted in the past and the one undertaken for the proposed port development at Carr’s Bay did not address the impact on the environment should the project cease at any point in the process or at the end of each critical phase.**

The environmental impact of the removal of Gunn Hill is not seen as an immediate priority and discussions have highlighted that it’s a forgotten issue by some Government Officials. Fortunately, we have not had a significant storm that reveals the extent of damage that can be caused as a result of the removal of Gunn Hill and excessive sand. This was further reiterated by Alfred “Murphy” Edwards in September 2018, “I have been living here for over 44 years and whenever the south seas come during a storm/hurricane or really rough waters I can feel the earth vibrating from the pounding of the water against Gunn Hill. Could you imagine what is going to happen now that the Hill is gone? So far, we have been spared but we must prepare for it because we will not escape forever.”

The removal of Gunn Hill and the **discontinuation of planned development in the area have resulted in the need for GOM to ensure coastal protection, which is an unforeseen expense.** The plans for a port development did not materialise; therefore funds must now be ring-fenced to ensure coastal protection. This should be a priority to provide funding for preventative measures (a) against further erosion and (b) reduce the impact of devastation from potential storms.

	<p>Additionally, the presence of an abundance of sand helps to compact and support under Gunn Hill and the mining of sand then allows the waves easy access to further erode the coastline and under the caves.</p> <p>There should be no hesitation in abandoning a project or a process at an early stage or in proposing alternatives to any project that would have a very detrimental impact on the environment. Where there is a clear indication that additional funding will not be granted for project completion, then officials should refrain from commencing major project works as no value would be obtained for the initial monies expended.</p>
<p>Recommendations</p>	<ul style="list-style-type: none"> • We are recommending that those entities delegated with the technical and legal mandate for delivering major project development should be the ones that lead and manage in order to alleviate or minimise potential environmental impact. • Greater collaboration between key stakeholders such as the MOFEM, MATLHE, MCWEL and the Montserrat National Trust when engaging in similar project development. • GOM should request that every project/proposed development requiring an environmental impact assessment must include a section on the impact on the environment at the end of each critical phase of the project if it were discontinued. • GOM should ensure that it has agreed alternate sources of financing to cover the full cost of a project before commencing projects of such nature or magnitude. • As part of its decision-making process, GOM should ensure that the true cost or the environmental impact of abandoning a project mid-stream is examined before a decision is taken. • Corrective measures will require an injection of capital funds coupled with continuous funds for scheduled maintenance from the MOFEM to enable recommendations made below to materialize. • In view of the monies invested in the reconstruction of the Carr’s Bay Bridge, some thought should be given by MATLHE with support from MCWEL to conducting restoration work at the Gunn Hill site to reduce the potential negative impact of erosion on this infrastructure. • A capital project request or programme of works submission should be made by MATLHE for the installation of hard and or soft structures for coastal protection – stabits, seawalls or rock revetments at the base of

	<p>Gunn Hill.</p> <ul style="list-style-type: none"> • MATLHE to ensure the cessation or the minimisation of significant sand mining in the Carr’s Bay area. • MATLHE to ensure the cessation of adhoc dumping of material on the base of Gunn Hill and replace this activity with strong and secured formation of boulders and compacting dumped material to improve the scenic view whilst strengthening the base. • Finally, MATLHE should erect adequate signage in the area and undertake some degree of education and awareness to warn persons of the various dangers to prevent GOM being held liable should an incident occur.
--	--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------

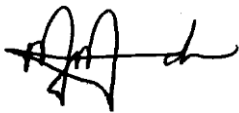
ⁱ Remodelling of Gunn Hill, Environmental Screening Note – Prepared by Gerard a L Gray, Director of Environment April 2013

ⁱⁱ Collapse of Gunn Hill, Written by Mr John “Capt. Johnnie” Howes, The Montserrat Reporter, 29 April 2016

ⁱⁱⁱ Gunn Hill Coral Relocation Project, Progress Report – Montserrat Reef Project, Caribbean Marine Projects, Scuba Montserrat, July 2014

Special thanks to Senior Government of Montserrat Officials and Technicians at the MCWEL, MATLHE and MOFEM and to the External Interviewees for their contributions especially:

Mr Alfred “Murphy” Edwards
Mr John “Captain Johnnie” Howes
Mr Julian Romeo
Ms Candia Williams
Mr Nick Ryan
Mr Adrian Ryan



Marsha V E Meade
Auditor-General (Acting)
Office of the Auditor General
17 June 2019