

REPORT
on the
Lagoonal Monitoring in the region of Port Louis
from
Baie du Tombeau to Pointe aux Sables

(January 2021 - December 2024)

The Ministry of Environment, Solid Waste Management and Climate Change
(Environment and Climate Change Division)

in Collaboration with

The Ministry of Agro-Industry, Food Security, Blue Economy and Fisheries
(Blue Economy and Fisheries Division)

The Ministry of Health and Wellness

The Ministry of Energy and Public Utilities

(Water Resources Commission

Central Water Authority

Wastewater Management Authority)

Ministry of Local Government

(The City Council of Port Louis

and

The District Council of Pamplemousses)

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List of Acronyms

AFRC	Albion Fisheries Research Centre
CFU	Colony Forming Unit
CWA	Central Water Authority
CSO	Central Statistics Office
CWQG	Coastal Water Quality Guideline
EC	European Commission
EPZ	Export Processing Zone
EU	European Union
FC	Faecal Coliforms
GAD	Government Analyst Division
GRNW	Grand River North West
IAEA	International Atomic Energy Agency
MAIFSBEF	Agro-Industry, Food Security, Blue Economy and Fisheries (Blue Economy and Fisheries Division)
MOHW	Ministry of Health and Wellness
NEL	National Environmental Laboratory
NHDC	National Housing Development Corporation
TC	Total Coliforms
WMA	Wastewater Management Authority
WRC	Water Resources Commission
WWTP	Wastewater Treatment Plant

SN	ABBREVIATION	STUDY SITE/STATION IN THE REGION OF PORT LOUIS
1	BTB1	Mouth of Rivulet Terre Rouge
2	BTB2	Nassau Bay
3	BTB3	Near Clinique du Nord
4	BTB4	Pointe Roches Noires
5	BTB5	Near Fish Landing Station Baie du Tombeau
6	B1	Bain Des Dames Opposite La Grotte
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15	PS4	100 metres north of Public beach Pointe aux Sables
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17	PS6	La Pointe, Pointe aux Sables
18	PS7	Near Prison Petit Verger, Pointe aux Sables
19	RTR01	Rivulet Terre Rouge, Terre Rouge Bridge St Croix
20	RTR02	Rivulet Terre Rouge, Baie du Tombeau Bridge
21	RL Y01	River Labourdonnais at Calebasses bridge
22	RC Y02A	River Calebasses at Calebasses
23	RT03	River Tombeau, Arsenal

SN	ABBREVIATION	STUDY SITE/STATION IN THE REGION OF PORT LOUIS
24	RS W01	River Sèche at Allée Brilliant
25	RPW W03	River Plaine Wilhems, at Trianon
26	RCD W05	River Cascade, Réduit
27	RP W08	River Profonde at le Bocage
28	RM W26	River Moka at Mt Ory
29	RM W28	River Moka, Baptiste (Petit Verger)
30	GRNW MD01	GRNW Municipal Dyke at CWA Treatment Plant, Pailles

EXECUTIVE SUMMARY

Following the report of former Judge J. Forget on lagoon pollution from Baie du Tombeau to Pointe aux Sables, Government decided in December 2000, to ‘*take measures to ascertain whether there were any health risks through bathing or consuming seafood caught in the lagoon of Port Louis*’.

A monitoring committee was set up under the Chairmanship of the Director of Environment to check the quality of the bathing water and the quality of food fished from the lagoon. A first report was produced in June 2002 and recommended the following:

1. No swimming should be undertaken as from 700 metres north of the public beach of La Pointe up to 100m northwards of Clinique du Nord until further notice.
2. There should be no restriction for human consumption of fish caught from the lagoon in the study area; and

For the medium term, it was also recommended that:

1. All households of the region should be connected to the sewer network;
2. All effluent discharge should comply with the relevant standards. The wastewater must be treated to such a level that the effluent meets the standards for discharge of treated effluent into the ocean;
3. Continuous monitoring should be undertaken in the study area to obtain long term trends in the quality of the sea water. Human resources, laboratory equipment and other logistics should be provided to the laboratories for the long-term monitoring.

Further to the submission of the first report in June 2002, monitoring of the various stations was continued from year 2003 to 2020 and 15 reports were submitted.

The main findings for monitoring period January 2021 to December 2024 and interim findings for 2025 (January – August 2025) were as follows:

(i) Coastal Water Quality from Baie du Tombeau to Pointe aux Sables

Continuous monitoring of coastal water quality from Baie du Tombeau to Pointe aux Sables for microbiological parameters namely, Total Coliforms and Faecal Coliforms was undertaken by Albion Fisheries Research Centre. The test results were compared to the Coastal Water Quality Guidelines (Primary Contact) of GN No. 620 of 1999. The annual percentage compliance, in

accordance with the above guidelines, should be greater or equal to 80% for good water quality as per Barell et al (2000), Microbiological Standards for water and their relationship to health risk.

- a) In 2021, the levels of Total Coliforms and Faecal Coliforms in coastal water did not comply with Coastal Water Quality Guidelines at mouth of Rivulet Terre Rouge, Baie du Tombeau (17% annual compliance), Cite Debarcadere and Public beach La Mare Samson at Pointe aux Sables (33% annual compliance), Bain des Dames (33% annual compliance) and Sables Noir (67% annual compliance). The low annual percentage compliance indicates poor water quality at the above stations.
- b) From 2022 to 2024 (three last consecutive years), annual percentage compliance for Total Coliforms and Faecal Coliforms in accordance with Coastal Water Quality Guidelines, were generally above 80% in coastal water from Baie du Tombeau to Pointe aux Sables, indicating improved water quality as compared to previous years.
- c) The preliminary findings for the year 2025 are as follows:
 - Baie du Tombeau: Single-date exceedances on 16 April, notably Station 2 near the bird sanctuary
 - Bain des Dames: Single-date exceedances on 8 May at Stations 1 and 3, suggesting an event that affected multiple points simultaneously.
 - Pointe aux Sables / Sable Noir: Recurrent exceedances, particularly Faecal Coliform, across multiple dates at Pointe aux Sables Stations 2a and 7; Total Coliforms and Faecal Coliforms on 29 April at PS Stations 2 and 2a, and Total Coliforms and Faecal Coliforms events at Sable Noir on two dates. This is the most persistent hotspot area.

(ii) Fish Quality from Baie du Tombeau to Pointe aux Sables

Monitoring of fish quality from Baie du Tombeau to Pointe aux Sables for nine trace metals was conducted by Government Analyst Division (GAD) in collaboration with Albion Fisheries Research Centre. Test results were compared with 7th Schedule of Food Regulations GN 173 of 1999 of the Food Act 1998 and Regulation 63 of Food Regulations 2024.

- a) The quality of fish analysed in 2022, 2023 and 2024 complied with the following food regulations:

- trace metal components as per Maximum permitted proportion (ppm) of metal contaminants as per 7th Schedule of Food Regulations GN 173 of 1999 of the Food Act 1998 within the study area.
 - Regulation 63 of Food Regulations 2024.
- b) The results of fish analysis indicate that the fish in the region from Baie du Tombeau to Pointe aux Sables are fit for human consumption.
- c) Procurement of fish specimens for submission to GAD is in due course.

(iii) River Water Quality of three main rivers discharging in the region of Port Louis

Continuous monitoring of water quality in three main rivers discharging in the region of Port Louis, namely, Grand River North West, Rivulet Terre Rouge and River Tombeau for Total Coliforms and *E.coli* was undertaken by the National Environmental Laboratory. In the absence of established guidelines for *E. coli* in the Mauritian Guidelines for Inland Surface Waters Quality, *E. coli* results were compared with Guidelines for European Union Directives 2006/7/EC for Inland Waters (1000 cfu/100 ml for good water quality). There are no guidelines for Total Coliforms. The annual percentage compliance, in accordance with the above guidelines, should be greater or equal to 80% for good water quality as per Barell et al (2000), Microbiological Standards for water and their relationship to health risk.

- a) For water quality of GRNW discharging into the sea, the level of *E.coli* complied with Guidelines for European Union Directives 2006/7/EC for Inland Waters (above 80% annual compliance), indicating good water quality in the river.
- b) The *E.coli* levels did not comply with above guidelines in Rivulet Terre Rouge and River Tombeau. In 2023 and 2024, the annual percentage compliance was 0% and 25% for Rivulet Terre Rouge and River Tombeau respectively, indicating poor water quality in both rivers. The sources of contamination in these rivers may be attributed to surface run-off from animal rearing farms, agricultural areas, seepage of wastewater from faulty septic tanks and absorption pits from residential areas.
- c) Although, a high bacterial load was noted in Rivulet Terre Rouge and River Tombeau, the analytical data for seawater quality showed a general 80% compliance with the Coastal Water Quality Guidelines for Total Coliforms and Faecal Coliforms, this may be attributed to dilution, salinity and tidal mixing, which reduce bacterial survival in the marine environment. (Interim result

(iv) Household connection to sewer network in the region of Baie du Tombeau to Pointe aux Sables

As at the latest census data (Statistics Mauritius, 2022), the household connection to sewer network are as follows:

- a) Baie du Tombeau: 87.5%
- b) Pointe aux Sables: 40.9%
- c) Bain des Dames and Sable Noir: 68.7%

(v) Quality of treated effluent at Baie du Tombeau and Montagne Jacquot Wastewater Treatment Plants

- a) The monitoring results for period 2021 to 2024 indicate a general improvement in quality of treated effluent discharged into the Ocean at Baie du Tombeau and Montagne Jacquot outfalls compared to previous years.
- b) The coastal water quality results at Baie du Tombeau and Pointe aux Sables indicate that there is a good flushing at the respective sewage outfalls and no indication of coliform contamination at the shore.

Based on the above findings, the Committee is proposing the following recommendations:

- (a) There should be no restriction for human consumption of fish caught from the lagoon in the region of Pointe aux Sables to Tombeau Bay in view that the samples of fish analysed from the years 2022 to 2024 complied with the Food Regulations 2024;
- (b) No swimming should be undertaken as from Pointe aux Sables Police Station up to 100 metres northwards of Nassau Bay in Tombeau Bay, until further notice;
- (c) The Wastewater Management Authority should pursue its commitment to connect all households of the region to sewer network. Priority consideration should be given for all household connections in the area of Pointe aux Sables, Bain des Dames and Tombeau Bay (along Rivulet Terre Rouge areas), and to households in areas within the catchment of Grand River North West, including Allée Brillant, Rivulet Terre Rouge and River Tombeau;

- (d) The Ministry of Local Government, through local authorities, should ensure and enforce that no wastewater is being discharged into storm water drains and rivers;
- (e) Local authorities should ensure that all new constructions comply with the conditions under the Building and Land Use Permit issued;
- (f) The Ministry of Environment, Solid Waste Management and Climate Change, the Ministry of Energy and Public Utilities, the Ministry of Health and Wellness, Ministry of local Government, including District Councils of Pamplémousses and Moka and the concerned Municipal Councils, should also consider investigating whether there are other potential sources of any contamination in the region of Rivulet Terre Rouge, River Tombeau, River Labourdonnais and River Seche at Allée Brilliant and ensure that such contamination is mitigated;
- (g) The enforcement capability of the National Environmental Laboratory, Government Analyst Division, Albion Fisheries Research Centre and the Wastewater Laboratory, and logistics of Enforcing Agencies as per the Environment Act 2024 should be adequately reinforced;
- (h) The integrity of natural drains, rivulets and rivers should be maintained. The drains, rivulets and rivers should not be lined in concrete so as to allow for natural biological (natural treatment of pollution) and physical processes (flooding control);
- (i) The monitoring under the project 'Lagoonal Monitoring in the region of Port Louis' be maintained by the National Environmental Laboratory, Government Analyst Division, Albion Fisheries Research Centre and the Wastewater Laboratory;
- (j) Local authorities should ensure that any proposed development shall comply with the provisions of the Forests and Reserves Act (1983) and the Rivers and Canals Act (1863), where all infrastructures to be erected near a river, shall observe a setback; and
- (k) each enforcing agency should conduct awareness on environmental stewardship and discourage illegal sewage discharge from households and animal husbandry in the study region.

1 INTRODUCTION

1.1 Background of study

In May 2000, following an agreement with *l'Association des Pêcheurs de Port Louis*, the Government of Mauritius decided to set up a committee with regards to pollution in the lagoon of Port Louis. The committee constituted of Jocelyn Forget, ex-Chief Justice as Chairman, Mr. Jack Bizlall, trade Unionist and Mr. Dhaneshwar Ghoorah, Divisional Scientific Officer of the Ministry of Fisheries as assessors with the aim to look into:

1. (a) The origin and extent of industrial pollution in the lagoon of Mauritius, in the first instance, the lagoon of Port Louis from Baie du Tombeau to Pointe aux Sables.
(b) The compensation payable to those fishermen as a result of such pollution.
2. To propose measures to be undertaken to rehabilitate the lagoon around Mauritius.
3. To propose a package of incentives and appropriate measures for the promotion of artisanal fishery as it is carried out in the state of Mauritius.

Further to report submitted in December 2000, Government took the decision to verify health risks associated with bathing and seafood consumption. Therefore, an Inter-Ministerial Committee was set up under the chairmanship of the Director of Environment on 22 December 2000.

An action plan was prepared in report 2002 to assign the responsibility of the analysis of sea water and fish to different government laboratories as shown below:

Analysis to be carried out	Governmental Laboratories	Region to be Covered
Determination of Total and Faecal Coliforms in water	Albion Fisheries Research Centre (AFRC)	Pointe aux Sables/ Sable Noir/ Baie du Tombeau
Determination of Physico-chemical characteristics of water	National Environmental Laboratory (NEL)	Pointe aux Sables/ Bain des Dames/ Baie du Tombeau
Determination of Total and Faecal Coliforms	Waste Water Laboratory (WMA)	Port area Bain des Dames
Heavy metals in fish samples	Ministry of Health and Quality of Life	Pointe aux Sables to Baie du Tombeau
Coliforms in Fish samples	Ministry of Health and Quality of Life	Pointe aux Sables to Baie du Tombeau

Over the years, the action plan was modified as follows:

- i. The monitoring of port area was discontinued as from April 2001 as public recreation and fishing is prohibited in that area.
- ii. WMA has discontinued monitoring at Bain des Dames due to closure of the Bain des Dames outfall. The monitoring was continued by AFRC as from 2019.
- iii. NEL has been given responsibility to monitor rivers namely Rivulet Terre Rouge, GRNW and River Tombeau discharging in these regions in view to assess impact of land-based activities on the lagoon water as from August 2006. It is to be noted that monitoring of river water quality at River St Louis was carried out from year 2013 to year 2014. Same was discontinued in 2015 due to inaccessibility of sampling sites.
- iv. As from 2019, the Ministry for Fisheries is carrying out collection and analysis of seawater samples at all sites. Samples of fish were analysed for the period 2001-2004, 2017, 2018, 2022 to 2024 by the Ministry of Health and Wellness.

Since 2002, monitoring at the various stations have continued and 15 lagoonal monitoring reports have been submitted. Government was frequently apprised of the findings of the reports.

1.2 Main recommendations of previous reports

The two main recommendations of the reports from year 2002 to year 2020 were:

1. No swimming should be undertaken as from 700 metres north of the public beach of La Pointe up to 100m northwards of Clinique du Nord until further notice. **This recommendation was maintained until year 2009 whereby the committee recommended:**

No swimming should be undertaken as from 700 metres north of the public beach of La Pointe up to 100m northwards of Nassau Bay (as compared to 100 m from Clinique du Nord in 2002) until further notice.

2. There should be no restriction for human consumption of fish caught from the lagoon in the study area.

For medium term it was recommended that:

- 1) All households of the region should be connected to the sewer network;

- 2) All effluent discharge should comply with the relevant standards; As from year 2004, the committee has recommended that the wastewater must be treated to such a level that the effluent meets the standards for discharge of treated effluent into the ocean;
- 3) Continuous monitoring should be undertaken in the study area to obtain long – term trends in the quality of the sea water. Human resources, laboratory equipment and other logistics should be provided to the laboratories for the long-term monitoring.

1.3 Findings of previous report- 2019/2020

Government was on 09 September 2022 apprised on the last report of the lagoonal monitoring in the region of Port Louis covering the monitoring period of January 2019 to December 2020.

Based on the results of seawater and river quality analysis undertaken from January 2019 to December 2020, the Monitoring Committee has reiterated the following recommendations -

- (i) no swimming be undertaken from Pointe aux Sables Police Station up to 100 metres northwards of Nassau Bay until further notice;
- (ii) all households of the region be connected to the sewer network as far as possible, with priority to households in Pointe aux Sables, Bain des Dames and Baie du Tombeau (along Rivulet Terre Rouge areas) and those within the catchment of Rivulet Terre Rouge, River Tombeau and Grand River North West, including Allée Brillant and Trianon;
- (iii) treatment of the wastewater in the region to comply with the standards for treated effluent prior to being discharged into the ocean;
- (iv) maintaining the monitoring of the quality of the seawater from Baie du Tombeau to Pointe aux Sables;
- (v) ensuring that no wastewater is being discharged into storm water drains by the Ministry of Local Government and Disaster Risk Management, through the Local Authorities and the Road Development Authority;
- (vi) to make sure by the Municipal City Council of Port Louis as well as the District Councils of Pamplemousses and Moka that all new constructions comply with the Building and Land Use Permits being issued;
- (vii) to maintain the integrity of natural drains, rivulets and rivers of the region as same should not be lined with concrete with a view to allowing for natural biological (natural treatment of pollution) and physical processes (flooding control);

- (viii) investigation by officers of the Ministry of Health and Wellness and Local Authorities as whether there are other potential sources of contamination in the area (e.g. illegal discharges / dumping) and to ensure that such contamination is mitigated;
- (ix) enhanced monitoring and enforcement of Enforcing Agencies under the Environment Protection Act 2002 with adequate human resources and laboratory equipment; and
- (x) conduct of an in-depth study on the levels and toxicity of Arsenic in lagoonal fish around the island by the Ministry of Health and Wellness to ensure that the consumption of lagoonal fish is not adversely impacting on human health.

1.4 Present Study

Continuous monitoring in the region of Baie du Tombeau to Pointe aux Sables were maintained from 2021 to 2024. The monitoring covered seawater quality in the lagoon and near sewage outfalls, river water quality of three main rivers in the region and fish water quality by the following governmental laboratories.

1.4.1 Monitoring laboratories, parameters analysed and standards/ guidelines

In year 2021 to 2024 monitoring of seawater, river water and fish samples were conducted by the AFRC, the NEL and the GAD as tabulated below.

Table 1: Monitoring laboratories, parameters analysed and standards/ guidelines used

SN	Monitoring	Laboratory	Activities	Parameters	Guidelines and Standards used
1	Seawater quality	AFRC	-Sampling and analysis of seawater -Sampling of fish	- Total Coliforms - Faecal Coliforms	-Coastal Water Quality Guidelines, (CWQG) of GN No. 620 of 1999 -Percentage compliance as per Barell et al (2000), Microbiological Standards for water and their relationship to health risk.

SN	Monitoring	Laboratory	Activities	Parameters	Guidelines and Standards used
2	River water quality	NEL	Sampling and analysis of river water	- Total Coliforms - <i>E. coli</i>	-Guidelines for EU Directives 2006/7/EC for Inland Waters (1000 cfu/100 ml for good water quality) -Percentage compliance as per Barell et al (2000), Microbiological Standards for water and their relationship to health risk.
3	Fish quality	GAD	Analysis of fish	- Arsenic - Cadmium - Copper - Mercury - Lead - Selenium - Antimony - Tin - Zinc	-7 th Schedule of Food Regulations GN 173 of 1999 of the Food Act 2022. - Food Regulations 2024

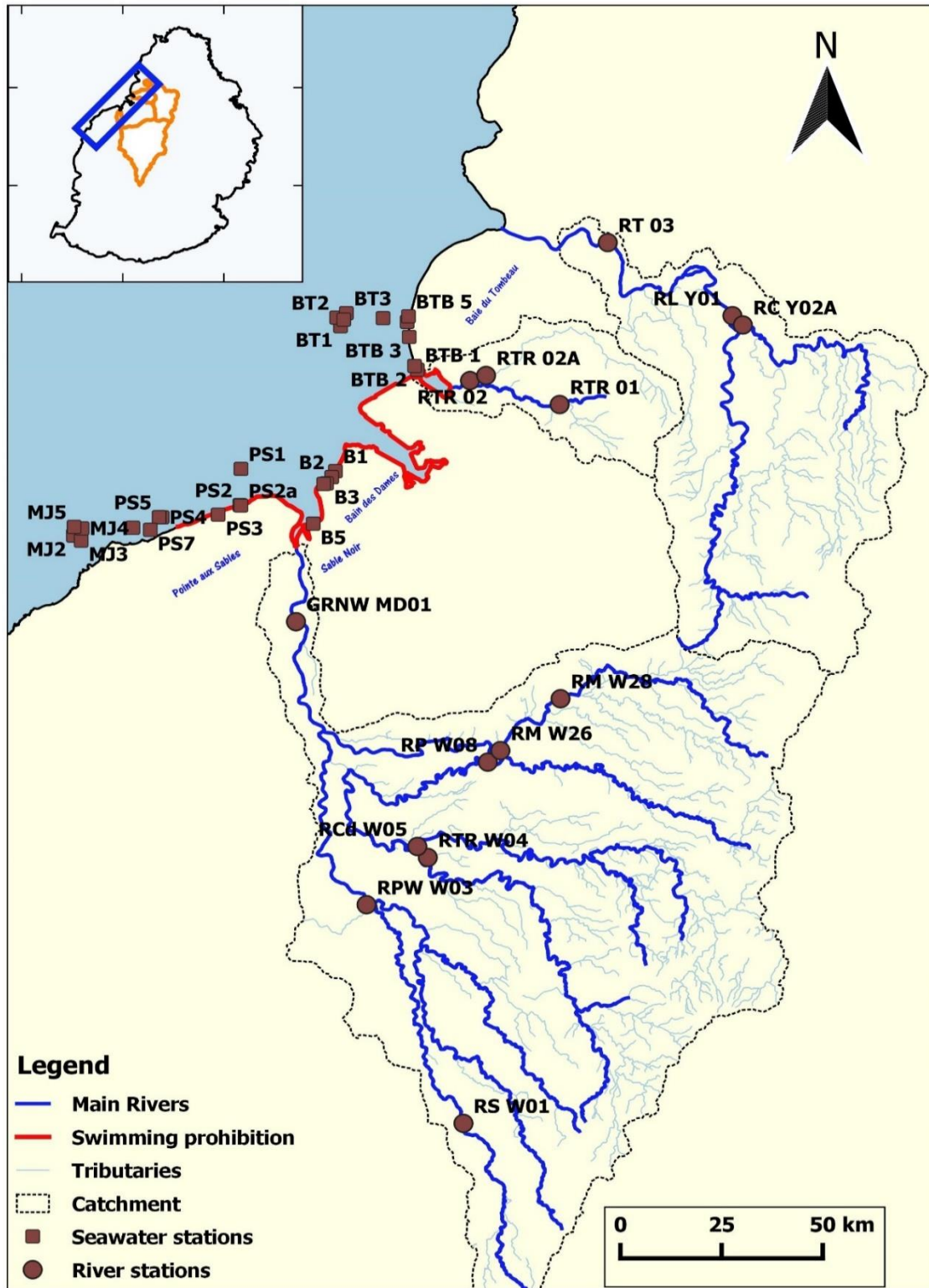
The microbiological parameter *E. coli* serves as an indicator for assessing the quality of river water according to the guidelines set by the European Union (EU). In the absence of established guidelines for *E. coli* in the Mauritian Guidelines for Inland Surface Waters Quality, *E. coli* results for river water was compared with Guidelines for EU Directives 2006/7/EC for Inland Waters (1000 cfu/100 ml for good water quality). There are no guidelines for Total Coliforms.

Faecal coliform bacteria, which includes *E. coli* originating from faecal matter, along with other bacteria potentially derived from sources such as soil, are taken into consideration. The presence of both total coliform and faecal coliform bacteria adheres to the standards established for coastal water quality in Mauritius. Total coliform bacteria can indicate the potential contamination originating from land sources.

Monitoring for seawater and river water is carried out in a monthly basis and the annual percentage compliance should be greater or equal to 80% for good water quality as per *Barell et al* (2000), Microbiological Standards for water and their relationship to health risk.

2 MONITORING SITES

In this study, seawater quality and fish quality were monitored in four lagoons from Baie du Tombeau to Pointe aux Sables. River water quality in three main rivers discharging in the bay of Port Louis namely Rivulet Terre Rouge, River Tombeau and GRNW were also monitored.



Map 1: Showing study sites and sampling stations for seawater and river water

2.1 Seawater Quality

A total of 160 sampling surveys were effected from 2021 to August 2025.

Seawater samples were collected from eighteen (18) sampling stations in the lagoon from Baie du Tombeau to Pointe aux Sables, and two (2) sampling stations at sewage outfalls at Baie du Tombeau and Montagne Jacquot, as follows:

(a) Baie du Tombeau (5 sampling stations):

- (i) BTB1- Mouth of Rivulet Terre Rouge
- (ii) BTB2- Nassau Bay
- (iii) BTB3- Near Clinique du Nord
- (iv) BTB4- Pointe Roches Noires
- (v) BTB5- Near Fish Landing Station Baie du Tombeau

(b) Bain des Dames (4 sampling stations):

- (i) B1- Bain Des Dames Opposite La Grotte
- (ii) B2- Bain Des Dames Near Fish Landing Station
- (iii) B3- Opposite Steps at Bain des Dames
- (iv) B4- Bain Des Dames Near Pumping Station

(c) Sable Noir (1 sampling station):

- (i) B5- Sable Noir

(d) Pointes aux Sables (8 sampling stations):

- (i) PS1- Ex-Fisheries Post near Martelo Tower, Pointe aux Sables
- (ii) PS2- Near Cite Debarcadère, Pointe aux Sables Pointe aux Sables
- (iii) PS 2a- Stagnant water drain at Cite Debarcadère, Pointe aux Sables (100m upstream from the High Water Mark in a canal)
- (iv) PS3- Fish Landing Station Pointe aux Sables
- (v) PS4- 100 metres north of Public beach Pointe aux Sables
- (vi) PS5- Public Beach Pointe aux Sables near La Mare Samson
- (vii) PS6- La Pointe, Pointe aux Sables
- (viii) PS7- Near Prison Petit Verger, Pointe aux Sables

(e) Sewage Outfalls (2 sampling stations):

- (i) Baie du Tombeau Outfall
- (ii) Montagne Jacquot Outfall

2.2 Fish Quality

In 2022, sixteen (16) fish specimens were collected through seining in the lagoons at:

- (i) Pointe aux Sables
- (ii) Sable Noir
- (iii) Bain des Dames
- (iv) Baie du Tombeau

In 2023, twelve (12) fish samples were collected from fishers operating in the region from Pointe aux Sables to Bain des Dames.

In 2024, a total of nineteen (19) commercial fish specimens were purchased in the regions of Pointe aux Sables and Baie du Tombeau from registered fishermen.

2.3 River Water Quality

The NEL has been continuously monitoring the water quality of Rivulet Terre Rouge, River Tombeau and GRNW, which discharges into the lagoon in the region of Port Louis. For monitoring period January 2021 to December 2022, river water samples were collected from twelve (12) sampling stations in the catchment areas of Rivulet Terre Rouge, River Tombeau and GRNW as per Table 2. In 2023, three (3) additional sampling stations were included in the monitoring to assess the water quality further upstream.

Thirty-six (36) sampling campaigns were carried out from January 2021 to December 2024.

Table 2: Sampling stations for rivers

SN	Sample site code	Sampling Stations
Rivulet Terre Rouge		
1	RTR 01	River Rivulet Terre Rouge, St. Croix
2	RTR 02	Rivulet Terre Rouge, under Baie du Tombeau bridge/ Abatoire Road
3	RTR 01A	Rivulet Terre Rouge, 300 m upstream of RTR01(as from April 2023)
River Tombeau		
4	RLY01	River Labourdonnais at Calebasses Bridge
5	RC Y02A	River Calebasses at Calebasses
6	RT 03	River Tombeau, Arsenal (Not accessible as from January 2024)
7	RT 03A	River Tombeau, Calebasses 3 km upstream of RT 03 (as from April 2023)
Grand River North West		
8	RS W01	River Sèche at Allée Brilliant
9	RPW W03	River Plaine Wilhems, at Trianon
10	RCd W05	River Cascade, Reduit (Not accessible as from January 2024)
11	RP W08	River Profonde at le Bocage
12	RM W26	River Moka at Mt Ory
13	RM W28	River Moka, Baptiste (Petit Verger)
14	GRNW MD01	GRNW Municipal Dyke at CWA Treatment Plant, Pailles
15	RS W01A	River Sèche at Curepipe (near C-Care Darné), upstream of RS W01 (April 2023 – Dec 2023)

Note: It is to be noted that as from January 2021, the sites RTR W04 and RTR 02A were not accessible for sampling.

3 FINDINGS OF MONITORING (Year 2021-2024)

3.1 Seawater Quality

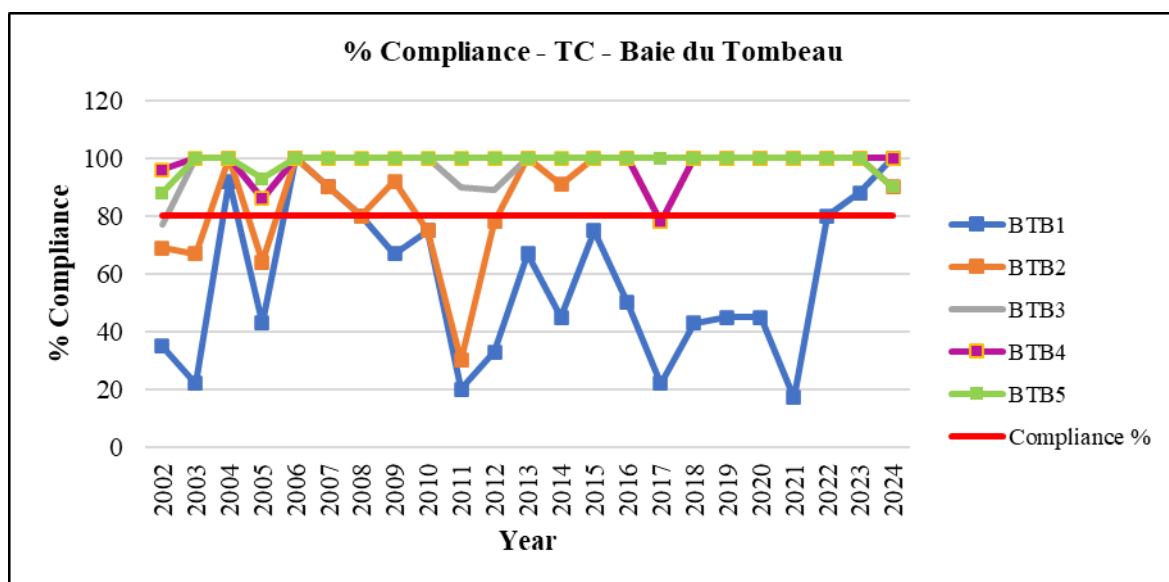
With regards to seawater quality monitoring, samples were collected in the lagoon at four (4) established sites, namely, Pointe aux Sables, Sable Noir, Bain des Dames and Baie du Tombeau (Map 1) and analyzed for levels of Total Coliform (TC) and Faecal Coliform (FC).

The results, in terms of percentage compliance, in accordance with the Coastal Water Quality Guidelines, (CWQG) of GN No. 620 of 1999, were compared to the International Norms (Barrel et.al, 2000), which states that the acceptable results should be above 80% compliance.

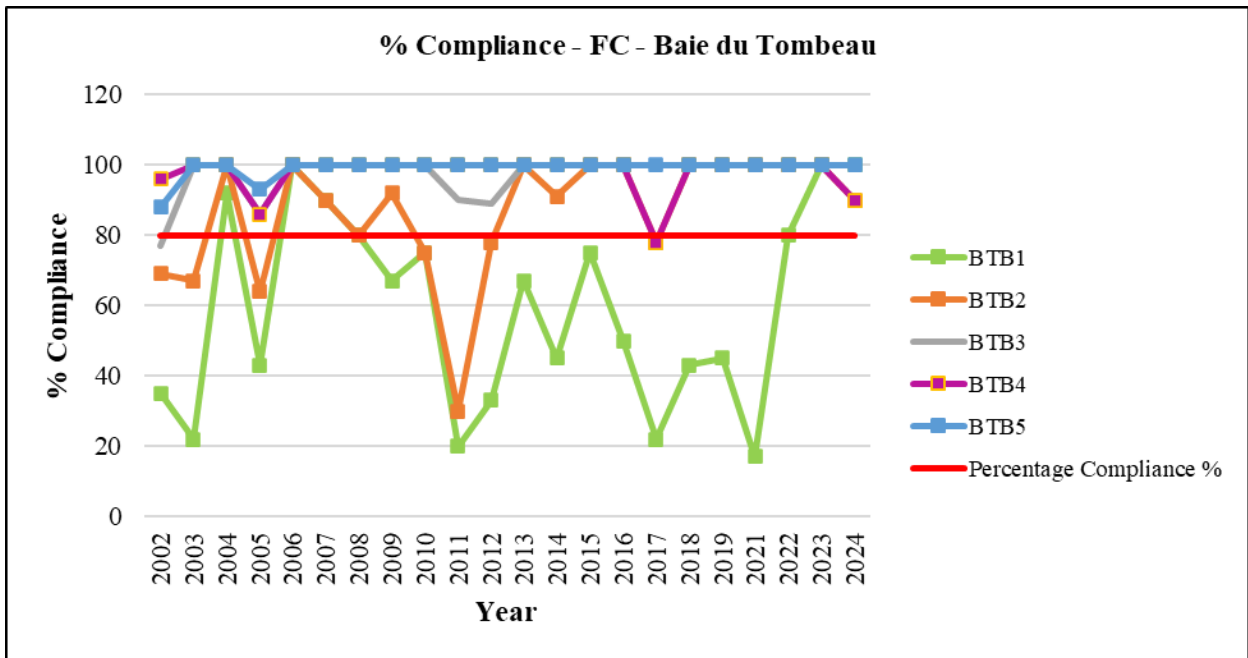
3.1.1 Baie du Tombeau

Five (5) sampling stations (BTB1 - BTB5) were monitored for TC and FC at Baie du Tombeau and the percentage compliances are presented in Graph 1 and Graph 2 respectively. From 2021 to 2024, the seawater quality complied with the 80% compliance limit (except at Station BTB1 in 2021, located at the mouth of Rivulet Terre Rouge whereby the compliance of 17% was observed).

The percentage compliances for TC and FC at all sampling stations in Baie du Tombeau, were above 80% for three consecutive years, i.e from 2022 to 2024.



Graph 1: Percentage Compliance for Total Coliform at Baie du Tombeau 2002-2024



Graph 2 : Percentage Compliance for Faecal Coliform at Baie du Tombeau 2002-2024

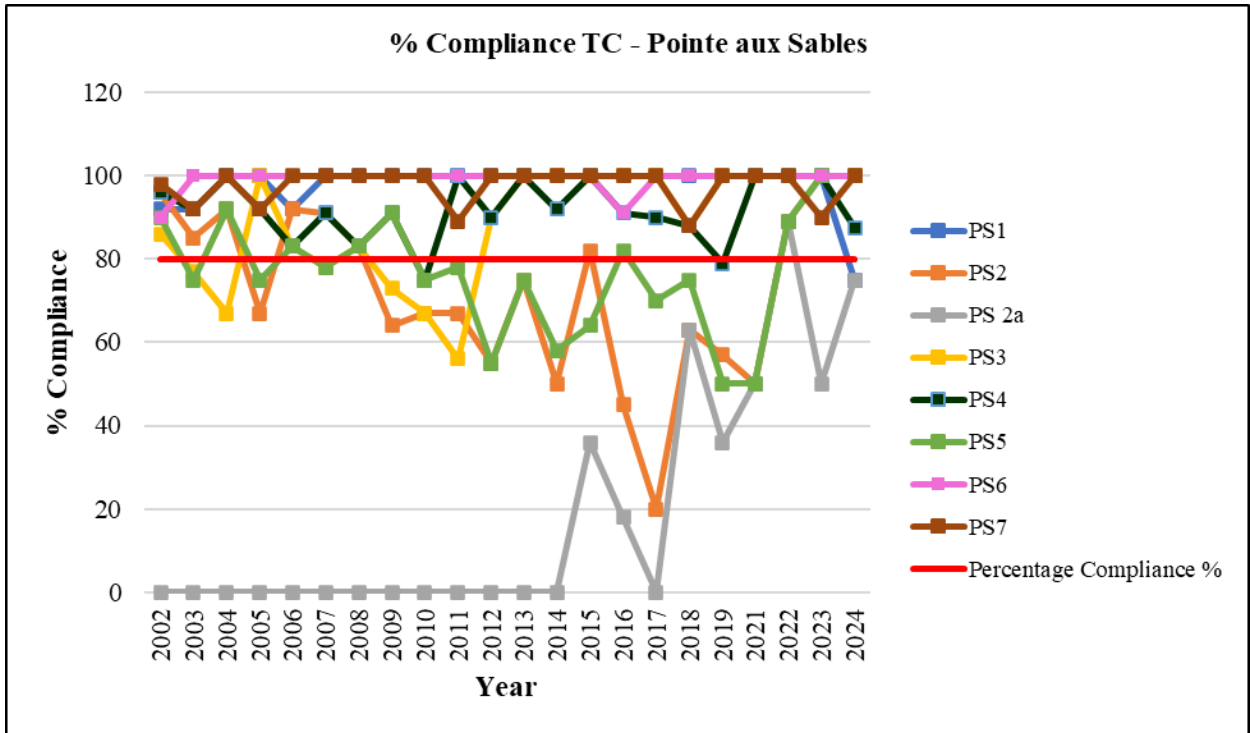
3.1.2 Pointe aux Sables

Seven (7) established stations (PS1 – PS7) were regularly monitored for TC and FC at Pointe aux Sables and the percentage compliances are presented in Graph 3 and Graph 4 below. A new station, PS2a, was added as from 2015 for TC and FC monitoring.

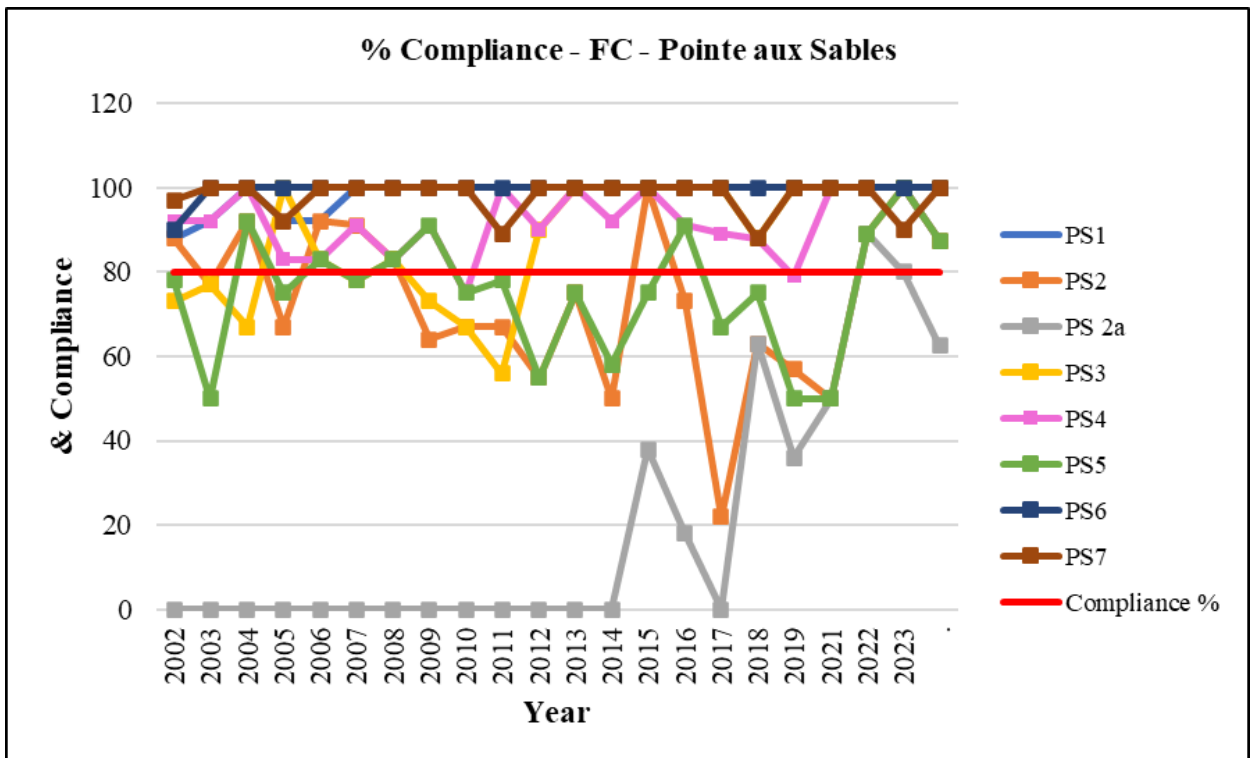
The percentage compliances for TC and FC were above 80% except at stations PS2, PS2a and PS5 in 2021 and TC at Station PS2a in 2023.

In 2024, the percentage compliances for TC were above 80% except at PS1 and PS2a. With regards to FC, a relatively low compliance level of 62.5% was observed for PS2a in 2024. The percentage compliances are presented in Graph 3 and Graph 4 below.

Over the years, the seawater quality in the Pointe aux Sables region has been fluctuating, depending on weather conditions (rainfall), the number of households connected to the sewer network, presence of storm water drains and ponds adjacent to beaches.



Graph 1: Percentage Compliance for Total Coliform at Pointe aux Sables 2002-2024



Graph 2: Percentage Compliance for Faecal Coliform at Pointe aux Sables 2002-2024

3.1.3 Bain des Dames and Sable Noir

Seawater samples were collected from the following five stations:

B1: Opposite La Grotte

B2: Fish Landing Station

B3: Opposite steps at Bain des Dames

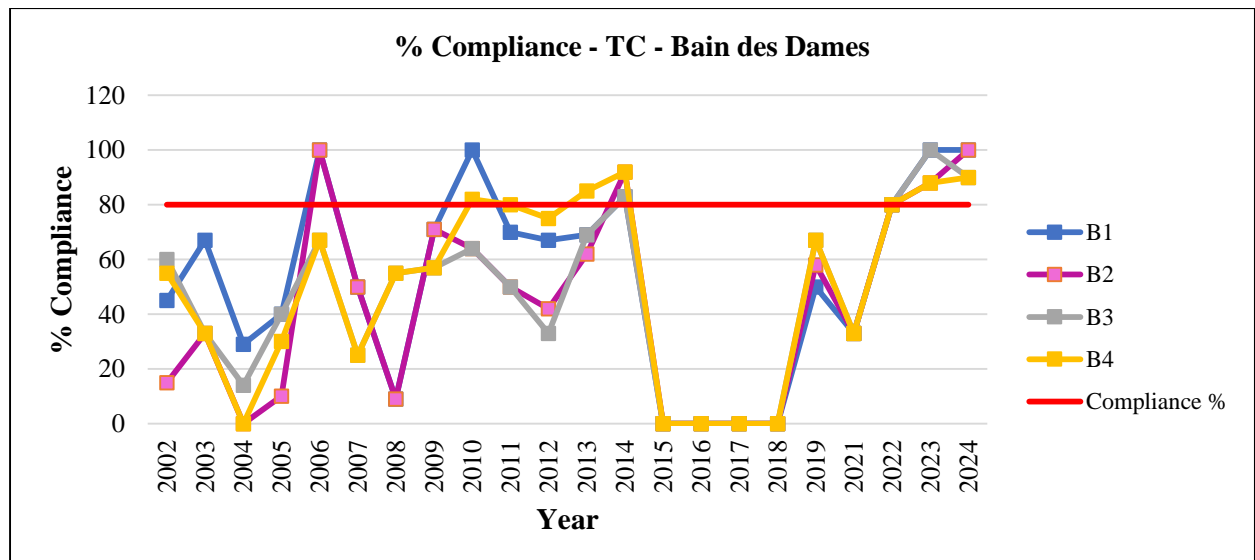
B4: Pumping Station

B5: Sable Noir

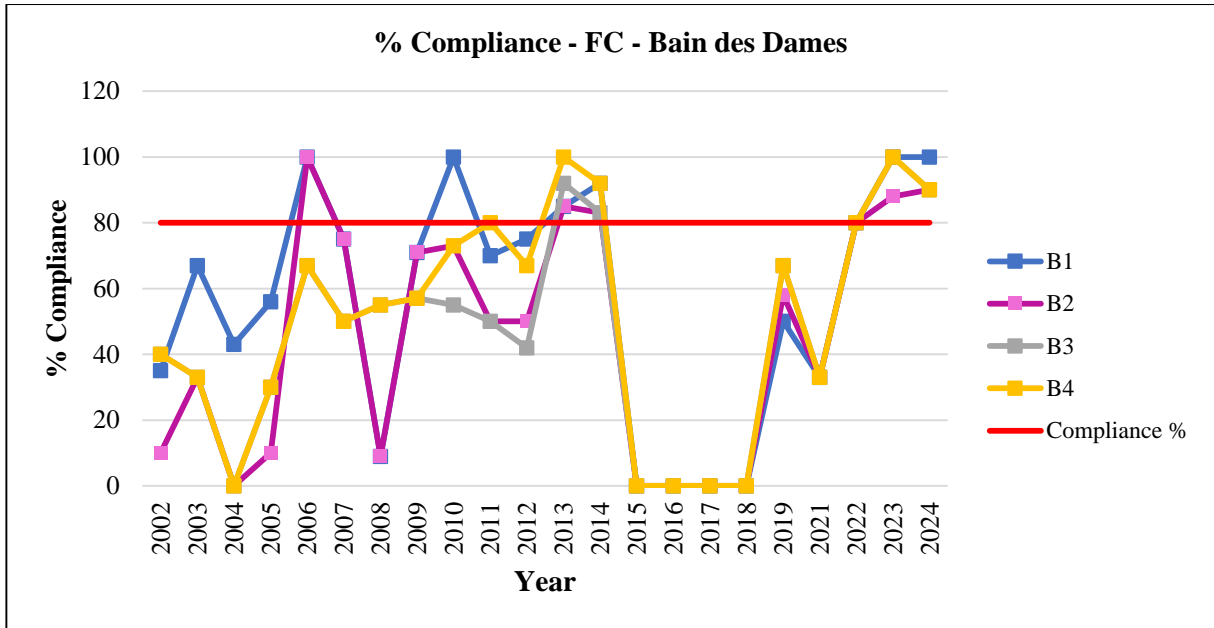
At Bain des Dames, the percentage compliances for TC and FC were 80% and above, except in 2021. The pollution load might be coming from direct discharge and seepage of wastewater into roadside drains which finally find its way into the sea.

At Sable Noir, the percentage compliances for TC and FC were above 80% except in 2021. In 2024, the compliance level only for TC was above 80% whereas for FC had a compliance level of 75%.

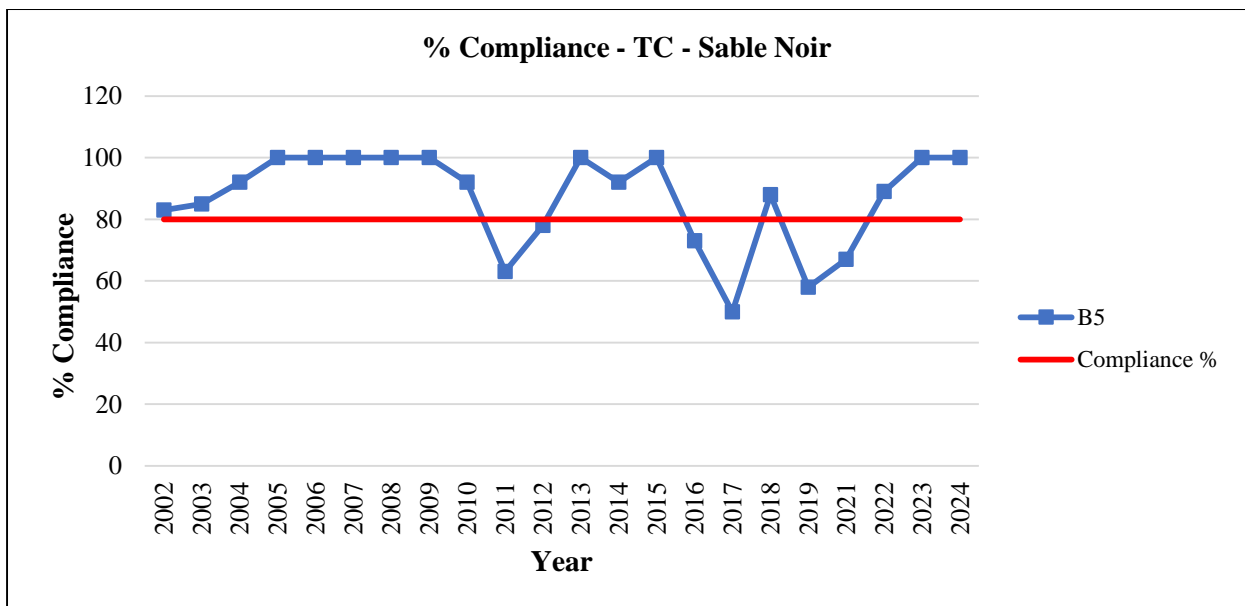
The seawater quality at Sable Noir is mostly influenced by input of fresh water from Grand River North West and Rivulet St. Louis in the region of Canal Dayot which in turn receives water input from the Pailles, Soreze and Montebello regions.



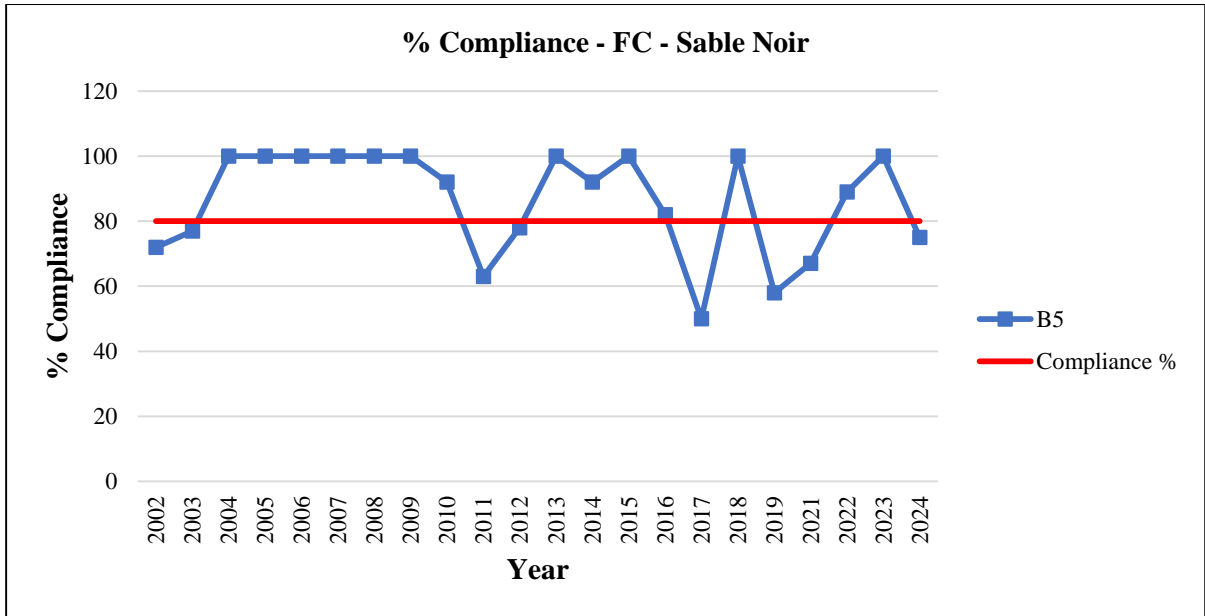
Graph 3: Percentage Compliance for Total Coliform at Bain des Dames 2002-2024



Graph 4: Percentage Compliance for Faecal Coliform at Bain des Dames 2002-2024



Graph 5: Percentage Compliance for Total Coliform at Sable Noir 2002-2024



Graph 6: Percentage Compliance for Faecal Coliform at Sable Noir 2002-2024

Note: Detailed results on seawater quality are at section 9.1

3.1.4 Summary of Interim results for 2025 on seawater quality

Table 3: Interim results from January 2025 to August 2025

Sampling sites	Sampling Dates	No. of stations	Compliance
Baie du Tombeau	22 Jan, 3 Feb, 16 Apr, 8 May, 1 Jul, 25 Aug	5	CWQG was exceeded for FC at Station 1 and TC and FC at Station 2 (near bird sanctuary) on 16 th April
Bain des Dames	22 Jan, 3 Feb, 16 Apr, 8 May, 1 Jul, 25 Aug	4	CWQG was exceeded for TC and FC at Stations 1 and 3 on 8 May
Pointe aux Sables (PS)/Sable Noir	23 Jan, 18 Feb, 29 Apr, 20 May, 25 June, 9 Jul, 6 Aug	9	<p><u>Pointe aux Sables (PS)</u> 29 April: TC and FC Exceeded at station 2, 2a 25 June: FC exceeded at Station 2a & Station 7 09 July: FC exceeded at Station 7 06 August: FC exceeded at Station 2a</p> <p><u>Sable Noir</u> 29 April: TC and FC exceeded at 1 station 20 May: TC and FC exceeded at 1 station</p>

Baie du Tombeau

Sampling covered 22 January, 3 February, 16 April, 8 May, 1 July, and 25 August across 5 stations. The compliance note indicates a targeted exceedance event on 16 April: Faecal coliforms (FC) exceeded at Station 1, and both total coliforms (TC) and Faecal coliforms (FC) exceeded at Station 2. In the tidy parsing, exceedances concentrate at Stations 1 and 2, with both TC and FC implicated at Station 2. Operationally, this points to localized, date-specific microbial contamination.

Bain des Dames

Sampling dates mirror Baie du Tombeau: 22 January, 3 February, 16 April, 8 May, 1 July, and 25 August, across 4 stations. The compliance record highlights 8 May as the exceedance date, with both TC and FC exceeding thresholds at Stations 1 and 3. This pattern indicates at least one episodic contamination event impacting multiple stations concurrently.

Pointe aux Sables (PS) / Sable Noir

This monitoring zone contains 9 stations and is noted with sub-areas: Pointe aux Sables (PS) and Sable Noir, each with their own episodic exceedances.

- Pointe aux Sables (PS): On 29 April, both TC and FC exceeded at Station 2 and Station 2a; on 25 June, FC exceeded at Stations 2a and 7; on 9 July, FC exceeded at Station 7; on 6 August, FC exceeded at Station 2a. This reflects recurring issues at specific hotspots (notably Stations 2a and 7), with multiple distinct dates showing FC exceedances and some events including TC as well.
- Sable Noir: On 29 April and 20 May, TC and FC exceeded at one station. This indicates episodic contamination but with less station-level granularity than PS.

Overall, PS/Sable Noir shows the highest frequency of exceedance events among the three entries, with clear hotspots in PS and recurring events across late April to early August.

3.2 Seawater Quality at Sewage Outfalls

The range of results for FC and TC at Montagne Jacquot and Baie du Tombeau outfalls are summarised in Table 3. It has been observed that the seawater quality at the sewage outfalls varied considerably from 2011 to 2023.

These outfalls are located at more than 800m off the coast. Usually, the survival rates of coliforms are dependent on the effect of dilution and salinity. However, the risk of lagoonal contamination from the sewage outfalls may vary upon environmental conditions. As for 2024, the levels for TC and FC at both outfalls were lower than the previous years.

Based on the comparison with the level of TC and FC at Baie du Tombeau (BTB3 - BTB5) and Pointe aux Sables (PS6 – PS7), it was observed that there is a good flushing at the sewage outfall and no coliform contamination at the shore.

Table 4: Range of results for TC and FC at Montagne Jacquot and Baie du Tombeau Outfalls

Site	Year	TC	FC
		CFU/100ml	CFU/100ml
Baie du Tombeau Outfall	2012	2000 - 45000	400 - 9000
	2013	960 - 6000	150 - 450
	2014	475 - 1245	145 - 322
	2015	30 - 800	10 - 50
	2016	2 - 5000	2 - 2000
	2017	200 - 11800	24 - 3200
	2018	510 - 5100	50 - 900
	2019	140 - 5750	104 - 1400
	2021	72 - 5700	24 - 1700
	2022	<2 - 5000	<2 - 510
	2023	<2 - 2100	<2 - 800
	2024	30 - 54	6 - 18
	Montagne Jacquot Sewage Outfall	2011	1550 - 3500
2012		1700 - 20500	350 - 5300
2013		550 - 2700	150 - 450
2014		1600 - 3750	215 - 2000
2015		633 - 2900	190 - 900
2016		4 - 13000	4 - 6700
2017		18 - 18100	6 - 3500
2018		250 - 800	50 - 130

Site	Year	TC CFU/100ml	FC CFU/100ml
	2019	360 - 4200	40 - 580
	2021	<2	<2
	2022	<2 - 220	<2 - 14
	2023	86 - >8000	<2 - 6900
	2024	90 - 610	5 - 44

NOTE:

- (a) TC and FC levels have been monitored at Baie du Tombeau Outfall since 2012.
- (b) There are no established guidelines for TC and FC in terms of seawater quality at sewage outfalls in the off-lagoon.

3.2.1 Marine Ecological Survey in Baie du Tombeau

There are established monitoring stations for marine ecological survey in Baie du Tombeau, whereby the monitoring comprised coral cover, fish density, types of macroalgae, abiotic factors and marine invertebrates. The surveys effected from 2021 to 2023 indicated no marine pollution since no sponge corals and algae of the *Caulerpa* species were observed. Furthermore, the coral cover was between 23% to 39%. The monitoring results are summarized in Table 5.

Table 5: Marine ecological survey

Site	Classification	Percentage/year		
		2021	2022	2023
Baie du Tombeau	Coral	33.17	23.27	39.11
	Algae	22.63	0.18	10.12
	Abiotic	59.91	76.2	3.98
	Other	1.75	0.35	46.8
Pointe aux Sables Back reef	Coral	-	0.42	-
	Algae	-	21.67	-
	Abiotic	-	77.92	-
	Other	-	0	-

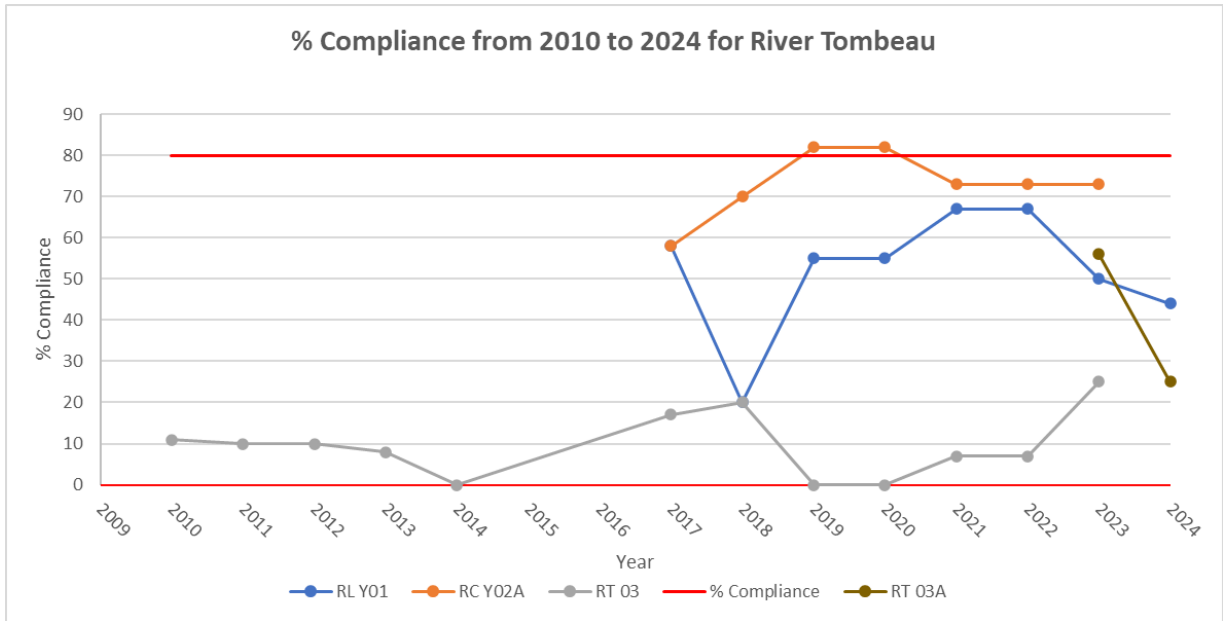
3.3 River Water Quality Monitoring

3.3.1 River Tombeau

From January 2021 to December 2024, river water quality monitoring was carried out at three (3) sampling stations along River Tombeau including its two (2) main tributaries namely River Labourdonnais and River Calebasses as described at Table 2. In 2023, one additional sampling station (RT 03A) was included upstream of RT 03. As from January 2024, the site RT 03 was not accessible.

The percentage compliances w.r.t *E. coli* at the above sampling stations were below the acceptable compliance limit of 80% (Barell et al, 2000) as shown in Graph 9 indicating poor water quality at the sampling stations of River Tombeau and its tributaries, River Labourdonnais and River Calebasses. The pollution load might be coming from faulty septic tanks, run off and direct discharges. The effect of the riverine input of River Tombeau is not being assessed as the region does not fall within the current study area.

Detailed results are at section 9.2.1.



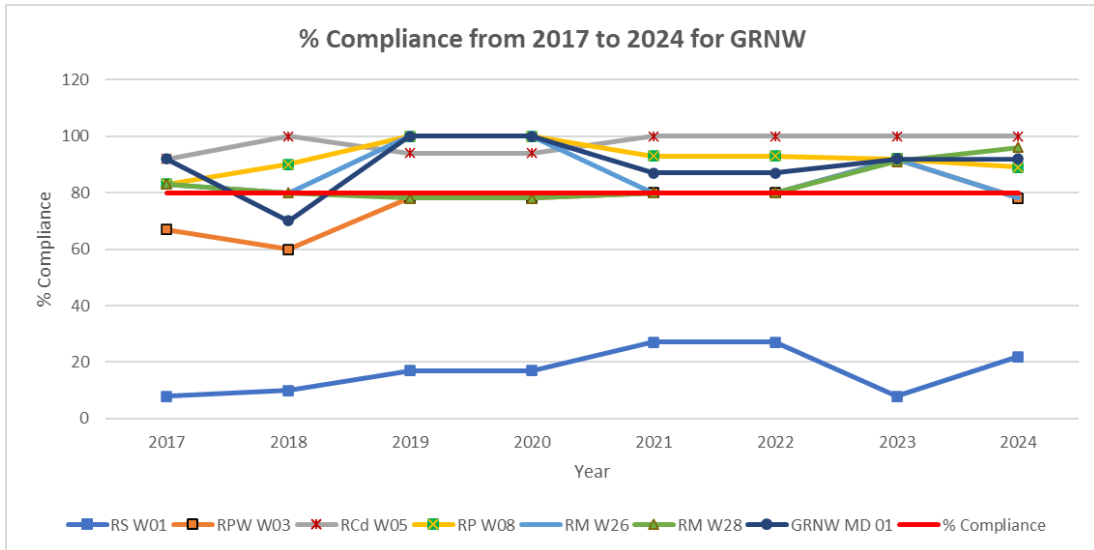
Graph 7: Percentage Compliance for *E. coli* at River Tombeau 2010-2024

3.3.2 Grand River North West (GRNW)

The GRNW discharges in the south of Port Louis and is fed by several tributaries from Plaines Wilhems and Moka district. In 2021, 2022 and 2024, seven (7) sampling stations were monitored along GRNW including its tributaries as described at Table 2. In 2023, one additional sampling station (RS W01A) was monitored upstream of RS W01.

Water quality monitoring in GRNW showed that percentage compliance w.r.t *E. coli* at most sampling stations (except RS W01 and RS W01A) was above the acceptable compliance limit of 80% (Barell et al, 2000) which is indicative of good water quality.

Detailed results are at section 9.2.2.



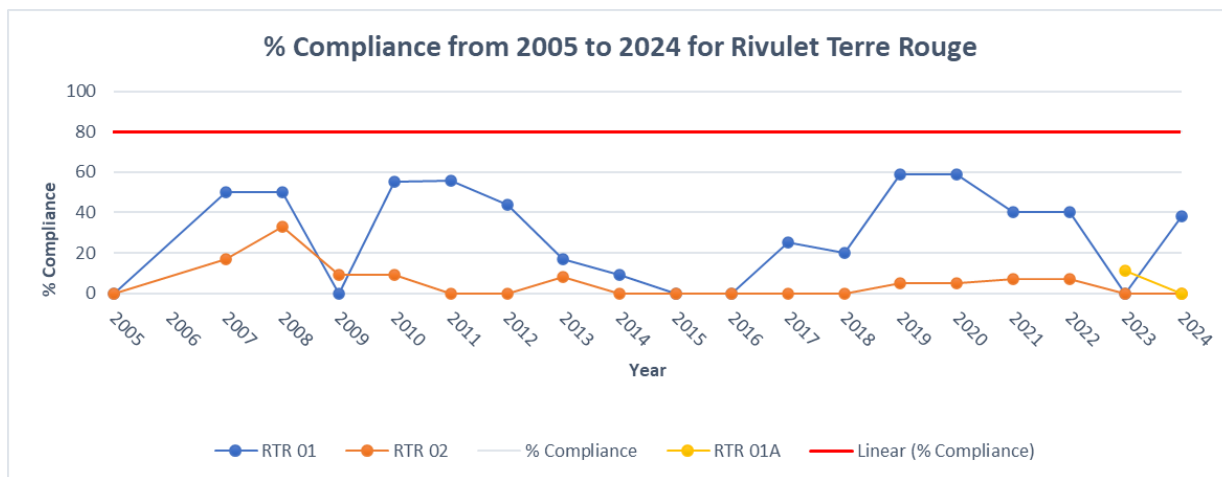
Graph 8: Percentage Compliance for *E. coli* at GRNW 2017-2024

3.3.3 Rivulet Terre Rouge

For monitoring period January 2021 to December 2022, water quality monitoring was carried out at two (2) sampling stations in Rivulet Terre Rouge as described at Table 2. As from 2023, one (1) additional sampling station (RTR 01A) was monitored upstream of RTR 01.

From 2005 to 2024, the percentage compliances for *E. coli* at the above sampling stations were below the acceptable compliance limit of 80% (Barell et al, 2000) indicating poor water quality at the sampling stations in Rivulet Terre Rouge. *E. coli* is indicative of faecal contamination. This contamination might be from nonpoint sources such as inappropriate wastewater disposal systems from households, faulty septic tanks, runoffs and animal rearing activities.

Details results of monitoring of Rivulet Terre Rouge is at section 9.2.3.



Graph 9: Percentage Compliance for *E. coli* at Rivulet Terre Rouge 2005 to 2024

With the view to complement the findings of Lagoonal Monitoring in the Region of Port Louis project, the National Environmental Laboratory (NEL) implemented a technical cooperation project entitled “Assessing Sources of Pollution in Rivers and Rivulets of Suburban Regions” in collaboration with the International Atomic Energy Agency (IAEA) during the period 2016 to 2019. In this study stable isotope techniques were applied to identify and estimate relative contribution of potential sources of nitrate contamination in surface water in the suburban region of Port Louis. In overall the study revealed that the water quality in the catchment areas of Rivulet Terre Rouge, River Tombeau and GRNW was mainly influenced by manure & sewage. Further information on this study is at section 9.3.

Measuring *E. coli* downstream of rivers before entering the sea allows for a direct evaluation of how riverine inputs affect coastal water quality. Downstream sampling captures all upstream influences, including any pollutants or contaminants that have travelled downstream. This provides a holistic view of how river water quality impacts coastal waters.

It is, therefore, suggested that henceforth for this project the rivers namely Baie du Tombeau, Rivulet Terre Rouge and GRNW will be sampled only at downstream sampling point, before entering the sea. The in-depth monitoring (upstream and downstream including tributaries) is being carried out routinely in Independent Environment Audit on Wastewater and monitoring of pesticides and heavy metals in surface water and ground water projects.

3.4 Fish Quality

In 2021, no analysis of fish was carried out.

In 2022, sixteen (16) fish specimens were collected by the AFRC through seining in the lagoons at Pointe aux Sables, Sable Noir, Bain des Dames and Baie du Tombeau.

In 2023, twelve (12) fish samples were collected from fishers operating in the region from Pointe aux Sables to Bain des Dames.

Analysis of fish samples was undertaken by the Government Analyst Division (GAD) whereby nine (9) metals were analysed. Detailed results are at section 9.4.

From 2022 to 2023, all the fish samples complied with the **Maximum Permitted Proportion (ppm)** of metal contaminants as per the 7th Schedule of Food Regulations GN 173 of 1999 of the Food Act 2022. The arsenic content in all fish samples ranged from 0.09 to 0.75 mg/kg. The risk of arsenic poisoning due to fish muscle intake was found to be low in all the four (4) collection sites as per analysis of the samples submitted.

The maximum levels for Copper, Lead, Selenium, Zinc and Antimony recorded in the fish samples analysed in 2022 and 2023 were 2.45, 0.25, 1.77, 22.8 and 0.45 mg/kg respectively. Other metals, namely Cadmium, Mercury, Antimony and Tin were below the limit of quantification.

However, for 2022 the safety of fish samples in the study area is not conclusive as the fish specimens sampled were small in size and in some cases much below the size normally used for consumption and retail. In 2023, the fish samples were of appropriate size and fit for human consumption.

In 2024, nineteen (19) commercial fish specimens were purchased by AFRC in the region of Baie du Tombeau and Pointe aux Sables from registered fishermen. Analysis was conducted by GAD and test results have showed that all of the above 19 samples complied with Food Regulations 2024. Detailed results are at section 9.4.

4 STATUS OF PREVIOUS RECOMMENDATIONS

4.1 All households of the region should be connected to the sewer network

4.1.1 Baie Du Tombeau

Baie du Tombeau is a coastal village located in the district of Pamplemousses and is adjacent to Roche Bois and the City of Port Louis. Part of Baie du Tombeau falls within the Port area. The resident population, as per the Housing census carried out in 2022, amounted to 14,695 comprising 3,992 households, out of which 3,492 are connected to sewer. This represents 87.5 % household connected to the sewerage network in the region.

4.1.2 Pointe Aux Sables

Pointe aux Sables (part of Ward 1 of the Municipal Council of the City of Port Louis) is found within the outskirts of the City of Port Louis.

The population, as per the Housing and Population census carried out in 2022, amounted to 20,884 with 5,685 households out of which 2,325 are connected to the sewer system (Statistic Mauritius 2022). This represents 40.9 % household connected to the sewerage network in the region.

4.1.3 Bain Des Dames And Sable Noir

The sites of Bain des Dames and Sable Noir are found within the administrative area of the Ward III of the City of Port Louis. Results of the Housing and Population census carried out in 2022 showed that the population in this area (Ward III) amounted to 8,186 with 2,448 households, out of which, 1,681 are connected to sewers (Statistic Mauritius 2022). This represents 68.7 % household connected to the sewerage network in the region

4.1.4 Catchment River du Tombeau

The population residing in the catchment of River du Tombeau, as per the Housing and Population census carried out in 2022, amounted to 10,672 with 2,922 households out of which, 113 are connected to the sewer system (Statistic Mauritius 2022). This represents 3.9 % household connected to the sewerage network in the catchment.

4.1.5 Catchment Rivulet Terre Rouge

The Rivulet Terre Rouge adjoins the Mer Rouge reclaimed area and flows into the lagoon after receiving run-offs from the surrounding watershed, which comprises animal rearing farms, industrial estates as well as agricultural and residential areas. These run-offs find their way to the

rivulet and to the lagoon through surface waters, seepage from faulty septic tanks, and absorption pits. Furthermore, during periods of heavy rain, the rate of the river flow increases with surface run-offs from the surrounding residential and agricultural areas. The population residing along Rivulet Terre Rouge, as per the Housing census carried out in 2022, amounted to 12,800 with 3,905 households out of which, 1,444 are connected to the sewer system (Statistic Mauritius 2022). This represents 37.0 % household connected to the sewerage network in the catchment.

4.1.6 Catchment GRNW

The population residing in the catchment of GRNW, as per the Housing and Population census carried out in 2022, amounted to 38,106 with 11,370 households out of which, 3,820 are connected to the sewer system (Statistic Mauritius 2022). This represents 33.6 % household connected to the sewerage network in the catchment.

4.2 All effluent discharge in the region should comply with the relevant standards

As from year 2004, the committee has recommended that the wastewater must be treated to such a level that the effluent meets the standards for discharge of treated effluent into the ocean. The status of monitoring of treated effluent from two outfall in the region namely at Baie du Tombeau and Montagne Jacquot are as follows:

4.2.1 Baie du Tombeau Region

Samples of treated effluent were collected at the Baie du Tombeau WWTP, before it flows to the long sea outfall (total length 800 m and discharge at 35 m below sea level) and gets discharged into the ocean at Pointe Roches Noire. The analytical data presented in this report covers the period of January 2021 to December 2024. Results generated were compared with the Standards for Effluent Discharge into Ocean.

Results for Baie du Tombeau WWTP

The table below shows the results of analysis of effluent and the compliance status.

**Table 6: Results of Analysis of Treated Effluent Quality for Baie du Tombeau WWTP
from January 2021 to December 2024**

Parameter	Units	Range (outlet) ^a	Baseline data for the year 2004 ^b	Standards for Effluent Discharge into the Ocean	Compliance Status
CHEMICAL					
Temperature	°C	21-31	24.6-29.5	40	All Complied
pH	-	5.39-8.83	6.72-8.67	5.0-9.0	All complied
COD	mg/l	200-7500	350-1550	750	8 out of 11 complied in 2021 6 out of 12 complied in 2022 10 out of 12 complied in 2023 10 out of 12 complied in 2024
TSS	mg/l	38-720	190-1546	300	7 out of 11 complied in 2021 8 out of 12 complied in 2022 11 out of 12 complied in 2023 7 out of 12 complied in 2024
BOD	mg/l	52 - 1400	162-845	250	4 out 10 complied in 2021 None complied in 2022 7 out of 12 complied in 2023 10 out of 12 complied in 2024
Oil & Grease	mg/l	n.d-470	45-66	20	None complied in 2021 5 out of 12 complied in 2022 8 out of 12 complied in 2023 All complied in 2024
Cyanide	mg/l	0.00-0.3	NA	0.1	7 out of 8 complied in 2021 All complied in 2022 8 out of 9 complied in 2023 All complied in 2024
HEAVY METALS					
Arsenic	mg/l	n.d <0.10	NA	0.2	All complied
Cadmium	mg/l	n.d-0.01	NA	0.02	All Complied
Chromium	mg/l	n.d-0.08	NA	0.5	All Complied
Lead	mg/l	n.d-0.86	NA	2	All Complied
Nickel	mg/l	n.d-0.21	NA	2	All Complied
Mercury	mg/l	n.d-0.01	NA	0.01	All Complied
Zinc	mg/l	n.d-0.78	NA	2	All Complied

Note:

n.d: Not detected

NA: Not available

a: Based on 11, 12,12 and 12 outlet samples for physicochemical/chemical parameters during period 2021,2022, 2023 and 2024 respectively

b: Baseline Data based on 6 samples for physicochemical parameters for year 2004.

4.2.2 Montagne Jacquot Region

The samples collected were raw wastewater reaching the inlet works and the treated effluent at the outlet of the WWTP. After treatment, the wastewater is discharged into the ocean along sea outfall (total length 835 m and discharge at 30 m below sea level). The quality of the treated effluent was assessed with respect to the Standards for Effluent Discharge into the Ocean.

Results for Montagne Jacquot Region

During the period January 2021 to December 2024, 96 effluent samples were collected and analysed. The results are displayed in Table 5. Refurbishment works have been completed at Montagne Jacquot wastewater treatment plant which treats wastewater to advanced primary level.

Table 7: Results of Analysis of Effluent Quality for Mt Jacquot WWTP from January 2021 to December 2024

Parameter	Units	Range(Outlet)a	Standards for Effluent Discharge into the Ocean	Compliance Status
CHEMICAL				
Temperature	°C	24-32.6	40	All Complied
pH	No unit	6.59-9.50	5 – 9	All complied in 2021, 2022 and 2023. 22 out of 24 complied in 2024
TSS	mg/l	20-280	300	All Complied
COD	mg/l	70-660	750	All Complied
BOD	mg/l	8.4-290	250	21 out of 23 complied in 2021 23 out of 24 complied in 2022 24 out of 25 complied in 2023 All complied in 2024
Oil & Grease	mg/l	n.d -200	20	11 out of 23 complied in 2021 22 out of 24 complied in 2022 24 out of 25 complied in 2023 All complied in 2024
Cyanide	mg/l	0-0.16	0.10	14 out of 16 Complied in 2021 All complied in 2022, 2023 and 2024
HEAVY METALS				
Arsenic	mg/l	n.d- <0.10	0.2	All complied

Parameter	Units	Range(Outlet)a	Standards for Effluent Discharge into the Ocean	Compliance Status
Cadmium	mg/l	n.d-0.02	0.02	All Complied
Chromium Total	mg/l	n.d-0.33	0.5	All Complied
Lead	mg/l	n.d-0.41	2	All Complied
Mercury	mg/l	n.d – 0.25	0.01	22 out of 23 complied in 2021 All complied in 2022, 2023 and 2024
Nickel	mg/l	n.d-0.09	2	All Complied
Zinc	mg/l	n.d-0.99	2	All Complied

Note:

a: Based on 23,24, 25 and 24 outlet samples for physicochemical/chemical parameters for year 2021, 2022, 2023 and 2024 respectively

The feasibility studies done by Wastewater Management Authority on upgrading of the wastewater treatment plants are detailed at section 9.5.

4.3 Enforcement measures

4.3.1 Actions initiated by WMA

- i. In 2021, 185 complaints were received with regard to blockages at Baie Du Tombeau and were addressed by WMA.
- ii. In 2022, 369 complaints were received with regard to blockages at Baie Du Tombeau and were addressed by WMA.
- iii. In 2023, 156 complaints were received with regard to blockages at Baie Du Tombeau and were addressed by WMA.
- iv. In 2024, 264 complaints were received with regards to blockages at Baie Du Tombeau and were addressed by WMA.

Complaints were received and notices were served in the regions of Beau Bassin, Rose Hill, Coromandel, Chebel and old Quatre Bornes, Bambous, Albion and Pointe Aux Sables as hereunder:

Table 8: Complaints received in regions of Beau Bassin, Rose Hill, Coromandel, Chebel and old Quatre Bornes, Bambous, Albion, Pointe Aux sables and Port Louis.

Year	2021	2022	2023	2024
Complaints received	5087	3999	4752	10600
Notices served	4	3	25	22

Table 9: Complaints were received and notices served in the region of Curepipe

Year	2021	2022	2023	2024
Complaints received	3414	2411	2433	2959
Notices served	11	15	4	nil

4.3.2 Discharge of wastewater in Roche Bois and actions taken by City Council of Port Louis

In 2021 and 2022, the Public Health Department of the Council has carried out regular cleaning of drains and canals within the jurisdiction of Port Louis, including the major water courses (rivers/canals) leading to lagoon namely River St Louis, Ruisseau des Creoles, Canal Wheldon, Pouce Stream, La Paix stream, Canal Anglais, River Latanier and Rivulet Terre-Rouge so as to prevent waste from discharging into the lagoon. The council has also contributed in the protection of several watercourses, indirectly the lagoons, by performing daily collection of wastes. Scavenging service are provided twice weekly and an average of 176 tons of solid waste are collected daily. In 2023, an average of 186 tons of solid wastes were collected on a daily basis by in-house and contract out Scavenging teams

Furthermore, bulky waste campaign is organised every year, thereby causing a decrease in water pollution from numerous illegal dumping. In 2023, some 580 trips of bulky wastes were collected and disposed during the same year. During the bulky wastes campaigns, awareness campaigns were simultaneously carried out to inform the local community about the dangers to which they are exposed by causing illegal dumping of wastes in water courses.

In addition, all complaints regarding discharge of wastewater are referred to the Wastewater Management Authority and the Ministry of Health and Wellness (Sanitary Office) and remedial actions are taken accordingly. In addition, joint site visits are also effected with officers of abovenamed authorities as and when required in connection with wastewater problems.

Moreover, ex-post control is being carried out on a regular basis by the Inspectorate Cadre of Land Use & Planning Department. In case of any deviation from approved plans regarding wastewater disposal system/septic tanks, notices are served to the owners/developers. Given that most of the localities in Port Louis are connected to the sewerage system, as at now no illegal cases of wastewater disposal into rivers/canals has been registered. In addition, septic tanks are buried underground.

Prior to rainy season, regularly cleaning is effected by the Council along Ruisseau Terre Rouge to remove all obstruction; and desilting works are also carried out upon request, subject to availability of funds and approval received.

In 2021, 2022 and 2023, the volume of leachate sent to the Roche Bois Pumping Station was 275,760 m³, 314,684 m³ and 281,713 (Solid Waste Management Division). Consideration will be given to leachate treatment during the design of the new Wastewater Treatment Plant under the Baie du Tombeau Sewerage Project, Phase III, which will cater for the heavy Chemical Oxygen Demand (COD) loaded leachate. The option of having a separate treatment of the leachate at source or some dilution prior to channeling it to the WWTP will also be assessed.

In 2024, 296252m³of leachate was sent to the Roche Bois Pumping Station.

4.3.3 Actions taken by the Ministry of Health and Wellness

For the period 2021/2022, no complaint was received with respect to discharge of wastewater in canal/storm drains. No contravention has been established and no notice was served.

In 2023, two (2) complaints were received with respect to discharge of wastewater in canals/storm water drains. The complaints were referred to City Council of Port Louis for needful actions at their end. Disinfection and larviciding activities carried out by this office as a palliative measure against vector-borne diseases. No contraventions established with respect to discharge of wastewater in canals/storm water drains.

For 2024 twenty-one (21) statement of nuisance were issued.

4.3.4 Actions taken by the District Council of Pamplemousses

The Officers of the council effect regular visits and survey the watercourses in the jurisdiction to ensure that there is no effluent discharge in the watercourses and are in accordance with the Environment Protection (Standards for Effluent Discharge) Regulations 2003. All watercourses are cleaned and reviewed at least twice yearly. Any discharge/dumping are instantly removed. The number of complaints received and notices served by District Council of Pamplemousses in the study area are as follows:

- Number of complaints received for illegal discharges in the jurisdiction of Pamplemousses district in 2021-2022 is 21 and 40 notices have been served.
- Number of complaints received for illegal discharges in the jurisdiction of Pamplemousses district in 2023 is 27. 10 Compliance notices and 17 Warning notices have been served.

The Officers of the council effect regular visits and survey the watercourses in the jurisdiction to ensure that there is no effluent discharge in the watercourses and are in accordance with the Environment Protection (Standards for Effluent Discharge) Regulations 2003. All watercourses are cleaned and reviewed at least twice yearly. Any discharge/dumping are instantly removed. The number of complaints received and notices served by District Council of Pamplemousses in the study area are as follows:

Number of complaints received for illegal discharges in the jurisdiction of Pamplemousses district in 2023-2024 is 37, 25 notices and 6 compliance notices have been served.

Number of complaints received for illegal discharges in the jurisdiction of Pamplemousses district in 2024-2025 till date is 21. 4 compliance notices and 17 warning notices have been served.

4.3.5 Actions taken by other Municipal Councils in the catchment of GRNW

- (i) Sensitisation campaign through distribution of pamphlets;
- (ii) Desilting of rivers;
- (iii) Removal of aquatic plants and PET bottles in rivers;
- (iv) Occasional clearing of river banks;
- (v) Removal of used tyres and organization of bulky waste campaign within township.

4.3.6 Building and Land Use Permit (BLUP) issued by the City Council of Port –Louis

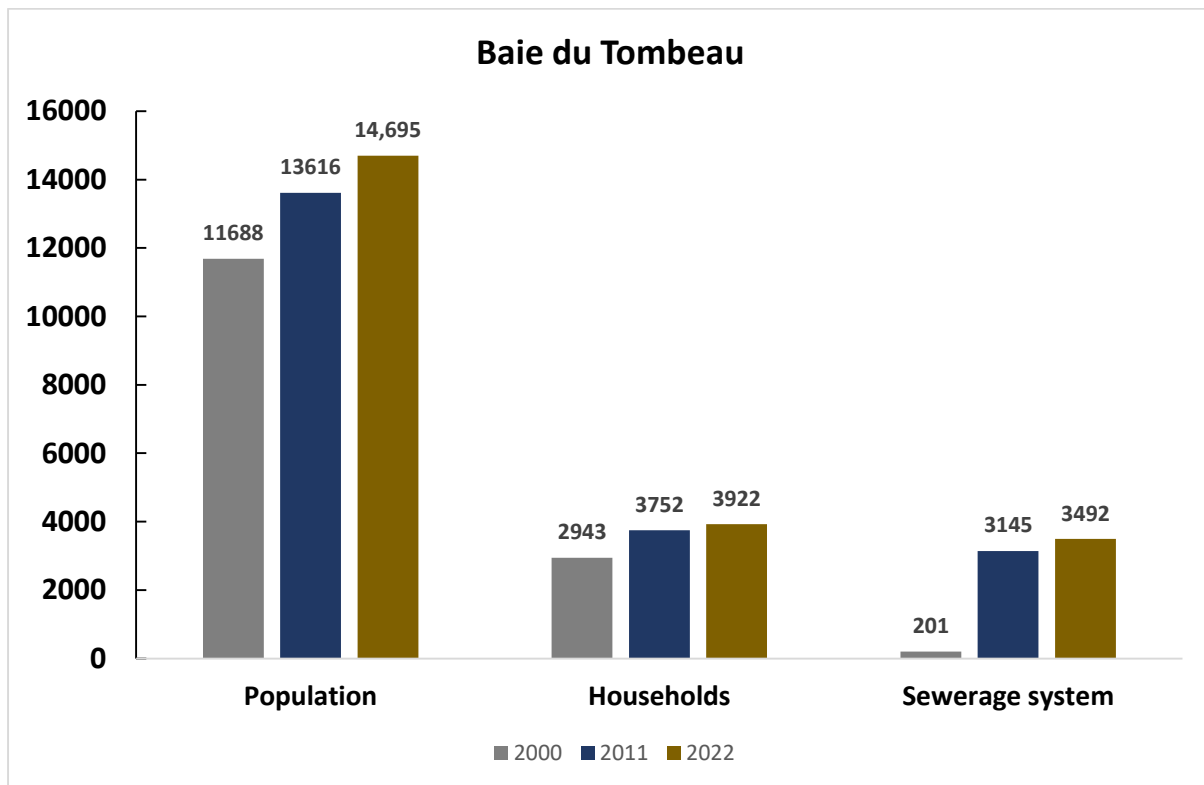
Table 10: BLUP Issued for the region of Port Louis for the period 01 July 2023-20 June 2024

Permit Type	Cluster	# Approved
BLUP1	Residential	499
BLUP2	Residential	89
BLUP3	Commercial	76
	Industrial	14
	Residential	4
	Services	19
	Sui Generis	8
	Total	709

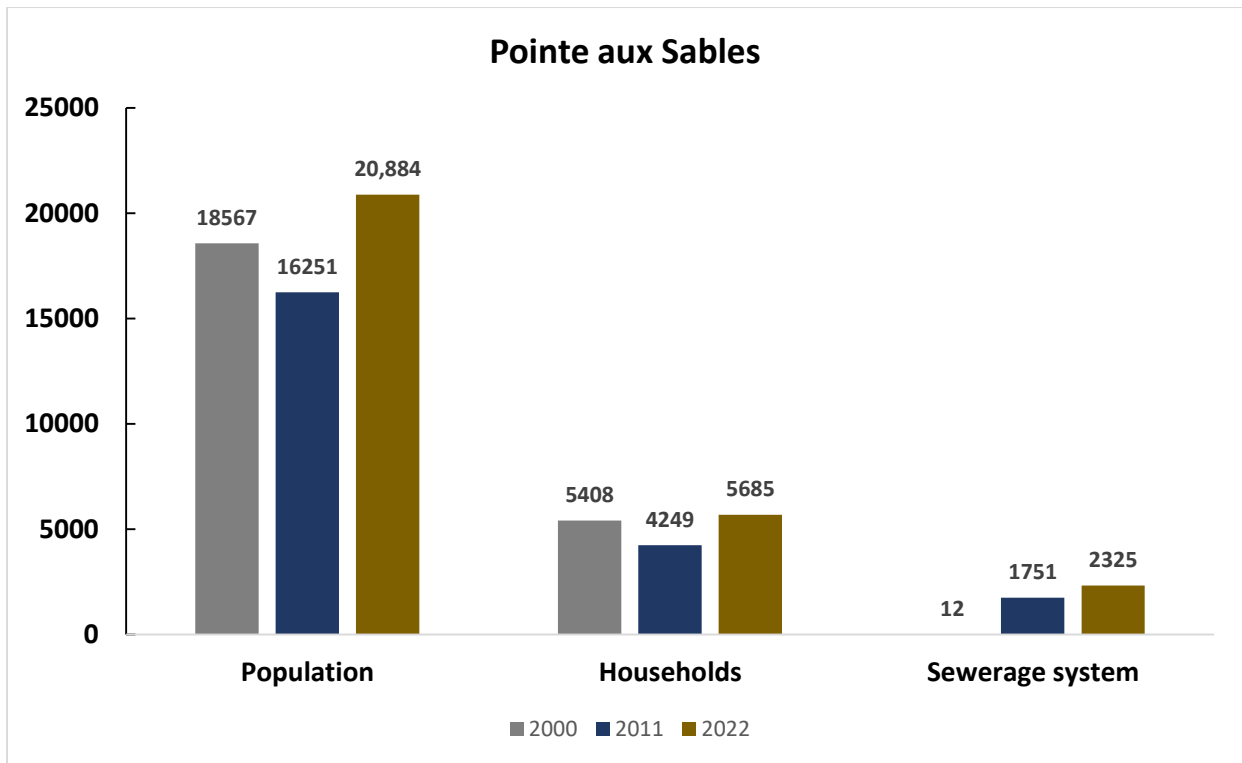
4.4 Demography

With urbanisation and population growth, it is expected that the demography and land use in the region of Baie du Tombeau to Pointe aux Sables have changed from 2000 to 2023.

The Population change, household connections and number of households connected to sewerage system at Baie du Tombeau, Pointe aux Sables and Bain des Dames are shown below:

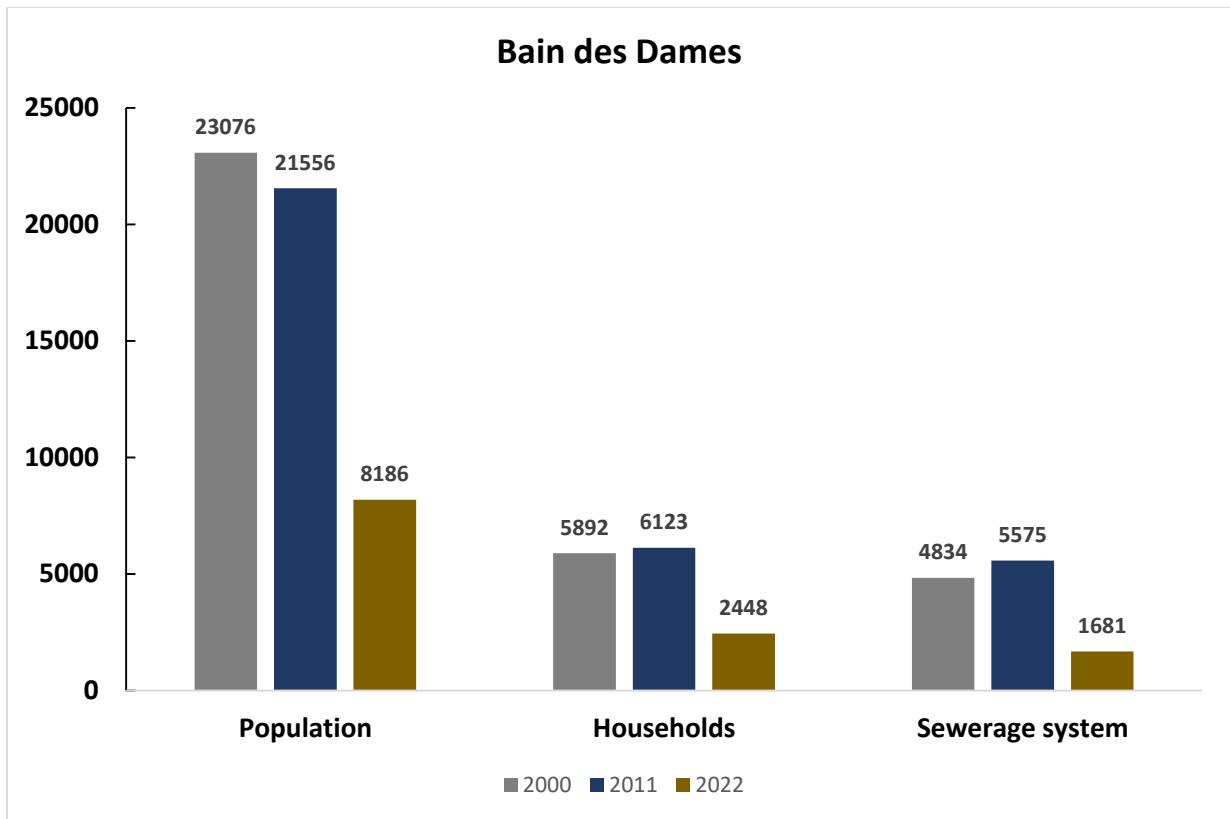


Graph 10: Population, number of households and household connected to sewerage system at Baie du Tombeau (Statistic Mauritius, 2022)



Graph 11: Population, number of households and household connected to sewerage system at Pointe aux Sables (Statistic Mauritius, 2022)

Note: For Census 2000 and 2011, the statistic is for Ward 1 of Port Louis which include Pointe aux Sables whereas for census 2022, it is the statistic for Pointe aux Sables region



Graph 12: Population, number of households and household connected to sewerage system at Bain des Dames (Statistic Mauritius, 2022)

Note: For Census 2000 and 2011, the statistic is for Ward 3 of Port Louis which include Bain des Dames whereas for census 2022, it is the statistic for Bain des Dames region.

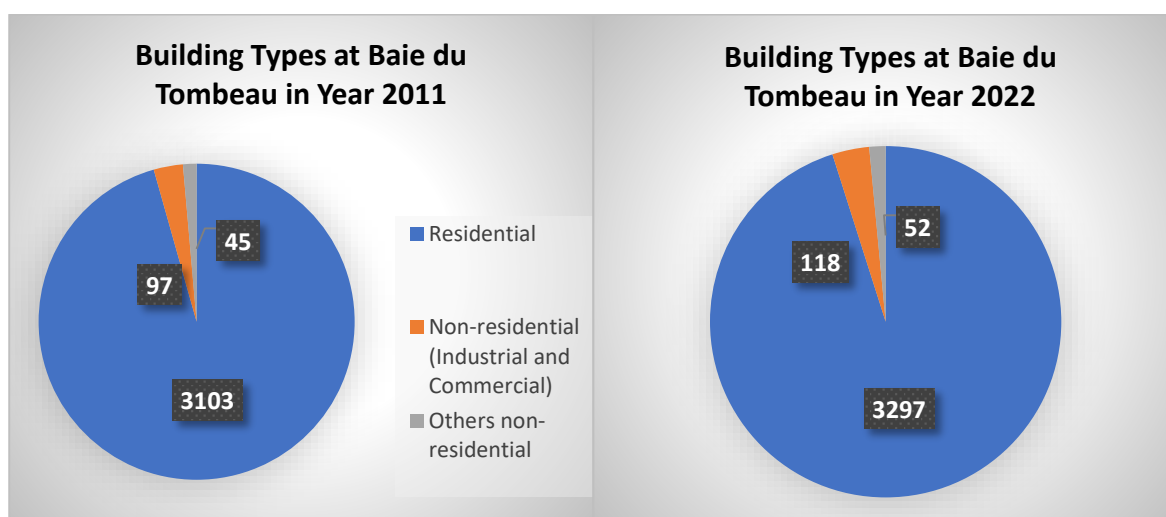
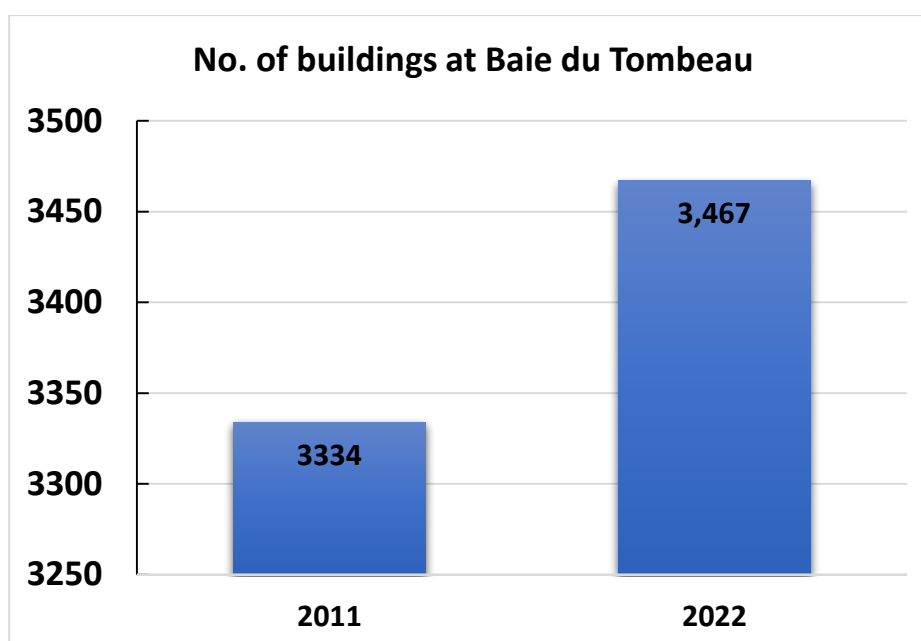
5 DEMOGRAPHY AND CHANGE IN LAND USE

5.1 Change in Land Use

5.1.1 Baie du Tombeau Region

The number and types of building in the region of Baie du Tombeau in year 2011 and 2022 are shown graphically below.

Data were obtained from Statistic Mauritius from Census 2011 and 2022.

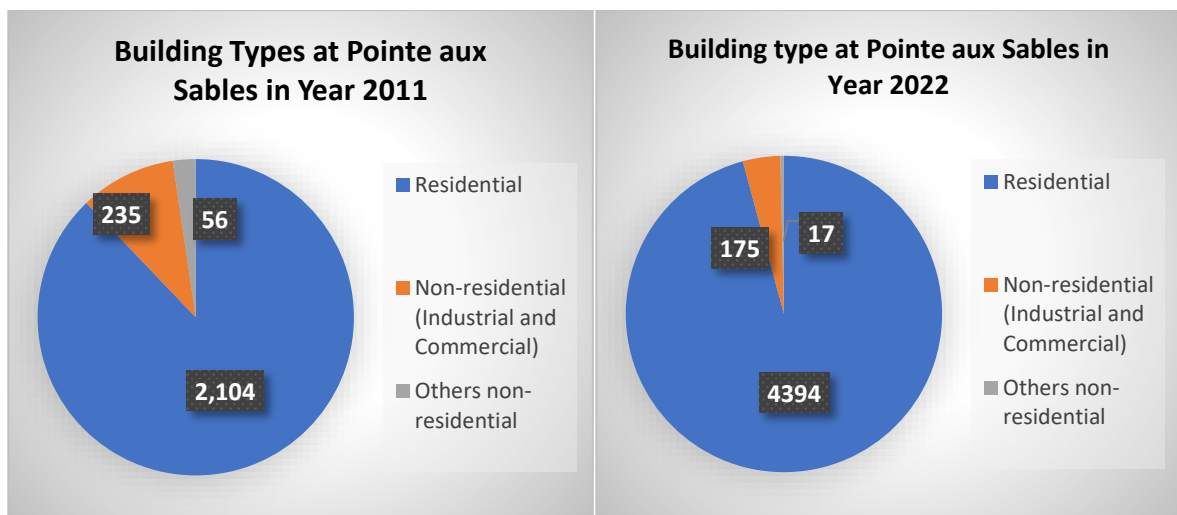
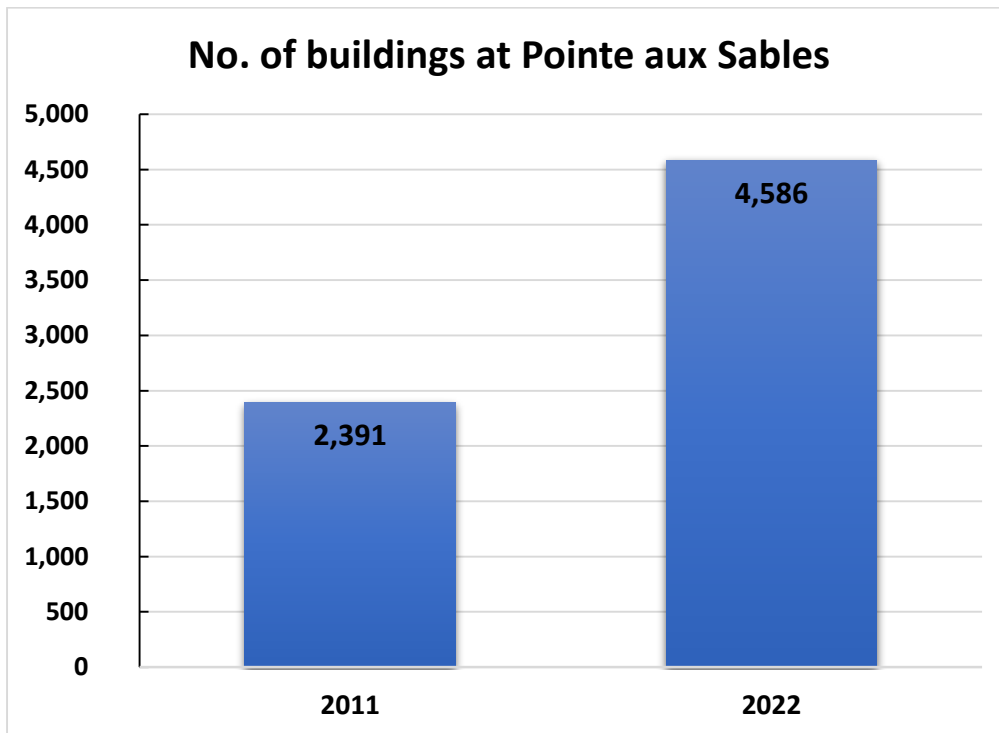


Graph 13: Graphical representation of No. of buildings and building types at Baie du Tombeau in 2011 and 2022.

5.1.2 Pointe aux Sables region

The number and types of building in the region of Pointe aux Sables in year 2011 and 2022 are shown graphically below.

Data were obtained from Statistic Mauritius from Census 2011 and 2022.

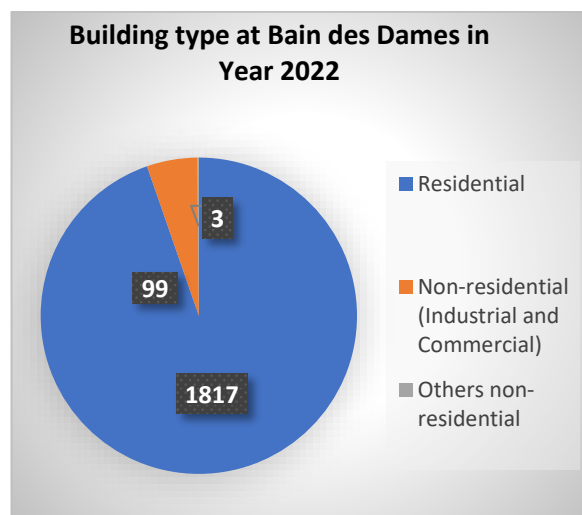
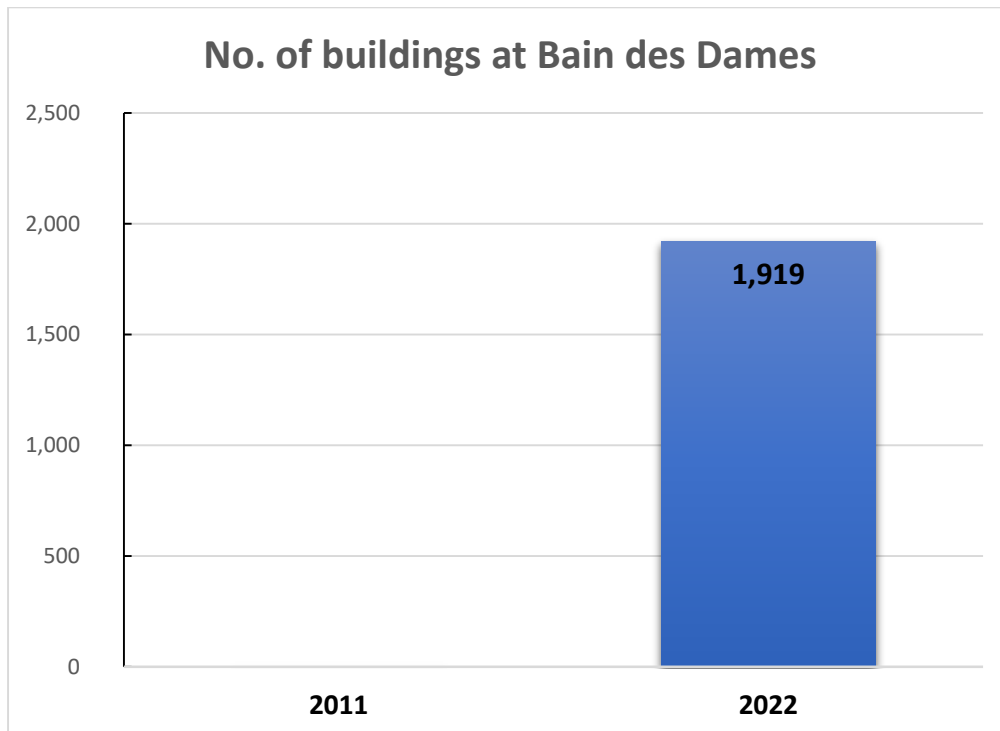


Graph 14: Graphical representation of No. of buildings and building types at Pointe aux Sables in 2011 and 2022.

5.1.3 Bain des Dames region

The number and types of building in the region of Bain des Dames in 2022 are shown graphically below.

Data were obtained from Statistic Mauritius from Census 2022. No data could be obtained for year 2011.



Graph 15: Graphical representation of No. of buildings and building types at Pointe aux Sables in 2022.

6 SUMMARY OF FINDINGS

Table 11: Compliance- Seawater Quality

Sampling Sites	Compliance				
	2002	2021	2022	2023	2024
Baie du Tombeau	✓X (3 sites out of 4 not comply for TC and FC)	✓X (1 site out of 5 not comply for TC and FC)	✓	✓	✓
Bain des Dames	X	X	✓	✓	✓
Sable Noir	X	X	✓	✓	✓X (not comply for FC)
Pointe aux Sables	✓X (2 sites out of 7 not comply for FC)	✓X (2 sites out of 7 not comply for TC and FC)	✓	✓	✓X (1 site out of 7 not comply for TC)

Comply: ✓ Not Comply: X Partially comply: ✓X

TC: Total coliform FC: Faecal coliform

The coastal water quality from Baie du Tombeau to Pointe Aux Sables, generally complied with the Coastal Water Quality Guideline Limits for *primary contact*.

The monitoring results indicate a general improvement in coastal water quality from Baie du Tombeau, to pointe aux Pointe aux Sables in year 2022 to 2024 as compared to 2021.

Table 12: Compliance- River water Quality

Sampling Sites	Compliance (<i>E. coli</i>)				
	2006	2021	2022	2023	2024
Rivulet Terre Rouge	X	X	X	X	X
River Tombeau	-	X	X	X	X
GRNW	-	✓X (1 site out of 7 not comply)	✓X (1 site out of 7 not comply)	✓X (2 sites out of 8 not comply)	✓X (3 sites out of 7 not comply)

Comply: ✓ Not Comply: X Partially comply: ✓X

The river water quality for Rivulet Terre Rouge and River Tombeau did not comply with the guidelines for EU Directives 2006/7/EC for Inland Waters (1000 cfu/100 ml for good water quality) throughout the monitoring period.

A general compliance with EU Directives 2006/7/EC for Inland Waters for good water quality with respect to microbiological parameter *E. coli*, was noted at the point of discharge of GRNW into the sea.

Table 12: Compliance- Fish Quality

Sampling Sites	Compliance				
	2006	2021	2022	2023	2024
Baie du Tombeau	✓	NC	✓	✓	✓
Bain des Dames	✓	NC	✓	✓	✓
Sable Noir	✓	NC	✓	✓	✓
Pointe aux Sables	✓	NC	✓	✓	✓

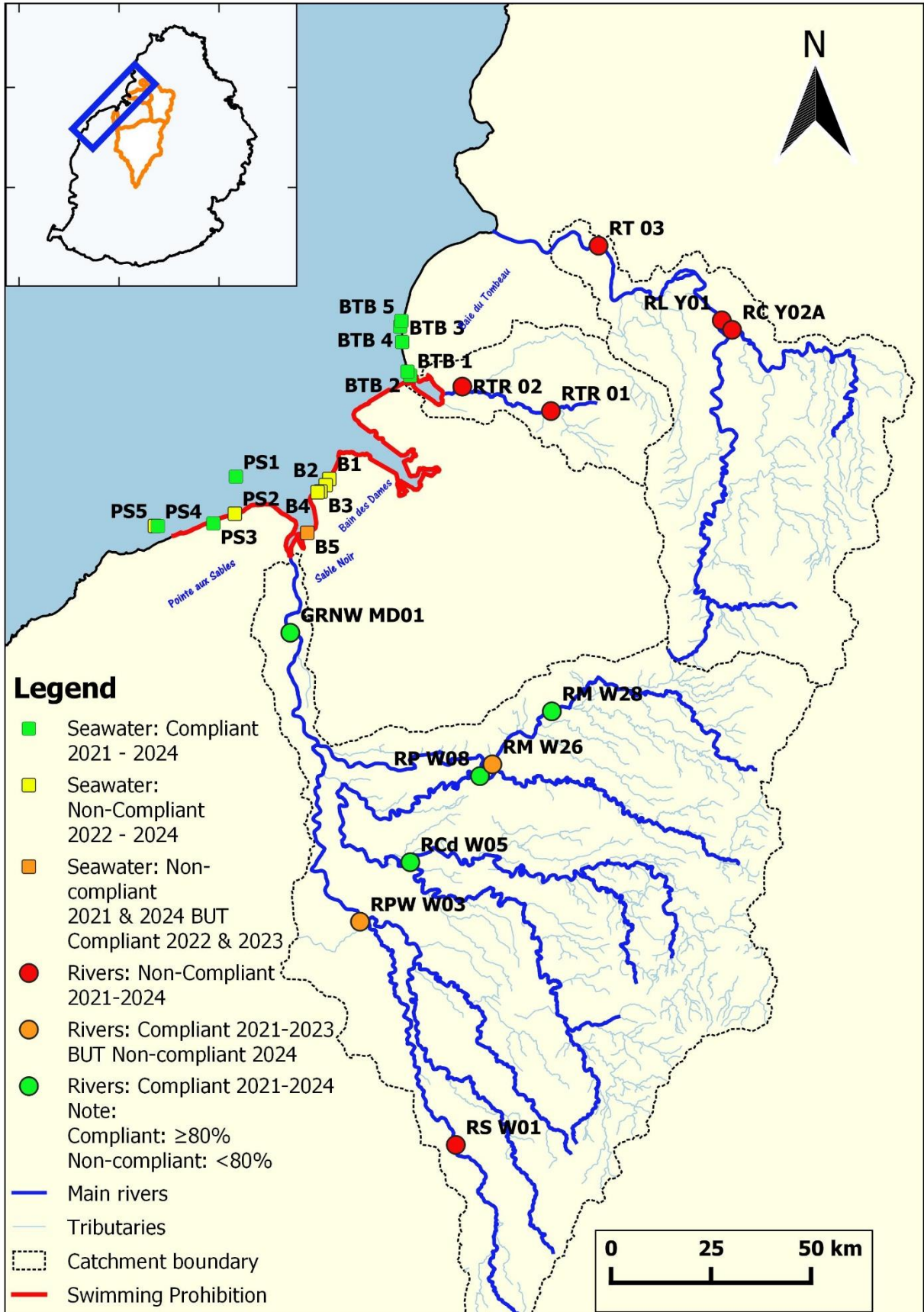
Comply: ✓ Not Comply: X Partially comply: ✓ X NC: Not collected

2021- 2023: Compliance with 7th Schedule of Food Regulations GN 173 of 1999 of the Food Act 1998

2024: Compliance with Regulation 63 of Food Regulations 2024

The quality of fish analysed from 2022 to 2024 complied with the following food regulations:

- a. trace metal components (except for Total Arsenic in 2018) as per Maximum permitted proportion (ppm) of metal contaminants as per 7th Schedule of Food Regulations GN 173 of 1999 of the Food Act 1998 within the study area.
- b. Regulation 63 of Food Regulations 2024.



7 RECOMMENDATIONS

Based on the above findings, the committee is proposing the following recommendations:

- (a) There should be no restriction for human consumption of fish caught from the lagoon in the region of Pointe aux Sables to Tombeau Bay in view that the samples of fish analysed from the years 2022 to 2024 complied with the Food Regulations 2024;
- (b) No swimming should be undertaken as from Pointe aux Sables Police Station up to 100 metres northwards of Nassau Bay in Tombeau Bay, until further notice;
- (c) The Wastewater Management Authority should pursue its commitment to connect all households of the region to sewer network. Priority consideration should be given for all household connections in the area of Pointe aux Sables, Bain des Dames and Tombeau Bay (along Rivulet Terre Rouge areas), and to households in areas within the catchment of Grand River North West, including Allée Brillant, Rivulet Terre Rouge and River Tombeau;
- (d) The Ministry of Local Government, through local authorities, should ensure and enforce that no wastewater is being discharged into storm water drains and rivers;
- (e) Local authorities should ensure that all new constructions comply with the conditions under the Building and Land Use Permit issued;
- (f) The Ministry of Environment, Solid Waste Management and Climate Change, the Ministry of Energy and Public Utilities, the Ministry of Health and Wellness, Ministry of local Government, including District Councils of Pamplemousses and Moka and the concerned Municipal Councils, should also consider investigating whether there are other potential sources of any contamination in the region of Rivulet Terre Rouge, River Tombeau, River Labourdonnais and River Seche at Allée Brilliant and ensure that such contamination is mitigated;
- (g) The enforcement capability of the National Environmental Laboratory, Government Analyst Division, Albion Fisheries Research Centre and the Wastewater Laboratory, and logistics of Enforcing Agencies as per the Environment Act 2024 should be adequately reinforced;
- (h) The integrity of natural drains, rivulets and rivers should be maintained. The drains, rivulets and rivers should not be lined in concrete so as to allow for natural biological (natural treatment of pollution) and physical processes (flooding control);

- (i) The monitoring under the project 'Lagoonal Monitoring in the region of Port Louis' be maintained by the National Environmental Laboratory, Government Analyst Division, Albion Fisheries Research Centre and the Wastewater Laboratory;
- (j) Local authorities should ensure that any proposed development shall comply with the provisions of the Forests and Reserves Act (1983) and the Rivers and Canals Act (1863), where all infrastructures to be erected near a river, shall observe a setback; and
- (k) each enforcing agency should conduct awareness on environmental stewardship and discourage illegal sewage discharge from households and animal husbandry in the study region.

8 REFERENCES

1. Coastal Water Quality Guidelines, (CWQG) of GN No. 620 of 1999
2. European Union (EU) Guidelines Directive 2006 EC
3. Reference Barell, R.A.E., Hunter, P.R. and Nichols, G. (2000) Microbiological Standards for water and their relationship to health risk. *Communicable Disease and Public Health* 3(1), 8-13.
4. Statistics Mauritius, 2023a. Population and Vital Statistics, Port Louis: Government of Mauritius.

9 SUPPLEMENTARY INFORMATION

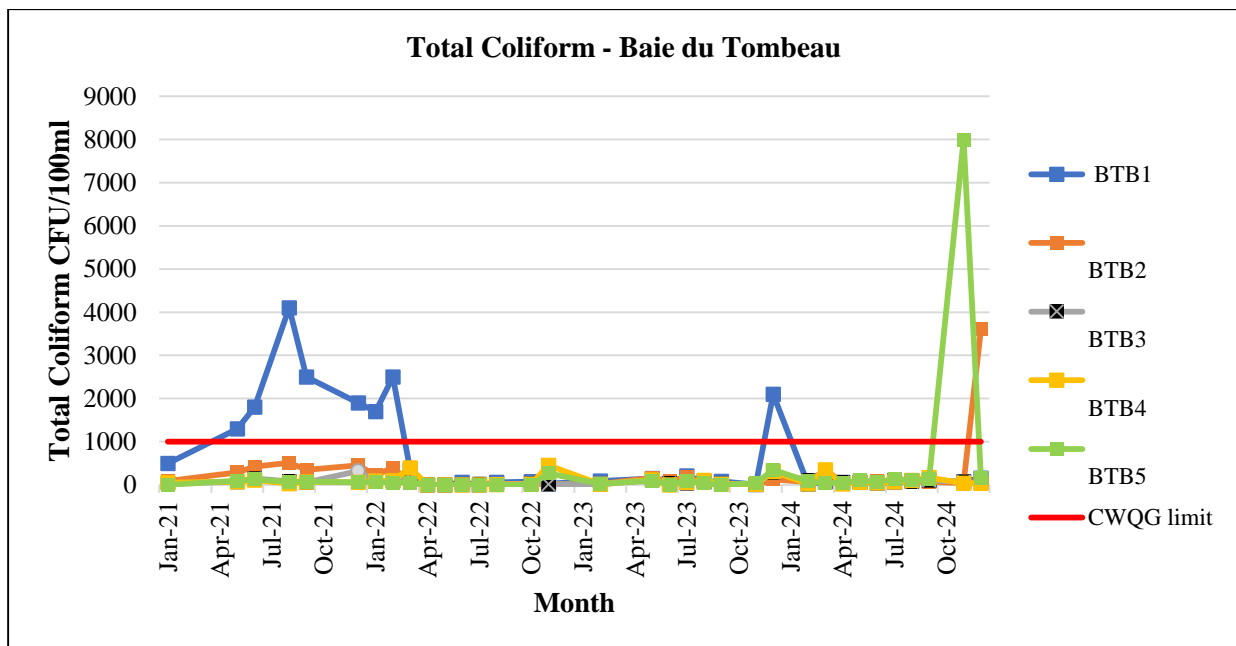
Table 1: No. of sampling surveys/site (2021-2025)

Year	No of sampling surveys/site			
	Baie du Tombeau	Bain des Dames	Pointe aux Sables	Sable Noir
2021	7	6	6	6
2022	11	10	9	9
2023	8	8	10	8
2024	10	10	8	8
2025	6	6	7	7
TOTAL	42	40	40	38

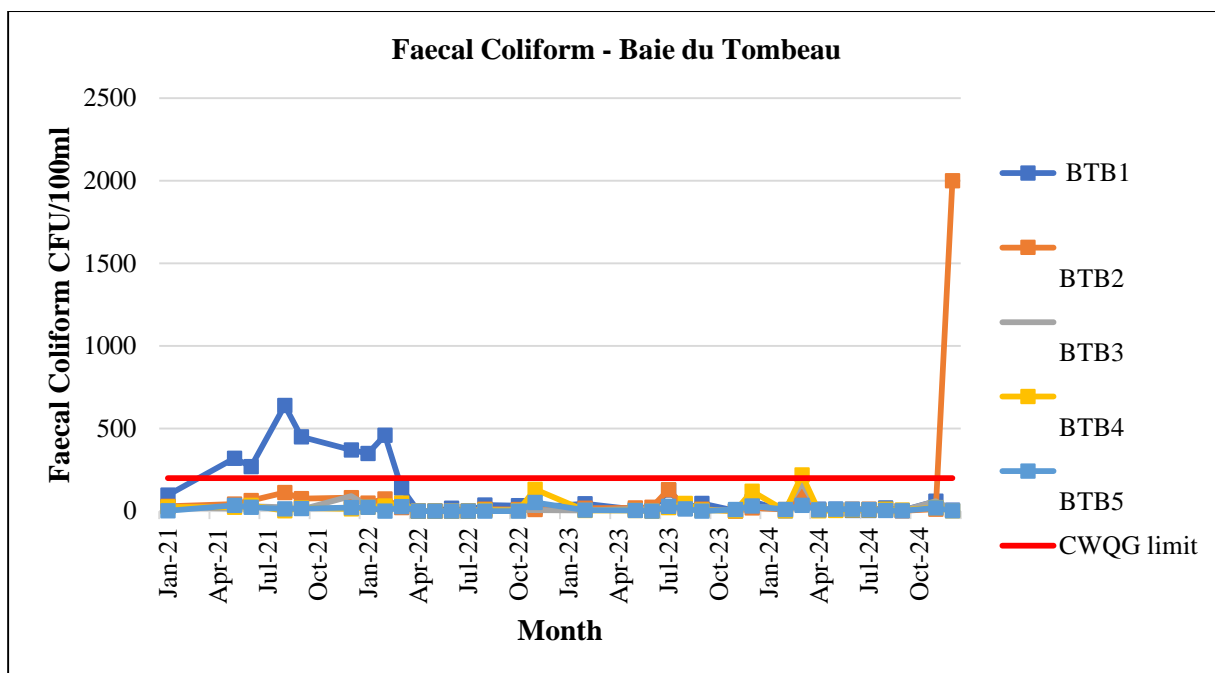
*For 2025, the figures have been compiled up to August 2025

9.1 Graph and Data on seawater quality

9.1.1 Baie du Tombeau



Graph 16: Variation of Total Coliform levels at Baie du Tombeau from 2021 to 2024



Graph 17: Variation of Faecal Coliform levels at Baie du Tombeau from 2021 to 2024

Table 13: Percentage Compliance with the CWQG limits for TC at Baie du Tombeau

Year \ Station	BTB1 Mouth of Rivulet Terre Rouge	BTB2 Nassau Bay	BTB3 Clinique du Nord	BTB4 Pointe Roche Noire	BTB5 Baie du Tombeau Fish Landing Station
2001 - 2002	35	69	77	96	88
2002 - 2003	22	67	100	100	100
Jan - Dec 2004	92	100	100	100	100
Jan - Dec 2005	43	64	86	86	93
Jan - Dec 2006	100	100	100	100	100
Jan - Dec 2007	90	90	100	100	100
Jan - Dec 2008	80	80	100	100	100
Jan - Dec 2009	67	92	100	100	100
Jan - Dec 2010	75	75	100	100	100
Jan - Dec 2011	20	30	90	100	100
Jan - Dec 2012	33	78	89	100	100

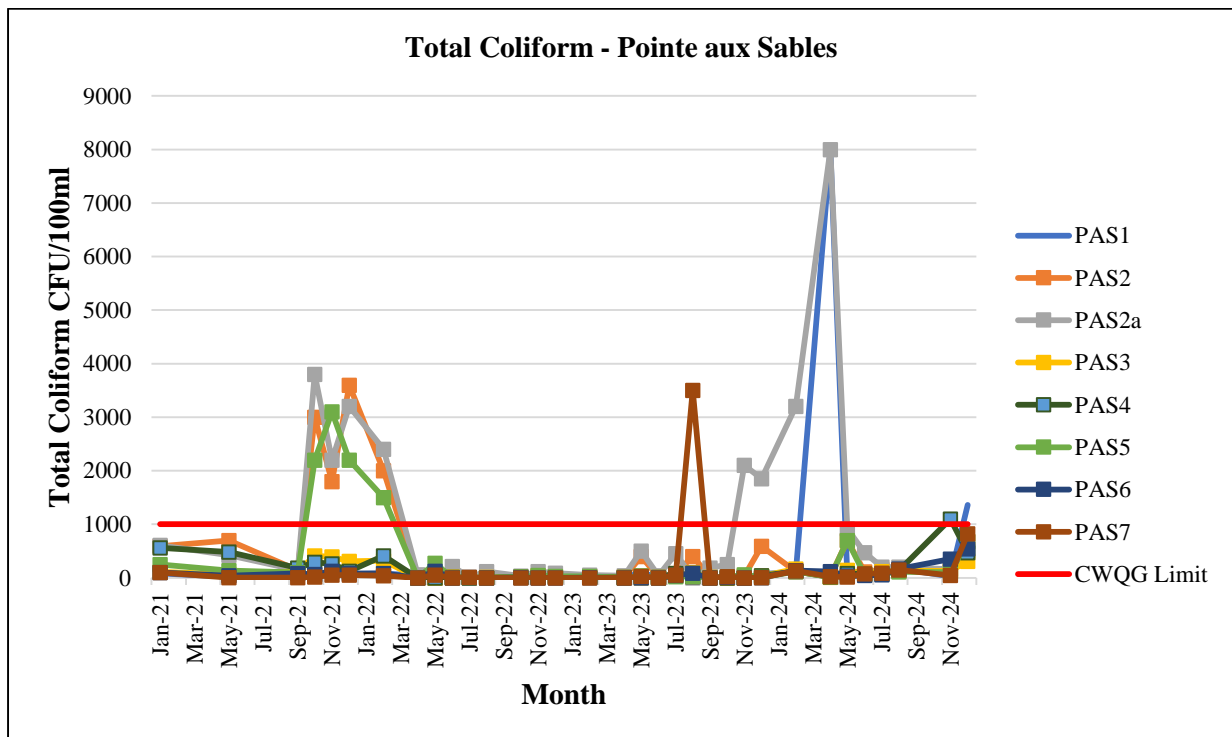
Jan - Dec 2013	67	100	100	100	100
Jan - Dec 2014	45	91	100	100	100
Jan - Dec 2015	45	100	100	100	90
Jan - Dec 2016	40	100	100	100	90
Jan - Dec 2017	20	100	100	80	100
Jan - Dec 2018	43	100	100	100	100
Jan 2019 - Dec 2020	45	100	100	100	100
Jan - Dec 2021	17	100	100	100	100
Jan - Dec 2022	80	100	100	100	100
Jan - Dec 2023	88	100	100	100	100
Jan - Dec 2024	100	90	100	100	90

Table 14: Percentage Compliance with the CWQG limits for FC at Baie du Tombeau

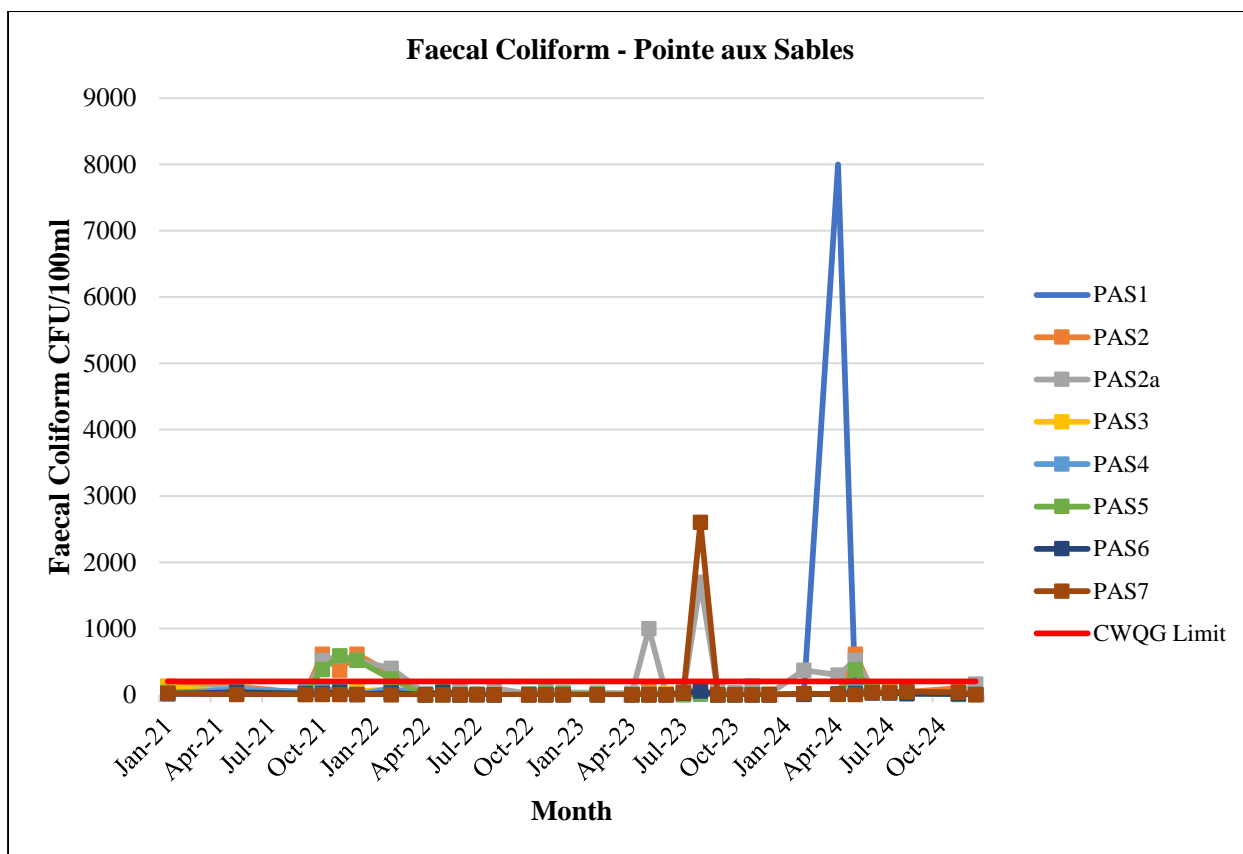
Station Year	BTB1 Mouth of Rivulet Terre Rouge	BTB2 Nassau Bay	BTB3 Clinique du Nord	BTB4 Pointe Roche Noire	BTB5 Baie du Tombeau Fish Landing Station
2001-2002	35	69	77	96	88
2002-2003	22	67	100	100	100
Jan - Dec 2004	92	100	100	100	100
Jan - Dec 2005	43	64	86	86	93
Jan - Dec 2006	100	100	100	100	100
Jan - Dec 2007	90	90	100	100	100
Jan - Dec 2008	80	80	100	100	100
Jan - Dec 2009	67	92	100	100	100
Jan - Dec 2010	75	75	100	100	100
Jan - Dec 2011	20	30	90	100	100
Jan - Dec 2012	33	78	89	100	100

Jan - Dec 2013	67	100	100	100	100
Jan - Dec 2014	45	91	100	100	100
Jan - Dec 2015	75	100	100	100	100
Jan - Dec 2016	50	100	100	100	100
Jan - Dec 2017	22	78	100	78	100
Jan - Dec 2018	43	100	100	100	100
Jan 2019 - Dec 2020	45	100	100	100	100
Jan - Dec 2021	17	100	100	100	100
Jan - Dec 2022	80	100	100	100	100
Jan - Dec 2023	100	100	100	100	100
Jan - Dec 2024	100	90	100	90	100

9.1.2 Pointe aux Sables



Graph 18: Variation of Total Coliform levels at Pointe aux Sables from 2021 to 2024



Graph 19: Variation for Faecal Coliform levels at Pointe aux Sables from 2021 to 2024

Table 15: Percentage Compliance with the CWQG limit for TC at Pointe aux Sables

Station	PS1	PS2	PS 2a	PS3	PS4	PS5	PS6	PS7
	Martelo Tower	Cite Debarcadere	Storm water drain	Fish Landin g Station	100m North Public beach	Public beach La Mare Samson	La Pointe	Prison Petit Verger
2001 - 2002	92	96	-	86	96	90	90	98
2002 - 2003	92	85	-	77	92	75	100	92
Jan - Dec 2004	100	92	-	67	100	92	100	100
Jan - Dec 2005	100	67	-	100	92	75	100	92
Jan - Dec 2006	92	92	-	83	83	83	100	100

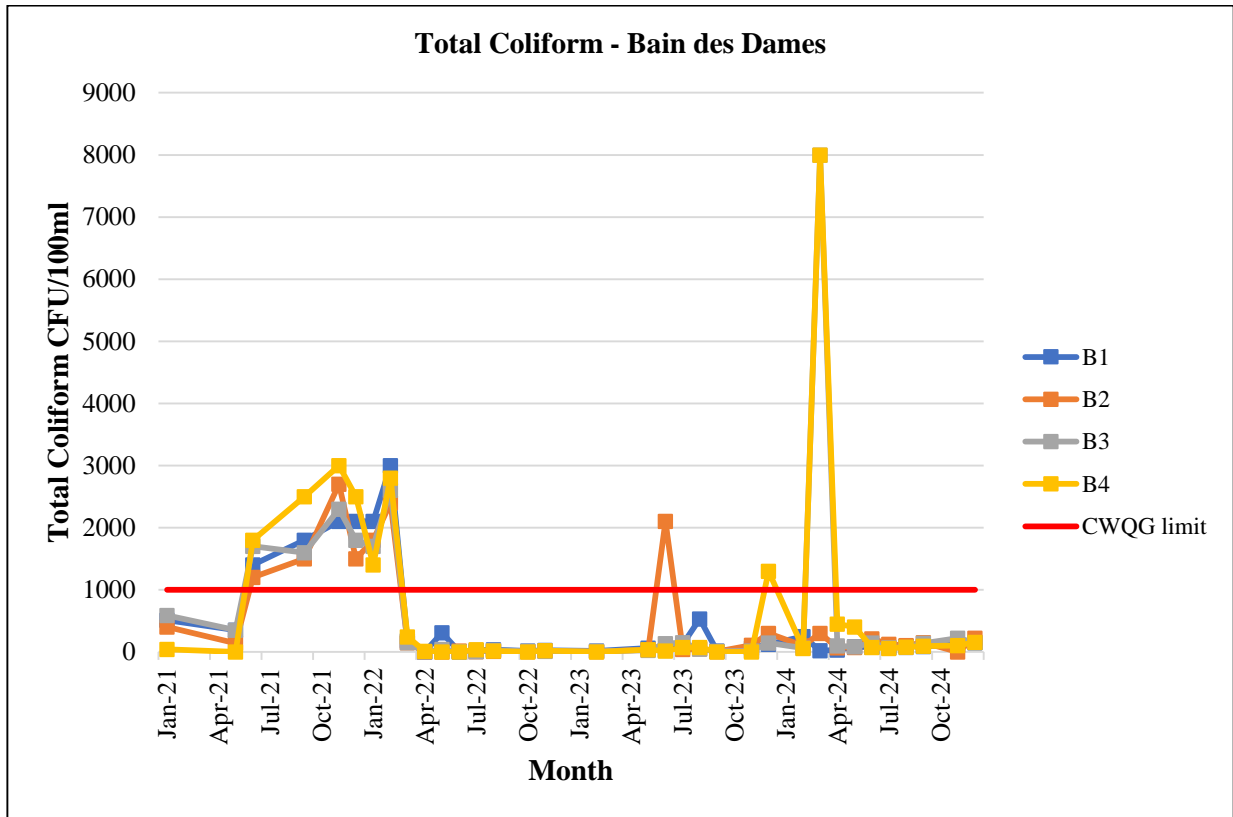
Jan - Dec 2007	100	91	-	78	91	78	100	100
Jan - Dec 2008	100	83	-	83	83	83	100	100
Jan - Dec 2009	100	64	-	73	91	91	100	100
Jan - Dec 2010	100	67	-	67	75	75	100	100
Jan - Dec 2011	100	67	-	56	100	78	100	89
Jan - Dec 2012	100	55	-	90	90	55	100	100
Jan - Dec 2013	100	75	-	100	100	75	100	100
Jan - Dec 2014	100	50	-	100	92	58	100	100
Jan - Dec 2015	100	82	36	100	100	64	100	100
Jan - Dec 2016	100	45	18	100	91	82	91	100
Jan - Dec 2017	100	20	0	100	90	70	100	100
Jan - Dec 2018	100	63	63	88	88	75	100	88
Jan 2019 - Dec 2020	100	57	36	100	79	50	100	100
Jan - Dec 2021	100	50	50	100	100	50	100	100
Jan - Dec 2022	100	89	89	100	100	89	100	100
Jan - Dec 2023	100	100	50	100	100	100	100	90
Jan - Dec 2024	75	100	75	100	88	100	100	100

Table 16: Percentage Compliance with the CWQG limit for FC at Pointe aux Sables

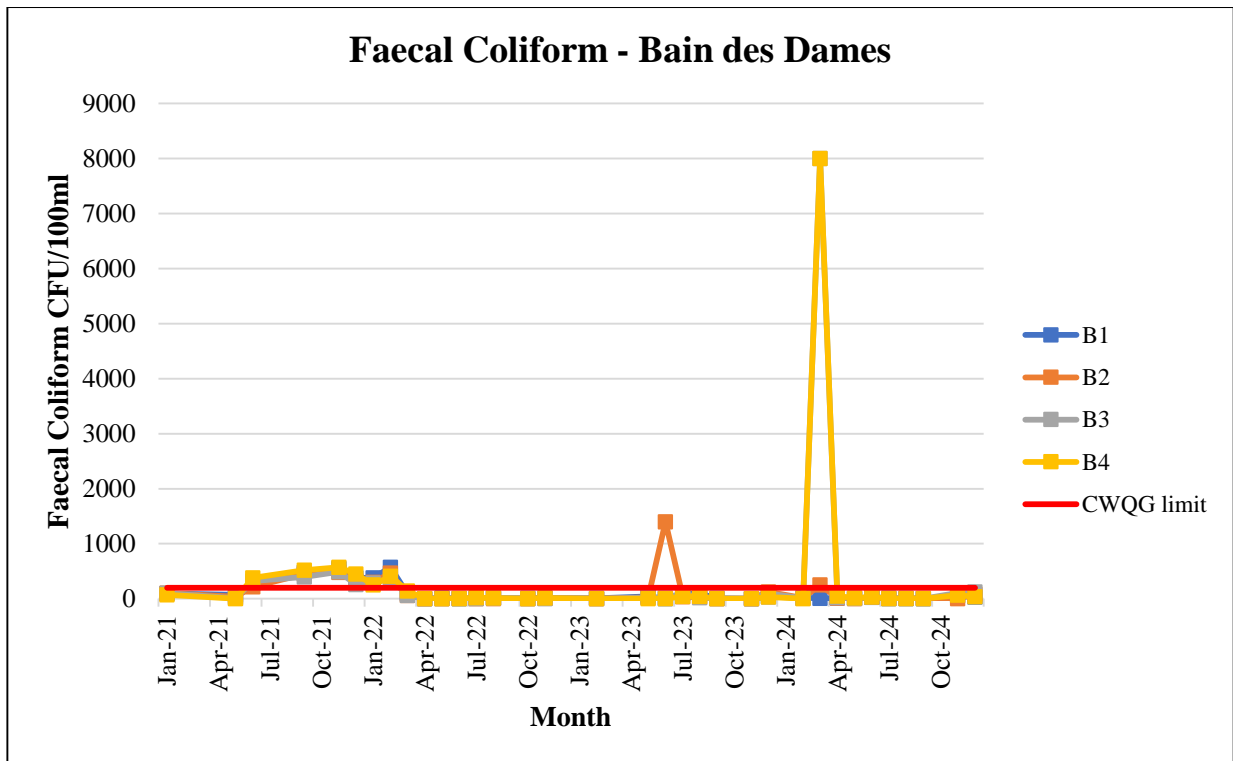
Station Year	PS1	PS2	PS 2a	PS3	PS4	PS5	PS6	PS7
	Martelo Tower	Cite Debarcadere	Storm water drain	Fish Landi ng Station	100m North Public beach	Public beach La Mare Sams on	La Pointe	Prison Petit Verger
2001 - 2002	88	88	-	73	92	78	90	97
2002 - 2003	92	77	-	77	92	50	100	100
Jan - Dec 2004	100	92	-	67	100	92	100	100
Jan - Dec 2005	92	67	-	100	83	75	100	92

Jan - Dec 2006	92	92	-	83	83	83	100	100
Jan - Dec 2007	100	91	-	78	91	78	100	100
Jan - Dec 2008	100	83	-	83	83	83	100	100
Jan - Dec 2009	100	64	--	73	91	91	100	100
Jan - Dec 2010	100	67	-	67	75	75	100	100
Jan - Dec 2011	100	67	-	56	100	78	100	89
Jan - Dec 2012	100	55	-	90	90	55	100	100
Jan - Dec 2013	100	75	-	100	100	75	100	100
Jan - Dec 2014	100	50	-	100	92	58	100	100
Jan - Dec 2015	100	100	38	100	100	75	100	100
Jan - Dec 2016	100	73	18	100	91	91	100	100
Jan - Dec 2017	100	22	0	100	89	67	100	100
Jan - Dec2018	100	63	63	88	88	75	100	88
Jan 2019 - Dec 2020	100	57	36	100	79	50	100	100
Jan - Dec 2021	100	50	50	100	100	50	100	100
Jan - Dec 2022	100	89	89	100	100	89	100	100
Jan - Dec 2023	100	100	80	100	100	100	100	90
Jan - Dec 2024	88	88	63	100	100	88	100	100

9.1.3 Bain des Dames and Sables Noir



Graph 20: Variation of Total Coliform levels at Bain Des Dames from 2021 to 2024



Graph 21: Variation of Faecal Coliform levels at Bain Des Dames from 2021 to 2024

Table 17: Percentage Compliance with the CWQG limit for TC at Bain des Dames

Station \ Year	B1 La Grotte	B2 Fish Landing Station	B3 Opposite Steps	B4 Pumping Station	B5 Sable Noir
2001 – 2002	45	15	60	55	83
2002 - 2003	67	33	33	33	85
Jan - Dec 04	29	0	14	0	92
Jan - Dec 05	40	10	40	30	100
Jan - Dec 06	100		67		100
Jan - Dec 07	50		25		100
Jan - Dec 2008	9		55		100
Jan - Dec 2009	71		57		100
Jan - Dec 2010	100	64	64	82	92
Jan - Dec 2011	70	50	50	80	63

Jan - Dec 2012	67	42	33	75	78
Jan - Dec 2013	69	62	69	85	100
Jan - Dec 2014	83	92	83	92	92
Jan - Dec 2015	-	-	-	-	100
Jan - Dec 2016	-	-	-	-	73
Jan - Dec 2017	-	-	-	-	50
Jan - Dec 2018	-	-	-	-	88
Jan 2019 - Dec 2020	50	58	67	67	58
Jan - Dec 2021	33	33	33	33	67
Jan - Dec 2022	80	80	80	80	89
Jan - Dec 2023	100	88	100	88	100
Jan - Dec 2024	100	100	90	90	100

Table 18: Percentage Compliance with the CWQG limits for *E coli* / FC at Bain des Dames

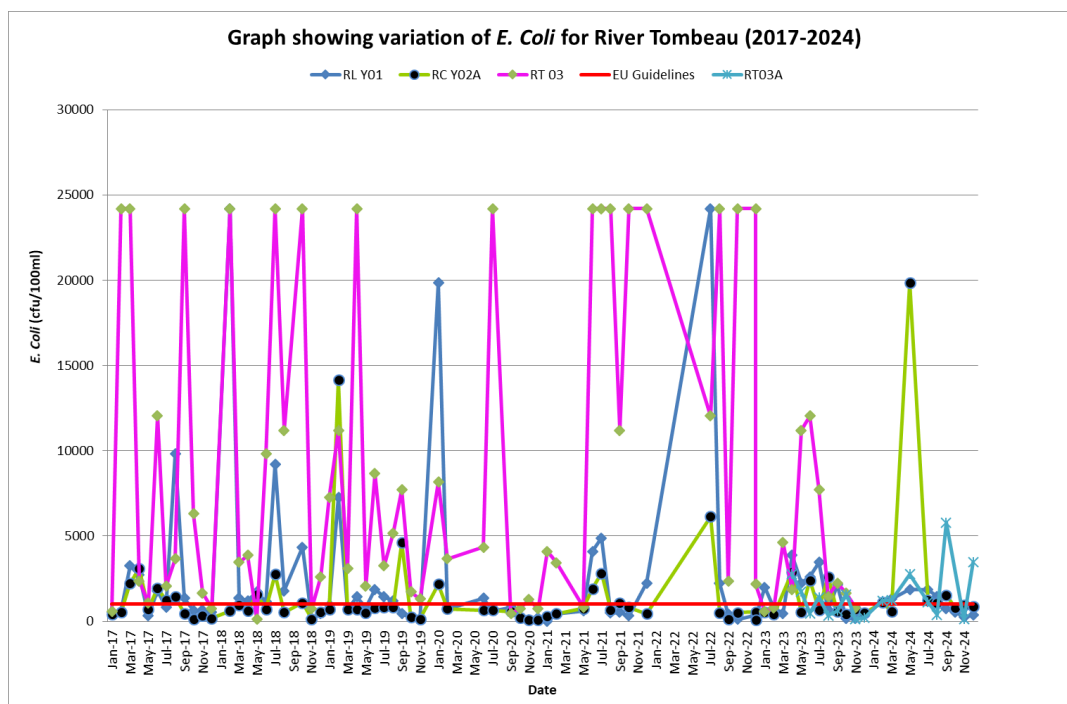
Station Year	B1 La Grotte	B2 Fish Landing Station	B3 Opposite Steps	B4 Pumping Station	B5* Sable Noir
2001 - 2002	35	10	40	40	72
2002 - 2003	67	33	33	33	77
Jan - Dec 2004	43	0	0	0	100
Jan - Dec 2005	56	10	30	30	100
Jan - Dec 2006	100		67		100
Jan - Dec 2007	75		50		100
Jan - Dec 2008	9		55		100
Jan - Dec 2009	71		57		100
Jan - Dec 2010	100	73	55	73	92

Jan - Dec 2011	70	50	50	80	63
Jan - Dec 2012	75	50	42	67	78
Jan - Dec 2013	85	85	92	100	100
Jan - Dec 2014	92	83	83	92	92
Jan - Dec 2015	-	-	-	-	100
Jan - Dec 2016	-	-	-	-	82
Jan - Dec 2017	-	-	-	-	50
Jan - Dec 2018	-	-	-	-	100
Jan 2019 - Dec 2020	50	58	67	67	58
Jan - Dec 2021	33	33	33	33	67
Jan - Dec 2022	80	80	80	80	89
Jan - Dec 2023	100	88	100	100	100
Jan - Dec 2024	100	90	90	90	75

*Note: *B5- Faecal Coliforms bacteria were monitored at B5 instead of E. coli*

9.2 Graphs and Data on river water quality

9.2.1 River du Tombeau



Graph 22: Graph showing variation of *E. coli* for River Tombeau

Table 19: Showing variations of Total Coliforms and *E. coli* in River Tombeau

Year	Total Coliforms (CFU/100ml)	<i>E. coli</i> (CFU/100ml)
Jan – Dec 2017	>24 196	110 to >24 196
Jan -Dec 2018	>24 196	144 to >24 196
Jan – Dec 2019	14136 to >24 196	145 to >24 196
Jan2019 – Dec 2020	1720 to >24 196	84 to >24 196
Jan2021- Dec2022	6131 to >24 196	<10 to >24 196

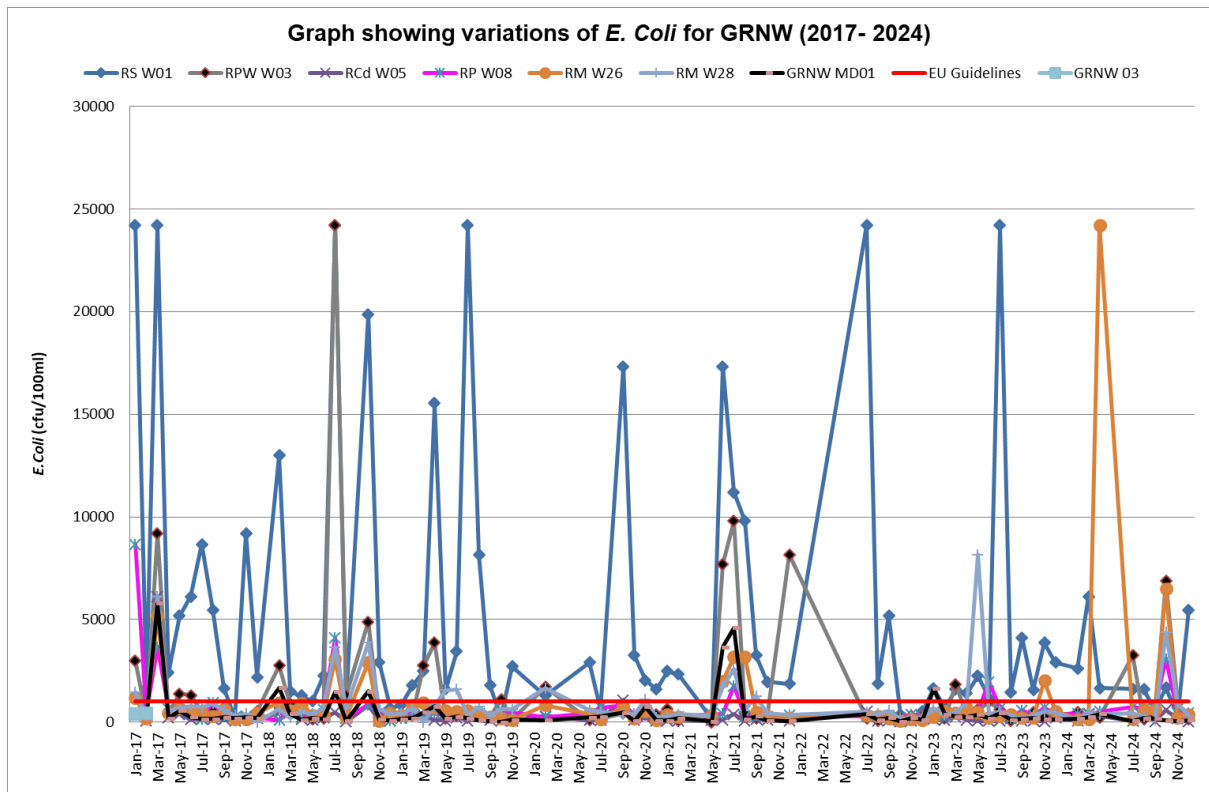
Jan – Dec 2023	10112 to >24 196	109 to 12033
Jan – Dec 2024	1153 to >24 196	109 to >24 196

Table 20: Showing percentage compliance of *E. coli* at sampling stations in River Tombeau (Barell et al, 2000)

Year	Percentage compliance			
	RL Y01	RC Y02A	RT 03	RT 03A
Jan-Dec 2017	58	58	17	-
Jan-Dec 2018	20	70	20	-
Jan-Nov 2019	55	82	0	-
Jan 2019-Dec 2020	63	84	16	-
Jan 2021-Dec 2022	67	73	7	-
Jan-Dec 2023	50	73	25	56
Jan-Dec 2024	44	44	-	25

9.2.2 GRNW

Test results showed that *E. coli* levels have generally complied with Guidelines for EU Directives 2006/7/EC for Inland Waters (1000 cfu/100 ml for good water quality) in GRNW except for RS W01 and RS W01A in River Seche. *E. coli* levels have mostly exceeded the above guidelines in River Seche at sampling stations RS W01 and RS W01A which is indicative of faecal contamination. It is noted that River Seche passes through the heavily populated urban areas and might be contaminated through anthropogenic activities.



Graph 23: Graph showing variation of *E. coli* for GRNW

Table 21: Showing variations of Total Coliforms and *E. coli* in GRNW

Year	Total Coliforms (CFU/100ml)	<i>E. coli</i> (CFU/100ml)
Jan – Dec 2010	8400 to 51700	10 to 15531
Jan – Dec 2011	1650 to >24 196	20 to 14136
Jan – Dec 2012	2143 to >24 196	31 to 12997
Jan – Dec 2013	4106 to >24 196	20 to >24 196
Jan – Dec 2014	2143 to >24 196	31 to >24 196
Jan – Dec 2015	14136 to >24 196	74 to 3255
Jan – Dec 2016	7270 to >24 196	52 to 12997

Year	Total Coliforms (CFU/100ml)	<i>E. coli</i> (CFU/100ml)
Jan -Dec 2017	6131 to >24 196	10 to >24 196
Jan – Dec 2018	2359 to >24 196	20 to >24 196
Jan 2019- Dec 2020	1372 to >24 196	<10 to >24 196
Jan 2021- Dec 2022	2400 to >24196	10 to >24 196
Jan – Dec 2023	6131 to >24196	41 to >24 196
Jan – Dec 2024	1850 to >24196	20 to 6867

Table 22: Showing percentage compliance of *E. coli* for sampling stations in GRNW (Barell et al, 2000)

Year	Percentage compliance							RS W01A
	RS W01	RPW W03	RCd W05	RP W08	RM W26	RM W28	GRNW MD 01	
Jan - Dec 2017	8	67	92	83	83	83	92	-
Jan - Dec 2018	10	60	100	90	80	80	70	-
Jan 2019 - Dec 2020	17	78	94	100	100	78	100	-
Jan 2021 - Dec 2022	27	80	100	93	80	80	87	-
Jan - Dec 2023	8	92	100	92	92	91	92	22
Jan - Dec 2024	22	78	100	89	78	89	92	-

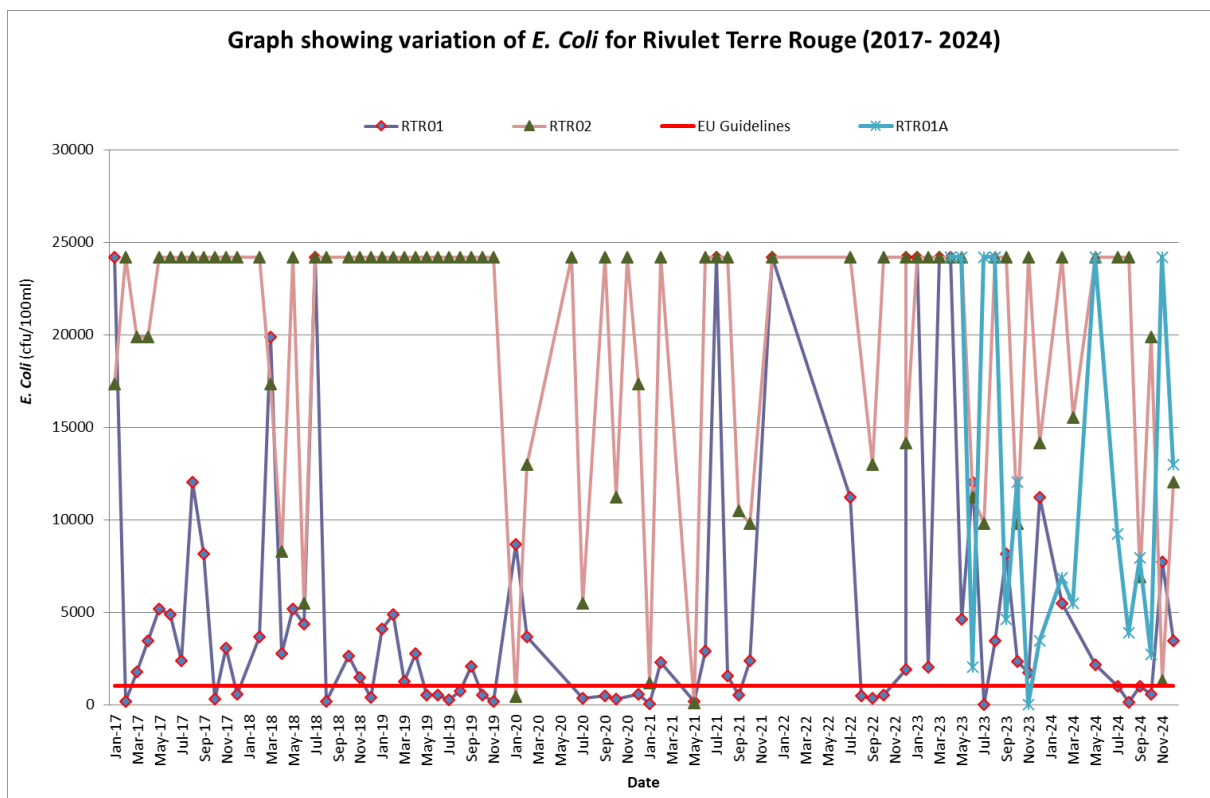
9.2.3 Rivulet Terre Rouge

In the absence of established guidelines for Total Coliforms and *E. coli* in the Guidelines for Inland Surface Waters Quality, the *E. coli* results were compared with Guidelines for EU Directives 2006/7/EC for Inland Waters (1000 cfu/100 ml for good water quality). There are no guidelines for Total Coliforms.

From January 2021 to December 2022, test results showed that on most occasions *E. coli* levels have exceeded Guidelines for EU Directives 2006/7/EC for Inland Waters (1000 cfu/100 ml for good water quality) at the two sampling stations (RTR 01 and RTR 02) in Rivulet Terre Rouge.

In 2023, *E. coli* levels at RTR 01 and RTR 02 have exceeded the above guidelines for all 12 sampling campaigns. At RTR 01A, *E. coli* levels was not compliant for 8 out of 9 sampling campaigns. High levels of Total Coliforms were also noted.

In 2024,



Graph 24: Graph showing variation of *E. coli* for Rivulet Terre Rouge

Table 23: Showing variations of Total Coliforms and *E. coli* at sampling stations in Rivulet Terre Rouge

Year	Total Coliforms (CFU/100ml)	<i>E.coli</i> (CFU/100ml)
Jan – Dec 2010	1187 to >24 196	41 to 24 196
Jan – Dec 2011	>24 196	98 to 24 196
Jan – Dec 2012	>24 196	187 to >24 196
Jan – Dec 2013	>24 196	75 to >24 196
Jan – Dec 2014	>24 196	465 to >24 196
Jan – Dec 2015	>24 196	<10 to >24 196
Jan – Dec 2016	>24 196	459 to >24 196
Jan -Dec 2017	19863 to >24 196	160 to >24 196
Jan – Dec 2018	>24 196	185 to >24 196
Jan 2019- Dec 2020	>24 196	161 to >24 196
Jan 2021- Dec 2022	>24 196	51 to >24 196
Jan – Dec 2023	>24 196	20 to >24 196
Jan – Dec 2024	15531 to >24196	130 to >24196

Table 24: Showing percentage compliance of *E. coli* for sampling stations in Rivulet Terre Rouge (Barell et al, 2000)

Year	Percentage compliance		
	RTR 01	RTR 02	RTR 01A
Jan – Dec 2005	0	0	-
Jan – Dec 2007	50	17	-
Jan – Dec 2008	50	33	-
Jan – Dec 2009	0	9	-
Jan – Dec 2010	55	9	-
Jan – Dec 2011	56	0	-
Jan – Dec 2012	44	0	-
Jan - Dec 2013	17	8	-
Jan- Dec 2014	9	0	-
Jan- Dec 2015	0	0	-
Jan- Dec 2016	0	0	-
Jan- Dec 2017	25	0	-
Jan- Dec 2018	20	0	-
Jan- Nov 2019	55	0	-
Jan 2019- Dec 2020	59	5	-

Year	Percentage compliance		
	RTR 01	RTR 02	RTR 01A
Jan 2021- Dec 2022	40	7	-
Jan 2023 – Dec 2023	0	0	11
Jan – Dec 2024	38	0	0

9.3 Assessing Sources of Pollution In Rivers And Rivulets Of Suburban Regions

The NEL implemented the project “Assessing Sources of Pollution in Rivers and Rivulets of Suburban Regions” in collaboration with the International Atomic Energy Agency (IAEA) during the period 2016 to 2019. The aim of this project was to contribute to better management and pollution control of surface water in the suburban region of Port Louis through identification of potential sources of nitrate contamination using stable isotope techniques and for capacity building in isotope hydrology. This study was conducted to enhance the findings of the *Lagoonal Monitoring in the Region of Port Louis* project.

The objectives of this study were to apply stable isotope techniques in accompaniment with conventional chemical tests to:

- Understand factors influencing water quality in the study area.
- Understand the movement of nitrate in surface water.
- Identify nitrate hotspots in the studied area.
- Estimate the relative contribution of each nitrate source.
- Formulate recommendations to support policy decisions for environmental protection.

The study had the collaboration of the key stakeholders – Ministry of Energy and Public Utilities and institutions falling under its purview i.e, the Water Resources Unit and the Central Water Authority.

In this study, surface water was investigated in three catchment areas: Grand River North West, River Tombeau and Rivulet Terre Rouge which discharge into the bay of Port Louis.

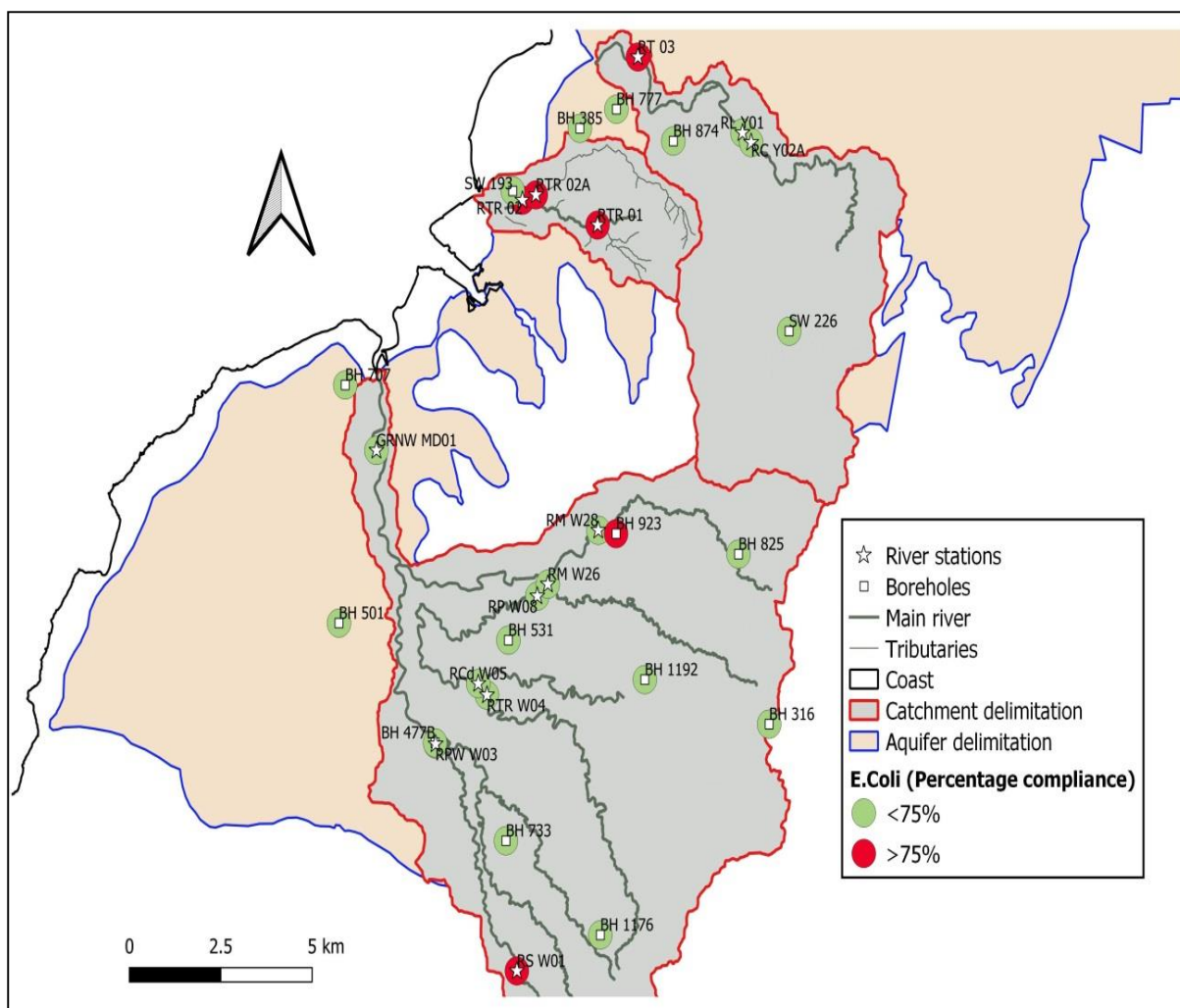
A total of two hundred and twenty-two (222) river water samples were collected at fourteen (14) river stations. Physicochemical tests and analysis of stable isotopes of water were done at the NEL. Analysis for stable isotopes of nitrate in water samples were performed at ISOFYS laboratory, in Ghent, Belgium and for solid source materials (nitrate sources), at Maima Laboratory in Spain.

Main Findings- Surface water (Rivers and Rivulet)

- a) The study revealed that the geology of the catchment area defines the chemical properties of river water, with exception of sampling sites close to the coast, which seemed to be influenced by seawater intrusion.
- b) The land-based activities along the river pathways influenced the water quality.
- c) River water quality generally met the Mauritian Guidelines for Inland Surface Water Quality, except for some parameters (*E. coli*, *Phosphate* and *Nitrate*) at sites affected by anthropogenic inputs.
- d) Microbiological results (*E. coli*) showed that the river water at RSW01, RTR01, RTR02 and RT03 generally did not comply with the EU Directive 2006/7/EC for Inland Waters indicating presence of faecal contamination. The presence of *E. coli*, which may be attributed to the release from faulty septic tanks and run-off from animal husbandry were noted in one tributary of Grand River North West (River Sèche at Allée Brilliant – RS W01), in upstream and downstream of Rivulet Terre Rouge (RTR 01 & RTR 02), and at the closing section of River Tombeau (RT03).
- e) It was also noticed that concentrations of nutrients (Ammonia, Nitrate and Phosphate) in rivers generally increased from the source to the mouth, cumulating along the river pathway. Land-based activities contributed to nutrient inputs, with higher concentrations in rivers flowing through dense residential agglomerations. This trend was observed in the three catchment areas as follows: Rivulet Terre Rouge > River Tombeau > Grand River North West.
- f) The most impacted river in terms of water quality was Rivulet Terre Rouge (RTR) as revealed by relatively high levels of nitrate and presence of faecal contamination. This river flows in the urban area of Port Louis, which comprise animal rearing farms, industrial zones as well as agricultural and residential areas, with no house connection to the sewer system.
- g) With regard to nitrate contamination, none of the rivers monitored exceeded the Environment Protection (Drinking Water Standards) Regulations 1996 and the World Health Organisation (WHO) Guidelines for Drinking Water Quality, 2011 whose limit for nitrate is

set at 50 mg/L, but its concentration varied in the rivers monitored, indicating contribution from different sources.

- h) Identification of the sources of nitrate using the stable isotope mixing model revealed four main contributors: soil, manure & sewage, ammonium fertiliser and nitrate fertiliser. Soil is a natural source of nitrate and the three others are considered to be anthropogenic.
- i) In overall, in the three catchment areas, manure & sewage was the main contributor of nitrate, in the range of 57% to 90% and synthetic fertilisers was the second contributor.
- j) In the catchment Grand River North West, at sampling point RS W01, manure & sewage contributed to around 90% of nitrate, which may be attributed to input from surface runoff from nearby animal farm (horse stable) and the nearby residential areas.
- k) Sites with dense residential areas had contributions from manure & sewage at around 90%, indicating influence of urban activities. At sampling locations RTR 01 and RTR 02, illegal sewage discharge from households and scattered animal husbandry (pigs) seemed to be the main contributors of nitrate.
- l) High influence of manure & sewage was also observed at sampling locations RL Y01, RC Y02A and RT 03, where urban activities contribute largely to nitrate input.
- m) Synthetic fertilisers contributed to sites under influence of agricultural practices at around 20%, indicating that surface runoff carried fertilisers from crop fields into streams.



Map 2: General Compliance of River w.r.t *E. coli* monitored during period 2017-2019

9.4 Fish Quality

Table 25: Test results for heavy metals in fish samples analysed in 2022

SN	Sample reference	Heavy metals levels in Fish (mg/kg)								
		Arsenic As	Cadmium Cd	Copper Cu	Mercury Hg	Lead Pb	Selenium Se	Antimony Sb	Tin Sn	Zinc Zn
1	AFRC_PAS_Rouget_11.02.22	0.25	0.05 (<i>< LOQ</i>)	0.30 (<i>< LOQ</i>)	ND	ND	1.77	ND	ND	21.70
2	AFRC_PAS_Cordonnier_11.02.22	0.11	0.014 (<i>< LOQ</i>)	1.60	ND	0.22	0.59	0.005 (<i>< LOQ</i>)	ND	22.80
3	AFRC_PAS_Battardet_11.02.22	0.28	0.002 (<i>< LOQ</i>)	0.15 (<i>< LOQ</i>)	0.044 (<i>< LOQ</i>)	ND	0.37	ND	ND	5.90

4	AFRC_PAS_Rouget_ 18.03.22	0.38	0.013 (<i>< LOQ</i>)	0.82	ND	0.01 (<i>< LOQ</i>)	0.80	ND	ND	15.00
5	AFRC_PAS_Mullet sec_ 18.03.22	0.09	0.005 (<i>< LOQ</i>)	1.30	ND	0.25	0.41	0.002 (<i>< LOQ</i>)	ND	11.90
6	AFRC_SN_Mullet sec_ 28.03.22	0.54	0.002 (<i>< LOQ</i>)	2.45	ND	0.21	0.35	ND	ND	7.90
7	AFRC_SN_Sanspet_ 28.03.22	0.28	ND	1.37	ND	0.06 (<i>< LOQ</i>)	0.30	ND	ND	11.80
8	AFRC_SN_Sap sap_ 28.03.22	0.48	ND	0.10 (<i>< LOQ</i>)	ND	0.02 (<i>< LOQ</i>)	0.40	ND	ND	19.65
9	AFRC_BDD_Lorsan_ 20.04.22	0.29	ND	0.29 (<i>< LOQ</i>)	ND	0.22	0.06 (<i>< LOQ</i>)	ND	ND	4.50
10	AFRC_BDD_Battardet (A)_ 20.04.22	0.41	ND	ND	ND	ND	0.21	ND	ND	2.35
11	AFRC_BDD_Battardet(B)_ 20.04.22	0.48	ND	ND	ND	0.02 (<i>< LOQ</i>)	0.18	ND	ND	3.38
12	AFRC_BDD_Barbet_ 20.04.22	0.10	ND	ND	0.04 (<i>< LOQ</i>)	0.007 (<i>< LOQ</i>)	0.24	ND	ND	0.89
13	AFRC_BDD _Poisson_Aiguille_ 20.04.22	0.42	ND	ND	ND	ND	0.32	ND	ND	5.17
14	AFRC_BDT_Rouget F(A)_ 22.04.22	0.20	0.003 (<i>< LOQ</i>)	ND	ND	0.13	0.86	ND	ND	16.50
15	AFRC_BDT_Rouget F(B)_ 22.04.22	0.17	0.003 (<i>< LOQ</i>)	ND	ND	0.10	0.83	ND	ND	18.30
16	AFRC_BDT_Cordonnier_ 22.04.22	0.53	ND	ND	ND	0.20	0.31	ND	ND	6.38
Limit of Quantification		0.1	0.1	0.5	0.05	0.1	0.1	0.1	0.1	0.5

Table 26: Test results for heavy metals in fish samples analysed in 2023

SN	Sample Reference	Heavy metals concentration in mg/kg								
		Arsenic As	Cadmiu m Cd	Copper Cu	Mercur y Hg	Lead Pb	Seleniu m Se	Antimo ny Sb	Tin Sn	Zinc Zn
1	AFRC_BDT_01_29.09.23	0.23	ND	ND	0.05	ND	0.39	0.07 (<i>< LOQ</i>)	ND	ND
2	AFRC_BDT_02_29.09.23	0.36	ND	ND	0.05	0.25 (<i>< LOQ</i>)	ND	0.21	ND	3.15

3	AFRC_SN_03_10.10.23	0.30	ND	ND	0.009 (<i>< LOQ</i>)	ND	0.83	0.09 (<i>< LOQ</i>)	ND	2.35
4	AFRC_SN_04_10.10.23	0.75	ND	ND	0.18	ND	ND	0.37	ND	2.69
5	AFRC_SN_05_10.10.23	0.65	ND	ND	0.03 (<i>< LOQ</i>)	ND	0.31	0.33	ND	1.57
6	AFRC_SN_06_10.10.23	0.33	ND	ND	0.04 (<i>< LOQ</i>)	ND	0.80	0.19	ND	19.70
7	AFRC_SN_07_10.10.23	0.58	ND	ND	0.48	ND	ND	0.27	ND	4.98
8	AFRC_SN_08_10.10.23	0.62	ND	ND	0.13	ND	0.63	0.22	ND	ND
9	AFRC_PAS_09_10.10.23	0.71	ND	ND	0.08	ND	ND	0.45	ND	2.60
10	AFRC_PAS_10_10.10.23	0.26	ND	ND	ND	ND	ND	ND	ND	18.50
11	AFRC_PAS_11_10.10.23	0.47	ND	ND	ND	ND	0.45	0.06 (<i>< LOQ</i>)	ND	8.42
12	AFRC_PAS_12_10.10.23	0.22	ND	ND	ND	ND	0.20 (<i>< LOQ</i>)	0.20	ND	ND
Limit of Quantification		0.20	0.50	1.0	0.05	0.50	0.30	0.10	1.0	1.00

Table 27: Test results for heavy metals in fish samples purchased at Baie du Tombeau on 29.08.24

SN	Fish species (common Name)/ Lab Reference	Sample Reference	Heavy metals concentration in mg/kg								
			As	Cd	Cu	Hg	Pb	Se	Sb	Sn	Zn
1	Cordonnier F/24/NOV/013	01_AFRC_BDT_29.08.24	0.27	ND	0.89	0.41	ND	ND	ND	ND	7.40
2	Chirurgien F/24/NOV/014	02_AFRC_BDT_29.08.24	0.11	ND	ND	ND	ND	ND	ND	ND	1.48
3	Chirurgien F/24/NOV/015	03_AFRC_BDT_29.08.24	ND	ND	ND	ND	ND	ND	ND	ND	1.72
4	Chirurgien F/24/NOV/016	04_AFRC_BDT_29.08.24	ND	ND	ND	ND	ND	ND	ND	ND	2.42
5	Vieille grise F/24/NOV/017	05_AFRC_BDT_29.08.24	ND	ND	ND	ND	ND	ND	ND	ND	3.81
6	Vieille grise F/24/NOV/018	06_AFRC_BDT_29.08.24	ND	ND	ND	0.37	ND	ND	ND	ND	10.24
7	Cateau F/24/NOV/019	07_AFRC_BDT_29.08.24	ND	ND	ND	ND	ND	ND	ND	ND	2.10

8	Cateau F/24/NOV/020	08_AFRC_BDT_29.08.24	0.32	ND	ND	0.13	ND	ND	ND	ND	0.67
9	Licorne F/24/NOV/021	09_AFRC_BDT_29.08.24	0.10	ND	0.52	ND	ND	ND	ND	ND	4.11
10	Cateau goemon F/24/NOV/022	10_AFRC_BDT_29.08.24	ND	ND	0.85	0.46	ND	ND	ND	ND	ND
11	Sergent major F/24/NOV/023	11_AFRC_BDT_29.08.24	ND	ND	0.68	ND	ND	ND	ND	ND	10.41
12	Lorsan F/24/NOV/024	12_AFRC_BDT_29.08.24	ND	ND	0.67	ND	ND	ND	ND	ND	13.86
Limit of Quantification			0.50	0.50	1.0	0.04	0.50	0.50	0.50	1.0	1.00
Maximum Limit (Regulation 63 of Food Regulations 2024)			-	-	-	-	0.3	-	-	-	-

Legend: ND: Not detected

Table 28: Test results for heavy metals in fish samples purchased at Pointe aux Sables on 06.11.24

SN	Fish species (common Name)/ Lab Reference	Sample Reference	Heavy metals concentration in mg/kg								
			As	Cd	Cu	Hg	Pb	Se	Sb	Sn	Zn
1	Cordonnier F/24/NOV/025	01_AFRC_PAS____ 06.11.24	ND	ND	1.08	ND	ND	ND	ND	ND	8.37
2	Rouget L'herbe F/24/NOV/026	02_AFRC_PAS_06.11.24	ND	ND	ND	ND	ND	ND	ND	ND	4.09
3	Vieille coq F/24/NOV/027	03_AFRC_PAS_06.11.24	ND	ND	ND	0.13	ND	ND	ND	ND	2.31
4	Vieille coq F/24/NOV/028	04_AFRC_PAS_06.11.24	ND	ND	0.50	ND	ND	ND	ND	ND	2.24
5	Bordemar F/24/NOV/029	05_AFRC_PAS_06.11.24	ND	ND	0.99	0.4	ND	ND	ND	ND	7.25
6	Chirurgien F/24/NOV/030	06_AFRC_PAS_06.11.24	ND	ND	0.94	0.07	ND	ND	ND	ND	5.24
7	Cateau F/24/NOV/031	07_AFRC_PAS_06.11.24	ND	ND	0.56	ND	ND	0.00	ND	ND	0.56
Limit of Quantification			0.50	0.50	0.5	0.04	0.50	0.50	0.50	0.5	0.5
Maximum Limit (Regulation 63 of Food Regulations 2024)			-	-	-	-	0.3	-	-	-	-

Legend: ND: Not detected

9.5 Feasibility studies by the Wastewater Management Authority

The first National Sewerage Master Plan was drafted in order to set the scene to address the technical, institutional and financial aspects of the wastewater sector in Mauritius over a period of 20 years, and identified priority sewerage projects for implementation under the National Sewerage Programme (NSP). The latter programme comprises two (2) phases namely the NSP 1 which had as aim to connect 50% of the Mauritian population to the sewerage network by the year 2017, and the Mauritius Sewerage Master Plan (NSPII) covering period 2017 to 2033 which targets 80% connection to the sewerage system by the year 2033.

The NSP 1 is under implementation and not yet completed. Progress on the implementation of works will depend upon availability of funds to complete the projects.

The Works Contract under the Grand Baie Sewerage Project Phase 1B was awarded to the Chinese Joint Venture JV HWPC / ASCG – WW302W (Joint Venture Henan Water & Power Engineering Consulting Co. Ltd and Anhui Shui’ an Construction Group Co. Ltd on 08 July 2019. The works started on 19 August 2019 and were expected to be completed by 19 March 2023. However, the Contract has been terminated with effective date as from 07 September 2022. Nevertheless, in order to make beneficial use of infrastructures already constructed, procurement exercises to complete the works in phases have already been initiated. To date:-

Lot 1 – Contract 519W, has been awarded for refurbishment of the Grand Baie wastewater treatment plant.

Lot 2 comprising of about 150 house connections is presently under tendering exercise and expected to be awarded by May 2026.

The Pailles Guibies Sewerage Project-Phase 2:

Contract WW509W - Pailles Guibies Sewerage Project – Phase 3 - Construction of Trunk Sewer, Reticulation Network & CWA Connection Works, was awarded in May 2024 with start date for the works set for 09 July 2024. Works are ongoing and as at date, around 467m of street sewers and 680m of trunk sewers have been laid on site.

Under Contract WW510W - Pailles Guibies Sewerage Project – Phase 4 – Framework Agreement for Design & Construction of House Connections in the region of Pailles, Works Orders have been

issued to four Contractors in four zones and works are ongoing. As at date, around 1094 number of house connections have been completed.

Pailles Guibies Sewerage Project – Phase 5

The bidding documents for the Pailles Guibies Sewerage Project Phase 5 is being finalised. The regions concerned are James Ruselle Street and Camp Chapelon. Launching of bids is scheduled for March 2026 and tentative award July 2026.

Bain Des Dames

Contract WW 477C – Consultancy Services for Detailed Design, Preparation of bidding documents and Supervision of Works for Lot 1: Bain des Dames and Lot 2: Caro Lalo, Vallée des Prêtres, was awarded on 3rd June 2022.

The Contract consist of two phases as detailed below:

- Phase 1 – Pre Contract Phase – Detailed Survey, Design, Geotechnical Investigations and preparation of Bidding Documents.
- Phase 2 – Post Contract Phase – Supervision of Works.

Phase 1 has been completed for Lot 1 & Lot 2.

Phase 2 has started on 15th October 2024 for Lot 2 – Caro Lalo under Contract WW 512W – Sewerage Project at Caro Lalo, Vallée des Prêtres and will last for 2 years.

Phase 2 for Lot 1 – Bain des Dames, the works shall be undertaken under Contract WW 511W – Wastewater Project at Bain des Dames. Budget provision has been made under the PSIP 2026/2027 and implementation tentatively schedule for Jan/Feb 2027.

Pointe Aux Sables

Consultancy Contract WW 488 C – Sewerage Project at Pointe aux Sables – Consultancy Services for Detailed Design and Preparation of Bidding Document, was awarded on 12 April 2023 to find a long-term solution to the actual sanitation problems being faced by the inhabitants of Pointe aux Sables, Verger Mangue, Petit Verger, Camp Firinga and Terrasson. The services are expected to be completed by April 2026. As of December 2025, the final bidding document at Terrasson has been

sent to CPB for vetting and approval while for Pointe aux Sables Greater Area, the draft design report is being prepared by consultant.

A condition assessment of Montagne Jacquot Treatment Plant and existing pumping stations have been undertaken in May 2025 by JV Scene Ries Consult Ltd/Africoast Consulting Ltd (South Africa) and report submitted accordingly with recommendations for upgrading therein.

There is an ongoing refurbishment at Montagne Jacquot Wastewater Treatment Plant and part of the recommendations have already been implemented.

Wastewater Project at Flats Guillard

Given the acute sanitary and environmental nuisance prevailing at Flats Guillard due to overflow of wastewater from cesspits/septic tanks, Flats Guillard has been connected to the nearest public sewer network along Avenue des Peupliers. The Contract was awarded on 21 December 2021 to H Padiachy Contractor Ltd and the works were substantially completed by 18th January 2023. With the completion of the project, 8 housing blocks comprising of 64 residential apartments have been connected to the public sewer.

Baie Du Tombeau

A Feasibility Study was carried out in 2012 for the Baie du Tombeau Phase III which included the construction of a new wastewater treatment plant and connection of some 6, 500 houses in the region of Terre Rouge, Bois Marchand, Morcellement Raffray and Riche-Terre.

The WMA appointed a Transaction Adviser in February 2021 to assess the feasibility on implementing a new wastewater treatment plant and Roche Bois Pumping Station on a Build Operate Transfer (BOT) model. Government has approved the Stage 1-Feasibility Study Report. Stage 1- Feasibility Study was completed in May 2023 by the Transaction Advisor (TA), and the approval of Government was sought, through the Ministry of Energy and Public Utilities, to proceed with Stage 2- BOT Procurement. The Ministry of Energy and Public Utilities apprised the WMA in May 2024 that Government approval has been secured for Stage 2 which comprises Market Sounding, Request for Qualifications and Request for Proposals following which the TA will produce the Value for Money Report prior to seeking Government approval again before proceeding with:

- BOT Negotiation Agreement & Management Plan;
- BOT Agreement Signature, Case Study & Close-out Report; and
- Financial Closure.

The Successful Promoter will, thereafter, embark on the construction of the facilities.

The Transaction Adviser is working on the Stage 2 – BOT Procurement whereby the Request for Qualifications has been launched on 27 November 2025 with closing date of 27 February 2026.

The house connections mentioned above have been implemented in subsequent phases, Morcellement Goolamally Phases I and 2.