



GOVERNMENT OF BERMUDA
Department of Statistics

2024 ENVIRONMENTAL STATISTICS COMPENDIUM

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FOREWORD

The Department of Statistics is pleased to release its thirteenth issue of the *Environmental Statistics Compendium*. In alignment with the Department's mission to produce and provide statistical information for data-driven decision making for Bermuda, this publication reflects the collation of existing data sourced from stakeholders about issues affecting Bermuda's environment.

Additionally, the delivery of this report supports the combined efforts of the United Nations Statistics Division and the Caribbean Community to strengthen capacity and harmonize the compilation of social, gender and environmental statistics and indicators.

The Environmental Statistics Compendium is structured into thirteen (13) sections which include:

1. Population and Housing
2. Tourism
3. Environmental Health and Weather
4. Natural and Environmental Disasters
5. Energy, Minerals and Transport
6. Agriculture
7. Land Use
8. Coastal and Marine Resources
9. Biodiversity
10. Forestry
11. Air
12. Waste
13. Water

The figures in the Environmental Statistics Compendium are mainly totals for calendar months for the period 2020 to 2024.

COVID-19

The Coronavirus disease (COVID-19) pandemic led to restrictions being imposed by Government (e.g. curfews, limited group sizes, reduced business hours and temporary business closures), cancellations (e.g. cruises and flights) and changes in behaviour (e.g. less travelling and eating out) as mitigation efforts to reduce the spread of COVID-19 and minimize the number of deaths. Therefore, readers should take the pandemic into account when interpreting the 2020 to 2022 data.

The Department acknowledges the continued support of all subject-area experts and stakeholders who committed to providing the statistical data and information needed to compile and publish this report.

Melinda Williams

Director

Department of Statistics

August 2026

EXPLANATORY NOTES

-	Not applicable	km	Kilometer
..	Not available	km ²	Square kilometer
r	Revised figure	kWh	Kilowatt-hour
e	Estimated figure	mio m ³ /y	Million cubic meters per year
—	Nil or negligible	mT	Metric tonnes
'000	Thousands	No.	Number
°	Degrees	µg/m ³	Microgram
%	Percent	NO ₂	Nitrogen Dioxide
\$	Bermuda dollar	SO ₂	Sulfur Dioxide
F	Fahrenheit	ppb	Parts per billion
ha	Hectare	TSP	Total Suspended Particles
kg	Kilograms	PM ₁₀ /PM _{2.5}	Fine Particulate Matter
≡	Axis scale has a discontinuity	mg/nm ³	Milligrams per cubic meter
≈	Approximately equal to	NTR	Note to Reader

Note: In some tables, figures may not add to totals due to rounding.

MEASURING UNITS CONVERSION TABLE

METRIC		IMPERIAL	IMPERIAL		METRIC
LENGTH					
1 millimetre (mm)		0.03937 inch (in)	1 inch (in)		2.54 centimetre (cm)
1 centimetre (cm)	10 mm	0.3937 inch	1 yard (yd)	3 feet (ft)	0.9144 metre (m)
1 metre (m)	100 cm	1.0936 yards (yds)	1 mile	1,760 yds	1.6093 kilometre (km)
1 kilometre (km)	1,000 m	0.6214 mile			
AREA					
1 square meter (m ²)	10,000 cm ²		1 acre	4,840 yd ²	4,046.9 square meter (m ²)
1 hectare (ha)	10,000 m ²	2.4712 acres	1 acre		0.4047 hectare (ha)
1 square kilometer (km ²)	100 ha	0.3861 square mile (mile ²)	1 square mile (mile ²)	640 acres	2.59 square kilometer (km ²)
MASS					
1 kilogram (kg)	1,000 grams (g)	2.2046 pounds (lbs)	1 pound (lb)	16 ounces (oz)	0.4536 kg
1 metric tonne (mT)	1,000 kg	0.9842 ton	1 ton	2,240 lbs	1.016 metric tonne (mT)
TEMPERATURE					
1 degree Celsius (°C)		33.8 degrees Fahrenheit (°F)	1 degree Fahrenheit (°F)		-17.2 degrees Celsius (°C)

CONTRIBUTORS

Bermuda Fire and Rescue Services

Bermuda Hospitals Board

Bermuda Tourism Authority

Department of Environmental and Natural Resources, Marine Management Section

Department of Environmental Protection

Department of Health

Department of Planning

Department of Statistics

Department of Works and Engineering - Waste Management Section

Liberty Group Limited

The Bermuda Weather Service

The Royal Gazette

Transport Control Department

POPULATION AND HOUSING

The Population and Housing Section contains information on the number of persons in Bermuda and the type of households they occupied.

Between 2015 and 2024, Bermuda's population increased from 61,735 to a peak of 64,055 in 2021, before declining to 63,905 in 2024 (Table 1.1). This represents an overall increase of 2,170 persons (3.5%) over the ten-year period.

Between 2020 and 2024, the population decreased from 64,054 to 63,905, a decline of 149 persons (0.2%). Following the peak in 2021, the population declined in each subsequent year. Over the same period, population density decreased from 1,195 to 1,192 persons per square kilometre (Table 1.1).

The 2016 population figure is based on Census enumeration, while estimates for subsequent years are derived from population projections based on the 2016 Census. These projections are produced using assumptions relating to fertility, mortality and migration, and do not represent actual population counts. As migration is a key driver of population change, projection outputs are sensitive to the assumptions applied in their estimation.

Housing characteristics reflect data from the 2010 and 2016 Population and Housing Censuses (Tables 1.2–1.6). In 2016, two-unit dwellings accounted for 35.4% of all dwelling units (Table 1.2), while one-person households comprised 34.1% of total households (Table 1.3). The average household size decreased from 2.4 persons in 2010 to 2.3 persons in 2016 (Table 1.3).

Over the same period, the proportion of non-owner-occupied private dwelling units increased to 51.6% (Table 1.4). Two-bedroom units represented 36.0% of private dwelling units (Table 1.5), and the average number of persons per bedroom was 1.1 (Table 1.5).

NOTE TO READER

Group Dwelling Unit: where the occupants live collectively for disciplinary, health, custodial, work or other reasons and share the cooking, sleeping and/or sanitary facilities with other households. Generally, group dwellings are available primarily to selected persons, not the general population. They differ from institutions in that occupants' movements to and from the premises are less restricted. Examples of group dwellings include hotel staff quarters, transitional housing, police barracks and rooming houses catering for six or more paying guests as well as Mid-Atlantic Wellness Institute group homes catering to any number of clients.

Household: a person or group of persons living together in a dwelling unit.

Population Density: a measure of the average non-institutional population per unit of land area. It is calculated by dividing the de jure civilian non-institutional population by the total land area. Bermuda's land area as of 2016 was 53.6 km² or 20.7 square miles (source: Department of Land Title and Registration 26 January, 2018).

$$\text{Population Density} = \frac{\text{De Jure Civilian Non-Institutional Population}}{\text{Total Land Area}}$$

Private Dwelling Unit: a room or group of rooms used, or intended to be used, for living purposes. It must be capable of permanent human habitation and must have its own:

- separate access to the street or common landing or staircase, and,
- cooking, living, sleeping and sanitary facilities which the occupants of the dwelling do not have to share with any persons other than their own household members.

From a structural perspective, a private dwelling may be contained within a one-unit dwelling, a house comprising two or more apartments, an apartment building, or within part of a building which is used for residential as well as business or other purposes.

Source: Department of Statistics

Table 1.1

POPULATION AND POPULATION DENSITY, 2015–2024

Year	Population	Population Density (per km ²)
2015	61,735 ¹	1,135 ⁴
2016	63,779 ²	1,190 ⁵
2017	63,892 ³	1,192 ⁵
2018	63,973 ³	1,194 ⁵
2019	64,027 ³	1,195 ⁵
2020	64,054 ³	1,195 ⁵
2021	64,055 ³	1,195 ⁵
2022	64,031 ³	1,195 ⁵
2023	63,982 ³	1,194 ⁵
2024	63,905 ³	1,192 ⁵

Sources: Department of Statistics, Department of Planning and the Land Title and Registration Office

¹ Based on Bermuda's Population Projections 2010-2020.

² Based on the 2016 Population and Housing Census.

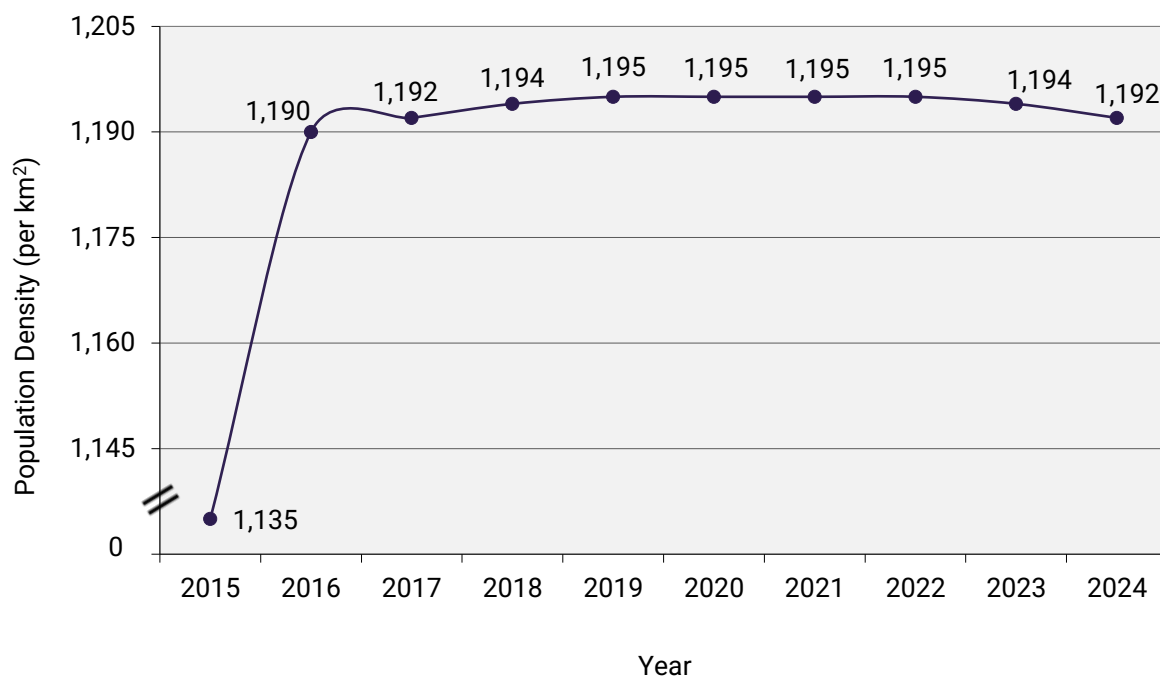
³ Based on Bermuda's Population Projections 2016-2026.

⁴ Bermuda's land area as of 2008 is 54.4 km² (21.0 square miles) Department of Planning.

⁵ Bermuda's land area as of 2016 is 53.6 km² (20.7 square miles) Land Title and Registration Office.

Chart 1.1

POPULATION DENSITY, 2015–2024



Source: Department of Statistics

The 2015, 2017-2024 figures are based on Bermuda's Population Projections.

The 2016 figure is based on the 2016 Population and Housing Census.

Table 1.2

TYPE OF DWELLING UNITS, 2010 AND 2016

Type of Dwelling	Number		Percentage Distribution	
	2010	2016	2010	2016
Total	26,923 ¹	28,192	100.0 ²	100.0
One-unit dwelling	6,280	6,767	24.3	24.0
Two-unit dwelling	8,870	9,972	34.4	35.4
Three-unit dwelling	4,639	4,849	18.0	17.2
Four or more apartments	5,024	5,253	19.5	18.6
Group dwellings	696	751	2.7	2.7
Residential/commercial premises	281	577	1.1	2.0
Other/not stated	27	23	0.1	0.1

Source: 2010 and 2016 Population and Housing Censuses

¹ Includes 1,106 households for which there is no data by type of dwelling.

² The denominator for percentage distribution is 25,817 (26,923 - 1,106).

Table 1.3

HOUSEHOLDS BY SIZE OF HOUSEHOLD, 2010 AND 2016

Persons in Household	Number		Percentage Distribution	
	2010	2016	2010	2016
Total	26,923 ¹	28,192	100.0 ²	100.0
Average size of household	2.4	2.3		
One	7,942	9,611	30.8	34.1
Two	7,999	8,841	31.0	31.4
Three	4,515	4,802	17.5	17.0
Four	3,540	3,317	13.7	11.8
Five	1,238	1,141	4.8	4.0
Six	385	329	1.5	1.2
Seven	112	99	0.4	0.4
Eight	52	35	0.2	0.1
More than eight	34	17	0.1	0.1

Source: 2010 and 2016 Population and Housing Censuses

¹ Includes 1,106 households for which there is no data by type of dwelling.

² The denominator for percentage distribution is 25,817 (26,923 - 1,106).

Table 1.4

PRIVATE DWELLING UNITS BY TYPE OF TENURE, 2010 AND 2016

Type of Tenure	Number		Percentage Distribution	
	2010	2016	2010	2016
Total	26,200 ¹	27,418	100.0 ²	100.0
Non-owner occupied	12,723	14,140	51.0	51.6
Rented - unfurnished	7,747	8,356	31.0	30.5
Rented - partly/fully furnished	3,972	4,650	15.9	17.0
Rent Free	1,004	1,134	4.0	4.1
Owner-occupied	12,238	13,267	49.0	48.4
Owned without a mortgage	6,417	7,483	25.7	27.3
Owned with a mortgage	5,821	5,784	23.3	21.1
Not Stated	133	11		

Source: 2010 and 2016 Population and Housing Censuses

¹ Includes 1,106 households for which there is no data by type of dwelling.

² The denominator for percentage distribution is 24,961 (26,200 - 1,106 - 133).

³ The denominator for percentage distribution is 27,407 (27,418 - 11).

Table 1.5

PRIVATE DWELLING UNITS BY NUMBER OF BEDROOMS, 2010 AND 2016

Type of Household	Number		Percentage Distribution	
	2010	2016	2010	2016
Total	26,200 ¹	27,418	100.0 ⁶	100.0 ⁷
Average number of bedrooms per household	2.1 ²	2.1 ⁴		
Average number of persons per bedroom	1.1 ³	1.1 ⁵		
None (studio)	790	1,145	3.2	4.2
One	6,101	6,469	24.4	23.6
Two	8,944	9,857	35.8	36.0
Three	7,473	7,928	29.9	28.9
Four or more	1,645	2,018	6.6	7.4
Not stated	141	1		

Source: 2010 and 2016 Population and Housing Censuses

¹ Includes 1,106 households for which there is no data by type of dwelling.

² The calculation is 53,544 bedrooms ÷ 24,953 households.

³ The calculation is 60,503 persons ÷ 53,544 bedrooms.

⁴ The calculation is 58,604 bedrooms ÷ 27,417 households.

⁵ The calculation is 62,668 persons ÷ 58,604 bedrooms.

⁶ The denominator for percentage distribution is 24,953 (26,200 - 1,106 - 141).

⁷ The denominator for percentage distribution is 27,417 (27,418 - 1).

Table 1.6

PRIVATE DWELLING UNITS BY NUMBER OF FULL BATHROOMS, 2010 AND 2016

Number of Full Bathrooms	Number		Percentage Distribution	
	2010	2016	2010	2016
Total	26,200 ¹	27,418	100.0 ²	100.0 ³
None	41	16	0.2	0.1
One	15,340	16,146	61.5	58.9
Two	7,532	8,550	30.2	31.2
Three or more	2,046	2,705	8.2	9.9
Not stated	135	1		

Source: 2010 and 2016 Population and Housing Censuses

¹ Includes 1,106 households for which there is no data by type of dwelling.

² The denominator for percentage distribution is 24,959 (26,200 - 1,106 - 135).

³ The denominator for percentage distribution is 27,417 (27,418 - 1).

TOURISM

Bermuda's tourism industry is the second largest source of foreign exchange revenue to the economy, only following international business.

Between 2020 and 2024, Bermuda's tourism sector recorded an increase in visitor arrivals following the sharp decline in 2020 during the COVID-19 pandemic. Total visitor arrivals increased from 51,437 in 2020 to 738,436 in 2024, representing an overall increase of 686,999 visitors over the five-year period (Table 2.1). The sharpest increase occurred between 2021 and 2022, when total visitors rose from 86,356 to 548,522, an increase of 535.2%, as international travel resumed and cruise ship operations returned.

Air passenger arrivals increased steadily between 2020 and 2024, rising from 42,071 to 203,080 (Table 2.1). The most recent year also recorded continued growth, with arrivals increasing by 9.6% between 2023 and 2024, from 185,335 to 203,080. Over the five-year period, however, the average length of stay for air visitors declined, falling from 9.9 days in 2020 to 6.3 days in 2024.

Cruise tourism increased following the resumption of cruise ship activity. Cruise passenger arrivals rose from 9,366 in 2020 to 535,356 in 2024 (Table 2.1). Between 2023 and 2024, passenger arrivals increased by 1.9%, from 525,413 to 535,356. The number of cruise ship arrivals also rose over the period, increasing from 4 in 2020 to 173 in 2024. However, cruise ship arrivals declined slightly between 2023 and 2024, falling by 5.5% from 183 to 173.

Visitors arriving by air continued to originate primarily from the United States, which accounted for 152,114 air passenger arrivals in 2024, an increase of 14.1% from 133,263 in 2023 (Table 2.2). Canada and the United Kingdom remained the next-largest source markets, with 16,190 and 18,216 visitors, respectively, in 2024.

Hotels remained the most common accommodation type among air visitors. In 2024, a total of 136,179 visitors stayed in hotels or similar accommodations, representing an increase of 11.8% from 121,848 in 2023 (Table 2.3). Visitors staying in residential homes increased from 53,817 in 2023 to 56,988 in 2024, a rise of 5.9%.

Tourism infrastructure remained relatively stable between 2020 and 2024. The number of licensed tourism properties increased slightly from 41 to 43, while hotel occupancy rose from 24.1% in 2020 to 64.4% in 2024 (Table 2.4).

Visitor expenditure increased 5.3% between 2023 and 2024, rising from \$503.5 million to \$530.3 million (Table 2.5).

SECTION 2

NOTE TO READER

Air Passenger Arrivals: includes all stay-over (overnight) visitors. It does not, however, include cruise passenger and yacht arrivals.

Average Length of Stay: intended length of stay or number of nights spent, unless otherwise stated.

Index of Social Pressure or Ratio of Tourists (or Visitors) to the Local Population: measures the number of tourists (or visitors) to one resident of the country at any given point in time.

Number of Hotel Rooms per km²: commonly accessible indirect proxy to measure tourism's imprint on the physical environment. It is the number of hotel rooms available divided by the total land area (53.6 km²).

Tourism: the activities of persons traveling to and staying in places outside their usual environment for not more than one consecutive year for leisure, business and other purposes.

Tourism Density Ratio (TDR): attempts to show the density of tourist in the country at any one time on average. Its value is limited by the fact that tourists flows are seasonal and tourism activity tends to be concentrated in specific geographical areas. (Caribbean Tourism Organization) Tourism Density Ratio is calculated as:

$$\text{Tourism Density Ratio} = \frac{\text{Number of visitors} * \text{average length of stay}}{\text{land area (53.6 km}^2\text{)} * 365}$$

Tourism Expenditure: the total expenditure made by a visitor or on behalf of a visitor for and during his/her stay at a destination.

NOTE TO READER CONTINUED

Tourism Intensity Rate (TIR): the indicator “arrivals/population” provides an estimate of tourism intensity in the country of reference. This indicator is calculated by World Tourism Organization (UNWTO) based on the available basic data on inbound and domestic tourism, which can be either the number of visitors or the number of tourists. (UNWTO Methodological Notes to the Tourism Statistics Database at http://cf.cda.unwto.org/sites/all/files/pdf/2015_meth_notes_eng_0.pdf) Tourism Intensity Rate is calculated as:

$$\text{Tourist Intensity Rate} = \frac{\text{Number of visitors/1,000 population}}{\text{land area (53.6 km}^2\text{)}}$$

Tourism Penetration Ratio (TPR): the penetration ratio quantifies the average number of tourist arrivals by air, per thousand local inhabitants, in the country at any one time. (modified Caribbean Tourism Organization definition) Tourist Penetration Ratio is calculated as:

$$\text{Tourism Penetration Ratio} = \frac{\text{Average length of Stay * number of air visitors * 1,000}}{365 * \text{mid-year population estimates}}$$

Tourist: a person traveling to and staying in places outside his or her usual environment for not more than one consecutive year but who stays for more than 24 hours in a destination for leisure, business and other purposes.

Visitor: any person traveling to a place other than his/her usual environment for less than twelve months and whose main purpose of visit is other than the exercise of an activity remunerated from within the place visited.

Source: CARICOM Environment Program

Table 2.1

AIR PASSENGER ARRIVALS, CRUISE SHIP ARRIVALS, AVERAGE LENGTH OF STAY, TOURISM INTENSITY RATE AND PENETRATION RATIO, 2020–2024

Indicator	Year				
	2020	2021	2022	2023	2024
Total visitors ¹	51,437	86,356	548,522	710,748	738,436
Percentage change (%)	-93.6	+67.9	+535.2	+29.6	+3.9
Air passengers	42,071	72,153	145,865	185,335	203,080
Percentage change (%)	-84.4	+71.5	+102.2	+27.1	+9.6
Average length of stay for air passengers	9.9	9.0	6.9	6.5	6.3
Air passengers to residents ratio	0.7	1.1	2.3	2.9	3.2
Tourism density ratio	21.3	33.2	51.5	61.6	65.4
Cruise ship passengers	9,366	14,203	402,657	525,413	535,356
Percentage change (%)	-98.3	+51.6	+2,735.0	+30.5	+1.9
Cruise ship passengers to residents ratio	0.1	0.2	6.3	8.2	8.4
Cruise ship arrivals	4	22	164	183	173
Percentage change (%)	-97.8	+450.0	+645.5	+11.6	-5.5
Population ²	64,054	64,055	64,031	63,982	63,905
Visitors to residents ratio	0.8	1.3	8.6	11.1	11.6
Land area (km ²) ³	53.6	53.6	53.6	53.6	53.6
Tourism intensity rate	15.0	25.2	159.9	207.4	215.7
Tourism penetration ratio	17.8	27.8	43.1	51.6	54.9

Sources: Bermuda Tourism Authority, Department of Statistics, Department of Planning and the Land Title and Registration Office.

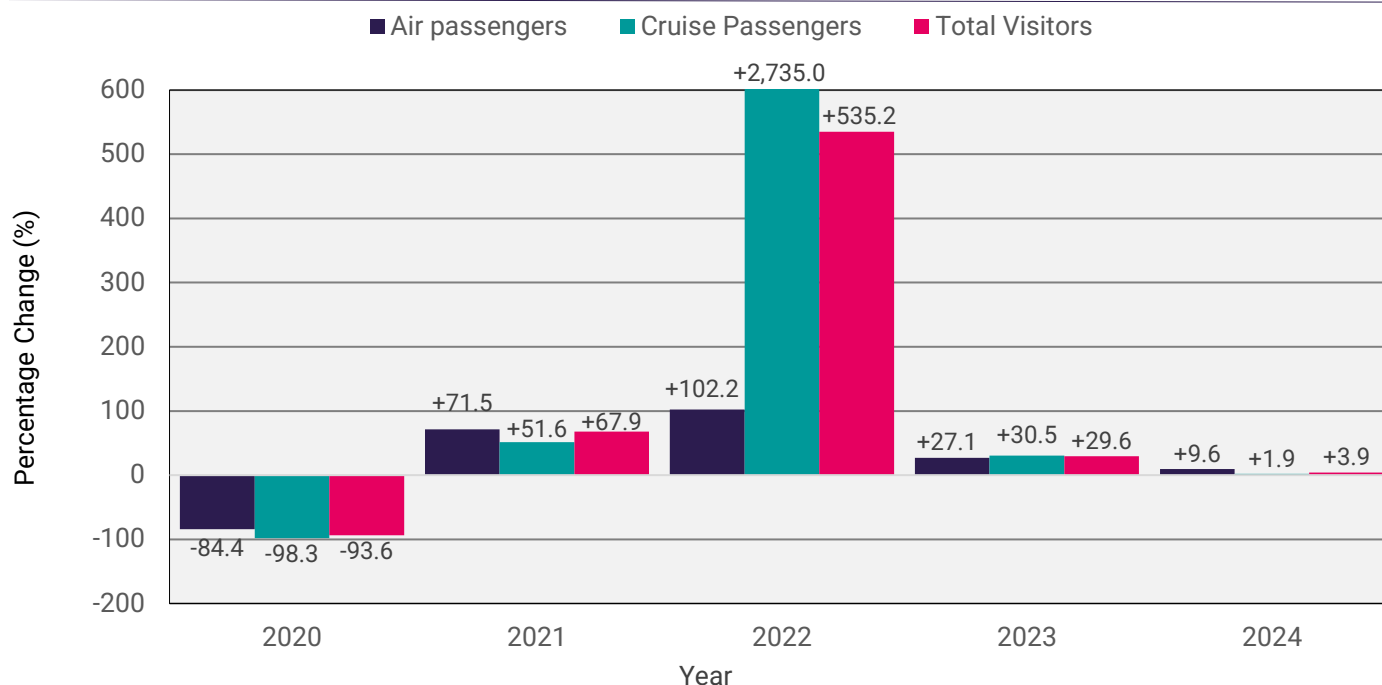
¹ Does not include yacht passengers.

² Bermuda's Population Projections 2016-2026.

³ Bermuda's land area as of 2016 was 53.6 km² (20.7 square miles).

Chart 2.1

GROWTH IN AIR PASSENGERS, CRUISE SHIP PASSENGERS AND TOTAL VISITORS, 2020-2024

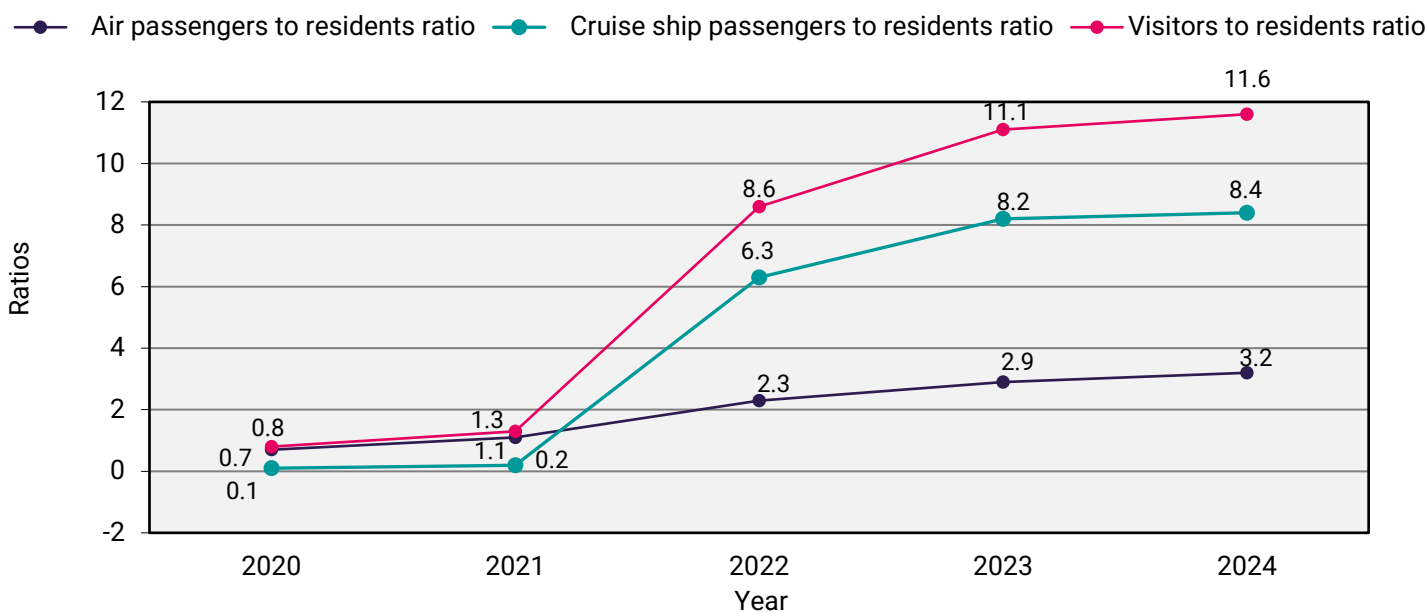


Sources: Bermuda Tourism Authority and Department of Statistics

Note: The significant increase in cruise ship passenger percentage in 2022 (+2,735%) is due to the impact of COVID-19 restrictions, which limited cruise ship arrivals in 2020 and 2021. This value exceeds the graph's scale, which is capped at 600%.

Chart 2.2

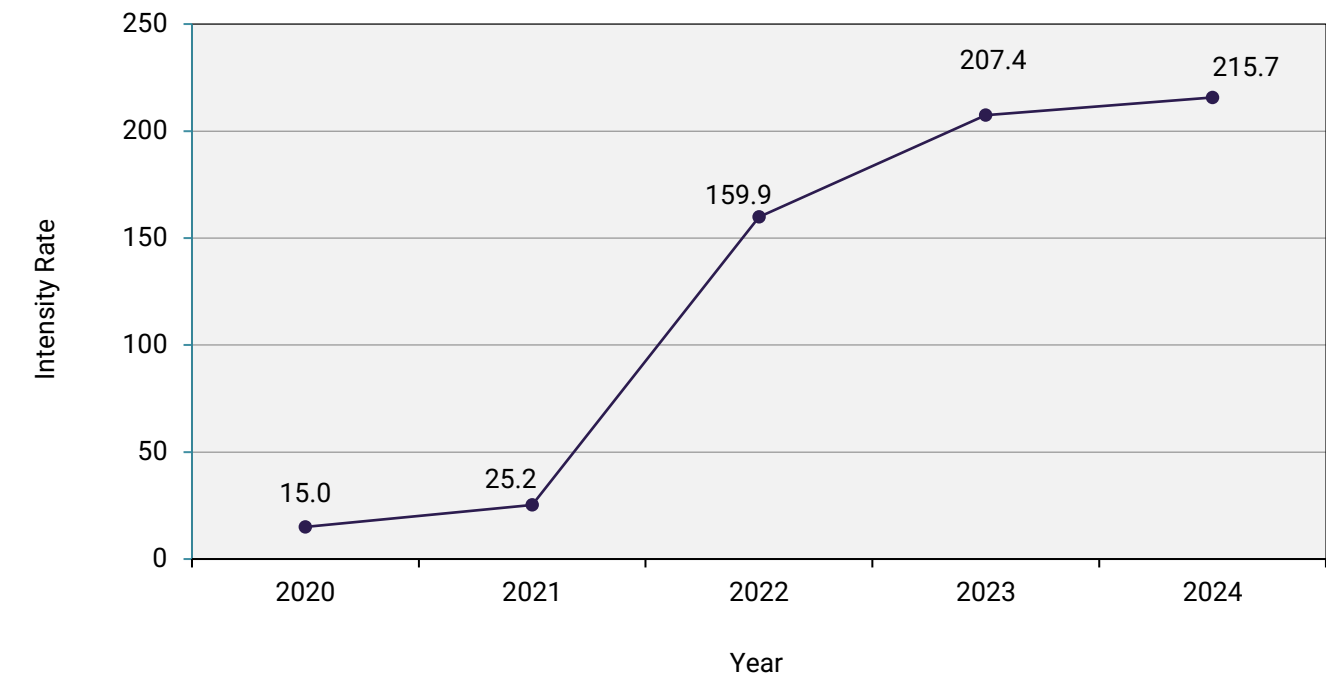
AIR PASSENGERS TO RESIDENTS, CRUISE SHIP PASSENGERS TO RESIDENTS AND VISITORS TO RESIDENTS RATIOS, 2020-2024



Sources: Bermuda Tourism Authority and Department of Statistics

Chart 2.3

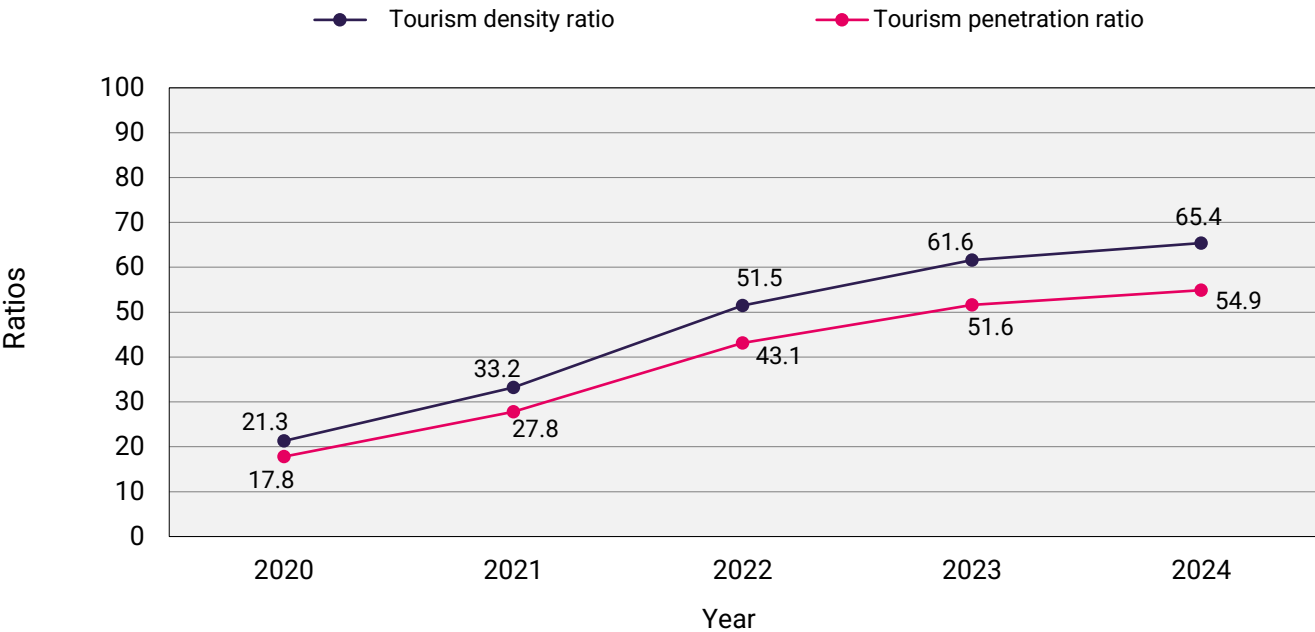
TOURISM INTENSITY RATE, 2020-2024



Sources: Bermuda Tourism Authority and Department of Statistics

Chart 2.4

TOURISM DENSITY AND PENETRATION RATIOS, 2020-2024



Sources: Bermuda Tourism Authority and Department of Statistics

Table 2.2

AIR PASSENGER ARRIVALS BY COUNTRY OF ORIGIN, 2020–2024

Country of Origin	Year				
	2020	2021	2022	2023	2024
Total	42,071	72,153	145,865	185,335	203,080
United States	28,183	57,770	105,910	133,263	152,114
Canada	4,936	3,514	12,798	16,545	16,190
United Kingdom	5,955	7,274	16,325	19,365	18,216
Other	2,997	3,595	10,832	16,162	16,560

Source: Bermuda Tourism Authority

Table 2.3

AIR PASSENGERS BY INTENDED TYPE OF ACCOMMODATION, 2020–2024

Type of Accommodation	Year				
	2020	2021	2022	2023	2024
Total	42,071	72,153	145,865	185,335	203,080
Commercial properties	27,398	43,745	98,783	124,944	140,234
Hotels or similar accommodations ¹	25,413	40,851	92,492	121,848	136,179
Bed and Breakfast/Guest House ²	1,985	2,894	6,291	3,096	4,055
Residential homes	13,171	19,966	39,177	53,817	56,988
Friends and relatives	6,433	8,979	19,393	28,739	29,711
Rental house or apartment	4,119	6,276	12,097	17,647	21,826
Private homes	2,619	4,711	7,687	7,431	5,451
Other ³	1,502	8,442	7,905	6,574	5,858

Source: Bermuda Tourism Authority

¹Includes resort hotels, small hotels, cottage colonies and clubs.

²Includes housekeeping accommodations.

³Includes not stated.

Table 2.4

NUMBER OF LICENSED PROPERTIES¹, HOTEL OCCUPANCY AND LICENSED ROOM COUNT PER KM², 2020–2024

Item	Year				
	2020	2021	2022	2023	2024
Number of licensed properties ²	41	40	42	43	43
Licensed room count ³	2,434	2,203	2,303	2,324	2,338
Hotel Occupancy (%) ⁴	24.1	37.1	53.4	61.7	64.4
Number of rooms per km ²	45.4 ⁵	41.1 ⁵	43.0 ⁵	43.4 ⁵	43.6 ⁵

Sources: Bermuda Tourism Authority, Department of Planning and the Land Title and Registration Office

¹ The format for this table changed in 2022.

² Average number of licensed properties for the calendar year January to December.

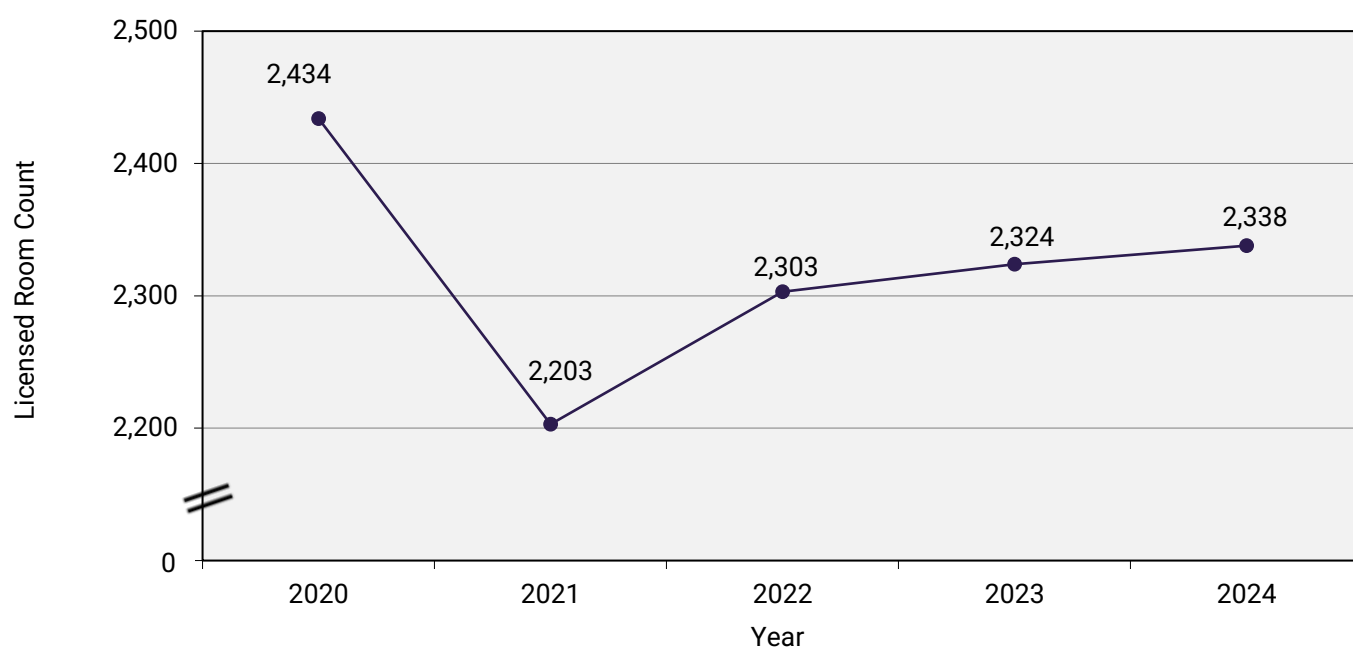
³ Average number of licensed room count for the calendar year January to December.

⁴ Average occupancy for the calendar year January to December.

⁵ Bermuda's land area as of 2016 was 53.6 km² (20.7 square miles).

Chart 2.5

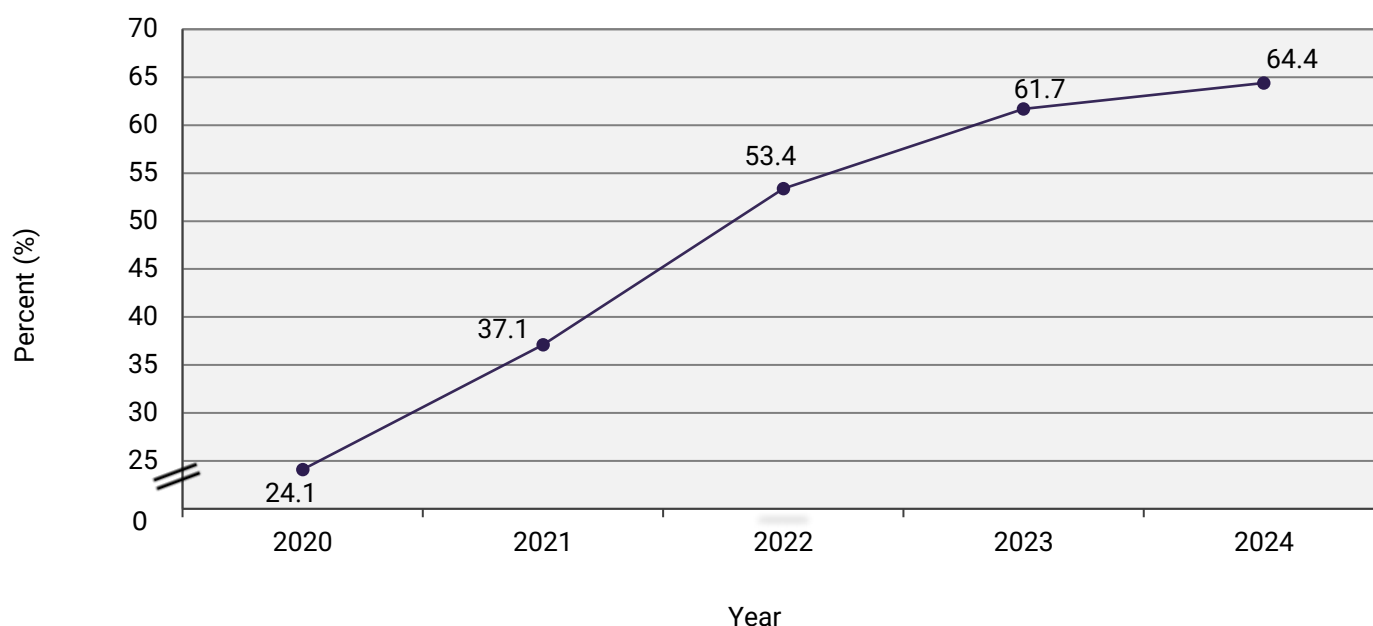
LICENSED ROOM COUNT¹, 2020–2024



Source: Bermuda Tourism Authority

¹ Average number of licensed room count for the calendar year January to December.

Chart 2.6

HOTEL OCCUPANCY¹, 2020–2024

Source: Bermuda Tourism Authority

¹Average occupancy for the calendar year January to December.

Table 2.5

VISITOR EXPENDITURE AND NUMBER OF EMPLOYEES IN TOURISM, 2020–2024

Item	Year				
	2020	2021	2022	2023	2024
Visitor expenditure (in US\$'000) ¹	71,200	134,785	358,976	503,473	530,349
Expenditure on same-day visits	2,100	4,971	99,931	163,156	115,501
Expenditure on accommodation, meals and drinks, shopping, entertainment, etc.	69,100	129,814	259,045	340,317	414,848
Number of employees in tourism ²					
Total	3,591	3,076	3,297	3,699	3,787
Male	2,161	1,909	2,048	2,351	2,408
Female	1,430	1,167	1,249	1,348	1,379

Sources: Bermuda Tourism Authority and Department of Statistics

¹ The format for this table changed in 2022.

² Includes hotels, restaurants, cafés and bars.

ENVIRONMENTAL HEALTH AND WEATHER

The Environmental Health and Weather Section contains information concerning environmentally-related diseases as well as weather data for Bermuda.

Data for 2022–2024 are not available for environmentally-related diseases (Table 3.1).

Between 2020 and 2024, Bermuda’s weather conditions showed year-to-year variability with no sustained directional trend (Tables 3.2–3.7).

Rainfall fluctuated over the period, increasing from 48.1 inches in 2020 to 68.5 inches in 2024. Rainfall peaked at 77.3 inches in 2023 before declining by 11.4% in 2024, while rain days decreased from 200 to 163 days over the same period (Table 3.2).

Mean daily air temperature remained relatively stable, changing marginally from 72.4°F in 2020 to 71.8°F in 2024, with a slight decline between 2023 and 2024 (Table 3.3).

Relative humidity and wind conditions showed minor variation over the period. Mean humidity decreased slightly from 79.3% in 2023 to 78.2% in 2024, while average wind speeds declined from 19.5 knots to 18.6 knots (Tables 3.4 and 3.7).

Overall, the data indicate that Bermuda’s climatic conditions between 2020 and 2024 remained stable, with observed changes reflecting short-term variability rather than sustained trends.

Table 3.1

REPORTED CASES OF ENVIRONMENTALLY-RELATED DISEASES BY SEX, 2020-2024

Cause	Sex	Year				
		2020	2021	2022	2023	2024
Gastroenteritis ^{1, 2}	Total	130	108	..	..	..
	Male	58	44	..	..	..
	Female	72	64	..	..	..
Malaria (imported)	Total	—	—	..	..	..
	Male	—	—	..	..	..
	Female	—	—	..	..	..
Dengue (imported)	Total	—	—	..	..	..
	Male	—	—	..	..	..
	Female	—	—	..	..	..
Accidental pesticide	Total	—	3	..	..	..
	Male	—	1	..	..	..
	Female	—	2	..	..	..
Poisoning	Total	142	175	..	..	..
	Male	69	84	..	..	..
	Female	73	91	..	..	..
Diarrhea	Total	98	100	..	..	..
	Male	47	36	..	..	..
	Female	51	64	..	..	..
Respiratory diseases (all) ³	Total	2,548	2,466	..	..	..
	Male	1,096	1,190	..	..	..
	Female	1,452	1,276	..	..	..
Acute bronchitis	Total	170	107	..	..	..
	Male	74	45	..	..	..
	Female	96	62	..	..	..
Chronic sinusitis	Total	10	4	..	..	..
	Male	2	4	..	..	..
	Female	8	0	..	..	..
Other	Total	2,368	2,355	..	..	..
	Male	1,020	1,141	..	..	..
	Female	1,348	1,214	..	..	..
TOTAL CASES, all causes	Total	2,918	2,852	..	..	..
	Male	1,270	1,355	..	..	..
	Female	1,648	1,497	..	..	..
Percentage change (%)	Total	-47.6	-2.3	..	..	..
	Male	-48.3	+6.7	..	..	..
	Female	-47.0	-9.2	..	..	..

Sources: Department of Health and Bermuda Hospitals Board

¹ Includes inpatient discharges and emergency encounters.

² Includes cases that may have been inadvertently coded as non-infectious gastroenteritis.

³ Respiratory diseases (all) includes acute bronchitis, chronic sinusitis, asthma, pneumonia, etc.

Table 3.2

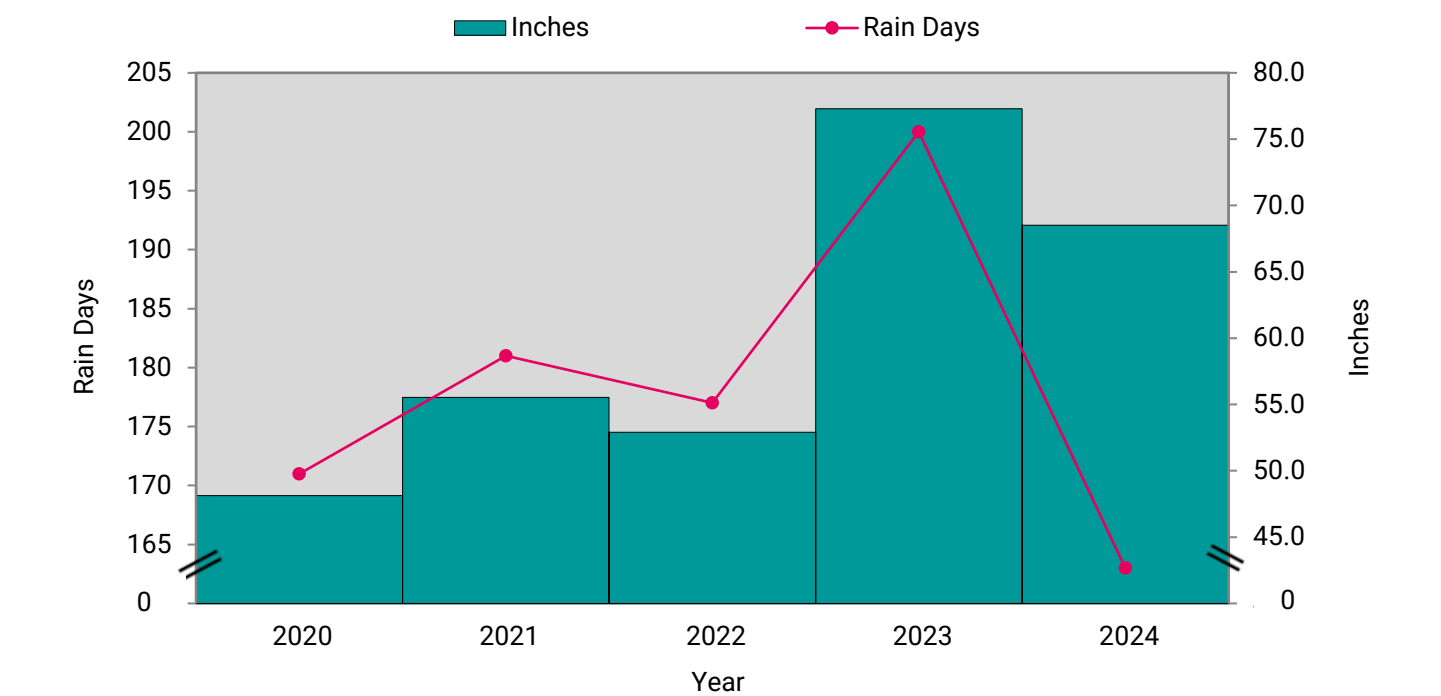
TOTAL NUMBER OF INCHES OF RAINFALL AND RAIN DAYS, 2020-2024

Year		Month												Total
		Jan.	Feb.	Mar.	Apr.	May	Jun.	Jul.	Aug.	Sep.	Oct.	Nov.	Dec.	
2020	Inches	4.4	5.3	2.1	3.2	5.0	4.8	1.8	5.0	5.3	1.9	6.5	2.8	48.1
	Rain Days	17	16	12	17	13	11	9	17	12	16	16	15	171
	Largest Daily Total	1.5	1.9	0.4	0.8	1.7	1.8	0.9	1.5	2.0	0.5	3.6	0.9	
2021	Inches	7.9	3.6	6.4	4.2	5.1	1.7	5.1	2.2	5.3	4.4	6.9	2.7	55.5
	Rain Days	21	10	22	18	13	9	16	14	17	15	14	12	181
	Largest Daily Total	2.5	2.0	1.2	2.0	3.8	0.9	2.2	0.7	1.3	1.9	1.7	0.7	
2022	Inches	6.2	2.4	3.2	3.8	3.5	3.7	1.0	6.0	2.8	10.0	5.2	5.1	52.9
	Rain Days	23	17	10	13	12	10	9	12	15	17	19	20	177
	Largest Daily Total	1.8	0.4	1.2	1.2	1.2	0.9	0.7	3.5	0.6	4.3	1.6	5.1	
2023	Inches	2.4	3.0	3.3	3.5	12.4	11.7	5.1	6.4	3.2	12.2	10.6	3.5	77.3
	Rain Days	14	16	18	7	18	22	14	15	14	23	21	18	200
	Largest Daily Total	1.0	0.8	0.8	2.1	3.1	2.1	1.1	2.1	1.9	5.5	2.7	1.1	
2024	Inches	4.4	8.4	2.7	2.0	1.3	5.5	3.3	10.5	10.0	12.6	5.4	2.4	68.5
	Rain Days	17	18	13	11	9	11	10	9	16	19	12	18	163
	Largest Daily Total	1.0	1.9	0.6	0.8	0.8	3.4	1.0	5.4	3.3	7.6	2.5	0.7	

Source: The Bermuda Weather Service

Chart 3.1

TOTAL NUMBER OF INCHES OF RAINFALL AND RAIN DAYS, 2020-2024



Source: The Bermuda Weather Service

Table 3.3

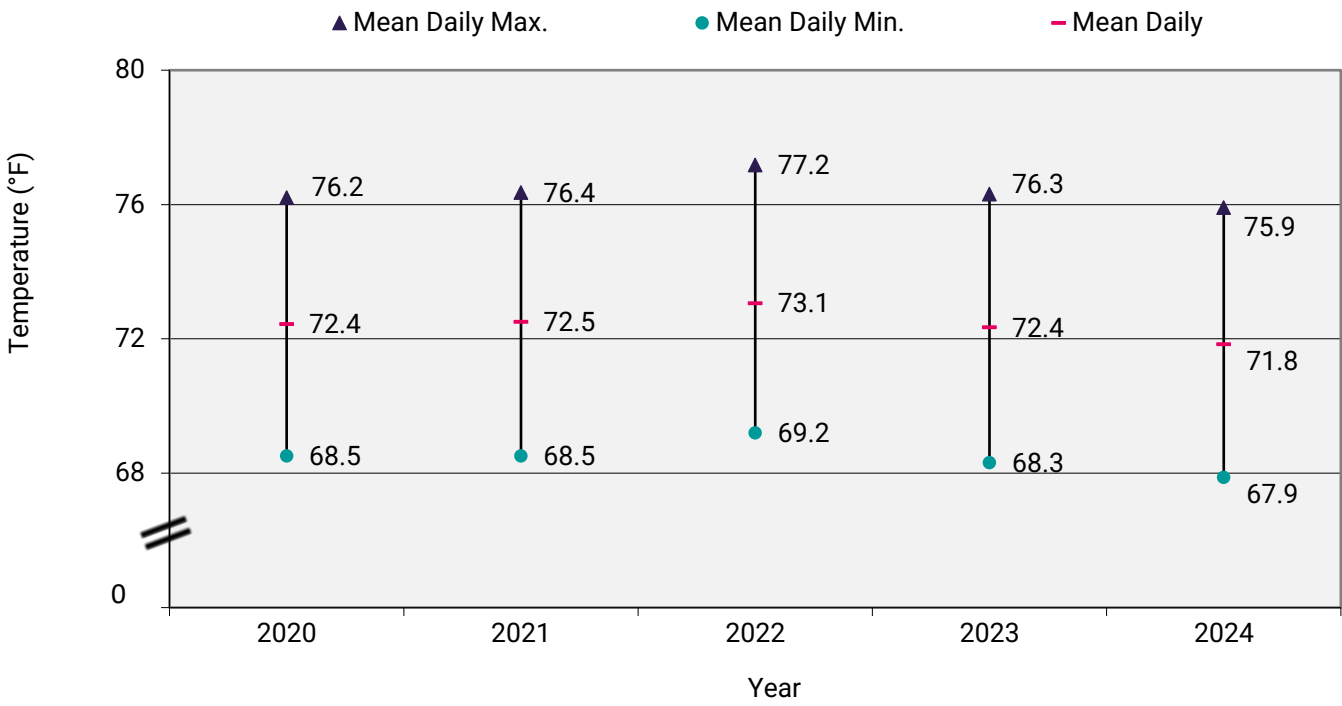
MEAN DAILY MAXIMUM, MINIMUM AND DAILY AIR TEMPERATURE, 2020–2024

Year		Month												(°F) Yearly Average
		Jan.	Feb.	Mar.	Apr.	May	Jun.	Jul.	Aug.	Sep.	Oct.	Nov.	Dec.	
2020	Mean Daily Max.	68.6	69.9	69.7	70.8	73.9	78.3	84.4	87.2	83.8	81.0	75.4	71.5	76.2
	Mean Daily Min.	60.7	61.8	61.5	62.6	65.9	71.0	77.0	78.9	76.5	74.2	67.7	64.4	68.5
	Mean Daily	64.9	66.2	65.9	67.2	69.8	74.5	80.6	83.0	80.2	77.3	71.6	68.1	72.4
	Max. Temperature	74.7	74.1	73.2	75.7	79.5	84.4	88.3	89.1	87.4	83.5	80.1	75.0	
	Min. Temperature	51.3	53.6	50.2	56.1	58.1	62.2	69.1	72.9	68.4	69.4	61.0	57.7	
2021	Mean Daily Max.	67.6	68.9	68.8	69.9	75.3	82.4	84.5	86.4	84.6	80.5	74.9	72.5	76.4
	Mean Daily Min.	59.5	62.7	60.6	61.7	67.3	74.4	76.5	78.0	76.4	72.6	67.6	64.9	68.5
	Mean Daily	64.3	66.1	64.5	66.2	71.1	78.0	80.4	82.1	80.4	76.8	71.3	68.9	72.5
	Max. Temperature	72.5	71.8	77.5	75.4	80.2	85.1	87.1	88.0	88.0	84.2	81.1	75.9	
	Min. Temperature	49.1	53.1	51.4	55.4	58.5	69.6	70.5	74.1	70.2	68.0	59.9	56.8	
2022	Mean Daily Max.	69.8	70.5	71.2	71.8	77.4	80.1	85.4	87.7	84.5	81.1	76.1	70.5	77.2
	Mean Daily Min.	61.1	62.1	62.8	64.6	69.6	72.5	77.3	78.8	76.2	73.4	69.4	62.7	69.2
	Mean Daily	65.8	66.4	66.9	68.1	73.1	75.9	80.9	83.0	80.2	77.0	72.6	66.9	73.1
	Max. Temperature	75.4	75.2	76.8	76.3	81.5	83.7	88.2	89.8	88.3	84.7	79.7	75.7	
	Min. Temperature	54.5	52.5	58.6	58.3	59.2	66.9	71.4	74.3	67.1	69.3	63.7	58.8	
2023	Mean Daily Max.	70.7	69.8	68.9	71.9	75.1	80.1	84.8	86.6	84.4	79.7	73.6	70.1	76.3
	Mean Daily Min.	62.5	60.7	60.2	64.1	67.3	71.7	76.8	79.0	76.8	72.2	66.0	62.5	68.3
	Mean Daily	67.0	65.7	64.7	67.8	71.1	75.7	80.8	82.7	80.2	76.0	70.0	66.5	72.4
	Max. Temperature	74.5	74.3	75.7	77.2	79.5	84.0	87.8	88.9	87.4	84.4	78.4	76.6	
	Min. Temperature	53.8	52.2	52.5	55.6	58.1	66.4	70.5	73.0	73.8	67.5	59.9	55.6	
2024	Mean Daily Max.	68.5	66.7	69.7	71.2	76.7	81.1	85.4	86.2	83.6	79.0	73.7	69.1	75.9
	Mean Daily Min.	59.7	58.3	61.7	62.9	68.7	73.0	77.8	78.1	76.2	71.1	65.5	61.5	67.9
	Mean Daily	64.4	62.8	65.6	67.0	72.2	76.8	81.3	81.8	79.8	75.2	69.9	65.3	71.8
	Max. Temperature	73.0	73.2	74.7	75.9	81.3	85.8	87.8	90.0	87.1	84.2	77.4	74.3	
	Min. Temperature	52.5	51.4	54.9	55.6	63.0	65.7	71.6	71.2	70.5	65.8	60.4	54.1	

Source: The Bermuda Weather Service

Chart 3.2

MEAN DAILY MAXIMUM, MINIMUM AND DAILY AIR TEMPERATURE, 2020-2024



Source: The Bermuda Weather Service

Table 3.4

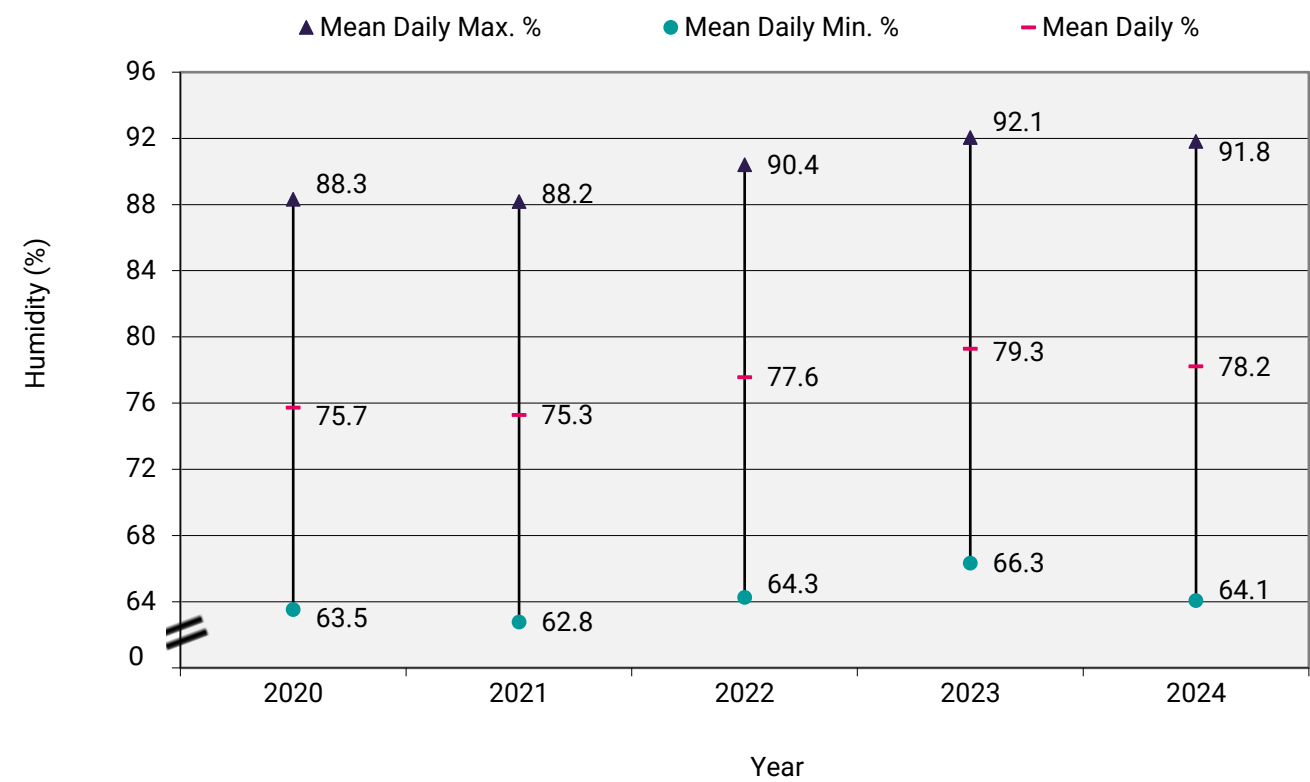
MEAN DAILY MAXIMUM, MINIMUM AND DAILY RELATIVE HUMIDITY, 2020–2024

Year		Month												Yearly Average
		Jan.	Feb.	Mar.	Apr.	May	Jun.	Jul.	Aug.	Sep.	Oct.	Nov.	Dec.	
2020	Mean Daily Max. %	87.0	91.7	88.8	88.0	89.1	89.0	87.6	85.9	87.2	90.0	88.3	87.3	88.3
	Mean Daily Min. %	57.2	65.2	61.9	61.7	63.2	68.1	69.2	63.9	67.9	68.2	59.2	56.6	63.5
	Mean Daily %	71.0	77.9	74.8	74.1	76.1	79.6	79.4	75.5	78.0	79.0	72.9	70.5	75.7
	Max. %	98.0	99.0	99.0	98.0	99.0	98.0	94.0	94.0	97.0	99.0	100.0	100.0	
	Min. %	38.0	38.0	40.0	43.0	43.0	40.0	59.0	54.0	46.0	50.0	40.0	45.0	
2021	Mean Daily Max. %	90.9	89.3	89.9	86.7	88.5	86.8	89.9	85.7	87.7	87.2	86.4	89.2	88.2
	Mean Daily Min. %	58.0	63.5	63.0	58.9	64.5	64.6	68.4	63.6	64.4	61.3	59.6	63.5	62.8
	Mean Daily %	72.1	76.5	76.2	72.1	76.5	76.6	80.0	74.9	76.2	73.8	73.0	75.6	75.3
	Max. %	100.0	99.0	99.0	96.0	97.0	97.0	97.0	94.0	97.0	98.0	99.0	99.0	
	Min. %	44.0	38.0	42.0	40.0	46.0	52.0	56.0	50.0	52.0	41.0	45.0	45.0	
2022	Mean Daily Max. %	91.4	91.0	87.1	90.6	93.3	91.2	90.5	87.5	87.7	94.1	91.5	89.1	90.4
	Mean Daily Min. %	58.6	63.1	60.2	61.7	72.5	68.5	67.2	62.7	63.0	71.4	63.4	58.9	64.3
	Mean Daily %	74.9	76.3	73.4	75.5	84.8	80.3	80.2	76.1	75.9	83.5	76.6	73.4	77.6
	Max. %	99.0	100.0	99.0	100.0	99.0	99.0	99.0	97.0	100.0	100.0	100.0	100.0	
	Min. %	44.0	40.0	43.0	37.0	41.0	44.0	57.0	50.0	43.0	50.0	46.0	42.0	
2023	Mean Daily Max. %	89.4	91.0	88.3	89.7	94.3	97.4	93.4	92.5	91.8	93.2	93.7	90.0	92.1
	Mean Daily Min. %	60.2	60.6	59.7	64.5	71.0	75.3	73.5	70.6	70.5	66.0	63.4	60.8	66.3
	Mean Daily %	74.5	75.3	73.3	77.4	83.1	87.5	84.6	82.7	81.7	79.0	77.7	74.7	79.3
	Max. %	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	
	Min. %	46.0	48.0	42.0	46.0	43.0	54.0	62.0	55.0	58.0	49.0	38.0	44.0	
2024	Mean Daily Max. %	91.4	90.6	91.8	92.4	93.5	91.7	91.2	92.4	96.1	90.4	89.6	90.8	91.8
	Mean Daily Min. %	58.8	59.0	62.9	63.5	66.9	67.9	67.5	69.6	73.0	62.4	58.0	59.3	64.1
	Mean Daily %	74.9	74.9	78.5	78.0	81.1	80.2	79.9	83.0	85.1	75.5	73.5	74.1	78.2
	Max. %	100.0	100.0	99.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	
	Min. %	41.0	44.0	43.0	43.0	43.0	36.0	55.0	56.0	56.0	45.0	47.0	48.0	

Source: The Bermuda Weather Service

Chart 3.3

MEAN DAILY MAXIMUM, MINIMUM AND DAILY RELATIVE HUMIDITY, 2020–2024



Source: The Bermuda Weather Service

Table 3.5

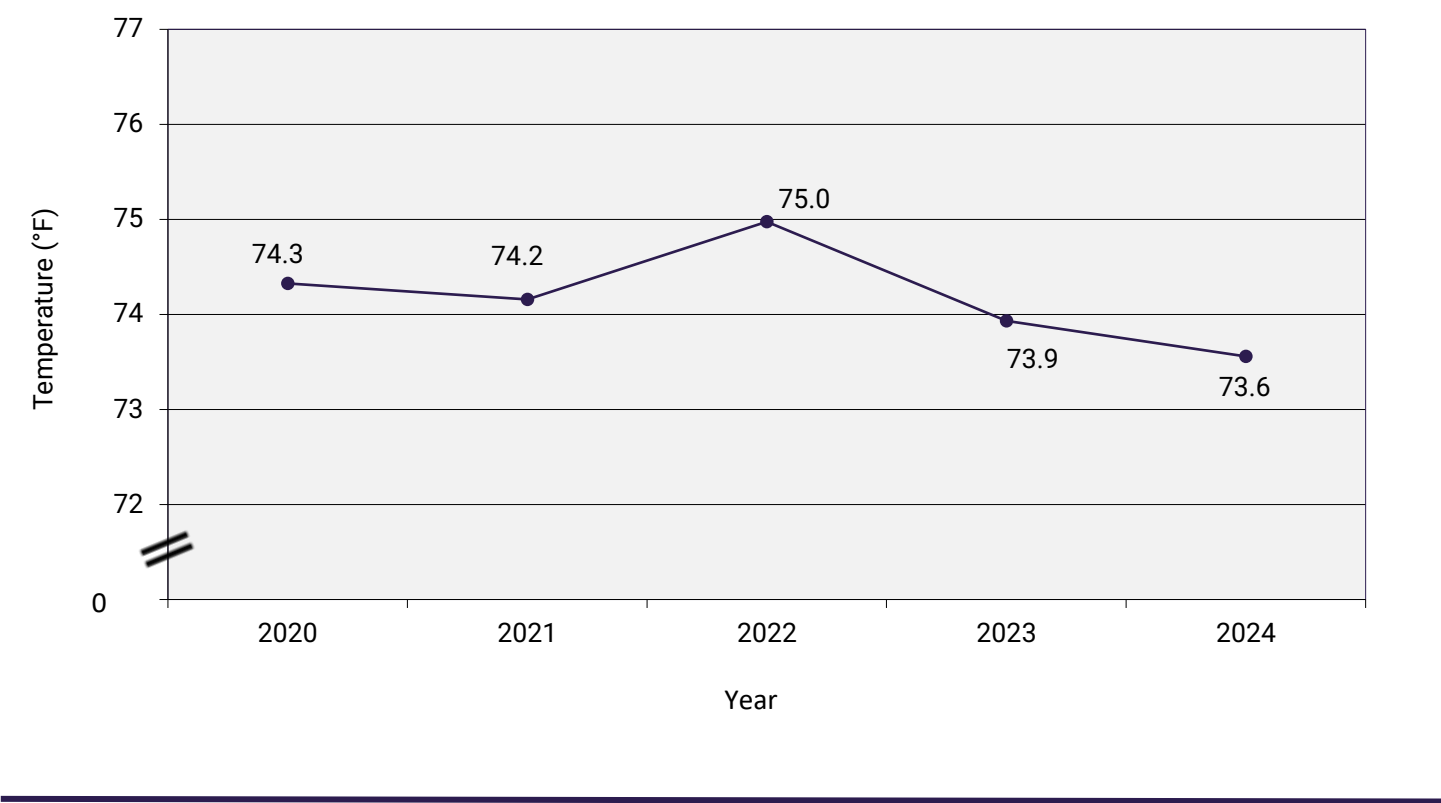
MEAN DAILY SEA SURFACE TEMPERATURE, 2020–2024

Year		Month												(°F) Yearly Average
		Jan.	Feb.	Mar.	Apr.	May	Jun.	Jul.	Aug.	Sep.	Oct.	Nov.	Dec.	
2020	Mean Daily	66.8	66.9	66.5	69.2	72.5	76.8	82.1	86.5	83.2	79.3	73.9	68.2	74.3
	Max. Temperature	67.8	68.7	68.4	72.0	74.1	79.5	86.0	87.8	85.3	81.3	77.0	71.6	
	Min. Temperature	64.4	65.5	64.8	68.4	71.2	74.8	79.0	85.1	80.1	77.0	70.3	66.9	
2021	Mean Daily	65.2	65.8	66.4	68.1	73.0	79.2	82.8	84.6	83.5	79.1	73.3	68.9	74.2
	Max. Temperature	67.3	70.3	70.9	70.2	77.9	81.0	84.4	85.1	85.5	81.7	76.8	70.3	
	Min. Temperature	61.0	61.0	63.9	64.8	71.1	77.0	80.6	83.7	80.6	76.8	69.1	67.1	
2022	Mean Daily	67.3	67.6	68.9	69.9	74.1	78.7	82.2	86.1	83.5	79.5	74.4	67.6	75.0
	Max. Temperature	69.1	69.8	70.9	71.6	78.8	79.9	85.5	86.9	86.9	81.7	78.3	71.6	
	Min. Temperature	64.9	64.4	66.6	66.6	68.0	77.0	79.2	85.5	80.1	77.7	71.4	64.8	
2023	Mean Daily	66.7	66.4	65.9	70.5	72.7	77.0	83.0	84.3	81.7	78.4	72.4	68.2	73.9
	Max. Temperature	67.8	67.3	68.5	72.1	75.6	80.1	84.6	86.0	84.7	81.3	75.0	70.3	
	Min. Temperature	65.5	65.3	62.4	67.1	71.2	74.3	80.1	82.9	80.6	74.7	67.8	65.8	
2024	Mean Daily	65.0	63.6	66.9	69.3	73.7	78.5	83.2	84.1	82.0	77.6	70.6	68.2	73.6
	Max. Temperature	66.7	65.5	68.5	71.6	78.6	80.1	85.3	85.5	84.2	81.9	75.6	69.4	
	Min. Temperature	62.6	62.1	64.2	65.5	71.4	76.6	80.6	81.9	79.3	75.6	68.0	65.7	

Source: *The Bermuda Weather Service*

Chart 3.4

MEAN DAILY SEA SURFACE TEMPERATURE, 2020-2024



Source: The Bermuda Weather Service

Table 3.6

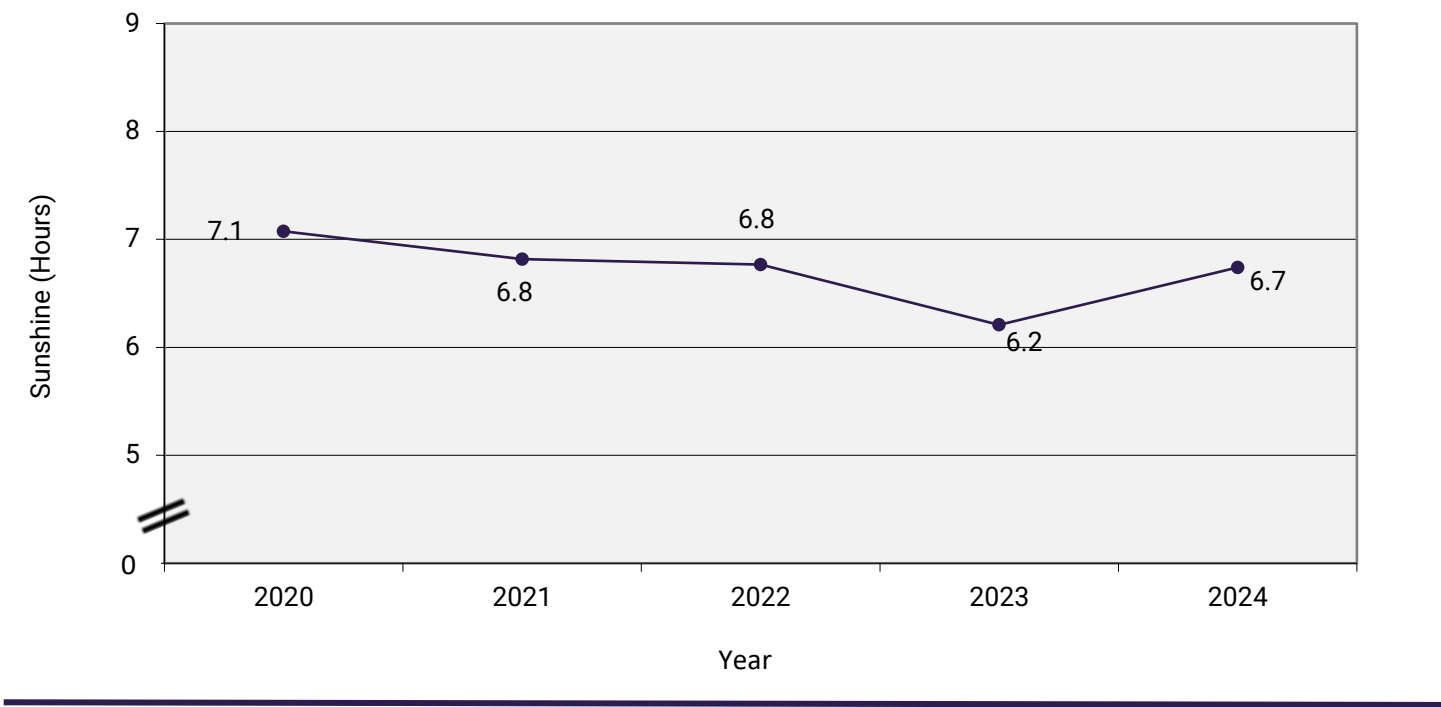
MEAN DAILY AND TOTAL HOURS OF SUNSHINE, 2020–2024

Year		Month												(Hours) Yearly Average
		Jan.	Feb.	Mar.	Apr.	May	Jun.	Jul.	Aug.	Sep.	Oct.	Nov.	Dec.	
2020	Mean Daily	5.1	5.3	6.0	7.1	8.8	7.8	9.6	9.3	7.9	7.2	6.2	4.6	7.1
	Max. Hours	8.9	10.2	10.8	11.9	12.3	12.6	12.7	12.6	11.3	9.8	9.8	8.6	
	Min. Hours	0.0	0.0	0.0	0.0	0.0	0.0	0.4	1.5	0.0	0.0	0.0	0.0	
	Total Hours	159.5	155.1	184.9	213.7	273.0	233.3	297.0	289.3	236.8	222.0	185.1	143.5	
2021	Mean Daily	4.2	5.9	5.0	6.6	8.6	9.7	7.1	10.5	7.3	6.3	4.9	5.7	6.8
	Max. Hours	8.5	10.7	10.4	11.8	12.9	12.7	12.4	12.3	11.9	10.2	9.1	9.2	
	Min. Hours	0.0	0.0	0.0	0.0	0.8	0.9	1.2	6.3	0.0	0.0	0.0	0.0	
	Total Hours	131.0	165.0	155.6	198.9	265.8	289.5	220.2	325.7	219.8	196.8	146.7	177.0	
2022	Mean Daily	4.8	5.4	7.5	6.6	8.1	7.4	9.3	9.5	7.2	5.9	5.0	4.5	6.8
	Max. Hours	9.2	10.6	11.0	11.4	12.3	12.2	13.0	12.1	11.1	10.5	9.0	9.3	
	Min. Hours	0.0	0.0	0.0	0.0	0.5	0.0	0.0	1.4	0.0	0.0	0.0	0.0	
	Total Hours	147.6	149.8	233.4	197.7	250.6	222.5	289.6	293.5	216.0	182.9	151.3	140.4	
2023	Mean Daily	6.0	5.3	6.4	7.9	6.4	6.3	8.7	8.0	7.6	4.9	3.8	3.2	6.2
	Max. Hours	9.2	10.3	10.2	12.3	11.9	12.5	12.1	12.2	11.1	10.2	9.8	7.3	
	Min. Hours	0.0	0.0	0.0	0.0	0.0	0.0	0.2	0.4	1.0	0.0	0.0	0.0	
	Total Hours	186.9	149.3	199.4	236.8	197.6	188.8	270.2	248.4	228.1	152.7	112.5	98.2	
2024	Mean Daily	3.9	5.2	6.4	7.7	8.2	8.1	10.0	8.8	6.0	6.4	6.1	4.1	6.7
	Max. Hours	10.0	10.2	10.4	11.9	12.3	12.4	12.7	12.2	11.4	10.6	10.2	8.3	
	Min. Hours	0.0	0.0	0.0	0.3	0.5	0.4	1.7	0.0	0.0	0.0	0.0	0.0	
	Total Hours	120.9	150.0	197.1	231.6	255.0	241.9	309.4	272.8	179.9	198.6	182.2	128.6	

Source: The Bermuda Weather Service

Chart 3.5

MEAN DAILY HOURS OF SUNSHINE, 2020-2024



Source: The Bermuda Weather Service

Table 3.7

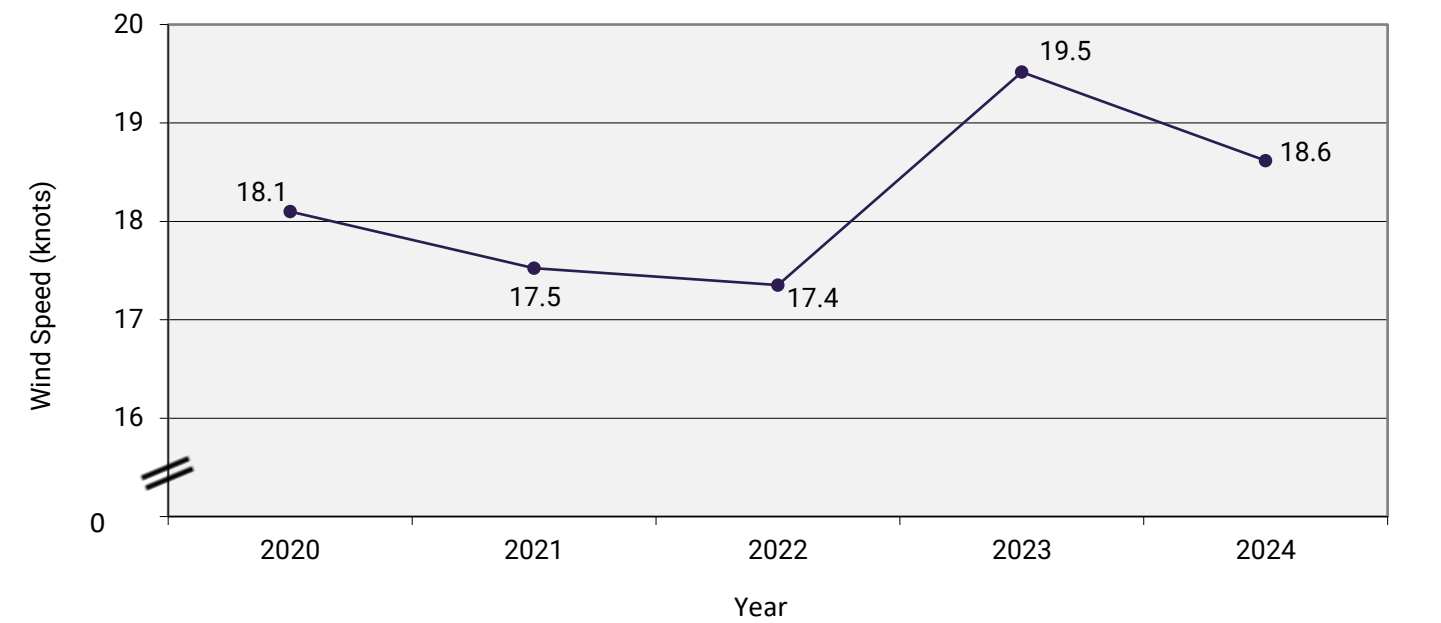
MEAN DAILY, MAXIMUM, MINIMUM AND PEAK WIND SPEEDS, 2020–2024

Year		Month												(Knots) Yearly Average
		Jan.	Feb.	Mar.	Apr.	May	Jun.	Jul.	Aug.	Sep.	Oct.	Nov.	Dec.	
2020	Mean Daily	21.8	21.1	18.8	23.9	18.4	15.0	13.2	14.3	17.3	15.7	18.3	19.4	18.1
	Max. Wind Speed	38.0	36.0	43.0	37.0	30.0	29.0	25.0	25.0	51.0	26.0	26.0	37.0	
	Min. Wind Speed	10.0	12.0	7.0	13.0	10.0	8.0	7.0	7.0	8.0	8.0	10.0	10.0	
	Peak Wind Speed	52.0	46.0	53.0	52.0	46.0	41.0	33.0	38.0	77.0	37.0	38.0	48.0	
2021	Mean Daily	24.2	20.9	18.6	19.8	16.6	14.6	15.0	12.4	14.9	16.6	19.3	17.4	17.5
	Max. Wind Speed	45.0	34.0	34.0	29.0	28.0	24.0	23.0	20.0	27.0	33.0	34.0	26.0	
	Min. Wind Speed	10.0	13.0	7.0	8.0	7.0	8.0	8.0	7.0	6.0	8.0	10.0	8.0	
	Peak Wind Speed	65.0	49.0	49.0	42.0	39.0	40.0	34.0	32.0	37.0	44.0	50.0	36.0	
2022	Mean Daily	21.5	17.6	18.4	18.3	14.8	16.0	13.5	13.9	17.8	16.7	19.3	20.5	17.4
	Max. Wind Speed	40.0	31.0	32.0	30.0	24.0	43.0	22.0	26.0	59.0	26.0	34.0	32.0	
	Min. Wind Speed	11.0	8.0	8.0	9.0	9.0	9.0	8.0	7.0	8.0	6.0	10.0	12.0	
	Peak Wind Speed	56.0	42.0	45.0	39.0	35.0	54.0	31.0	36.0	81.0	36.0	48.0	47.0	
2023	Mean Daily	21.1	22.1	24.0	15.8	19.4	18.5	16.5	16.9	17.3	20.7	20.8	21.1	19.5
	Max. Wind Speed	43.0	37.0	34.0	28.0	37.0	27.0	36.0	36.0	47.0	37.0	33.0	35.0	
	Min. Wind Speed	13.0	12.0	15.0	9.0	11.0	9.0	8.0	6.0	7.0	9.0	9.0	10.0	
	Peak Wind Speed	57.0	48.0	45.0	39.0	45.0	38.0	43.0	50.0	65.0	51.0	44.0	46.0	
2024	Mean Daily	23.4	23.2	20.9	19.1	15.2	16.4	15.3	17.3	15.9	18.3	19.9	18.5	18.6
	Max. Wind Speed	38.0	36.0	35.0	34.0	25.0	31.0	21.0	57.0	25.0	29.0	32.0	25.0	
	Min. Wind Speed	7.0	12.0	11.0	7.0	8.0	11.0	8.0	7.0	9.0	8.0	6.0	9.0	
	Peak Wind Speed	56.0	50.0	46.0	44.0	33.0	38.0	27.0	73.0	34.0	37.0	50.0	35.0	

Source: The Bermuda Weather Service

Chart 3.6

YEARLY AVERAGE WIND SPEED, 2020-2024



Source: The Bermuda Weather Service

NATURAL AND ENVIRONMENTAL DISASTERS

Occurrences of natural and environmental disasters are rare in Bermuda.

Between 2023 and 2024, Bermuda experienced several storm-related events, including Hurricane Lee in 2023 and Hurricane Ernesto in 2024 (Table 4.1). These events varied in intensity, with peak sustained winds reaching up to 73 knots and gusts up to 91 knots, recorded during Hurricane Ernesto. Associated impacts also varied, with power outages ranging from approximately 300 homes affected during Hurricane Franklin to 29,000 homes during Hurricane Ernesto, reflecting differences in storm strength and impact.

Emergency response activity provides additional context on disaster-related incidents. Between 2020 and 2024, the Bermuda Fire and Rescue Service attended 3,899 incidents in 2020, increasing to a peak of 4,646 incidents in 2023, before declining to 4,196 incidents in 2024 (Table 4.2). This represents an overall increase of 297 incidents, or 7.6%, between 2020 and 2024, while incidents declined by 9.7% between 2023 and 2024.

Emergency Medical Services (EMS) accounted for the largest share of incidents throughout the period, increasing from 1,713 incidents in 2020 to 2,037 in 2024, despite a decline from 2,210 in 2023. Structure fires (including false alarms) also increased from 1,098 in 2020 to 1,266 in 2024, and minor incidents, including flooding and hazardous events, increased from 232 to 324 over the same period.

NOTE TO READER

Natural Disaster: a natural event which overwhelms local capacity, necessitating a request for national or international assistance, or is recognized as such by a multilateral agency, or by at least two sources, such as national, regional or international assistance groups and the media. There are two types: sudden-impact disasters e.g. earthquakes; or those that develop gradually, e.g. drought.

Types of Disaster: Avalanches, floods, earthquakes, hurricanes, torrential rains, volcanic eruptions, droughts, landslides, mudslides, fires, blizzards, tsunamis, etc.

Source: CARICOM Environment Program

Table 4.1

NATURAL DISASTERS, 2023 and 2024

Item	
Type of disaster	Hurricane Franklin
Date started	August 30, 2023
Total casualties	—
of which: dead	—
Power outages (homes affected)	≈ 300
Maximum Surface Wind Speed	
Sustained	36 knots (10 minutes)
Gusts ¹	50 knots
Damage (\$ million) ²	—
Item	
Type of disaster	Tropical Storm Idalia
Date started	September 4, 2023
Total casualties	—
of which: dead	—
Power outages (homes affected)	≈ 3,000
Maximum Surface Wind Speed	
Sustained	57 knots (10 minutes)
Gusts ¹	65 knots
Damage (\$ million) ²	—
Item	
Type of disaster	Hurricane Lee
Date started	September 14, 2023
Total casualties	—
of which: dead	—
Power outages (homes affected)	≈ 12,000
Maximum Surface Wind Speed	
Sustained	47 knots (10 minutes)
Gusts ¹	65 knots
Damage (\$ million) ²	50

Table 4.1

NATURAL DISASTERS CONT'D, 2023 AND 2024

Item		
Type of disaster		Hurricane Ernesto
Date started		August 16, 2024
Total casualties		—
of which: dead		—
Power outages (homes affected)		≈ 29,000
Maximum Surface Wind Speed		
Sustained		73 knots (10 minutes)
Gusts ¹		91 knots
Damage (\$ million) ²		—

Source: The Royal Gazette and The Bermuda Weather Service

¹ Data are sourced from observations recorded at the L.F. Wade International Airport.

² Insured Losses.

Table 4.2

EMERGENCY INCIDENTS ATTENDED BY THE BERMUDA FIRE AND RESCUE SERVICE¹, 2020–2024

Year	Total	Type of Emergency Incident Attended				
		Structure Fire ²	Vehicle Fire	EMS ³	Minor Incidents ⁴	Other ^{2,5}
2020	3,899	1,098	24	1,713	232	832
2021	4,169	1,011	18	1,981	268	891
2022	4,420	1,085	16	2,379	331	609
2023	4,646	1,439	27	2,210	267	703
2024	4,196	1,266	16	2,037	324	553

Source: *Bermuda Fire and Rescue Service*

¹ This table format was revised in 2022.

² Includes false alarms.

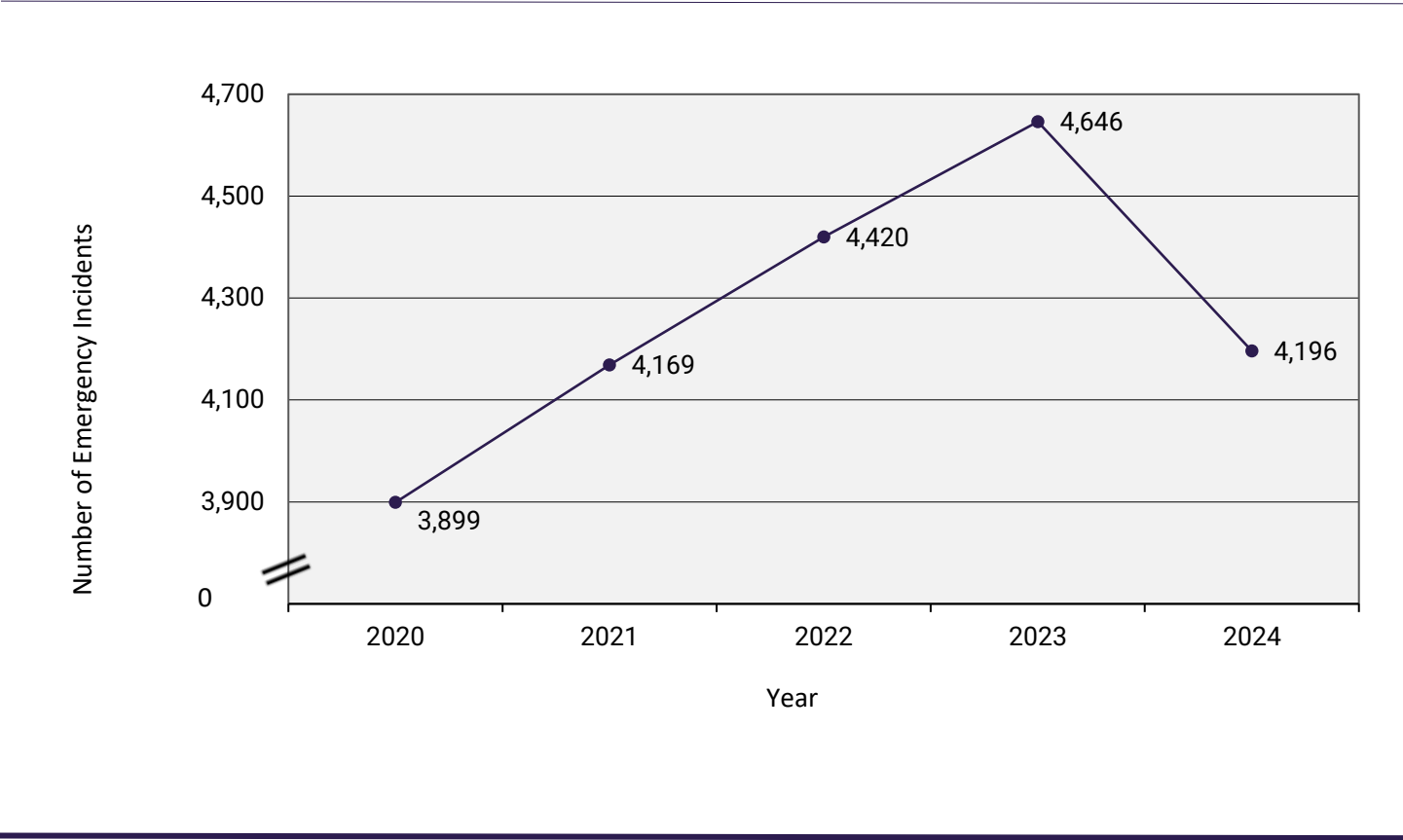
³ Emergency Medical Services

⁴ Includes brush fires, trash fires, gas cylinder leaks, oil spills, floodings, pole fires, etc.

⁵ Reflects the activities of the Crash and Fire Rescue Service in other emergency duties such as Airport Operations Division incidents, foreign object debris checks, hot refuel, aircraft standby, etc.

Chart 4.1

EMERGENCY INCIDENTS ATTENDED BY THE BERMUDA FIRE AND RESCUE SERVICE, 2020–2024



Source: Bermuda Fire and Rescue Service

ENERGY, MINERALS AND TRANSPORT

The Energy, Minerals and Transport Section comprises information on the types of fuels imported to Bermuda such as gasoline, diesel and propane. It also contains statistics on electricity consumption by type of consumer and the types of vehicles on Bermuda's roads.

Fuel imports fluctuated between 2022 and 2024, with variation observed in both value and quantity across fuel types (Tables 5.1 and 5.2). The total value of imported fuel declined from \$138.0 million in 2022 to \$95.2 million in 2023, before increasing to \$142.6 million in 2024, representing a 31.1% decrease followed by a 49.8% increase.

Between 2020 and 2024, electricity consumption remained relatively stable, fluctuating from 517.9 million kWh in 2020 to 517.4 million kWh in 2024 (Table 5.3). Year-over-year changes were minimal, including a slight decline of 0.1% between 2023 and 2024 (Table 5.4).

By consumer type, Residential consumption declined slightly over the period, from 242.7 million kWh in 2020 to 236.7 million kWh in 2024, while Commercial consumption increased from 224.7 million kWh to 278.2 million kWh (Table 5.3). As a result, Commercial consumers accounted for the largest share of electricity consumption in 2024 (53.8%), compared with 45.7% for Residential consumers (Table 5.5).

The number of registered road vehicles increased gradually from 49,114 in 2020 to 50,560 in 2024, representing an increase of 1,446 vehicles (2.9%) (Table 5.6). The most recent year recorded a modest increase of 1.1% between 2023 and 2024.

Table 5.1

VALUE AND QUANTITY OF IMPORTED FUEL¹ BY TYPE, 2022–2024

Type	Year					
	2022		2023		2024	
	Value (\$)	Quantity (kg)	Value (\$)	Quantity (kg)	Value (\$)	Quantity (kg)
Total	138,027,029	208,379,796	95,152,565	122,450,625	142,552,463	152,301,143
Percentage change (%)	+59.4	+27.8	-31.1	-41.2	+49.8	+24.4
Light oils and preparations (i.e. motor spirits)	9,671,067	6,946,726	8,994,533	8,491,462	43,392,191	27,337,855
Gas oils (diesel)	12,777,344	9,980,980	16,067,385	16,579,221	30,702,893	20,167,303
Gas oils (heavy atmospheric)	—	—	—	—	—	—
Kerosene and other medium oils (not including gas oils)	21,291,305	17,644,533	14,854,479	16,475,858	5,676,300	5,742,303
Fuel oils not elsewhere specified	92,459,627	173,330,346	53,391,686	80,487,916	61,013,014	98,713,972
Other lubricating oils and grease, etc.	1,814,490	476,002	1,830,104	413,430	1,704,723	327,875
Other waste oils	13,196	1,210	14,378	2,738	63,342	11,835

Source: Department of Statistics

¹ Petroleum oils and oils obtained from bituminous minerals, other than crude.

Table 5.2

VALUE AND QUANTITY OF IMPORTED MINERAL FUELS, MINERAL OILS AND RELATED PRODUCTS CONSUMED BY TYPE, 2022–2024

Type	Year					
	2022		2023		2024	
	Value (\$)	Quantity (kg)	Value (\$)	Quantity (kg)	Value (\$)	Quantity (kg)
Total	141,507,292	216,394,581	97,415,907	130,271,862	146,202,798	163,583,582
Percentage change (%)	+56.2	+28.0	-31.2	-39.8	+50.1	+25.6
Coal, briquettes	8,950	4,792	8,205	1,908	63,695	15,527
Lignite	10	1	—	—	—	—
Peat	309,483	157,128	312,902	118,980	485,998	359,502
Coke and semi coke	109,981	54,097	47,736	19,021	27,578	9,544
Coal gas, water gas	—	—	—	—	—	—
Tar distilled	—	—	4,272	2,209	—	—
Oils and other products	614	300	2,720	327	5,090	489
Pitch and pitch coke	30	1	—	—	27	2
Petroleum oils	51	1	—	—	—	—
Petroleum oils other than crude	138,026,978	208,379,795	95,152,565	122,450,625	142,552,463	152,301,143
Petroleum gases & other gaseous hydrocarbons	2,373,043	3,028,793	1,220,309	2,043,213	2,261,863	3,778,445
Petroleum jelly	76,281	5,916	80,535	5,785	71,800	5,784
Petroleum coke	42,881	3,967	15,070	1,236	23,264	1,699
Other bitumen and asphalt	92,099	4,194,116	199,409	5,034,951	46,743	45,218
Bituminous mixtures	466,890	565,674	372,184	593,607	664,277	7,066,229
Electrical energy	—	—	—	—	—	—

Source: Department of Statistics

Table 5.3

ELECTRICITY CONSUMPTION BY TYPE OF CONSUMER, 2020–2024

Year	Total (‘000 kWh)	Type		
		Residential (‘000 kWh)	Commercial (‘000 kWh)	Other ¹ (‘000 kWh)
2020	517,883	242,697	224,744	50,442
2021	522,566	245,639	226,346	50,581
2022	524,224	238,414	236,273	49,537
2023	518,041	235,274	235,148	47,619
2024	517,363	236,667	278,215	2,481

Source: Liberty Group Limited

¹ Includes street lighting paid by Parish Councils and sales to Government for offices, distillation plant, etc.

Table 5.4

GROWTH IN ELECTRICITY CONSUMPTION BY TYPE OF CONSUMER, 2020–2024

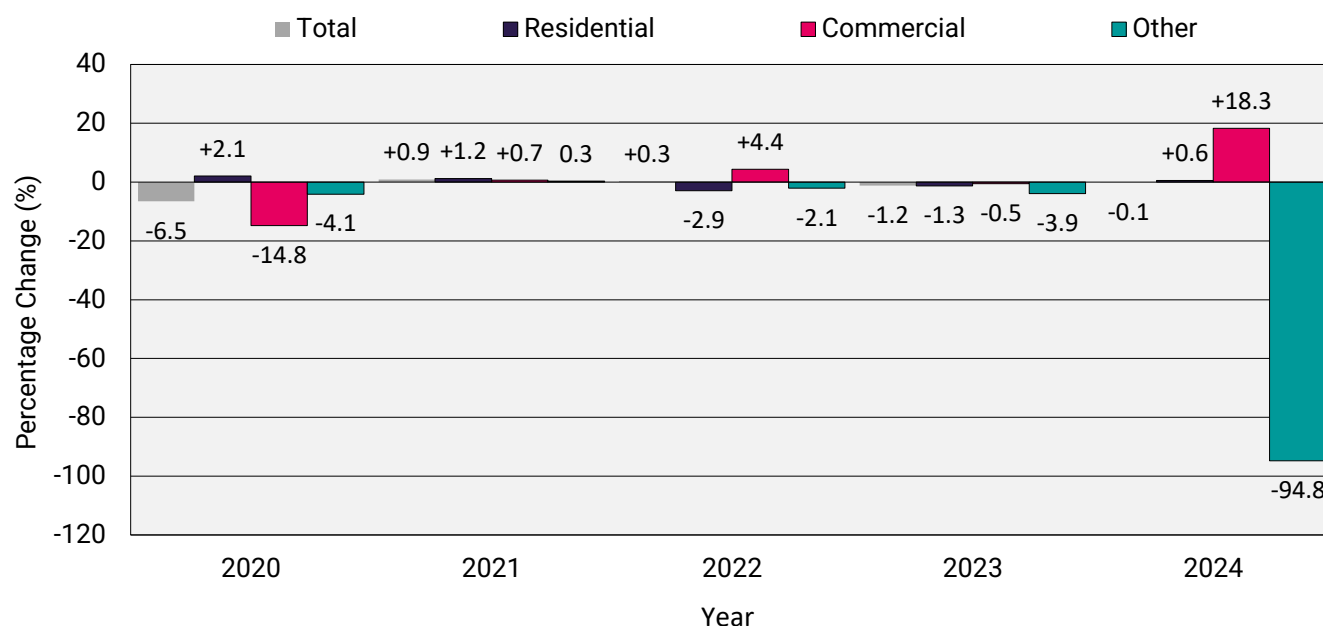
Year	Total Electricity Consumption	Type		
		Residential Percentage	Commercial Percentage	Other ¹ Percentage
2020	-6.5	+2.1	-14.8	-4.1
2021	+0.9	+1.2	+0.7	+0.3
2022	+0.3	-2.9	+4.4	-2.1
2023	-1.2	-1.3	-0.5	-3.9
2024	-0.1	+0.6	+18.3	-94.8

Source: Liberty Group Limited

¹ Includes street lighting paid by Parish Councils and sales to Government for offices, distillation plant, etc.

Chart 5.1

GROWTH IN ELECTRICITY CONSUMPTION BY TYPE OF CONSUMER, 2020–2024



Source: Liberty Group Limited

Table 5.5

PERCENTAGE DISTRIBUTION OF TOTAL ELECTRICITY CONSUMPTION BY TYPE OF CONSUMER, 2020–2024

Year	Total	Type		
		Residential	Commercial	Other ¹
		Percentage	Percentage	Percentage
2020	100.0	46.9	43.4	9.7
2021	100.0	47.0	43.3	9.7
2022	100.0	45.5	45.1	9.4
2023	100.0	45.4	45.4	9.2
2024	100.0	45.7	53.8	0.5

Source: Liberty Group Limited

¹ Includes street lighting paid by Parish Councils and sales to Government for offices, distillation plant, etc.

Table 5.6

REGISTERED ROAD VEHICLES^{1,2}, 2020–2024

Type	Year				
	2020	2021	2022	2023	2024
Total	49,114	48,994	49,668	49,997	50,560
Percentage change (%)	-1.1	-0.2	1.4	0.7	1.1
Private Cars	22,515	22,757	22,896	22,891	23,082
Motorcycles & Scooters	18,042	17,878	18,003	18,015	18,309
Auxiliary & Livery Cycles	2,392	2,122	2,407	2,546	2,434
Trucks	3,806	3,904	3,989	4,047	4,174
Taxis	558	535	523	539	532
Tractors & Tractor Trailers ³	329	341	343	338	335
Government Private (GP) Vehicles ⁴	238	228	263	279	282
Trailers	261	267	276	274	283
Buses, Minibuses & Limousines	295	276	285	329	340
Rental Minicars ⁵	195	190	184	258	260
Light Private Cars	68	72	72	75	92
Ambulances & Fire Engines	45	45	39	32	32
Construction Vehicles ⁶	38	37	37	36	36
Military Vehicles	50	53	51	52	49
Other ⁷	282	289	300	286	320

Source: Transport Control Department

¹ Number of vehicles for which a valid license was in effect as of 31st December.

² This table format was revised in 2021.

³ Includes farm tractors.

⁴ Includes cars (classes A-H) and government minibuses.

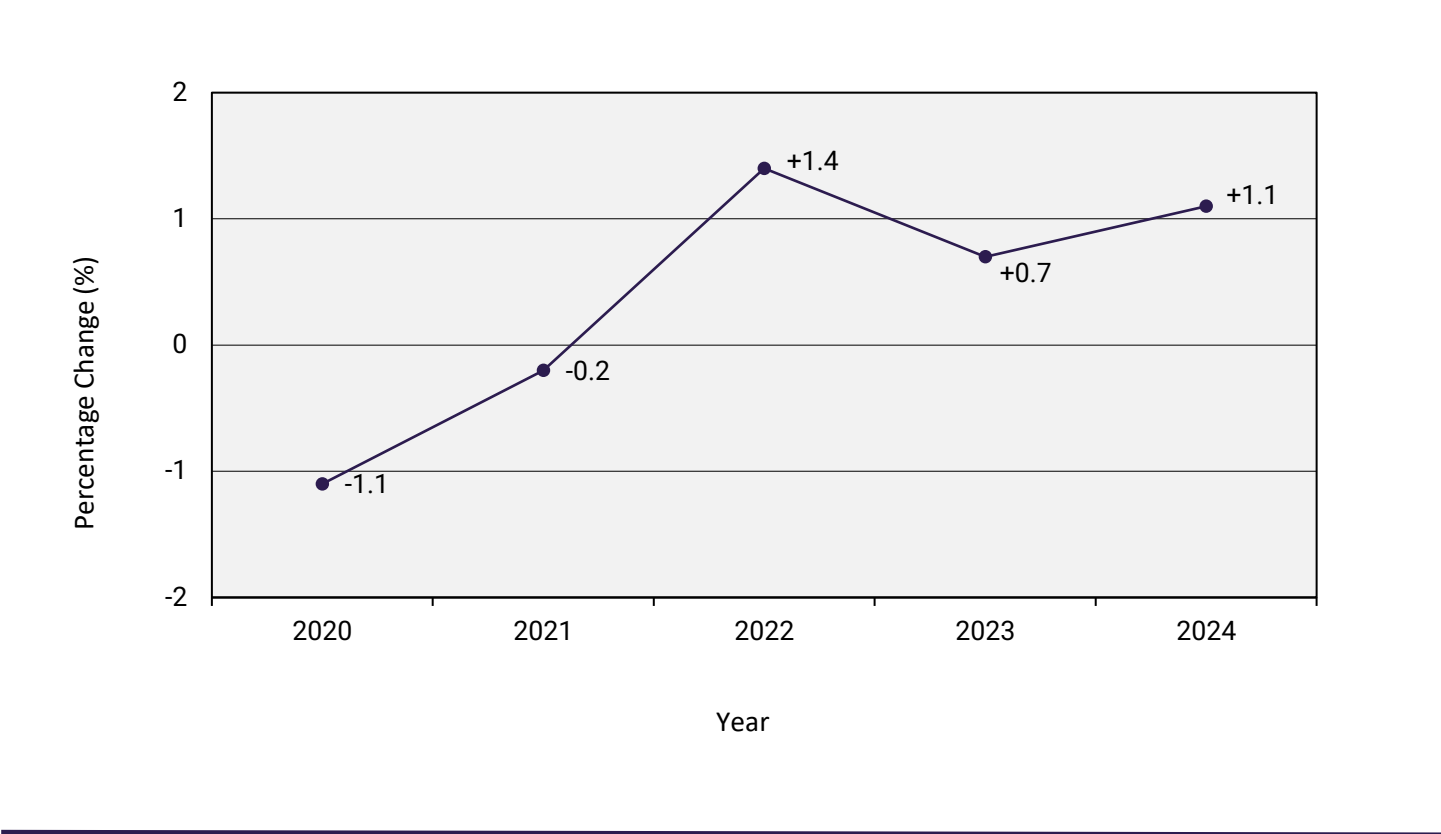
⁵ Rental minicars were introduced in 2017.

⁶ Includes cement mixers.

⁷ Includes classic cars, community service vehicles, doctors' cars, garbage trucks, hearses, instructional vehicles, loaner vehicles, locomotives, police utility vehicles, public carriages and sporting associations.

Chart 5.2

PERCENTAGE CHANGE IN REGISTERED ROAD VEHICLES, 2020-2024



Source: Transport Control Department

AGRICULTURE

The Agriculture Section includes tables and charts on the importation of fertilizers and pesticides to Bermuda.

Imports of fertilisers showed modest variation between 2022 and 2024 (Table 6.1). The total value increased from \$663,571 in 2022 to \$678,806 in 2023, before declining slightly to \$677,348 in 2024. Over the same period, quantities increased from 193,619 kg to 242,121 kg, including a 19.1% increase between 2023 and 2024.

By type, Other fertilisers accounted for the largest share of imports throughout the period, increasing from \$472,062 in 2022 to \$534,948 in 2024. In contrast, Nitrogenous fertilisers declined, falling from \$50,955 in 2022 to \$25,977 in 2024 (Table 6.1).

Imports of pesticides increased between 2022 and 2024 (Table 6.2). The total value rose from \$2.47 million in 2022 to \$2.94 million in 2024, while quantities increased from 330,054 kg to 362,118 kg. The most recent year recorded continued growth, with value and quantity increasing by 3.0% and 4.8%, respectively, between 2023 and 2024.

By type, Disinfectants and Insecticides accounted for the largest share of pesticide imports over the period. Disinfectants increased from \$991,279 in 2022 to \$1,087,416 in 2024, while Insecticides rose from \$983,598 to \$1,131,325 (Table 6.2).

SECTION 6

Table 6.1

IMPORTED FERTILIZERS BY TYPE, 2022-2024

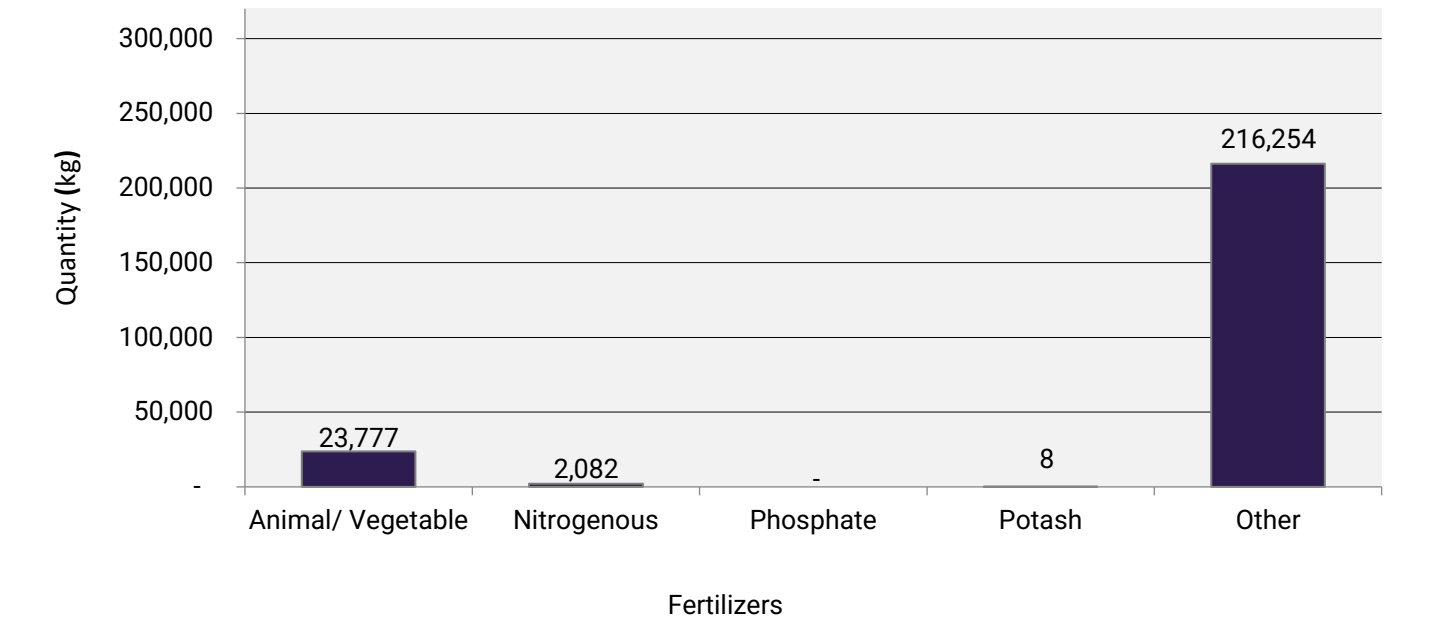
Category	Year					
	2022		2023		2024	
	Value (\$)	Quantity (kg)	Value (\$)	Quantity (kg)	Value (\$)	Quantity (kg)
Total	663,571	193,619	678,806	203,370	677,348	242,121
Percentage change (%)	+1.3	-21.8	+2.3	+5.0	-0.2	+19.1
Animal/Vegetable fertilizers	136,925	26,507	130,619	23,015	116,149	23,777
Nitrogenous fertilizers	50,955	10,071	31,006	1,874	25,977	2,082
Phosphate fertilizers	40	12	102	7	-	-
Potash fertilizers	3,589	1,684	9,536	1,759	274	8
Other fertilizers ¹	472,062	155,345	507,543	176,715	534,948	216,254

Source: Department of Statistics

¹ Other fertilizers include mixtures of two or three of the fertilizing elements nitrogen, phosphorus or potassium.

Chart 6.1

IMPORTED FERTILIZERS BY TYPE, 2024



Source: Department of Statistics

Table 6.2

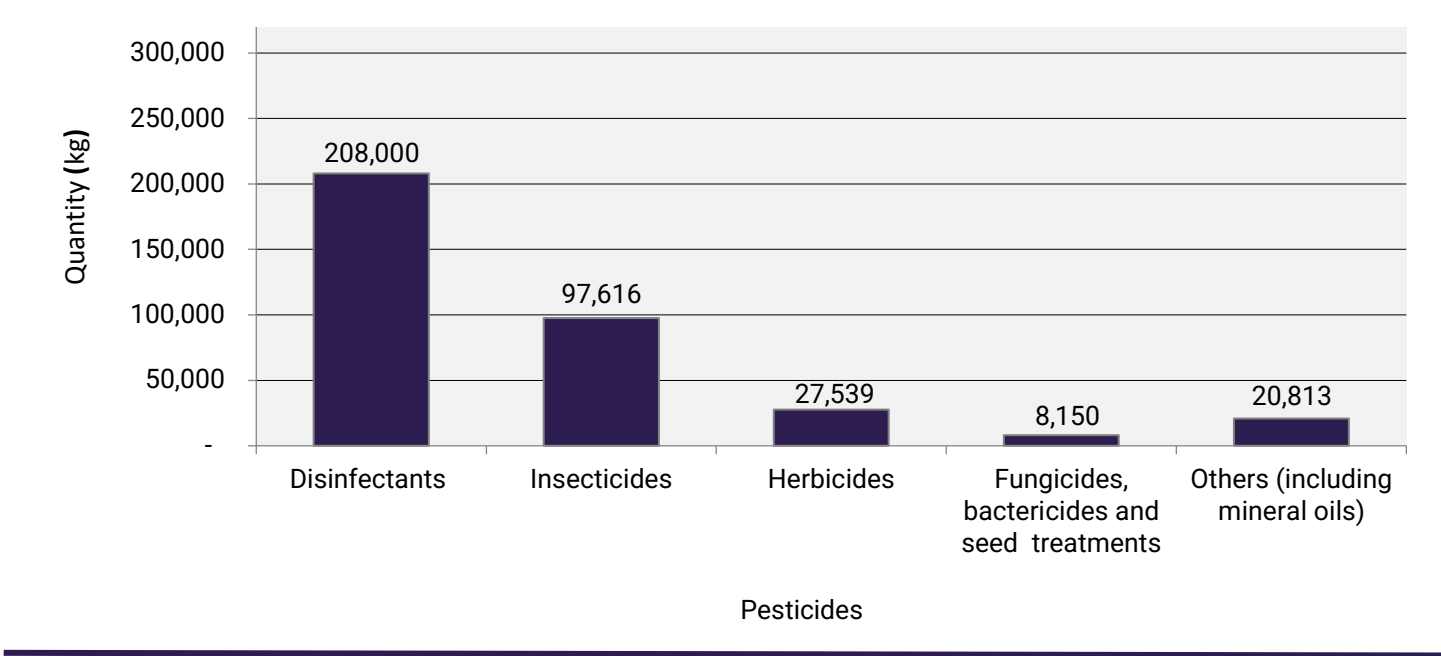
IMPORTED PESTICIDES BY TYPE, 2022–2024

Category	Year					
	2022		2023		2024	
	Value (\$)	Quantity (kg)	Value (\$)	Quantity (kg)	Value (\$)	Quantity (kg)
Total	2,470,632	330,054	2,854,857	345,372	2,940,584	362,118
Percentage change (%)	-23.4	-29.6	+15.6	+4.6	+3.0	+4.8
Disinfectants	991,279	184,403	965,323	186,173	1,087,416	208,000
Insecticides	983,598	81,819	1,182,876	98,219	1,131,325	97,616
Herbicides	214,198	31,179	290,567	34,260	293,678	27,539
Fungicides, bactericides and seed treatments	95,722	8,489	114,327	9,517	135,682	8,150
Others (including mineral oils)	185,834	24,165	301,764	17,203	292,483	20,813

Source: Department of Statistics

Chart 6.2

IMPORTED PESTICIDES BY TYPE, 2024



Source: Department of Statistics

LAND USE

The data in the Land Use Section was collected in 2001 and 2016, respectively by the Department of Planning and has not been updated.

Land use in Bermuda is dominated by residential and open space areas. In 2016, residential land accounted for 6,209.8 acres (46.7%) of total land use, while open space accounted for 4,335.0 acres (32.6%) (Table 7.1).

Within residential land, housing represented the largest component at 5,924.1 acres (44.5%), with smaller proportions allocated to condominiums and institutional uses. Open space was primarily comprised of nature reserves (9.3%), rural areas (8.2%), and golf courses (5.9%).

Other land uses accounted for relatively small shares of total land area. Utilities represented 5.7%, institutional land 4.4%, and vacant land 4.2%, while industrial, tourism and commercial uses each accounted for less than 3% of total land use (Table 7.1).

Land use distribution varied across parishes, with Pembroke, Warwick and Sandys accounting for some of the largest shares of developed land, particularly in residential and open space categories (Tables 7.2.1 and 7.2.2).

Note: The Land Use Section uses data collected from the Department of Planning, Land Use Survey 2001 and 2016, respectively. In some tables, figures will not be comparable.

Table 7.1

LAND USE, 2016

Main Use	Sub-Category	Total Area (Acres)	Percentage Distribution
Total		13,289.3	100.0
Residential	Total	6,209.8	46.7
	Housing	5,924.1	44.5
	Condos	257.7	1.9
	Institutional	28.0	0.2
Open space	Total	4,335.0	32.6
	Nature reserve	1,231.4	9.3
	Rural	1,088.7	8.2
	Other	960.7	7.2
	Golf courses	790.1	5.9
	Recreation	264.1	2.0
Utilities	Total	752.0	5.7
	Airport	548.6	4.1
	Waste	89.7	0.7
	Transport	44.0	0.3
	BELCO	37.9	0.3
	Docks	31.8	0.2
Institutional	Total	580.6	4.4
	Education	258.0	1.9
	Religious	106.0	0.8
	Government	78.1	0.6
	Police	31.5	0.2
	Hospital	34.7	0.3
	Prison	29.3	0.2
	Social	43.0	0.3
Tourism	Total	293.2	2.2
	Cottage colonies	185.4	1.4
	Hotels	107.8	0.8
Industrial	Total	313.4	2.4
	General	197.9	1.5
	Light industrial	65.2	0.5
	Quarry	50.3	0.4
Vacant	Total	553.7	4.2
	Vacant land	506.2	3.8
	Vacant buildings	47.5	0.4
Commercial	Total	260.7	2.0
	Retail	144.8	1.1
	Office	64.4	0.5
	Mixed-use	51.5	0.4

Source: Department of Planning, Land Use Survey 2016

The 2016 Land Use Survey was based on the 2012 digital survey of the islands, whose coastline was probably taken at the high water mark hence the discrepancy in total area which now stands at 13,430.39 acres (low time mark) in 2007 as a result of the more accurate 2003 Topographic Mapping Database.

Table 7.2.1

LAND USE BY PARISH, CITY AND TOWN IN ACRES, 2001

Main Use / Sub-Category	Parish/Town/City									
	St. George's	Town of St. George	Hamilton	Smith's	Devonshire	Pembroke	The City of Hamilton	Paget	Warwick	South- ampton
Total	2,162.7	341.0	1,312.2	1,216.3	1,221.4	1,170.3	176.3	1,303.0	1,415.4	1,511.7
Residential										
Housing	450.3	98.6	585.4	709.7	562.4	758.1	27.4	803.6	707.0	610.7
Condos	444.2	95.9	570.1	696.0	527.2	742.8	25.7	780.0	686.2	586.1
Institutional	6.1	2.7	15.3	10.6	28.0	11.9	—	21.8	20.8	24.6
	—	—	—	3.1	7.2	3.5	1.7	1.8	—	—
Open space	715.6	138.8	611.3	432.7	499.3	132.3	7.9	296.8	584.8	614.4
Nature reserve	296.4	8.4	156.2	106.0	163.7	74.0	6.4	70.3	164.5	104.3
Other	218.9	30.2	167.9	75.3	57.0	25.4	1.5	59.3	65.3	121.7
Golf courses	139.5	79.7	127.7	—	76.6	—	—	10.8	171.0	198.1
Recreation	36.0	—	9.1	24.8	35.4	27.3	—	4.2	53.4	5.4
Rural	24.9	20.4	150.4	226.6	166.6	5.7	—	152.2	130.7	16.9
Utilities										
Airport	606.2	9.4	10.8	6.7	23.5	23.5	26.4	—	—	4.7
Waste	548.4	—	—	—	—	—	—	—	—	—
Transport	37.0	2.4	10.8	—	14.1	—	—	—	—	—
Docks	10.2	3.2	—	—	5.0	3.2	16.1	—	—	3.3
BELCO	6.5	3.7	—	—	—	—	10.3	—	—	—
	4.1	—	—	6.7	4.4	20.3	—	—	—	1.4
Institutional	48.1	33.9	13.0	15.8	72.6	96.2	29.9	66.4	54.6	30.7
Education	27.3	20.4	8.9	11.3	36.0	47.8	4.4	27.9	28.0	17.0
Police	15.5	0.5	—	—	9.3	1.3	1.1	—	9.0	6.8
Religious	2.3	10.0	4.1	4.5	5.0	15.7	6.6	10.3	10.3	6.9
Prison	1.5	—	—	—	—	2.8	5.3	4.6	2.6	—
Government	1.5	2.9	—	—	11.0	25.5	12.5	8.9	—	—
Hospital	—	—	—	—	11.3	—	—	14.7	—	—
Social	—	—	—	—	—	3.2	—	—	4.7	—

Source: Department of Planning, Land Use Survey 2001

The 2001 Land Use Survey was based on the 1997 digital survey of the islands, whose coastline was probably taken at the high water mark hence the discrepancy in total area which now stands at 13,430.4 acres (low tide mark) in 2007 as a result of the more accurate 2003 Topographic Mapping Database.

Table 7.2.2

LAND USE BY PARISH, CITY AND TOWN IN ACRES, 2001

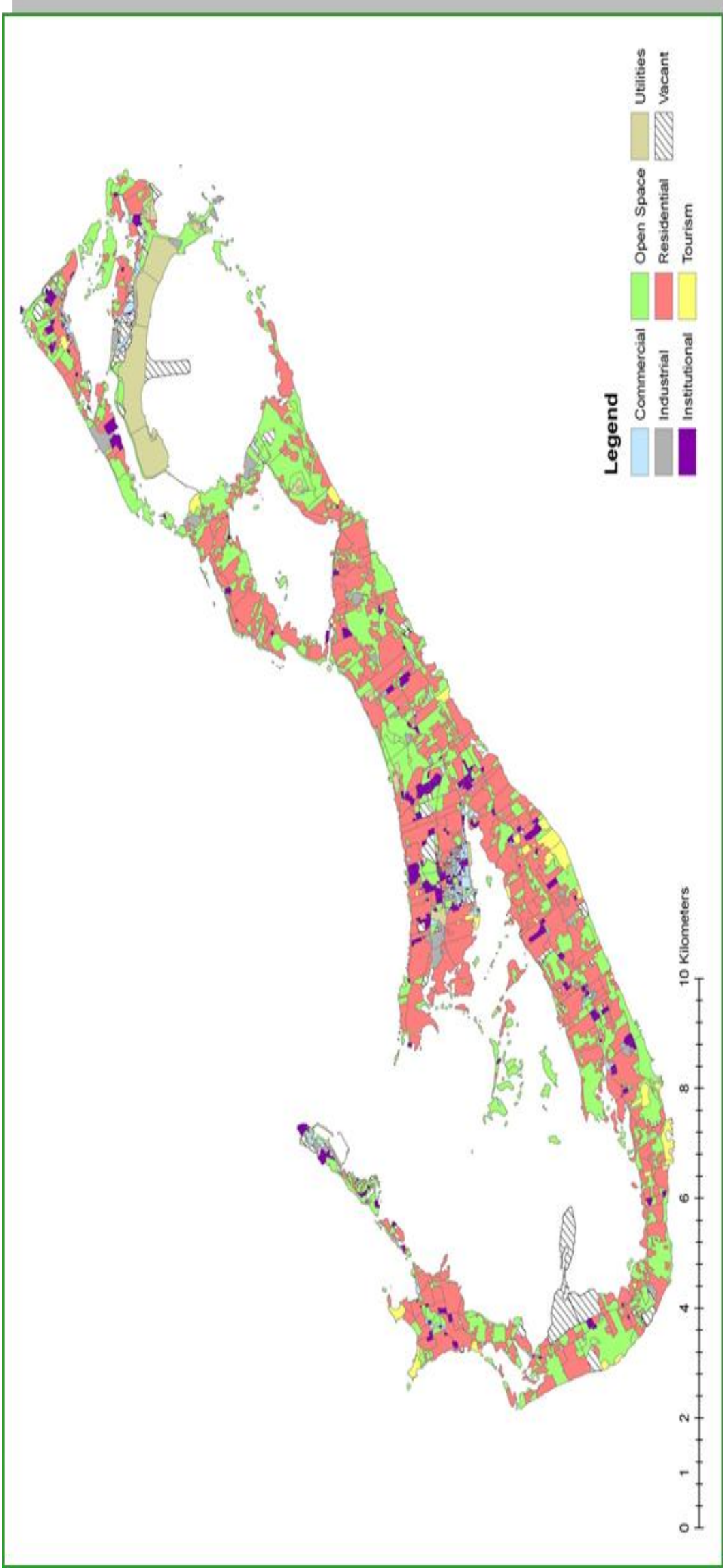
Main Use / Sub-Category	Parish/Town/City										
	St. George's	Town of St. George	Hamilton	Smith's	Devonshire	Pembroke	The City of Hamilton	Paget	Warwick	South- ampton	Sandy's
Tourism	4.0	10.2	18.7	15.3	14.2	15.7	—	112.1	8.7	88.7	44.7
Cottage colonies	4.0	10.2	18.7	15.3	14.2	3.0	—	62.4	8.7	23.6	44.7
Hotels	—	—	—	—	—	12.7	—	49.8	—	65.2	—
Industrial	99.6	8.9	47.5	21.1	18.9	55.6	12.3	4.1	18.0	21.8	13.9
General	66.6	1.3	11.5	9.5	11.3	52.9	6.0	0.7	7.8	18.9	13.9
Light industrial	33.0	7.6	—	—	7.5	2.7	6.4	3.4	1.0	2.9	—
Quarry	—	—	36.0	11.6	—	—	—	—	9.2	—	—
Vacant	206.5	29.1	14.0	12.2	19.5	60.5	3.6	3.1	30.8	130.2	219.4
Vacant land	155.4	10.3	—	12.2	19.5	60.5	3.6	—	21.3	130.2	197.1
Vacant buildings	51.2	18.8	14.0	—	—	—	—	3.1	9.5	—	22.3
Commercial	32.5	10.6	11.0	2.9	10.8	27.2	66.8	16.4	9.1	10.2	27.0
Office	19.0	—	—	—	4.2	15.1	16.9	6.6	—	—	—
Retail	13.5	6.3	11.0	2.9	6.6	12.1	17.7	9.8	9.1	10.2	27.0
Mixed-use	—	4.3	—	—	—	—	32.2	—	—	—	—

Source: Department of Planning, Land Use Survey 2001

The 2001 Land Use Survey was based on the 1997 digital survey of the islands, whose coastline was probably taken at the high water mark hence the discrepancy in total area which now stands at 13,430.4 acres (low tide mark) in 2007 as a result of the more accurate 2003 Topographic Mapping Database.

Map 7.1

LAND USE BY PARISH, CITY AND TOWN IN ACRES, 2001



Source: Department of Planning, Land Use Survey 2001

COASTAL AND MARINE RESOURCES

This Section includes information on various marine areas by name, location, activities permitted in these areas and the date they were established in Bermuda. It also provides information about Bermuda's fishing industry.

Marine resources in Bermuda include protected marine areas and fishing activity. In 2016, the total marine area was 4,236.1 km², of which 294.7 km² (7.0%) was designated as protected marine area (Table 8.1). Protected areas were primarily comprised of fisheries seasonal protected areas and coral reef preserves, with smaller areas designated as marine parks (Table 8.2).

Fishing activity fluctuated over the period. Total fish landings increased from 354.6 metric tonnes in 2020 to a peak of 415.0 metric tonnes in 2021. Landings then declined to 313.8 metric tonnes in 2023 before recovering to 336.2 metric tonnes in 2024 (Table 8.4).

Fishing effort also declined over time. Total hours at sea decreased from 67,325 hours in 2020 to 66,540 hours in 2024, while the number of registered fishermen fell from 342 in 2020 to 285 in 2024 (Table 8.5). Over the same period, catch per unit area remained constant at 0.1 metric tonnes per km², indicating no significant change in catch intensity.

Overall, the data indicate variability in fish landings alongside a decline in fishing effort, while the extent of marine protected areas remained fixed based on available data.

Table 8.1

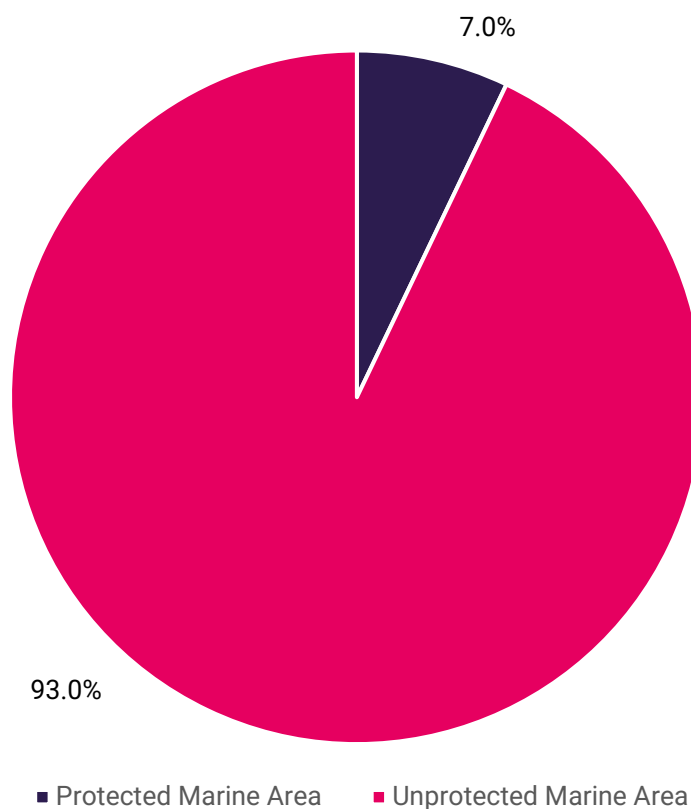
TOTAL AND PROTECTED MARINE AREA, 2016

Indicator	
Total land and marine area (km ²)	4,289.7
Total marine area (km ²)	4,236.1
Protected marine area (km ²)	294.7
Protected marine area as a % of total marine area	7.0
Protected marine area as a % of total land and marine area	6.9

Source: Department of Planning, Land Use Survey 2016

Chart 8.1

PROTECTED MARINE AREA AS A PERCENTAGE OF TOTAL MARINE AREA, 2016



Source: Department of Planning, Land Use Survey 2016

Table 8.2

MARINE PROTECTED AREAS BY CATEGORY AND AREA, 2001

Marine Protected Areas	Area (km ²)	Marine Protected Areas	
		Protected Dive Sites	Area (km ²)
Coral Reef Preserves			
Subtotal	131.1	Subtotal	13.9
North Shore Coral Reef Preserve	126.3	North Rock	3.1
South Shore Coral Reef Preserve	4.8	SW Breaker	1.1
		Eastern Blue Cut	1.1
Fisheries Seasonal Protected Areas		Pelinaion	0.8
Subtotal	153.4	Hermes	0.8
South Western Area	114.7	Constellation	0.8
North Eastern Area	38.7	Cristobal Colon	0.3
		NE Breaker	0.3
Marine Parks		Taunton	0.3
Subtotal	1.9	Aristo	0.3
Castle Island Marine Park	0.7	Mills Breaker	0.3
South Shore Marine Park	0.4	Cathedral	0.3
Cooper's Island Marine Park	0.3	Kate	0.3
Walsingham Marine Park	0.2	Tarpon Hole	0.3
John's Smiths Bay Marine Park	0.1	Marie Celeste	0.3
Tobacco Bay Marine Park	0.1	North Carolina	0.3
Spittal Pond Marine Park	0.1	Airplane	0.3
Church Bay Marine Park	0.0	Blanche King	0.3
Astwood Bay Marine Park	0.0	Darlington	0.3
Shelly Bay Marine Park	0.0	L'Herminie	0.3
Daniel's Head Marine Park	0.0	Lartington	0.3
Somerset Long Bay Marine Park	0.0	Montana	0.3
		Snake Pit	0.3
		Hog Breaker	0.3
		Caraquet	0.3
		Madiana	0.3
		Commissioner's Point	0.1
		Xing Da	0.1
		Vixen	0.0
Marine Protected Areas		Area (km ²)	
Merged marine protected areas (no overlaps) ¹		294.7	
Territorial area (net) ²		4,236.1	

Source: Department of Planning, Land Use Survey 2001

¹ Total marine protected area does not equal to the sum of the sub-totals as it excludes any overlapping areas (5.3 km²) to avoid double counting.

² Territorial area (net) means total water area and does not include the land area of 53.6 km².

Table 8.3.1

MARINE PROTECTED AREAS AROUND BERMUDA, 2001

Marine Protected Area/ No-Take Reserve	Year Established		Anchoring Permitted?	Scuba Diving Permitted?	No-Take Reserve?
North Shore Coral Reef Preserve	1966		Yes	Yes	Line fishing is permitted throughout this Preserve, as is lobster diving and spear fishing provided they are within the limits of the prevailing fisheries regulations. It is an offence to remove, damage or be in possession of plants or animals, whether dead or alive, which are attached to the coast, the seabed or any reef in this preserve.
South Shore Coral Reef Preserve	1966		Yes	Yes	Line fishing is permitted throughout this Preserve, as is lobster diving and spear fishing provided they are within the limits of the prevailing fisheries regulations. It is an offence to remove, damage or be in possession of plants or animals, whether dead or alive, which are attached to the coast, the seabed or any reef in this preserve.
Vixen (Wreck)	1973		No	Yes	Yes
The Eastern Area	Established in 1974 but in 1990 the area was expanded to the current size.		Yes	Yes	Seasonally protected area, no fishing from 1 May to 31 August. First act (1974) stated no fishing between 1 May and 15 August. This was amended in 1975 to 24 May and 15 August, in 1976 it was amended to 1 May and 15 August, in 1990 it was amended to 1 May and 30 September and finally in 1993 it was amended to 1 May and 31 August. Trolling for pelagic species is permitted seaward of the 30 fathom depth contour and shore fishing is also permitted.
The South Western Area	Established in 1974 but in 1990 the area was expanded to the current size.		Yes	Yes	Seasonally protected area, no fishing from 1 May to 31 August. First act (1974) stated no fishing between 1 May and 15 August. This was amended in 1975 to 24 May and 15 August, in 1976 it was amended to 1 May and 15 August, in 1990 it was amended to 1 May and 30 September and finally in 1993 it was amended to 1 May and 31 August. Trolling for pelagic species is permitted seaward of the 30 fathom depth contour and shore fishing is also permitted.

Source: Department of Environmental Protection

Table 8.3.2

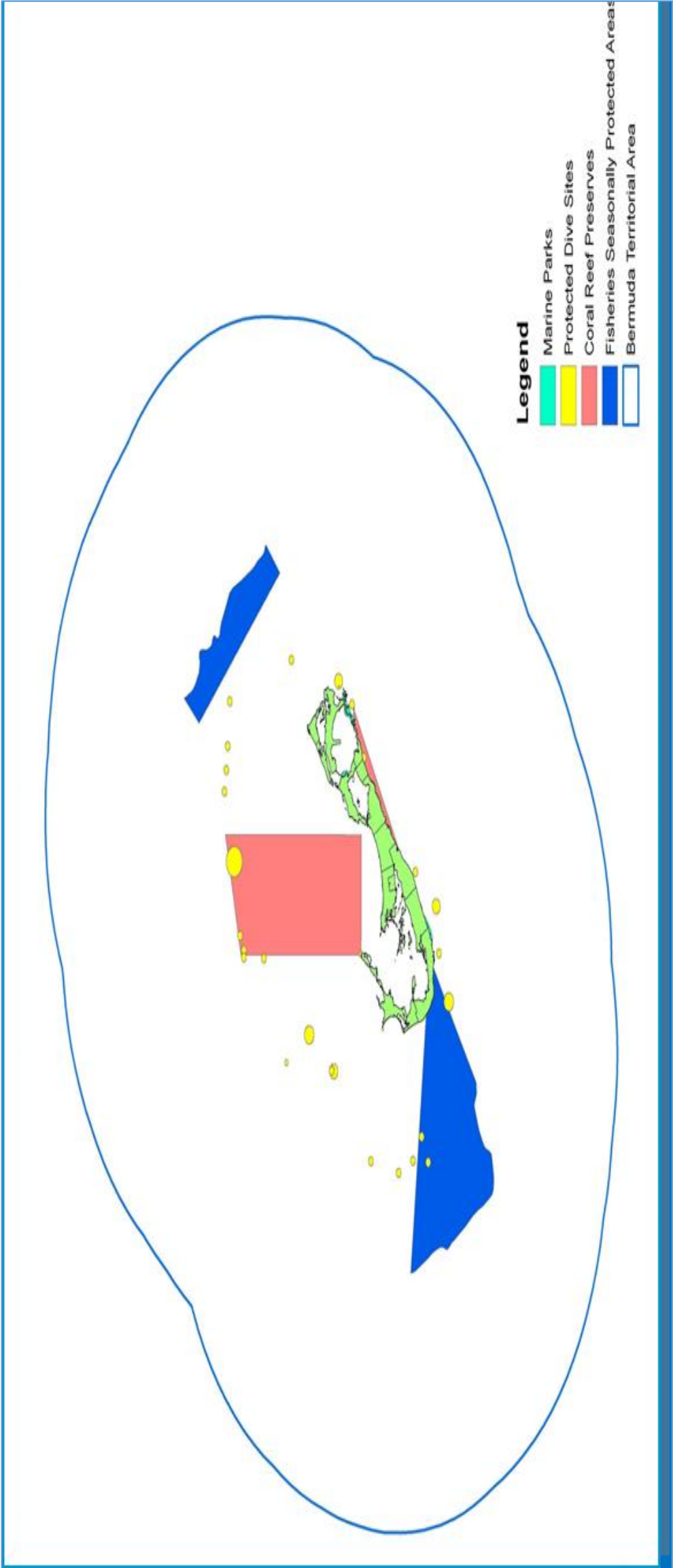
MARINE PROTECTED AREAS AROUND BERMUDA, 2001

Marine Protected Area/ No-Take Reserve	Year Established	Anchoring Permitted?	Scuba Diving Permitted?	No-Take Reserve?
Constellation (Wreck)	1988	No	Yes	Yes
South West Breaker Area	1988	No	Yes	Yes
Eastern Blue Cut	1989	No	Yes	Yes
Pelinaion and Rita Zovetta Wrecks)	1989	No	Yes	Yes
Kate (Wreck)	1989	No	Yes	Yes
Hermes and Minnie Bressleur (Wrecks)	1989	No	Yes	Yes
North Rock	1990	No	Yes	Yes
The North Eastern Area	1990			Seasonally protected area, no fishing from 1 May to 31 August. Initially there was no fishing between 1 May and 30 September, but in 1993 this was amended to 1 May and 31 August. Trolling for pelagic species is permitted seaward of the 30 fathom depth contour and shore fishing is also permitted.
	It was merged in 2005 with the Eastern Area and redesigned.	Yes	Yes	
Walsingham Marine Reserve	1991	No	Yes	Yes
Commissioner's Pt. Area	1996	No	Yes	Yes
Xing Da (Wreck)	1997	No	Yes	Yes
Cristobal Colon (Wreck)	2000	No	Yes	Yes
North East Breaker	2000	No	Yes	Yes
Taunton (Wreck)	2000	No	Yes	Yes
Aristo (Wreck)	2000	No	Yes	Yes
Mills Breaker	2000	No	Yes	Yes
The Cathedral	2000	No	Yes	Yes
Tarpon Hole	2000	No	Yes	Yes
Marie Celeste (Wreck)	2000	No	Yes	Yes
North Carolina (Wreck)	2000	No	Yes	Yes
Airplane (Wreck)	2000	No	Yes	Yes
Blanche King (Wreck)	2000	No	Yes	Yes
Darlington (Wreck)	2000	No	Yes	Yes
L'Herminie (Wreck)	2000	No	Yes	Yes
Lartington (Wreck)	2000	No	Yes	Yes
Montana (Wreck)	2000	No	Yes	Yes
Snake Pit	2000	No	Yes	Yes
Hog Breaker	2000	No	Yes	Yes
Caraquet (Wreck)	2000	No	Yes	Yes
Madiana (Wreck)	2000	No	Yes	Yes

Source: Department of Environmental Protection

Map 8.1

MARINE PROTECTED AREAS, 2001



Source: Department of Planning, Land Use Survey 2001

Table 8.4

QUANTITY OF FISH LANDINGS BY TYPE, 2020–2024

Species Group (mT)	Year				
	2020	2021	2022	2023	2024
Total including bait and shellfish	354.6	415.0	389.6	313.8	336.2
Percentage change (%)	-5.8	+17.0	-6.1	-19.5	+7.1
Total fish	289.7	359.5	335.2	268.3	285.4
Tuna and pelagic	143.9	186.8	168.0	128.5	134.4
Groupers	49.2	56.1	72.0	55.2	58.2
Jacks and related species	53.5	53.7	43.9	35.0	36.9
Snappers	27.3	38.9	33.4	34.1	36.4
Miscellaneous	14.3	22.4	17.5	14.9	17.7
Sharks	1.5	1.6	0.3	0.6	1.8
Bait	33.0	34.2	32.2	30.2	39.4
Shellfish ¹	31.9	21.3	22.2	15.3	11.4

Source: Department of Environmental and Natural Resources, Marine Management Section

¹ Shellfish includes spiny lobster.

Table 8.5

TOTAL CATCH BY HOURS AT SEA, AVERAGE CATCH OF FISHING AREA AND NUMBER OF REGISTERED FISHERMEN, 2020–2024

Indicators	Year				
	2020	2021	2022	2023	2024
Total catch ¹ (mT)	354.6	415.0	389.6	313.8	336.2
Percentage change (%)	-5.8	+17.0	-6.1	-19.5	+7.1
Average catch of fishing area ² (mT per km ²)	0.1	0.1	0.1	0.1	0.1
Total hours at sea	67,325	77,233	72,680	69,208	66,540
Percentage change (%)	-2.2	+14.7	-5.9	-4.8	-3.9
Total number of licences ³	172	162	162	160	150
Percentage change (%)	+3.0	-5.8	**	-1.3	-7.3
Total hours at sea per licence	391.4	476.7	448.6	424.6	410.7
Percentage change (%)	-5.1	+21.8	-5.9	-5.3	-3.3
Total registered fishermen	342	316	341	326	285
Percentage change (%)	+10.7	-7.6	+7.9	-4.4	-12.6

Source: Department of Environmental and Natural Resources, Marine Management Section

¹ Total catch include fish landings in addition to bait and shellfish catches.

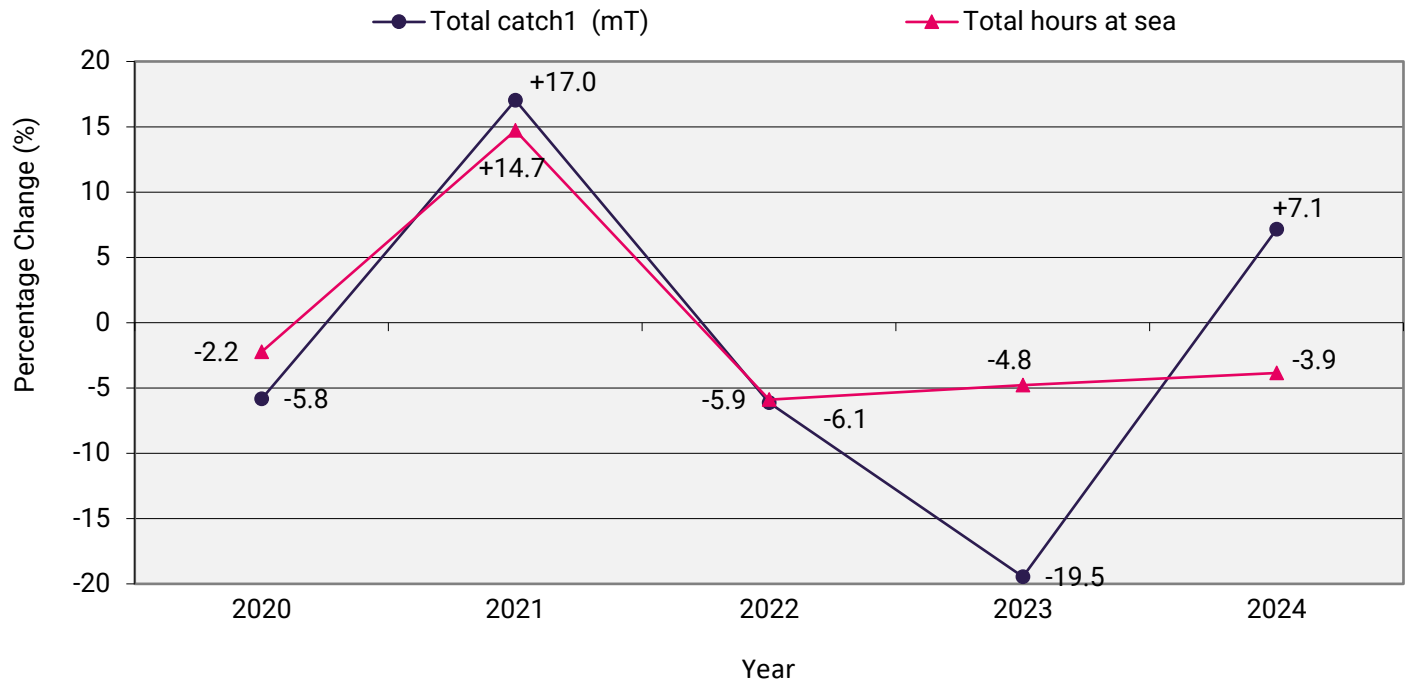
² Total fishing area is estimated as 4,236.1 km² (Department of Planning, see Table 8.1). Fishing area includes the fisheries seasonal protected areas (153.4 km²) which are closed between May 1st and August 31st.

Computation: Average catch of fishing area = Total catch (mT) / Total estimated fishing area of 4,236.1 km².

³ Some licences have a smaller ancillary vessel attached.

Chart 8.2

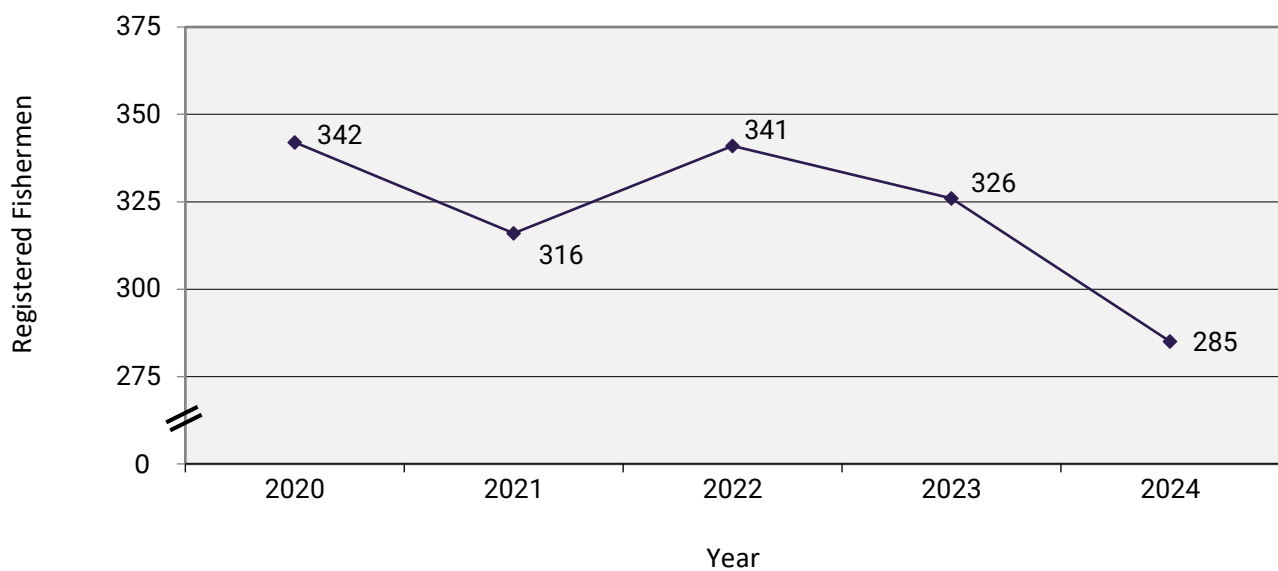
GROWTH IN TOTAL CATCH AND TOTAL HOURS AT SEA, 2020–2024



Source: Department of Environmental and Natural Resources, Marine Management Section

Chart 8.3

NUMBER OF REGISTERED FISHERMEN, 2020–2024



Source: Department of Environmental and Natural Resources, Marine Management Section

Table 8.6

NUMBER OF HOUSEHOLDS AND POPULATION OF COASTAL AREAS FOR SELECTED CENSUS YEARS

Indicators	Census Years				
	1980	1991	2000	2010	2016
Number of households in coastal areas	18,449	22,430	25,148	26,923	28,192
Ten-year growth rate (%)	..	+21.6	+12.1	+7.1	-
Population in coastal areas ¹	54,050	58,460	62,059	64,237	63,779
Ten-year growth rate (%)	..	+8.2	+6.2	+3.5	-

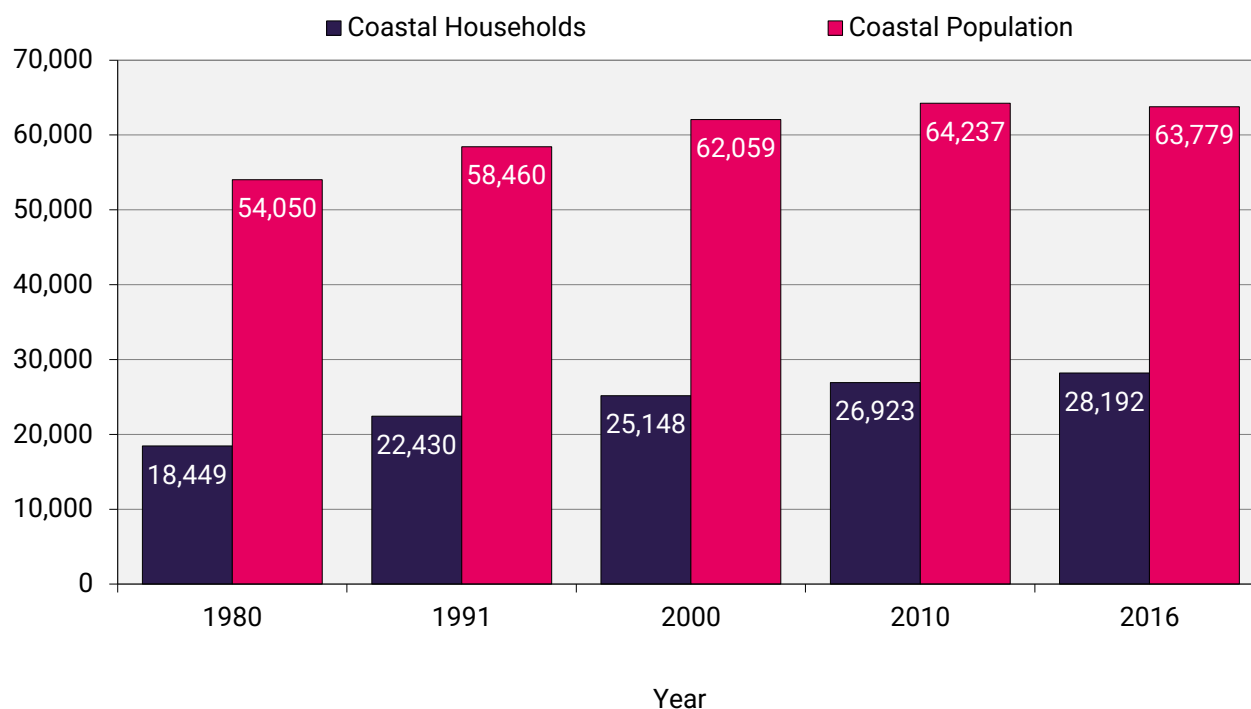
Sources: 1980 to 2016 Population and Housing Censuses

¹ Does not include the non-sheltered and institutionalized populations.

Note: Bermuda measures 1 mile at its widest point. Based on the standard definition of coastal area, the entire island will be considered coastal.

Chart 8.4

NUMBER OF HOUSEHOLDS AND POPULATION OF COASTAL AREAS FOR SELECTED CENSUS YEARS



Sources: 1980 to 2016 Population and Housing Censuses

BIODIVERSITY

The Biodiversity Section contains information on the protected land areas in Bermuda such as; protected coastal reserves, protected open space, historical cove areas and parks.

Biodiversity protection in Bermuda is reflected through the designation of protected land and marine areas. In 2016, the total protected area (land and water) was 319.6 km², representing 7.5% of Bermuda's total area (Table 9.1).

Protected land area totalled 24.9 km² (46.5% of total land area), while protected marine area totalled 294.7 km² (7.0% of total marine area). Marine areas comprised the majority of protected space (Table 9.1).

Earlier data from 2008 show that protected terrestrial areas also totalled 24.9 km², indicating no change over the period (Table 9.2). Overlapping protected areas totalled 6.8 km² and are excluded from totals to avoid double counting.

Protected areas were distributed across several categories. In 2008, the largest components included open space reserves (5.3 km²), woodland reserves (4.0 km²) and parks (3.6 km²) (Table 9.2).

NOTE TO READER

Biodiversity: the range of genetic differences, species differences, and ecosystem differences in a given area.

Protected Area: is legally established land or water area under either public or private ownership that is regulated and managed to achieve specific conservation objectives. A protected area, as adopted by the International Union for Conservation of Nature (IUCN), is defined as an area of land and/or sea especially dedicated to the protection and maintenance of biological diversity, natural and associated cultural resources and managed through legal or other effective means. It includes seven (7) categories which are:

- Category Ia: Strict Nature Reserve
- Category Ib: Wilderness Area
- Category II: National Park
- Category III: National Monument
- Category IV: Habitat/Species Management Area
- Category V: Protected Landscape/Seascape
- Category VI: Managed Resource Protected Area

Total Area: Total area (of country) including area under inland water bodies, but excluding offshore territorial waters (= total land area + water).

Table 9.1

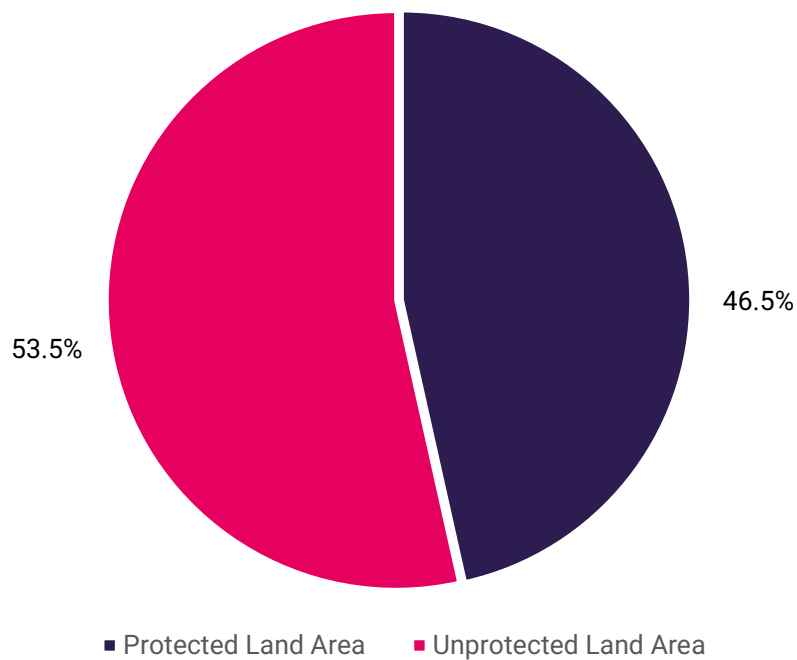
PROTECTED AREAS, 2016

Category	
Total area (km ²)	4,289.7
Total land area (low tide mark) (km ²)	53.6
Total water area (km ²)	4,236.1
Protected land area (km ²)	24.9
Protected land area as a % of total land area	46.5
Protected land area as a % of total area	0.6
Protected water area (km ²)	294.7
Protected water area as a % of total water area	7.0
Protected water area as a % of total area	6.9
Total protected area (land and water) (km ²)	319.6
Total protected area as a % of total area	7.5

Source: Department of Planning, Land Use Survey 2016

Chart 9.1

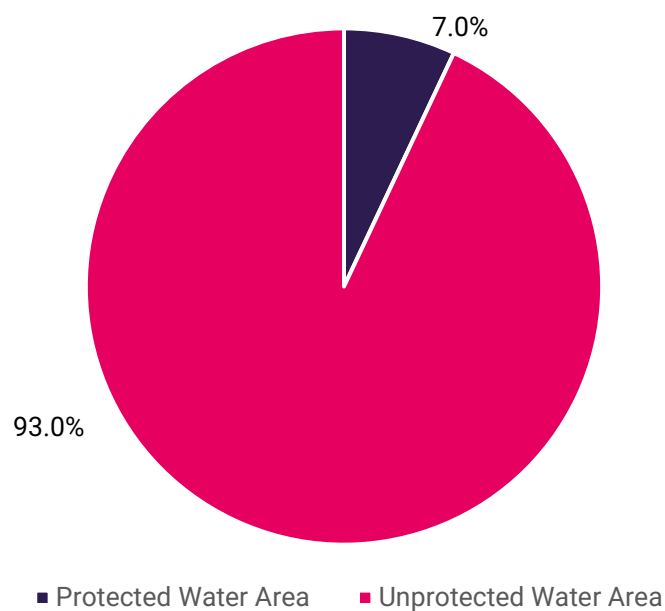
PROTECTED LAND AREA AS A PERCENTAGE OF TOTAL LAND AREA, 2016



Source: Department of Planning, Land Use Survey 2016

Chart 9.2

PROTECTED WATER AREA AS A PERCENTAGE OF TOTAL WATER AREA, 2016



Source: Department of Planning, Land Use Survey 2016

Table 9.2

PROTECTED AREAS BY CATEGORY AND AREA, 2008

Protected Area Category	Acres	km ²
Conservation base zones		
Open space reserve	1,298.1	5.3
Recreation	963.9	3.9
Park	884.6	3.6
Coastal reserve	823.3	3.3
Nature reserve	770.1	3.1
Sub-total	4,740.0	19.2
Conservation areas		
Woodland reserve	983.9	4.0
Agricultural reserve	731.6	3.0
Sub-total	1,715.5	6.9
Cave protection area	1,107.2	4.5
Historic protection area	201.1	0.8
Conservation base zone and conservation areas (no overlap) ¹	6,156.8	24.9
Overlapping area	1,670.1	6.8
Total terrestrial area (low tide mark)	13,430.4	53.6
Water resources protection area ²	4,000.6	16.2

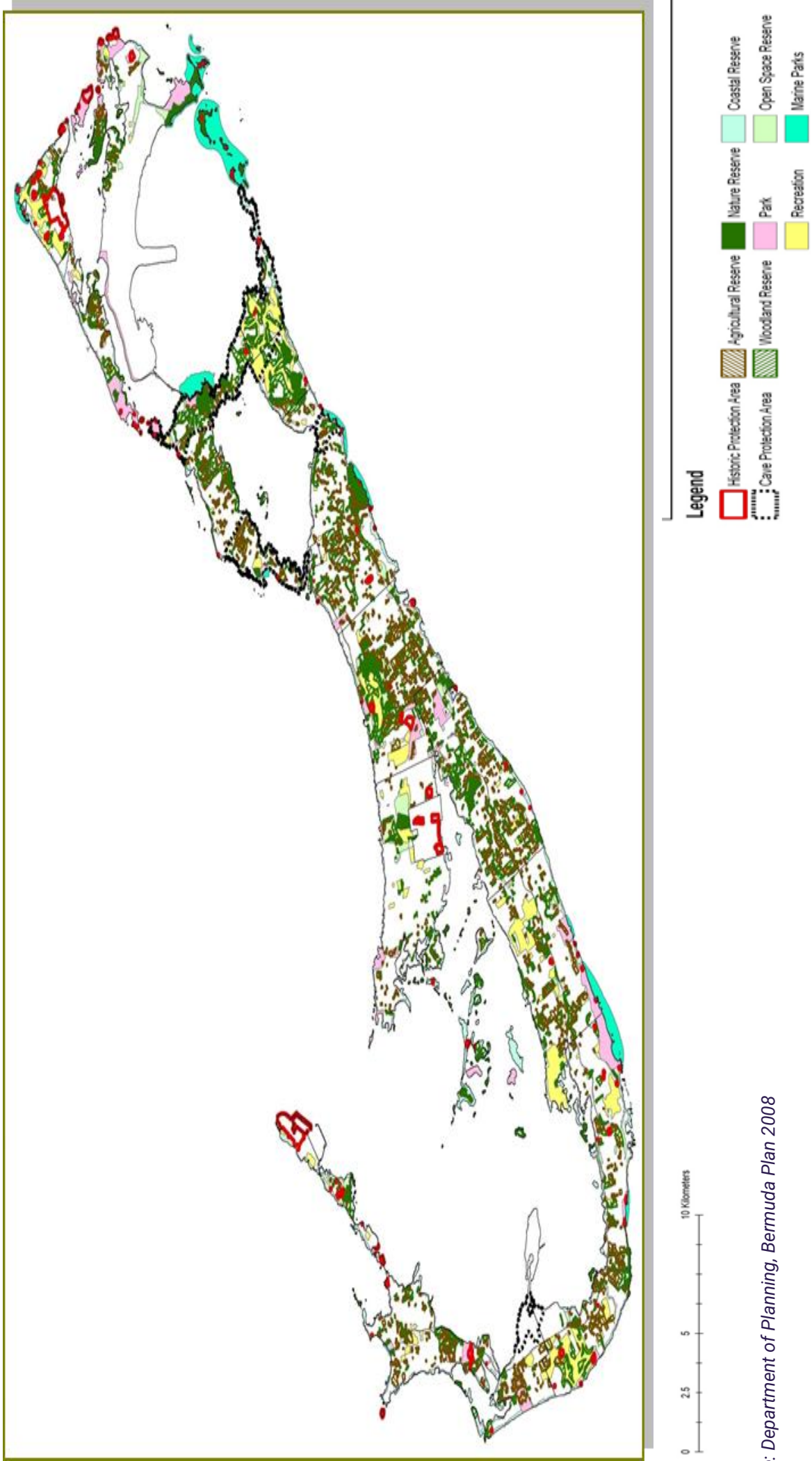
Source: Department of Planning, Bermuda Plan 2008

¹ Total protected area does not equal to the sum of the sub-totals as it excludes any overlapping areas (6.8 km²) to avoid double counting.

² The Water Resources Protection Area is not considered as a "protected area" and hence has not been included in the 24.9 km² of protected area but is contained in the total terrestrial area of 53.6 km².

Note: 1 km² = 247.1 acres

TERRESTRIAL PROTECTION AREAS INCLUDING MARINE PARKS, 2008



Source: Department of Planning, Bermuda Plan 2008

FORESTRY

The Forestry Section of the Environmental Statistics Compendium includes a table and chart with information on the forest area in Bermuda.

In 2016, Bermuda's total forest area was 4.21 km², representing approximately 7.8% of the total land area (Table 10.1). All forested land was designated as protected, with protected forest area accounting for 100.0% of total forest area.

NOTE TO READER

Forest: is land under forestry or no land use, spanning more than 0.005 km² (0.5 hectares); with trees higher than 5 meters and a canopy cover of more than 10 percent, or trees able to reach these thresholds in situ. Please include mangroves and forests on wetlands according to the above height and canopy coverage.

Land Area: is the land area excluding area under inland or tidal water bodies.

Protected Area: a protected area, as adopted by the International Union for Conservation of Nature (IUCN), is defined as an area of land and/or sea especially dedicated to the protection and maintenance of biological diversity, natural and associated cultural resources and managed through legal or other effective means.

Total Area: Total area (of country) including area under inland water bodies, but excluding offshore territorial waters (= total land area + water).

Table 10.1

PROTECTED FOREST AREA AS A PERCENTAGE OF TOTAL LAND AREA, 2016

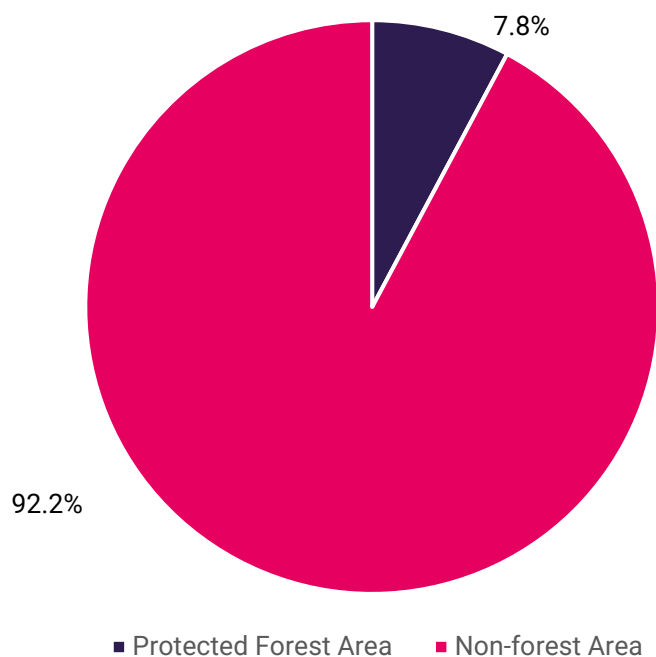
Protected Area Category	Area km ²
Total forest area	4.2 ¹
Total land area	53.6
Protected forest area as a % of total forest area	100.0
Protected forest area as a % of total land area	7.8

Source: Department of Planning

¹ This includes woodland reserves.

Chart 10.1

PROTECTED FOREST AREA AS A PERCENTAGE OF TOTAL LAND AREA, 2016



Source: Department of Planning

AIR

The air quality in Bermuda is a valued part of its natural resources.

Data for annual air emissions from the Tynes Bay Waste-to-Energy Incinerator were not available for the period 2020 to 2024.

Air quality monitoring data are available for 2020 to 2022, with data for 2023 and 2024 not available (Table 11.2). Across monitoring sites, concentrations of nitrogen dioxide (NO₂), sulphur dioxide (SO₂), particulate matter (PM₁₀ and PM_{2.5}), and total suspended particulates (TSP) remained within the limits set under the Clean Air Regulations 1993.

Overall, ambient air quality remained within regulatory limits for most pollutants, with isolated exceedances observed for particulate matter.

Source: CARICOM Environment Program

Table 11.1

AVERAGE CONCENTRATIONS FOR AMBIENT AIR MONITORING SITES, 2020-2022

Pollutants		Units	2020						2021				2022			
			Bermuda Limit (Clean Air Regulations 1993)						2020				2021			
Hourly	NO ₂	µg/m ³	400	Prospect	East Broadway	Cemetery Lane (BDA#1) (Belco-Operated ISO14001)	Langton Hill (BDA#2) (Belco-Operated ISO14001)	Ocean Lane (BDA#4) (Belco-Operated)	BIOS	Prospect	East Broadway	Cemetery Lane (BDA#1) (Belco-Operated ISO14001)	Langton Hill (BDA#2) (Belco-Operated ISO14001)	Ocean Lane (BDA#4) (Belco-Operated)	BIOS	Prospect
24-Hour	NO ₂	µg/m ³	200	-	-	6.0	3.1	-	-	1.5	7.1	3.2	3.3	6.1	-	-
1-year	NO ₂	µg/m ³	60	3.6	4.8	6.0	3.0	1.4	6.2	1.7	7.0	3.4	4.0	6.6	-	-

Source: Department of Environmental Protection

- Not Required or Not determined as part of the current protocols.

Note: East Broadway monitoring station had a new PM-2.5 sensor installed in November 2017.

Table 11.2

MAXIMUM CONCENTRATIONS FOR AMBIENT AIR MONITORING SITES, 2020-2022

		2020				2021				2022			
Pollutants	Bermuda Limit (Clean Air Regulations 1993)	Prospect	East Broadway	Cemetery Lane (BDA#1) (Belco-Operated ISO14001)	Langton Hill (BDA#2) (Belco-Operated ISO14001)	Ocean Lane (BDA#4) (Belco-Operated)	BIOS	Prospect	East Broadway	Cemetery Lane (BDA#1) (Belco-Operated ISO14001)	Langton Hill (BDA#2) (Belco-Operated ISO14001)	Ocean Lane (BDA#4) (Belco-Operated)***	BIOS ****
		µg/m³	µg/m³	µg/m³	µg/m³	µg/m³	µg/m³	µg/m³	µg/m³	µg/m³	µg/m³	µg/m³	µg/m³
Hourly	NO ₂	36.8	37.6	271.3	86.9	-	-	49.0	46.3	71.6	86.8	105.2	-
	SO ₂	37.3	9.5	65.5	272.8	-	-	49.1	23.6	8.6	158.8	299.6	-
	PM ₁₀	-	112.0	202.0	225.1	-	-	70.0	177.0	66.7	268.5	128.7	-
	PM _{2.5}	-	261.8	63.0	-	-	-	39.0	58.0	-	-	-	-
	TSP	-	-	-	-	-	-	-	-	-	-	-	-
24-Hour	NO ₂	-	-	91.9	55.4	-	-	-	-	22.5	52.1	69.0	-
	SO ₂	-	-	30.2	130.2	-	-	-	-	2.4	74.0	123.1	-
	PM ₁₀	44.2	46.4	40.7	41.5	46.4	46.4	46.9	47.5	43.9	46.6	46.2	57.7
	PM _{2.5}	-	-	-	-	-	-	-	-	-	-	-	-
	TSP	-	-	28.3	29.7	-	-	-	-	-	-	-	-
Total number of exceedances of the limits set in the Clean Air Regulations 1993 over each year		1 **	0	0	0	0	0	0	0	0	0	0	2

Source: Department of Environmental Protection

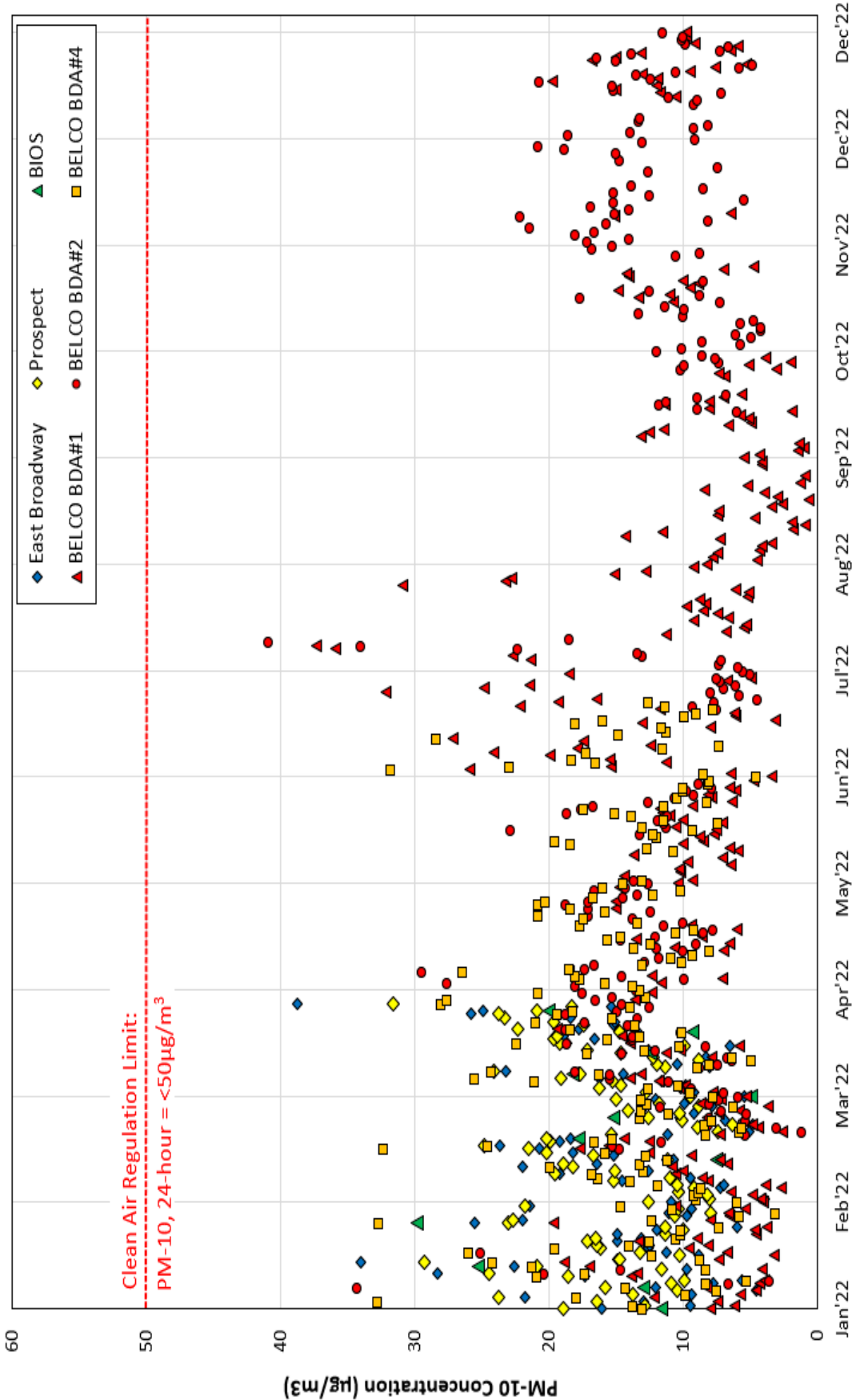
- Not Required or Not determined as part of the current protocols.

Note: Amount in red shows that the limit according to the 1993 Clean Air Regulation was exceeded.

** A second PM10 sensor at prospect monitoring that uses a US EPA Federal Equivalent Method records one exceedance of the 24-hour PM10 limit at 51.0/m3 on the 31st July 2020.

Figure 11.1

24-HOUR AVERAGE PM₁₀ CONCENTRATION, 2022



Source: Department of Environmental Protection

WASTE

The Waste Section comprises of information regarding the generation and disposal of solid waste in Bermuda.

Between 2020 and 2024, total waste generation increased overall, from 69.2 thousand metric tonnes in 2020 to 101.9 thousand metric tonnes in 2024 (Table 12.1). Waste generation remained relatively stable through 2022, increasing from 69.2 thousand metric tonnes in 2020 to 73.2 thousand metric tonnes in 2021, before declining to 71.2 thousand metric tonnes in 2022, then rose sharply to 86.3 thousand metric tonnes in 2023 and 101.9 thousand metric tonnes in 2024. Waste from other origins accounted for the largest share, ranging between 46.1 and 67.9 thousand metric tonnes, compared with approximately 23–34 thousand metric tonnes from households. The category "other origins" is not further disaggregated in the available data.

Waste management continued to be dominated by incineration, accounting for approximately 46.0–51.0 thousand metric tonnes annually, compared with 10.0–15.0 thousand metric tonnes disposed of through landfilling (Table 12.2). Recycling remained minimal, at approximately 1.2–1.9 thousand metric tonnes, while composting grew substantially, from 11.0 thousand metric tonnes in 2020 to 39.0 thousand metric tonnes in 2024.

Waste composition remained unchanged, with paper and paperboard (27.0%), organic material (24.0%) and plastics (19.0%) comprising the largest shares (Table 12.4).

NOTE TO READER

Household Waste: is waste that comes from a private dwelling, being a dwelling that is not considered as commercial premises; or waste from premises operated by a charity registered under the Charities Act 1978.

Waste: is any article or substance (including scrap metal or other surplus arising from the application of a process) which is not liquid and either requires to be disposed of as being unwanted, broken, worn out, contaminated or otherwise spoilt or useless, or in relation to a particular person, has been discarded by.

Source: Waste and Litter Control Act, 1987

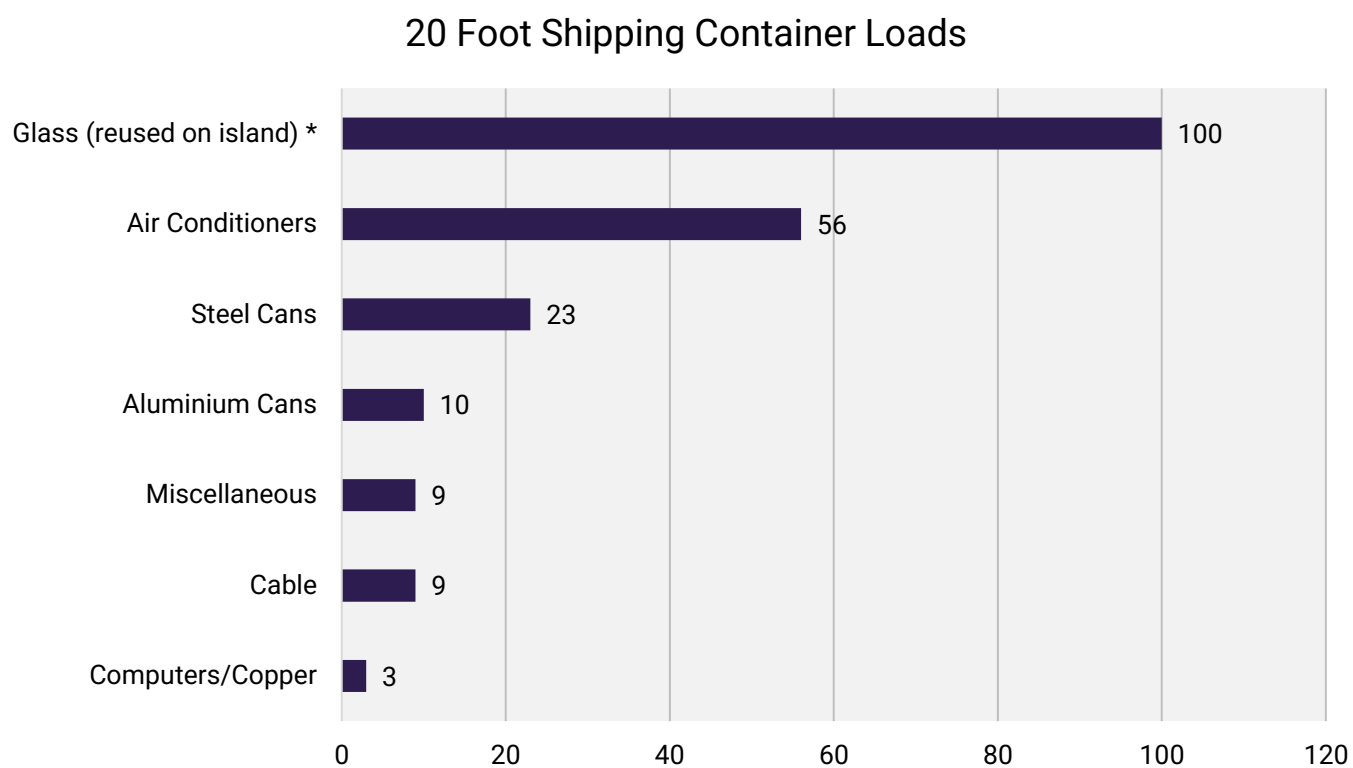
Table 12.1

GENERATION OF WASTE BY SOURCE, 2020–2024

Indicator (1,000 mT)	Year				
	2020	2021	2022	2023	2024
Total amount of waste	69.2	73.2	71.2	86.3	101.9
Waste from households	23.1	24.4	23.7	28.8	34.0
Waste from other origins	46.1	48.8	47.5	57.5	67.9

Source: Department of Works and Engineering, Waste Management Section

Chart 12.1

ESTIMATED EXPORT OF RECYCLABLE WASTE, 2019–2022

Source: Department of Works and Engineering, Waste and Enforcement Section

*All Glass is reused on-island as a drainage medium.

Table 12.2

MANAGEMENT OF WASTE, 2020–2024

Indicator (1,000 mT)	Year				
	2020	2021	2022	2023	2024
Total amount of waste	69.2	73.2	71.2	86.3	101.9
Amounts going to					
Recycling	1.2	1.2	1.2 e	1.9	1.9
Composting	11.0	14.0	14.0	21.0	39.0
Incineration	47.0	48.0	46.0	48.4	51.0
Landfilling	10.0 e	10.0 e	10.0 e	15.0	10.0

Source: Department of Works and Engineering, Waste Management Section

Table 12.3

MANAGEMENT OF SPECIAL WASTE, 2020–2024

Indicator (1,000 lbs.)	Year				
	2020	2021 e	2022 e	2023 e	2024 e
Stock of hazardous waste at the beginning of the year	272.0	281.0	259.0	..	..
Hazardous waste generated during the year	1,800.0	1,800.0	1,800.0	..	..
Hazardous waste exported during the year:					
Recycling	735.0	766.0	755.0	..	..
Incineration	-	-	-	..	..
Landfilling	1,056.0	1,056.0 *	1,056.0	..	..
Total Hazardous Waste Exported	1,791.0	1,822.0	1,811.0	-	-
Stock of hazardous waste at the end of the year	281.0	259.0	248.0	-	-

Source: Department of Works and Engineering, Waste Management Section

* Increase in Landfilling of Special Waste is the result of the export of a large backlog of asbestos to the USA where it is being landfilled in Title D regulated landfill facilities.

Table 12.4

MANAGEMENT OF WASTE BY TYPE, 2020–2024

Indicator	Year				
	2020 e	2021 e	2022 e	2023 e	2024 e
Total (%)	100.0	100.0	100.0	100.0	100.0
Paper, paperboard	27.0	27.0	27.0	27.0	27.0
Textiles	4.0	4.0	4.0	4.0	4.0
Plastics	19.0	19.0	19.0	19.0	19.0
Glass	13.0	13.0	13.0	13.0	13.0
Metals	5.0	5.0	5.0	5.0	5.0
Other inorganic material	8.0	8.0	8.0	8.0	8.0
Organic material	24.0	24.0	24.0	24.0	24.0

Source: Department of Works and Engineering, Waste Management Section

Waste audits are conducted every 2 to 4 years by the Waste Management Section of the Ministry of Public Works.

e = estimated data based on previous years' data.

WATER

Water is an essential ingredient for all life and is used in the production of almost all goods. It is therefore vital to monitor the state of water resources and to ensure sustainable use of this important commodity.

Data for actual evapotranspiration, internal flow, and renewable freshwater resources are only available for 2020 and 2021.

Between 2020 and 2024, precipitation increased from 65.5 mio m³/y in 2020 to a peak of 105.2 mio m³/y in 2023, before declining to 93.3 mio m³/y in 2024 (Table 13.1). Overall, this represents an increase of 27.8 mio m³/y (42.4%).

NOTE TO READER

Actual Evapotranspiration: total actual volume of evaporation from the ground, wetlands, natural water bodies and transpiration of plants.

Internal Flow: total volume of river run-off and groundwater generated over the period of a year, in natural conditions, exclusively by precipitation into a territory. It is equal to the precipitation less actual evapotranspiration.

Precipitation: total volume of atmospheric wet precipitation (rain, dew, etc.) falling on the territory of the country over one year.

Regular Freshwater Resources 95.0% of the Time: a portion of the total freshwater resource that can be depended on for annual water development during 19 out of 20 consecutive years, or at least 95.0% of the years included in longer consecutive periods. This item yields information about the average annual long-term availability of freshwater for use in human activities.

Renewable Freshwater Resources: equal internal flow plus any inflow of surface and groundwaters.

Sources: United Nations Statistics Division and United Nations Environment Programme

Table 13.1

RENEWABLE FRESHWATER RESOURCES, 2020–2024

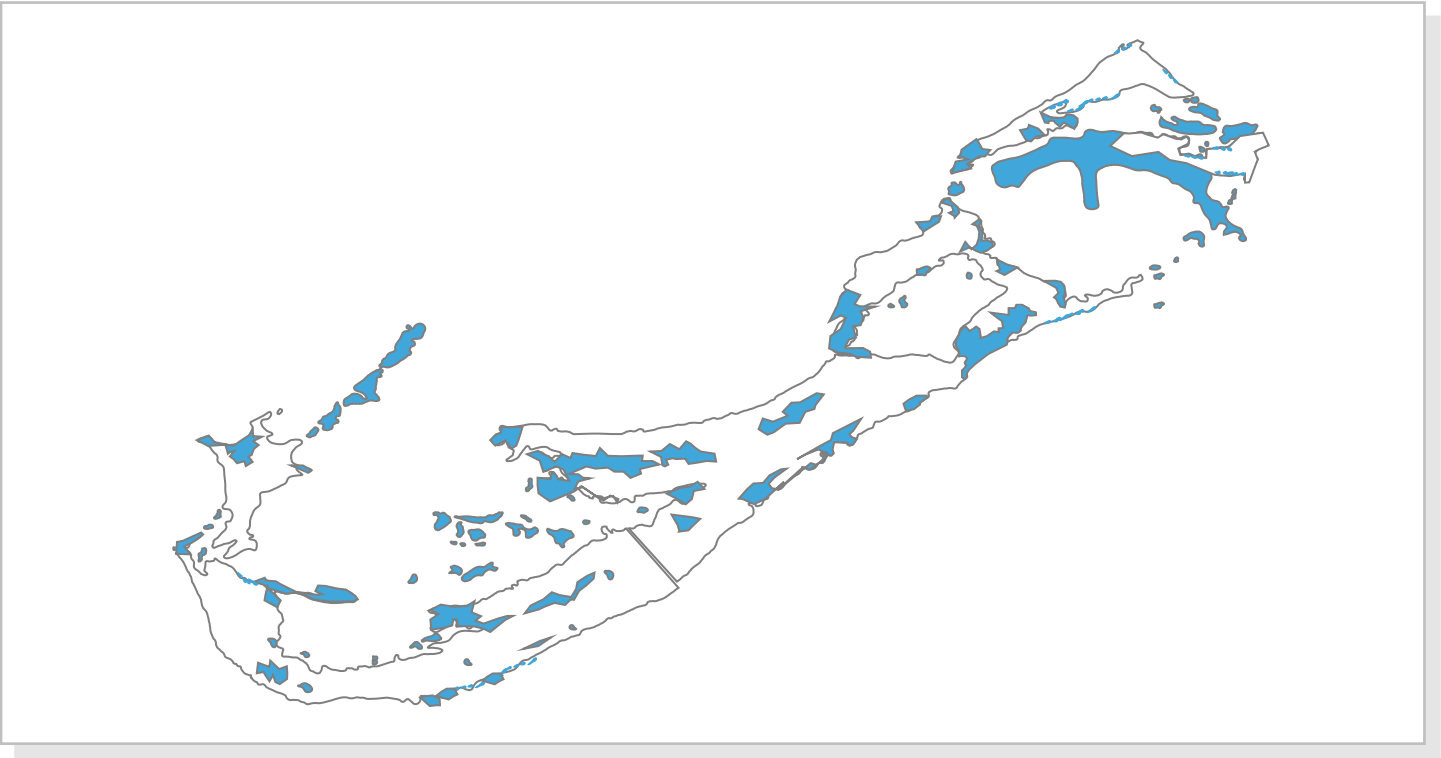
Category (mio m³/y)	Year				
	2020	2021	2022	2023	2024
Precipitation ¹	65.5	75.6	72.0	105.2	93.3
Actual evapotranspiration	44.6	51.4	..	..	..
Internal flow	20.9	24.2	..	..	..
Renewable freshwater resources	3.1	3.6	..	..	..
Regular freshwater resources 95.0% of the time	2.6	2.6	..	..	..

Source: Department of Environmental Protection

¹ Bermuda is frost-free; precipitation consists of rainfall only. Precipitation = annual rainfall in m (from BWS), multiplied by land area of 53.6 sq. km.

Map 13.1

WATER RESOURCES PROTECTION AREAS, 2024



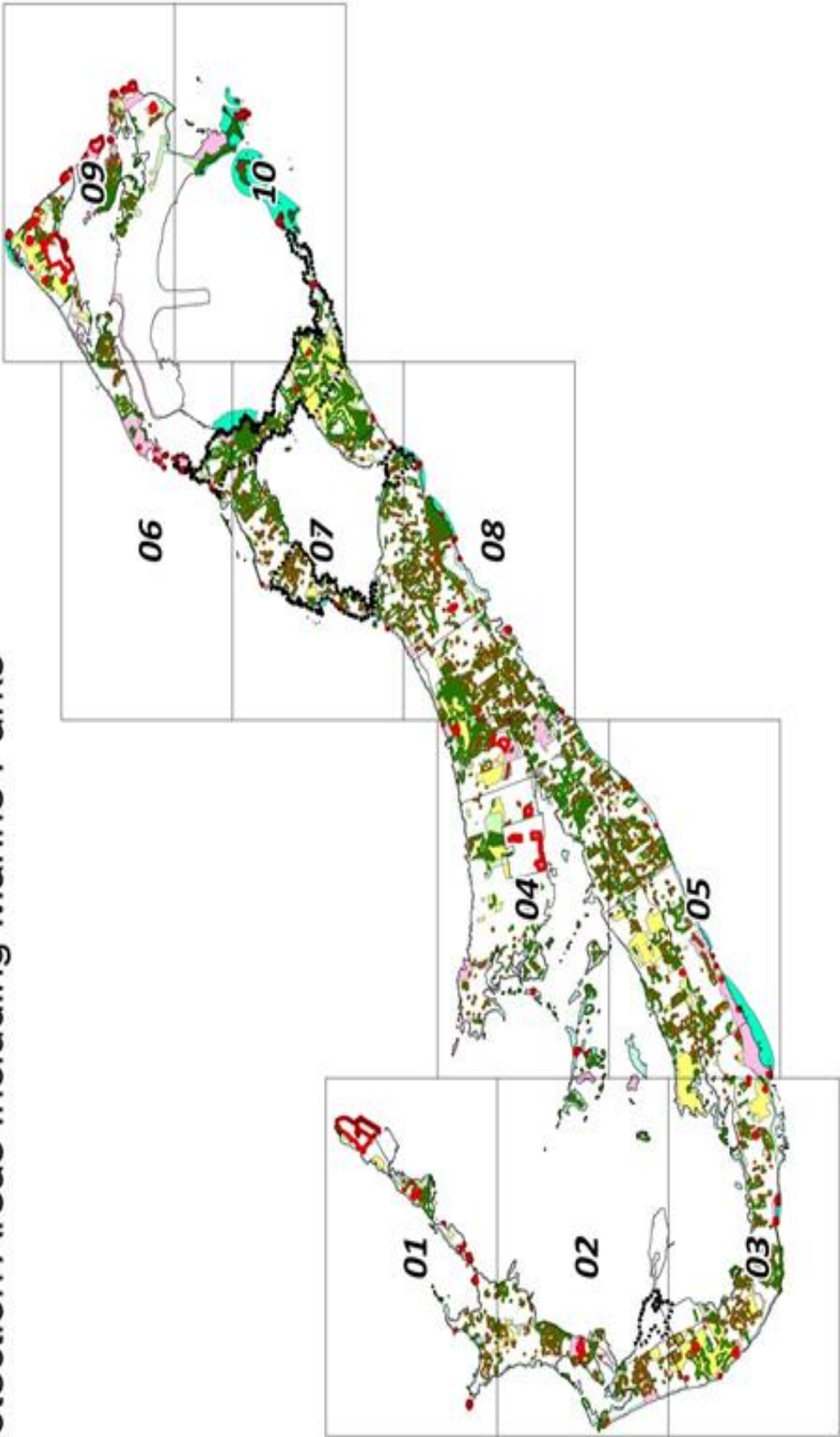
LEGEND

Water Resources Protection Area

Source: Department of Planning

APPENDIX

Terrestrial Protection Areas Including Marine Parks



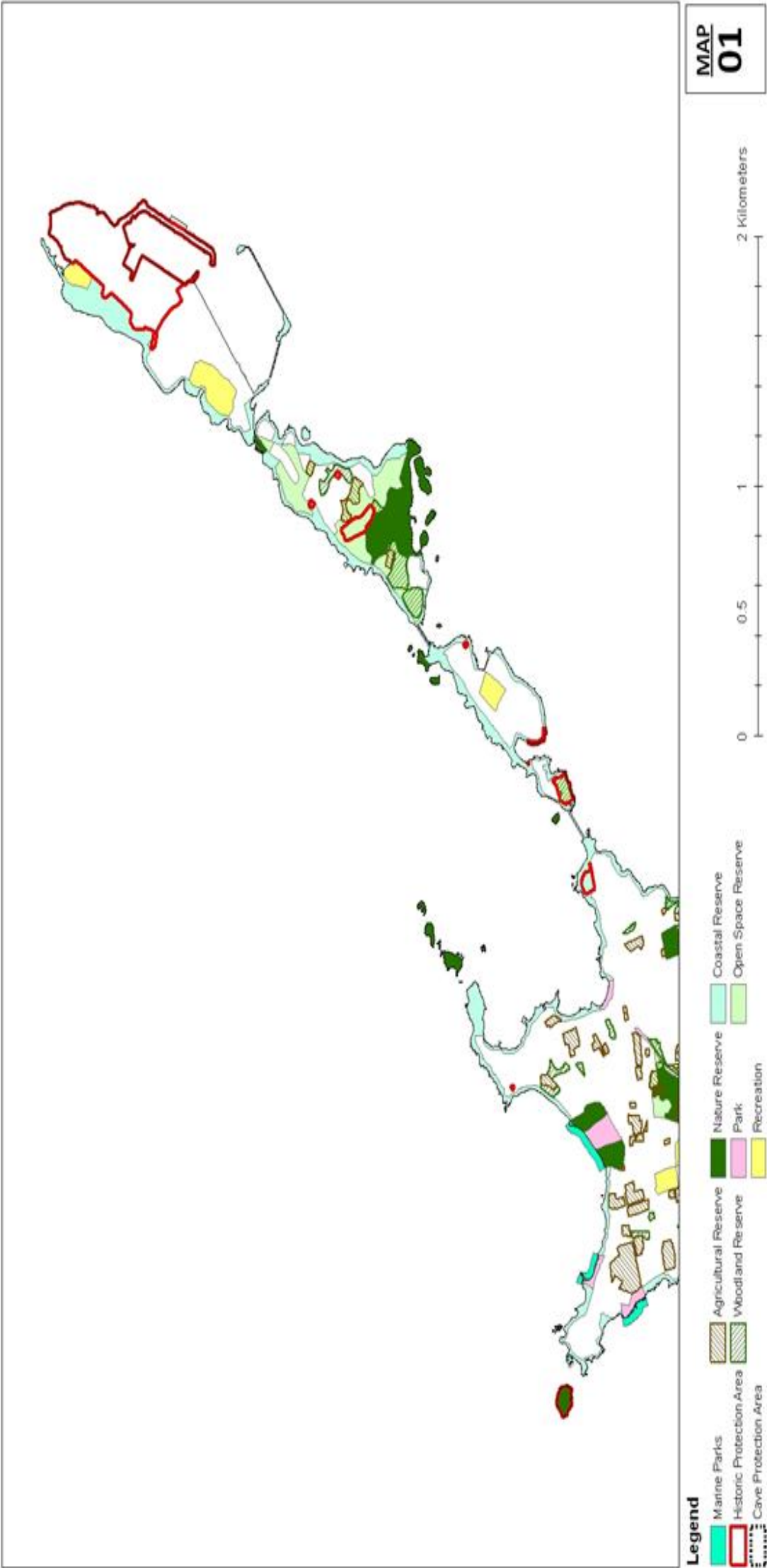
MAP Key

Legend

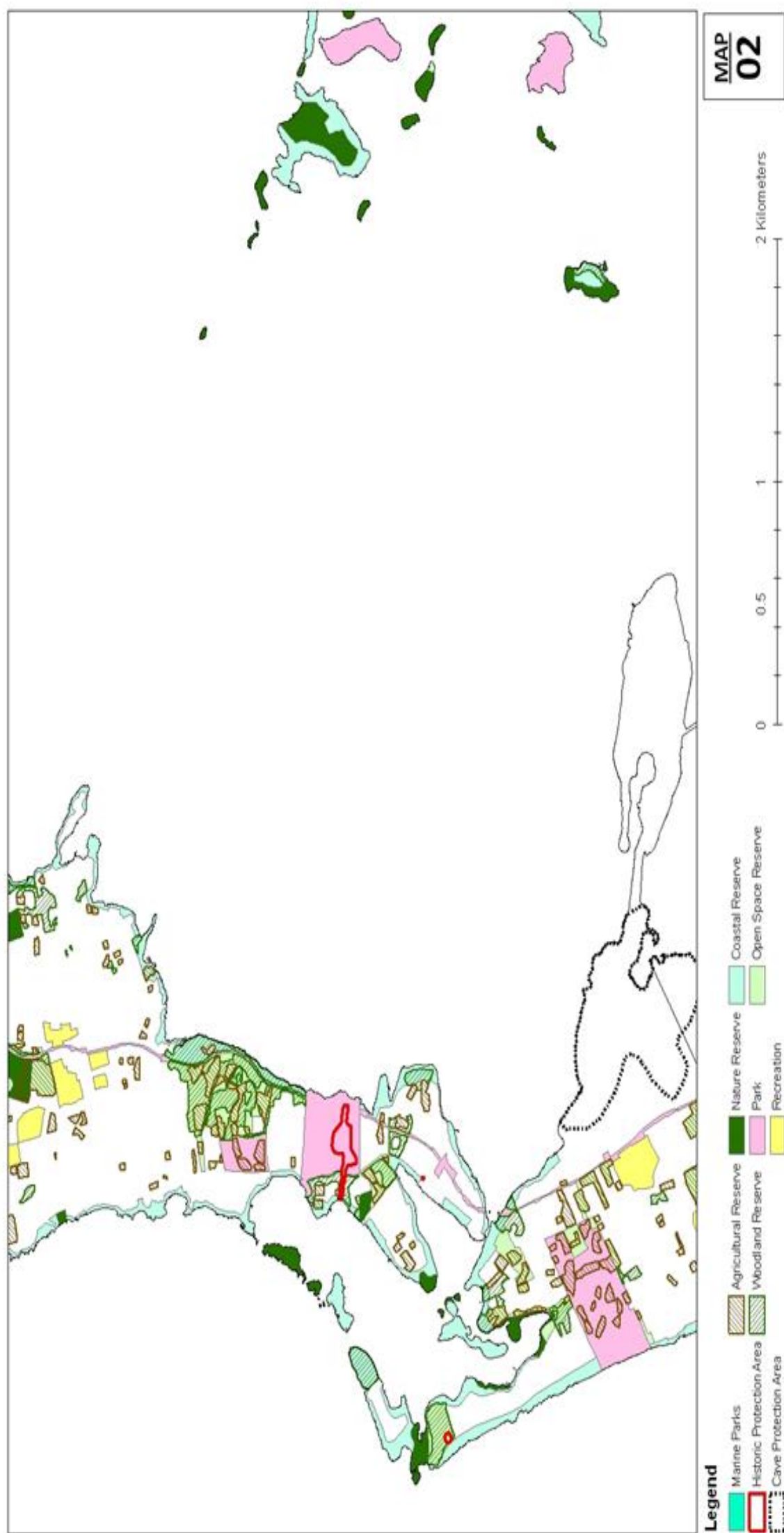
- Historic Protection Area
- Cave Protection Area
- Agricultural Reserve
- Woodland Reserve
- Nature Reserve
- Park
- Recreation
- Coastal Reserve
- Open Space Reserve
- Marine Parks

0 2.5 5 10 Kilometers

Source: Department of Planning



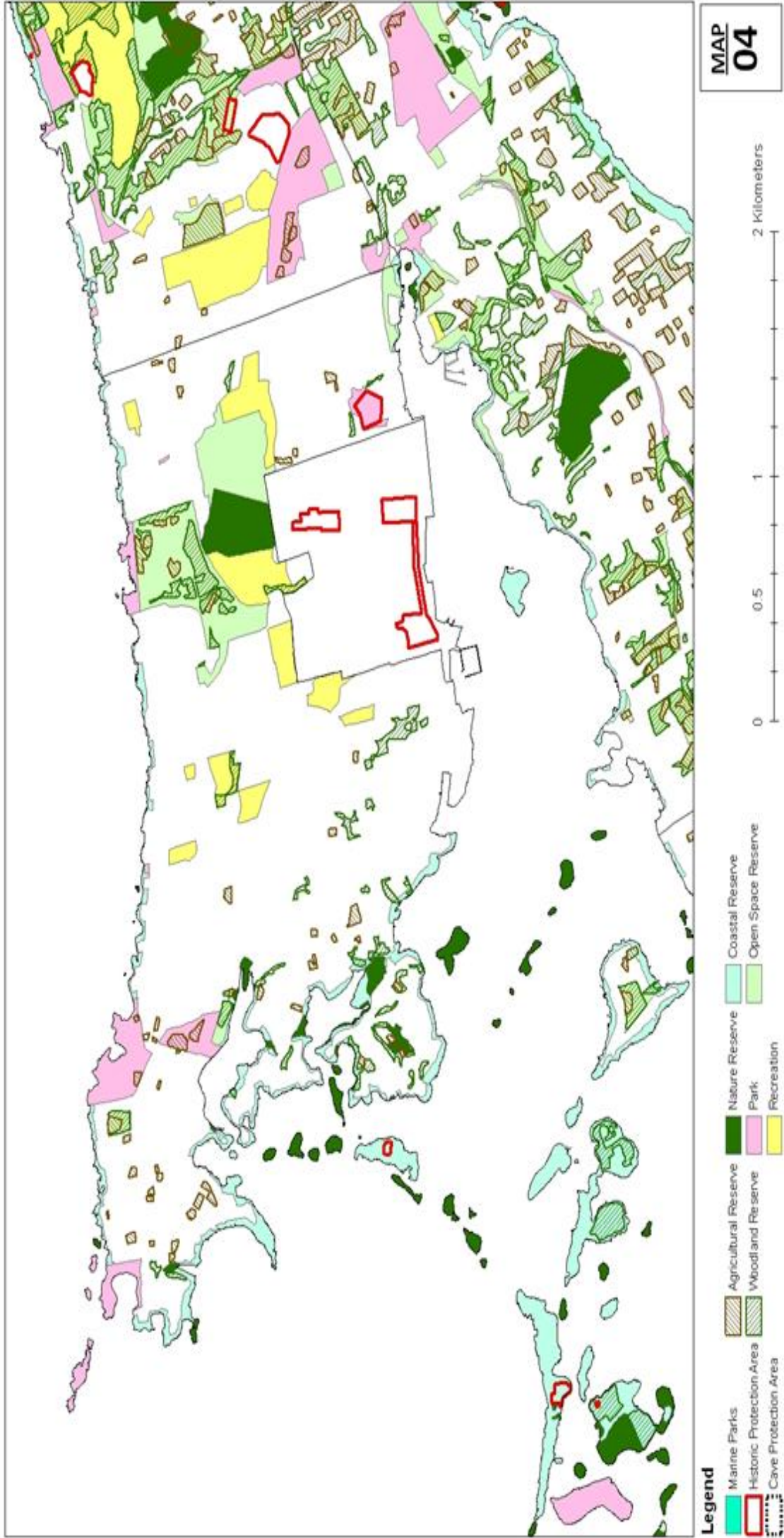
Source: Department of Planning



Source: Department of Planning



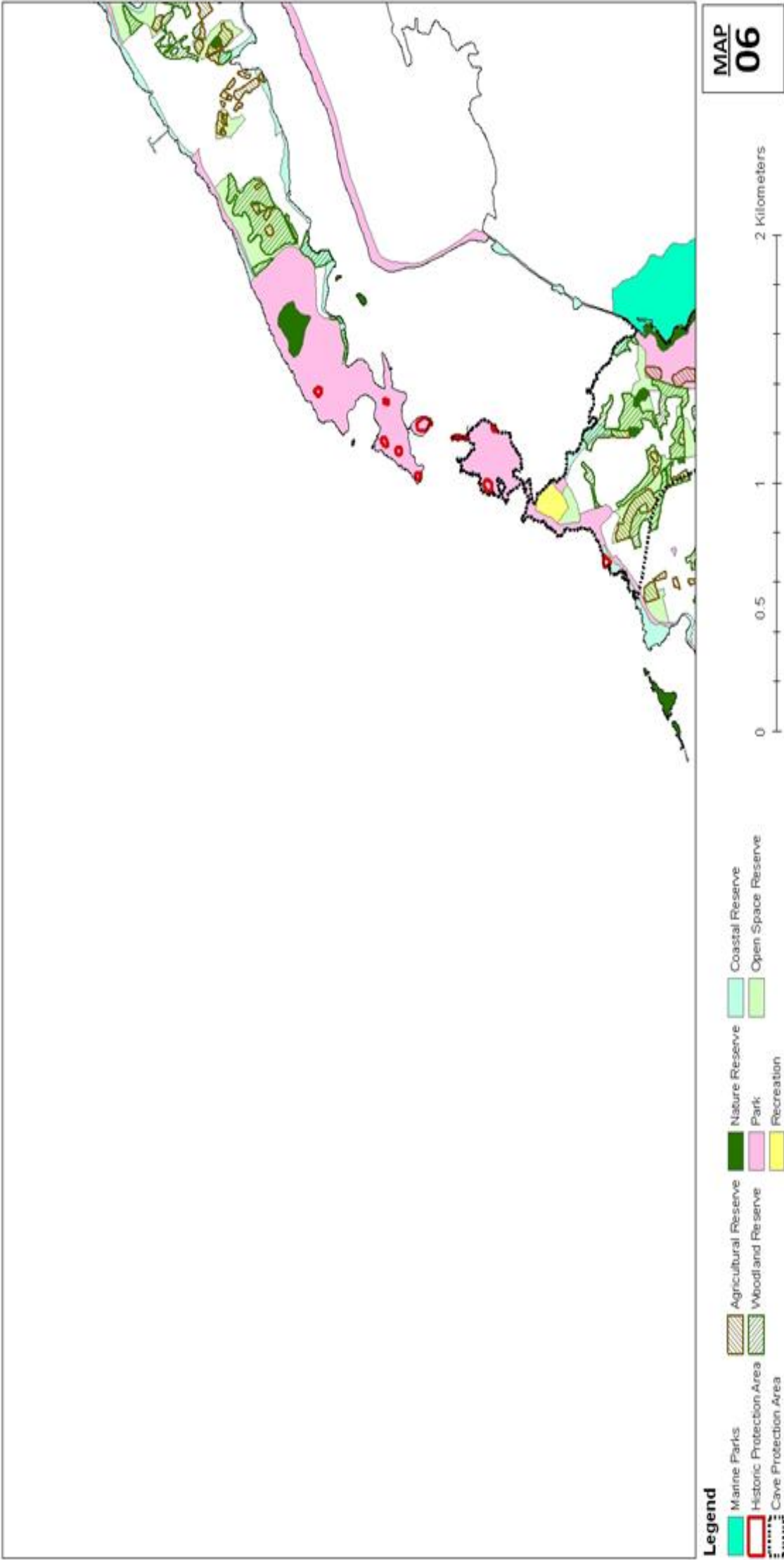
Source: Department of Planning



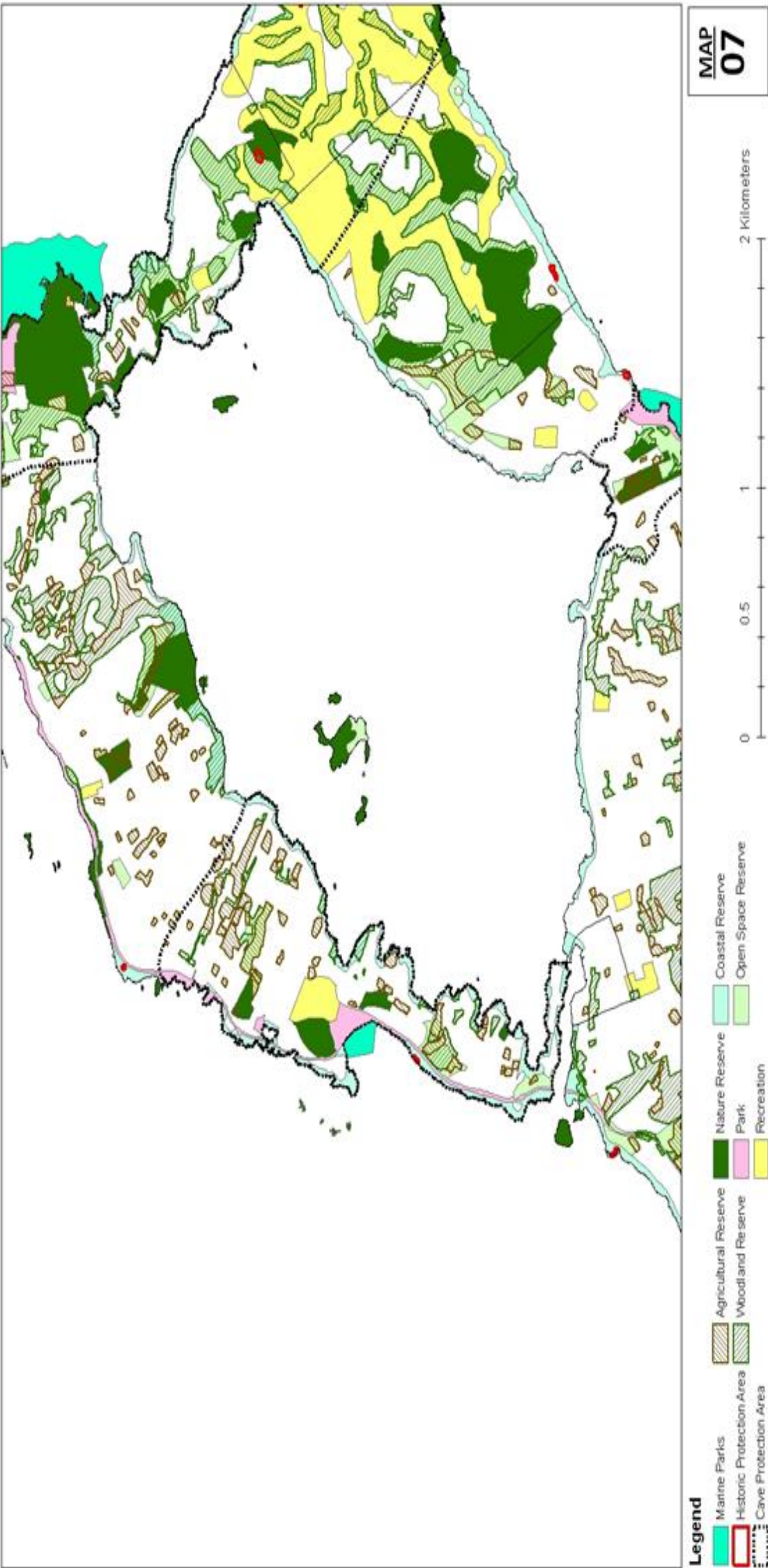
Source: Department of Planning



Source: Department of Planning



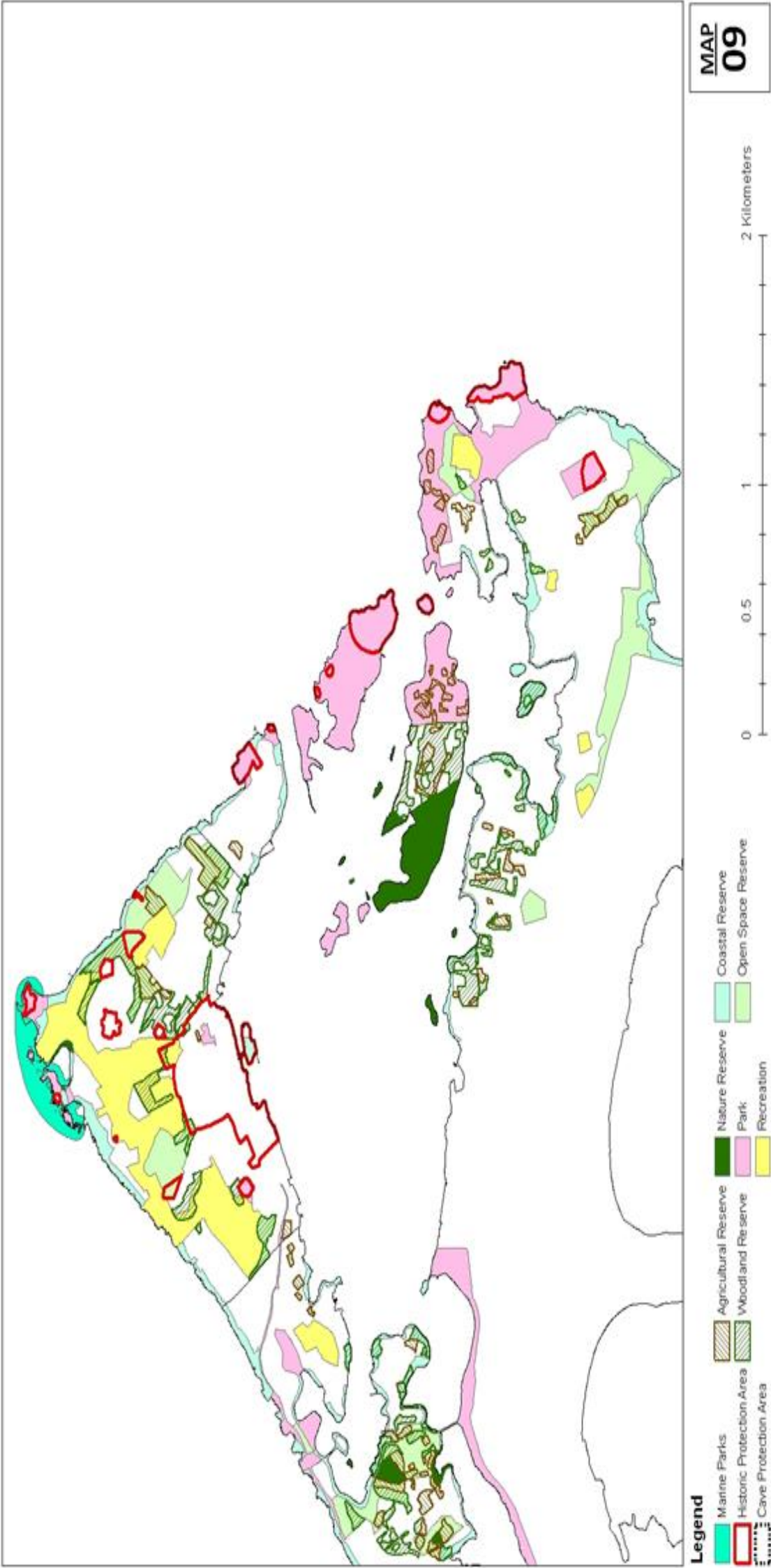
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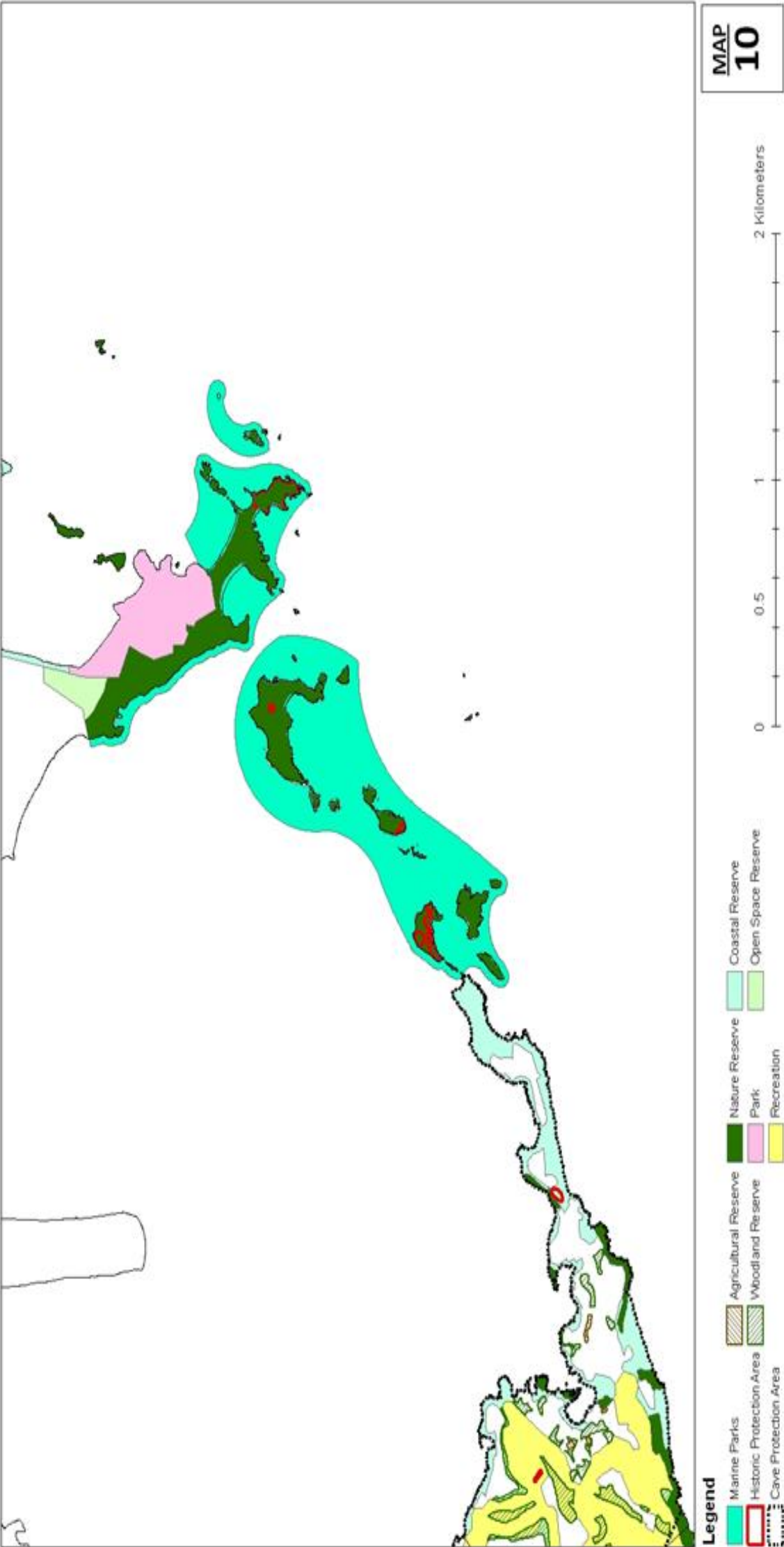
Source: Department of Planning



Source: Department of Planning



Source: Department of Planning



Source: Department of Planning



GOVERNMENT OF BERMUDA

Department of Statistics