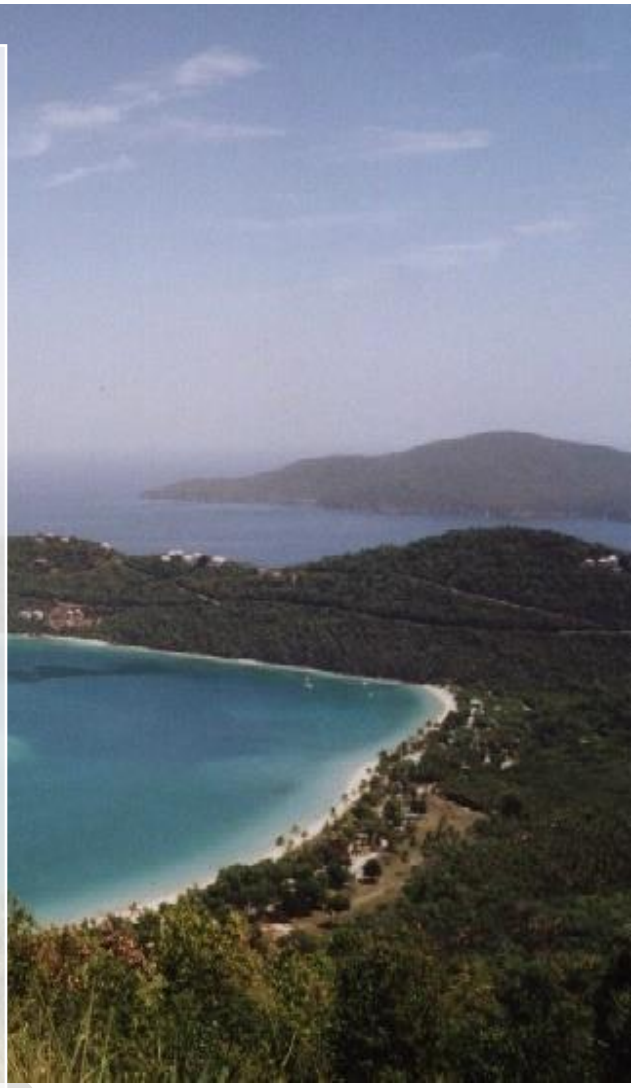
USVI Integrated Water Quality Monitoring & Assessment Report

Department of Planning & Natural Resources

Division of Environmental Protection

Water Quality Management Program

2022



The 2022 USVI Integrated Water Quality Monitoring & Assessment Report intends to satisfy the USVI requirements of the Federal Clean Water Act Sections 305(b) and 303(d).

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EXECUTIVE SUMMARY

The 2022 U.S. Virgin Islands Integrated Water Quality Monitoring and Assessment Report is intended to satisfy reporting requirements under section 305(b) of the federal Clean Water Act. This report is also intended to satisfy the requirements of section 303(d) of the Clean Water Act by developing a list of impaired assessment units that will require total maximum daily loads, known as TMDLs. This report provides an assessment of the water quality conditions of the Virgin Island's surface and ground water resources for the period covering federal fiscal year 2020 and federal fiscal year 2021 (October 1, 2019 through September 30, 2021).

A. Introduction

All waters of the U.S. Virgin Islands shall meet generally accepted aesthetic qualifications and shall be capable of supporting diversified aquatic life. The waters within the jurisdiction of the U.S. Virgin Islands include: all harbors, bays, streams, lakes, ponds, impounding reservoirs, marshes, water-courses, water-ways, wells, springs, irrigation systems, drainage systems and all other bodies or accumulations of water, surface and underground, natural or artificial, public or private, situated wholly or partly within or bordering upon the U.S. Virgin Islands, including the territorial seas, contiguous zones and oceans. This integrated report assesses the waterbodies near-shore and off-shore from the three major islands making up the U.S. Virgin Islands: St. Croix, St. Thomas and St. John.

According to the current U.S. Virgin Islands water quality standards, the waters of the U.S. Virgin Islands exist in one of four classes: I, A, B and C. The geographical extent of the four waterbody classes, and the applicable water quality standards are found at the following website:

http://dpnr.vi.gov/environmental-protection/water-quality-management/

Or, via navigation from http://dpnr.vi.gov

Class "I" Waters: Waters included in this class can be either inland surface waters or inland groundwaters (Subclass IG waters). Inland surface waters can be fresh (Subclass IF Waters), or, saline or brackish (Subclass IBS Waters).

Subclass Inland Fresh Waters (IF Waters) and Inland Brackish or Saline Waters (IBS Waters):

Designated Uses: Maintenance and propagation of desirable species of wildlife and aquatic life (including threatened, endangered species listed pursuant to section 4 of the federal Endangered Species Act and threatened, endangered and indigenous species listed pursuant to Title 12, Chapter 2 of the Virgin Islands Code), and primary contact recreation.

Subclass of Inland Groundwaters (IG Waters):

Designated Uses: For use as a potable water source.

Class I geographical delineation: Designated aquatic-influenced environments located within land boundaries.

Class "A" Waters

Designated Uses: Maintenance and propagation of desirable species of aquatic life (including threatened, endangered and indigenous species) and primary contact recreation. Preservation of the unique characteristics of the waters designated as Outstanding Natural Resource Waters, waters of exceptional recreational, environmental, or ecological significance. The quality of these waters cannot be altered except towards natural conditions. No new or increased dischargers shall be permitted.

Class A geographical delineation (Outstanding Natural Resource Waters):

- Within 0.5 miles of the boundaries of Buck Island's Natural Barrier Reef, St. Croix.
- Trunk Bay, St. John.

Class "B" Waters

Designated Uses: For maintenance and propagation of desirable species of aquatic life (including threatened, endangered and indigenous species) and for primary contact recreation (swimming, water skiing, etc.). This class allows minimal changes in structure of the biotic community and minimal changes in ecosystem function. Virtually all native taxa are maintained with some changes in biomass and/or abundance; ecosystem functions are fully maintained within the range of natural variability.

Class B geographical delineation

All other waters within the jurisdiction of the U.S. Virgin Islands not classified as Class "A" or Class "C".

Those Class "B" waters not covered by color and turbidity criteria in section 186-4 (b)(2)(B)(ii)(j)(3) of the Virgin Islands water quality standards regulations include:

(A) St. Thomas waters-Mandahl Bay (Marina), Vessup Bay, Water Bay, Benner Bay, and the Mangrove Lagoon.
(B) St. Croix waters-Carlton Beach, Good Hope Beach, Salt River Lagoon (Marina), Salt River Lagoon (Sugar Bay), Estate Anguilla Beach, Buccaneer Beach, Tamarind Reef Lagoon, Green Cay Beach and Enfield Green Beach.
(C) All non-marine waters defined as all Virgin Islands waters shoreward of the mean high-tide line. This caveat applies to the above waters which may have characteristics naturally outside of the limits prescribed by the Virgin Islands water quality standards regulations, and thus any exceedances would not represent a violation of standards.
(D) All other Class "B" waters are covered by the color and turbidity criteria in section 186-4 (b)(2)(B)(ii)(j)(3) of the Virgin Islands water quality standards regulations.

Class "C" Waters

Designated Uses: For maintenance and propagation of desirable species of aquatic life (including threatened and endangered species listed pursuant to section 4 of the federal Endangered Species Act and threatened, endangered and indigenous species listed pursuant Title 12, Chapter 2 of the Virgin Islands Code) and for primary contact recreation (swimming, water skiing, etc.). This class allows for evident changes in structure of the biotic community and minimal changes in ecosystem function.

Evident changes in structure due to loss of some rare native taxa; shifts in relative abundance of taxa (community structure) are allowed but sensitive-ubiquitous taxa remain common and abundant; ecosystem functions are fully maintained through redundant attributes of the system.

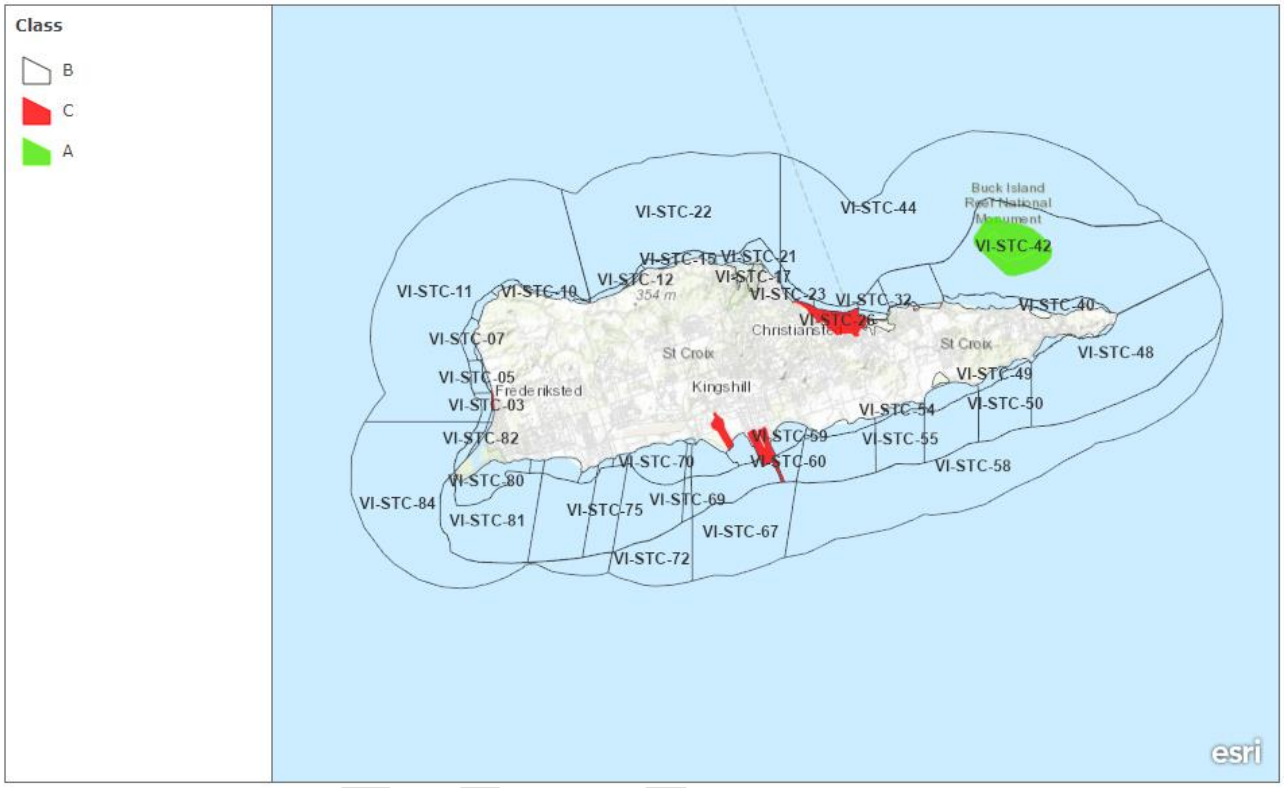

Figure 1: St. Croix Assessment Units

Class C geographical delineation

St. Thomas:

(1) St. Thomas Harbor beginning at Rupert Rock and extending to Haulover Cut.
(2) Crown Bay enclosed by a line from Hassel Island at Haulover Cut to Regis Point at West Gregerie Channel.
(3) Krum Bay.

St. Croix:

(1) Christiansted Harbor from Fort Louise Augusta to Golden Rock, along the waterfront and seaward to include the navigational channels and mooring areas.
(2) Frederiksted Harbor from La Grange to Fisher Street and seaward to the end of the Frederiksted Pier.
(3) Hess Oil Virgin Islands Harbor (alternatively named HOVENSA Harbor).
(4) Martin-Marietta Alumina Harbor (alternatively named Port Alucroix or St. Croix Renaissance Group Harbor).

St. John: Enighed Pond Bay

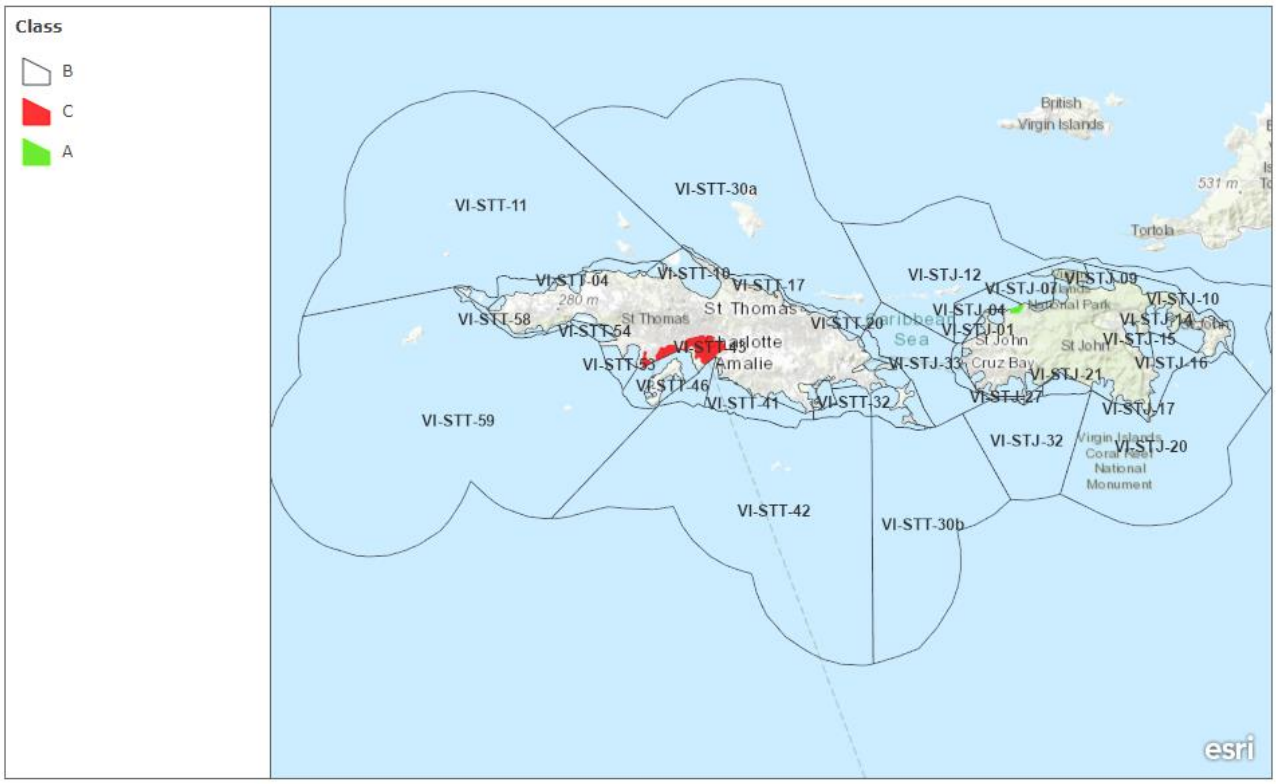

Figure 2: St. John and St. Thomas Assessment Units

B. Background Information

1. Total Waters

The territory of the U.S. Virgin Islands comprises three major islands: St. Croix, St. John and St. Thomas. Taken together, the territory encompasses a total land area of approximately 136 square miles, or 110,000 acres (See Table 1) characterized by central mountain ranges and relatively small coastal plains. Peak elevations are 1,165 feet on St. Croix (Mount Eagle), 1,550 feet on St. Thomas (Crown Mountain) and 1,297 feet on St. John (Bordeaux Mountain). The islands are generally only 2 to 6 miles wide, with no land location far from the coastal waters. The focus in this report is the data from the main islands of St. Croix, St. John, and St. Thomas although several enclosed bays within the main islands' watersheds include offshore islands and cays.

The return of Water Island to the control of the Government of the U.S. Virgin Islands, after 50-some years of direct federal administration (first as a fort by the Department of the Army during the Second World War, and later as the responsibility of the U.S. Department of the Interior) raises the question of whether this area should be treated as a fourth island. For the purposes of the Water Quality Assessment, Water Island will be treated as another offshore cay or small inhabited island, such as Hassel Island or Great St. James because the area is small (less than 600 acres or one square mile), the estimated population is less than 200 permanent residents, and the island is practically within St. Thomas Harbor.

The offshore cays and small islands are an inherent piece of the natural heritage of the Virgin Islands. Additionally, as an economic asset, these offshore sites could be included within a broad eco-tourism program for the territory. Many government-owned cays have already been established as wildlife

reserves pursuant to Title 12 § 94(b)(2) Virgin Islands Rules and Regulations. A number are important seabird nesting sites, and several are important roosting areas. The surrounding waters of most of the cays and islands teem with marine life, providing food for seabirds and for the fish and shellfish sought by commercial and recreational fishermen. They are also popular dive sites, which are important to the local diving industry.

There are no large freshwater lakes or ponds, and no perennial streams on any of the islands. Intermittent streams can only be seen after heavy rainfall or during the rainy season (May to November). The absence of large freshwater resources and perennial streams means that guts (watercourses) form the basis for watershed management in the territory. Relatively small salt ponds are also scattered across the three main islands.

Table 1: Characteristics of Virgin Islands Watersheds and Islands

	St. Croix	St. Thomas	St. John	Total
Population (2020 Census)	41,004	42,261	3,881	87,146
Land Area (square miles)	84	32	20	136
Land Area (acres)	53,499	17,489	12,323	83,311
Tidal/sub-tidal wetlands (square miles)	2.5	2.4	1.1	6.0
Coastal Shoreline	70.3	52.8	49.7	172.8
Embayments (square miles)	1.5	0.9	0.1	2.5

2. *Water Pollution Control Program*

The U.S. Virgin Islands DPNR Division of Environmental Protection is entrusted with the task of monitoring the marine waters of the U.S. Virgin Islands and controlling the discharges into those waters. To accomplish this task, the Water Pollution Control Program includes the monitoring program, discussed in Section C.1 of this report, as well as the following sub-programs:

- Territorial pollutant discharge elimination system permitting and compliance program
- TMDL development and implementation program
- Nonpoint source program

a) Territorial pollutant discharge elimination system permitting and compliance program

The territorial pollutant discharge elimination system, known as TPDES, permitting and compliance program is a federally delegated program which permits and regulates the discharge of pollutants from point sources into waters of the U.S. Virgin Islands (as defined in 12 V.I.R. & Regs § 184). TPDES permits are issued in accordance with Title 12, Chapter 7 §184-11 of the Virgin Islands Rules and Regulations, which states that "…no person shall discharge or cause a discharge of any pollutant without a TPDES permit having been issued to such person…". TPDES permits require that point source

discharges of pollution be monitored by the permittee (facility), and the self-monitoring results are submitted to the DPNR and the U.S. Environmental Protection Agency.

The TPDES program currently regulates discharges from sewage treatment plant outfalls (both public and private facilities), brine discharges from reverse osmosis, desalination (and other technology) freshwater production plants, industrial facility process water discharges, industrial facility storm water discharges, and storm water discharges from construction sites with over one acre of exposed soils.

The DPNR conducts compliance inspections and monitoring at all facilities that have been issued TPDES permits on an annual basis to ensure compliance. There are three types of compliance inspections conducted at TPDES permitted facilities throughout the territory: compliance sampling inspections, compliance evaluation inspections and pump station inspections, which are conducted on a quarterly basis at the territory's publicly owned treatment works.

If a facility is repeatedly found to be in non-compliance with its TPDES permit or has been found to violate the U.S. Virgin Islands' water quality standards, enforcement actions may be taken against the facility. The enforcement action usually outlines corrective actions necessary for the facility to return to compliance and, if deemed necessary, fines may also be assessed. Facilities that are enforced against are usually granted the opportunity to work closely with the Department to develop a compliance schedule that the facility will use to achieve compliance.

b) TMDL development and implementation program

Projects for the development of total maximum daily loads in the U.S. Virgin Islands are currently done through contracted projects by Tetra Tech, Inc.

c) Nonpoint source program

The Nonpoint Source Management Program aims to protect waters of the territory by mitigating both land and marine nonpoint pollution sources. As such, the involvement of the Nonpoint Source Pollution Steering Committee, a diverse group of individuals from the public and private sectors, is pivotal to ensure that the Territorial Nonpoint Source Management Program achieves the nine key elements of an effective Nonpoint Source program.

The Coral Bay Community Council completed its grant funded project approved by the U.S. Virgin Islands Nonpoint Source Steering Committee during fiscal year 2016 on implementation mitigation efforts in the Coral Bay Watershed. The Coral Bay Community Council implementation projects, being part of a greater watershed effort, driven by the Coral Bay Watershed Management Plan, helped reduce sediment loads, improve water quality, and protect the vulnerable and living coral reefs.

The Horsley Whiten group was selected by the U.S. Virgin Islands Nonpoint Source Steering Committee in fiscal year 2016 to develop the U.S. Virgin Islands Environmental Protection Handbook. This document would provide U.S. Virgin Islands-specific design and performance standards, specifications, and training for storm-water best management practices for use in development projects and regulation and policy revisions. The handbook is in the final stages of completion. As a result of issues with renewing corporate documents contract, execution was delayed and required a grant extension and revised agreement to complete by March 31, 2022.

Permitting: The Earth Change permitting program is the primary mechanism to locate and address all land disturbing activities territory wide. The program is designed for residential and commercial development. The DPNR knows what land disturbances are happening throughout the territory, evaluate water quality trends based on the number of Earth Change permits issued in a watershed and where to implement nonpoint source controls to protect coastal and ground water resources. Earth Change is the best way for the U.S. Virgin Islands to use limited resources expeditiously. Overall, the total number of permits issued within the territory in fiscal year 2020 was 331.

The U.S. Virgin Islands' nonpoint source program is committed to continuing to make progress and has set the following annual goals and priority areas:

- Continue restoring impaired waters and protecting healthy waters through the implementation of the U.S. Virgin Islands nonpoint source management plan;
- Evaluate water quality trends based on the number of Earth Change permits issued in a watershed;
- Provide educational materials and training on nonpoint source management;
- Participate in other territory partnership programs that focus on nonpoint source pollution problems;
- Educate homeowners, businesses and contractors regarding the Earth Change permitting process;
- Develop a ranking procedure that qualifies proposals for Section 319 grant funds as acceptable projects to implement as alternatives to watershed-based plans;
- Solicit annual request for proposal for projects that will develop watershed plans that will address nonpoint source pollution;
- Work with local stakeholders to complete the Smith Bay/Water Bay Watershed-Based Plan; and
- Work with local stakeholders to continue the Coral Bay Community Projects watershed implementation efforts.

3. Cost/Benefit Analysis

a) Costs

Results of water quality trend analysis for the U.S. Virgin Islands indicate that pathogen levels in coastal waters increased on the islands of St. Thomas and St. Croix from 2000 to 2008. The results are statistically significant and point to marinas and nonpoint sources as the most likely contributors of these pathogens. Failing onsite sewage disposal systems are likely to be significant nonpoint sources of pathogen. Addressing these failing systems, along with improved management of marinas, may reverse the increasing trend seen in coastal pathogen levels (The Cadmus Group, 2011). The U.S. EPA estimates the average cost of developing TMDLs to be about $52,000, with a typical range of costs between $26,000 and over $500,000. (U.S. EPA, 2001). Since the 303(d) list includes 159 waterbody/pollutant combinations, the range of costs to develop the TMDLs would be $4.1 million to $79.5 million. According to the U.S. EPA's Clean Watersheds Needs Survey 2012 Report to Congress (U.S. EPA, 2016), needs for point and nonpoint sources in the U.S. Virgin Islands total $38 Million. The figure from the Needs Survey represents the capital needs for up to a 20-year period as reflected in State and local planning documentation for publicly owned wastewater conveyance and treatment facilities, combined sewer overflow correction, and stormwater management and is a snapshot in time. The costs for TMDL development and capital needs are totals and have not been annualized.

b) Benefits

Tourism in the U.S. Virgin Islands accounts for a large revenue stream for the U.S. Virgin Islands. According to the Bureau of Economic Analysis (2019), estimated net foreign travel in 2018 totaled $888 million, even with a significant decline in tourism activity in the months following Hurricanes Irma and Maria. The economic value on an annual basis for ecosystem services in the U.S. Virgin Islands is summarized in Table 2. The values are taken from the report titled, *The Economic Value of the Coral Reef Ecosystems of the United States Virgin Islands* (Van Beukering et al., 2011). The total economic value for coral reef ecosystems in the U.S. Virgin Islands is estimated at $187 million per year.

Table 2: Annual Value of Ecosystem Services

Service	Annual Value (in millions)
Tourism	96
Recreation	48
Amenity value (beauty of views) of real estate	35
Coastal Protection	6
Commercial Fisheries	3

According to a different analysis, intact coral reefs provide the U.S. Virgin Islands with $47 million in annual flood protection benefits in the form of averted damages to property and economic activities (Storlazzi et al., 2019). The $47 million annual benefit is based on the value of economic activity provided by housing that is protected from flooding by U.S. coral reefs annually and the value of economic activity provided by commercial and industrial buildings protected by U.S. coral reefs annually.

Table 3: Annual value of protection provided by coral reefs from flooding

Island	Number of people	Buildings (2010 U.S. dollars)	Economic activity (2010 U.S. dollars)
St. Croix	278	18,021,883	21,325,668
St. John	3	527,814	323,358
St. Thomas	59	3,319,769	3,565,110
Total			47,083,602

Although the studies differ on the scope of annual benefits related to coral reef services, in both cases, the annual benefits exceed the estimated costs for TMDL development and the results from the needs survey Surface Water Monitoring and Assessment.

4. Monitoring Program

The coastal water quality monitoring program is the primary mechanism for monitoring the U.S. Virgin Islands coastal water quality. The sampling locations on the fixed station network are monitored on a quarterly basis. The beach water quality monitoring program which monitors up to 43 designated beaches throughout the territory on a weekly basis. The Ambient and Beach Programs data are used to

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make water quality assessments on which this Integrated Report is based. An overview of the monitored waters and assessment units is provided in Table 4.

Table 4: Overview of monitored waters and assessment units

Island	# of Assessment Units	Assessment Units Monitored	# of Assessment Units each Class of Water falls under			% of Total
	Total		Class A	Class B	Class C	
St. Croix	84	38	1	31	6	45%
St. Thomas	60	41	0	38	3	68%
St. John	33	17	1	16	0	52%

Assessment units not monitored were either missed during monitoring events or currently do not have monitoring locations within the geographic boundary. The ambient water quality monitoring program continues to be conducted throughout a fixed network of monitoring stations in embayments, nearshore and offshore territorial waters by U.S. EPA contractors. It is the aim of the DPNR to regain sampling/monitoring privileges and to reevaluate the network of monitoring stations to determine where improvements may be made. The beach monitoring program continues to be conducted throughout a fixed network of 43 designated beaches. A list of the associated monitoring stations for each assessment unit is provided in Table 5.

Table 5: Monitoring Stations

AU ID	AU Name	Class	AU Size (mi^2)	Associated Monitoring Stations
VI-STC-01	Frederiksted, south	B	0.0451	There are currently no monitoring stations within this assessment unit.
VI-STC-02	Frederiksted Harbor	C	0.035	STC-28, STC-29, STX-5
VI-STC-03	Lagrange subwatershed, offshore	B	0.375	There are currently no monitoring stations within this assessment unit.
VI-STC-04	Prosperity, nearshore	B	0.1118	STX-7
VI-STC-05	Prosperity subwatershed, offshore	B	0.5129	There are currently no monitoring stations within this assessment unit.
VI-STC-06	Sprat Hall Beach	B	0.0609	STC-30, STX-9
VI-STC-07	Creque Dam/Butler Bay	B	0.529	There are currently no monitoring stations within this assessment unit.

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AU ID	AU Name	Class	AU Size (mi^2)	Associated Monitoring Stations
VI-STC-08	Hams Bay	B	0.3144	There are currently no monitoring stations within this assessment unit.
VI-STC-09	Davis Bay	B	0.0522	There are currently no monitoring stations within this assessment unit.
VI-STC-10	Hams Bluff	B	0.5506	There are currently no monitoring stations within this assessment unit.
VI-STC-11	Northwest St. Croix HUC14, offshore	B	33.302	There are currently no monitoring stations within this assessment unit.
VI-STC-12	Cane Bay	B	0.0613	STC-32, STX-15
VI-STC-13	Baron Bluff subwatershed	B	0.3498	STC-31
VI-STC-14	Belvedere	B	0.0557	There are currently no monitoring stations within this assessment unit.
VI-STC-15	Northside subwatershed	B	0.6109	There are currently no monitoring stations within this assessment unit.
VI-STC-16	Salt River Lagoon, Marina	B	0.0194	STC-33
VI-STC-17	Salt River Lagoon, Sugar Bay	B	0.3244	There are currently no monitoring stations within this assessment unit.
VI-STC-18	Salt River Bay	B	0.3229	STC-33A, STC-33B, STX-17, STX-18
VI-STC-19	Judith Fancy	B	0.01	There are currently no monitoring stations within this assessment unit.
VI-STC-20	Salt River Bay subwatershed, west	B	0.2433	There are currently no monitoring stations within this assessment unit.
VI-STC-21	Salt River Bay subwatershed, east	B	0.8922	There are currently no monitoring stations within this assessment unit.

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AU ID	AU Name	Class	AU Size (mi^2)	Associated Monitoring Stations
VI-STC-22	Northcentral St. Croix HUC14, offshore	B	23.61	There are currently no monitoring stations within this assessment unit.
VI-STC-23	St. Croix-By-the-Sea	B	0.0727	STC-34, STX-20, STX-23A
VI-STC-24	Long Reef Backreef, west	C	0.1153	STC-48
VI-STC-25	Princess subwatershed, offshore	B	0.4343	STC-35
VI-STC-26	Christiansted Harbor	C	0.9601	STC-37, STC-40, STC-41, STC-42, STC-43, STC-44, STC-45, STC-46, STC-47, STC-49, STX-24
VI-STC-27	Long Reef Forereef, east	B	0.3149	STC-35A, STC-36
VI-STC-28	Altona Lagoon	B	0.2337	There are currently no monitoring stations within this assessment unit.
VI-STC-29	Christiansted Harbor, east	C	0.1089	STC-1, STC-39, STX-25
VI-STC-30	Beauregard Bay	B	0.2145	STC-2, STC-38, STX-25A
VI-STC-31	Buccaneer Beach	B	0.0166	STC-3
VI-STC-32	Altona Lagoon subwatershed, offshore	B	0.6812	There are currently no monitoring stations within this assessment unit.
VI-STC-33	Punnett Bay	B	0.0576	STX-26
VI-STC-34	Punnett Point, east	B	0.0223	STC-4
VI-STC-35	Tamarind Reef Lagoon (Southgate Lagoon)	B	0.0205	STC-5
VI-STC-36	Green Cay Beach	B	0.1017	STX-27A
VI-STC-37	Southgate subwatershed, offshore	B	2.2219	There are currently no monitoring stations within this assessment unit.
VI-STC-38	Solitude Backreef	B	0.9681	There are currently no monitoring stations within this assessment unit.
VI-STC-39	Teague Bay	B	0.1773	STC-8, STC-9

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AU ID	AU Name	Class	AU Size (mi^2)	Associated Monitoring Stations
VI-STC-40	Teague Bay Backreef	B	0.8547	STC-10, STX-35
VI-STC-41	Buck Island Backreef	A	0.7675	STC-6, STC-7
VI-STC-42	Buck Island Forereef	A	3.3497	There are currently no monitoring stations within this assessment unit.
VI-STC-43	Solitude and Teague Bay subwatersheds, offshore	B	18.822	There are currently no monitoring stations within this assessment unit.
VI-STC-44	Northeast St. Croix HUC14, offshore.	B	36.088	There are currently no monitoring stations within this assessment unit.
VI-STC-45	Isaac Bay	B	0.0853	There are currently no monitoring stations within this assessment unit.
VI-STC-46	Grapetree Bay	B	0.0425	STC-11B
VI-STC-47	Turner Hole Backreef	B	0.2772	STC-12, STX-39
VI-STC-48	Turner Hole subwatershed, offshore	B	16.949	There are currently no monitoring stations within this assessment unit.
VI-STC-49	Madam Carty Backreef	B	0.464	STC-13B
VI-STC-50	Madam Carty, offshore	B	3.5161	There are currently no monitoring stations within this assessment unit.
VI-STC-51	Great Pond	B	0.1578	There are currently no monitoring stations within this assessment unit.
VI-STC-52	Great Pond Bay	B	1.0184	STC-13A
VI-STC-53	Great Pond Bay subwatershed, offshore	B	3.0288	There are currently no monitoring stations within this assessment unit.
VI-STC-54	Leprey Valley Backreef	B	0.3712	There are currently no monitoring stations within this assessment unit.
VI-STC-55	Leprey Valley subwatershed, offshore	B	2.8455	There are currently no monitoring stations within this assessment unit.
VI-STC-56	Bugby Hole Backreef	B	0.7042	STC-14A, STC-14B, STX-46

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AU ID	AU Name	Class	AU Size (mi^2)	Associated Monitoring Stations
VI-STC-57	Bugby Hole subwatershed, offshore	B	3.9	There are currently no monitoring stations within this assessment unit.
VI-STC-58	Southeast St. Croix HUC14, offshore	B	24.146	There are currently no monitoring stations within this assessment unit.
VI-STC-59	Canegarden Bay	B	0.8542	STC-15, STC-15A
VI-STC-60	Canegarden Bay, offshore	B	0.7933	There are currently no monitoring stations within this assessment unit.
VI-STC-61	Hess Oil Virgin Islands Harbor	C	0.671	STC-16, STC-17
VI-STC-62	Limetree Bay	B	0.7239	STC-18
VI-STC-63	Martin-Marietta Alumina Harbor	C	0.3228	STC-19, STC-20
VI-STC-64	Manning Bay/Estate Anguilla Beach	B	0.0508	STC-23
VI-STC-65	Hovensa, west	B	1.2865	STC-21
VI-STC-66	Hovensa subwatershed, offshore	B	2.8305	STC-22A
VI-STC-67	Southports St. Croix HUC14, offshore	B	8.1966	There are currently no monitoring stations within this assessment unit.
VI-STC-68	Bethlehem subwatershed, inshore	B	0.2149	There are currently no monitoring stations within this assessment unit.
VI-STC-69	Bethlehem subwatershed, offshore	B	0.3971	There are currently no monitoring stations within this assessment unit.
VI-STC-70	Airport, nearshore	B	2.1943	There are currently no monitoring stations within this assessment unit.
VI-STC-71	Airport, offshore	B	4.263	There are currently no monitoring stations within this assessment unit.
VI-STC-72	Airport St. Croix HUC14, offshore	B	4.1803	There are currently no monitoring stations within this assessment unit.

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AU ID	AU Name	Class	AU Size (mi^2)	Associated Monitoring Stations
VI-STC-73	Diamond, nearshore	B	0.1699	There are currently no monitoring stations within this assessment unit.
VI-STC-74	Enfield Green Beach/VIRIL Outfall	B	0.1376	There are currently no monitoring stations within this assessment unit.
VI-STC-75	Diamond subwatershed, offshore	B	2.8479	STC-24B
VI-STC-76	Carlton Beach	B	0.2447	There are currently no monitoring stations within this assessment unit.
VI-STC-77	Long Point Bay	B	0.8376	STC-25
VI-STC-78	Long Point Bay subwatershed, offshore	B	4.9231	There are currently no monitoring stations within this assessment unit.
VI-STC-79	Good Hope Beach	B	0.1876	STC-26
VI-STC-80	Sandy Point, nearshore south	B	2.0121	There are currently no monitoring stations within this assessment unit.
VI-STC-81	Sandy Point, offshore south	B	7.4306	There are currently no monitoring stations within this assessment unit.
VI-STC-82	Sandy Point, nearshore west	B	0.1158	STC-27, STX-2, STX-4
VI-STC-83	Sandy Point, offshore west	B	0.4875	There are currently no monitoring stations within this assessment unit.
VI-STC-84	Southwest St. Croix HUC14, offshore	B	18.347	There are currently no monitoring stations within this assessment unit.
VI-STJ-01	Caneel Bay	B	0.2623	There are currently no monitoring stations within this assessment unit.
VI-STJ-02	Hawksnest Bay	B	0.2246	STJ-12B, STJ-44B
VI-STJ-03	Trunk Bay	A	0.0685	STJ-44A
VI-STJ-04	Hawksnest Bay subwatershed, offshore	B	1.7287	There are currently no monitoring stations within this assessment unit.

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AU ID	AU Name	Class	AU Size (mi^2)	Associated Monitoring Stations
VI-STJ-05	Cinnamon Bay	B	0.1456	STJ-44C
VI-STJ-06	Maho Bay/Francis Bay	B	0.346	STJ-44D
VI-STJ-07	Maho Bay subwatershed, offshore	B	1.6071	There are currently no monitoring stations within this assessment unit.
VI-STJ-08	Mary Point	B	0.4831	There are currently no monitoring stations within this assessment unit.
VI-STJ-09	Leinster Bay	B	0.6627	There are currently no monitoring stations within this assessment unit.
VI-STJ-10	Minnebeck Bay	B	1.4876	There are currently no monitoring stations within this assessment unit.
VI-STJ-11	Newfound Bay	B	0.0765	There are currently no monitoring stations within this assessment unit.
VI-STJ-12	North St. John HUC14, offshore	B	23.719	There are currently no monitoring stations within this assessment unit.
VI-STJ-13	Round Bay	B	0.6965	STJ-57
VI-STJ-14	Hurricane Hole	B	0.7689	There are currently no monitoring stations within this assessment unit.
VI-STJ-15	Coral Harbor	B	0.6015	STJ-53, STJ-56
VI-STJ-16	Coral Bay	B	2.2337	STJ-58
VI-STJ-17	Salt Pond Bay	B	0.1978	STJ-52
VI-STJ-18	Grootman Bay	B	0.1046	There are currently no monitoring stations within this assessment unit.
VI-STJ-19	Great Lameshur Bay	B	0.359	STJ-50, STJ-51
VI-STJ-20	Southeast St. John HUC14, offshore	B	24.319	There are currently no monitoring stations within this assessment unit.
VI-STJ-21	Genti Bay, nearshore	B	0.0947	STJ-49
VI-STJ-22	Genti Bay, offshore	B	0.769	There are currently no monitoring stations within this assessment unit.

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AU ID	AU Name	Class	AU Size (mi^2)	Associated Monitoring Stations
VI-STJ-23	Fish Bay	B	0.2103	STJ-48
VI-STJ-24	Fish Bay subwatershed, offshore	B	0.1824	There are currently no monitoring stations within this assessment unit.
VI-STJ-25	Rendezvous Bay	B	0.4677	STJ-38, STJ-47, VI204627
VI-STJ-26	Chocolate Hole	B	0.1004	STJ-46
VI-STJ-27	Rendezvous Bay subwatershed, offshore	B	0.1863	There are currently no monitoring stations within this assessment unit.
VI-STJ-28	Great Cruz Bay	B	0.1396	STJ-40, STJ-45
VI-STJ-29	Turner Bay/Enighed Pond	B	0.057	STJ-55
VI-STJ-30	Cruz Bay	B	0.0674	STJ-1, STJ-29, STJ-43A, STJ-43B, STJ-43C, STJ-43D
VI-STJ-31	Great Cruz Bay watershed, offshore	B	0.5775	STJ-41
VI-STJ-32	Southwest St. John HUC14, offshore	B	10.142	There are currently no monitoring stations within this assessment unit.
VI-STJ-33	Pillsbury Sound	B	6.9399	There are currently no monitoring stations within this assessment unit.
VI-STT-01	Botany Bay	B	0.1576	STT-9
VI-STT-02	Stumpy Bay	B	0.0597	STT-10
VI-STT-03	Botany Bay subwatershed, offshore	B	1.309	There are currently no monitoring stations within this assessment unit.
VI-STT-04	Santa Maria Bay	B	0.3617	STT-11
VI-STT-05	Caret Bay	B	0.0266	STT-12
VI-STT-06	Neltjeberg Bay	B	0.0562	There are currently no monitoring stations within this assessment unit.
VI-STT-07	Dorothea	B	0.0254	STT-13
VI-STT-08	Hull Bay	B	0.2049	STT-14, STT-16
VI-STT-09	Dorothea Bay subwatershed, offshore	B	0.7673	There are currently no monitoring stations within this assessment unit.

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AU ID	AU Name	Class	AU Size (mi^2)	Associated Monitoring Stations
VI-STT-10	Magens Bay	B	1.6208	STT-15, STT-15A, STT-15B, STT-19A
VI-STT-11	Northwest St. Thomas HUC14, offshore	B	55.088	There are currently no monitoring stations within this assessment unit.
VI-STT-12	Lovenlund Bay	B	0.0228	There are currently no monitoring stations within this assessment unit.
VI-STT-13	Mandahl Bay (Marina)	B	0.0131	STT-16B
VI-STT-14	Tutu Bay	B	0.0414	There are currently no monitoring stations within this assessment unit.
VI-STT-15	Sunsi Bay	B	0.0152	STT-17B
VI-STT-16	Spring Bay	B	0.0102	STT-17A
VI-STT-17	Mandahl Bay subwatershed, offshore	B	1.1379	STT-16A, STT-18, STT-27
VI-STT-18	Water Bay	B	0.0845	STT-19, STT-28
VI-STT-19	Smith Bay	B	0.1187	STT-20, VI431925
VI-STT-20	Smith Bay subwatershed, offshore	B	0.4103	There are currently no monitoring stations within this assessment unit.
VI-STT-21	St. John Bay	B	0.0411	STT-21A, STT-32
VI-STT-22	Red Bay	B	0.0078	STT-21B
VI-STT-23	Vessup Bay	B	0.0619	STT-22B
VI-STT-24	Red Hook Bay	B	0.1772	STT-22A, STT-34
VI-STT-25	Great Bay	B	0.5593	STT-23, VI505006
VI-STT-26	Red Hook Bay, offshore	B	0.4725	There are currently no monitoring stations within this assessment unit.
VI-STT-27	St. James Islands, offshore	B	0.6691	There are currently no monitoring stations within this assessment unit.
VI-STT-28	Cowpet Bay	B	0.0757	STT-24
VI-STT-29	St. James Bay	B	1.2439	There are currently no monitoring stations within this assessment unit.

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AU ID	AU Name	Class	AU Size (mi^2)	Associated Monitoring Stations
VI-STT-30A	Northeast St. Thomas HUC14, offshore north	B	42.927	There are currently no monitoring stations within this assessment unit.
VI-STT-30B	Northeast St. Thomas HUC14, offshore south	B	24.908	There are currently no monitoring stations within this assessment unit.
VI-STT-31	Nazareth Bay	B	0.1793	STT-25, STT-26, VI389422
VI-STT-32	Jersey Bay, offshore	B	1.2925	There are currently no monitoring stations within this assessment unit.
VI-STT-33	Benner Bay	B	0.4187	There are currently no monitoring stations within this assessment unit.
VI-STT-34	Benner Bay Lagoon Marina	B	0.0355	STT-27D, STT-27E
VI-STT-35	Mangrove Lagoon	B	0.2931	STT-27A, STT-27B, STT-27C
VI-STT-36	Frenchman Bay subwatershed, east	B	0.3532	STT-28A, STT-28B
VI-STT-37	Frenchman Bay	B	0.0195	STT-44
VI-STT-38	Limetree Bay	B	0.0065	STT-29B, STT-43
VI-STT-39	Morningstar Bay	B	0.0215	STT-29A, STT-45
VI-STT-40	Pacquereau Bay	B	0.0453	STT-31A
VI-STT-41	Frenchman Bay subwatershed, offshore	B	2.9233	STT-30
VI-STT-42	Southeast St. Thomas HUC14, offshore	B	50.939	There are currently no monitoring stations within this assessment unit.
VI-STT-43	St. Thomas Harbor, inner	C	0.7495	STT-31B, STT-31C, STT-32A, STT-32B, STT-33A, STT-33B, STT-35, STT-36, STT-37, STT-38
VI-STT-44	St. Thomas Harbor, outer	B	1.2128	There are currently no monitoring stations within this assessment unit.
VI-STT-45	Gregerie Channel	B	1.7072	STT-1, STT-39
VI-STT-46	Sprat Bay	B	0.3814	STT-42

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AU ID	AU Name	Class	AU Size (mi^2)	Associated Monitoring Stations
VI-STT-47	Hassel Island at Haulover Cut to Regis Point	C	0.2074	STT-2, STT-3
VI-STT-48	Water Isle Hotel, Beach	B	0.0057	There are currently no monitoring stations within this assessment unit.
VI-STT-49	Druif Bay	B	0.0331	STT-40
VI-STT-50	Flamingo	B	0.061	STT-41
VI-STT-51	Krum Bay	C	0.0754	STT-4
VI-STT-52	Lindbergh Bay	B	0.2612	STT-48A, STT-5A, STT-5B, VI514102
VI-STT-53	Cyril E. King Airport subwatershed, offshore	B	0.8499	STT-6C
VI-STT-54	Perseverance Bay, offshore	B	0.4734	STT-6B
VI-STT-55	Brewers Bay	B	0.1076	STT-49, STT-7A
VI-STT-56	Perseverance Bay	B	0.2114	STT-7B
VI-STT-57	Fortuna Bay	B	0.0827	STT-8
VI-STT-58	Fortuna Bay subwatershed, offshore	B	0.6553	There are currently no monitoring stations within this assessment unit.
VI-STT-59	Northwest St. Thomas HUC14, offshore	B	77.71	There are currently no monitoring stations within this assessment unit.

Unmonitored Waters: It is the goal to assess and characterize the condition of all waters in the U.S. Virgin Islands. The waters listed in Table 6 have not been assessed for the 2022 cycle since there are no monitoring stations located within these assessment units.

Table 6: Unmonitored Waters

Assessment	Name	Class
VI-STC-01	Frederiksted, south	B
VI-STC-03	Lagrange subwatershed, offshore	B
VI-STC-05	Prosperity subwatershed, offshore	B
VI-STC-07	Creque Dam/Butler Bay	B
VI-STC-08	Hams Bay	B
VI-STC-09	Davis Bay	B
VI-STC-10	Hams Bluff	B

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Assessment	Name	Class
VI-STC-11	Northwest St. Croix HUC14, offshore	B
VI-STC-14	Belvedere	B
VI-STC-15	Northside subwatershed	B
VI-STC-17	Salt River Lagoon, Sugar Bay	B
VI-STC-19	Judith Fancy	B
VI-STC-20	Salt River Bay subwatershed, west	B
VI-STC-21	Salt River Bay subwatershed, east	B
VI-STC-22	Northcentral St. Croix HUC14, offshore	B
VI-STC-28	Altona Lagoon	B
VI-STC-32	Altona Lagoon subwatershed, offshore	B
VI-STC-37	Southgate subwatershed, offshore	B
VI-STC-38	Solitude Backreef	B
VI-STC-42	Buck Island Forereef	A
VI-STC-43	Solitude and Teague Bay subwatersheds, offshore	B
VI-STC-44	Northeast St. Croix HUC14, offshore.	B
VI-STC-45	Isaac Bay	B
VI-STC-48	Turner Hole subwatershed, offshore	B
VI-STC-50	Madam Carty, offshore	B
VI-STC-51	Great Pond	B
VI-STC-53	Great Pond Bay subwatershed, offshore	B
VI-STC-54	Leprey Valley Backreef	B
VI-STC-55	Leprey Valley subwatershed, offshore	B
VI-STC-57	Bugby Hole subwatershed, offshore	B
VI-STC-58	Southeast St. Croix HUC14, offshore	B
VI-STC-60	Canegarden Bay, offshore	B
VI-STC-67	Southports St. Croix HUC14, offshore	B
VI-STC-68	Bethlehem subwatershed, inshore	B
VI-STC-69	Bethlehem subwatershed, offshore	B
VI-STC-70	Airport, nearshore	B
VI-STC-71	Airport, offshore	B
VI-STC-72	Airport St. Croix HUC14, offshore	B
VI-STC-73	Diamond, nearshore	B
VI-STC-74	Enfield Green Beach/VIRIL Outfall	B
VI-STC-76	Carlton Beach	B
VI-STC-78	Long Point Bay subwatershed, offshore	B
VI-STC-80	Sandy Point, nearshore south	B
VI-STC-81	Sandy Point, offshore south	B
VI-STC-83	Sandy Point, offshore west	B
VI-STC-84	Southwest St. Croix HUC14, offshore	B
VI-STJ-01	Caneel Bay	B
VI-STJ-04	Hawksnest Bay subwatershed, offshore	B
VI-STJ-07	Maho Bay subwatershed, offshore	B
VI-STJ-08	Mary Point	B
VI-STJ-09	Leinster Bay	B

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Assessment	Name	Class
VI-STJ-10	Minnebeck Bay	B
VI-STJ-11	Newfound Bay	B
VI-STJ-12	North St. John HUC14, offshore	B
VI-STJ-14	Hurricane Hole	B
VI-STJ-18	Grootman Bay	B
VI-STJ-20	Southeast St. John HUC14, offshore	B
VI-STJ-22	Genti Bay, offshore	B
VI-STJ-24	Fish Bay subwatershed, offshore	B
VI-STJ-27	Rendezvous Bay subwatershed, offshore	B
VI-STJ-32	Southwest St. John HUC14, offshore	B
VI-STJ-33	Pillsbury Sound	B
VI-STT-03	Botany Bay subwatershed, offshore	B
VI-STT-06	Neltjeberg Bay	B
VI-STT-09	Dorothea Bay subwatershed, offshore	B
VI-STT-11	Northwest St. Thomas HUC14, offshore	B
VI-STT-12	Lovenlund Bay	B
VI-STT-14	Tutu Bay	B
VI-STT-20	Smith Bay subwatershed, offshore	B
VI-STT-26	Red Hook Bay, offshore	B
VI-STT-27	St. James Islands, offshore	B
VI-STT-29	St. James Bay	B
VI-STT-30A	Northeast St. Thomas HUC14, offshore north	B
VI-STT-30B	Northeast St. Thomas HUC14, offshore south	B
VI-STT-32	Jersey Bay, offshore	B
VI-STT-33	Benner Bay	B
VI-STT-42	Southeast St. Thomas HUC14, offshore	B
VI-STT-44	St. Thomas Harbor, outer	B
VI-STT-48	Water Isle Hotel, Beach	B
VI-STT-58	Fortuna Bay subwatershed, offshore	B
VI-STT-59	Northwest St. Thomas HUC14, offshore	B

The monitored waters in Table 7 have not been assessed in the 2022 cycle for one or more parameters due to fewer than the minimum number of samples being taken from their respective monitoring stations.

Table 7: Waters with Fewer than Eight Samples

Assessment	Name	Class
VI-STC-02	Frederiksted Harbor	C
VI-STC-12	Cane Bay	B
VI-STC-13	Baron Bluff subwatershed	B
VI-STC-23	St. Croix-By-the-Sea	B
VI-STC-24	Long Reef Backreef, west	C
VI-STC-26	Christiansted Harbor	C
VI-STC-27	Long Reef Forereef, east	B

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Assessment	Name	Class
VI-STC-29	Christiansted Harbor, east	C
VI-STC-30	Beauregard Bay	B
VI-STC-31	Buccaneer Beach	B
VI-STC-34	Punnett Point, east	B
VI-STC-35	Tamarind Reef Lagoon (Southgate Lagoon)	B
VI-STC-39	Teague Bay	B
VI-STC-40	Teague Bay Backreef	B
VI-STC-41	Buck Island Backreef	A
VI-STC-46	Grapetree Bay	B
VI-STC-47	Turner Hole Backreef	B
VI-STC-49	Madam Carty Backreef	B
VI-STC-52	Great Pond Bay	B
VI-STC-56	Bugby Hole Backreef	B
VI-STC-59	Canegarden Bay	B
VI-STC-61	Hess Oil Virgin Islands Harbor	C
VI-STC-62	Limetree Bay	B
VI-STC-63	Martin-Marietta Alumina Harbor	C
VI-STC-77	Long Point Bay	B
VI-STC-82	Sandy Point, nearshore west	B
VI-STJ-02	Hawksnest Bay	B
VI-STJ-03	Trunk Bay	A
VI-STJ-05	Cinnamon Bay	B
VI-STJ-06	Maho Bay/Francis Bay	B
VI-STJ-13	Round Bay	B
VI-STJ-15	Coral Harbor	B
VI-STJ-16	Coral Bay	B
VI-STJ-17	Salt Pond Bay	B
VI-STJ-19	Great Lameshur Bay	B
VI-STJ-21	Genti Bay, nearshore	B
VI-STJ-23	Fish Bay	B
VI-STJ-25	Rendezvous Bay	B
VI-STJ-26	Chocolate Hole	B
VI-STJ-28	Great Cruz Bay	B
VI-STJ-29	Turner Bay/Enighed Pond	B
VI-STJ-30	Cruz Bay	B
VI-STT-01	Botany Bay	B
VI-STT-02	Stumpy Bay	B
VI-STT-04	Santa Maria Bay	B
VI-STT-05	Caret Bay	B
VI-STT-07	Dorothea	B
VI-STT-08	Hull Bay	B
VI-STT-10	Magens Bay	B

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Assessment	Name	Class
VI-STT-13	Mandahl Bay (Marina)	B
VI-STT-15	Sunsi Bay	B
VI-STT-16	Spring Bay	B
VI-STT-17	Mandahl Bay subwatershed, offshore	B
VI-STT-18	Water Bay	B
VI-STT-19	Smith Bay	B
VI-STT-21	St. John Bay	B
VI-STT-22	Red Bay	B
VI-STT-23	Vessup Bay	B
VI-STT-24	Red Hook Bay	B
VI-STT-25	Great Bay	B
VI-STT-28	Cowpet Bay	B
VI-STT-31	Nazareth Bay	B
VI-STT-34	Benner Bay Lagoon Marina	B
VI-STT-35	Mangrove Lagoon	B
VI-STT-36	Frenchman Bay subwatershed, east	B
VI-STT-38	Limetree Bay	B
VI-STT-39	Morningstar Bay	B
VI-STT-40	Pacquereau Bay	B
VI-STT-41	Frenchman Bay subwatershed, offshore	B
VI-STT-43	St. Thomas Harbor, inner	C
VI-STT-45	Gregerie Channel	B
VI-STT-46	Sprat Bay	B
VI-STT-47	Hassel Island at Haulover Cut to Regis Point	C
VI-STT-49	Druif Bay	B
VI-STT-50	Flamingo	B
VI-STT-51	Krum Bay	C
VI-STT-52	Lindbergh Bay	B
VI-STT-53	Cyril E. King Airport subwatershed, offshore	B
VI-STT-54	Perseverance Bay, offshore	B
VI-STT-55	Brewers Bay	B
VI-STT-56	Perseverance Bay	B
VI-STT-57	Fortuna Bay	B

Inventory of Physical, Chemical and Microbiological Data: The inventory of physical, chemical and microbiological data used to develop the 2022 integrated report and make water quality assessments consists of a search of monitoring results from samples taken between October 1, 2019 and September 30, 2021 downloaded from the water quality portal located at https://www.waterqualitydata.us/portal/ on November 22, 2021. The portal includes data from the ambient and beach water quality monitoring programs. The parameters used to perform the assessments are clarity, dissolved oxygen, enterococcus, pH, total phosphorus, total nitrogen, temperature, and turbidity.

For nitrogen, three years (May 2018 to August 2021) of data was downloaded from the water quality portal for water quality assessments on August 8, 2022.

The U.S. Virgin Islands Division of Environmental Protection's Coastal Water Quality (ambient) Monitoring Program is managed by the Water Quality Management Program. Through the Coastal Water Quality Monitoring Program, ambient water quality is monitored on a quarterly basis. Through an in-kind assistance agreement, a U.S. EPA contractor was responsible for conducting quarterly ambient monitoring.

The water quality management program also monitors designated recreational beaches on a weekly basis through the beach water quality monitoring program. The beach water quality monitoring program collects samples at up to 43 designated beaches throughout the territory and analyzes the samples for enterococcus. The data is uploaded to the EPA's Storage and Retrieval Database, known as STORET, through the water quality exchange.

DPNR Monitoring Sites in Areas that contain coral reef ecosystems: Any water quality data obtained from coral reef ecosystem areas is assessed with more restrictive conventional numeric criteria as reflected in U.S. Virgin Islands' 2015 Water Quality Standards. Areas that contain coral reef ecosystems are determined based on benthic habitat mapping of Puerto Rico and the U.S. Virgin Islands (NCCOS, 2002). For the purposes of this assessment, a coral reef ecosystem is categorized as coral habitats classified by NOAA as linear reef, patch reef or spur and groove formations (Kendall et al., 2001). The coral habitats are described as:

- Linear Reef: Linear coral formations that are oriented parallel to shore or the shelf edge. These features follow the contours of the shore/shelf edge. This category is used for such commonly used terms as fore reef, fringing reef and shelf edge reef.

- Patch Reef(s): Coral formations that are isolated from other coral reef formations by sand, seagrass or other habitats and that have no organized structural axis relative to the contours of the shore or shelf edge. A surrounding halo of sand is often a distinguishing feature of this habitat type when it occurs adjacent to submerged vegetation.

- Spur and Groove: Habitat having alternating sand and coral formations that are oriented perpendicular to the shore or bank/shelf escarpment. The coral formations (spurs) of this feature typically have a high vertical relief compared to pavement with sand channels and are separated from each other by 1-5 meters of sand or bare hardbottom (grooves), although the height and width of these elements may vary considerably. This habitat type typically occurs in the fore reef or bank/shelf escarpment zone.

When compared against global positioning system locations of the above monitoring locations, only two monitoring stations are currently located in coral reef ecosystems:

- Monitoring point STT-14 (linear reef) which is in assessment unit VI-STT-08 and
- Monitoring point STJ-57 (also linear reef) which is in assessment unit VI-STJ-13.

Note that the U.S. Virgin Islands uses a similar system to name its monitoring locations and assessment units. The assessment units are distinguished by the addition of "VI" before the name. For instance, STT-14 is a monitoring point while VI-STT-14 is an assessment unit.

Previous assessments have included points STT-12, STC-7 and STT-22A as coral habitat areas. For point STT-12, the latitude and longitude are in an area classified as scattered coral and point STC-7 is in an area classified as colonized pavement. For this assessment, points STT-12, STC-7 and STT-22A are not located in coral reef ecosystems. For point STC-22A, there is a discrepancy. The U.S. Virgin Islands lists the latitude and longitude for the point as 17.67865, -64.7728 (which does intersect with patch reef).

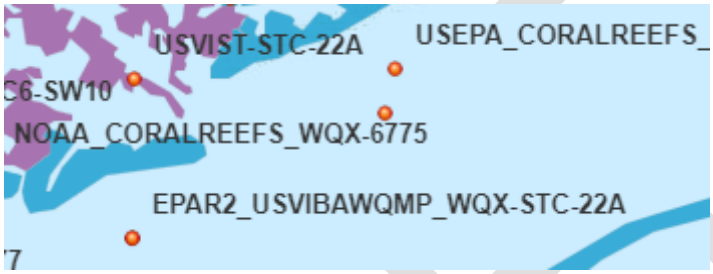

Figure 3: Location of Monitoring Station STC-22A

See Figure 3, point labeled USVIST-STC-22A. The label for the point is above and to the right of the orange point that represents the latitude and longitude. In Figure 3, patch reef is represented by purple. The latitude and longitude for point STC-22A from the water quality portal, labeled as EPAR2_USVIBADPNRP_water quality standards-STC-22A, is 17.67218, -64.77294. Point EPAR2_USVIBADPNRP_water quality standards-STC-22A does not intersect with a reef. It is possible that the point was moved so as not to disturb the coral when using the monitoring equipment in the field.

Application of Natural Conditions (turbidity exemption): Table 8 lists the Class B waters, based on §186-11, that are not covered by the Class B turbidity and color criteria.

Table 8: Application of Turbidity Exemption

Location	Associated Sampling Point(s)	Assessment Unit(s)
Benner Bay	None	VI-STT-33
Benner Bay Lagoon Marina	STT-27D, STT-27E	VI-STT-34
Buccaneer Beach	STC-3	VI-STC-31
Carlton Beach	None	VI-STC-76
Enfield Green Beach/VIRIL Outfall	None	VI-STC-74
Good Hope Beach	STC-26	VI-STC-79
Mandahl Bay (Marina)	STT-16B	VI-STT-13
Mangrove Lagoon	STT-27A, STT-27B, STT-27C	VI-STT-35
Manning Bay/Estate Anguilla Beach	STC-23	VI-STC-64
Salt River Bay	STC-33A, STC-33B, STX-17, STX-18	VI-STC-18

Location	Associated Sampling Point(s)	Assessment Unit(s)
Salt River Lagoon, Marina	STC-33	VI-STC-16
Southgate subwatershed, offshore	None	VI-STC-37
Tamarind Reef Lagoon (Southgate Lagoon)	STC-5	VI-STC-35
Vessup Bay	STT-22B	VI-STT-23
Water Bay	STT-19, STT-28	VI-STT-18

Evaluation of External Data: The DPNR published a data solicitation notice in *The Virgin Island Daily* News on September 20, 2019. The DPNR considers data received during its data solicitation period for the submission of the draft 303(d) list. All data received is reviewed for credibility and if determined to be of high quality and of great significance it may be added as an appendix. Other data sources refer to any data that was collected outside of the U.S. Virgin Islands DPNR.

When data from other sources is received, the quality assurance project plan, often referred to as a QAPP, and data is evaluated to determine if the DPNR's data quality objectives are met. If the data is determined to be acceptable then the data is used in the reporting cycle's assessments. A rationale for any decision to not use any existing and readily available data and information is included in the integrated report.

The Water Quality Portal is a cooperative service sponsored by the U.S. Geological Survey, the U.S. Environmental Protection Agency and the National Water Quality Monitoring Council that integrates publicly available water quality data from the USGS National Water Information System, the EPA STORET Data Warehouse, and the USDA Sustaining the Earth's Watersheds - Agricultural Research Database System. The data can be accessed at: https://www.waterqualitydata.us/portal/. For this cycle, the water quality portal did not include any additional data beyond the data produced by the EPA and the DPNR.

5. Assessment Methodology

The U.S. Virgin Islands water quality standards set limits for various criteria. All readily available data that meet quality assurance/quality control requirements is compared to the limits set by the U.S. Virgin Islands water quality standards to determine which waterbodies exceed these limits. A summary of the water quality and assessment criteria for each parameter is provided in Table 9.

Table 9: Water Quality and Assessment Criteria

Parameter	Source Data Type	Assessment Method
Enterococcus	Ambient	The 30-day geometric mean for enterococcus shall not exceed 30 colony-forming units/100 mL and no more than 10 percent of the samples collected in the same 30 days shall exceed 110 colony-forming units/100 mL.
	Beach	

Parameter	Source Data Type	Assessment Method
Turbidity	Ambient	A maximum nephelometric turbidity unit reading of three (3) shall be permissible, and secchi disk reading of minimum of 1 meter.
	Beach	
Clarity	Ambient	***For areas where coral reef ecosystems are located**, a maximum nephelometric turbidity unit reading of one (1) shall be permissible, and secchi disk reading of minimum of 1 meter.
	Beach	
Total Phosphorus	Ambient	Shall not exceed 50 µg/l
Total Nitrogen	Ambient	Shall not exceed 207 µg/l in more than 10 percent of samples
pH	Ambient	Class A, B: Range shall not be outside 7.0 to 8.3 standard units Class C: Range shall not be outside 6.7 to 8.5 standard units
Dissolved Oxygen	Ambient	Class A, B: Shall be no less than 5.5 mg/L Class C: Shall be no less than 5.0 mg/L
Temperature	Ambient	Shall not exceed 32 degrees Celsius at any time, nor as a result of waste discharge to be greater than 1.0°C above natural conditions
		***For areas where coral reef ecosystems are located**, shall not exceed 25-29°C at any time, nor as a result of waste discharge to be greater than 1.0°C above natural.

*Areas that contain coral reef ecosystems are determined based on Benthic Habitat Mapping in Puerto Rico and the U.S. Virgin Islands (NCCOS, 2002)

Data Gaps and Error Control

Data gaps are not limited to existing data sets, but it can also refer to the lack of certain types of data. The U.S. Virgin Islands will make every effort to control errors that may have been reported in the data. Data determined to be erroneous or flawed based on the program's data quality objectives established in the coastal water quality monitoring (ambient) and beach water quality monitoring programs quality assurance project plans is discarded.

Table 10 lists potential data gaps that the DPNR intends to work on in the future. The DPNR plans on developing a data document in collaboration with EPA Region 2 to resolve identified data issues. Any data gaps that are identified will be included in the multi-year monitoring strategy for resolution.

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Table 10: Potential Data Gaps

Future Assessment Methodologies to be Included
Toxicity and toxicant data
Wetland assessment data
Intermittent streams data
"Natural" levels relative to the dissolved oxygen and temperature standards
Narrative criteria, as listed in Section 186-1(c) of the Virgin Islands water quality standards
Radioactivity data

Natural Disasters: Hurricane season in the U.S. Virgin Islands lasts from June through November each year. During natural disasters, sampling activities are suspended. The following storm events occurred in the 2017 to 2019 assessment cycle:

- On August 28, 2019, Hurricane Dorian intensified into a Category 1 hurricane as it approached St. Thomas in the U.S. Virgin Islands. At 18:00 UTC that day, Hurricane Dorian made landfall on St Thomas Island with hurricane-force winds recorded at Category 1 intensity.
- On September 24th, 2019, Tropical Storm Karen passed just west of St. Croix. Tropical Storm Karen hit St. John and St. Thomas with 45mph winds while moving north. U.S. Virgin Islands Gov. Albert Bryan Jr. said the storm caused mudslides in the territory in Bordeaux and on St. John around Centerline Road.

Quality Assurance/Quality Control: The DPNR evaluates all internal monitoring data to determine if the Data Quality Objectives outlined in the U.S. Virgin Islands Ambient Water Quality Monitoring Program Quality Assurance Project Plan are met (i.e. compliance with the relative percent difference of 30 or less). Once the data is determined to meet the required objectives, the data is used to conduct the assessments for the reporting cycle. The elements evaluated are as follows:

Precision and accuracy: The precision and accuracy of data is determined by actions of the analytical laboratory and field staff, which are outlined in the program's respective standard operating procedures and quality assurance project plans.

Representativeness: The representativeness of the data is mainly dependent on the sampling locations and the sampling procedures adequately representing the true condition of the sample site. Sampling station locations and the use of only approved/documented analytical methods determine that the measurement data represents the conditions at the site. Where possible and applicable, sampling schedules are designed with respect to frequency, locations, and methodology to maximize representativeness.

Laboratory representativeness is achieved by following analytical procedure and standard operating procedures, meeting holding times, and assessment and comparison of field duplicate samples. Results reported below the detection limit are calculated using the detection limit. For enterococcus, to calculate geometric means, a value of one is substituted for values of zero.

Comparability: The comparability of data produced by and for the DPNR is predetermined by the commitment of its staff and analytical laboratories to use standardized methods, where possible,

including EPA approved analytical methods, or documented modifications thereof which provide equal or better results. These methods have specified units in which the results are to be reported.

Completeness: The completeness of data is a relationship of how much of the data is available for use compared to the total potential data before any conclusion is reached. Ideally, 100% of the data should be available. However, the possibility of data becoming unavailable due to laboratory error, insufficient sample volume, or samples broken in shipping must be expected. Also, unexpected situations may arise where field conditions do not allow for 100% data completeness. Failure to achieve 100% data completeness usually will result from the field crew's inability to sample at stations because of logistical barriers, such as insufficient depth or adverse weather conditions. In the limited number of instances where these may be encountered, efforts will be made to relocate the station in an adjacent area or re-sample the station. In addition, established protocols for tracking samples during shipment and laboratory processing must be followed to minimize data loss following successful sample collection. The DPNR has various completeness goals: 100% for data collection and data usage, which directly correlates to a 100% goal for data used to make assessments. However, if less than 16 data points over four years are collected for a specific assessment unit, then the DPNR will not be able to de-list those assessment units eligible for delisting.

It is the responsibility of the program manager to verify that the data is representative and complete. The laboratory supervisor is responsible for ensuring the data's precision, accuracy, and comparability.

Listing Rules:

Minimum Number of Samples: Unless described differently for a specific parameter, the minimum data set consists of eight samples in an assessment unit. The DPNR believes that two years of data collected quarterly by the Coastal Water Quality Monitoring Program and the data collected during the weekly Beach Water Quality Monitoring Program are adequate and represents the minimum dataset necessary for an adequate assessment. Where there is more than one point in an assessment unit, the data is assessed together. Multiple samples from the same day are not averaged, since most of the water quality standards are "not to exceed" standards. These recommendations are intended to ensure that existing water quality conditions are accurately portrayed by the data and that the results do not reflect transitional conditions. The DPNR will consider a data set which does not meet this minimum requirement on a case-by-case basis to determine if the data adequately characterizes the water quality conditions. Summer-only sampling for nutrients, pathogenic quality, and temperature may be acceptable since summer generally represents the critical condition for these parameters. ***If the DPNR determines that the data set adequately represents water quality conditions and there are at least two exceedances of the surface water quality standards, this limited data set is used to determine that a use is not attained.***

Listing Removal: If a water quality standard is no longer applicable, the DPNR can delist a waterbody only for the parameter(s) affected. This stipulation is intended to include instances where a parameter is removed from the Virgin Islands water quality standards. While it is not anticipated that this circumstance is frequent or numerous, this provision is considered necessary to ensure that no parameter will stay on the 303(d) list of impaired waterbodies in perpetuity, without the opportunity for de-listing. Any such changes that result in a de-listing due to this stipulation will meet Antidegradation Implementation Procedures detailed in the Virgin Islands water quality standards.

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Designated Use Attainment

The U.S. Virgin Islands water quality standards identify specific designated uses for the waters of the territory according to its waterbody classifications. Designated uses include:

- maintenance and propagation of desirable species of aquatic life (including threatened, endangered species listed pursuant to section 4 of the federal Endangered Species Act and threatened, endangered and indigenous species listed pursuant Title 12, Chapter 2 of the Virgin Islands Code)

- primary contact recreation (swimming, water skiing, etc.).

The DPNR uses both numeric and narrative criteria to protect designated uses. Numeric criteria are estimates of constituent concentrations that are protective of the designated uses. Narrative criteria are non-numeric descriptions of conditions to be attained/maintained or avoided.

Waterbody delineations, or assessment units, used for determining use support are derived from geographic information system coverages. Use attainability for each assessment unit is determined using the most current version of the U.S. Virgin Islands water quality standards. The current standards were promulgated on August 20, 2020.

As part of the assessment process, each assessment is rated as being supporting, not supporting or insufficient information (usually the result of a data gap). Assessment units that are placed into category 5 must have a total maximum daily load, known as TMDL, established and the assessment unit is placed on the 2022 303(d) List. See section 4.4 for a full description of all categories.

Those assessment units determined to have insufficient information are placed into Category 3, under one of the four subcategories detailed in Section 4.4 below. The assessment unit is placed it this category if insufficient or no data is available to determine if water quality standards are attained and any designated use is supported. **The Virgin Islands considers insufficient data as anything less than eight points of monitoring data.** Waters with less than eight points of monitoring data may be reviewed on a case-by-case basis if the limited data strongly suggests that water quality standards are exceeded, and the designated uses are impaired. Such waters may be eligible for inclusion on the 303(d) list.

In order to assess an assessment unit, data must be available for at least one applicable parameter associated with the attainment of the given designated use. Impairment of any single indicator will result in the waterbody being listed as impaired (for that parameter), even if the other indicators do not exceed the standards.

The coastal waters of the U.S. Virgin Islands are evaluated for the following uses: primary contact recreation and aquatic life use. All existing and readily available data and information from the water quality portal is assembled and used in the assessment. Currently the fresh waters of the U.S. Virgin Islands are not monitored, so no assessment is done at this time for these water classes. Table 11 lists the designated use associated with each parameter that is assessed.

Table 11: Parameters Considered When Assessing Designated Use

Designated Use	Minimum Parameters Used for Assessments	Source Data Type
Primary Contact Recreation	Enterococcus	Ambient, Beach
Maintenance and propagation of desirable species of aquatic life	Clarity/Transparency	Ambient
	Dissolved Oxygen	Ambient
	pH	Ambient
	Phosphorus	Ambient
	Nitrogen	Ambient
	Temperature	Ambient
	Turbidity	Ambient

Conventional Parameters Assessment

Conventional parameters are evaluated using the number of exceedances of water quality standards. A waterbody is determined to be impaired if there is an exceedance of a specific parameter two (2) or more times within the chosen dataset.

The conventional parameters are:

- Dissolved Oxygen (not less than 5.5 mg/l from other than natural conditions in Class A & B, not less than 5.0 mg/l from other than natural conditions in Class C) *;
- Temperature (not to exceed 32°C at any time, nor as a result of waste discharge to be greater than 1.0°C above natural conditions; **in areas where coral reef ecosystems are located****, not to exceed 25-29°C at any time, nor as a result of waste discharge to be greater than 1.0°C above natural conditions) *;
- Turbidity (All Classes: shall not exceed 3 nephelometric turbidity unit and secchi disk reading of minimum of 1 meter; **In areas where coral reef ecosystems are located**:** shall not exceed 1 nephelometric turbidity unit and secchi disk reading of minimum of 1 meter); and
- pH (Class A, B: Range shall not be outside 7.0 to 8.3 standard units; Class C: Range shall not be outside 6.7 to 8.5 standard units)
- Total Phosphorus (All Classes: shall not exceed 50 µg/L in marine and coastal waters).
- Total Nitrogen (All classes: shall not exceed 207 µg/L in more than 10 percent of samples).

*The term "natural condition" for dissolved oxygen and temperature will be addressed through work in collaboration with the EPA for Class B and C waters during a future triennial review of the water quality standards. During that process, the DPNR will outline how it will define reference sites and establish

reference conditions. Once developed, the criteria will be incorporated into this assessment methodology.

**Areas that contain coral reef ecosystems are determined based on Benthic Habitat Mapping in Puerto Rico and the U.S. Virgin Islands (NCCOS, 2002).

Fecal indicator bacteria can be enumerated using various analytical methods including those in which the organisms are grown (cultured) and those in which their deoxyribonucleic acid is extracted from an environmental sample, amplified, and quantified using quantitative polymerase chain reaction (U.S. EPA, Office of Water, 2012). These different enumeration methods result in method-specific units and values. One culture-based method, membrane filtration, results in the number of colonies that arise from bacteria captured on the membrane filter per volume of water filtered. One colony can be produced from one or several cells (clumped cells in the environmental sample). Another culture-based method, the defined substrate method, produces a most probable number per volume. Most probable number analyses estimate the number of organisms in a sample using statistical probability tables, hence the term "most probable number." Bacterial densities most probable number are based on the combination of positive and negative test tube results that can be read from a most probable number table (U.S. EPA, 1978). Culture-based approaches for the enumeration of fecal indicator bacteria, such as most probable number and membrane filtration, generate results following the culturing of a particular microbe for 18–24 hours, and in the case of most probable number do not result in a direct count or concentration density of the bacteria being enumerated but rather rely on probabilities.

For making water quality attainment determinations, a state or territory that adopts water quality standards consistent with the 2012 recreational water quality criteria would evaluate all readily available data and information to determine whether a waterbody meets the water quality standard (i.e., whether the waterbody is in attainment). Both the geometric mean and the statistical threshold value would be part of the water quality standard and therefore both targets would be used to determine whether a waterbody meets the water quality standard for primary contact recreation. The waterbody condition would need to be evaluated based on all existing and readily available data and information for the specified duration. The EPA's regulation defines "all existing and readily available water quality related data and information" at 40 CFR 130.7(b)(5). The EPA expects that water quality attainment determinations would include water quality monitoring data collected as part of a beach notification program, as well as information regarding beach closures and advisories.

The conditions for use support for the conventional parameters are as follows:

1. Fully Supporting: For any one pollutant or stressor, criteria exceeded in none of the measurements.

2. Not Supporting: For any one pollutant, criteria exceeded in any of the measurements two or more times within the chosen dataset.

Toxicant Assessment (Aquatic Life) (Human Heath)/Toxicity Assessment

The applicable numeric water quality standards for toxic pollutants to protect the designated uses of waters of the U.S. Virgin Islands shall be the EPA's national recommended Clean Water Act section 304(a) water quality criteria. Those parameters can be found at www.epa.gov/wqc.

The conditions for use support are as follows:

1. Fully Supporting: No toxicants or toxicity noted in either acute or chronic tests compared to controls or reference conditions.

2. Partially Supporting: No toxicants or toxicity noted in acute tests but may be present in chronic tests in either slight amounts and/or infrequently within an annual cycle.

3. Not Supporting: Toxicants or toxicity noted in many tests and occurs frequently.

Currently, the DPNR does not collect any toxicity data, and none was received during the data solicitation period. Therefore, no assessments were made based on toxicants or toxicity during this reporting period. The DPNR will continue to review its criteria for these assessments and will work to improve upon the current criteria to ensure they are relevant to the assessment of human health. Additionally, as the DPNR works to expand the Virgin Islands water quality standards this section will continue to be amended.

Habitat Assessment

Determination of aquatic life use support will consider habitat assessment data (based on availability) in relation to propagation of desired species of marine life and the biological integrity of the benthic communities living within waters. These communities shall be assessed by comparison to reference conditions(s) with similar abiotic and biotic environmental settings that represent the optimal or least disturbed condition for that system. Such reference conditions shall be those observed to support the greatest community diversity, and abundance of aquatic life as is expected to be or has been historically found in natural settings essentially undisturbed or minimally disturbed by human impacts, development, or discharges.

Habitat assessment data is considered as follows:

1. Fully Supporting: Reliable data indicate natural channel morphology, substrate composition, bank/riparian structure, and flow regime of region. Riparian vegetation of natural types and of relatively full standing crop biomass (i.e., minimal grazing or disruptive pressure).

2. Partially Supporting: Modification of habitat slight to moderate usually due to road crossings, limited riparian zones because of encroaching land use patterns, and some watershed erosion. Channel modification slight to moderate.

3. Not Supporting: Moderate to severe habitat alteration by channelization and dredging activities, removal of riparian vegetation, bank failure, heavy watershed erosion or alteration of flow regime and inclusion of exotic or aquatic nuisance species

The DPNR received no habitat assessment data for the 2018-2019 reporting cycle. As the DPNR continues its ongoing efforts to improve the U.S. Virgin Islands water quality standards, criteria will be set for reference conditions/sites which will assist in completing habitat assessments for various waterbody classes.

Biological Assessment

When available, the DPNR may use data collected/received from biological monitoring projects. Upon identifying a source of data to apply towards a biological assessment, the conditions for use support, which will be evaluated in accordance with the narrative biocriteria outlined in the Virgin Islands water quality standards, as follows:

1. Fully Supporting: Reliable data indicate functioning, sustainable biological assemblages (e.g., fish, macroinvertebrates, or algae) none of which has been modified significantly beyond the natural range of the reference condition.

2. Partially Supporting: At least one assemblage (e.g., fish, macroinvertebrates, or algae) indicates moderate modification of the biological community compared to the reference condition.

3. Not Supporting: At least one assemblage indicates nonsupport. Data clearly indicates severe modification of the biological community compared to the reference condition.

The DPNR received no biological data for the 2017-2019 reporting cycle.

Primary Contact Recreation

Microbiological Assessment: The use support is based on a review of quarterly ambient and weekly beach data for both the statistical threshold value as well as the geometric mean of enterococcus bacteria, beach closing data and reported oil spills. Allowable limits are the same for all classes of waters: a geometric mean of 30 colony-forming unit per 100 mL, or a statistical threshold value exceedance of 110 colony-forming unit/100 mL in more than 10 percent of the samples collected in the same 30 days. The percent of total violations is evaluated as follows:

1. Fully Supporting: None of the samples exceed a geometric mean of 30 colony-forming unit/100 ml in all class waters and no exceedance of 110 colony-forming unit/100 mL in more than 10 percent of the samples collected in the same 30 days.

2. Not supporting: Any of the samples exceed a geometric mean of 30 colony-forming unit/100 ml in any class waters and exceedance of 110 colony-forming unit/100 mL in more than 10 percent of the samples collected in the same 30 days.

<u>Beach Closing Assessment</u>: In addition to pathogens, beach-closing data will be used to determine primary contact recreation use support. The matrix of allowable violations is as follows:

1. Supporting: No bathing area closures or restrictions in effect during reporting period.

2. Not Supporting: On average, one bathing area closure per year of greater than 1 week's duration, or more than one bathing area closure per year.

* Closure as stated above refers to the Virgin Islands Department of Health or Virgin Islands Waste Management Authority closing beaches due to immediate health risks or threats. While restrictions refer to advisories which may recommend that the public avoid certain areas/beaches.

The Department of Planning and Natural Resources only issues administrative advisories and cannot restrict beach access. Beach closures would only be enforced by government enforcement officials for very serious threats to human health; these closures can only be implemented by the Virgin Islands Department of Health or the Virgin Islands Waste Management Authority. These serious threats are usually related to bypasses or overflows of the municipal sewer system, which may result in raw sewage flowing onto beaches and into the nearshore/bathing areas.

The DPNR has implemented a Beaches Environmental Assessment and Coastal Health (BEACH) Monitoring Program that takes samples for Enterococcus at select sites on a weekly basis. This data will be used in conjunction with data collected from the Ambient Monitoring Program. Beaches which are listed as not suitable for fishing or swimming in the weekly Beach Program have had samples collected which exceed the standard within that monitoring week. Those beaches that are re-sampled according to the BEACH QAPP and exceed the standard twice within that monitoring week shall be listed as well.

Other Parameters

Throughout the course of collecting data for this report, data that do not fit within the auspices of the other assessment categories of primary contact recreation or aquatic life use (e.g., aesthetics, algae, odor, etc.) will be considered under other parameters. The following guidelines apply where appropriate:

1. Fully Supporting: For any one pollutant or stressor, criteria exceeded in none of the measurements.

2. Not Supporting: For any one pollutant, criteria exceeded in any of measurements.

The DPNR intends to continue to work towards developing expanded criteria for making assessments within this category. There were no assessments made for this category during this reporting cycle.

Listing Categories

Category 1

The assessment unit is placed in this category if it meets the water quality standards for the parameters that define support for both primary contact recreation & aquatic life use.

Category 2
The assessment unit is placed in this category if it attains water quality standards for the parameters that define support for either primary contact recreation or aquatic life use but not all uses have sufficient data to determine if the designated use is supported. For instance, if there is sufficient data to determine that an assessment unit fully supports the primary contact recreation use based on enterococcus, but there is not sufficient data to determine whether the aquatic life use is met based on data for clarity, dissolved oxygen, pH, phosphorus, temperature and turbidity, the assessment unit is placed in category 2.

Category 3
The assessment unit is placed under the appropriate subcategory (3A, 3B, 3C, 3D) if insufficient or no data is available to determine if water quality standards are attained and any designated use is supported. *Note: The Virgin Islands considers insufficient data as anything less than eight points of*

monitoring data. Waters with less than eight points of monitoring data may be reviewed on a case-by-case basis if the limited data strongly suggests that water quality standards are exceeded, and the designated uses are impaired. Such waters may be eligible for inclusion on the 303(d) List.

This category includes assessment units where:

- No data is available from any of the identified data sources for the assessment unit in question.
- Insufficient data is available from any of the identified data sources for the assessment unit in question. Insufficient data is defined as less than eight points of monitoring data. This category differs from Category 2 in that this condition must apply to all designated uses.
- Inconclusive data are available from any of the identified data sources for the assessment unit in question. This might include information from studies that do not directly provide information related to water quality standards.
- Unreliable or low-quality data is available from any of the identified data sources for the assessment unit in question. Unreliable or low-quality data is defined as data sets that have significant gaps, obvious anomalies, etc.

Category 4
Assessment units that are found to be partially or not supporting for one or both designated uses are place in category 4 under the appropriate subcategory (4A, 4B, 4C), but does not require the development of a TMDL. This category contains three distinct subcategories:

Category 4A
The assessment unit is placed in this category if it was previously listed on the 303(d) list and a TMDL has been established and approved by EPA.

Category 4B
The assessment unit is placed into this category only if other pollution control requirements are expected to address all water-pollutant combinations and attain all water quality standards within a reasonable period. The Virgin Islands considers a reasonable period as being the time between reporting cycles. If the impairment is the result of a point source discharge, it is expected that the Territorial Pollution Discharge Elimination System program will take appropriate measures to control point source pollution. If the impairment is the result of nonpoint source pollution, the DPNR will provide evidence that a pollution control measure is in place.

Category 4C
The assessment unit is placed into this category if the impairment was not caused by a pollutant, but instead is caused by pollution. Assessment Units placed in Category 4C do not require the development of a TMDL. Pollution, as defined by the CWA is “the man-made or man-induced alteration of the chemical, physical, biological, and radiological integrity of water” (section 502(19)). In some cases, the pollution is caused by the presence of a pollutant and a TMDL is required. In other cases, pollution does not result from a pollutant and a TMDL is not required. These assessment units should be scheduled for monitoring to confirm that there continues to be

no pollutant associated with the failure to meet the water quality standard and to support water quality management actions necessary to address the cause(s) of the impairment

Category 5
The assessment unit is placed into this category if water quality standards are exceeded and a TMDL must be established. Assessment units that are placed into Category 5 are placed on the 2022 303(d) List.

De-listing
Using the abovementioned data restrictions and drawing from the dataset detailed in Section 3.1.1 above, the DPNR shall determine if any Assessment Units can be de-listed for the 2017-2019 reporting cycle.

6. Assessment Results

A summary of the assessment results for each of the U.S. Virgin Islands' 177 assessment units is listed in Table 12. Assessment units that have total maximum daily loads established are included as a separate entry where there are additional impairments.

Table 12: Summary of Assessment Results

AU ID	AU Name	Class	305(b) Category	Category	Impairment
VI-STC-01	Frederiksted, south	B	Insufficient Information	3	
VI-STC-02	Frederiksted Harbor	C	Not Supporting	5	Enterococcus, pH, Nitrogen
VI-STC-03	Lagrange subwatershed, offshore	B	Insufficient Information	3	
VI-STC-04	Prosperity, nearshore	B	Not Supporting	5	Enterococcus, Turbidity
VI-STC-05	Prosperity subwatershed, offshore	B	Insufficient Information	3	
VI-STC-06	Sprat Hall Beach	B	Not Supporting	5	pH, Nitrogen
VI-STC-07	Creque Dam/Butler Bay	B	Insufficient Information	3	
VI-STC-08	Hams Bay	B	Insufficient Information	3	
VI-STC-09	Davis Bay	B	Insufficient Information	3	
VI-STC-10	Hams Bluff	B	Insufficient Information	3	
VI-STC-11	Northwest St. Croix HUC14, offshore	B	Insufficient Information	3	

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AU ID	AU Name	Class	305(b) Category	Category	Impairment
VI-STC-12	Cane Bay	B	Not Supporting	5	Dissolved Oxygen, Enterococcus, pH, Phosphorus, Turbidity, Nitrogen
VI-STC-13	Baron Bluff subwatershed	B	Not Supporting	5	Dissolved Oxygen, pH, Nitrogen
VI-STC-14	Belvedere	B	Insufficient Information	3	
VI-STC-15	Northside subwatershed	B	Insufficient Information	3	
VI-STC-16	Salt River Lagoon, Marina	B	Not Supporting	5	Enterococcus, Transparency / Clarity, Nitrogen
VI-STC-16	Salt River Lagoon, Marina	B	TMDL Established	4A	Dissolved Oxygen
VI-STC-17	Salt River Lagoon, Sugar Bay	B	TMDL Established	4A	Dissolved Oxygen
VI-STC-18	Salt River Bay	B	Not Supporting	5	Enterococcus, pH, Turbidity, Nitrogen
VI-STC-18	Salt River Bay	B	TMDL Established	4A	Dissolved Oxygen
VI-STC-19	Judith Fancy	B	Insufficient Information	3	
VI-STC-20	Salt River Bay subwatershed, west	B	Insufficient Information	3	
VI-STC-21	Salt River Bay subwatershed, east	B	Insufficient Information	3	
VI-STC-22	Northcentral St. Croix HUC14, offshore	B	Insufficient Information	3	
VI-STC-23	St. Croix-By-the-Sea	B	Not Supporting	5	Enterococcus, pH, Nitrogen
VI-STC-23	St. Croix-By-the-Sea	B	TMDL Established	4A	Dissolved Oxygen
VI-STC-24	Long Reef Backreef, west	C	Not Supporting	5	Nitrogen
VI-STC-24	Long Reef Backreef, west	C	TMDL Established	4A	Dissolved Oxygen
VI-STC-25	Princess subwatershed, offshore	B	Not Supporting	5	pH, Nitrogen
VI-STC-25	Princess subwatershed, offshore	B	TMDL Established	4A	Dissolved Oxygen

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AU ID	AU Name	Class	305(b) Category	Category	Impairment
VI-STC-26	Christiansted Harbor	C	Not Supporting	5	pH, Turbidity, Nitrogen
VI-STC-26	Christiansted Harbor	C	TMDL Established	4A	Dissolved Oxygen, Enterococcus, Phosphorus
VI-STC-27	Long Reef Forereef, east	B	Not Supporting	5	pH, Nitrogen
VI-STC-27	Long Reef Forereef, east	B	TMDL Established	4A	Dissolved Oxygen
VI-STC-28	Altona Lagoon	B	Insufficient Information	3	
VI-STC-29	Christiansted Harbor, east	C	Not Supporting	5	Enterococcus, pH, Turbidity, Nitrogen
VI-STC-30	Beauregard Bay	B	Not Supporting	5	Enterococcus, pH, Phosphorus, Turbidity, Nitrogen
VI-STC-31	Buccaneer Beach	B	Not Supporting	5	Enterococcus, pH, Nitrogen
VI-STC-32	Altona Lagoon subwatershed, offshore	B	Insufficient Information	3	
VI-STC-33	Punnett Bay	B	Not Supporting	5	Enterococcus, Turbidity
VI-STC-34	Punnett Point, east	B	Not Supporting	5	Dissolved Oxygen, Enterococcus, pH, Nitrogen
VI-STC-35	Tamarind Reef Lagoon (Southgate Lagoon)	B	Not Supporting	5	Dissolved Oxygen, Enterococcus, Transparency / Clarity, Nitrogen
VI-STC-36	Green Cay Beach	B	Not Supporting	5	Enterococcus, Turbidity
VI-STC-37	Southgate subwatershed, offshore	B	Not Supporting	5	Dissolved Oxygen, Enterococcus, Turbidity
VI-STC-38	Solitude Backreef	B	Insufficient Information	3	
VI-STC-39	Teague Bay	B	Not Supporting	5	pH, Nitrogen
VI-STC-40	Teague Bay Backreef	B	Not Supporting	5	Dissolved Oxygen, pH, Nitrogen
VI-STC-41	Buck Island Backreef	A	Not Supporting	5	pH, Nitrogen

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AU ID	AU Name	Class	305(b) Category	Category	Impairment
VI-STC-42	Buck Island Forereef	A	Insufficient Information	3	
VI-STC-43	Solitude and Teague Bay subwatersheds, offshore	B	Insufficient Information	3	
VI-STC-44	Northeast St. Croix HUC14, offshore.	B	Insufficient Information	3	
VI-STC-45	Isaac Bay	B	Insufficient Information	3	
VI-STC-46	Grapetree Bay	B	Not Supporting	5	pH, Nitrogen
VI-STC-47	Turner Hole Backreef	B	Not Supporting	5	Dissolved Oxygen, Enterococcus, pH, Nitrogen
VI-STC-48	Turner Hole subwatershed, offshore	B	Insufficient Information	3	
VI-STC-49	Madam Carty Backreef	B	Not Supporting	5	pH, Nitrogen
VI-STC-50	Madam Carty, offshore	B	Insufficient Information	3	
VI-STC-51	Great Pond	B	Insufficient Information	3	
VI-STC-52	Great Pond Bay	B	Not Supporting	5	Nitrogen
VI-STC-53	Great Pond Bay subwatershed, offshore	B	Insufficient Information	3	
VI-STC-54	Leprey Valley Backreef	B	Insufficient Information	3	
VI-STC-55	Leprey Valley subwatershed, offshore	B	Insufficient Information	3	
VI-STC-56	Bugby Hole Backreef	B	Not Supporting	5	Enterococcus, pH, Turbidity, Nitrogen
VI-STC-57	Bugby Hole subwatershed, offshore	B	Insufficient Information	3	
VI-STC-58	Southeast St. Croix HUC14, offshore	B	Insufficient Information	3	
VI-STC-59	Canegarden Bay	B	Not Supporting	5	Dissolved Oxygen, pH, Turbidity, Nitrogen
VI-STC-60	Canegarden Bay, offshore	B	Insufficient Information	3	
VI-STC-61	Hess Oil Virgin Islands Harbor	C	Not Supporting	5	pH, Turbidity, Nitrogen

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AU ID	AU Name	Class	305(b) Category	Category	Impairment
VI-STC-62	Limetree Bay	B	Not Supporting	5	Dissolved Oxygen, pH, Nitrogen
VI-STC-63	Martin-Marietta Alumina Harbor	C	Not Supporting	5	Dissolved Oxygen, pH, Turbidity, Nitrogen
VI-STC-64	Manning Bay/Estate Anguilla Beach	B	Not Supporting	5	Dissolved Oxygen, pH, Nitrogen
VI-STC-65	Hovensa, west	B	Not Supporting	5	Dissolved Oxygen, pH, Nitrogen
VI-STC-66	Hovensa subwatershed, offshore	B	Not Supporting	5	pH, Nitrogen
VI-STC-67	Southports St. Croix HUC14, offshore	B	Insufficient Information	3	
VI-STC-68	Bethlehem subwatershed, inshore	B	Insufficient Information	3	
VI-STC-69	Bethlehem subwatershed, offshore	B	Insufficient Information	3	
VI-STC-70	Airport, nearshore	B	Insufficient Information	3	
VI-STC-71	Airport, offshore	B	Insufficient Information	3	
VI-STC-72	Airport St. Croix HUC14, offshore	B	Insufficient Information	3	
VI-STC-73	Diamond, nearshore	B	Insufficient Information	3	
VI-STC-74	Enfield Green Beach/VIRIL Outfall	B	Insufficient Information	3	
VI-STC-75	Diamond subwatershed, offshore	B	Not Supporting	5	Chronic Toxicity, Dissolved Oxygen, Enterococcus, pH, Turbidity, Nitrogen
VI-STC-76	Carlton Beach	B	Insufficient Information	3	
VI-STC-77	Long Point Bay	B	Not Supporting	5	pH, Transparency / Clarity, Turbidity, Nitrogen
VI-STC-78	Long Point Bay subwatershed, offshore	B	Insufficient Information	3	
VI-STC-79	Good Hope Beach	B	Not Supporting	5	pH, Transparency / Clarity, Nitrogen

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AU ID	AU Name	Class	305(b) Category	Category	Impairment
VI-STC-80	Sandy Point, nearshore south	B	Insufficient Information	3	
VI-STC-81	Sandy Point, offshore south	B	Insufficient Information	3	
VI-STC-82	Sandy Point, nearshore west	B	Not Supporting	5	pH, Turbidity, Nitrogen
VI-STC-83	Sandy Point, offshore west	B	Insufficient Information	3	
VI-STC-84	Southwest St. Croix HUC14, offshore	B	Insufficient Information	3	
VI-STJ-01	Caneel Bay	B	Not Supporting	5	Dissolved Oxygen, Turbidity
VI-STJ-02	Hawksnest Bay	B	Not Supporting	5	Enterococcus, Turbidity, Nitrogen
VI-STJ-03	Trunk Bay	A	Not Supporting	5	Enterococcus, Nitrogen
VI-STJ-04	Hawksnest Bay subwatershed, offshore	B	Insufficient Information	3	
VI-STJ-05	Cinnamon Bay	B	Not Supporting	5	Enterococcus, Nitrogen
VI-STJ-06	Maho Bay/Francis Bay	B	Not Supporting	5	Nitrogen
VI-STJ-07	Maho Bay subwatershed, offshore	B	Insufficient Information	3	
VI-STJ-08	Mary Point	B	Insufficient Information	3	
VI-STJ-09	Leinster Bay	B	Insufficient Information	3	
VI-STJ-10	Minnebeck Bay	B	Insufficient Information	3	
VI-STJ-11	Newfound Bay	B	Insufficient Information	3	
VI-STJ-12	North St. John HUC14, offshore	B	Insufficient Information	3	
VI-STJ-13	Round Bay	B	Not Supporting	5	Temperature, Transparency / Clarity, Nitrogen
VI-STJ-14	Hurricane Hole	B	Insufficient Information	3	

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AU ID	AU Name	Class	305(b) Category	Category	Impairment
VI-STJ-15	Coral Harbor	B	Not Supporting	5	Dissolved Oxygen, Enterococcus, Turbidity, Nitrogen
VI-STJ-16	Coral Bay	B	Not Supporting	5	Nitrogen
VI-STJ-17	Salt Pond Bay	B	Not Supporting	5	Nitrogen
VI-STJ-18	Grootman Bay	B	Insufficient Information	3	
VI-STJ-19	Great Lameshur Bay	B	Not Supporting	5	Nitrogen
VI-STJ-20	Southeast St. John HUC14, offshore	B	Insufficient Information	3	
VI-STJ-21	Genti Bay, nearshore	B	Not Supporting	5	Nitrogen
VI-STJ-22	Genti Bay, offshore	B	Insufficient Information	3	
VI-STJ-23	Fish Bay	B	Not Supporting	5	Dissolved Oxygen, pH, Phosphorus, Transparency / Clarity, Turbidity, Nitrogen
VI-STJ-24	Fish Bay subwatershed, offshore	B	Insufficient Information	3	
VI-STJ-25	Rendezvous Bay	B	Not Supporting	5	Nitrogen
VI-STJ-26	Chocolate Hole	B	Not Supprting	5	Nitrogen
VI-STJ-27	Rendezvous Bay subwatershed, offshore	B	Insufficient Information	3	
VI-STJ-28	Great Cruz Bay	B	Not Supporting	5	Enterococcus, Turbidity, Nitrogen
VI-STJ-28	Great Cruz Bay	B	TMDL Established	4A	Oil and Grease
VI-STJ-29	Turner Bay/Enighed Pond	B	Not Supporting	5	Nitrogen
VI-STJ-30	Cruz Bay	B	Not Supporting	5	Dissolved Oxygen, Enterococcus, Turbidity, Nitrogen
VI-STJ-31	Great Cruz Bay watershed, offshore	B	Not Supporting	5	Enterococcus, Turbidity
VI-STJ-32	Southwest St. John HUC14, offshore	B	Not Supporting	5	Turbidity
VI-STJ-33	Pillsbury Sound	B	Insufficient Information	3	
VI-STT-01	Botany Bay	B	Not Supporting	5	Turbidity, Nitrogen

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AU ID	AU Name	Class	305(b) Category	Category	Impairment
VI-STT-02	Stumpy Bay	B	Not Supporting	5	Turbidity, Nitrogen
VI-STT-03	Botany Bay subwatershed, offshore	B	Insufficient Information	3	
VI-STT-04	Santa Maria Bay	B	Not Supporting	5	Turbidity, Nitrogen
VI-STT-05	Caret Bay	B	Not Supporting	5	Turbidity, Nitrogen
VI-STT-06	Neltjeberg Bay	B	Insufficient Information	3	
VI-STT-07	Dorothea	B	Not Supporting	5	Nitrogen
VI-STT-08	Hull Bay	B	Not Supporting	5	Enterococcus, Temperature, Turbidity, Nitrogen
VI-STT-09	Dorothea Bay subwatershed, offshore	B	Insufficient Information	3	
VI-STT-10	Magens Bay	B	Not Supporting	5	Enterococcus, Turbidity, Nitrogen
VI-STT-11	Northwest St. Thomas HUC14, offshore	B	Insufficient Information	3	
VI-STT-12	Lovenlund Bay	B	Insufficient Information	3	
VI-STT-13	Mandahl Bay (Marina)	B	Not Supporting	5	Dissolved Oxygen, Phosphorus, Turbidity, Nitrogen
VI-STT-14	Tutu Bay	B	Insufficient Information	3	
VI-STT-15	Sunsi Bay	B	Not Supporting	5	Nitrogen
VI-STT-16	Spring Bay	B	Not Supporting	5	Nitrogen
VI-STT-17	Mandahl Bay subwatershed, offshore	B	Not Supporting	5	Dissolved Oxygen, Enterococcus, Phosphorus, Turbidity, Nitrogen
VI-STT-18	Water Bay	B	Not Supporting	5	Dissolved Oxygen, Enterococcus, Nitrogen
VI-STT-19	Smith Bay	B	Not Supporting	5	Enterococcus, Nitrogen
VI-STT-20	Smith Bay subwatershed, offshore	B	Insufficient Information	3	
VI-STT-21	St. John Bay	B	Not Supporting	5	Nitrogen

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AU ID	AU Name	Class	305(b) Category	Category	Impairment
VI-STT-22	Red Bay	B	Not Supporting	5	Dissolved Oxygen, Enterococcus, Turbidity, Nitrogen
VI-STT-23	Vessup Bay	B	Not Supporting	5	Enterococcus, Turbidity, Nitrogen
VI-STT-23	Vessup Bay	B	TMDL Established	4A	Dissolved Oxygen, Fecal Coliform
VI-STT-24	Red Hook Bay	B	Not Supporting	5	Nitrogen
VI-STT-24	Red Hook Bay	B	TMDL Established	4A	Dissolved Oxygen, Oil and Grease
VI-STT-25	Great Bay	B	Not Supporting	5	Enterococcus, Nitrogen
VI-STT-26	Red Hook Bay, offshore	B	Insufficient Information	3	
VI-STT-27	St. James Islands, offshore	B	Insufficient Information	3	
VI-STT-28	Cowpet Bay	B	Not Supporting	5	Enterococcus, Nitrogen
VI-STT-29	St. James Bay	B	Insufficient Information	3	
VI-STT-30A	Northeast St. Thomas HUC14, offshore north	B	Insufficient Information	3	
VI-STT-30B	Northeast St. Thomas HUC14, offshore south	B	Insufficient Information	3	
VI-STT-31	Nazareth Bay	B	Not Supporting	5	Enterococcus, Nitrogen
VI-STT-32	Jersey Bay, offshore	B	Not Supporting	5	Nitrogen
VI-STT-33	Benner Bay	B	Not Supporting	5	Nitrogen
VI-STT-33	Benner Bay	B	TMDL Established	4A	Dissolved Oxygen
VI-STT-34	Benner Bay Lagoon Marina	B	Not Supporting	5	Enterococcus, Transparency / Clarity, Turbidity
VI-STT-34	Benner Bay Lagoon Marina	B	TMDL Established	4A	Dissolved Oxygen, Fecal Coliform
VI-STT-35	Mangrove Lagoon	B	Not Supporting	5	Enterococcus, Turbidity, Nitrogen
VI-STT-35	Mangrove Lagoon	B	TMDL Established	4A	Dissolved Oxygen
VI-STT-36	Frenchman Bay subwatershed, east	B	Not Supporting	5	Enterococcus, Phosphorus, Turbidity, Nitrogen

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AU ID	AU Name	Class	305(b) Category	Category	Impairment
VI-STT-37	Frenchman Bay	B	Not Supporting	5	Enterococcus, Turbidity, Nitrogen
VI-STT-38	Limetree Bay	B	Not Supporting	5	Enterococcus, Turbidity, Nitrogen
VI-STT-39	Morningstar Bay	B	Not Supporting	5	Turbidity
VI-STT-39	Morningstar Bay	B	TMDL Established	4A	Dissolved Oxygen, Enterococcus, Fecal Coliform, Nitrogen
VI-STT-40	Pacquereau Bay	B	Not Supporting	5	Nitrogen
VI-STT-40	Pacquereau Bay	B	TMDL Established	4A	Dissolved Oxygen, Fecal Coliform
VI-STT-41	Frenchman Bay subwatershed, offshore	B	TMDL Established	4A	Dissolved Oxygen, Fecal Coliform
VI-STT-42	Southeast St. Thomas HUC14, offshore	B	Insufficient Information	3	
VI-STT-43	St. Thomas Harbor, inner	C	Not Supporting	5	Turbidity, Nitrogen
VI-STT-43	St. Thomas Harbor, inner	C	TMDL Established	4A	Dissolved Oxygen, Enterococcus, Fecal Coliform
VI-STT-44	St. Thomas Harbor, outer	B	TMDL Established	4A	Dissolved Oxygen, Enterococcus, Fecal Coliform
VI-STT-45	Gregerie Channel	B	Not Supporting	5	Turbidity, Nitrogen
VI-STT-45	Gregerie Channel	B	TMDL Established	4A	Dissolved Oxygen, Enterococcus, Fecal Coliform
VI-STT-46	Sprat Bay	B	Not Supporting	5	Turbidity, Nitrogen
VI-STT-46	Sprat Bay	B	TMDL Established	4A	Dissolved Oxygen, Enterococcus, Fecal Coliform
VI-STT-47	Hassel Island at Haulover Cut to Regis Point	C	Not Supporting	5	Turbidity, Nitrogen
VI-STT-47	Hassel Island at Haulover Cut to Regis Point	C	TMDL Established	4A	Dissolved Oxygen, Enterococcus, Fecal Coliform, Oil and Grease
VI-STT-48	Water Isle Hotel, Beach	B	Insufficient Information	3	

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AU ID	AU Name	Class	305(b) Category	Category	Impairment
VI-STT-49	Druif Bay	B	Not Supporting	5	Nitrogen
VI-STT-49	Druif Bay	B	TMDL Established	4A	Dissolved Oxygen, Enterococcus, Fecal Coliform
VI-STT-50	Flamingo	B	Not Supporting	5	Nitrogen
VI-STT-50	Flamingo	B	TMDL Established	4A	Dissolved Oxygen, Enterococcus, Fecal Coliform
VI-STT-51	Krum Bay	C	Not Supporting	5	Turbidity, Nitrogen
VI-STT-51	Krum Bay	C	TMDL Established	4A	Dissolved Oxygen, Enterococcus, Fecal Coliform
VI-STT-52	Lindbergh Bay	B	Not Supporting	5	Enterococcus, Turbidity, Nitrogen
VI-STT-53	Cyril E. King Airport subwatershed, offshore	B	Not Supporting	5	Nitrogen
VI-STT-54	Perseverance Bay, offshore	B	Not Supporting	5	Dissolved Oxygen, Enterococcus, Turbidity, Nitrogen
VI-STT-55	Brewers Bay	B	Not Supporting	5	Enterococcus, Nitrogen
VI-STT-56	Perseverance Bay	B	Not Supporting	5	Nitrogen
VI-STT-57	Fortuna Bay	B	Not Supporting	5	Nitrogen
VI-STT-58	Fortuna Bay subwatershed, offshore	B	Insufficient Information	3	
VI-STT-59	Northwest St. Thomas HUC14, offshore	B	Insufficient Information	3	

The assessment unit/impairment combinations classified under category 5 comprise the U.S. Virgin Islands' 303(d) list. The list is included in this report as Appendix A. Compared to the approved 2018 303(d) list, 141 assessment unit/impairment combinations have been added to the list and 50 assessment unit/impairment combinations have been removed from the list or delisted. Forty-five of the list combination removals were based on data showing the water quality standard was met during the four years between October 2015 and September 2019. For five list combination removals, the combination had been included although there was already an existing approved TMDL. The list of assessment unit/impairment combinations that were removed in comparison to the 2018 303(d) list is included as Appendix B.

Figures 4 and 5 represent the results of the 2022 assessment for St. Croix, St. Thomas, and St. John. For assessment units with TMDLs that also have impairments, the overall category is category 5 (shown in

red).

Under Section 314 of the Clean Water Act, states are required to submit the following information about the status of publicly owned lakes:

- An identification and classification according to eutrophic condition of all lakes.
- A description of procedures, processes, and methods (including land use requirements), to control sources of pollution to lakes.
- A description of methods and procedures to restore the quality of lakes.
- Methods and procedures to mitigate the harmful effects of high acidity.
- A list and description of those publicly owned lakes known to be impaired.
- An assessment of the status and trends of water quality in lakes.

Lakes are standing bodies of open water that contribute surface water flow in a typical year to a territorial sea. ***There are no natural lakes in the U.S. Virgin Islands.*** (USDA, 2000)

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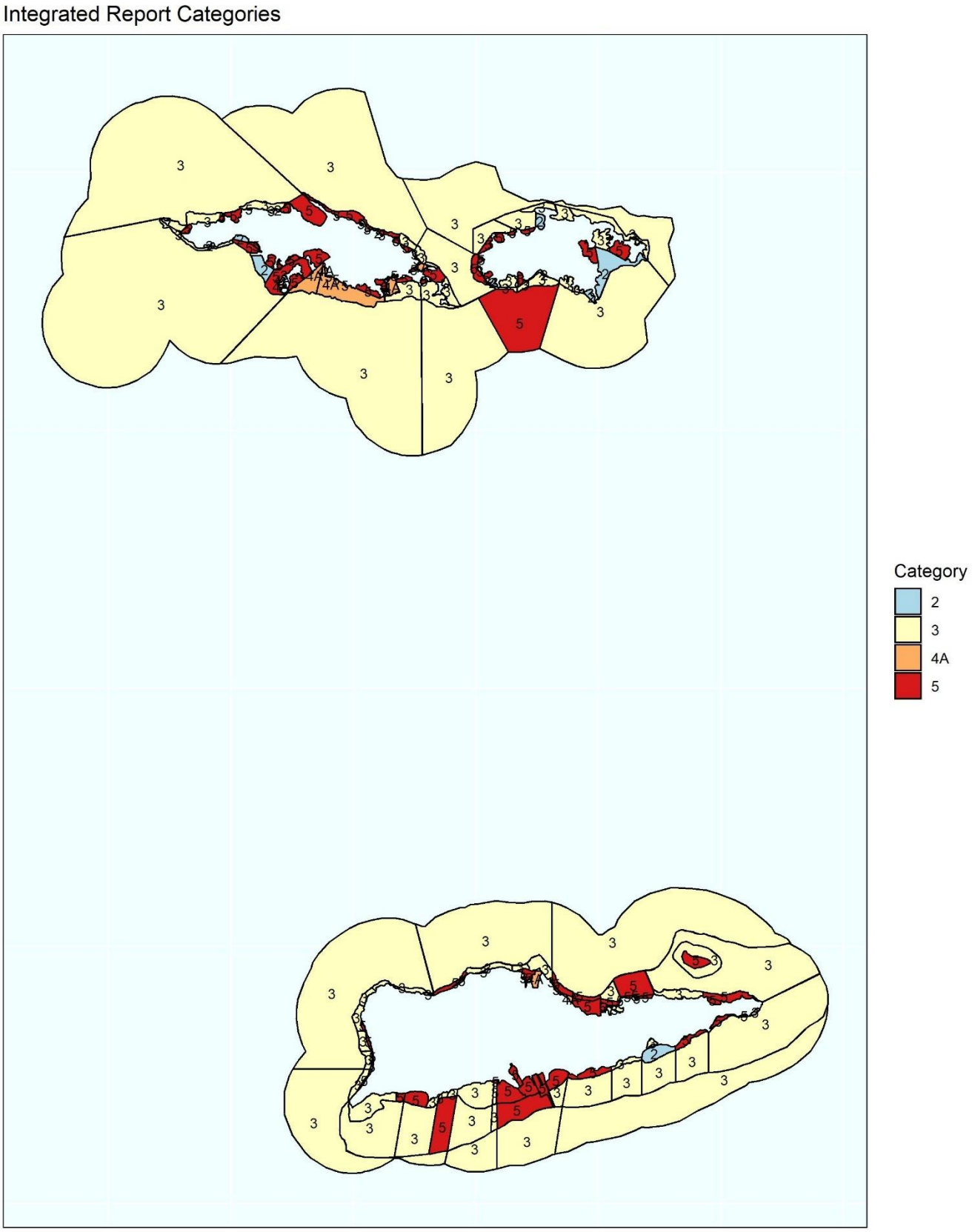

Figure 4: Assessment Result Categories

7. Wetlands Program

Wetlands in the U.S. Virgin Islands occupy less than three percent of the land area. Based on mapping by the U.S. Geological Survey (USGS, 1996), there are 960 acres of wetlands on St. Croix, 320 acres of wetlands on St. Thomas, and 425 acres of wetlands on St. John. There is currently no wetlands management program in the U.S. Virgin Islands, though wetlands form a part of several programs and there are policies and legal mandates for management of wetlands.

Wetlands provide a range of resources and services that contribute to the economic and social development of the U.S. Virgin Islands. However, various development activities result in significant degradation of the very resources that support the development of the U.S. Virgin Islands. To improve the overall development process to minimize the negative anthropogenic effects, policies, laws, and initiatives have been developed to protect our natural resources.

The primary purpose of these associated laws and programs is to ensure that development can be sustained, and the quality of life can be maintained for current and future generations of Virgin Islanders while at the same time protecting these natural resources. As defined by 12 VIRR §184 de (2007), "Wetlands means those areas that are inundated or saturated by surface or groundwater at a frequency and duration sufficient to support, and that under normal circumstances do support, a prevalence of vegetation typically adapted for life in saturated soil conditions. Wetlands generally include swamps, marshes, bogs, and similar areas."

Each type of wetland is formed under a specific set of conditions and will typically have associated plants (flora) and animals (fauna).

Type 1: Watercourses

A watercourse is defined in the Virgin Islands Code as "… any stream with a reasonable well-defined channel, and includes streams which have a permanent flow, as well as those which result from the accumulation of water after rainfall and which regularly flow through channels formed by the force of the waters." See 12 V.I.C. § 123(b).

In the U.S. Virgin Islands, watercourses are commonly referred to as ghuts or guts. These ghuts are the main drainage channels for discharge of runoff from rainfall events. In addition to that function, ghuts provide a range of services that support the development processes of the U.S. Virgin Islands. Ghuts also contain permanent pools of freshwater, which function as habitats for rare species of aquatic animals (e.g. mountain mullet and American eel). Ghuts take a range of shapes, sizes, and depths, depending on the terrain and the size of the watershed. The vegetation found inside ghuts also varies accordingly, but two distinct forest types have been associated with ghuts. These forest types are gallery moist forest and gallery shrubland.

A list of the ghuts of interest in the U.S. Virgin Islands is provided in Table 13. Ghuts of interest are those that meet any one of the following criteria:

- Ghuts with permanent pools
- Ghuts currently used for recreational purposes
- Ghuts supporting other community uses

- Ghuts containing critical habitats
- Ghuts supporting endangered species of plants or animals
- Ghuts containing significant historic, archeological, or cultural resources
- Ghuts facing significant threats – e.g. dumping from construction activities or used for sewage disposal.

Table 13: Ghuts of Interest in the U.S. Virgin Islands

St. Croix	St. John	St. Thomas
Adventure Stream	Battery Gut	Bonne Resolution (Dorothea) Gut
Bethlehem Gut	Fish Bay Gut	Caret Bay/Sorgenfri Ghut
Butler Bay Ghut	Guinea Gut	Contant Gut
Caledonia Gut	Johnny Horn Ghut	deJongh Gut
Canaan Ghut	Living (Reef Bay) Gut	Magens Bay Gut
Cane Bay Ghut		Nadir Gut
Creque Gut		Neltjeberg Gut
Fountain Ghut		Santa Maria Gut
Harden Gut		Savan Gut
Jolly Hill Gut		Turpentine Run
La Grange Gut		
Mahogany Gut		
River Gut		

Type 2: Marshes

A marsh is defined as "a water-saturated, poorly drained area, intermittently or permanently water covered, having aquatic and grass-like vegetation" (http://water.usgs.gov/water-basics_glossary.html). Marshes in the U.S. Virgin Islands are typically fresh-water wetlands formed in depressions in the landscape and maintained by surface or subsurface flow of water.

Type 3: Swamps

A swamp is defined as "an area intermittently or permanently covered with water and having trees and shrubs" (http://water.usgs.gov/water-basics_glossary.html). In the U.S. Virgin Islands, swamps are generally located on the coast. Water level is determined mainly by surface runoff during the rainy season, but brackish conditions exist in areas of the swamp closest to the sea, or during the dry season. As a result of this salinity gradient, plants adapted to both fresh water and saline conditions may be found in some swamps (e.g., Magen's Bay swamp in St. Thomas).

Type 4: Artificial Ponds and Impoundments

A pond is a body of standing water, either natural or man-made, that is usually smaller than a lake. In the U.S. Virgin Islands, man-made (artificial) ponds are created primarily for provision of water for agricultural purposes. Increasingly, ponds are created for storm-water management purposes on sites with large developments or on sites that are periodically flooded. An impoundment is a body of water resulting from the placement of a stone dike or earthen berm across a natural drainage channel (ghut).

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Impoundments were used in the early 1900s as part of the system of collection and distribution of potable water, particularly on St. Croix. Currently, impoundments are constructed and used mainly to provide water for agricultural purposes. Both ponds and impoundments provide habitats for a range of resident and migratory species of water birds.

Type 5: Salt Ponds

A salt pond is a coastal wetland that is separated from the sea by a low sandbank, sand dune, or similar feature. Salt ponds are formed over long periods by the accretion of reefs, growth of mangroves, or the accretion of sand along the mouth of an embayment. Once the pond is separated from the sea, water exchange between the two is primarily through the separating barrier. Depending on the size and structure of the salt pond, openings to the sea may be created during the rainy season if the pond collects significant amounts of surface runoff. The barrier may also be overtopped by the sea during periods of significant wave action. Such wetlands are commonly called salt ponds because the water in the ponds becomes hypersaline during the periods when the water level is low; that is, the water becomes more saline than ordinary sea water. In some ponds, the salt can be seen as a crystalline deposit along the edges of the pond or towards the landward portion (back) of the pond.

Salt ponds provide a habitat for many species of birds, but few plants are adapted to survive in such hypersaline conditions. Plants typically found at salt ponds are black mangrove, white mangrove, and the shrubs saltwort and sea purslane.

Type 6: Lagoons

A lagoon is defined as “a stretch of salt water separated from the sea by a low sandbank, coral reef or similar natural or manmade feature.” In the U.S. Virgin Islands, lagoons are typically formed by one of two processes. One process involves wave action moving sand and gravel along the shoreline, periodically closing the mouth of an embayment. Sandbars are sometimes breached by strong wave action, particularly during storms. Sandbars/sandbanks often become colonized and stabilized by plants, which can result in the closure becoming semi-permanent or permanent over time. The second process involves the formation of a sandbar across the mouth of a seasonal stream (ghut). In such cases, the sandbar is periodically breached by wave action or by surface runoff discharged through the ghut after rainfall events. Lagoons can have very restricted access or narrow channels that permit fairly consistent flows between the lagoon and the sea. Lagoons are ecologically productive sites, providing habitats for a range of fish and bird species, including migratory species of birds. Examples of lagoons are the Altona Lagoon (St. Croix) and Benner Bay/Mangrove Lagoon (St. Thomas).

Type 7: Seagrass beds

Seagrass beds are ecosystems dominated by marine grasses. Seagrass beds typically inhabit shallow nearshore areas but can be found in a range of depths from shallow lagoons to open coastal areas 60 feet in depth. There are 40-50 species of seagrasses world-wide, and most are found in the tropics. Though seagrass beds are dominated by seagrasses, the communities contain many species of algae. Seagrass beds function as important nursery areas for a wide variety of marine organisms (including important food species). Seagrass beds also function to colonize open areas, and their root systems help to stabilize unconsolidated soils.

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The major issues and priorities currently relevant to wetlands are:

a) Integration of the Policy Framework

There are several laws relevant to the management of wetlands, and those laws are administered by several agencies. The programs managed by the various agencies are usually in line with national priorities. In 2010, the Department of Planning and Natural Resources initiated activities to develop a Wetlands Management Program. That program was to establish a mechanism for integration of the wetlands-related policies and programs of the public agencies in the U.S. Virgin Islands, including the involvement of community organizations. However, since that time the program integration has stalled.

b) Reduction of Threats

There are significant threats to wetlands and associated resources from natural and man-made sources. The man-made threats are primarily from land use activities (e.g., changed drainage, sediment from construction activities, filling of wetlands, disposal of solid waste and effluents), but also from illegal practices (e.g., solid waste disposal). These threats reduce the benefits provided by wetlands. While threat reduction is a priority of the management agencies, the most important require changes in attitudes and practices of individuals in the community.

c) Storm Water Management

Due to the topography of the islands, most development activities (including residential development) involve the channeling of surface runoff from rainfall events. Poor storm-water management practices result in damage to wetlands, social infrastructure (e.g., roads), and private property. Individuals and companies undertaking developments must therefore use best practices in the design of stormwater management systems.

d) Future Demand for Goods and Services from Wetlands

The existing uses of wetlands are expected to continue. There is increased use for recreation, including eco-tourism ventures. With increased development activity, particularly larger resort projects, there is increased use of wetlands for storm-water management. It is forecasted that global warming will increase rainfall variability and intensity. As such, wetlands will play an even greater role in flood protection.

Information Management

To make informed decisions concerning the management of wetland resources, the regulatory agencies are constantly updating the databases on physical conditions and status of the resources. The community should become engaged in the management process, especially by sharing information on the use of wetlands and associated resources, and threats to such resources.

8. Priority Scheme for TMDL Development

As discussed in the wetlands section, two priority sites identified from the 2018 U.S. Virgin Islands Coral Reef Management Program are the St. Thomas East End Reserve (STEER) and the St. Croix East End Marine Park (STXEEMP). The 21 assessment units associated with these areas are classified as

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high priority for TMDL development for the 2022 cycle. The assessment units were identified based on shape files from the World Database on Protected Areas (https://www.protectedplanet.net/), current as of January 2020. The World Database on Protected Areas is a joint project between the United Nations and the International Union for Conservation of Nature. The compilation and management of the database is carried out by UN Environment World Conservation Monitoring Centre, in collaboration with governments, non-governmental organizations, academia and industry. There are monthly updates of the data which are made available online through the Protected Planet website where the data is both viewable and downloadable. An additional 10 assessment units are classified as high priority because TMDLs for these assessment units are already in development. The 49 assessment units in other marine protected areas are designated as medium priority. The remaining 97 assessment units that do not overlap with protected areas are designated as low priority. The TMDL priority is included in Appendix C.

Additionally, the priority considers the number of impairments/assessment unit. If the priority for an assessment unit would be low and there are greater than four parameters impaired in the assessment unit, the priority is increased to medium to account for the severity of the pollution per 40 CFR 130.7(b)(3).

The TMDL prioritization scheme used for this cycle will need to be revised in future cycles. As part of the U.S. Virgin Islands water quality standards promulgation, all areas where water quality constituents are found to result in adverse impacts to seagrass and coral habitat conditions based on the availability of data to quantify anthropogenic pollutant loads and model their fate and effects, and pending availability of resources, will be designated as medium and high priority for TMDL development. As of the writing of this report, the water quality standards have not been promulgated. Upon promulgation, it is expected that it will take four years to develop and implement a monitoring plan to determine potentially impacted areas. The U.S. Virgin Islands can re-evaluate the current priority scheme in each subsequent assessment cycle, and would likely include prioritization, based on the water quality standards promulgation, during the 2024 or 2026 assessment cycle.

Table 14: High Priority AUs in the STEER & STXEEMP

AU ID	AU Name	Class	Size (sq.mi)
St. Croix East End Marine Park.			
VI-STC-35	Tamarind Reef Lagoon (Southgate Lagoon)	B	0.0205
VI-STC-38	Solitude Backreef	B	0.9681
VI-STC-39	Teague Bay	B	0.1773
VI-STC-40	Teague Bay Backreef	B	0.8547
VI-STC-45	Isaac Bay	B	0.0853
VI-STC-46	Grapetree Bay	B	0.0425
VI-STC-47	Turner Hole Backreef	B	0.2772
VI-STC-48	Turner Hole subwatershed, offshore	B	16.949

VI-STC-49	Madam Carty Backreef	B	0.464
VI-STC-50	Madam Carty, offshore	B	3.5161
VI-STC-52	Great Pond Bay	B	1.0184
VI-STC-53	Great Pond Bay subwatershed, offshore	B	3.0288
VI-STC-54	Leprey Valley Backreef	B	0.3712
VI-STC-55	Leprey Valley subwatershed, offshore	B	2.8455
VI-STC-58	Southeast St. Croix HUC14, offshore	B	24.146
St. Thomas East End Reserve			
VI-STT-25	Great Bay	B	0.5593
VI-STT-28	Cowpet Bay	B	0.0757
VI-STT-31	Nazareth Bay	B	0.1793
VI-STT-35	Mangrove Lagoon	B	0.2931
VI-STT-36	Frenchman Bay subwatershed, east	B	0.3532
VI-STT-41	Frenchman Bay subwatershed, offshore	B	2.9233

C. Ground Water Monitoring and Assessment

The water quality management program is not tasked with monitoring the groundwaters of the U.S. Virgin Islands. The water quality management program has been informed by the DPNR-Division of Environmental Protection's Groundwater Program that the only groundwaters that are monitored throughout the territory are those that are potable water sources. The monitoring is required through the DPNR-Division of Environmental Protection's public water systems supervision program.

D. Public Participation

Recognizing that stakeholders throughout the U.S. Virgin Islands collect valuable water quality data, the DPNR has established a process that allows groups and individuals to submit information for use in the territory's assessment work. On April 1, 2022, the DPNR published a notice for solicitation of water quality data to support the development of the 2022 integrated water quality monitoring and assessment report.

Data packages, which include data collected from October 1, 2019 to September 30, 2021, were accepted until October 20, 2021. Data collected after October 20, 2021, and data packages submitted after this time period may be considered for subsequent assessments. The DPNR uses all appropriate and readily available data collected by governmental and non-governmental entities. In determining which data are appropriate and readily available, the DPNR considers quality assurance/quality control, monitoring design, age of data, accurate sampling location information, data documentation and use of electronic data management. Data packages submitted for consideration must include:

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- A DPNR-approved or comparable to a DPNR-approved quality assurance/quality control project plan.
- Data provided in electronic format. Preferably data is entered into the U.S. EPA's STORET database. The DPNR also accepts data in Excel, Access, and/or delimited text file formats. Station location data should be identified by latitude and longitude; and
- A citable report summarizing the data that includes name, address, and telephone number of the entity that generated the data set.

No public hearings were held. The DPNR provides the opportunity for formal public comment on its draft 303(d) list. The public comment period for the draft 303(d) list is typically announced in even-numbered years on the DPNR website. Comments are accepted during a 30-day period. Following the close of the 30-day comment period, a written response to comments and petitions is developed as soon as possible. All petitions and comments received during the public notice period are considered.

E. References

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AU ID	AU Name	Associated Monitoring Stations	Priority	Class	Impairment	Year First Listed	TMDL Completion
VI-STC-02	Frederiksted Harbor	STC-28, STC-29, STX-5	Low	C	Enterococcus	2018	2028
VI-STC-02	Frederiksted Harbor	STC-28, STC-29, STX-5	Low	C	pH	2020	2028
VI-STC-02	Frederiksted Harbor	STC-28, STC-29	Low	C	Nitrogen	2022	2028
VI-STC-04	Prosperity, nearshore	STX-7	Low	B	Enterococcus	2018	2028
VI-STC-04	Prosperity, nearshore	STX-7	Low	B	Turbidity	2010	2028
VI-STC-06	Sprat Hall Beach	STC-30, STX-9, STX-9	Low	B	pH	2020	2028
VI-STC-06	Sprat Hall Beach	STC-30	Low	B	Nitrogen	2022	2028
VI-STC-12	Cane Bay	STC-32, STX-15, STX-15	Medium	B	Dissolved Oxygen	2018	2025
VI-STC-12	Cane Bay	STC-32, STX-15, STX-15	Medium	B	Enterococcus	2018	2025
VI-STC-12	Cane Bay	STC-32, STX-15, STX-15	Medium	B	pH	2020	2025
VI-STC-12	Cane Bay	STC-32, STX-15, STX-15	Medium	B	Phosphorus	2016	2025
VI-STC-12	Cane Bay	STC-32, STX-15, STX-15	Medium	B	Turbidity	2010	2025
VI-STC-12	Cane Bay	STC-32	Medium	B	Nitrogen	2022	2025
VI-STC-13	Baron Bluff subwatershed	STC-31, STX-13	Low	B	Dissolved Oxygen	2010	2025
VI-STC-13	Baron Bluff subwatershed	STC-31, STX-13	Low	B	pH	2020	2025
VI-STC-13	Baron Bluff subwatershed	STC-31	Low	B	Nitrogen	2022	2025

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AU ID	AU Name	Associated Monitoring Stations	Priority	Class	Impairment	Year First Listed	TMDL Completion
VI-STC-16	Salt River Lagoon, Marina	STC-33	High	B	Enterococcus	2010	2024
VI-STC-16	Salt River Lagoon, Marina	STC-33	High	B	Transparency / Clarity	2020	2024
VI-STC-16	Salt River Lagoon, Marina	STC-33	High	B	Nitrogen	2022	2024
VI-STC-18	Salt River Bay	STC-33A, STC-33B, STX-17, STX-18, STX-18	High	B	Enterococcus	2010	2024
VI-STC-18	Salt River Bay	STC-33A, STC-33B, STX-17, STX-18, STX-18	High	B	pH	2020	2025
VI-STC-18	Salt River Bay	STC-33A, STC-33B, STX-17, STX-18, STX-18	High	B	Turbidity	2010	2024
VI-STC-18	Salt River Bay	STC-33A, STC-33B	High	B	Nitrogen	2022	2024
VI-STC-23	St. Croix-By-the-Sea	STC-34, STX-20, STX-23A	Low	B	Enterococcus	2020	2026
VI-STC-23	St. Croix-By-the-Sea	STC-34, STX-20, STX-23A	Low	B	pH	2010	2026
VI-STC-23	St. Croix-By-the-Sea	STC-34	Low	B	Nitrogen	2022	2026
VI-STC-24	Long Reef Backreef, west	STC-48	Low	C	Nitrogen	2022	2026
VI-STC-25	Princess subwatershed, offshore	STC-35	Low	B	pH	2020	2028

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AU ID	AU Name	Associated Monitoring Stations	Priority	Class	Impairment	Year First Listed	TMDL Completion
VI-STC-25	Princess subwatershed, offshore	STC-35	Low	B	Nitrogen	2022	2028
VI-STC-26	Christiansted Harbor	STC-37, STC-40, STC-41, STC-42, STC-43, STC-44, STC-45, STC-46, STC-47, STC-49, STX-24	Low	C	pH	2016	2028
VI-STC-26	Christiansted Harbor	STC-37, STC-40, STC-41, STC-42, STC-43, STC-44, STC-45, STC-46, STC-47, STC-49, STX-24	Low	C	Turbidity	2010	2028
VI-STC-26	Christiansted Harbor	STC-40, STC-41, STC-42, STC-43, STC-44, STC-45, STC-46, STC-37, STC-47, STC-49	Low	C	Nitrogen	2022	2028
VI-STC-27	Long Reef Forereef, east	STC-35A, STC-36	Low	B	pH	2020	2028
VI-STC-27	Long Reef Forereef, east	STC-35A, STC-36	Low	B	Nitrogen	2022	2028
VI-STC-29	Christiansted Harbor, east	STC-1, STC-39, STX-25	Low	C	Enterococcus	2020	2028
VI-STC-29	Christiansted Harbor, east	STC-1, STC-39, STX-25	Low	C	pH	2016	2028
VI-STC-29	Christiansted Harbor, east	STC-1, STC-39, STX-25	Low	C	Turbidity	2010	2028

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AU ID	AU Name	Associated Monitoring Stations	Priority	Class	Impairment	Year First Listed	TMDL Completion
VI-STC-29	Christiansted Harbor, east	STC-1, STC-39	Low	C	Nitrogen	2022	2028
VI-STC-30	Beauregard Bay	STC-2, STC-38, STX-25A	Medium	B	Enterococcus	2018	2026
VI-STC-30	Beauregard Bay	STC-2, STC-38, STX-25A	Medium	B	pH	2016	2026
VI-STC-30	Beauregard Bay	STC-2, STC-38, STX-25A	Medium	B	Phosphorus	2018	2026
VI-STC-30	Beauregard Bay	STC-2, STC-38, STX-25A	Medium	B	Turbidity	2010	2026
VI-STC-30	Beauregard Bay	STC-2, STC-38	Medium	B	Nitrogen	2022	2026
VI-STC-31	Buccaneer Beach	STC-3	Low	B	Enterococcus	2018	2034
VI-STC-31	Buccaneer Beach	STC-3	Low	B	pH	2020	2034
VI-STC-31	Buccaneer Beach	STC-3	Low	B	Nitrogen	2022	2034
VI-STC-33	Punnett Bay	STX-26, STX-26	High	B	Enterococcus	2018	2025
VI-STC-33	Punnett Bay	STX-26, STX-26	High	B	Turbidity	2010	2024
VI-STC-34	Punnett Point, east	STC-4	Medium	B	Dissolved Oxygen	2020	2030
VI-STC-34	Punnett Point, east	STC-4	Medium	B	Enterococcus	2020	2030
VI-STC-34	Punnett Point, east	STC-4	Medium	B	pH	2020	2030
VI-STC-34	Punnett Point, east	STC-4	Medium	B	Nitrogen	2022	2030
VI-STC-35	Tamarind Reef Lagoon (Southgate Lagoon)	STC-5	High	B	Dissolved Oxygen	2020	2025
VI-STC-35	Tamarind Reef Lagoon (Southgate Lagoon)	STC-5	High	B	Enterococcus	2020	2024

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AU ID	AU Name	Associated Monitoring Stations	Priority	Class	Impairment	Year First Listed	TMDL Completion
VI-STC-35	Tamarind Reef Lagoon (Southgate Lagoon)	STC-5	High	B	Transparency / Clarity	2020	2025
VI-STC-35	Tamarind Reef Lagoon (Southgate Lagoon)	STC-5	High	B	Nitrogen	2022	2024
VI-STC-36	Green Cay Beach	STX-27A, STX-27A	High	B	Enterococcus	2010	2024
VI-STC-36	Green Cay Beach	STX-27A, STX-27A	High	B	Turbidity	2010	2025
VI-STC-37	Southgate subwatershed, offshore		High	B	Dissolved Oxygen	2010	2025
VI-STC-37	Southgate subwatershed, offshore		High	B	Enterococcus	2010	2024
VI-STC-37	Southgate subwatershed, offshore		High	B	Turbidity	2010	2024
VI-STC-39	Teague Bay	STC-8, STC-9	High	B	pH	2010	2024
VI-STC-39	Teague Bay	STC-8, STC-9	High	B	Nitrogen	2022	2024
VI-STC-40	Teague Bay Backreef	STC-10, STX-35	High	B	Dissolved Oxygen	2020	2025
VI-STC-40	Teague Bay Backreef	STC-10, STX-35	High	B	pH	2010	2024
VI-STC-40	Teague Bay Backreef	STC-10	High	B	Nitrogen	2022	2024
VI-STC-41	Buck Island Backreef	STC-6, STC-7	Medium	A	pH	2020	2026
VI-STC-41	Buck Island Backreef	STC-6, STC-7	Medium	A	Nitrogen	2022	2026
VI-STC-46	Grapetree Bay	STC-11B	High	B	pH	2020	2024
VI-STC-46	Grapetree Bay	STC-11B	High	B	Nitrogen	2022	2024

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AU ID	AU Name	Associated Monitoring Stations	Priority	Class	Impairment	Year First Listed	TMDL Completion
VI-STC-47	Turner Hole Backreef	STC-12, STX-39, STX-39	High	B	Dissolved Oxygen	2020	2024
VI-STC-47	Turner Hole Backreef	STC-12, STX-39, STX-39	High	B	Enterococcus	2010	2024
VI-STC-47	Turner Hole Backreef	STC-12, STX-39, STX-39	High	B	pH	2020	2024
VI-STC-47	Turner Hole Backreef	STC-12	High	B	Nitrogen	2022	2024
VI-STC-49	Madam Carty Backreef	STC-13B	High	B	pH	2020	2024
VI-STC-49	Madam Carty Backreef	STC-13B	High	B	Nitrogen	2022	2024
VI-STC-52	Great Pond Bay	STC-13A	High	B	Nitrogen	2022	2024
VI-STC-56	Bugby Hole Backreef	STC-14A, STC-14B, STX-46, STX-46	Low	B	Enterococcus	2010	2033
VI-STC-56	Bugby Hole Backreef	STC-14A, STC-14B, STX-46, STX-46	Low	B	pH	2016	2033
VI-STC-56	Bugby Hole Backreef	STC-14A, STC-14B, STX-46, STX-46	Low	B	Turbidity	2010	2033
VI-STC-56	Bugby Hole Backreef	STC-14A, STC-14B	Low	B	Nitrogen	2022	2033
VI-STC-59	Canegarden Bay	STC-15, STC-15A	Low	B	Dissolved Oxygen	2016	2025
VI-STC-59	Canegarden Bay	STC-15, STC-15A	Low	B	pH	2020	2025
VI-STC-59	Canegarden Bay	STC-15, STC-15A	Low	B	Turbidity	2010	2025
VI-STC-59	Canegarden Bay	STC-15, STC-15A	Low	B	Nitrogen	2022	2025
VI-STC-61	Hess Oil Virgin Islands Harbor	STC-16, STC-17	Low	C	pH	2020	2033
VI-STC-61	Hess Oil Virgin Islands Harbor	STC-16, STC-17	Low	C	Turbidity	2010	2033

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AU ID	AU Name	Associated Monitoring Stations	Priority	Class	Impairment	Year First Listed	TMDL Completion
VI-STC-61	Hess Oil Virgin Islands Harbor	STC-16, STC-17	Low	C	Nitrogen	2022	2033
VI-STC-62	Limetree Bay	STC-18	Low	B	Dissolved Oxygen	2016	2033
VI-STC-62	Limetree Bay	STC-18	Low	B	pH	2020	2033
VI-STC-62	Limetree Bay	STC-18	Low	B	Nitrogen	2022	2033
VI-STC-63	Martin-Marietta Alumina Harbor	STC-19, STC-20	Low	C	Dissolved Oxygen	2008	2033
VI-STC-63	Martin-Marietta Alumina Harbor	STC-19, STC-20	Low	C	pH	2020	2033
VI-STC-63	Martin-Marietta Alumina Harbor	STC-19, STC-20	Low	C	Turbidity	2020	2033
VI-STC-63	Martin-Marietta Alumina Harbor	STC-19, STC-20	Low	C	Nitrogen	2022	2033
VI-STC-64	Manning Bay/Estate Anguilla Beach	STC-23	Low	B	Dissolved Oxygen	2016	2033
VI-STC-64	Manning Bay/Estate Anguilla Beach	STC-23	Low	B	pH	2020	2033
VI-STC-64	Manning Bay/Estate Anguilla Beach	STC-23	Low	B	Nitrogen	2022	2033
VI-STC-65	Hovensa, west	STC-21	Low	B	Dissolved Oxygen	2016	2033
VI-STC-65	Hovensa, west	STC-21	Low	B	pH	2020	2033
VI-STC-65	Hovensa, west	STC-21	Low	B	Nitrogen	2022	2033

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AU ID	AU Name	Associated Monitoring Stations	Priority	Class	Impairment	Year First Listed	TMDL Completion
VI-STC-66	Hovensa subwatershed, offshore	STC-22A	Low	B	pH	2020	2033
VI-STC-66	Hovensa subwatershed, offshore	STC-22A	Low	B	Nitrogen	2022	2033
VI-STC-75	Diamond subwatershed, offshore	STC-24B	Medium	B	Chronic Toxicity	2010	2029
VI-STC-75	Diamond subwatershed, offshore	STC-24B	Medium	B	Dissolved Oxygen	2010	2029
VI-STC-75	Diamond subwatershed, offshore	STC-24B	Medium	B	Enterococcus	2022	2035
VI-STC-75	Diamond subwatershed, offshore	STC-24B	Medium	B	pH	2020	2029
VI-STC-75	Diamond subwatershed, offshore	STC-24B	Medium	B	Turbidity	2020	2029
VI-STC-75	Diamond subwatershed, offshore	STC-24B	Medium	B	Nitrogen	2022	2029
VI-STC-77	Long Point Bay	STC-25	Low	B	pH	2020	2029
VI-STC-77	Long Point Bay	STC-25	Low	B	Transparency / Clarity	2020	2029

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AU ID	AU Name	Associated Monitoring Stations	Priority	Class	Impairment	Year First Listed	TMDL Completion
VI-STC-77	Long Point Bay	STC-25	Low	B	Turbidity	2016	2029
VI-STC-77	Long Point Bay	STC-25	Low	B	Nitrogen	2022	2029
VI-STC-79	Good Hope Beach	STC-26	Low	B	pH	2020	2029
VI-STC-79	Good Hope Beach	STC-26	Low	B	Transparency / Clarity	2020	2029
VI-STC-79	Good Hope Beach	STC-26	Low	B	Nitrogen	2022	2029
VI-STC-82	Sandy Point, nearshore west	STC-27, STX-2, STX-4	Medium	B	pH	2020	2026
VI-STC-82	Sandy Point, nearshore west	STC-27, STX-2, STX-4	Medium	B	Turbidity	2010	2026
VI-STC-82	Sandy Point, nearshore west	STC-27	Medium	B	Nitrogen	2022	2026
VI-STJ-01	Caneel Bay		Medium	B	Dissolved Oxygen	2008	2026
VI-STJ-01	Caneel Bay		Medium	B	Turbidity	2008	2026
VI-STJ-02	Hawksnest Bay	STJ-12B, STJ-12B, STJ-44B	Medium	B	Enterococcus	2018	2026
VI-STJ-02	Hawksnest Bay	STJ-12B, STJ-12B, STJ-44B	Medium	B	Turbidity	2018	2026
VI-STJ-02	Hawksnest Bay	STJ-44B	Medium	B	Nitrogen	2022	2026
VI-STJ-03	Trunk Bay	STJ-44A	Medium	A	Enterococcus	2018	2026
VI-STJ-03	Trunk Bay	STJ-44A	Medium	A	Nitrogen	2022	2026
VI-STJ-05	Cinnamon Bay	STJ-44C	Medium	B	Enterococcus	2018	2026
VI-STJ-05	Cinnamon Bay	STJ-44C	Medium	B	Nitrogen	2022	2026
VI-STJ-06	Maho Bay/Francis Bay	STJ-44D	Medium	B	Nitrogen	2022	2026
VI-STJ-13	Round Bay	STJ-57	High	B	Temperature	2020	2025

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AU ID	AU Name	Associated Monitoring Stations	Priority	Class	Impairment	Year First Listed	TMDL Completion
VI-STJ-13	Round Bay	STJ-57	High	B	Transparency / Clarity	2022	2030
VI-STJ-13	Round Bay	STJ-57	High	B	Nitrogen	2022	2030
VI-STJ-15	Coral Harbor	STJ-53, STJ-56	High	B	Dissolved Oxygen	2020	2025
VI-STJ-15	Coral Harbor	STJ-53, STJ-56	High	B	Enterococcus	2018	2025
VI-STJ-15	Coral Harbor	STJ-53, STJ-56	High	B	Turbidity	2020	2025
VI-STJ-15	Coral Harbor	STJ-53, STJ-56	High	B	Nitrogen	2022	2025
VI-STJ-16	Coral Bay	STJ-58	Medium	B	Nitrogen	2022	2025
VI-STJ-17	Salt Pond Bay	STJ-52	Medium	B	Nitrogen	2022	2025
VI-STJ-19	Great Lameshur Bay	STJ-50, STJ-51	Medium	B	Nitrogen	2022	2025
VI-STJ-21	Genti Bay	STJ-49	Medium	B	Nitrogen	2022	2025
VI-STJ-23	Fish Bay	STJ-48	High	B	Dissolved Oxygen	2016	2025
VI-STJ-23	Fish Bay	STJ-48	High	B	pH	2010	2025
VI-STJ-23	Fish Bay	STJ-48	High	B	Phosphorus	2016	2025
VI-STJ-23	Fish Bay	STJ-48	High	B	Transparency / Clarity	2020	2026
VI-STJ-23	Fish Bay	STJ-48	High	B	Turbidity	2010	2025
VI-STJ-23	Fish Bay	STJ-48	High	B	Nitrogen	2022	2026
VI-STJ-25	Rendezvous Bay	STJ-47	Low	B	Nitrogen	2022	2026
VI-STJ-26	Chocolate Hole	STJ-46	Low	B	Nitrogen	2022	2026
VI-STJ-28	Great Cruz Bay	STJ-40, STJ-45	Low	B	Enterococcus	2022	2035
VI-STJ-28	Great Cruz Bay	STJ-40, STJ-45	Low	B	Turbidity	2010	2026
VI-STJ-28	Great Cruz Bay	STJ-45	Low	B	Nitrogen	2022	2035
VI-STJ-29	Turner Bay	STJ-55	Low	B	Nitrogen	2022	2035

Appendix A: 303(d) list

AU ID	AU Name	Associated Monitoring Stations	Priority	Class	Impairment	Year First Listed	TMDL Completion
VI-STJ-30	Cruz Bay	STJ-1, STJ-29, STJ-29, STJ-43A, STJ-43B, STJ-43C, STJ-43D	Medium	B	Dissolved Oxygen	2022	2032
VI-STJ-30	Cruz Bay	STJ-1, STJ-29, STJ-29, STJ-43A, STJ-43B, STJ-43C, STJ-43D	Medium	B	Enterococcus	2012	2026
VI-STJ-30	Cruz Bay	STJ-1, STJ-29, STJ-29, STJ-43A, STJ-43B, STJ-43C, STJ-43D	Medium	B	Turbidity	2012	2026
VI-STJ-30	Cruz Bay	STJ-43A, STJ-43B, STC-43C, STJ-43D	Medium	B	Nitrogen	2022	2026
VI-STJ-31	Great Cruz Bay watershed, offshore	STJ-41	Medium	B	Enterococcus	2018	2026
VI-STJ-31	Great Cruz Bay watershed, offshore	STJ-41	Medium	B	Turbidity	2008	2026
VI-STJ-32	Southwest St. John HUC14, offshore		Medium	B	Turbidity	2014	2025
VI-STT-01	Botany Bay	STT-9	Low	B	Turbidity	2016	2029
VI-STT-01	Botany Bay	STT-9	Low	B	Nitrogen	2022	2029
VI-STT-02	Stumpy Bay	STT-10	Low	B	Turbidity	2008	2029
VI-STT-02	Stumpy Bay	STT-10	Low	B	Nitrogen	2022	2029
VI-STT-04	Santa Maria Bay	STT-11	Low	B	Turbidity	2010	2029
VI-STT-04	Santa Maria Bay	STT-11	Low	B	Nitrogen	2022	2029

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AU ID	AU Name	Associated Monitoring Stations	Priority	Class	Impairment	Year First Listed	TMDL Completion
VI-STT-05	Caret Bay	STT-12	Low	B	Turbidity	2008	2029
VI-STT-05	Caret Bay	STT-12	Low	B	Nitrogen	2022	2029
VI-STT-07	Dorothea	STT-13	Low	B	Nitrogen	2018	2029
VI-STT-08	Hull Bay	STT-14, STT-16	Low	B	Enterococcus	2018	2026
VI-STT-08	Hull Bay	STT-14, STT-16	Low	B	Temperature	2022	2035
VI-STT-08	Hull Bay	STT-14, STT-16	Low	B	Turbidity	2010	2026
VI-STT-08	Hull Bay	STT-14	Low	B	Nitrogen	2022	2026
VI-STT-10	Magens Bay	STT-15, STT-15, STT-15A, STT-15B, STT-19A, STT-19A	Medium	B	Enterococcus	2010	2026
VI-STT-10	Magens Bay	STT-15, STT-15, STT-15A, STT-15B, STT-19A, STT-19A	Medium	B	Turbidity	2010	2026
VI-STT-10	Magens Bay	STT-15, STT-15A, STT-15B	Medium	B	Nitrogen	2022	2026
VI-STT-13	Mandahl Bay (Marina)	STT-16B	Low	B	Dissolved Oxygen	2010	2031
VI-STT-13	Mandahl Bay (Marina)	STT-16B	Low	B	Phosphorus	2018	2031
VI-STT-13	Mandahl Bay (Marina)	STT-16B	Low	B	Turbidity	2016	2031
VI-STT-13	Mandahl Bay (Marina)	STT-16A, STT-16B	Low	B	Nitrogen	2022	2031
VI-STT-15	Sunsi Bay	STT-17B	Low	B	Nitrogen	2022	2031
VI-STT-16	Spring Bay	STT-17A	Low	B	Nitrogen	2022	2031
VI-STT-17	Mandahl Bay subwatershed, offshore	STT-16A, STT-18, STT-27	Low	B	Dissolved Oxygen	2020	2028

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AU ID	AU Name	Associated Monitoring Stations	Priority	Class	Impairment	Year First Listed	TMDL Completion
VI-STT-17	Mandahl Bay subwatershed, offshore	STT-16A, STT-18, STT-27	Low	B	Enterococcus	2016	2028
VI-STT-17	Mandahl Bay subwatershed, offshore	STT-16A, STT-18, STT-27	Low	B	Phosphorus	2022	2028
VI-STT-17	Mandahl Bay subwatershed, offshore	STT-16A, STT-18, STT-27	Low	B	Turbidity	2010	2028
VI-STT-17	Mandahl Bay subwatershed, offshore	STT-18	Low	B	Nitrogen	2022	2028
VI-STT-18	Water Bay	STT-19, STT-28, STT-28	Low	B	Dissolved Oxygen	2020	2027
VI-STT-18	Water Bay	STT-19, STT-28, STT-28	Low	B	Enterococcus	2018	2027
VI-STT-18	Water Bay	STT-19	Low	B	Nitrogen	2022	2027
VI-STT-19	Smith Bay	STT-20, VI431925	Medium	B	Enterococcus	2018	2026
VI-STT-19	Smith Bay	STT-20	Medium	B	Nitrogen	2022	2026
VI-STT-21	St. John Bay	STT-21A	Low	B	Nitrogen	2022	2028
VI-STT-22	Red Bay	STT-21B	Low	B	Dissolved Oxygen	2008	2028
VI-STT-22	Red Bay	STT-21B	Low	B	Enterococcus	2018	2028
VI-STT-22	Red Bay	STT-21B	Low	B	Turbidity	2008	2028
VI-STT-22	Red Bay	STT-21B	Low	B	Nitrogen	2022	2028
VI-STT-23	Vessup Bay	STT-22B	Low	B	Enterococcus	2010	2028

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AU ID	AU Name	Associated Monitoring Stations	Priority	Class	Impairment	Year First Listed	TMDL Completion
VI-STT-23	Vessup Bay	STT-22B	Low	B	Turbidity	2016	2028
VI-STT-23	Vessup Bay	STT-22B	Low	B	Nitrogen	2022	2028
VI-STT-24	Red Hook Bay	STT-22A	Low	B	Nitrogen	2022	2028
VI-STT-25	Great Bay	STT-23, VI505006	High	B	Enterococcus	2018	2025
VI-STT-25	Great Bay	STT-23	High	B	Nitrogen	2022	2024
VI-STT-28	Cowpet Bay	STT-24	High	B	Enterococcus	2018	2025
VI-STT-28	Cowpet Bay	STT-24	High	B	Nitrogen	2022	2025
VI-STT-31	Nazareth Bay	STT-25, STT-25B, STT-26, VI389422	High	B	Enterococcus	2018	2025
VI-STT-32	Nazareth Bay	STT-25, STT-26	High	B	Nitrogen	2022	2024
VI-STT-34	Benner Bay Lagoon Marina	STT-27D, STT-27E	High	B	Enterococcus	2010	2023
VI-STT-34	Benner Bay Lagoon Marina	STT-27D, STT-27E	High	B	Transparency / Clarity	2022	2030
VI-STT-34	Benner Bay Lagoon Marina	STT-27D, STT-27E	High	B	Turbidity	2016	2025
VI-STT-35	Mangrove Lagoon	STT-27A, STT-27B, STT-27C	High	B	Enterococcus	2010	2023
VI-STT-35	Mangrove Lagoon	STT-27A, STT-27B, STT-27C	High	B	Turbidity	2016	2025
VI-STT-35	Mangrove Lagoon	STT-27A, STT-27B, STT-27C, STT-27D, STT-27E	High	B	Nitrogen	2022	2024
VI-STT-36	Frenchman Bay subwatershed, east	STT-28A, STT-28B, STT-28B	High	B	Enterococcus	2018	2024

Appendix A: 303(d) list

AU ID	AU Name	Associated Monitoring Stations	Priority	Class	Impairment	Year First Listed	TMDL Completion
VI-STT-36	Frenchman Bay subwatershed, east	STT-28A, STT-28B, STT-28B	High	B	Phosphorus	2016	2024
VI-STT-36	Frenchman Bay subwatershed, east	STT-28A, STT-28B, STT-28B	High	B	Turbidity	2010	2024
VI-STT-36	Frenchman Bay subwatershed, east	STT-28A, STT-28B	High	B	Nitrogen	2022	2024
VI-STT-37	Frenchman Bay	STT-29A	Low	B	Nitrogen	2022	2027
VI-STT-37	Frenchman Bay	STT-44	Low	B	Enterococcus	2016	2027
VI-STT-37	Frenchman Bay	STT-44	Low	B	Turbidity	2010	2027
VI-STT-38	Limetree Bay	STT-29B, STT-43	Low	B	Enterococcus	2018	2027
VI-STT-38	Limetree Bay	STT-29B, STT-43	Low	B	Turbidity	2010	2027
VI-STT-38	Limetree Bay	STT-29B	Low	B	Nitrogen	2022	2027
VI-STT-39	Morningstar Bay	STT-29A, STT-45	Low	B	Turbidity	2010	2027
VI-STT-39	Morningstar Bay	STT-30	Low	B	Nitrogen	2022	2027
VI-STT-40	Pacquereau Bay	STT-31A	Low	B	Nitrogen	2022	2027
VI-STT-43	St. Thomas Harbor, inner	STT-31B, STT-31C, STT-32A, STT-32B, STT-33A, STT-33B, STT-35, STT-35, STT-35, STT-36, STT-37, STT-38	Medium	C	Turbidity	2010	2026
VI-STT-43	St. Thomas Harbor, inner	STT-31C, STT-31B, STT-32A, STT-32B, STT-33A, STT-33B, STT-35, STT-37,STT-36, STT-38	Medium	C	Nitrogen	2022	2026

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AU ID	AU Name	Associated Monitoring Stations	Priority	Class	Impairment	Year First Listed	TMDL Completion
VI-STT-45	Gregerie Channel	STT-1, STT-39	Medium	B	Turbidity	2022	2032
VI-STT-45	Gregerie Channel	STT-1, STT-39	Medium	B	Nitrogen	2022	2032
VI-STT-46	Sprat Bay	STT-42, STT-42, STT-42	Low	B	Turbidity	2016	2032
VI-STT-46	Sprat Bay	STT-42	Low	B	Nitrogen	2022	2032
VI-STT-47	Hassel Island at Haulover Cut to Regis Point	STT-2, STT-3	Low	C	Turbidity	2022	2035
VI-STT-47	Hassel Island at Haulover Cut to Regis Point	STT-2, STT-3	Low	C	Nitrogen	2022	2035
VI-STT-49	Druif Bay	STT-40	Low	B	Nitrogen	2022	2035
VI-STT-50	Flamingo	STT-41	Low	B	Nitrogen	2022	2035
VI-STT-51	Krum Bay	STT-4	Low	C	Turbidity	2016	2034
VI-STT-51	Krum Bay	STT-4	Low	C	Nitrogen	2022	2034
VI-STT-52	Lindbergh Bay	STT-48A, STT-5A, STT-5B, VI514102	Low	B	Enterococcus	2018	2034
VI-STT-52	Lindbergh Bay	STT-48A, STT-5A, STT-5B, VI514102	Low	B	Turbidity	2010	2034
VI-STT-52	Lindbergh Bay	STT-5A, STT-5B	Low	B	Nitrogen	2022	2034
VI-STT-53	Cyril E. King Airport subwatershed, offshore	STT-6C	Low	B	Nitrogen	2022	2034
VI-STT-54	Perseverance Bay, offshore	STT-6B	Low	B	Dissolved Oxygen	2020	2035

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AU ID	AU Name	Associated Monitoring Stations	Priority	Class	Impairment	Year First Listed	TMDL Completion
VI-STT-54	Perseverance Bay, offshore	STT-6B	Low	B	Enterococcus	2018	2035
VI-STT-54	Perseverance Bay, offshore	STT-6B	Low	B	Turbidity	2010	2035
VI-STT-54	Perseverance Bay, offshore	STT-6B	Low	B	Nitrogen	2022	2035
VI-STT-55	Brewers Bay	STT-49, STT-7A	Low	B	Enterococcus	2018	2035
VI-STT-55	Brewers Bay	STT-7A	Low	B	Nitrogen	2022	2035
VI-STT-56	Perseverance Bay	STT-7B	Low	B	Nitrogen	2022	2035
VI-STT-57	Fortuna Bay	STT-8	Low	B	Nitrogen	2022	2035

Appendix B: Combinations removed from the previous 303(d) list

AU ID	AU Name	Class	Impairment	Year first listed	Delist Justification	Notes
VI-STC-24	Long Reef Backreef, west	C	pH	2020	DELISTING_ORIG_INCORRECT	Double counted data at different depths on same day
VI-STC-34	Punnett Point, east	B	Turbidity	2020	DELISTING_ORIG_INCORRECT	Double counted data at different depths on same day
VI-STC-35	Tamarind Reef Lagoon (Southgate Lagoon)	B	pH	2020	DELISTING_ORIG_INCORRECT	Double counted data at different depths on same day
VI-STC-41	Buck Island Backreef	A	Temperature	2018	WQS_NEW_DATA	No exceedences since 2018 -- all current data shows WQS attainment
VI-STC-49	Madam Carty Backreef	B	Dissolved Oxygen	2020	DELISTING_ORIG_INCORRECT	Double counted data at different depths on same day
VI-STC-52	Great Pond Bay	B	Dissolved Oxygen	2020	DELISTING_ORIG_INCORRECT	Double counted data at different depths on same day
VI-STC-52	Great Pond Bay	B	pH	2020	DELISTING_ORIG_INCORRECT	Double counted data at different depths on same day
VI-STJ-16	Coral Bay	B	Enterococcus	2018	WQS_NEW_DATA	No exceedences since 2018 -- all current data shows WQS attainment

Appendix C: Assessment Unit Priority Based on World Protected Areas						
AU ID	AU Name	Class	Size (sq. mi.)	Name	Designation	Priority
VI-STC-01	Frederiksted, south	B	0.0451	N/A	N/A	Low
VI-STC-02	Frederiksted Harbor	C	0.035	N/A	N/A	Low
VI-STC-03	Lagrange subwatershed, offshore	B	0.375	N/A	N/A	Low
VI-STC-04	Prosperity, nearshore	B	0.1118	N/A	N/A	Low
VI-STC-05	Prosperity subwatershed, offshore	B	0.5129	N/A	N/A	Low
VI-STC-06	Sprat Hall Beach	B	0.0609	N/A	N/A	Low
VI-STC-07	Creque Dam/Butler Bay	B	0.529	N/A	N/A	Low
VI-STC-08	Hams Bay	B	0.3144	N/A	N/A	Low
VI-STC-09	Davis Bay	B	0.0522	N/A	N/A	Low
VI-STC-10	Hams Bluff	B	0.5506	N/A	N/A	Low
VI-STC-11	Northwest St. Croix HUC14, offshore	B	33.302	N/A	N/A	Low
VI-STC-12	Cane Bay	B	0.0613	N/A	N/A	Low
VI-STC-13	Baron Bluff subwatershed	B	0.3498	N/A	N/A	Low
VI-STC-14	Belvedere	B	0.0557	N/A	N/A	Low
VI-STC-15	Northside subwatershed	B	0.6109	N/A	N/A	Low
VI-STC-16	Salt River Lagoon, Marina	B	0.0194	Salt River Bay	National Historic Park and Ecological Preserve	High
VI-STC-17	Salt River Lagoon, Sugar Bay	B	0.3244	Salt River Bay	National Historic Park and Ecological Preserve	Medium
VI-STC-18	Salt River Bay	B	0.3229	Salt River Bay	National Historic Park and Ecological Preserve	High
VI-STC-19	Judith Fancy	B	0.01	N/A	N/A	Low
VI-STC-20	Salt River Bay subwatershed, west	B	0.2433	Salt River Bay	National Historic Park and Ecological Preserve	Medium

Appendix C: Assessment Unit Priority Based on World Protected Areas						
AU ID	AU Name	Class	Size (sq. mi.)	Name	Designation	Priority
VI-STC-21	Salt River Bay subwatershed, east	B	0.8922	Salt River Bay	National Historic Park and Ecological Preserve	Medium
VI-STC-22	Northcentral St. Croix HUC14, offshore	B	23.61	Salt River Bay	National Historic Park and Ecological Preserve	Medium
VI-STC-23	St. Croix-By-the- Sea	B	0.0727	N/A	N/A	Low
VI-STC-24	Long Reef Backreef, west	C	0.1153	N/A	N/A	Low
VI-STC-25	Princess subwatershed, offshore	B	0.4343	N/A	N/A	Low
VI-STC-26	Christiansted Harbor	C	0.9601	N/A	N/A	Low
VI-STC-27	Long Reef Forereef, east	B	0.3149	N/A	N/A	Low
VI-STC-28	Altona Lagoon	B	0.2337	N/A	N/A	Low
VI-STC-29	Christiansted Harbor, east	C	0.1089	N/A	N/A	Low
VI-STC-30	Beauregard Bay	B	0.2145	N/A	N/A	Low
VI-STC-31	Buccaneer Beach	B	0.0166	N/A	N/A	Low
VI-STC-32	Altona Lagoon subwatershed, offshore	B	0.6812	N/A	N/A	Low
VI-STC-33	Punnett Bay	B	0.0576	N/A	N/A	High
VI-STC-34	Punnett Point, east	B	0.0223	N/A	N/A	Low
VI-STC-35	Tamarind Reef Lagoon (Southgate Lagoon)	B	0.0205	St. Croix East End	Marine Park	High
VI-STC-36	Green Cay Beach	B	0.1017	Southgate	Marine Protected Area	High
VI-STC-37	Southgate subwatershed, offshore	B	2.2219	Green Cay	National Wildlife Refuge	High
VI-STC-38	Solitude Backreef	B	0.9681	St. Croix East End	Marine Park	High
VI-STC-39	Teague Bay	B	0.1773	St. Croix East End	Marine Park	High
VI-STC-40	Teague Bay Backreef	B	0.8547	St. Croix East End	Marine Park	High
VI-STC-41	Buck Island Backreef	A	0.7675	Buck Island Reef	National Monument	Medium

Appendix C: Assessment Unit Priority Based on World Protected Areas						
AU ID	AU Name	Class	Size (sq. mi.)	Name	Designation	Priority
VI-STC-42	Buck Island Forereef	A	3.3497	Buck Island Reef	National Monument	Medium
VI-STC-43	Solitude and Teague Bay subwatersheds, offshore	B	18.822	Buck Island Reef	National Monument	Medium
VI-STC-44	Northeast St. Croix HUC14, offshore.	B	36.088	Buck Island Reef	National Monument	Medium
VI-STC-45	Isaac Bay	B	0.0853	St. Croix East End	Marine Park	High
VI-STC-46	Grapetree Bay	B	0.0425	St. Croix East End	Marine Park	High
VI-STC-47	Turner Hole Backreef	B	0.2772	St. Croix East End	Marine Park	High
VI-STC-48	Turner Hole subwatershed, offshore	B	16.949	St. Croix East End	Marine Park	High
VI-STC-49	Madam Carty Backreef	B	0.464	St. Croix East End	Marine Park	High
VI-STC-50	Madam Carty, offshore	B	3.5161	St. Croix East End	Marine Park	High
VI-STC-51	Great Pond	B	0.1578	East End	Recreation Management Area	Medium
VI-STC-52	Great Pond Bay	B	1.0184	St. Croix East End	Marine Park	High
VI-STC-53	Great Pond Bay subwatershed, offshore	B	3.0288	St. Croix East End	Marine Park	High
VI-STC-54	Leprey Valley Backreef	B	0.3712	St. Croix East End	Marine Park	High
VI-STC-55	Leprey Valley subwatershed, offshore	B	2.8455	St. Croix East End	Marine Park	High
VI-STC-56	Bugby Hole Backreef	B	0.7042	N/A	N/A	Low
VI-STC-57	Bugby Hole subwatershed, offshore	B	3.9	N/A	N/A	Low
VI-STC-58	Southeast St. Croix HUC14, offshore	B	24.146	St. Croix East End	Marine Park	High
VI-STC-59	Canegarden Bay	B	0.8542	N/A	N/A	Low
VI-STC-60	Canegarden Bay, offshore	B	0.7933	N/A	N/A	Low

Appendix C: Assessment Unit Priority Based on World Protected Areas						
AU ID	AU Name	Class	Size (sq. mi.)	Name	Designation	Priority
VI-STC-61	Hess Oil Virgin Islands Harbor	C	0.671	N/A	N/A	Low
VI-STC-62	Limetree Bay	B	0.7239	N/A	N/A	Low
VI-STC-63	Martin-Marietta Alumina Harbor	C	0.3228	N/A	N/A	Low
VI-STC-64	Manning Bay/Estate Anguilla Beach	B	0.0508	N/A	N/A	Low
VI-STC-65	Hovensa, west	B	1.2865	N/A	N/A	Low
VI-STC-66	Hovensa subwatershed, offshore	B	2.8305	N/A	N/A	Low
VI-STC-67	Southports St. Croix HUC14, offshore	B	8.1966	N/A	N/A	Low
VI-STC-68	Bethlehem subwatershed, inshore	B	0.2149	N/A	N/A	Low
VI-STC-69	Bethlehem subwatershed, offshore	B	0.3971	N/A	N/A	Low
VI-STC-70	Airport, nearshore	B	2.1943	N/A	N/A	Low
VI-STC-71	Airport, offshore	B	4.263	N/A	N/A	Low
VI-STC-72	Airport St. Croix HUC14, offshore	B	4.1803	N/A	N/A	Low
VI-STC-73	Diamond, nearshore	B	0.1699	N/A	N/A	Low
VI-STC-74	Enfield Green Beach/VIRIL Outfall	B	0.1376	N/A	N/A	Low
VI-STC-75	Diamond subwatershed, offshore	B	2.8479	N/A	N/A	Low
VI-STC-76	Carlton Beach	B	0.2447	N/A	N/A	Low
VI-STC-77	Long Point Bay	B	0.8376	N/A	N/A	Low
VI-STC-78	Long Point Bay subwatershed, offshore	B	4.9231	N/A	N/A	Low
VI-STC-79	Good Hope Beach	B	0.1876	N/A	N/A	Low
VI-STC-80	Sandy Point, nearshore south	B	2.0121	Sandy Point	National Wildlife Refuge	Medium
VI-STC-81	Sandy Point, offshore south	B	7.4306	N/A	N/A	Low
VI-STC-82	Sandy Point, nearshore west	B	0.1158	Sandy Point	National Wildlife Refuge	Medium

Appendix C: Assessment Unit Priority Based on World Protected Areas						
AU ID	AU Name	Class	Size (sq. mi.)	Name	Designation	Priority
VI-STC-83	Sandy Point, offshore west	B	0.4875	Sandy Point	National Wildlife Refuge	Medium
VI-STC-84	Southwest St. Croix HUC14, offshore	B	18.347	N/A	N/A	Low
VI-STJ-01	Caneel Bay	B	0.2623	Virgin Islands	National Park	Medium
VI-STJ-02	Hawksnest Bay	B	0.2246	Virgin Islands	National Park	Medium
VI-STJ-03	Trunk Bay	A	0.0685	Virgin Islands	National Park	Medium
VI-STJ-04	Hawksnest Bay subwatershed, offshore	B	1.7287	Virgin Islands	National Park	Medium
VI-STJ-05	Cinnamon Bay	B	0.1456	Virgin Islands	National Park	Medium
VI-STJ-06	Maho Bay/Francis Bay	B	0.346	Virgin Islands	National Park	Medium
VI-STJ-07	Maho Bay subwatershed, offshore	B	1.6071	Virgin Islands	National Park	Medium
VI-STJ-08	Mary Point	B	0.4831	Virgin Islands	National Park	Medium
VI-STJ-09	Leinster Bay	B	0.6627	Virgin Islands	National Park	Medium
VI-STJ-10	Minnebeck Bay	B	1.4876	Virgin Islands	National Park	Medium
VI-STJ-11	Newfound Bay	B	0.0765	N/A	N/A	Low
VI-STJ-12	North St. John HUC14, offshore	B	23.719	Carval Rock	Marine Protected Area	Medium
VI-STJ-13	Round Bay	B	0.6965	Virgin Islands	National Park	High
VI-STJ-14	Hurricane Hole	B	0.7689	Virgin Islands	National Park	Medium
VI-STJ-15	Coral Harbor	B	0.6015	Virgin Islands	National Park	High
VI-STJ-16	Coral Bay	B	2.2337	Virgin Islands	National Park	Medium
VI-STJ-17	Salt Pond Bay	B	0.1978	Virgin Islands	National Park	Medium
VI-STJ-18	Grootman Bay	B	0.1046	Virgin Islands	National Park	Medium
VI-STJ-19	Great Lameshur Bay	B	0.359	Virgin Islands	National Park	Medium
VI-STJ-20	Southeast St. John HUC14, offshore	B	24.319	Booby Rock	Marine Protected Area	Medium
VI-STJ-21	Genti Bay, nearshore	B	0.0947	Virgin Islands	National Park	Medium

Appendix C: Assessment Unit Priority Based on World Protected Areas						
AU ID	AU Name	Class	Size (sq. mi.)	Name	Designation	Priority
VI-STJ-22	Genti Bay, offshore	B	0.769	Virgin Islands	National Park	Medium
VI-STJ-23	Fish Bay	B	0.2103	Virgin Islands	National Park	High
VI-STJ-24	Fish Bay subwatershed, offshore	B	0.1824	Virgin Islands	National Park	Medium
VI-STJ-25	Rendezvous Bay	B	0.4677	N/A	N/A	Low
VI-STJ-26	Chocolate Hole	B	0.1004	N/A	N/A	Low
VI-STJ-27	Rendezvous Bay subwatershed, offshore	B	0.1863	N/A	N/A	Low
VI-STJ-28	Great Cruz Bay	B	0.1396	N/A	N/A	Low
VI-STJ-29	Turner Bay/Enighed Pond	B	0.057	N/A	N/A	Low
VI-STJ-30	Cruz Bay	B	0.0674	Virgin Islands	National Park	Medium
VI-STJ-31	Great Cruz Bay watershed, offshore	B	0.5775	Virgin Islands	National Park	Medium
VI-STJ-32	Southwest St. John HUC14, offshore	B	10.142	Virgin Islands	National Park	Medium
VI-STJ-33	Pillsbury Sound	B	6.9399	Steven Cay	Marine Protected Area	Medium
VI-STT-01	Botany Bay	B	0.1576	N/A	N/A	Low
VI-STT-02	Stumpy Bay	B	0.0597	N/A	N/A	Low
VI-STT-03	Botany Bay subwatershed, offshore	B	1.309	N/A	N/A	Low
VI-STT-04	Santa Maria Bay	B	0.3617	N/A	N/A	Low
VI-STT-05	Caret Bay	B	0.0266	N/A	N/A	Low
VI-STT-06	Neltjeberg Bay	B	0.0562	N/A	N/A	Low
VI-STT-07	Dorothea	B	0.0254	N/A	N/A	Low
VI-STT-08	Hull Bay	B	0.2049	N/A	N/A	Low
VI-STT-09	Dorothea Bay subwatershed, offshore	B	0.7673	N/A	N/A	Low

Appendix C: Assessment Unit Priority Based on World Protected Areas						
AU ID	AU Name	Class	Size (sq. mi.)	Name	Designation	Priority
VI-STT-10	Magens Bay	B	1.6208	Magen's Bay	Local Conservation Area	Medium
VI-STT-11	Northwest St. Thomas HUC14, offshore	B	55.088	Cockroach Cay	Marine Protected Area	Medium
VI-STT-12	Lovenlund Bay	B	0.0228	N/A	N/A	Low
VI-STT-13	Mandahl Bay (Marina)	B	0.0131	N/A	N/A	Low
VI-STT-14	Tutu Bay	B	0.0414	N/A	N/A	Low
VI-STT-15	Sunsi Bay	B	0.0152	N/A	N/A	Low
VI-STT-16	Spring Bay	B	0.0102	N/A	N/A	Low
VI-STT-17	Mandahl Bay subwatershed, offshore	B	1.1379	N/A	N/A	Low
VI-STT-18	Water Bay	B	0.0845	N/A	N/A	Low
VI-STT-19	Smith Bay	B	0.1187	Smith Bay	Local Park	Medium
VI-STT-20	Smith Bay subwatershed, offshore	B	0.4103	N/A	N/A	Low
VI-STT-21	St. John Bay	B	0.0411	N/A	N/A	Low
VI-STT-22	Red Bay	B	0.0078	N/A	N/A	Low
VI-STT-23	Vessup Bay	B	0.0619	N/A	N/A	Low
VI-STT-24	Red Hook Bay	B	0.1772	N/A	N/A	Low
VI-STT-25	Great Bay	B	0.5593	St. Thomas East End	Reserves	High
VI-STT-26	Red Hook Bay, offshore	B	0.4725	Shark Island	Marine Protected Area	Medium
VI-STT-27	St. James Islands, offshore	B	0.6691	Dog Island	Marine Protected Area	Medium
VI-STT-28	Cowpet Bay	B	0.0757	St. Thomas East End	Reserves	High
VI-STT-29	St. James Bay	B	1.2439	Dog Island	Marine Protected Area	Medium
VI-STT-30A	Northeast St. Thomas HUC14, offshore north	B	42.927	N/A	N/A	Low

Appendix C: Assessment Unit Priority Based on World Protected Areas						
AU ID	AU Name	Class	Size (sq. mi.)	Name	Designation	Priority
VI-STT-30B	Northeast St. Thomas HUC14, offshore south	B	24.908	Dog Island	Marine Protected Area	Medium
VI-STT-31	Nazareth Bay	B	0.1793	St. Thomas East End	Reserves	High
VI-STT-32	Jersey Bay, offshore	B	1.2925	Cas Cay	National Conservation Area	High
VI-STT-33	Benner Bay	B	0.4187	Cas Cay	National Conservation Area	Medium
VI-STT-34	Benner Bay Lagoon Marina	B	0.0355	Compass Point	Marine Protected Area	High
VI-STT-35	Mangrove Lagoon	B	0.2931	St. Thomas East End	Reserves	High
VI-STT-36	Frenchman Bay subwatershed, east	B	0.3532	St. Thomas East End	Reserves	High
VI-STT-37	Frenchman Bay	B	0.0195	N/A	N/A	Low
VI-STT-38	Limetree Bay	B	0.0065	N/A	N/A	Low
VI-STT-39	Morningstar Bay	B	0.0215	N/A	N/A	Low
VI-STT-40	Pacquereau Bay	B	0.0453	N/A	N/A	Low
VI-STT-41	Frenchman Bay subwatershed, offshore	B	2.9233	St. Thomas East End	Reserves	High
VI-STT-42	Southeast St. Thomas HUC14, offshore	B	50.939	Buck Island	National Wildlife Refuge	Medium
VI-STT-43	St. Thomas Harbor, inner	C	0.7495	Virgin Islands	National Park	Medium
VI-STT-44	St. Thomas Harbor, outer	B	1.2128	Virgin Islands	National Park	Medium
VI-STT-45	Gregerie Channel	B	1.7072	Virgin Islands	National Park	Medium
VI-STT-46	Sprat Bay	B	0.3814	N/A	N/A	Low
VI-STT-47	Hassel Island at Haulover Cut to Regis Point	C	0.2074	N/A	N/A	Low
VI-STT-48	Water Isle Hotel, Beach	B	0.0057	N/A	N/A	Low

Appendix C: Assessment Unit Priority Based on World Protected Areas						
AU ID	AU Name	Class	Size (sq. mi.)	Name	Designation	Priority
VI-STT-49	Druif Bay	B	0.0331	N/A	N/A	Low
VI-STT-50	Flamingo	B	0.061	N/A	N/A	Low
VI-STT-51	Krum Bay	C	0.0754	N/A	N/A	Low
VI-STT-52	Lindbergh Bay	B	0.2612	N/A	N/A	Low
VI-STT-53	Cyril E. King Airport subwatershed, offshore	B	0.8499	N/A	N/A	Low
VI-STT-54	Perseverance Bay, offshore	B	0.4734	N/A	N/A	Low
VI-STT-55	Brewers Bay	B	0.1076	N/A	N/A	Low
VI-STT-56	Perseverance Bay	B	0.2114	N/A	N/A	Low
VI-STT-57	Fortuna Bay	B	0.0827	N/A	N/A	Low
VI-STT-58	Fortuna Bay subwatershed, offshore	B	0.6553	N/A	N/A	Low
VI-STT-59	Northwest St. Thomas HUC14, offshore	B	77.71	Flat Cay	Marine Protected Area	Medium

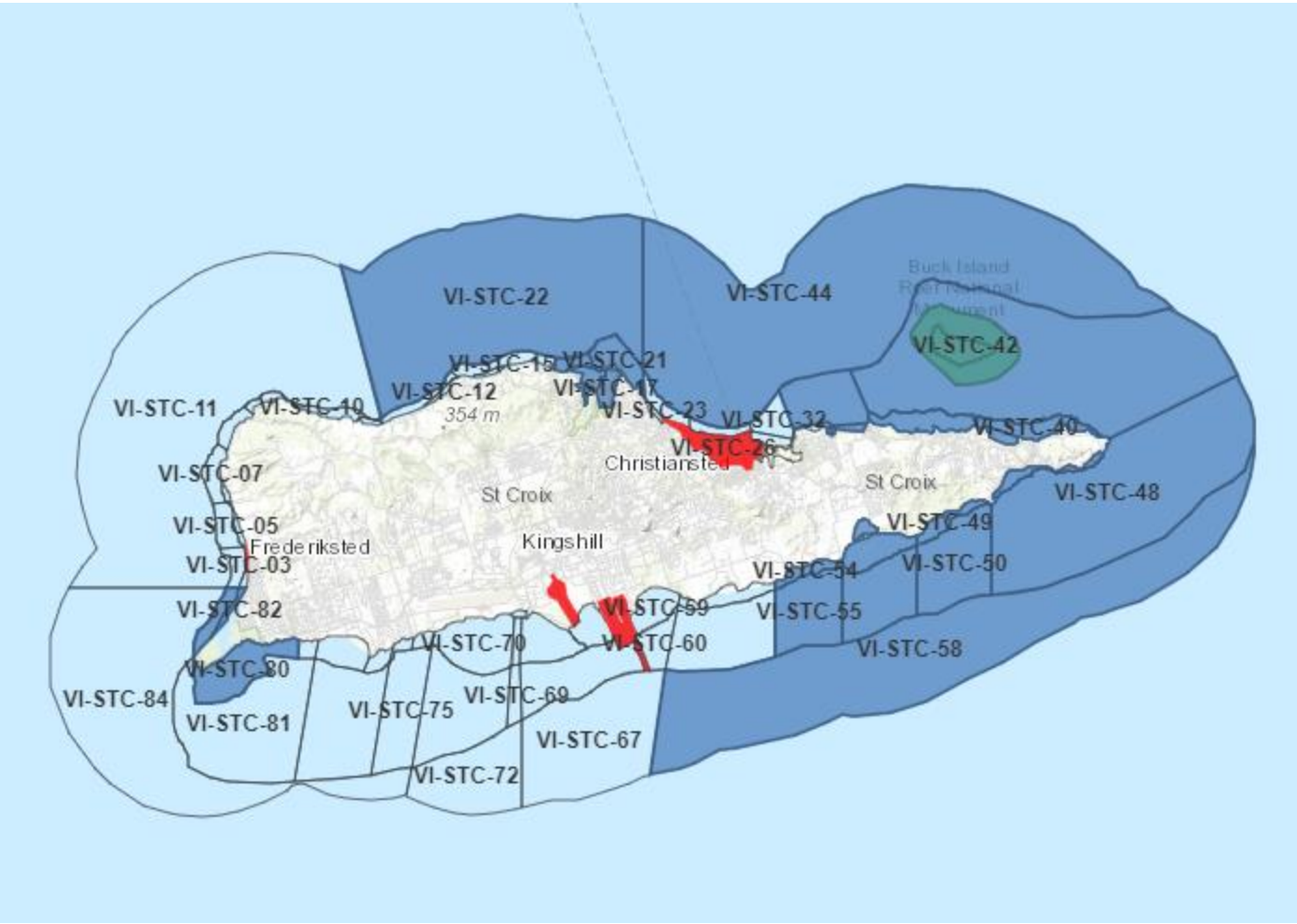

Figure 5: St. Croix Assessment Units Intersected with Marine Protected Areas in blue

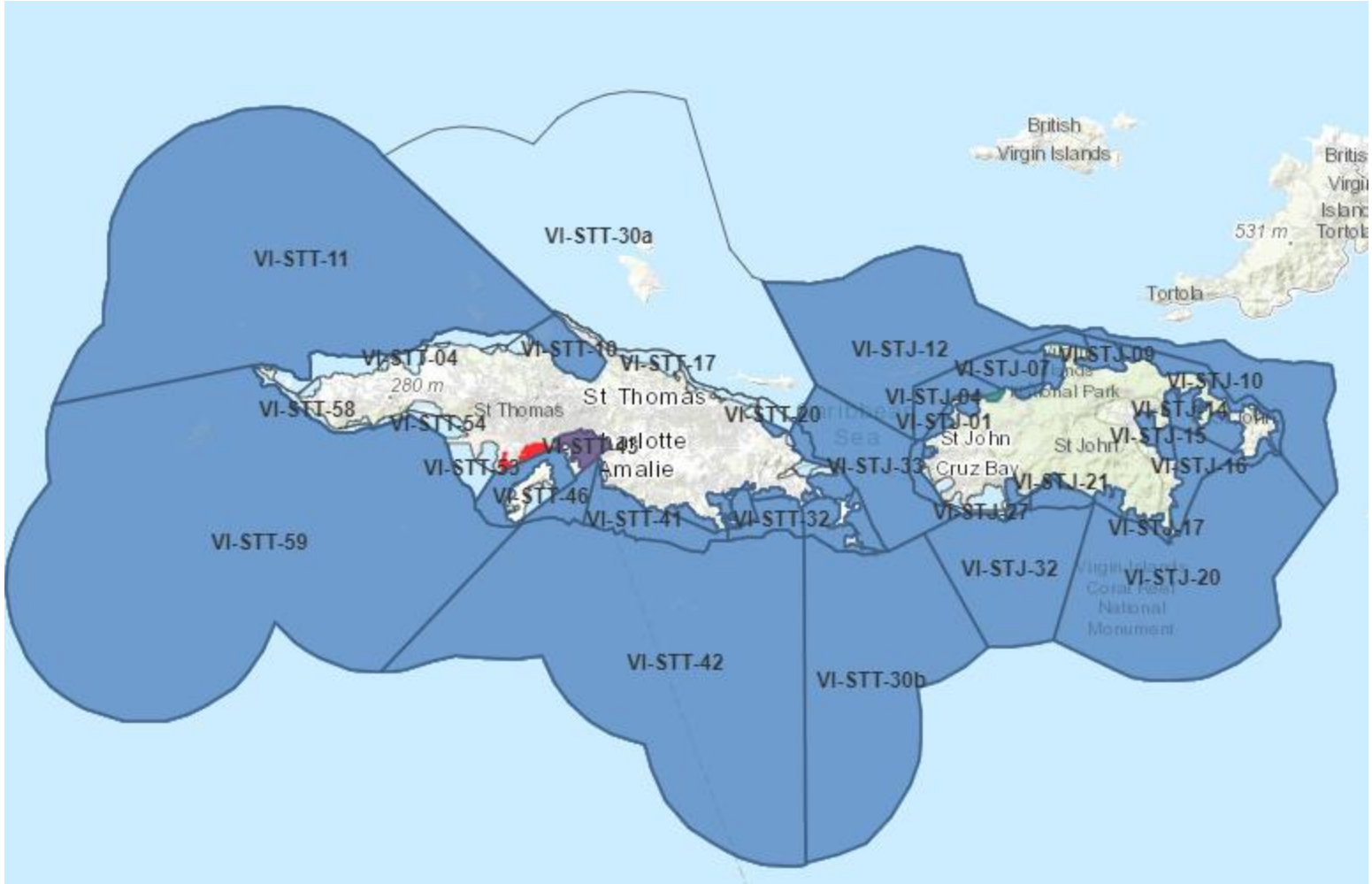

Figure 6: St. John & St. Thomas Assessment Units Intersected with Marine Protected Areas in blue