

2023 USVI SeaVentures Strike Team Annual Summary Report

Project time period: March 2022 - December 2023

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Summary:

In the United States Virgin Islands (USVI) SeaVentures has two active coral disease strike teams funded by NOAA Coral Reef Conservation Program project “Coral Disease Response in the US Caribbean”. These teams work to apply antibiotics (Base2B:Amoxicillin ratio 8:1) to active stony coral tissue loss disease lesions at multiple sites across the territory on a regular basis (Hull Bay, Cane Bay, Northstar, Carambola, Butler Bay, and Frederiksted Pier). Treatments began in March 2022 and as of December 2023, a total of 3300 corals have been treated across the 6 sites (Figure 1) with less treated in 2023 compared to 2022. Overall, numbers of every species treated were less in 2023 than 2022 (Figure 2). Both AGSP and SSID increased in percentage of treatments performed, mostly due to the lack of availability of other higher priority species to treat (Figure 2). Decreases in treatment numbers are not due to less dives being conducted but rather less corals needing treatment. As the disease epidemic progresses, corals more susceptible to SCTLD die out while resistant or resilient ones need less treatment less frequently. In addition, a thermal bleaching event occurred September - December 2023 which drastically reduced the number of corals treated both due to the inability to distinguish between bleaching and disease stress, as well as a decrease in disease lesions presenting overall (Figure 3). In 2023, divers spent approximately 210 cumulative hours underwater (Table 2). On average, each diver treated approximately 4.8 corals per dive (Table 2).

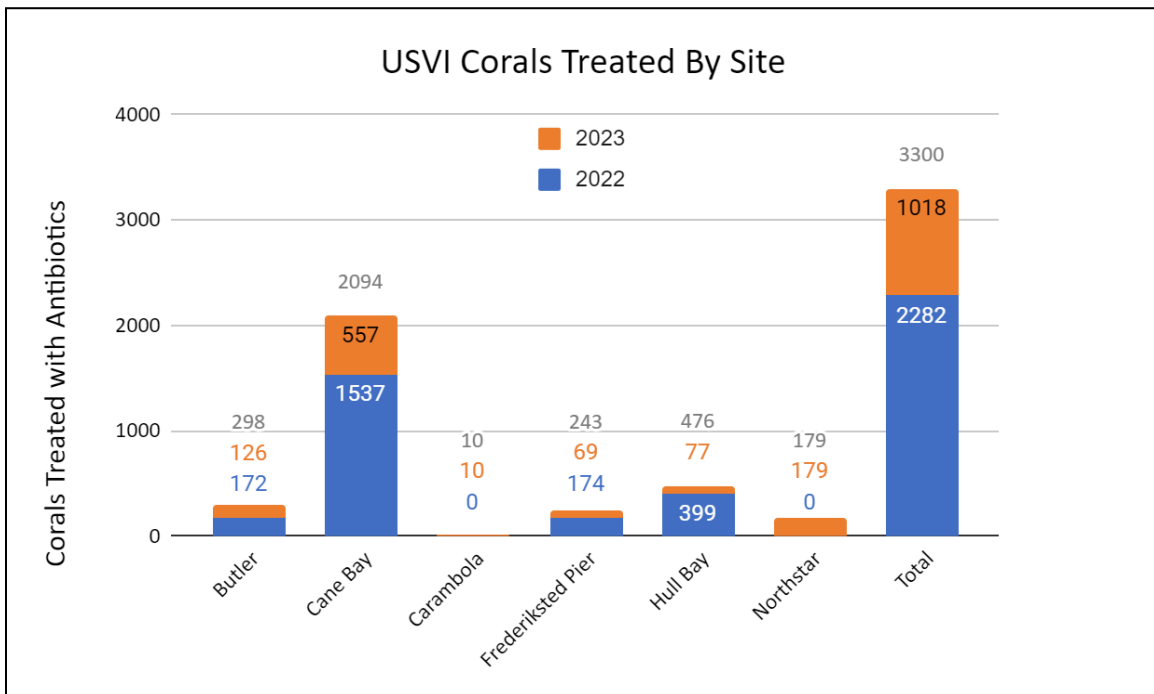


Figure 1: Total corals treated with antibiotics by SeaVentures in the USVI from March 2022 - December 2023. N = 3300

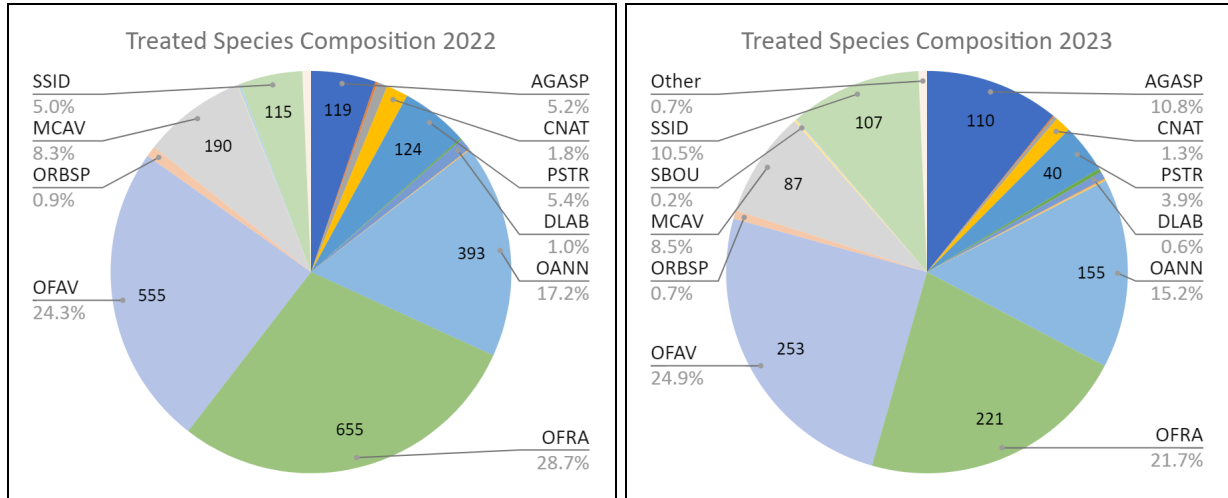


Figure 2: Coral species treated in the USVI from March 2022 - December 2022 (left) and January 2023 - December 2023 (right). Coral species codes can be found in Table 1 below. N = 3300.

Table 1: USVI coral species codes

Scientific Name	Coral Code
<i>Agaricia</i> species	AGAsp
<i>Colpophyllia natans</i>	CNAT
<i>Dendrogyra cylindrus</i>	DCYL
<i>Diploria labyrinthiformis</i>	DLAB
<i>Dichocoenia stokesii</i>	DSTO
<i>Eusmelia fastigiata</i>	EFAS
<i>Montastrea cavernosa</i>	MCAV
<i>Meandrina</i> species	MMEA
<i>Mycetophyllia</i> species	MYCsp
<i>Orbicella annularis</i>	OANN
<i>Orbicella faveolata</i>	OFAV
<i>Orbicella franksii</i>	OFRA
<i>Orbicella</i> species	ORBsp
<i>Pseudodiploria clivosa</i>	PCLI
<i>Pseudodiploria strigosa</i>	PSTR
<i>Solenastrea bournoni</i>	SBOU
<i>Stephanocoenia intersepta</i>	SINT
<i>Siderastrea siderea</i>	SSID

Table 2: Corals treated vs human effort

Site	Number of individual dives (2023)	Total corals Treated (2023)	Average corals treated per diver on a single dive (2023)
Butler Ledge	17	126	7.4
Cane Bay	99	557	5.6
Carambola	10	10	1.0
Frederiksted Pier	16	69	4.3
Hull Bay	48	77	1.6
Northstar	20	179	9.0
Grand Total	210	1018	4.8

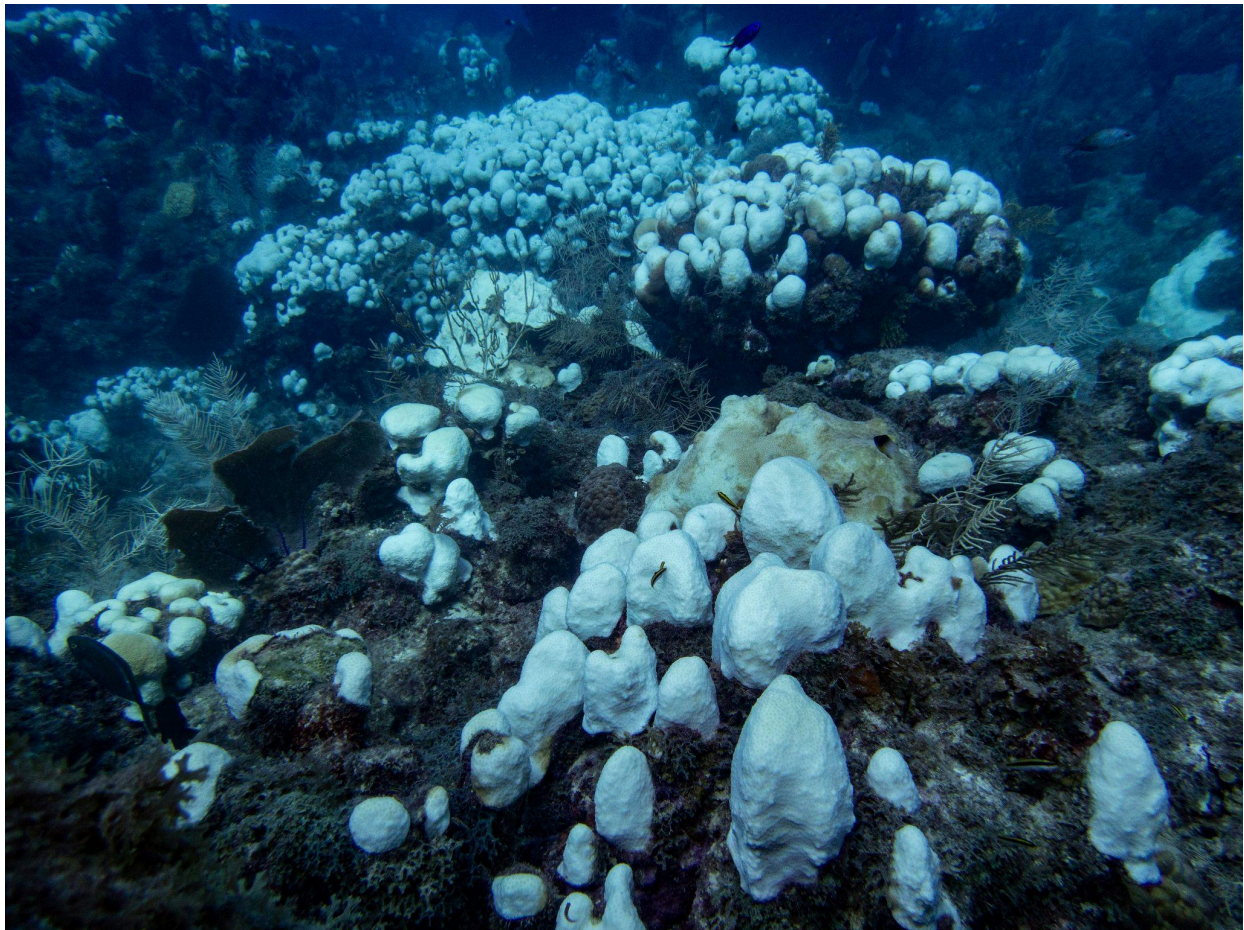


Figure 3: Orbicella reef bleached in November 2023 in Cane Bay, St. Croix. Photo by Leslie Henderson.