Recent Timeline of Coral Reef M

Disclaimer

The purpose of this timeline is to present a simplifying visualization of the events that may have influenced the development of capacity to manage coral reefs in U
By its nature, it is incomplete. For example, the start date is somewhat arbitrary and therefore does not include events relating to coral reef management that have
Furthermore, it is intended as a living document that we hope will continue to evolve and improve as past events are added, existing events are reinterpreted and t
While the primary intended use of this was to help inform a coral reef capacity needs assessment we conducted in 2012, we believe the visualization of events can
serve other educational purposes, and illustrate the importance of investing in capcaity to manage coral reefs into the future.
We value your input to the timeline and encourage you to contact us at info@sustainametrix.com with any suggestions you might have to improve it.

Event by Color

- 🟠 *Governance Events*
- 🔵 *Socio-economic Events*
- 🟢 *Biophysical Events*

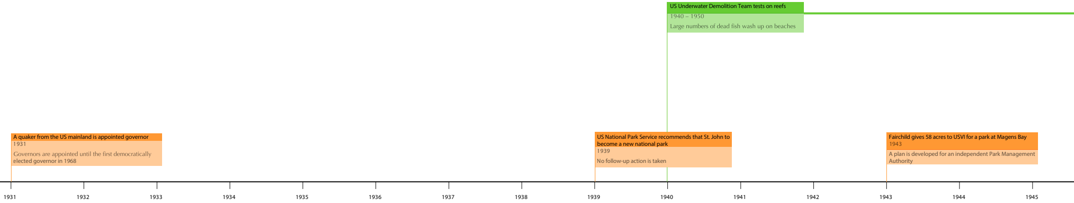
United States purchased the Virgin Islands from Denmark
1917

"A naval administration is introduced. Territory is managed by War Department for a variety of strategic military needs, such as Panama Canal protection. This is the beginning of an era of significant amounts of dredging over coming decades."

1917 1918 1919 1920 1921 1922 1923 1924 1925 1926 1927 1928 1929 1930

anagement in United States Virg

nited States Virgin Islands over time.
occured prior.
future events included.
be used in the future to improve a collective understanding of coral reef management,



US Underwater Demolition Team tests on reefs
1940 – 1950
Large numbers of dead fish wash up on beaches

A quaker from the US mainland is appointed governor
1931
Governors are appointed until the first democratically elected governor in 1968

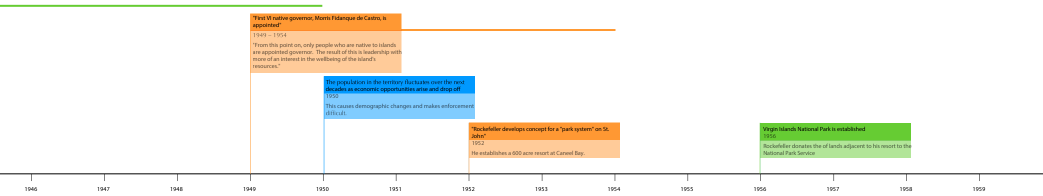
US National Park Service recommends that St. John to become a new national park
1939
No follow-up action is taken

Fairchild gives 58 acres to USVI for a park at Magens Bay
1943
A plan is developed for an independent Park Management Authority

in Islands

developed by

ustainaMETRIX



"First VI native governor, Morris Fidanque de Castro, is appointed"
1949 – 1954

"From this point on, only people who are native to islands are appointed governor. The result of this is leadership with more of an interest in the wellbeing of the island's resources."

The population in the territory fluctuates over the next decades as economic opportunities arise and drop off
1950

This causes demographic changes and makes enforcement difficult.

"Rockefeller develops concept for a "park system" on St. John"
1952

He establishes a 600 acre resort at Caneel Bay.

Virgin Islands National Park is established
1956

Rockefeller donates the of lands adjacent to his resort to the National Park Service

Immigration of West Indians to the territory
1960 – 1970
"The immigration is due to tourism, heavy manufacturing, and allied construction. The heterogeneous population makes management difficult because of diverse attitudes and behaviors."

Population in territory doubles
1960 – 1970
"It goes from 32,000 to 75,171, or from 224 ppl/sq.mi to 577 ppl/sq.mi"

Study
1960
"Survey of recreational needs, sites, and services in USVI"

Buck Island Reef National Monument is established
1961
Designated by USDOI to set example for the territorial government

Subdivision Regulations First Adopted
1961

"2,287 hectares of marine territory added to VINP"
1962
VINP is one of first MPAs in world

Harvey Alumina opens on St. Croix.
1962

Shift in immigration due to new industries on St. Croix.
1965
"Before, most immigrants went to St. Thomas."

Hess Oil (HOVENSA) refinery opens on St. Croix.
1966
Becomes one of the main employers on the island.

Study
1968
"Survey of resources for recreation, tourism, and open space in USVI"

Republican Governor Melvin Herbert Evans elected.
1969 – 1975
First democratically elected governor.

"TEKTITE saturation diving project in Lameshur Bay, St. John"
1969
"Project initiated by DOI, but due to absence of local political support, program eventually moves to Puerto Rico."

West Indies Laboratory of Fairleigh Dickinson University (FDU) built
1969 – 1971

"Introduction of major fishing gear, charters, etc."
1970 – 1980
Leads to increased impacts on fish and reefs

Economic recession leads to mass deportations
1970 – 1980
Many undocumented immigrants had come to the USVI for work

Sea turtle species listed on Endangered Species Act
1970 – 1980

Tourism industry and economy grows
1970 – 1980
"US government aims to build the ""American paradise"". This also leads to population growth. After the boom in the 1970s, the growth continues at a slower rate."

Study
1970
"Survey of ""The Virgin Islands and the Sea""

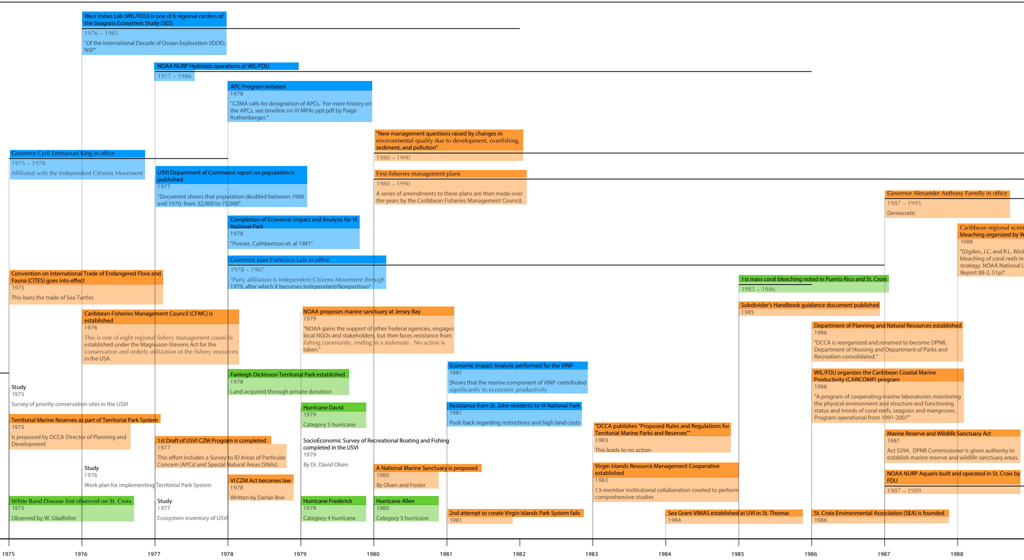
West Indies Laboratory of Fairleigh Dickinson University (FDU) in operation
1971 – 1989

Current Zoning Code Adopted
1972
"Between 1972 and 2012, the table of permitted uses is updated 15 times"

Senate Act proposing Territorial Park System
1972
"Act calls for reorganization of Department of Conservation and Cultural Affairs (now DPNR). Leads to a serious planning effort, but no followup implementation"

Study
1973
Survey of public recreational sites in the USVI

1960 1961 1962 1963 1964 1965 1966 1967 1968 1969 1970 1971 1972 1973 1974



Governor Cyril Emmanuel King in office
1975 – 1978
Affiliated with the Independent Citizens Movement

Convention on International Trade of Endangered Flora and Fauna (CITES) goes into effect
1975
This bans the trade of Sea Turtles

Study
1975
Survey of priority conservation sites in the USVI

Territorial Marine Reserves as part of Territorial Park System
1975
Is proposed by DCCA Director of Planning and Development

White Band Disease first observed on St. Croix
1975
Observed by W. Gladfelter

West Indies Lab (WIL/FDU) is one of 6 regional centers of the Seagrass Ecosystem Study (SES)
1976 – 1982
"Of the International Decade of Ocean Exploration (IDOE), NSF"

Caribbean Fisheries Management Council (CFMC) is established
1976
This is one of eight regional fishery management councils established under the Magnuson-Stevens Act for the conservation and orderly utilization of the fishery resources in the USA.

Study
1976
Work plan for implementing Territorial Park System

NOAA NURP Hydrolab operations at WIL/FDU
1977 – 1986

USVI Department of Commerce report on population is published
1977
"Document shows that population doubled between 1960 and 1970, from 32,000 to 75,000"

1st Draft of USVI CZM Program is completed
1977
This effort includes a Survey to ID Areas of Particular Concern (APCs) and Special Natural Areas (SNAs)

Study
1977
Ecosystem inventory of USVI

APC Program initiated
1978
"CZMA calls for designation of APCs. For more history on the APCs, see timeline on VI MPAs ppt pdf by Paige Rothenberger."

Completion of Economic Impact and Analysis for VI National Park
1978
"Posner, Cuthbertson et. al 1981"

Governor Juan Francisco Luis in office
1978 – 1987
"Party affiliation is Independent Citizens Movement through 1979, after which it becomes Independent/Nonpartisan"

Fairleigh Dickinson Territorial Park established
1978
Land acquired through private donation

VI CZM Act becomes law
1978
Written by Darlan Brin

NOAA proposes marine sanctuary at Jersey Bay
1979
"NOAA gains the support of other Federal agencies, engages local NGOs and stakeholders, but then faces resistance from fishing community, ending in a stalemate. No action is taken."

Hurricane David
1979
Category 5 hurricane

SocioEconomic Survey of Recreational Boating and Fishing completed in the USVI
1979
By Dr. David Olsen

Hurricane Frederick
1979
Category 4 hurricane

"New management questions raised by changes in environmental quality due to development, overfishing, sediment, and pollution"
1980 – 1990

First fisheries management plans
1980 – 1990
A series of amendments to these plans are then made over the years by the Caribbean Fisheries Management Council.

A National Marine Sanctuary is proposed
1980
By Olsen and Foster

Hurricane Allen
1980
Category 5 hurricane

Economic Impact Analysis performed for the VINP
1981
Shows that the marine component of VINP contributed significantly to economic productivity

Resistance from St. John residents to VI National Park
1981
Push back regarding restrictions and high land costs

2nd attempt to create Virgin Islands Park System fails
1981

"DCCA publishes "Proposed Rules and Regulations for Territorial Marine Parks and Reserves""
1983
This leads to no action

Virgin Islands Resource Management Cooperative established
1983
13-member institutional collaboration created to perform comprehensive studies

Sea Grant VIMAS established at UVI in St. Thomas
1984

1st mass coral bleaching noted in Puerto Rico and St. Croix
1985 – 1986

Subdivider's Handbook guidance document published
1985

Department of Planning and Natural Resources established
1986
"DCCA is reorganized and renamed to become DPNR, Department of Housing and Department of Parks and Recreation consolidated."

WIL/FDU organizes the Caribbean Coastal Marine Productivity (CARICOMP) program
1986
"A program of cooperating marine laboratories monitoring the physical environment and structure and functioning status and trends of coral reefs, seagrass and mangroves. Program operational from 1991-2007"

St. Croix Environmental Association (SEA) is founded
1986

Governor Alexander Anthony Farrelly in office
1987 – 1995
Democratic

Marine Reserve and Wildlife Sanctuary Act
1987
Act 5294. DPNR Commissioner is given authority to establish marine reserve and wildlife sanctuary areas.

NOAA NURP Aquaris built and operated in St. Croix by FDU
1987 – 1989

Caribbean regional scien bleaching organized by W
1988
"(Ogden, J.C. and R.L. Wick bleaching of coral reefs in strategy. NOAA National U Report 88-2, 51p)"

1975 1976 1977 1978 1979 1980 1981 1982 1983 1984 1985 1986 1987 1988

Population declines post-Hurricane Hugo
1989 – 1999
This is the beginning of a trend in which native born USVI comprising less than 45% of population

tific meeting on mass coral
IL on St. Croix
klund. (eds.) 1988. Mass
the Caribbean: A research
Undersea Res. Prog. Research

The establishment of seasonal closure at Red Hind Marine Conservation District
1989
The closure is revised in 1999 to become a year-round closure.

Hurricane Hugo
1989
Category 4/5

Population density is 741 people per square mile
1990

Rules and Regulations proposed for a Virgin Islands Marine Reserve System by DPNR DFW
1990
This is one of several R&Rs established for various marine reserves and wildlife sanctuaries over a number of years that were never implemented.

Sea Grant VIMAS established at UVI in St. Croix
1990

Study
1990
Looking at damage from Hurricane Hugo. The suggestions coming from this report are ignored in coming decades.

TNC opens VI office
1990

CARICOMP program operates
1991 – 2007

CZM Program APC Management Plans developed
1991 – 2001
"The plans Include studies and reports for each APC. Process is forced by NOAA/OCRM. Focus of management plans is on achieving management goals not on the process for achieving those goals (ie. interagency and public involvement). APC management plans have potential to provide conservation guidelines and site protection strategies at 18 sites in coastal zone, but process turns out to be a drawn out, complex, and disappointing planning exercise. "

1st meeting of the Coral Reef Task Force in the USVI
1991

Shoreline is cleared of vessels from Hugo
1991

Compass Point Marine Reserve and Wildlife Sanctuary (MWRS)
1992

US Omnibus Territories Act
1992
Creates Salt River Bay National Historical Park and Ecological Preserve and VI Territorial Park Commission

VI Territorial Park Commission
1992
"Commission established with a mandate to "see that all park management development and interpretation activities should be guided by a single management plan""

Establishment of MPA at Mutton Snapper Spawning Site
1993
This MPA is jointly managed by federal and territorial governments.

Year-round Red Hind closure (STX)
1993
An MPA established at Lang Bank

Cas Cay/Mangrove Lagoon MRWS
1994

Motorboat Speed Restrictions go into place
1994

St. James MRWS
1994

Governor Roy Lester Schneider in office
1995 – 1999
Independent

"562,000 overnight visitors, 1,171,000 cruise ship passengers in one year"
1995

Salt River Bay MRWS
1995
Jointly managed by federal and territorial governments.

Hurricane Marilyn
1995
DPNR facilities struck

Magnuson-Stevens Act amended
1996
It becomes the Sustainable Fisheries Act

1st congressional hearing on coral bleaching
1997
"U.S. Senate, Committee on Appropriations (Weicker and Hollings), November 10, 1987: "Coral bleaching in the Caribbean: Causes and a strategy for action.""

Fisheries Reserve is proposed to be sponsored by CFMC in San Juan
1997
Proposal drops after facing opposition by local fishers and little support by VI Government

Rapid SocioEconomic Evaluation of Proposed Marine Conservation District on St. John
1997
"by Downs and Peterson, 1997"

Study
1998
Study of the longer-term effects of Hurricane Hugo

Tourism accounts for 70% GDP (WRI)
1998

Bleaching event
1998

Center for Marine and Environmental Studies established at UVI
1999

Federal/Local/Academic agreement for new marine facility on St. Croix
1999
Initiated by Secretary Babbit

Governor Charles Wesley Turnbull in office
1999 – 2007
Democratic

Harvey Alumina closes on St. Croix
1999
Ending aluminum processing

SEA Salt River Bay Mangrove Restoration
1999 – 2001
"Response to Hurricane Hugo, with tons of high school volunteers"

SEA's Southgate Coastal Reserve established
1999
100 acres due to private donation

USGS Study
1999
Leads to recommendations for creation of a Virgin Islands Coral Reef National Park and Replenishment Areas

CRTF meeting in USVI
1999

Martin Mariata
1999

Rennaissance Park
1999

Vialco
1999

Beginning of Territorial Coral Reef Monitoring Program
2000
As funded through NOAA. UVI has also done work with funding through DEP predating this project. The TCRMP as it is currently incorporates the previous work that was funded through DEP since that funding source disappeared.

Establishment of NOAA CRCP
2000

Small Pond at Frank Bay MRWS
2000

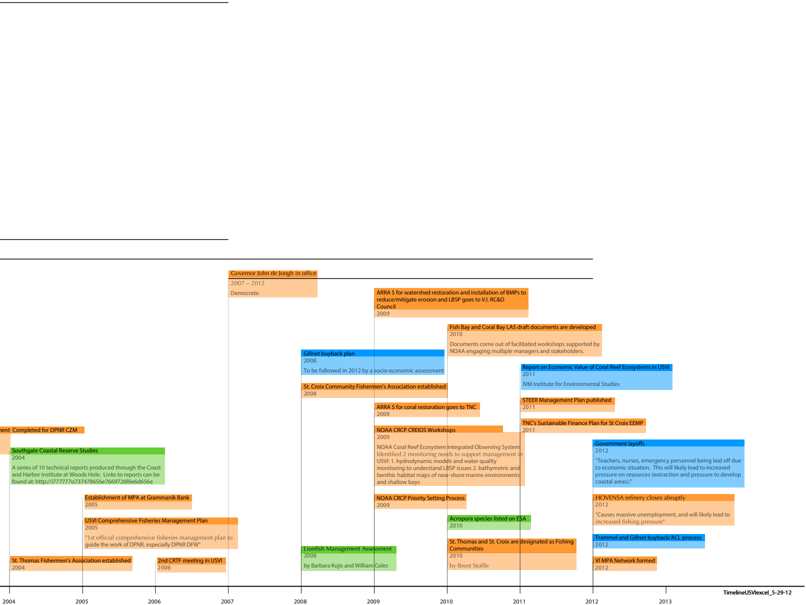
VIWMA leads USVI sewer system upgrades
2001 – 2012
"No more primary treatment plants, all advanced secondary plants"

Act Establishing St. Croix East End Marine Park
2002
Most recent St. Croix EEMP Management Plan

Management Framework for USVI MPA System
2002
Published by Lloyd Gardner and UVI for DPNR CZM

Socio-economic Assessm
2003
By UVI and consultant

1989 1990 1991 1992 1993 1994 1995 1996 1997 1998 1999 2000 2001 2002 2003



ent Completed for DPNR CZM

Southgate Coastal Reserve Studies
2004
A series of 10 technical reports produced through the Coast and Harbor Institute at Woods Hole. Links to reports can be found at: http://i777777o737478656e7669726f6e6d656e

St. Thomas Fishermen's Association established
2004

Establishment of MPA at Grammanik Bank
2005

USVI Comprehensive Fisheries Management Plan
2005
"1st official comprehensive fisheries management plan to guide the work of DPNR, especially DPNR DFW"

2nd CRTF meeting in USVI
2006

Governor John de Jongh in office
2007 – 2012
Democratic

Gillnet buyback plan
2008
To be followed in 2012 by a socio-economic assessment

St. Croix Community Fishermen's Association established
2008

Lionfish Management Assessment
2008
by Barbara Kojis and William Coles

ARRA $ for watershed restoration and installation of BMPs to reduce/mitigate erosion and LBSP goes to V.I. RC&D Council
2009

ARRA $ for coral restoration goes to TNC
2009

NOAA CRCP CREIOS Workshops
2009
NOAA Coral Reef Ecosystem Integrated Observing System Identified 2 monitoring needs to support management in USVI: 1. hydrodynamic models and water quality monitoring to understand LBSP issues 2. bathymetric and benthic habitat maps of near-shore marine environments and shallow bays

NOAA CRCP Priority Setting Process
2009

Fish Bay and Coral Bay LAS draft documents are developed
2010
Documents come out of facilitated workshops supported by NOAA engaging multiple managers and stakeholders.

Acropora species listed on ESA
2010

St. Thomas and St. Croix are designated as Fishing Communities
2010
by Brent Stoffle

Report on Economic Value of Coral Reef Ecosystems in USVI
2011
IVM Institute for Environmental Studies

STEER Management Plan published
2011

TNC's Sustainable Finance Plan for St Croix EEMP
2011

Government layoffs
2012
"Teachers, nurses, emergency personnel being laid off due to economic situation. This will likely lead to increased pressure on resources (extraction and pressure to develop coastal areas)."

HOVENSA refinery closes abruptly
2012
"Causes massive unemployment, and will likely lead to increased fishing pressure"

Trammel and Gillnet buyback/ACL process
2012

VI MPA Network formed
2012

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