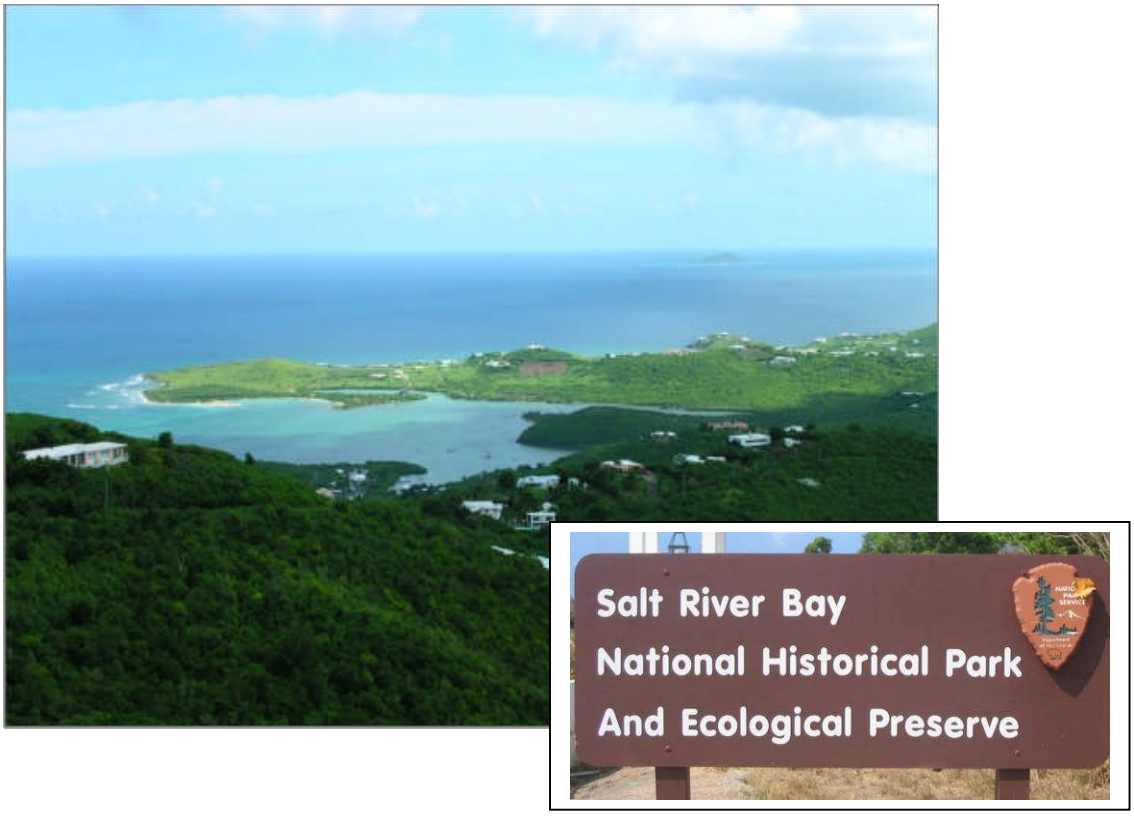
National Park Service
U.S. Department of the Interior

Salt River Bay National Historical Park and Ecological Preserve
St. Croix, U.S. Virgin Islands

ENVIRONMENTAL ASSESSMENT

Proposed Marine Research and Education Center and Abandoned Hotel Demolition



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Proposed Marine Research and Education Center and Abandoned Hotel Demolition

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EXECUTIVE SUMMARY

This Environmental Assessment (EA) was prepared for the National Park Service (NPS) to support two proposed projects at Salt River Bay National Historical Park and Ecological Preserve (SARI) located along the north/central coast of St. Croix, United States Virgin Islands (USVI). The National Environmental Policy Act (NEPA) of 1969 process was conducted in accordance with the NPS regulations for implementing NEPA, and it examined the consequences of these two proposed projects on the environment. This EA presents the alternatives considered during the NEPA process, the affected environment, the impacts associated with the proposed projects and alternatives, potential mitigation measures, environmental commitments, the public involvement completed as part of the projects, and the agency and public coordination conducted to support these projects.

In 1992 Congress created SARI as part of the National Park System to preserve, protect, and interpret nationally significant natural, historical, and cultural resources. SARI boundary contains a combination of marine, estuarine, and terrestrial habitats including coral reefs, seagrass beds, an undersea canyon, and the largest remaining mangrove forest within the U.S. Virgin Islands. Salt River Bay also contains prehistoric and colonial-era archeological sites and ruins that are found in this dynamic tropical ecosystem. At one time SARI's reef and hard bottom habitats in the submarine canyon were among the most extensively studied and characterized coral structures in the world. However, since the closing of the National Oceanic and Atmospheric Administration's (NOAA) Undersea Research Center in Salt River Bay, this is no longer the case.

There are concerns for the future of coral reef ecosystems in the Caribbean region. Although there are over 93 million of acres of coral reef submerged lands under U.S. jurisdiction, few have been properly studied to assess their overall health, and evidence is overwhelming that coral reefs and associated ecosystems are deteriorating at a rapid rate throughout the world. The concerns about the state of coral reef ecosystems in the Caribbean and elsewhere in the world has led to the formation of a partnership between the U.S. Department of Interior (DOI), through the NPS, the Department of Commerce/National Oceanographic & Atmospheric Administration, and the Joint Institute for Caribbean Marine Studies (JICMS). JICMS is a university-based organization consisting of four initial members, including the University of North Carolina at Wilmington, the University of the Virgin Islands, Rutgers (the State University of New Jersey), and the University of South Carolina. The JICMS has long considered St. Croix the most desirable location to establish a new Marine Research and Education Center (MREC) (JICMS 2004). St. Croix's central location within the Caribbean region, the rich coral reef research history of St. Croix, and the availability of the site at Salt River Bay which is owned and managed by the NPS, make it a perfect location for the MREC. The MREC would have programs to promote the sustainable utilization and conservation of marine resources through sound scientific principles with application throughout the Caribbean, West Indies and southern U.S.

The NPS is proposing two projects. The first project includes the construction and operation of a Marine Research and Education Center. The proposed MREC would include the following facilities: Education Center, Student Center, dormitories, cafeteria, library, a boat launch and dock, wet lab, parking lots, a maintenance building, and space for a Museum Collections Facility. For research purposes, a seawater supply pipeline would be routed to an appropriate intake point in the ocean to support wet laboratory operations and projects.

The second project includes the demolition of an abandoned hotel structure on the east side of SARI. The hotel structure was part of a development project started in the late 1960s that encompassed the entire Judith's Fancy peninsula which was never completed. The hotel structure was abandoned following partial completion in the 1970s. Currently, the structure is deteriorating and presents a safety and

environmental concern for the park. The park proposes to remove the entire structure, reuse and recycle as much of the material as possible, and rehabilitate the site to a more natural condition. In addition, the NPS proposes to construct a Haul Road to connect into Route 79 for equipment access and removal of debris. Following demolition, the site would be rehabilitated, revegetated with native plants, and returned to a more natural condition providing for bird nesting habitat and recreational opportunities consistent with natural area.

For the MREC project, three alternatives - an East Site Alternative, a South Site Alternative, and a West Site Alternative, as well as a No Action Alternative were evaluated. For the demolition of the abandoned hotel, the Proposed Action and the No Action Alternative were considered. Together, the two projects are referred to as the Proposed Projects. The Proposed Projects include the Preferred Alternative (East Site Alternative) for the MREC and the Proposed Action for the hotel demolition. The potential duration of the impacts (short-term or long-term), the intensity of the impacts (negligible, minor, moderate, or major), and the classification of the impacts as beneficial or adverse were analyzed in detail for this project. Cumulative effects for were also considered. By comparing the Proposed Projects with other alternatives, and identifying mitigation measures that would minimize adverse effects, this EA assists in the decision-making process.

For the proposed MREC, comparisons of the Preferred Alternative (East Site Alternative), the South Site Alternative, and the West Site Alternative result in similar resource impacts for the three alternatives. The construction phase of the MREC, including the installation of the seawater supply pipeline and maintenance dredging would result in short-term, minor, adverse effects to the soils and sediments, coastal zone, air quality, noise, water quality, coral reef/hardbottom substrate, fish, recreation, aesthetics, and visitor use at the park regardless of the alternative. Best management practices (BMPs) would be used to minimize potential soil erosion and minimize impacts to Salt River Bay and the use of semi-pervious surfaces (i.e., gravel and grass parking areas) would be used wherever possible to minimize the creation of new impervious surfaces areas.

In the long-term, implementation of the MREC would have minor, adverse effects to the hydrology, air quality, noise, water quality, and energy requirements at the park regardless of the alternative. Maintenance dredging proposed for all three alternatives would have long-term, minor, adverse impacts to the bathymetry, seagrasses, and the benthic community at the park. Long-term, minor, adverse effects to the 100-year floodplain and Coastal Barrier Resources System (CBRS) Areas would occur from the construction of structures (i.e., Wet Lab, boat dock and ramp) regardless of the alternative. The Web Lab would be constructed on pilings so as to not impede the function of the floodplain and the CBRS. Implementation of the MREC would have long-term, minor to moderate, adverse effects to the birds, mammals, and vegetation at the South and West Site Alternatives. However, long-term, minor to moderate, beneficial impacts would result from the replacement of non-native invasive plant species with appropriate native vegetation and revegetating disturbed areas (i.e., mud flats, bare areas, areas dominated by African guinea grass) beyond the MREC footprint at the Preferred Alternative (East Site).

No direct adverse impacts to Federally-listed species are anticipated from the MREC alternatives. For all three project site alternatives, the MREC facility would provide long-term, moderate, beneficial impacts to the unique natural systems at SARI, especially the coral reefs and mangrove habitat by fostering public awareness of the importance of coral reefs and other marine ecosystems from economic, aesthetic and global health standpoints though educational programs for students and the general public. The MREC would also foster the understanding and proper management of coral reef and other tropical and sub-tropical marine ecosystems by initiating a comprehensive long-term research and education program in the U. S. Virgin Islands. Under the No Action Alternative, no long-term beneficial impacts associated with the MREC facility would occur.

Of the three alternatives under consideration for the implementation of the MREC, only a portion of East Site has received comprehensive archaeological surveys and is the location of known archaeological sites. Regardless of the alternative, detailed archeological surveys would likely be required. Additionally, there is also the potential for submerged resources (shipwrecks, etc.) in the bay itself for all three project site alternatives. However, none of the alternative has the potential to affect historic resources at the park. All three alternatives could potentially have a long-term, minor to moderate, adverse visual effect on the cultural landscape of SARI.

Implementation of the MREC would improve the quality of life in the Salt River Bay region by providing additional opportunities for educational programs for students and the general public regardless of the alternative. As an individual entity, it is estimated that the MREC would contribute to the local economy by attracting more visitors to SARI. In addition, the MREC would contribute directly to the local economy by hiring permanent and part-time employees and purchasing goods and services from local suppliers.

For the Hotel Demolition, the implementation of the Proposed Action would result in some short-term, adverse impacts to SARI's resources, but in the long-term, beneficial impacts of the proposed action far outweigh the short-term, adverse impacts anticipated during demolition and implementation of the proposed action. Minor, short-term impacts to the water quality (increased turbidity) at SARI are expected during the demolition and road construction/improvement activities. Some resources may be affected in the short-term due to minor increases in turbidity at Salt River Bay: aquatic species (fish species), critical habitat (mangroves), EFH, HAPC, or designated natural areas. Long-term, beneficial impacts to floodplains, CBRS Area, and Tier 1 of the coastal zone would occur because abandoned building materials would be removed, impervious surfaces (such as the hotel) would be replaced with pervious surfaces, and the peninsula would be rehabilitated and revegetated with native species. Returning the site to a more natural setting which also would benefit the long-term water quality in the bay and ultimately benefit the seagrasses. Minor, adverse impacts to estuarine wetlands would result from activities associated with the hotel demolition, including roadway improvement activities and the removal of debris on the peninsula. No direct impacts to mangrove wetlands are anticipated as a result of the Proposed Action. There would be a temporary net loss of terrestrial habitat during the demolition and rehabilitation/revegetation process; however, a permanent increase in improved habitat (including shoreline habitat, least tern and sea turtle nesting habitat, herbaceous and scrub/shrub wetland habitat, and upland habitat) would be created as a result of the Proposed Action. Also note, long-term beneficial impacts to native bird habitat and migratory bird nesting, i.e., Least Tern. This is provided by control of visitor off road activities, reclamation of hotel area and coastal area by removal of concrete structure and debris, and replanting of area with appropriate native plants for coastal area. The Proposed Action would have a long-term, beneficial impact to the aesthetics of SARI. Demolition of the hotel would be a visual improvement enhancing the viability of the resources within SARI as well as the viewshed and cultural landscape to the surrounding communities. Currently, the deteriorating abandoned hotel structure that poses a safety hazard for the public. Removing the hotel would have a long-term, beneficial impact on visitor safety and would not impair any park resources.

The Proposed Projects, which include the MREC (Preferred Alternative - East Site) and the hotel demolition, would have some adverse effects on the natural resources at SARI. However, the long-term, beneficial impacts of the Proposed Projects far outweigh the anticipated adverse impacts, the majority of which are minor and short-term. Overall, there would be no impairment to park resources from either of the proposed projects.

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LIST OF ACRONYMS

ADA	Americans with Disabilities Act
APC	Areas of Particular Concern
ATVs	All-Terrain Vehicles
BE	Biological Evaluation
BMP	Best Management Practices
CAA	Clean Air Act
CBA	Choosing By Advantages
CBIA	Coastal Barrier Improvement Act
CBRA	Coastal Barriers Resource Act of 1982
CBRS	Coastal Barrier Resources System Areas
CEQ	Council on Environmental Quality
CFMC	Caribbean Fisheries Management Council
CFR	Code of Federal Regulations
CO	Carbon Monoxide
CO_2	Carbon Dioxide
CRCP	Coral Reef Conservation Program
CRTF	Coral Reef Task Force
CWA	Clean Water Act
CZM	Coastal Zone Management
CZMA	Coastal Zone Management Act
DEP	Division of Environmental Protection
DFW	Division of Fish and Wildlife
DO	Dissolved Oxygen
DOI	Department of the Interior
DPNR	Department of Planning and Natural Resources
DPW	Department of Public Works
EA	Environmental Assessment
EC	Environmental Concepts
EFH	Essential Fish Habitat
EO	Executive Order
EIS	Environmental Impact Statement
EMP	Exotic Plant Management
ESA	Endangered Species Act
FAA	Federal Aviation Administration
FDU	Fairleigh Dickinson University
FEMA	Federal Emergency Management Agency
FMO	Facilities Management Office
FMP	Fishery Management Plan
FONSI	Finding of No Significant Impact
GPD	Gallons per Day
GVI	Government of the Virgin Islands
HAPCs	Habitat Areas of Particular Concern

HC	Hydrocarbons
HWY	Highway
IASD	Interagency Archaeological Services Division
IRF	Island Resources Foundation
JICMS	Joint Institute for Caribbean Marine Studies
MOA	Memorandum of Agreement
MPAs	Marine Protection Areas
MPRSA	Marine Protection Research and Sanctuaries Act
MREC	Marine Research and Education Center
MSFCMA	Magnuson-Stevens Fishery Conservation and Management Act
NAAQS	National Ambient Air Quality Standards
NEPA	National Environmental Policy Act
NHPA	National Historic Preservation Act
NMFS	National Marine Fisheries Service
NMIM	National Mobile Inventory Model
NOAA	National Oceanic and Atmospheric Administration
NO_X	Nitrogen Oxides
NPDES	National Pollutant Discharge Elimination System
NPS	National Park Service
NPSP	Non Point Source Pollution
NRCS	Natural Resources Conservation Service
NRHP	National Register of Historic Places
NRI	Nationwide Rivers Inventory
NTUs	Nephelometric Turbidity Units
NURP	National Undersea Research Program
NWRs	National Wildlife Refuges
O_3	Ozone
OPAs	Otherwise Protected Areas
Pb	Lead
PM_{10}	Particulate Matter Less Than 10 μm^3
PSU	Practical Salinity Units
REA	Rapid Environmental Assessment
RHA	Rivers and Harbors Act
ROI	Region of Influence
SARI	Salt River Bay National Historic Park and Ecological Reserve
SAV	Submerged Aquatic Vegetation
SCC	Source Classification Code
SEAC	Southeast Archaeological Center
SHPO	State Historic Preservation Officer
SO_2	Sulfur Dioxide
SOF	Statement of Findings
STORET	STOrage and RETrieval System
SWPPP	Stormwater Pollution Prevention Plan

T&E	Threatened and Endangered
TMDL	Total Maximum Daily Load
TOY	Time of Year
TPDES	Territorial Pollutant Discharge Elimination System
USACE	U.S. Army Corps of Engineers
USC	United States Code
USDA	U.S. Department of Agriculture
USEPA	U.S. Environmental Protection Agency
USFWS	U.S. Fish and Wildlife Service
USVI	United States Virgin Islands
UVI	University of Virgin Islands
VI	Virgin Islands
VICZMA	Virgin Islands Coastal Zone Management Act
VICZMP	Virgin Islands Coastal Zone Management Program
VING	Virgin Islands National Guard
VOC	Volatile Organic Compound
VR&R	Virgin Islands Air Pollution Control Act Rules and Regulations
WAPA	Water and Power Authority
WIL	West Indies Laboratory
WPC	Water Pollution Control
WSR	Wild and Scenic Rivers
WWTP	Waste Water Treatment Plant