

6.0 CUMULATIVE IMPACTS

The Council on Environmental Quality regulations, which implement the national Environmental Policy Act of 1969 (42 USC 4321 et seq.), require assessment of cumulative impacts in the decision-making process for Federal projects. Cumulative impacts are those combined effects on quality of the human environment that result from the incremental impact of the action when added to other past, present, and reasonably foreseeable future actions, regardless of what Federal or non-Federal agency or person undertakes such other actions [40 CFR 1508.7, 1508.25(a), and 1508.25(c)]. Cumulative impacts can result from individually minor but collectively significant actions taking place over a period of time or taking place within a defined area or region, or from these minor impacts combined with major impacts. It is the combination of these effects, and any resulting environmental degradation, that should be the focus of cumulative impact analysis. Thus the cumulative impacts of an action can be viewed as the total effects on a resource, ecosystem, or human community of that action and all other activities affecting that resource. Cumulative impacts are considered for all alternatives including the No Action Alternative.

'Effects' include both direct effects and indirect effects, as defined in Section 5.2. Consistent with the CEQ regulations, effects and impacts are used synonymously (USEPA 1999). Effects include ecological (such as the effects on natural resources and on the components, structures, and functioning of affected ecosystems), aesthetic, historic, cultural, economic, social, or health, whether direct, indirect, or cumulative. Effects may also include those resulting from actions that may have both beneficial and detrimental effects, even if on balance the agency believes that the effect would be beneficial (40 CFR 1508.8).

6.1 SOURCES OF CUMULATIVE IMPACTS

Cumulative impacts were determined by including the impacts of the two Proposed Actions (implementation of the MREC and demolition of the abandoned hotel) with other past, present, and reasonably foreseeable future actions. Therefore, it was necessary to identify other ongoing or reasonably foreseeable future projects within the Salt River Bay area and, if applicable, the surrounding region. Activities warranting greatest attention in the cumulative impacts subsection are those activities that in combination with the proposed actions would potentially magnify what are perceived by resource agency personnel and the public as the most significant impacts of the proposed work in the Salt River Bay area.

These activities meriting particular scrutiny include: 1) projects with direct impacts to the aquatic community, 2) projects with direct impacts to the terrestrial community, and 3) alterations to aesthetics and visual qualities of existing viewshed conditions. Other categories of environmental and socioeconomic impacts also warrant scrutiny for comprehensiveness as listed in the discussion of 'effects' presented above. To fairly assess and evaluate the cumulative impacts of anthropogenic influences in these categories, it is also appropriate to incorporate consideration of how ongoing pertinent natural processes interact with human activities.

Given this, the following projects were identified for the purpose of conducting the cumulative effects analysis:

6.1.1 Projects within the SARI Watershed

Past Projects

Virgin Grand Hotel – A partially completed, abandoned hotel structure exists on the peninsula of the East Site, immediately adjacent to the Mangrove Lagoon in Salt River Bay. The hotel structure was part of a development project started in the late 1960s that was never completed; the hotel structure was abandoned following partial completion in the 1970s (Versar 2000). During the original development of the hotel, approximately 14,500 cubic yards of land was excavated. The original hotel construction project included developing 74 acres of land as a multi-phase development project that included 288 hotel units, 300 condominium units, a 157-slip marina, and necessary support facilities (Sugar Bay Land Development, Ltd. 1986). The maximum building height of the hotel was set at four stories. The abandoned hotel structure was partially completed from building materials such as cinder blocks, concrete, piping, and rebar. The basement of the structure, at least two stories of the hotel, a tall steeple with a cross (potentially constructed as a viewing area), and an outdoor swimming pool was completed before the project was abandoned. Currently, the structure is deteriorating and presents a safety and environmental concern for SARI; a chain-link fence surrounds the abandoned hotel structure to discourage public access to the hotel site.

Mangrove Restoration at Sugar Bay - In 1989, Hurricane Hugo destroyed the red mangrove community in Sugar Bay. A decade after the hurricane, the mangrove community had not significantly regenerated (NPS 2006). Mangroves have important functions such as reducing the amount of sedimentation reaching the bay. Given the water quality functions of mangrove communities, the St. Croix Environmental Association proposed to restore the mangrove community and approximately 4,500 red mangroves were to be planted each summer from 1999–2001 (NPS 2006). Beginning in 1999, the St. Croix Environmental Association began the mangrove restoration project, and replanted 3.5 acres of the lost forest on the western side of Sugar Bay. The survival rate for restoration seedlings is estimated at 80%. Natural re-growth in SARI and has accounted for 2.2 acres of forest since 1992. More recent aerial photographs taken in 2000 indicate that naturally occurring and restoration mangroves now cover 29.7 acres or 54% of the 1988 forest.

Salt River Marina - Salt River Marina is located along the western shoreline of Salt River Bay. The site currently consist of a single plot of land totaling 14.19 acres and includes several buildings used for boat maintenance, boat painting, boat construction, office space, parking lots for marina guests, a restaurant, and a SCUBA diving shop. In 1973, bulk heads were constructed and the boat basin and channel dredging was completed and was leased to Columbia University and the University of Texas (1976-1978) to conduct shellfish mariculture research. Lica Holding Corporation later purchased the marina in 1979 and Gold Coast Yacht Consultants reopened the marina in 1980.

Residential Development - SARI is surrounded by residential development. Estate Judith's Fancy is located to the east of SARI, Estate St. John and Montpeller are located to the south, and Estate Morningstar and Salt River to the West. Previous development at the East Site and West Site has resulted in the loss of native vegetation and natural landscape at these sites.

Recently Completed Projects

Mon Bijou Flood Control Project - This project was recently completed in the summer of 2006 and has already relieved residents from experiencing substantial flooding during and after heavy

rains. The project is located in the Mon Bijou and Glynn residential areas which are located midway between the towns of Christiansted and Frederiksted. In the Mon Bijou/Glynn area there are 31 residential structures subject to flooding from a 2-year frequency flood. The project diverts the storm water runoff from Blue Mountain around the neighborhood, providing 100-year storm protection. Construction began upstream of Highway 73, where the channel crosses the highway, running through a cattle pasture and across Glynn Road to merge with the existing gut downstream of Glynn, which leads to Salt Run. Rainfall from Blue Mountain no longer passes through the existing gut; it is now diverted to a new, 6,500-foot, grass-lined channel with 38 gabion structures to control flow velocities and minimize erosion.

The project, funded through the Federal Highway Administration, is a joint effort of the U.S. Army Corps of Engineers (Michael Schultz, U.S. Army Corps of Engineers project manager) and the VI Government.

Future Projects

Mon Bijou Bridge Project - This is a \$4.6 million project to build two bridge crossings over the Mon Bijou gut areas. It is the second phase of the Mon Bijou project (discussed above) and is expected to be completed in early 2007. Two new bridges (HWY 73 and Glynn Road) would be built to span the channel constructed for the Mon Bijou project.

Residential Development – Long-term, on-going residential development would continue in the communities surrounding SARI (Estate Judith's Fancy, St. John, Montpeller, Morningstar and Salt River, and Greig Hill). The V.I. Government is responsible for issuing permits for residential development.

6.1.2 Projects Outside of the SARI Watershed

Future Projects

Gallows Bay Marina Project - The Gallows Bay Marina Project would include accommodations for up to 40 yachts (approximately 40 to 250 feet in length), a commercial center with retail and office space, totaling 140,400 sq. ft., and a seaside park. The Gallows Bay Marina Project would also provide integrated refueling, recharging and restocking station at each slip; and dockside "black water" removal system. It is suggested that local area businesses would be able to take advantage of new service business opportunities, potential for business expansion, and a state-of-the-art office park. Plans also call for the improvement of public infrastructure for area residents. The Gallows Bay Marina development would attract small cruise ships and luxury yachts to St. Croix.

Annaly Bay Development - The \$500 million Annaly Bay Development project includes the development of more than 2,500 acres on St. Croix's north shore, including the construction of three hotels with a combined total of nearly 1,000 new hotel rooms, residential villages and estate homes. The project is expected to generate construction jobs and permanent jobs upon completion. The Annaly Bay Development project is envisioned as a world-class master-planned resort and residential community designed in communion with nature and respectful of the cultural and historical fabric of St. Croix. The property would encompass at least 1,327 acres of which more than 70 percent would remain natural open spaces and would be developed in phases over a 12 to 15-year-period.

6.2 POTENTIAL IMPACTS OF THE CUMULATIVE PROJECTS

The following is an overview of the potential impacts associated with the two Proposed Actions (implementation of the MREC and demolition of the abandoned hotel) with other past, present, and reasonably foreseeable future actions.

6.2.1 Short-Term Impacts

This section discusses the short-term cumulative impacts of the Proposed Actions on the natural resources and the human environment. Following comparisons of the Preferred Alternative (East Site Alternative), the South Site Alternative, and the West Site Alternative as well as the Abandoned Hotel Demolition Alternative, all four alternatives result in similar short-term resource impacts. Under the No Action Alternative SARI would remain in its current use and no action would be taken. There would be no new construction at the park, therefore the local economy would not benefit from a short-term increase in employment during construction. The No Action Alternative does not result in environmental impacts to the park.

The construction phase of the MREC including the installation of the seawater supply pipeline and maintenance dredging, and the abandoned hotel demolition would have short-term, minor, adverse effects to the soils, air quality, noise, water quality, recreation, aesthetics, the coastal zone, and visitor use at the park regardless of the alternative. The Proposed Actions may result in potential sediment runoff into nearby waterways during the clearing of vegetation and construction and grading activities. However, best management practices (BMPs) would be used to minimize potential soil erosion and minimize impacts to Salt River Bay including the use of semi-pervious surfaces (i.e., gravel and grass parking areas).

Construction of a boat dock and ramp at the Preferred Alternative (East Site Alternative) and the South Site Alternative would also result in short-term, minor adverse impacts to the soils and sediments, water quality, coral reef/hardbottom substrate, fish, and mangroves/wetlands at these alternative locations.

Construction of ongoing residential development in the SARI watershed has the potential to negatively impact resources such as water quality. Development within SARI is governed by the Land Protection Plan, which calls for minimal development in sensitive areas. Considering the short-term cumulative impacts from the construction, installation, dredging, and demolition impacts at SARI from the Proposed Actions when added to other present and foreseeable future actions on resources such as water quality, the incremental cumulative adverse impacts to these resources would be minor and short-term in nature, lasting for the duration of the activity.

6.2.2 Long-Term Impacts

This section discusses the long-term cumulative impacts of the Proposed Actions on natural resources. Following comparisons of the Preferred Alternative (East Site Alternative), the South Site Alternative, and the West Site Alternative as well as the Abandoned Hotel Demolition Alternative, all four alternatives result in similar long-term resource impacts. Under the No Action Alternative SARI would remain in its current use and no action would be taken. The No Action Alternative does not result in long-term environmental impacts to the park. No long-term, beneficial impact from the replacement of non-native invasive plant species with appropriate native vegetation would occur under the No Action Alternative.

In the long-term, implementation of the MREC and demolition of the abandoned hotel would have minor, adverse effects to the hydrology, air quality, noise, and water quality at the park. Maintenance dredging proposed for the three MREC alternatives would have long-term, minor, adverse impacts to the bathymetry, seagrasses, and the benthic community in the bay. However, in the long term, water quality in the Mangrove Lagoon (Preferred Alternative - East Site) has the potential to improve from being dredged since it would provide for improved flushing of the lagoon which would ultimately improve the water quality in the lagoon as well as providing a benefit to the mangroves. Long-term, minor, adverse effects to the 100-year floodplain and the CBRS area would occur from the construction of structures (i.e., Wet Lab) at the Preferred Alternative (East Site) and the West Site Alternative. However, the Web Lab would be constructed on pilings so as to not impede the function of the floodplain and the CBRS area. Long-term positive impacts would be associated with the demolition of the abandoned hotel by restoring the site to a more natural setting, including restoring the floodplain from a partially impervious surface to a partially pervious surface. Additionally, the abandoned hotel building materials would be removed from the 100-yr floodplain, resulting in a long-term, moderate, beneficial impact to the floodplain. Another project, the Mon Bijou Flood Control Project would alter water transport and retention time in the areas affected by the project, potentially affecting water quality in the bay.

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. Forested (semi-deciduous) habitat, vegetated fields, and shrub habitat would be impacted due the MREC facilities, roads, and associated parking facilities. 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) at the Preferred Alternative (East Site). In addition, ongoing residential development in the SARI watershed has the potential to negatively impact the hydrology, water quality, and available wildlife habitat in the region.

Overall, it is anticipated that the incremental cumulative long-term adverse impacts of the Proposed Actions, are minor when added to other past, present, and foreseeable future actions. The long-term benefits of the abandoned hotel demolition by enhancing the viability of the resources within SARI and decreasing impervious areas through revegetation and rehabilitation would contribute to the mitigation of adverse effects on the natural resources from human activity and development at Salt River Bay.

6.2.3 T & E Species, Designated Critical Habitat, and Unique Natural Systems

This section discusses the cumulative impacts of the Proposed Actions on T & E species, designated critical habitat, and unique natural systems. Under the No Action Alternative SARI would remain in its current use and no action would be taken. There would be no new construction at the park to impact T & E species, designated critical habitat, or unique natural systems. However, the long-term beneficial impacts to the unique natural systems at SARI, especially the coral reefs and mangrove habitat would not occur.

No impacts to threatened and endangered species (T&E) species are anticipated as a result of the MREC alternatives (construction of the MREC) and demolition of the abandoned hotel, as these construction activities would occur on land. However, short-term, minor, adverse impacts to listed species could occur from in-water work, including construction of the boat dock (East and South Alternatives) and maintenance dredging (all MREC alternatives). These activities, along the proposed seawater supply pipeline (all MREC alternatives), may have short-term, minor,

adverse impacts to listed species. TOY restrictions would be in place to avoid short-term, minor, adverse impacts to both listed coral species and sea turtle species. Long-term, minor, beneficial impacts to listed species, including the listed sea turtle species and listed avian species (specifically, the least tern), are expected as a result of the demolition of the abandoned hotel. Undeveloped, shoreline beach areas without human influences are preferred habitats for many listed aquatic species. Through the rehabilitation of the peninsula for the abandoned hotel demolition alternative, native vegetation would be planted and sea turtle and least tern beaches would eventually be created naturally (i.e., wave action, beach erosion) over time to attract these species to nest at this site. By creating additional, “natural” shoreline habitat that is not developed along the water for sea turtle and least tern nesting, a beneficial impact to listed species is anticipated.

No impacts to designated critical habitat for the Federally-listed leatherback sea turtle are anticipated with the alternatives for the Proposed Actions. However, short-term, minor, adverse impacts to listed sea turtle species could potentially occur from in-water work for the MREC alternatives. Minor, adverse impacts to mangroves, identified as critical habitat, are anticipated as a result of the Preferred Alternative (East Site) and the South Site Alternative. However, mangrove mitigation measures through plantings at a specified ratio of 3:1 would be required to partially offset the loss of mangrove habitat associated with the construction of the MREC. The Proposed Actions and associated mitigation plans, in conjunction with past mangrove restoration efforts, such as the mangrove restoration at Sugar Bay, would provide a long-term, beneficial impact to the wetlands and mangroves of Salt River Bay. The Mon Bijou Flood Control Project would alter water transport and retention time in the areas affected by the project, potentially affecting mangrove wetlands in the affected area.

Impacts would be short-term, localized, and negligible in intensity when mitigation measures are implemented and all local, Territorial, and Federal requirements are met. All necessary consultation and regulatory permits from Federal and Territorial agencies would be completed prior to commencement of work. Cumulatively, these actions would have a negligible effect on T & E species, designated critical habitat, or unique natural systems when considered with other past, present, and reasonably foreseeable future actions.

6.2.4 Cultural Resources

This section discusses the cumulative impacts of the Proposed Actions on cultural resources. Under the No Action Alternative SARI would remain in its current use and no action would be taken. The No Action Alternative does not result in cultural resource impacts at the park.

None of the Proposed Action alternatives have the potential to affect historic resources at the park. All three MREC alternatives could potentially have a long-term, minor to moderate, adverse visual effect on the cultural landscape of SARI.

The demolition of the abandoned hotel would represent an improvement to SARI's cultural landscape, by removing the largest, most evident visual intrusion to Salt River Bay. This improvement would be diminished, to some degree, by the construction of the MREC itself, the extent of which would depend on the location chosen for the MREC and its mass and scale. Long-term, on-going, and continued development of St. Croix and specifically the construction of homes on the hills overlooking the Salt River Bay would also diminish the visual quality of this cultural landscape. Hence, a gradual loss of visual setting is anticipated whether or not the MREC is built.

6.2.5 Socioeconomic Conditions

This section discusses the cumulative impacts of the Proposed Actions on the socioeconomic conditions in the Salt River Bay region. Following comparisons of the MREC action alternatives and the abandoned hotel demolition alternative, all four alternatives result in similar impacts. Under the No Action Alternative SARI would remain in its current use and no action would be taken. The benefit to the local economy from the hiring of permanent and part-time employees and the purchasing goods and services from local suppliers would not happen under the No Action Alternative.

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. Additional opportunities for incentives for partnering with local governments, community groups, and individual citizens would also be provided by the MREC; all of which would create a potential economic benefit to the community. As an individual entity, it is estimated that the proposed action alternatives would contribute to the local economy by attracting more visitors to SARI. In addition, the action alternatives would contribute directly to the local economy by hiring permanent and part-time employees and purchasing goods and services from local suppliers. Regardless of the action alternative, the local economy would benefit and the project would result in beneficial impacts to the region's low-income and minority communities by providing additional jobs and educational opportunities.

Other projects including the Gallows Bay Marina Project and the Annaly Bay Development project if implemented would contribute directly to the economy of St. Croix by hiring permanent and part-time employees and purchasing goods and services from local suppliers.

Considering these past, present, and reasonably foreseeable future actions, the beneficial effects of constructing the MREC facilities would have a cumulative benefit to the overall human environment at SARI and the surrounding community.

6.2.6 Visitor Experience and Park Operations

This section discusses the cumulative impacts of the Proposed Actions on visitor experience and park operations. Under the no action alternative SARI would remain in its current use and no action would be taken. No long-term beneficial impacts associated with the MREC facility would occur under the No Action Alternative including the experience of visitors to learn about sustainable utilization and conservation of marine resources.

Any construction activities have the potential to affect visitor use and experience. Construction activities would likely have an adverse effect on the visitor experience as a result of noise, dust, and unavailability to view the bay scenery. Projects such as road construction and improvements, building construction, demolition of the abandoned hotel, and in-water work could have an adverse effect on visitor use and experience because of the inconvenience of construction, noise, dust, and possible off-limit areas. Ultimately, these actions would have a beneficial effect on visitor use and experience due to the improved visual and natural environment of the Proposed Action (demo of abandoned hotel) by the rehabilitation of this site. Implementation of the MREC would provide additional opportunities for educational programs for students and the general public on the conservation of natural resources regardless of the alternative.

Under the Proposed Actions a minor change to visitor function is expected during construction. Cumulatively, visitor use and experience would benefit from the implementation of the Proposed Actions.

Any project that occurs within SARI has an effect on park operations; therefore, most of the actions within the Proposed Actions would have some degree of effect on employees and park operations. Park operations would increase over current levels, which would cumulatively have a minor impact to park operations when considered with other past, present, and reasonably foreseeable future actions.

7.0 MITIGATION MEASURES

This chapter provides a summary of the mitigation measures for the MREC Preferred Alternative (East Site) and the Abandoned Hotel Demolition Proposed Action by each applicable resource category. General categories of mitigation measures include:

- Avoiding certain impacts altogether by not taking a certain action or parts of an action;
- Minimizing impacts by limiting the degree or magnitude of the action and its implementation;
- Rectifying impacts by repairing, rehabilitating, or restoring the affected environment;
- Reducing or eliminating impacts over time by preservation and maintenance operations during the life of the action; and/or
- Compensating for impacts by replacing or providing substitute resources or environments.

To the extent possible, potential impacts associated with the proposed projects were avoided through use of an interdisciplinary process (integrating comments and concerns from SARI and resource agencies, and comments from public scoping). While some impact to the environment cannot be avoided, the park has determined that the proposed projects have been mitigated to the best attempt possible to offer the least amount of impact to the human and natural environment.

The following mitigation measures have been developed to minimize the degree and/or severity of adverse effects, and would be implemented during construction/demolition of the proposed projects, as needed:

Soils:

- To minimize the amount of ground disturbance, staging and stockpiling areas would be located in previously disturbed sites, away from visitor use areas to the extent possible. No stockpiling of materials would occur in designated Federal wetland areas.
- Construction/demolition zones would be identified and fenced prior to any construction/demo activity. The fencing would define the construction zone and confine activity to the minimum area required for construction. All protection measures would be clearly stated in the construction/demo specifications and workers would be instructed to avoid conducting activities beyond the construction/demo zone as defined by the construction zone fencing.
- If imported soil is required to provide substrate for new vegetation, the soil would be from an NPS-approved source and certified as weed and fire-ant free.

Air Quality:

- Fugitive dust generated by construction would be controlled by spraying water on the construction site, if necessary.
- To minimize trip generation of construction/demolition activities, full loads of materials would be encouraged while removing materials from the site for the abandoned hotel demolition and concrete recycling.

Noise Quality:

- To reduce noise only day-time construction would occur; no nighttime construction is currently anticipated.

Water Resources:

- Appropriate agencies (USACE and the USVI DPNR) would be notified and consulted on the proposed projects to ensure compliance with Federal Laws (Section 401 and 404 of the Clean Water Act and Section 10 of the Rivers and Harbors Act). Applicable permits (10/404 permit) associated with waters of the U.S. would be obtained from the USACE prior to the start of construction.
- Because disturbed soils are susceptible to erosion until revegetation takes place, standard sediment and erosion control measures, such as silt fences and/or sand bags, BMPs, and stormwater management techniques would be used to minimize any potential soil erosion. A SWPPP would be required and implemented prior to, during, and following ground-disturbing activities. Contractors would also be required to prepare an Erosion Control Plan that requires a description of specific erosion and sediment control measures that would be implemented
- Erosion-control measures would not be removed until the site is permanently stabilized in accordance with the specified plan.
- A floating boat dock system would be constructed for the MREC since it minimizes impacts to the sediments and aquatic resources; constructing the docks on site and floating them into their designated location would minimize effects on water quality.
- Permeable paved surfaces would be used for parking areas at the MREC and for the access road and parking lot at the abandoned hotel location to contribute to controlling stormwater runoff.
- For any impacts due to turbidity from maintenance dredging, a silt curtain would be in place during dredging activities.

Floodplain/Coastal Barrier Areas:

- The Wet Lab would be constructed on pilings and a floating boat dock system would be constructed for the MREC since it minimizes impacts to the floodplain and coastal barrier areas.

Wetlands:

- The mitigation strategies for both Proposed Actions include a two-fold mitigation plan: 1.) a mangrove wetland mitigation plan and 2.) an estuarine wetland mitigation plan (Appendix D).
- Based upon impacts to mangroves associated with the boat dock, mangrove mitigation strategies were developed in consultation with the USACE, the NPS, and the USDA NRCS and would include mangrove revegetation along the Mangrove Lagoon. Based upon positive results from past restoration efforts, mangrove revegetation would be a proposed mitigation strategy to partially offset the impacts associated with the East Site projects. An SOF for wetlands was completed for both projects, which includes appropriate mitigation measures for mangrove wetlands (Appendix D).
- Mitigation for estuarine wetland impacts would include wetland vegetation plantings and site rehabilitation on the peninsula at the East Site to restore and rehabilitate the peninsula

- to a more natural setting. The mitigation site is envisioned as a rehabilitated peninsula with groupings of mature wetland shrubs (and some trees) that were avoided during construction activities, a shoreline stabilized with herbaceous wetland forbs and ground covers, and more interior (inland) areas of sparse wetland vegetation that would attract and support least tern nesting. An SOF for wetlands was completed for both projects, which includes appropriate mitigation measures for estuarine wetlands (Appendix D).
- Any applicable permits associated with wetlands would be acquired for the MREC, including a Section 404 Permit, prior to any construction activities.

Vegetation:

- Revegetation of disturbed areas would take place following construction of the MREC, and would be designed to minimize the visual intrusion of the MREC facilities.
- Revegetation efforts at the abandoned hotel site would strive to rehabilitate the site by reconstructing the natural spacing, abundance, and diversity of native plant species using native species.
- Mitigation of non-native vegetation would also include the removal of invasive species with the replacement of appropriate native vegetation.

Wildlife and Threatened and Endangered Species:

- The velvety free-tailed bats (native mammalian species) currently inhabiting the abandoned hotel would be relocated to bat houses prior to any demolition activities. This bat species is not listed as Endangered for the Territory, but a bat mitigation plan would be drafted by a bat specialist prior to demolition activities. TOY restrictions may be included in the bat mitigation plan to reduce impacts to bats during the maternity season.
- TOY restrictions would be in place for special status species. TOY restrictions would be developed in coordination with appropriate Federal and Territorial agencies, including NMFS, USFWS, and USVI DPNR. Construction activities would not be allowed to work during the TOY restrictions.
- In accordance with the Federal and Territorial requirements for threatened and endangered species, ESA Section 7 consultation would occur with USFWS, NMFS Southeast Region, USVI DPNR, and Division of Fish and Wildlife prior to the in-water construction and maintenance dredging activities. A Biological Evaluation (BE) would be completed as part of the planning and design stages for the proposed MREC project.
- Construction workers and supervisors would be informed about special status species. Contract provisions would require the cessation of construction activities if a species is discovered in the project area, until park staff re-evaluates the project. This would allow modification of the contract for any protection measure determined necessary to protect the discovery.

Visitor Use and Experience:

- Whenever possible, current activities at SARI (i.e., hiking, boating, snorkeling, and scuba diving) would be allowed to continue uninterrupted during the active construction periods of the proposed projects. However, active demolition areas would be restricted (i.e., fenced, posted restricted access, gated, roped off and signed) from visitor use until the project is complete, as a safety precaution.

Aesthetics:

- The MREC buildings would be designed to blend in as much as possible with the natural surroundings; this would be accomplished by building low rise structures and using natural paint colors for the exterior of the buildings and roofs.

Energy Conservation:

- The NPS would strive to construct the MREC facilities with sustainable designs and systems to minimize potential environmental impacts. To the extent possible, the design and management of facilities would emphasize environmental sensitivity in construction, use of nontoxic materials, resource conservation, recycling, and integration of visitors with natural and cultural settings. The NPS would also strive to reduce energy costs, eliminates waste, and conserves energy resources by using energy-efficient and cost-effective technology. Energy efficiency would be incorporated into the decision-making process during the design and acquisition of buildings, facilities, and transportation system that emphasize the use of renewable energy sources.
- The following energy conservation and sustainable resources would be included where practical and cost efficient: alternative power such as solar panels (e.g., solar hot water systems) and windmills, high-volume rainwater collecting cisterns, and a reverse-osmosis freshwater production system.
- Recycling debris materials (i.e., concrete slabs, crushed concrete after demolition, rebar) from the abandoned hotel project site would occur. Only necessary debris (i.e., rotting roofing materials, un-recyclable concrete) would be disposed of.

8.0 ENVIRONMENTAL COMMITMENTS

8.1 Unavoidable Adverse Effects

Unavoidable adverse effects are impacts that cannot be fully mitigated or avoided. The following unavoidable adverse effects would occur from the implementation of the proposed projects (MREC and hotel demolition):

- Construction/demolition within a coastal zone;
- Construction/demolition in CBRS areas;
- Construction in a 100-year floodplain (MREC);
- Minor long-term impacts to terrestrial resources (soil, vegetation, and wildlife);
- Minor short-term impacts to seagrasses, fish, and benthic organisms (MREC);
- Minor (MREC) and moderate (hotel demo) short-term impacts to noise;
- Minor short-term impacts to air quality;
- Minor short-term impacts to water quality;
- Long-term aesthetic impacts (MREC);
- Long-term impacts on the cultural landscape;
- Increases in truck traffic along haul route (hotel demo).

Minor permanent impacts to wetlands from the MREC would be fully mitigated as discussed previously in Section 4.3.3. Additionally, impacts to vegetation at the hotel demo site would be mitigated (see Section 5.4.1) as would impacts to vegetation from the MREC at the Preferred Alternative (East Site) (see Section 4.4.1).

The benefits to the quality of life in the Salt River Bay region and to the coral reef ecosystem from the implementation of the MREC extend beyond or mitigate for the minor short-term impacts of the above mentioned resources. Additionally, revegetating and rehabilitating the abandoned hotel site to a more natural condition should mitigate for most of the minor short-term impacts to this site.

8.2 Irreversible or Irretrievable Commitments of Resources

This section discusses irreversible and irretrievable commitments of resources. A resource commitment is considered irreversible when primary or secondary impacts from its use limit future options. Irreversible commitment applies primarily to nonrenewable resources, such as minerals or cultural resources, and to those resources that are only renewable over long time spans, such as soil productivity. A resource commitment is considered irretrievable when the use or consumption of the resource is neither renewable nor recoverable for use by future generations.

Irreversible – Irreversible commitments are those that cannot be reversed, except perhaps in the extreme long-term. Implementation of the MREC and demo of the abandoned hotel would involve the following irreversible environmental changes to natural resources:

- Commitment of energy (i.e., electricity) as a result of the construction, operation, and maintenance of the MREC facility.
- Use of fossil fuels to operate boats and vehicles as well as fixed and mobile construction and demolition equipment.

Irretrievable

An irretrievable commitment of resources refers to the effects to resources that, once gone, cannot be replaced. Vegetation removal and soil disturbance would occur if the proposed projects are implemented, which would cause minor impacts to natural resources that may not be retrieved in the long-term. However, the Preferred Alternative (East Site) and abandoned hotel site would be rehabilitated and revegetated with non-invasive plants, causing a long-term positive effect. Building MREC support facilities (boat dock, moorings, wet lab) in a floodplain, coastal zone, and the CBRS area would also be an irretrievable commitment of these resources. Removing the abandoned hotel structure and associated concrete debris and rehabilitating the site would reverse the irretrievable commitment of these resources by returning the site to a more natural condition. This action would allow the area to function unimpeded as a floodplain, coastal zone, and CBRS area.

9.0 COMPLIANCE WITH ENVIRONMENTAL REGULATIONS

9.1 Federal Regulations

Implementation of the MREC would involve impacting waters (including wetlands) of the U.S. A Section 404 Permit would be obtained from the USACE-Jacksonville District (which has jurisdiction over St. Croix) and the Antilles Regulatory Branch (located in Puerto Rico), prior to any MREC construction activities to ensure compliance with Section 404 of the CWA. Additionally, the Rivers and Harbors Act (RHA), Section 10 regulates any activity that affects the course location and capacity of a navigable waterway. A Section 10 permit would also be obtained from the USACE – Jacksonville District and the Antilles Regulatory Branch prior to any MREC construction activities to ensure compliance with Section 10 of the RHA.

To comply with Section 7 of the Endangered Species Act, initial consultation was conducted with the USFWS Southeast Region, the NMFS Southeast Region Office, and the USVI DPNR. Of the three agencies consulted on the project only NMFS responded. NMFS stated in a letter that the listed sea turtles and coral reefs would not be affected by the proposed construction of the MREC. NMFS recommended that a biological evaluation (BE) be prepared as part of the planning and design stages of the project. A BE would be completed prior to any construction activities for the MREC and would include background information regarding the presence of threatened and endangered species in the project area.

Section 106 of the National Historic Preservation Act requires federal agencies to take into account the effects of their undertakings on historic properties, and to afford the Advisory Council on Historic Preservation a reasonable opportunity to comment. Further archaeological testing in accordance with Section 106 would be needed to determine if there are sites at the Preferred Alternative that are eligible for listing on the NRHP. Applicable approvals associated with construction of the MREC would be obtained from the VI SHPO following completion of the EA and signing of the FONSI but prior to the start of the construction of the MREC. The proposed Haul Road has no potential to effect archaeological resources; however, if the road design requires construction in new undisturbed areas then Section 106 compliance, including monitoring of ground disturbing activities, would be required. Additionally, construction of in-water structures for the MREC would require an underwater archaeological survey to determine the location of submerged cultural resources. An underwater archaeological survey should be completed to determine if submerged resources are present, and to investigate and evaluate the resources so identified. The results of this underwater archaeological survey would need to be reviewed by the USVI SHPO and NPS. If NRHP-eligible shipwrecks or other submerged resources are identified, the project's effects on such resources would need to be determined and mitigation would be required for adverse effects.

9.2 U.S. Virgin Islands Regulations/Laws

The demolition of the abandoned hotel would be located within the coastal zone. To comply with the Virgin Islands Coastal Zone Management Act, Section 910 the NPS has prepared a Coastal Zone Management Consistency Certification in the form of a letter for the abandoned hotel demolition project stating that the project is consistent, to the maximum extent practicable with the VICZMP. This letter is included in Appendix D. The VICZMP would review the consistency determination and determine if the project is in compliance with the VICZMP. If the project is in compliance, a notice of concurrence would be provided by the VICZMP, thus completing all relevant CZM requirements.

A Coastal Zone Management Consistency Certification for the MREC project would be prepared following completion of this EA and the signing of the FONSI. CZM concurrence from VICZMP would be obtained prior to construction of the MREC.

To prevent violations of water quality standards, a 401 Water Quality Certification would be obtained for the MREC from DPNR, under the CWA Section 401 prior to construction.

10.0 CONSULTATION AND COORDINATION

10.1 PUBLIC SCOPING

External (public) scoping was conducted to inform various agencies and the public about the proposed actions to implement a MREC and to demolish an abandoned hotel structure at SARI. The public scoping was also conducted to generate input on the preparation of this EA. Scoping is the effort to involve agencies and the general public in determining the scope of issues to be addressed in the EA. Among other tasks, scoping determines important issues and eliminates issues determined to be not important; allocates assignments among the interdisciplinary team members and/or participating agencies; identifies related projects and associated documents; identifies other permits, surveys, consultations, etc. required by other agencies; and creates a schedule that allows adequate time to prepare and distribute the environmental document for public review and comment before a final decision is made. Scoping also includes consultation with any interested agency, or any agency with jurisdiction by law or expertise to obtain early input.

This effort was initiated with the distribution of a newsletter which was bulk-mailed to over 500 persons including residents in the Salt River Bay area, local businesses, local agencies, and local government representatives. A press release was sent to three local television stations (WSVI Channel 8, WTJX Channel 12, and TV2) and three local radio stations (WVIQ Sunny 99.5 FM, WJKC Island 95 FM, and WSTX AM/FM). Additionally, three newspapers (St. Croix Avis, Daily News, and VISource) posted the press release. With this press release, the public was notified of the proposed action, notified of the upcoming scoping meeting, and given 30 days to comment on the project. A copy of the newsletter, press release, and distribution list (the list in the appendix does not include names/addresses from newsletters that were returned) are included in Appendix F.

A public scoping meeting was held on August 22, 2006 from 5:30 p.m. – 8:00 p.m. at the Christiansted National Historic Site located at the Guinea Company Warehouse (old post office building) 2100 Church St., #100, Christiansted, VI. A list of attendees (24 people attended) from the public scoping meeting is included in Appendix F. Public comments were received during the meeting and through the mail and are summarized in Table 10-1 and included in Appendix F. The comments generally support the development of the MREC and the demolition of the abandoned hotel structure.

The EA will be distributed to individuals and agencies listed in Table 10-1 and Appendix F for public and agency review and comment for a period of 30 days. Comments received will be addressed in an errata sheet to be attached to the FONSI, assuming there are no issues that may lead to significant impacts from the Proposed Actions. Following the completion of the EA and response to comments, the FONSI will be signed and dated by the NPS Regional Director.

TABLE 10-1. PUBLIC COMMENTS ON THE PROPOSED MREC AND ABANDONED HOTEL DEMOLITION

NAME AND ORGANIZATION	COMMENTS / SUGGESTIONS	RESPONSE TO COMMENTS
Marilyn Chakroff VI Dept of Agriculture/ Forest Stewardship Coordinator	The most likely site for the MREC is the south site. If the buildings are in good repair, this site already has infrastructure in place. Without more information on the condition of these structures, it is hard to say whether the best solution for MREC should be to build all new structures elsewhere or not.	Comment Noted.
	But the hotel needs to go! Plus all wrecked sailboats stuck in the mangroves.	Removing abandoned boats from within SARI is a General Management Plan (GMP) issue.
Ernest Chappelle Bechtel Eng. & Con./ Manager of Environ. Safety and Health	Please allow access for surfers to park their cars at the Salt River Surf Spot on the East Side of the bay, directly in front of the old boat wreck (iron barge).	Parking at the Salt River Surf Spot on the East Side of the bay is a GMP issue.
	The marine school can only benefit St. Croix immensely. It will bring investment, employment for Virgin Islanders and research to help maintain and save the reefs from deterioration.	Thanks for the positive comment.
Stephen K. Cohen St. Croix Central High School/Science Teacher	The sooner, the better. It has been too long that St. Croix has not been a center for Marine Research & Education. Hopefully this will all come to completion quickly and we can educate our youth before it is too late to do something to save and preserve the reef.	Thanks for the positive comment.
Olasee Davis University of the Virgin Islands/ Ecologist	I would suggest the MREC be placed in the former NOAA undersea Research Center. The facilities of the former Center are basically still intact. Also, a baseline research is already established in that site from NOAA.	Comment Noted.
	I also agree to demolish the abandoned hotel building and return the area to natural conditions as much as possible. Creating green space is important to make SARI more attractive naturally.	Thanks for the positive comment.
	Also, I would suggest creating trails, particularly on south side of SARI to learn more about the terrestrial environment at SARI.	The creation of trails is a GMP issue.

Table 10-1. Public Comments on the Proposed MREC and Abandoned Hotel Demolition

NAME AND ORGANIZATION	COMMENTS / SUGGESTIONS	RESPONSE TO COMMENTS
Margarita Hutchinson and Dan Odell Birds of Paradise/ Co-owners	This is great to see (the environmental scoping newsletter). The pre-analysis makes sense, but how much will it cost? Who will perform the study? How long will it take? Are there historical artifacts under water there? Who will pay for the work? Keep up the good work!	Thanks for the positive comment on the newsletter; the preliminary cost for the MREC itself was 20 million; future studies and duration of studies is to be determined; an underwater survey will take place since there is a possibility that historic underwater resources exist; funding for the project is to be determined.
	Please add us to your mailing list and remove Megan Shoenfelt from your mailing list – she’s gone from SEA. Suggestion – provide postage for people.	You will be added to the MREC mailing list and M. Shoenfelt will be removed; comment noted on providing postage for future correspondence.
Gordon and Marie MacDonald Capt. CESN (Ret)	We are extremely happy to have SARI in this very important and historic area.	Thanks for the positive comment.
Thomas Nicolosi Executor of the Estate of Salvatore Nicolosi	I’m the owner of property in Salt River. I would like information on what the government is doing to the surrounding property.	GMP issue - other planned projects.
Michelle Pugh Dive Experience / President	Please make Salt River a No Take area!!	Government of the Virgin Islands (GVI) issue – No Take Areas. SARI is already a territorial marine reserve; GVI has to enforce existing regulations.
Frank Sluss Business World/ President	I live at 250 Judith’s Fancy, right next to the proposed site. How will development affect our property? How will you enter and leave the area?	Implementation of the MREC at the East Site should have minimal effects on your community. A Haul Road is proposed for the hotel demolition which will be improved to provide for public access to the east side of the park. This new park entrance would be used for the MREC to avoid your private community.
William Tobias	If the old hotel structure is structurally sound, it should be used as the sight for the MREC. If it is not structurally sound, as determined by an engineering structural survey, I would concur with the East Site location for MREC. The government (DPNR) should be provided with a copy of the engineering structural survey. The government (DPNR) should be provided with a map identifying all plots of reclaimed land.	Unfortunately, the hotel structure is not structurally sound, based upon the results of a survey by NPS engineers and architects (NPS 2001). Additionally the hotel is located in a Coastal Barrier Resources System Area; therefore, federal funds can not be used to support this structure for a federal facility except for marine related operations. If the GVI would like a copy of the NPS Survey (NPS 2001b), a request should be made from the GVI to NPS. Regarding the map of reclaimed land, the GVI has this information.

Table 10-1. Public Comments on the Proposed MREC and Abandoned Hotel Demolition

NAME AND ORGANIZATION	COMMENTS / SUGGESTIONS	RESPONSE TO COMMENTS
William Tobias (Continued)	The government (DPNR) should be an equal partner in the MREC and provided with sufficient space to base its marine-related programs.	The GVI is a partner in the MREC project. Space for DPNR marine-related programs will need to be coordinated with the Consortium through a Cooperative Agreement document.
	NPS needs to work with DPNR-DEE to enforce Salt River Marine Reserve & Wildlife Sanctuary regulations.	NPS fully endorses the SARI Marine Reserve & Wildlife Sanctuary. GVI is solely responsible for the management and protection of the waters within the designated park boundaries. (MR&WS has been signed by GVI but public comment on regulations pending). A Cooperative Agreement for management of SARI between the NPS & the GVI needs to be finalized and signed by GVI. The Cooperative Agreement calls for the GVI to seek concurrent jurisdiction through the legislature of the Virgin Islands. Once finalized the Governor will sign it into law and the NPS will gain concurrent jurisdiction with the GVI for enforcement of the Salt River Marine Reserve regulations.
Robert V. Vaughn St. Croix Landmarks, Society/ Trustee	Excellent presentation and graphics. Comments I heard from public were all positive. Personally, I hope the project materializes and pronto! There is no reason for our housing the world's priceless resources and not learning and documenting (and preserving) them for the whole world.	Thanks for the positive comments.
Bill Rohring DPNR Division of Coastal Zone Management Assistant Director	Continued involvement that was highlighted by NPS personnel being on the St. Croix East End Marine Park Advisory Committee, with local government actions and activities. Especially concerning scientific research, water quality monitoring and cross-training opportunities between the local government and NPS staff	The GVI is a partner in the MREC project.
Harold and Laura Denwood Retired	100% support of demolition of abandoned hotel structure. Strongly feel that once the hotel is demolished the site should be returned to natural state, which would include no major structures except as related to archaeological and ecologic observations. MREC seems a natural for the south site because of	Comment Noted

Table 10-1. Public Comments on the Proposed MREC and Abandoned Hotel Demolition

NAME AND ORGANIZATION	COMMENTS / SUGGESTIONS	RESPONSE TO COMMENTS
Harold and Laura Denwood Retired (cont)	good roads, existing buildings and the history of the research center. This would also allow water access to the East Site.	
Tracy Lynch Bholá and Emy Thomas President and Secretary of Estate Salt River Homeowner's Association	Support the intent of establishing a MREC and demolition of the abandoned hotel site.	Comment Noted
	Concerns include: intensity of development, resulting traffic intensities and access, preservation of historic character, conformance to existing zoning requirements, and conformance to existing deed restrictions (both explicit and of good faith).	Development of the MREC will be limited to necessary facilities, traffic projections are low level, and the NPS will conform, to the extent practicable, to zoning requirements and deed restrictions.
	South site is preferred site.	Comment Noted
	East site is the next preferred site.	Commented noted; The East Site is the NPS Preferred Alternative.
	The West Site is the least preferred site.	Comment Noted
	The Salt River Homeowner's Association (HOA) made special provisions to welcome SARI into our subdivision because we endorsed SARI's mission to preserve and enhance the historical, archaeological, cultural, and ecological resources of the area and we amended our covenants to allow activity "consistent with SARI's operation and buildings consistent with the definitions outlined of "park uses." The MREC [at the West Site] does not fit those descriptions and it far exceeds the original intention of the HOA and the NPS to harmoniously blend a park into a single-family residential neighborhood.	Your concerns have been noted.
	In summary, we believe the character of the existing West Site SARI Visitor's Center and surrounding area should be maintained as a low intensity, visually unencumbered and ecologically preserved area devoid of the MREC development. The South Site and the East Site afford the best opportunities to meet the programmatic requirements of the MREC campus. We hope the NPS will take this information under serious consideration and we appreciate the opportunity to provide our perspective and remain available for further discussion with all interested parties.	Your concerns have been noted.

Table 10-1. Public Comments on the Proposed MREC and Abandoned Hotel Demolition

NAME AND ORGANIZATION	COMMENTS / SUGGESTIONS	RESPONSE TO COMMENTS
Virdin Brown	Supports the establishment of a MREC in the vicinity of SARI based upon the information presented. Believes the MREC should be developed on the fringe boundary of SARI because of the significant historical, archaeological, and ecological resources and that it would be difficult to carry out a major development without disturbing or destroying important resources. This would mean acquiring suitable acreage outside of SARI.	It is not necessary to build the MREC outside of park property since this EA concludes that no impairment of park resources would result from the implementation of the Preferred Alternative. A Phase I archeological survey has been conducted at the East and West sites; results of the survey found that the proposed MREC would not impact archeological resources. Natural resource surveys will be conducted prior to construction for compliance with applicable federal laws and permits.
	The South Site is the only suitable site among the three suggested because of the existence of some infrastructure and the access to the bay.	Comment noted.
	Concerned that the present development plans are drifting away from the initial concept of using SARI as a mechanism for joint Virgin Island and Federal management, while providing training to VI government personnel to staff and manage a Territorial Park System.	The GVI is a partner in the MREC project. UVI is a partner in the Joint Institute for Caribbean Marine Studies. Through the cooperative agreement to co-manage the park, NPS will find opportunities to provide training for GVI staff at federal training facilities and training / development programs.
Amy Hamilton Home Owner in Judith's Fancy	How is the public going to have access to the MREC in Judith's Fancy? Through the private Judith's Fancy Roads means more traffic. With more people coming and going, theft might increase.	The public will access the MREC by way of the Haul Road which is proposed for the hotel demolition and will be improved to provide public access to the east side of the park. This new park entrance would be used for the MREC eliminating traffic through the Judith's Fancy community.
	I believe the MREC should be built on the West Side where public access is already commonplace.	Comment Noted.
Jessie Thomas Secretary SARI Advisory Commission	It appears that this project circumvents Public Law 102-247 due to no major development will be authorized without an approved GMP. This law does not provide for a third party co-manager, including NOAA, the JI for Caribbean Studies, or the USVI. A Cooperative Agreement between the NPS and the Government of the VI defining management responsibilities has not been mutually agreed upon. There is no draft, much less approved, GMP.	The Salt River Advisory Commission no longer exists as of February 2002. NPS concurs that development of a GMP would facilitate long-term planning at SARI. However, funding of a GMP is still years away and NPS is proceeding with initiatives that meet the mission of the park, as described in the enabling legislation. The enabling legislation for SARI cited "education and research" as within the mission of the park, making the proposed MREC consistent with the park's mission. The proposed MREC is consistent

Table 10-1. Public Comments on the Proposed MREC and Abandoned Hotel Demolition

NAME AND ORGANIZATION	COMMENTS / SUGGESTIONS	RESPONSE TO COMMENTS
		with the Coral Reef Act of 1999 and the U.S. Ocean Action Plan of 2004. NOAA or the JICMS would not be considered co-manager of the park, but of a facility that would be located within the boundaries of the park on park property that would further support the park mission and goals for preservation, conservation and education.
Jessie Thomas (continued)	Although scientific study was listed in the “Management Objectives” approved on November 29, 1994, a complex as large as the MREC was not contemplated. The MREC proposal represents piecemeal development and damages the integrity of SARI.	<p>The proposed MREC has been designed to minimize impact to the environment, including the natural, cultural, and visual resources. The Preferred Alternative makes use of disturbed lands and avoids impacts to natural and cultural resources. The location at SARI was selected because of its proximity to high quality seawater for research purposes, to an extraordinary marine environment for research, and because disturbance of valuable habitat was avoided or minimized.</p> <p>The development of the MREC does not damage the integrity of the park. Rather it helps to fulfill the mission of the park, protects important resources for future generations, and provides an opportunity for visitors to experience the park and learn about the important cultural and natural resources within SARI. Purchasing the Visitor Contact Station as well as a boundary expansion was not contemplated back in 1994. The Park moved ahead for the benefit of park resources.</p>
	It would seem that Section 106 and 110 compliance are required due to the cumulative adverse affects on the integrity of SARI’s historic properties. The MREC complex will affect historic properties within the SARI boundaries, including the Columbus Landing National Historic Landmark, Cape of the Arrows, and the National Natural Landmark. Diminished integrity of these resources could lead to the declassification of their status.	Yes, Section 106 and Section 110 compliance are required and will be completed for this project. Applicable approvals associated with construction of the MREC would be obtained from the VI SHPO following completion of the EA and signing of the FONSI but prior to the start of the construction of the MREC.

Table 10-1. Public Comments on the Proposed MREC and Abandoned Hotel Demolition

NAME AND ORGANIZATION	COMMENTS / SUGGESTIONS	RESPONSE TO COMMENTS
Jessie Thomas (Continued)	The Public Announcement (August 13-14, 2006) in the AVIS indicates that the NPS is seeking to re-establish a MREC on the island of St. Croix. Any proposed construction within the line of sight of the Columbus Landing National Historic Landmark would impact the vistas and landscapes (Section 104(b), P.L. 102-247). The size of the proposed complex will destroy the viewshed forever, and the visitor's experiences will be immeasurably diminished.	Section 106 and Section 110 compliance are required and will be completed for this project. Applicable approvals associated with construction of the MREC would be obtained from the VI SHPO following completion of the EA and signing of the FONSI but prior to the start of the construction of the MREC.
	There seems to be no balance between the protection of the cultural resources and natural resources. The MREC seems to indicate that natural resources are now given preference because of E.O. 13089. Degradation of the integrity of the Columbus Landing National Historical Landmark and the National Natural Landmark due to construction has been a NPS concern since 1986. This includes adverse impacts to vistas and landscapes.	The MREC project was analyzed in detail and has minimized or avoided, when possible, adverse impacts to the historic, cultural, and natural resources at SARI. Applicable approvals associated with construction of the MREC would be obtained from the VI SHPO following completion of the EA and signing of the FONSI but prior to the start of the construction of the MREC.
	I am of the opinion that the East side of Salt River Bay is not suitable for the MREC because of all the factors which I have mentioned, I do recommend that the shoreline, which has been disturbed by commercial development, be restored to its pre-1960 state. This would enhance interpretation and the visitor's understanding of the complex human history of the area.	Comment noted on the MREC. The peninsula at the East Site (which may also include the shoreline areas) will be returned to a more natural setting following the demolition of the abandoned hotel structure.
	The MREC complex will affect historic properties within the SARI boundaries including the Columbus Landing National Historic Monument, Cape of the Arrows, and National Natural Landmark.	Applicable approvals associated with construction of the MREC would be obtained from the VI SHPO following completion of the EA and signing of the FONSI but prior to the start of the construction of the MREC.

Table 10-1. Public Comments on the Proposed MREC and Abandoned Hotel Demolition

NAME AND ORGANIZATION	COMMENTS / SUGGESTIONS	RESPONSE TO COMMENTS
Jessie Thomas (Continued)	A possible alternative site for the MREC includes Government Plot 101=23, which is large enough and has access to Triton Bay. Roadway access would not be necessary and Cape of the Arrows would still have limited access.	Government Plot 101-23 has many site constraints. For one, a significant portion surrounding Triton Bay is within the Coastal Barrier Resources System Area. A portion directly east of the bay is within the 100-year floodplain. It may be possible to site at least a portion of the facilities outside of these areas, but any facility would be far removed from the bay, and the seawater access line would have the greatest impact to water resources from this location. Moreover, the park has indicated that they prefer that this site generally be returned to its natural state. That is one reason it was not considered as an alternative site before the project was submitted to the planning team.
	A second possible alternative site for the MREC includes the present marina at SARI. Also, an out of park alternative for the MREC is the University of VI-owned property at Estate Concordia Bay, Frederiksted, which has a good “drop off” for boat access.	The marina is an alternative, it is included in the West Site location. The paramount advantage identified in the CBA process was building the MREC on land owned by the NPS. This would provide for the long-term control and management of the facility. Also, the proximity to Salt River Bay is an important component of the research program, one that is not served by an MREC location in Frederiksted.
J.H. Isherwood	Clearly, the best place to build the NPS facility is at Trident Bay, the Southern Site, if this property becomes available.	Comment noted.
	Development at the Judith’s Fancy location would create a multitude of security issues and conflicts with the adjoining subdivision development. An unsightly and environmentally insensitive security fence will probably be required. The homeowners in this development already feel under assault from burglaries.	Security is expected to improve at the East Site due to the presence of MREC staff. Some MREC facilities may require fencing, but it will blend in with the natural surrounding.
	Opening the new access road into Judith’s Fancy through what is presently an undisturbed bird sanctuary and wildlife area will play havoc with the current balance and security. The association would probably be happy to cooperate with the NPS to improve security and restrict vehicle access to SARI’s	The existing road proposed to be improved for public access to the east side of the park is not located in the former Triton Bay Wildlife Sanctuary.

Table 10-1. Public Comments on the Proposed MREC and Abandoned Hotel Demolition

NAME AND ORGANIZATION	COMMENTS / SUGGESTIONS	RESPONSE TO COMMENTS
	property.	
J.H. Isherwood (Continued)	While the old hotel site should be cleaned up and the debris removed, I am concerned that the actual demolition of buildings will create as many environ. problems as it solves. I would like to see the existing buildings/pool fixed up and used for park and research purposes with primary access for visitors being by water from the Salt River Marina. With low intensity dev. and limited road access, it might be possible to reach an agreement with the homeowner's association to avoid building a new access road and all the ecological and security problems this road will create for the subdivision and the NPS.	A detailed environmental analysis of the beneficial and adverse impacts of demolishing the abandoned hotel structure has been conducted. The long-term benefits of removing the hotel structure, including returning the site (and viewshed) to a more natural condition, far outweigh any short-term, temporary impacts associated with demolition and construction. The abandoned hotel structure is currently deteriorating and presents safety and environmental concerns.
David Hayes Registered Professional Archaeologist	I am fully in agreement with the removal of the remaining structures and other material from the failed hotel on the Judith's Fancy site. These need to be removed for safety and reduction of a blight on the viewshed.	Agreed. The abandoned hotel structure is currently deteriorating and presents a safety and environmental concern. Following the removal of the abandoned hotel structure, the site (and coastal viewshed) will be returned to a more natural condition.
	While any of the proposed locations for the MREC would Work, I think the best choice would be the East Side. The MREC must also contain a storage/archive area.	Agreed. The East Site is the Preferred Alternative, and we are also considering adding a storage /archive facility as part of the MREC.
	While acquiring the marina on the west side should remain the highest priority land acquisition for SARI, placing the MREC on the west side would seriously compete for attention with the historical and archaeological resources on that side. In my view, the western side of the estuary is an extraordinary treasure for historical and archaeological research and placing the MREC there would interfere with research into and interpretation of those resources. Also, would another Congressional action be required for the NPS to acquire land needed for that site that is outside the stated boundary of SARI?	Comment noted. Any land acquisition proposal by a Federal agency, including the NPS, would require National Environmental Policy Act compliance. Yes, Congress would have to expand the park boundary to include the proposed property. Once the property is inside the park boundary the superintendent would request funding through the Land & Water Conservation funds to purchase the property.
	Although the south side is the historic home of the NOAA base, it is limited by the terrain and lack of sheltered anchorages. I think this site has too many	Comment noted on the South Site. Any mangrove rehabilitation (or mitigation for wetland impacts) would most likely occur at the East Site, since this is

Table 10-1. Public Comments on the Proposed MREC and Abandoned Hotel Demolition

NAME AND ORGANIZATION	COMMENTS / SUGGESTIONS	RESPONSE TO COMMENTS
	physical limitations to serve well, especially when the future expansion of the MREC is needed. This area is near mangroves and might serve well as support for their rehabilitation, should the NPS be able to acquire the old Faile complex.	the location of the Preferred Alternative.
David Hayes (Continued)	The east site, while requiring the reopening of an old road and limited by the presence of a pre-Columbian burial site and village, does not have the problems of the other two sites. I recall that in the 1960s, several cannons were underwater at the entrance of the dredged marina, which had been moved there by local divers.	Comment noted. The NPS will conduct an underwater survey before any work is done in the lagoon or bay.
	On the East Site, the new structures can be dispersed and landscaped so that they do not intrude into the viewshed. Up on the hill in the northeast corner, there is excellent space for the laboratories and storage/archival space. This area was disturbed many years ago so any new development will not impact cultural resources.	Agreed. Applicable approvals associated with construction of the MREC would be obtained from the VI SHPO following completion of the EA and signing of the FONSI but prior to the start of the construction of the MREC.

10.2 AGENCY CONSULTATION

In addition to the aforementioned public entities, Table 10-2 presents a list of the agencies that were sent letters on July 21, 2006 requesting consultation and comments regarding the Proposed Action at SARI. An Agency consultation meeting was held on August 21, 2006 at the Visitor Contact Station at SARI, #26 Estate Salt River, St. Croix, VI from 10:00 a.m. - 12:00 p.m. A list of attendees from the agency consultation meeting is included in Appendix B. A copy of an example agency letter sent to the agencies, and the agency response letter that was received is included in Appendix B.

Table 10-2. List of Agencies Consulted on the Proposed Projects

Name	Title/Agency	Address
Federal Agencies		
Lisamarie Carrubba	NOAA NMFS	P.O. Box 3323 Lajas, Puerto Rico 00667
Jim Casey	Virgin Islands Coordinator USEPA	Virgin Islands Field Office Tunick Building, Suite 102 1336 Beltjen Road St. Thomas, VI 00801
Mark Evans	USACE - Jacksonville District	701 San Marco Boulevard Jacksonville, FL 32201-0019
Dr. Joseph J. Kimmel	Supervisory Fishery Administrator NOAA NMFS	Southeast Regional Office 263 13 th Avenue, South St. Petersburg, FL 33701
Jennifer A. Moore	NR Specialist NOAA/NMFS Protected Resource Division	Southeast Regional Office 263 13 th Avenue, South St. Petersburg, FL 33701
Edwin Muniz	Field Supervisor U.S. Fish and Wildlife Service	Boqueron Ecological Services Field Office Carr 301, KM5.1, BO Corozo Boqueron, PR 00622
LT. Kevin Reed	U.S. Coast Guard	Resident Inspection Office 9B Print Street Christiansted, VI 00822
Carl-Axel Soderberg	Director U.S. USEPA - Caribbean Environmental Protection Division	Centro Europa Building 1492 Ponce Deleon Avenue, Suite 417 San Juan, PR 00907-4127
Pablo Vazquez	Resident Engineer USACE - Jacksonville District	400 Fernandez Juncos San Juan, PR 00901-3299
U.S. Virgin Island Agencies		
John Beagles	Chairman CZM Commission USVI DPNR CZM	45 Mars Hill Frederiksted, VI 00840
Aaron Hutchins	Department of Planning and Natural Resources Division of Environmental Protection	45 Mars Hill Frederiksted, VI 00840

Name	Title/Agency	Address
Mr. Myron Jackson	SHPO	17 Kongens Gade Charlotte Amalie St. Thomas, VI 00802
Dr. Barbara Kojis	Director USVI DPNR-Division of Fish & Wildlife	6291 Estate Nazareth 101 St. Thomas, VI 00802
Dean C. Plaskett, Esq.	Commissioner USVI DPNR	Cyril E. King Airport Terminal Building, 2 nd Floor St. Thomas, VI 00802
Victor Somme, III	Director USVI DPNR – CZM	45 Mars Hill Frederiksted, VI 00840

10.2.1 Section 7 of the Endangered Species Act Consultation

Section 7 of the Endangered Species Act (50 CFR 402) requires that a federal permitting action is “not likely to jeopardize the continued existence of any endangered species or threatened species or result in the destruction or adverse modification of the habitat of such species.” If a proposed action “may affect” federally listed species or critical habitat, consultation with the U.S. FWS and National Marine Fisheries Service (NMFS) is required.

Fifteen federal and local agencies (see Table 10-2 and Appendix C) including NMFS were sent letters on July 21, 2006 requesting consultation and comments regarding the Proposed Action at SARI. NMFS was the only agency that responded to the consultation letter. NPS has incorporated recommendations made by NMFS into the proposed actions to minimize effects to federally endangered or threatened species. The NPS is submitting a copy of this EA to USFWS and NMFS and requesting concurrence with the NPS determinations listed in Table 10-3.

Table 10-3. Section 7 Determination for Threatened and Endangered Species

Scientific Name	Common Name	Determination
<i>Dermochelys coriacea</i>	Leatherback sea turtle	No effect
<i>Eretmochelys imbricata</i>	Hawksbill sea turtle	No effect
<i>Caretta caretta</i>	Loggerhead sea turtle	No effect
<i>Chelonia mydas</i>	Green sea turtle	No effect
<i>Acropora cervicornis</i>	Staghorn coral	No effect
<i>Acropora palmata</i>	Elkhorn coral	No effect

NMFS has designated critical habitat for the leatherback sea turtle in waters adjacent to Sandy Point on the southwest corner of St. Croix up to and including the waters from the hundred fathom curve shoreward. Due to the distance of the area from the project site, the designated critical habitat for the leatherback sea turtle would not be affected by the proposed construction of the MREC facilities.

NMFS recommended that NPS prepare a biological evaluation (BE) as part of the project planning and design stages. The BE would include background information regarding the presence of threatened and endangered species in the project area, including results of any surveys performed as part of the development of the proposed project, an effects analysis evaluating the potential adverse impacts to listed species and their habitat, a determination of the

effects of the action on threatened and endangered species, and a request for concurrence on potential project effects on threatened and endangered species under NMFS' purview. The BE will be submitted to NMFS initiating formal ESA Section 7 consultation prior to the initiation of any construction activities. Further consultation with NMFS will continue throughout the NEPA process.

10.2.2 Fish and Wildlife Coordination Act Consultation

The Fish and Wildlife Coordination Act requires consultation with the USFWS and the fish and wildlife agencies of the states/territories where "waters of any stream or other body of water are proposed or authorized, permitted or licensed to be impounded, diverted... or otherwise controlled or modified: by any agency under a federal permit or license. Consultation is to be undertaken for the purpose of "preventing loss of and damage to wildlife resources."

The NPS initiated informal consultation (agency consultation letter, see Appendix C) with USFWS concerning the proposed action's impact on wildlife resources within SARI. The USFWS has not commented on the proposed project. Further consultation will continue with the USFWS throughout the NEPA process.

10.2.3 Section 106 of the National Historic Preservation Act Consultation

Agency consultation was conducted (agency consultation letter, see Appendix C) with the State Historic Preservation Office to comply with Section 106 of the NHPA. Section 106 of the NHPA (36 CFR, Part 800) requires federal agencies to take into account the effects of their undertakings on historic properties, and to afford the Advisory Council on Historic Preservation a reasonable opportunity to comment. If the proposed action meets the criteria for an "undertaking" or has the potential to cause effects to historic properties, consultation with the USVI SHPO is required.

The USVI SHPO has not commented on the proposed project. Further consultation will continue with the USVI SHPO throughout the NEPA process.

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