



United States Department of the Interior



FISH AND WILDLIFE SERVICE

Caribbean Ecological Services

Field Office

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In Reply Refer To:
FWS/R4/CESFO/78020-035

Mr. Sindulfo Castillo
US Army Corps of Engineers
Chief, Antilles Regulatory Section
Annex Bldg., Fundación Ángel Ramos
383 F. D. Roosevelt Avenue, Suite 202
San Juan, Puerto Rico 00918

Re: SAJ 1982-05019 (SP-JCM), Sirius Marina,
Coral Bay, St. John, USVI

Dear Mr. Castillo:

This is in response to the December 10, 2015, Public Notice for the construction of a 145 slip marina and mooring field in Coral Bay, St. John, USVI. Our comments are provided in accordance with the Fish and Wildlife Coordination Act (48 Stat. 401, as amended; 16 U.S.C. 661 et seq.) and the Endangered Species Act (16 U.S.C. 1531 et seq. as amended).

The applicant is requesting a permit to construct a 92 slip marina and additional upland facilities and amenities in Estate Emmaus, Coral Bay, St. John, USVI. The marina will be located at the head of the bay. About 1 acre of marine bottom will be dredged to create a six foot deep basin for a boat ramp and channel and approximately .3 acres of fill will be deposited in Parcel 10A create a sheet-pile bulkhead for the boat ramp facilities. The purpose of this is to provide a marina facility in the east end of St. John.

The applicant estimates that the direct impacts of the proposed project to be the following: .15 acres (593m²) of mangroves from fill and bulkhead construction and 1.2 acres of seagrass (this includes a calculation for vessel and dock shading). However, this is not the overall project footprint (the total area which the project occupies). **We believe that project impacts should be based on the project footprint rather than individual piles and docks.**

According to information available, Coral Bay is currently occupied by approximately 115 boats of various sizes presently moor or anchored, estimates of the total cumulative impacts of these anchors and moorings at about one acre. It is not very clear if the proposed marina facility will be used by some of these 115 boats, or if the proposed 92 slips represent an increase in the total number of vessels in Coral Bay.

A project of this size usually requires additional environmental documentation. However, we have not received any additional information other than what is included in the Corps Public Notice.

Based on the information provided, it is difficult to determine the project's direct and indirect impacts. The project drawings are limited to the marina structures and dimensions are not given for the overall project footprint out to the project limits

Description of Fish and Wildlife Resources Within the Project Area

According to the NOAA benthic habitats maps, the bay bottom in the project area is composed of continuous sea grass in the near shore and macro algae 10-50% cover in the existing channel and deeper sections of the bay. The applicant's benthic transects, which were limited only to the marina development, tend to corroborate the NOAA maps. Some individual coral colonies were found within the marina construction area. The shoreline is currently protected by rip-rap and has an existing storm water discharge. Mangroves are found on either side of the existing rip-rap. The bay is recognized as a shark nursery with documented use by blacktip, lemon and nurse sharks which utilize this area to bear their young. This type of shark pup habitat is very important in maintaining a healthy population of these species. Juvenile conch a commercially important species are also found in the bay. Sea turtles are also seen in the bay and two juvenile hawksbill sea turtles (*Eretmochelys imbricata*) were observed during the benthic surveys. The sea grass/mangrove complex is well documented as being a nursery area for many reef dwelling organisms and commercially important species, although the benthic habitat in the area is impacted by existing boat moorings, the impacts are dispersed and allow the habitat to maintain its functions and values for wildlife.

Possible Impacts to Sea Grasses and Other Marine Habitats

The U.S. Fish and Wildlife Service (the Service) is concerned about possible direct, indirect, inter-related and cumulative impacts of the proposed project to sea grasses in the overall footprint of the proposed marina in Coral Bay.

These impacts include: removal of sea grass during construction, increased sedimentation and decreased water quality, shading, possible leaching of bottom paint, leaks of petroleum products, marine debris and other contaminant releases of up to 92 boats in the upper portion of Coral Bay, St. John, USVI. It is our experience that once sea grasses in an area start to die back due to shading, suspended sediments may increase and water transparency may decrease, this effect can extend beyond the construction footprint of the marina into surrounding marine habitats causing additional indirect damage to benthic habitats (Schafer 2008).

The impact of marinas to benthic habitats in the U.S. Virgin Islands was first documented by Island Resources Foundation (IRF) in the 1970's (Grigg et al. 1971 and Nichols et al. 1977). At that time it was noted that the inner sections of Mangrove Lagoon and Benner Bay where there is a large concentration of marinas, was devoid of marine organisms. High levels of metals

especially copper and zinc were found in the sediments. These studies were summarized in an IRF report in 1985.

Subsequent investigations in the Benner Bay area continued to document the high level of contamination in marine sediments due to marina development. Hinkley et al. 2005, identified that 88% of polycyclic aromatic hydrocarbons (PAH) observed in contaminated sediments can be attributed to marina fuel docks and fueling activities. Carbery et al. 2006 reported the antifouling herbicide Irgarol, which is acutely toxic to corals, mangroves and sea grasses by inhibiting photosynthesis at low concentrations, to be present in sediments associated with marina development in Benner Bay. Pait reported that copper at one site in Benner Bay was above a NOAA Effects Range-Median (ERM) guideline indicating effects on benthic organisms were likely and that the antifoulant boat hull ingredient tributyltin (TBT) was found at the third highest concentration in the history of NOAA's National Status and Trends (NS&T) Program (Pait et al. 2014, NOAA). This compound is extremely toxic to marine invertebrates such as oysters, crabs, lobsters etc. Its extensive use over the past 40 years has resulted in the collapse of whole populations of organisms in some areas. TBT is biomagnified up the marine predator food chain. It has been shown to harmfully affect many layers of the ecosystem, including invertebrates and vertebrates, even humans. Toxic effects in some species occur at 1 nano-gram per liter of water. Even though completely banned in 2008 by international agencies, TBT anti-fouling paints are legal for use in the United States with restrictions.

EPA has established an aquatic life criteria for TBT in saltwater (EPA 2003) which states; Except possibly where a locally important species is very sensitive, saltwater aquatic life and their uses should not be affected unacceptably if the one-hour average concentration of TBT does not exceed 0.42 µg/L more than once every three years on the average (acute criterion) and if the four-day average concentration of TBT does not exceed 0.0074 µg/L (7.4 nano grams) more than once every three years on the average (chronic criterion). However, this criterion is for dissolved TBT in saltwater only and would need to be adopted by the USVI Territory as a water quality standard.

Based on the location of the proposed marina the area provides protected waters but also restricts circulation which may aggravate water and sediment quality issues. Loss of seagrass and leaching bottom paint may be a long term chronic impact to the local marine habitats if this project is constructed.

Compensatory Mitigation

As compensatory mitigation for the estimated impacts, the applicant is proposing to plant mangroves in various areas (no further information has been provided), remove derelict vessels from mangroves, improving circulation in mangroves, and planting of seagrass in areas impacted by anchors, debris or prop scars. In addition the marina will have a sewage pump out service, waste disposal and a public awareness campaign. However, a detailed compensatory mitigation plan is not included in the Public Notice.

Part of the mitigation process is to first avoid and minimize project impacts. We believe that the current mitigation plan is still conceptual and does not adequately consider the direct, indirect impacts and long term impacts of the overall project. The applicant should attempt to minimize project impacts by reducing the number of docks. A compensatory mitigation plan should address all direct, indirect and inter-related impacts to sea grasses and other marine habitats within the footprint of the project.

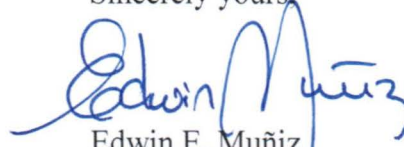
Recommendations

1. The applicant should address all direct and indirect impacts of the project to sea grasses within the project limits.
2. The project's footprint, should be superimposed on a benthic habitat map in order to determine the extent of marine habitat that would be occupied by the project and to assess the potential impacts to marine habitat from the project's footprint.
3. The applicant should develop a detailed compensatory mitigation plan that reflects not only the direct impacts of the placement of piles, boat slips and decking, but also reflects the long term degradation of the construction and operation of the marina for the entire project limits including the mooring field.
4. The applicant should assess the possible long term effects of contaminants on marine habitats in and around the proposed Sirius marina at Coral Bay. Measures to mitigate or minimize these long term impacts should be included in the mitigation plan.
5. With regards to federally listed species under USFWS purview, the Antillean manatee (*Trichechus manatus manatus*) which although rare in the USVI, is still known to occur in those waters. The Corps should require manatee standard conditions for the construction and operation of the marina.
6. This is the second marina project that the Service has recently reviewed within Coral Bay. The Corps should consider conducting a cumulative impacts analysis of Coral Bay habitats in the eventuality that both of these projects are approved.

Based on the above, we believe the direct and indirect impacts of this project have not been adequately assessed and mitigated. We recommend that the Corps place not issue this permit until our concerns have been addressed.

Thank you for the opportunity to comment on this project, if you have any questions please contact Felix Lopez of my staff at 787 851-7297 x 210.

Sincerely yours,



Edwin E. Muñiz
Field Supervisor

fhl

cc:

NMFS, Boquerón

DPNR, DFW, Red Hook

EPA, New York

EPA, San Juan

DPNR, CZM, St. Thomas

NPS, St. John

References Cited

Carbery, Kelly, et al. "Contamination of Caribbean coastal waters by the antifouling herbicide Irgarol 1051." *Marine pollution bulletin* 52.6 (2006): 635-644.

EPA 2003 Ambient Aquatic Life Criteria for Tributyltin (TBT) – Final. EPA 822-R-03-031, 138pp, December 2003.

Grigg, David I., Robert P. VanEepoel, and Robert W. Brody. Water quality and environmental status of Benner Bay-Mangrove Lagoon, St. Thomas. No. 10. Caribbean Research Institute, 1971.

Hinkey, Lynne M., et al. "Identifying sources and distributions of sediment contaminants at two US Virgin Islands marinas." *Marine pollution bulletin* 50.11 (2005): 1244-1250.

Nichols, Maynard M., Edward L. Towle, and Gilbert Cintron. Water, sediments and ecology of the Mangrove Lagoon and Benner Bay, St. Thomas. Island Resources Foundation, 1977.

Nichols, Maynard, and Edward Towle. "Water, Sediments and Ecology of the Mangrove Lagoon and Benner Bay, St." Thomas, Rept. By Island Resources Foundation to Dept. of Conservation and Cultural Affairs, USVI 159 (1977).

Pait, A. S., et al. "An assessment of chemical contaminants in sediments from the St. Thomas East End Reserves (STEER), St. Thomas, USVI." NOAA Technical Memorandum NOS NUCCOS 156. Silver Springs, MD 70pp 2013.

Shafer, D. J., J. Karazsia, L. Carrubba, and C. Martin. 2008. Evaluation of regulatory guidelines to minimize impacts to seagrasses from single-family residential dock structures in Florida and Puerto Rico. ERDC/EL TR-08-41. Vicksburg, MS: U.S. Army Engineer Research and Development Center.

Towle, Edward. "Case Study Report, Virgin Islands Mangrove Lagoon (1967-1984). Island Resources Foundation Occasional Paper No. 54B." Prepared for Caribbean Conservation Association's Environmental Impact Assessment (EIA) Workshop, Barbados. Island Resources Foundation, St. Thomas, US Virgin Islands, 1985.