May 20, 2002

James G. May, Colonel (U.S.A.)
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ELECTRONIC FILING: charles.f.stevens@usace.army.mil

Re: ***PEER's Broward County Shore Protection Project Draft Environmental Impact Statement ("DEIS") Comments***

ATTN: PROJECT MANAGER: MR. CHARLES F. STEVENS
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Dear Colonel May:

Public Employees for Environmental Responsibility ("PEER") has reviewed the *Broward County Shore Protection Project Draft Environmental Impact Statement* ("DEIS"). PEER is a national service organization for public employees engaged in environmental work. It not only has a number of members in the State of Florida who do work on coral reef matters, but PEER also has an active membership within the National Oceanic and Atmospheric Administration ("NOAA") and other federal agencies working on coral reef matters, including the U.S. Army Corps of Engineers ("USACE").

The Resource

The environmental resource the USACE's Jacksonville District defends along the Broward County coast is unique. The North American Atlantic coast supports all three (3) of the basic shoreline geographies, and the south Florida Coast from Cape Canaveral to the Florida Keys supports the most endangered of these three (3) basic forms:

> The seashores of the world may be divided into three basic types: the rugged shores of rock, the sand beaches, and the coral reefs and all their associated features. Each has its typical community of plants and animals. The Atlantic coast of the United States is one of the few in the world that provide clear examples of each of these types. I [being Rachel Carson] have chosen it as the setting for the pictures of shore life, although ? such is the university of the sea world ? the broad outlines of the picture might apply on many shores of the earth.
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> The living coral coasts of the world are confined to waters in which the temperature seldom falls below 70º F. (and never for prolonged periods), for the massive structures of the reefs can only be built when the coral animals are bathed by waters warm enough to favor the secretion of their calcareous skeletons. Reefs and all the associated structures of the coral coast are therefore restricted to the areas bounded by the Tropics of Cancer and Capricorn. Moreover, they occur only on the eastern shores of continents, where currents of tropical waters are carried toward the poles in a pattern determined by the earth's rotation and the direction of the winds. Western shores are inhospitable to corals because they are the site of upwellings of deeper, colder water, with cold coastwise currents running toward the equator.
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> Rachel Carson, THE EDGE OF THE SEA viii, 192 (Houghton Mifflin Co. 1955).

One finds, then, under the jurisdiction of the USACE's Jacksonville District, a stretch of American coastline unique from any other. It is not akin to the Pacific shoreline, which is bathed in colder waters and produces different forms of coral substructures (such as offshore, deep water corals around "hot spots"). And, the Jacksonville District beaches south of Cape Canaveral are also different from the beaches north from Canaveral and into Georgia. It is the uniqueness of these south Florida

beaches ? both within the variety of shoreline native to the Atlantic coast and as a part of the Atlantic coast as it is compared to other American shores ? that requires the present EIS be amended to supply additional analysis prior to final approval of the Broward project.

Of chief concern is the waning health of the Atlantic coast's rarest shoreline, the coral reefs and affiliated structures south of Cape Canaveral. South Florida's nearshore coral reefs are among the globe's most productive ecosystems, and are incubator and nursery to more than half of the tropical seafood species, including lobster, red snapper, grouper, and drum. In their most productive state, corals require clean, clear, low-nutrient waters in which to thrive. By contrast, algae love sewage and other nutrients. In the presence of such nutrients, algae will bloom to the point where it consumes vast quantities of dissolved oxygen, rendering the surrounding waters a "Dead Zone". See David Helvarg, *Blue Frontier,* 146, 149, 152-153 (W.W. Freeman & Co. 2001). As early as 1956, it was understood that sedimentation ? which will be produced by the dredges employed in the Broward project under review ? had an adverse impact on the sensitive nearshore coral reefs:

> Off this coral coast the sea lies green in the shallows, blue in the far distances. After a storm, or even after a prolonged southeasterly blow, comes "white water". Then a thick, milk-white, richly calcareous sediment is washed out of the reefs and stirred from its deep beds over the floor of the reef flat. On such days the diving mask and the aqualung may well as be left behind, for the underwater visibility is little better than in a London fog.
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> "White water" is the indirect result of the very high rate of sedimentation that prevails in the shallows around the Keys. Anyone who wades out even a few steps from the shore notices the white, siltlike substance adrift in the water and accumulating on the bottom. It has visibly rained down on every surface. Its fine dust lies over sponge and gorgonian and anemone; it chokes and buries the low-growing algae and lies whitely over the dark bulks of the loggerhead sponges. The wader stirs up clouds of it; winds and strong currents set it in motion. Its accumulation is going on at an astonishing rate; sometimes, after a storm, two or three inches of new sediment are deposited from one high tide to the next. It comes from various sources. Some is mechanically derived

> from the disintegration of dead plants and animals ? mollusk shells, lime-depositing algae, coral skeletons, skeletal plates of holothurians. It is also derived in part from chemical precipitation of calcium carbonate present in the water. This, in turn, has been leached out of the vast expanses of limestone rock that compose the surface of southern Florida, and has been carried to the sea by the slow drainage of the Everglades.
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> Rachel Carson, THE EDGE OF THE SEA 197-198 (Houghton Mifflin Co. 1955).

Given the strain upon south Florida's nearshore coral reefs due to the natural sedimentation of large, easily-settled solids, why would the USACE want to add additional, finer and less easily-settled solids to the sedimentation problem?

The Broward county project will impact nearshore hardbottom reef and corals that are federally designated as essential fish habitat. It involves dredging near offshore reefs and dumping muddy sand on nearshore essential fish habitat; and it will dredge and dump over three (3) million cubic yards of sand, along twelve (12) miles of south Florida beaches. Historically, other similar 'dredge and fill' projects have resulted in damage from dredges straying off course, dredges cutting into nearby coral habitat, and dredges smothering many acres of coral reefs and hardbottoms by silt. All of these actions have caused bng term reductions in water clarity. The Broward project will result in buried hardbottom. Coral habitat that is now used by over 500 species of fishes, invertebrates and plants, including juvenile grouper, snapper and other fish of a commercial value will disappear. The project will also impact endangered and protected species such as Queen Couch, Pillar coral, sea turtles and Manatee Habitat.

Because of the impact the proposed Broward project will have on sensitive environmental resources, the following items must receive additional analysis.

DEIS Substantive Failures:

(1) Habitat Areas of Particular Concern. The Habitat Areas of Particular Concern ("HAPC") are identified in the EFH Final Amendment Fishery Management Plans. These areas are found to have additional significance "as habitat" and must meet one of the following criteria: a) importance of ecological functions; b) sensitivity to human degradation; c) probability and extent of effects from development activities; or d) rarity of the habitat. The HAPCs found in Southeast Florida consist of hardbottom habitat and Phragmatopoma (worm)reefs (MNFS, 1999) and Coral Reefs. This substrate serves as settlement areas for many species and plays an important role in the maintenance of sustainable levels of fishery production in South Atlantic region. The EIS must specifically address the impact of the federal action proposed on the HAPCs.

(2) Hopper Dredge. The Hopper dredge will operate from the offshore borrow pit sites. The dredge will transport the sand to offshore pump-out stations. These stations are typically connected to thirty-six (36) to twenty-four (24) inch diameter pipelines used to transport hydraulically pumped, newly excavated fill, across the littoral shelf and to the dump site. Many of these pipelines transgress hardbottom or coral reefs or moved during storms. In either case, damage to hardbottom structures and coral reefs can occur. This potential impact must be address in the EIS.

(3) Cumulative Impact. When assessing impacts from dredging, multiple stresses to reefs must be considered. The loss of these areas would have a cumulative effect because many similar habitats have been lost to past projects. Approximately one-half of the Broward County coast line has been impacted by past beach dredge and fill projects. These projects have buried nearshore hardbottoms and EFHs. They have smothered coral reefs both adjacent to beach fill area and adjacent to barrow pits. So the cumulative impact of the proposed Broward project on the nearshore coral reef ? analyzed in conjunction with past projects ? must also be analyzed in the EIS.

(4) Sedimentation from the fill is resuspended from wave action. Unlike the natural occurring beach sand, the fill material has a lot of fine particles that do not settle out as fast as the larger grains of sand. As such, they are much more easily suspended. This adds turbidity to the water which blocks out sunlight. Too much sedimentation on corals or too little sunlight can directly kill corals, these conditions may also stress coral communities and leave them more susceptible to disease. So both the quantity and the opacity of sedimentation produced during the dredging process are important factors to assess. The impact of this result from beach renourishment must also be examined in the EIS.

(5) Mitigation. The 74,000 tons of limestone boulders can in no way properly mitigate for the loss of 28 acres of hard bottom and EFHs, or the destruction of nearby ancient reefs. The existing coral reefs and their associated structures are unique ecosystems for which an 'substitute' is not possible. The EIS analysis must assess the suitability of this form of mitigation in light of the uniqueness of the effected ecosystem.

(6) Sand Bypass. Erosion at the Ft. Lauderdale beach is seasonal. Sand moves off the beach in winter and back onto the beach in the summer. This normal cycle is aided by the close proximity of the reef to the beach. The reef helps to absorb energy from the waves. This, in turn, protects the beach. Sand bypass must be implemented at Port Everglades so that the natural flow of the sand from north to south along the beach is not interrupted by the channel and jetties.

DEIS Process Failure: Fish & Wildlife Consultation Act of 1958

Major General Robert H. Griffin, civil works director of the USACE, announced several weeks ago that his agency will "pause" work on billions of dollars worth of active projects that are not yet under construction. The action was perhaps taken in response to a recent critique by the General Accounting Office and internal USACE memoranda citing "serious questions in regard to the accuracy and currency . . . and the rigor of the review process for some projects."

This action is significant given the December, 2000 report released by U.S. Special Counsel, Elaine Kaplan, confirming allegations that the USACE manipulated cost/benefit studies in order to exaggerate the need for civil works projects in the Upper Mississippi region. The report not only found serious flaws in a USACE study on the need for expansion of the lock and dam systems for the Upper Mississippi River and Illinois Waterway, but also with the entire USACE planning process. The report concluded that the USACE has departed from its role has an "honest broker" of civil works projects.

The Jacksonville District needs to “pause” on the project now pending for review regarding Broward County’s beach renourishment program. Work done to this date ? including the Environmental Impact Statement ? has not adequately addressed the adverse impact of beach renourishment on the human environment of South Florida, particularly as that environment concerns the health of sensitive nearshore coral reef structures off the coast of Broward County. See specific points, supra.

PEER is concerned that the current process may have blinded the USACE and may not be providing the public with accurate analyses of cost/benefit ratios associated with civil works projects in general, and south Florida beach renourishment projects in particular. It is now evident that federally-funded projects are being pushed through for the benefit of local government and business elites, whether or not such projects are in

the general public's best interest. During an April 30, 2002 public meeting on the Broward County Project held in Hollywood, Florida, approximately seventy (70) percent of the speakers opposed the current selected alternative, as proposed, stating that the reefs offshore of Broward County should be preserved. Accordingly, it appears that the Broward County Shore Protection Project, as proposed, is not in the public's best interest; it is challenged by the majority of Broward County residents who would reap the alleged project benefits.

PEER is concerned that financial costs of civil works projects are being underestimated, as well. We have information to suggest that the environmental costs of beach projects are also being underestimated in USACE's *Environmental Impact Statements.* See Lindeman 1997, Lindeman and Snyder 1999, cited infra. Section 2(b) of the Fish and Wildlife Coordination Act of 1958 states that:

> "In furtherance of such purposes, the reports and recommendations of the Secretary of the Interior on the wildlife aspects of such projects and any report of the head of the State agency exercising administration over the wildlife resources of the State, based on surveys and investigations conducted by the United States Fish and Wildlife Service and such State agency for the purpose of determining the possible damage o wildlife resources and for the purpose of determining means and measures that should be adopted to prevent the loss or damage to such wildlife resources, as well as to provide concurrently for the development and improvement of such resources, shall be made an integral part of any report prepared or submitted by any agency of the Federal Government responsible for engineering surveys and construction of such projects when such reports are presented to the Congress or to any agency or person having the authority or the power, by administrative action or otherwise, (1) to authorize the construction of water-resource development projects or (2) approve a report on the modification or supplementation of plans for previously authorized projects, to which this Act applies."
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> [Emphasis supplied].

The purpose of this arrangement it clear. The U.S. Fish and Wildlife Service was given this responsibility to conduct surveys and investigations for determining the possible damage to wildlife resources due to federal civil works projects because the U.S. Fish and Wildlife Service is not influenced by the economics of such projects.

Consultants such as Coastal Planning and Engineering (hired by local project sponsors such as Broward County) conduct the "surveys and investigations" for the federal projects under conditions which may present a financial interest in seeing that such surveys do not wholly represent possible damages to fish and wildlife resources. Surveys conducted by consultants have been termed "client science" by Orrin Pilkey (1996). The relationship between consultants and project sponsors who hire them may give rise to a conflict of interest for the consultant. The results of such surveys should be viewed with scepticism.

The *Fish and Wildlife Coordination Act Report* appended to the Broward County EIS was based primarily on the surveys and investigations conducted by Coastal Planning and Engineering, not the US Fish and Wildlife Service. It is our opinion that the Corps civil work program is seriously flawed and if this process can lead to falsification of the economic costs for civil work projects it will also lead, in some cases, to falsification of the environmental costs of those projects.

Conclusion

The Broward nearshore hardbottom and reef that have not been dredged and filled are in much better condition than areas formerly subjected to “renourishment”. Broward County claims that there have been no negative impacts from past projects. This simply is not true, what they should be saying is that their grossly inadequate studies and monitoring have failed to record any negative impact. Broward County’s current monitoring protocol does not call for the recording of bleached or diseased corals. They have no long term studies to determine the health of the reef. The current health of these reefs must be considered cumulatively to determine how much stress the reefs can handle from dredging.

For these reasons PEER recommends that the Broward County project be included in the list of federal projects that to be put on hold until investigation into

cost/benefit analyses is completed. We also recommend that an independent investigation of the reporting accuracy of environmental costs be conducted for the Broward County project and the civil works program in general. Finally, the EIS must be amended to address the matters discussed, supra, and reposted for public comment and hearing.

Respectfully,

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