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Department of Veterans' Affairs

FLORIDA DEPARTMENT OF STATE
Katherine Harris
Secretary of State
DIVISION OF HISTORICAL RESOURCES

Mr. Stephen Higgins
Broward County Dept. of Planning & Environmental Protection
218 SW 1st Avenue
Fort Lauderdale, Florida 33301

August 10, 2001

RECEIVED
AUG 17 2001
DEPARTMENT OF PLANNING AND ENVIRONMENTAL PROTECTION

Re: DHR Project No. 2001-07772/Received July 25, 2001
Broward County Shoreline Protection Project
Request to modify buffer for Anomaly A27

Dear Mr. Higgins:

Our office has received and reviewed the above referenced project in accordance with Section 106 of the *National Historic Preservation Act of 1966* (Public Law 89-665), as amended in 1992, and *36 CFR, Part 800: Protection of Historic Properties*. The State Historic Preservation Officer (SHPO) is to advise and assist federal agencies when identifying historic properties (listed or eligible for listing, in the National Register of Historic Places), assessing effects upon them, and considering alternatives to avoid or reduce the project's effect on them.

This office has reviewed your proposal and it is the opinion of this office that the proposed 300-foot buffer around Anomaly A27 is soundly based and we have no objections to the proposed plan. If you have any questions, please do not hesitate to contact Laura Kammerer, Historic Preservationist Supervisor for Compliance and Review, at (850) 245-6333 or (800) 847-7278. Thank you for your interest in protecting Florida's historic properties.

Sincerely,

Frederick P. Gaske, Deputy SHPO

for Janet Snyder Matthews, Ph.D.
Director, Division of Historical Resources and
State Historic Preservation Officer

JSM/lk

PLEASE NOTE: NEW PHONE NUMBERS AND FAX NUMBERS EFFECTIVE JULY 1, SEE BELOW

500 S. Bronough Street • Tallahassee, FL 32399-0250 • http://www.flheritage.com

☐ Director's Office (850) 245-6300 • FAX: 245-6435
☐ Archaeological Research (850) 245-6444 • FAX: 245-6436
☐ Historic Preservation (850) 245-6333 • FAX: 245-6437
☐ Historical Museums (850) 245-6400 • FAX: 245-6433
☐ Palm Beach Regional Office (561) 279-1475 • FAX: 279-1476
☐ St. Augustine Regional Office (904) 825-5045 • FAX: 825-5044
☐ Tampa Regional Office (813) 272-3843 • FAX: 272-2340

Construct a Visitor Learning Center on an 80-acre Parcel of Land North of the Town of Baker, NV, Comment Period Ends: June 04, 2002, Contact: Becky Mills (775) 234–7331.

EIS No. 020123, Draft EIS, COE, CA, Middle Creek Flood Damage Reduction and Ecosystem Restoration Project, Implementation, Located between Highway 20 and Middle Creek immediately northwest of Clear Lake, Lake County, CA, Comment Period Ends: May 20, 2002, Contact: Jerry Fuentes (916) 557–6706.

EIS No. 020124, Draft EIS, FRC, CT, NY, Islander East Pipeline Project, To Construct and Operate an Interstate Natural Gas Pipeline Facilities, To Provide 285.009 dekatherms per day (Dth/d) of natural gas to energy market, New Haven, CT and Suffolk County, NY, Comment Period Ends: May 20, 2002, Contact: Margalie R. Salas (202) 208–2156.

EIS No. 020125, Final EIS, FTA, MN, Northstar Transportation Corridor Project, Improvements from downtown Minneapolis to the St. Cloud area along Trunk Highway (TH) 10/47 and the Burlington Northern Santa Fe (BNSF) Railroad Transcontinental Route, Connecting the Hiawatha Light Rail Transit (LRT) Line at a Multi-Modal Station, Minneapolis/St. Paul (MSP) International, Wait Period Ends: May 06, 2002, Contact: Joel Ettinger (312) 353–2865.

EIS No. 020126, Final Supplement, TVA, AL, Browns Ferry Nuclear Plant, Operating License Renewal, Units 2 and 3 and Potentially Unit 1 Operations Extension, Athens, Limstone County, AL, Wait Period Ends: May 06, 2002, Contact: Bruce L. Yenger (865) 632–8051.

EIS No. 020127, Draft EIS, COE, FL, Broward County Shore Protection Project, Proposed for Fill Placement in Segment II (Hillsboro Inlet to Port Everglades) and Segment III (Port Everglades to the south County Line), Broward County, FL, Comment Period Ends: May 20, 2002, Contact: Yvonne Haberer (904) 232–1701.

Amended Notices

EIS No. 020118, Draft EIS, FHW, NC, Second Bridge to Oak Island project, Transportation Improve from SR–1104 (Beach Drive) to NC–211, COE Section 404 Permit and US Coast Guard Permit, Federal Aid Project No. STP.1105(6), State Project No. 8.2231201, and TIP NO. R–2245, Brunswick County, NC, Comment Period Ends: May 13, 2002, Contact: Nicholas L. Graf (919) 856–4346.

Published FR 03–29–02 Correction to Comment Period from 04–29–2002 to 05–13–2002.

Dated: April 2, 2002.

B. Katherine Biggs,

Associate Director, NEPA Compliance Division, Office of Federal Activities.

[FR Doc. 02–8300 Filed 4–4–02; 8:45 am]

BILLING CODE 6560–50–P

ENVIRONMENTAL PROTECTION AGENCY

[FRL–7168–4]

Meeting of the Local Government Advisory Committee

AGENCY: Environmental Protection Agency (EPA).

ACTION: Notice.

SUMMARY: The Local Government Advisory Committee (LGAC) and its Subcommittees will meet on May 1–3, 2002, in Washington, DC. The Committee will be discussing issues concerning the relationship between Local Governments and the U.S. Environmental Protection Agency (EPA). The focus of the meeting will be the orientation of new members to the Committee, the development of Committee Work Plans for the next 18 months, attendance at sessions of the EPA Science Forum, and discussions and briefings on current environmental issues.

There will also be an orientation session for the new LGAC members in the morning on May 1st to discuss EPA organization and structure, Committee history and rationale, legal requirements for members, and LGAC functions, and current issues.

During the meeting decisions will be made as to Subcommittees and Workgroup organization and these groups plus the standing Small Community Advisory Subcommittee (SCAS) may meet to initiate discussions on topics assigned by the Committee.

The Committee will hear comments from the public between 10 a.m.–10:20 a.m., May 3. Each individual or organization wishing to address the LGAC meeting will be allowed a maximum of five minutes to present their point of view. Please contact the Designated Federal Officer (DFO) at the numbers listed below to schedule agenda time. Time will be allotted on a first come, first served basis, and the total period for comments may be extended, if the number of requests for appearances required it.

These are open meetings and all interested persons are invited to attend. LGAC meeting minutes and Subcommittee summary notes will be available after the meetings and can be obtained by written request from the DFO. Members of the public are requested to call the DFO at the number listed below if planning to attend so that arrangements can be made to comfortably accommodate attendees as much as possible, and to facilitate security clearance to the meeting. Seating will be on a first come, first served basis.

DATES: Formal Committee sessions will begin May 1st, and the orientation session will be held from 10:30 a.m.–12:30 p.m. The Local Government Advisory Committee plenary session will begin at 3:30 p.m. Wednesday, May 1st and conclude at 3:30 pm Friday, May 3rd.

ADDRESSES: The meetings will be held in Washington, D.C. at the EPA's Headquarters, located at 1200 Pennsylvania Avenue, NW—the Ariel Rios North Building. The orientation session will be held in conference room 5530. The LGAC plenary session on Wednesday, Thursday and Friday will be held in the Rachel Carson Great Hall on the 3rd floor

Additional information can be obtained by writing the DFO at 1200 Pennsylvania Avenue, NW (1306A), Washington, DC 20460.

FOR FURTHER INFORMATION CONTACT: The DFO for the Local Government Advisory Committee (LGAC) is Paul Guthrie (202) 564–3649.

Dated: March 27, 2002.

Paul N. Guthrie,

Designated Federal Officer, Local Government Advisory Committee.

[FR Doc. 02–8296 Filed 4–4–02; 8:45 am]

BILLING CODE 6560–50–U

ENVIRONMENTAL PROTECTION AGENCY

[FRL–7167–2]

Proposed CERCLA Administrative Cost Recovery Settlement Pursuant to the Comprehensive Environmental Response, Compensation, and Liability Act; Environmental Waste Resources Site, Coal City, IL

AGENCY: Environmental Protection Agency.

ACTION: Notice; Request for Public Comment.

SUMMARY: In accordance with Section 122(i) of the Comprehensive Environmental Response, Compensation, and Liability Act, as amended ("CERCLA"), 42 U.S.C.

Planning Division
Environmental Branch

TO WHOM IT MAY CONCERN:

This announces a public meeting to discuss the recently released draft Environmental Impact Statement (DEIS) for the Broward County Shore Protection Project, Segments II and III, Broward County, Florida.

The public meeting is scheduled as follows:

DATE: Tuesday, April 30, 2002
TIME: 6:30 P.M. to 10:00 P.M.
PLACE: Hollywood Beach Community Center
1301 South Ocean Drive
Hollywood, Florida

A map is attached. We invite Federal and State agencies, local agencies, and interested organizations and individuals to participate in the meeting.

The DEIS is available on the Corps of Engineers website under "Broward County Shore Protection Project" at http://www.saj.usace.army.mil/pd/envdocs/envdocsb.htm (the document has been recently divided into smaller sections for quicker downloading). A copy of the DEIS is also available at the Broward County Main Public Library, 100 S. Andrews Avenue, Fort Lauderdale, Florida. For library hours phone (954) 357-7444. Additional copies are available for review at the offices of the Broward County Department of Planning & Environmental Protection, 218 SW 1st Avenue, Fort Lauderdale, Florida during normal business hours.

This letter has been sent to those individuals who asked to be kept on the mailing list or otherwise expressed a continuing interest in the project by providing comments during the EIS scoping process. If you know others who may wish to attend the meeting, please advise them of this notice. Any questions may be directed to Ms. Yvonne Haberer at the letterhead address, or telephone 904-232-1701.

Sincerely,

James C. Duck
Chief, Planning Division

Haberer/CESAJ-PD-ER/1701
Dugger/CESAJ-PD-E
Stevens/CESAJ-DP-I
Duck/CESAJ-PD

William L. Davis
1390 South Ocean Boulevard
The Wittington Apt. 9-C
Pompano Beach, FL 33062

May 4, 2002

Ms. Yvonne Haberer
DEPARTMENT OF THE ARMY
Jacksonville District Corps of Engineers
P.O. Box 4970
Jacksonville, FL 32232-0019

Dear Ms. Haberer:

I regret having to miss the DEIS public meeting in Hollywood on April 30, due to illness. Please keep me on the mailing list.

The comment that I wanted to have in the record is the need to create a sand dune on the beaches from Hillsboro Inlet south to the geographical limit of the project.

Hutchinson Island both North and South in St. Lucie and Martin Counties are ideal examples of how every beach in Florida could be protected from erosion and properties protected from high water storm surges. A continuous dune from Hillsboro Inlet south to Port Everglades should be established during the beach restoration project and reinforced with sea oats, which would allow the dunes to grow naturally. It would then be incumbent on each property owner to construct one or more wooden over-walks on pilings for the purpose of giving bathers access to the beach.

I hope your engineers will give this suggestion due consideration. I always thought it was a State of Florida law that sand dunes are required and protected on beaches. It is certainly enforced in St. Lucie and Martin counties, but sadly ignored and abused in Broward and Dade counties. Dunes will avoid the need for repeated beach re-nourishment as they act as a repository for sand, which will allow the beach to rebuild itself over time.

Sincerely,

William L. Davis

William L. Davis, P.E.

HOLLYWOOD BEACH BUSINESS ASSOCIATION

309 CAROLINA STREET HOLLYWOOD, FL 33019

May 8, 2002

US Army Corps of Engineers
Jacksonville District
PO Box 4970
Jacksonville, Florida 32232-0019

Dear Ms. Haberer:

Having attended the public meeting on April 20, 2002 at the Hollywood Beach Community Center regarding the Broward County Shore Protection Project and having listened to the presentation by Mr. Higgins as well as the ensuing comments from the audience, I would like to take this opportunity to convey the position of the Hollywood Beach Business Association on the subject.

Our membership is in unanimous agreement that the beach depletion has reached such a critical point that relief can no longer be delayed. The problem is of such magnitude in some areas of Hollywood beach that we have motel owners who have seen days when they were forced to sweep water from their doorsteps during inclement whether due to the beach erosion. The merchants and restaurant owners are faced with similar problems and all are engulfed in deep fear and trepidation for their businesses, investments and livelihoods.

We have taken into consideration the environmental concerns that were raised at the meeting and we even addressed them directly with Mr. Higgins, who was kind enough to speak to us after the meeting. He explained how many of the issues raised were already examined very thoroughly and how his staff was employing the resources and guidance of some of the concerned organizations that have offered their assistance to minimize any damage to the coral reefs.

We welcome Mr. Higgins' sincere concern and his open and receptive posture. We trust that he will conduct the project with the greatest care for the environment that is possible under the given circumstances. But one thing is certain. The problem must be addressed TODAY! One does not ignore an ill patient until a cure is discovered. One continues to treat the symptoms and to provide immediate relief in the hope of prolonging life until a final solution is arrived at. To deny temporary treatment and relief may surely hasten the poor patient to an untimely death.

Hollywood beach is ready, willing and able to accept the relief of beach re-nourishment NOW! Any further delay will spell a sentence of doom to our beautiful beach.

Yours truly,

Audrey Joynt, President

Frieda Dragif, Board Member and Attendee

Copies to: Mayor and Commissioners
CRA Director

Lighthouse Point Saltwater Sportsman Association

HONORARY MEMBERS
Mike Leech, Chairman-IGFA
Steve Waters, Sun-Sentinel
Mark Sosin,Producer-ESPN

Dept. of Army
Jacksonville District Corps of Engineers
PO Box 4970
Jacksonville, Fl.
32232-0019
EIS for Broward County dredge and fill plan

May 8th 2002

The Lighthouse Point Saltwater Sportsman Association was formed in 1986. It is a Broward County group with a membership of 100 local families. We had some of our members attend the EIS meeting held in Hollywood. We believe you should schedule another EIS meeting in the Fort Lauderdale area. This is suggested since the majority of environmental concerns was due to reef north of Port Everglades.
We have several concerns as to missing components of the EIS and some suggestions as to the Beach renourishment project when it is started.

Missing from the EIS and Broward's plans are components that may bring more longevity to the project.
These include:

1. There was no planned By-pass of sand from the north side of Port Everglades to the south. Here the jetty holds back 50,000 cubic yards of sand annually (Coastal Planning and Engineering estimate). Additionally sand is potentially going around jetty currently and building a secondary sand bar off Hollywood's Beaches that presently serves no benefit.
2. There is no vegetation component to project.
3. Jacks or some type of sand holding devices are not planned to be employed offshore or within sand placement. Question remains what will aid in holding sand in place. Terra Hotel employed jacks in their sand renewal 10 years ago, Diplomat Hotel did not. Terra Hotel still has a beach. Terra Hotel is three hotels away from Diplomat.
4. There is no dredge movement strategy to minimize dirty water while sand is being collected other than "dredge will periodically be moved when water gets to dirty."

Most importantly we feel an independent "watchdog" must be employed as dredging and sand placement proceeds. Monitoring should not be done by the same people as doing the project. We suggest you use people like us, the ones that have made the enclosed video. Our community involvement and local underwater knowledge is critical to the publics perception of any near shore and beach work.

Enclosed is an article from the Sun Sentinel that explains what our club has given support to. . Please review the 9 minute VHS film "Preserving our Treasures". It's suggestion is to have us help you with your positions as to any work proposed in South Florida's waters. I encourage you to contact us directly before any water related work begins. We would be most happy to discuss what our Association and 20 other South Florida Fishing and Diving Clubs have inputted to us.

Yours truly,

Frank Schmidt
Public Relations Director
Lighthouse Point Saltwater Sportsman Association
954 782 8293

GLOBAL CORAL REEF ALLIANCE

A non-profit organization for protection and sustainable management of coral reefs

Global Coral Reef Alliance, 324 Bedford Road, Chappaqua, New York 10514 USA
Telephone: 914-238-8788 Fax: 914-238-8768
E-mail: goreau@bestweb.net Web site: http://www.globalcoral.org

RECEIVED
MAY 14 2002
JACKSONVILLE DISTRICT
USACE

May 9 2002

Broward Beach Project EIS
Permit # 199905545
Jacksonville District Corps of Engineers
Dept. of Army
P. O. Box 4970
Jacksonville, FL 32232-0019

Dear Sirs,

The Global Coral Reef Alliance is submitting the attached comments as part of the public review for the record of the EIS for the Broward County Beach Fill Project, USACE Permit # 199905545.

We ask that Segment II be immediately dropped from the project because it would cause irreparable damage to the best remaining shallow reef in southeast Florida, and the only one that can be swum to from shore. This reef is a national treasure, deserving the strongest possible protection. It contains endangered species, large numbers of ancient corals, and large spreading fields of rapidly growing corals that are highly sensitive to sediments, as well as being essential fish habitat for vast swarms of juvenile coral reef fishes. This region should be designated as coral reef habitat, not hardground, and receive the full legal protection provided by the Coral Reef Protection Act, Executive Order 13089, and the Edangered Species Act.

The EIS is rife with inaccurate statements, erroneous assertions, poor analyses, inadequate interpretations, irrelevant models, and suspect numbers. It incorrectly claims that there has been no damage to coral reefs from past dredging projects, uses worthless methods to minimize the estimated area that would be damaged, and appears to use questionable methods in the cost-benefit analysis, among many other serious flaws that are discussed in the attached comments. Previous dredging projects were done without any baseline studies to estimate the damage that was done, yet the EIS claims that they had no impact on reefs, in direct contradiction to the unanimous observations of divers that they destroyed large areas of reef.

It may be true that in the past the existence of these magnificent coral reefs were not known to policymakers, it may be true that they did not realize that dredging would damage or kill them, and it may be true that there was no legally mandated protection for coral reefs then anyway, but none of these arguments can be made in 2002.

We urge that the EIS for Segment II be rejected, and that this segment be immediately dropped from the dredging plan. We have no objection to beach ammendment in Segment III, but ask that sand bypassing be used in preference to dredging and filling on both economic and environmental grounds.

Sincerely yours,

Thomas J. Goreau, Ph.D.
President, Global Coral Reef Alliance

DETAILED COMMENTS

The map on page 545 of the 612 page EIS shows the topography of the bottom and the area of best reefs as identified in the Cry of the Water and Global Coral Reef Alliance report (appended). This area is on the innermost ridge, next to the proposed dredge fill and "artifiical reef mitigation" boulder dump. The large number of juvenile corals seen all along this hardground, dominated by the extremely sediment-sensitive staghorn corals, would certainly be chronically damaged, if not destroyed, by sediment from the proposed beach dredge-fill project. This would be a violation of the Coral Reef Protection Act and of Executive Order 13089. What is called hard bottom in Segment II is incorrectly classified and it should be characterized as Coral Reef, as it is very different biologically from what they are referring to as nearshore hardground. The entire area is a vast nursery for baby corals and fish, the only one of its kind left in East Florida. The key point is to preserve the only prime quality reefs left, which are in the only section that has NEVER been dredged, which is why they are still there when all the rest of good nearshore reef has been degraded by previous dredging projects. We ask that the entire area off Segment II be officially designated as coral reef habitat by the county, state, and federal agencies responsible, and provided the fullest protection that the law demands for such habitats.

Pillar coral, *Dendrogyra cylindrus*, is listed as an Endangered Species. There are several very large ancient Pillar coral colonies lying directly offshore from areas that are due to be dredge-filled in Fort Lauderdale. Acropora species are also being added to the Endangered Species list. There are huge fields of staghorn coral (*Acropora cervicornis*) right offshore from Segment II. We believe that the Endangered Species Act should be fully applied to Segment II to prevent damage to coral species that are already listed as Endangered Species or soon will be.

Th EIS states in several places that healthy corals are resilient and able to resist sediment stress, but fails to point out that corals vary greatly in their ability to do so, with the staghorn and elkhorn corals being the least able to resist sediment stress. It further assumes that there will only be a single muddy plume at time of emplacement, which will be swept away by the currents in days, when in fact what is always seen after each such dredging project is that a new plume of mud is resuspended as the dredge-fill is reworked by waves after every storrm, and that these recurrent stresses continue for years or even decades afterwards. Corals that can survive a single rare mud event are largely unable to survive repeated events, especially if they are too frequent. Eventually corals run out of energy needed to push the sediments off their surfaces, and slowly die. Corals that are bleached or diseased, as many Broward corals are, especially in the summer when hurricane-induced sediment stress is most likely, are severely impaired or unable to resist sediment stress, and will die sooner.

The EIS claims that there is no evidence that previous dredging projects have damaged reefs. This contention is untrue, and all long-term divers in Broward County have seen their favorite reefs damaged or destroyed by previous dredging projects. Previous dredging projects in Hollywood and Dania have damaged the natural protection for those beaches, so there is no alternative there now but to keep dredging and filling. GCRA does not object to dredge filling in Segment III because the reefs are already damaged. Previous environmental impact studies were all started AFTER dredging had taken place, that is they had NO BASELINE with which to compare changes, making the conclusions incorrect.

The EIS uses a worthless method to determine how large an area will be impacted. It says "impacts to hardbottom and reef habitat can be predicted based upon proximity, currents, nature of borrow material, buffer zones, and other factors (USACE, 1998)". This is based on the "Equilibrium Toe of Fill" (ETF) concept, that limit beyond which USACE methods say no sand will move, and beyond which they say no damage will take place. The assumptions behind these calculated ETF lines are taken to be literal truth but are never really stated and require close examination. Basically the equations use measured wave heights and angles, currents, and the slope of the beach to calculate how far out the surf zone of resuspended beach sand extends from the shore. This is fine as long as average assumed conditions prevail. They do

not prevail during hurricanes, so that this model is useless in a region like Broward that gets hit by hurricanes. This is clearly shown by the intense erosion of beaches and opening of a new passage for the New River during the last great hurricanes to hit the area in the 1920s, a lesson that now seems to be forgotten. The height of the waves and their direction at any given spot are critically dependent on how far it is from the eye, and whether it is north or south of the eye. If it is close to the north of the eye, the ETF will be in the condominiums or the Intercoastal Waterway, if it is close to the south of the eye, the ETF will be over reefs, perhaps even over the drop off. Sand from previous beach fill in Dania and Lauderdale by the Sea has already moved way beyond the USACE-predicted ETF and buried hardgrounds and coral reef habitat. The EIS points out that during surveying for this project, they do not point out that the ETF will behave similarly. When a hurricane hits, as it surely will one day, the sand could travel hundreds of yards across the reef beyond the calculated ETF used in this EIS to define the areas of no damage.

The proposed "mitigation" is a bad joke. Limestone boulders will provide shelter for fish if they are placed in an area where there is no natural shelter, but it will not generate a natural coral reef community that is equivalent in value to what would be damaged. Wrecked cars, ships, planes, rubber tires, and other forms of trash can do so better at lower cost, but also are incapable of producing real coral reef communities and in hurricanes they become projectiles that damage real reef. The boulders will roll in a direct hurricane hit, too, and the proposed "mitigation artificial reef" adjacent to the best staghorn reef area would flatten the fragile staghorn corals if the boulders roll over onto them. Failed and potentially damaging methods of artificial reef "mitigation proposed should be scrapped, and only state of the art methods that increase coral growth rates, reproduction, settlement, and ability to resist environmental stresses including sediment, pollution, and extreme temperatures, should be used.

The algae data on pages 75-76 of the document show huge differences between north and south segments. The algae species found are named, but there is no discussion of the ecology of these species. When the ecological habitats of each species are considered, the algae species distributions and abundances clearly show that pollution with nutrients from sewage, agriculture, and urban runoff is far worse in the south, where almost all the bottom is covered with the worst sort of sewage-indicating slime. The area of best reef does not suffer from excess algae growth on the bottom, allowing the settlement and growth of baby corals, in particular staghorn corals. This is the result of the location of sewage outflows to the sea, and of runoff of lawn fertilizers, agricultural fertilizers, and road runoff through canals. The EIS states that Broward county reefs are typical of Caribbean reefs in that "Caribbean reefs are dominated by algae". This completely fails to recognize that this algae domination is recent and is the result of pollution from land-based sources of excessive nutrients from sewage, agriculture, deforestation, and soil erosion, or that there are still coral reefs in Broward County in the zone in front of Fort Lauderdale that have never been damaged by these factors. It is now too late to prevent eutrophication damage caused by excessive nutrient inputs along Segment III, but it is not too late to keep this from ever happening to the still vibrant reefs of Segment II and keeping its waters clear now and in the future.

The EIS states repeatedly that no action will lead to increased pollution due to growing population. This is stated in a way implying that lack of dredging causes pollution! How will dredging reduce pollution? Dredging will act to re-suspend any pollutants in the sediments, causing repeated exposure to the corals. Furthermore the terms of reference provided by the US Army Corps of Engineers requires that water quality controls only be done "to the extent necessary to safeguard the health of bathers". This ignores the fact that corals are hundreds to thousands of times more sensitive to nutrient pollution than human beings, that is to say by the time human health begins to be affected, most of the corals will have already been killed. We call for appropriate ecosystem-dependent water quality standards to be applied to this and other coral reef habitats. Available nitrogen concentrations (nitrate plus ammonium) should be maintained below 1 micromole per liter, and available phosphorus concentrations (orthophosphate plus dissolved organic phosphorus) should be maintained below 0.1 micromole per liter to prevent over-fertilized algae from over-growing and killing corals.

The claim that dredging would be cost effective is based on severely underestimating the damage to the reef that it would cause. In our view, the most cost effective and least environmentally damaging option for Segment II would be No Action, along with bypassing to get the huge mass of sand trapped by the Port Everglades jetty over to Dania, where it would have gone had it not been prevented from getting there by the jetty. The erosion hot spot in Dania is there only because its natural sand supply has been completely blocked. The Fort Lauderdale beach is stable, it is not eroding, and it does not need to be dredge-filled at all, especially since doing so will damage the natural protection from living coral reefs that has protected the beach all along. Once this reef is damaged, dredge-filling will be needed over and over again, but this project will exhaust all the "borrowable" sand offshore, so much more remote and expensive sand sources will be needed. The EIS states repeatedly that "no action will result in continued beach erosion" but fails to point out that there is little or no beach erosion in the largest segment of the planned dredge-fill project. Why is no map provided showing how the amount of erosion varies along the entire length of Broward County Beaches, even though comparison of the beach profiles show little or no change between 1980, 1993, and 1998 in the Fort Lauderdale segment, in sharp contrast to the situation in Dania and Hollywood? The Segment II project is not needed because there is no erosion problem in this section, it is needed to keep taxpayer's money flowing to dredge operators and consultants. We ask for the Segment II project to be dropped entirely as bad environmental and economic policy, and this region to be protected as a National Wildlife Monument

Sand bypassing is the cheapest possible source of sand to the eroded areas, and should be the first option considered. Only if the amount of bypassable sand is insufficient would it need to be ammended with expensive remote sources like dredge-fill from borrow pits, Lake Wales, or the Bahamas. Instead sand-bypassing is the last option considered in the EIS, considered only as a possibility for the future after "borrowable" sand is gone, and is not even properly assessed.

There are many questionable features in the economic cost/benefit analysis presented in the EIS. An unrealistic value of the interest rate, 6.25% is used throughout, although the current rates are much different, throwing all of the economic estimates off by large cumulative amounts over the lifetime of the project. The benefit/cost ratios presented are exactly the same for each segment of the project, even though the erosion rates are very different and so the costs and benefits will be quite different. This exact equality cannot have resulted from coincidence! It appears instead that a favorable benefit/cost ratio has been assumed *a priori* (but not stated as such), and then used to calculate the "benefits" from the costs, i.e. that the costs were not independently estimated for each segment, which would have inevitably produced a different ratio in each section. It seems, in short, that the figures have been cooked to give the answer desired. More importantly the entire cost/benefit analysis is bogus because the economic benefits of Broward reefs, $2.1 Billion per year according to the State's recent report on the socioeconomic value of reefs, are not taken into account in the EIS. Even a small degradation of their value would turn the net benefit from positive to negative, and the project would be rejected on purely economic grounds.

. THIS REEF IS LIKE THE LAST GIANT REDWOOD GROVE. IT IS UNTHINKABLE THAT IT COULD BE SACRIIFICED IN 2002 WHEN SO LITTLE GOOD REEF REMAINS.

United States Department of the Interior

OFFICE OF THE SECRETARY
OFFICE OF ENVIRONMENTAL POLICY AND COMPLIANCE
Richard B. Russell Federal Building
75 Spring Street, S.W.
Atlanta, Georgia 30303

May 9, 2002

ER 02/0305

Mr. James C. Duck
Chief, Planning Division
Department of the Army
Jacksonville District Corps of Engineers
P.O. Box 4970
Jacksonville, FL 32232

RE: General Reevaluation Report and Draft Environmental Impact Statement for the Broward County Shore Protection Project, Broward County, FL

Dear Mr. Duck:

The Department of the Interior have reviewed the above referenced documents and offer the following comments for your consideration.

General Comments

The Department has been an active partner throughout the design and development of this project. The U.S. Fish and Wildlife Service (FWS) was also contracted by the Army Corps of Engineers (Corps) to prepare the Fish and Wildlife Coordination Act Report, which was incorporated into the document as an appendix. The FWS has also completed a Biological Opinion for incidental take of sea turtle nests, hatchlings, and loss of reproduction efforts from false crawls, escarpments, and harassment. The Draft Environmental Impact Statement (DEIS) provides a well developed, thorough discussion of the potential effects from the proposed project to the Department's trust resources and the biological resources in the project area. Throughout the project scoping and design process, emphasis was placed on resource avoidance, minimization, and mitigation.

The DEIS includes both water quality monitoring and biological resource monitoring programs. However, details of some of the components are yet to be developed and other components are scattered in various sections of the DEIS. The FWS Coordination Act Report also provides specific monitoring recommendations, in addition to those proposed by the Corps. We suggest that in the Final EIS, all the components of the monitoring programs, in final form, be included in one section. We have concerns that reviewers will not fully understand the complexity of the proposed monitoring and the protection that is provided to the nearshore and offshore reefs.

In general, we believe the document is complete in its analysis of the potential impacts on fish and wildlife resources, and also believe the mitigation and monitoring proposed by the Corps is acceptable.

We request that the Corps coordinate your planning activities with the Seminole Tribe (954-966-6300) and the Miccosukee Tribe (305-223-8383) to seek their consultation on activities that may effect areas of interest to them.

Specific Comments

Page 185, Section 4.34, Environmental Commitments - This sections identifies the environmental commitments by the Corps which provides monitoring for nearshore and borrow area turbidity. This section also references additional sediment and turbidity monitoring, as well as a four-year biological program. Some details of the monitoring programs are included in this section and also in Appendix B, page 242 through 244; Appendix C, in the Coordination Act Report, in the Biological Opinion, and in the Changes to the Biological Monitoring Plan for Broward County. Biological monitoring details are also provided in Appendix D, in the Cumulative Effects Assessment. We request that the full scope of monitoring proposed be incorporated into one section.

Appendix C, Fish and Wildlife Coordination Act Report - This document identifies biological monitoring commitments by the Corps and also includes FWS recommendations in addition to those proposed by the Corps. We request that the Corps address all components of the monitoring program, those in the DEIS, those proposed by the Corps as referenced in the Coordination Act Report, and those recommended by the FWS in the Coordination Act Report and in the Biological Opinion.

Summary

As previously stated, although the DEIS adequately addresses our concerns and issues, we suggest that in the Final EIS, all the components of the monitoring programs, in final form, be included in one section. Again, we are concerned that reviewers will not fully understand the complexity of the proposed monitoring and the protection that is provided to the nearshore and offshore reefs.

If you should have any questions concerning these comments you may contact Bruce Bell of the U.S. Fish and Wildlife Service at 404-679-7089, or you may reach me at 404-331-4524.

Sincerely,

Gregory Hogue
Regional Environmental Officer

cc:
OEPC, WASO
FWS-R4, Atlanta
BIA, ERO

THE WESTIN DIPLOMAT
RESORT & SPA
Hollywood, Florida

May 13, 2002

The U.S. Army Corp of Engineer
Ms. Haberer
Planning Division
Environmental Branch.
Jacksonville District
PO. Box 4970
Jacksonville, Florida 32232

Dear Ms. Haberer,

I am writing in regards to the pending "*Beach Restoration Project*" for Broward County Florida and its potential impact on *The Westin Diplomat Resort & Spa.*

As you may or may not know, *The Westin Diplomat Resort & Spa* is a 1000-room resort with a 215,000 sq. ft. convention center that opened in South Broward County on January 30, 2002 in Hollywood, Florida. While the project was very well designed and constructed at a cost of several million dollars, the current state of beach erosion at our property line has created a situation that could jeopardize the financial viability of the project long- term.

Some of the areas of concern are as follows:

Physical Property Damage – Currently we have several areas of our property line where over the past few years the beach erosion has caused the high tide to bring the water line against the existing seawall. Our Engineers have determined that the wave and tide action eventually will have very damaging effects to the stability of the seawalls and in deed could cause several million dollars worth of damage to our pool area and building facilities.

Loss of Revenue: - Our Resort was designed to cater to medium and large size convention groups and we have several of these large groups that are currently looking for venues other than *The Westin Diplomat Resort*, due to the lack of beach facilities. Obviously, if you want to host a group at a beachfront facility a key part of the success of that convention would be the availability and use of an appropriate sandy beach area. If the beach erosion and restoration is not addressed immediately the potential for lost revenue will be tens of millions of dollars over the next several years.

Executive Office
3555 South Ocean Drive, Hollywood, FL 33019
Telephone: (954) 602-6000 Fax: (954) 602-8251 Internet: www.diplomatresort.com From the U.S. or Canada, call your travel agent, or 1-800-WESTIN-1

Loss of Employment. - *The Westin Diplomat Resort & Spa* currently employs in excess of 1,300 staff members, the majority of which are residents of Hollywood, Hallandale Beach and the South Broward County area. If our business continues to be negatively affected by the lack of beach facilities, the potential loss of employment at the Resort would be 300 to 500 staff members.

While we are very aware of the environmental issues that have been raised regarding the *"Beach Restoration Program"*, we are very confident that the U.S. Army Corp of Engineers and other local, state and federal agencies have addressed these issues appropriately and effectively. Therefore, we strongly urge that the Broward County *"Beach Restoration Project"* commence as soon as feasibly possible.

Thank you very much for your consideration in this regard and if I may provide you with additional information, please feel free to contact me direct at 954-602-8203.

Sincerely,

Gary L. Sims
General Manager
The Westin Diplomat Resort & Spa

GLS/mdb

May 14, 2002

Army Corps of Engineers
Jacksonville District
P.O. Box 4970
Jacksonville, FL 32232-0019

RE: Broward Beach Project EIS Permit # 199905545

Dear Sirs:

First of all, I want to commend the staff at the Broward County Dept. of Planning and Environmental Protection for the work they have done toward this proposed beach re-nourishment project. I have four points to make.

1. Sand re-nourishment on the beaches south of Port Everglades is needed at the soonest time due to severe erosion.
2. To prevent continued erosion south of Port Everglades, a sand bypass system at Port Everglades is needed. Please consider this as part of the proposed Port Everglades dredging project.
3. Please reconsider whether re-nourishment is needed in the Ft. Lauderdale(Galt Ocean Mile) section of the project. This area has not needed re-nourishment in the past 20 years and is not considered an eroded beach. This is also an area with an essential coral and fish habitat that will be greatly and adversely effected by the short term and long term turbidity from this type of un-needed project. Please remove this area from the project.
4. In undertaking this project, add vegetation as an element to help hold the sand in place once it has been added to the beach. This is an inexpensive solution which will provide a long term gain.

In this type of project it is a job to address the concerns of many interest groups, while considering the short term and long term effects to our environment. While beach re-nourishment is economically important to the tourist industry and shore-side property owners, the reefs and fish habitats have a huge economic impact in Broward County. Consider that 36,000 jobs in the county are "reef related", with a total annual economic impact of over 1 billion dollars a year. This is more than Miami-Dade, Monroe, and Palm Beach Counties combined. Let's make sure that essential reef and fish habitats are considered as well, as the beach proper. Thank you for your time and consideration.

Sincerely,

Bob Franks

Capt. Bob Franks, Diving Safety Officer
Marine Operations Manager
SeaTech Facility, Dania Beach
Dept. of Ocean Engineering
Florida Atlantic University
101 N. Beach Road
Dania Beach, Florida 33004

150 N.E. Second Avenue Deerfield Beach, Florida 33441-3598 Telephone (954) 480-4200 Fax (954) 480-4268

City of
DEERFIELD
BEACH

May 14, 2002

James C. Duck, Chief
Planning Division
Department of Army
Jacksonville District
Corps of Engineers
P.O. Box 4979
Jacksonville, Florida 32232-0019

Dear Mr. Duck:

As you are already aware, the City of Deerfield Beach is deeply concerned about the proposed Broward County Shore Protection Project for Segments II and III. The Broward County proposal takes sand from a [illegible] "Segment I" directly off the coast of Deerfield Beach and [illegible] extreme south end of the county shoreline. It should be noted that this is being done before a wave impact study has been completed by Applied Technology Management who have been engaged by both Broward County and the City of Deerfield Beach through an interlocal agreement. We certainly hope that no action will be taken on completing your review of the environmental impact statement until the ATM report has been completed and reviewed by all parties.

Thank you for your attention to this request.

Sincerely,

Larry R. Deetjen
City Manager

LRD/ts

cc: Jerry Ferguson, Director of Planning/Growth Management
Burgess Hanson, Assistant to City Manager
Jim Davenport, Alcalde & Fay (Via Fax No. 703/243-[illegible])

cm/letters/bchnourcorps

[illegible] Capellini, P.E.

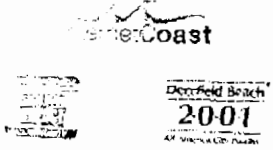
Vice Mayor
[illegible]dolen A. Clarke-Reed

Commissioners
[illegible] Gonot
[illegible] Noland
[illegible]

City Manager
[illegible] R. Deetjen

[illegible]Coast

Deerfield Beach
2001



Greater Ft. Lauderdale Dive Association

P.O. Box 460216
Ft. Lauderdale, Fl 33346

www.diveftlauderdale.com

May 15, 2002

Jacksonville District Corps of Engineers
P.O. Box 4970
Jacksonville, FL 32232-0019

RECEIVED
MAY 21 2002
JACKSONVILLE DISTRICT
USACE

Broward County Shore Protection EIS
Permit # 199905545
Request of Review

Dear Sir,

The Greater Ft. Lauderdale Dive Association is comprised of charter boat operators, dive shop owners, eco-tour operators and hoteliers. We represent the diving and snorkeling industry in Broward County.

Our association is strongly against the Broward County Shore Protection Project as it stands now. We realize that beach restoration is a necessity and is inevitable. However it cannot be at the expense of Florida's most important treasure, coral communities. We also take extreme exception that we were not consulted on this project. Who better to give input than the professionals that see the resource every day?

Broward County Project Segment II has ancient coral , many over 500 years old, and large stands of Staghorn Coral reef just off the beach in the Ft. Lauderdale area. This area has never had a beach dredge and fill project and still has many nearshore coral reefs, hardbottom and essential fish habitats that comprise a functioning ecosystem. This area also has the lowest erosion rates in the county because the reefs here are natural barriers that help protect the beach.

The less silt-resistant species, such as Staghorn Coral will disappear first and if siltation continues at high levels, whole reefs adjacent to the fill area may be seriously damaged. As they have already been from past projects in Pompano Beach and Hollywood. The potential exists for long-term chronic turbidity and sedimentation impacts adjacent to the borrow and nearshore fill areas.

At a recent hearing held by the Army Corp of Engineers Mr. Higgins stated that the impact will be minimal and only approximately 13.5 acres of hard bottom would be covered, but they are willing to mitigate with boulders. That's like saying "let's cut down 13.5 acres of redwoods but we will replace them with pine trees"!

Anyone that thinks there is minimal impact during this type of project is dredging on Fantasy Island! The silt and sediment travels for miles reducing visibility to next to nothing. Multiply that by the project length 180 days at sea (approx. 1-2 years)...has anyone considered how this will effect Broward County's diving and snorkeling tourism trade. People don't come to Broward County only to lie on beaches, take a look at the Socioeconomic Study of the Reefs in Southeast Florida. The study found that reef-related expenditures generated $ 2.1 billion in sales in Broward County from a 12-month period from June 2000 to May 2001. A dredge and fill project of this magnitude would cripple the dive industry in Broward County and force many businesses into closure.

It is time we take a common sense approach to marine resource management in Broward County. We need sustainable beaches, reef and fisheries. We have already lost nearshore reefs and essential fish habitats to past dredge projects, please do not let them destroy the remaining 1/3 of nearshore coral reefs that have not been impacted. The loss will be devastating to local fisheries and the local economy. For these reasons we recommend that the Broward County project be included in the list of federal projects that are put on hold until investigation into cost/benefit analysis is completed. We also will not support any proposal that does not create a sand bypass

system immediately in the project specs. The logical answer would be to implement a sand bypass similar to Hillsboro Inlet at Port Everglades and allow Nature to clean up our mess. This system seems to work for Pompano and Ft. Lauderdale beaches they don't need sand. This could possibly eliminate the need for future fill projects. We look forward to your response and would ask to be included in future decisions.

Sincerely

William J Torode
Pres. GFLDA

GREATER FT. LAUDERDALE DIVE ASSOCIATION

2002 MEMBERSHIP LIST

Anchor Scuba Bob, Chris Sheridan (S,B)
37 N. Ocean Blvd.
Pompano Beach, FL 33062
800-374-9792 954-788-3483 Fax 954-975-0199
tonto-tech@msn.com www.anchorscuba.com

M/V Dry Martini Walt DeMartini (B)
2260 SW 67th Terrace
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954-963-0757 Fax 954-963-0805
diveboatdrymartini@hotmail.com www.thedrymartini.com

Lady Go Diver Rob McBrayer (B)
1645 SE 3rd Ct.
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captfishfood@msn.com www.ladygodiver.net

Lighthouse Dive Hillsboro Inlet Nye, Linda Woodhouse (S)
A PADI 5-Star Training Facility
2507 N Ocean Drive
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954-782-1100 Fax 954-782-0297
lighthousedive@prodigy.net www.lighthousedive.com

Lighthouse Dive Sands Harbor Ken Cassidy (S)
A PADI Gold Palm Resort
101 N. Riverside Drive
Pompano Beach, FL 33062
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lighthousesands@prodigy.net www.lighthousedive.com

Neon Dolphin Jose Fuster (S)
2896 East Sunrise Blvd.
Ft Lauderdale, FL 33304
954-630-9146 Fax 954-565-0519
fustmond@aol.com

Ocean Promotion Scuba & Snorkel Matt/Sarah Jayne Brown (S)
Villas By The Sea Resort
4456 El Mar Drive
Lauderdale-By-The-Sea, FL 33308
954-561-4499 Fax 954-761-8222
oceanpromotion@msn.com www.florida-adventure.com/oceanpromotion

Paradise Charters Peg Schwalen / Chuck Petrozella (B)
PO Box 22340

Ft Lauderdale, FL 33335
954-524-8717
paradise@paradisecharters.com www.paradisecharters.com

Parrot Island Scuba Adventures Jerry/Kelly Turmaine (B)
2629 N. Riverside Drive
Pompano Beach, FL 33062
800-851-9105 Fax 954-788-2756
jkturmaine@earthlink.net www.scubaexcursion.com

Pro Dive John Hudson (S,B)
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Ft Lauderdale, FL 33316
1-800-PRODIVE 954-761-3413 Fax 954-761-8624
john@prodiveusa.com www.prodiveusa.com

Scuba Network – Deerfield Beach Steve D'Apuzzo (S)
199 N. Federal Highway
Deerfield Beach, FL 33441
954-422-9982 Fax 954-422-9892
info@scubanetwork.com www.scubanetwork.com

Scuba Network – Fort Lauderdale Steve D'Apuzzo (S)
6234 N. Federal Highway
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954-491-7793 Fax 954-491-7794
info@scubanetwork.com www.scubanetwork.com

Scubatyme Charters Gary Chubeck (B)
125 N Riverside Dr. Slip 44,
Pompano Beach, FL 33062
954-786-0909 Fax 954-784-3226
captaingary@scubatyme.com www.scubatyme.com

South Florida Diving Headquarters Jeff Torode / Mike Rohrbaugh (B)
101 N. Riverside Dr. #106
Pompano Beach, FL 33062
954-783-2299 Fax 954-781-9159
sfdhjeff@aol.com sfdhmike@aol.com www.sfdh.com

Southeast Oceanic Services Mike Butler (S,B)
302 R Lewis Lane
Dania Beach, FL 33004
954-922-8134 877-277-3481 Fax 954-922-9281
diveftl@gate.net www.divefortlauderdale.com

Sunstar Aquatic Services Inc Tony Coulter / Karen Orsak (B)
1001 S.W. 10th St.
Boca Raton, FL 33486
561-368-9952 Fax 561-392-4116
diveboca@aol.com www.thediversity.com

The Scuba School & Dive Center Susan Kanter / Michael Olson (S)
3331 E. Oakland Park Blvd.
Ft Lauderdale, FL 33308
954-566-6344 Fax 954-566-6088
scubasch@cs.com www.scuba-school.com

TSI Aquatics, Inc Tony Senti (S)
Located at - Marriott Harbor Beach Resort, Ft Lauderdale Beach
5821 SW 5 Terrace, Miami, Fl 33144
954-243-6736 Fax 954-893-8013
tsiaqua@ix.netcom.com

U.S. 1 Scuba, Inc. Pete Pallota (S)
15 North Federal Hwy (U.S. 1)
Pompano Beach, FL 33062
888-816-9004 954-946-6055 Fax 954-784-8600
us1scuba@shadow.net www.us1scuba.com

Underseas Sports Lauri Horner / Matt Stout (S)
1450 N. Federal Highway
Ft. Lauderdale, FL 33304
954-564-8661 Fax 954-564-3353
ussports@bellsouth.net www.underseassports.com

( ) INDICATES: B - Boat Operator S - Shop or Resort Operator

ASSOCIATE MEMBERS

Ocean Point Resort
1208 N. Ocean Blvd.
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954-782-5300 Fax 954-782-1534
info@oceanpointresortfl.com www.oceanpointresortfl.com

Traders Ocean Resort Nohad Chammah
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HONORARY MEMBER

Florida Scuba News Bill Roe
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dockline@bellsouth.net

UNITED STATES DEPARTMENT OF COMMERCE
National Oceanic and Atmospheric Administration
NATIONAL MARINE FISHERIES SERVICE

Southeast Regional Office
9721 Executive Center Drive North
St. Petersburg, Florida 33702

May 16, 2002

* USFWS 1 section

James C. Duck, Chief
Planning Division, Environmental Branch
Department of the Army, Corps of Engineers
P.O. Box 4970
Jacksonville, Florida 32232-0019

Dear Mr. Duck:

The National Marine Fisheries Service (NMFS) has received your letter, dated March 29, 2002, regarding the **Draft Environmental Impact Statement (DEIS) for the Broward County Shore Protection Project** in Broward County, Florida. According to your letter, comments regarding the DEIS for the proposed project should be received by your office on or before May 20, 2002. As per our telephone discussion with your staff on May 15, 2002, we were notified that a time extension of 14 days would be granted for providing our comments. Based on this extension, our comments will be provided to you on or before June 3, 2002.

The impacts from the project to nearshore hard bottom reef habitats are anticipated to include approximately 14 acres and the project would utilize five borrow areas to obtain fill material. The potential for indirect impacts to hard bottom reefs located adjacent to the proposed borrow areas and fill areas for this project are significant. In addition to our review of information provided in the DEIS, we are also anticipating receipt of additional information from the local sponsor regarding proposed monitoring plans for the nearshore hard bottom reefs. The extension of the comment period is necessary for us to fully and accurately evaluate the impacts that the proposed project will have on NMFS trust resources.

If we can be of further assistance, please advise. Related correspondence should be addressed to the attention of Mr. Mike Johnson at our Miami Office. He may be reached at 11420 North Kendall Drive, Suite #103, Miami, Florida 33176, or by telephone at (305) 595-8352.

Sincerely,

David H. Rackley

for Andreas Mager, Jr.
Assistant Regional Administrator
Habitat Conservation Division

cc:
F/SER4
F/SER43-Johnson

Cry of the Water
P.O. Box 8143
Coral Springs, FL 33075
Phone (954) 753-9737
www.cryofthewater.org
E-mail:reefteam2@yahoo.com

Broward County Shore Protection DEIS
Permit # 199905545

Jacksonville District Corps of Engineers
P.O. Box 4970
Jacksonville, FL 32232-0019

May 17, 2002

Dear Sir,

The following comments are on behalf of Cry of the Water a non-profit monitoring and coral reef conservation organization in Broward County. Our group is comprised of divers and dive professionals dedicated to the protection of our coral reefs.. We collect data for ReefCheck and ReefKeeper International. Members include The Southeast Regional Coordinator and Trainer for ReefCheck, Specialty Instructors in Marine Resources Management, Master Scuba Instructors, Scuba Instructors, Underwater Photographer and Videographers as well as other members of the dive public. Many of our members and volunteers have been diving in Broward County since the 1970's, they have seen the destruction of past beach projects.

We have seen the fill material bury essential fish habitat, move further than was project, smother adjacent reefs and seen the underwater visibility decreased around these projects as sedimentation becomes re-suspended for years. Diver after diver reported that they had seen their favorite reefs destroyed after previous beach dredge-fill projects, and asked that this not be allowed to happen to what is left. To any of us who were diving during past projects it is inconceivable that the County and consultants can claim that there is no impact past a few hundred feet around there projects. We have seen turbidity plums muddy the water in entire portions of the County.

The use of inadequately placed coral poor monitoring sites, failed to record the destruction of massive coral colonies adjacent to fill and borrow areas. The continued use of questionable studies by the County and consultants may once again fail to address impacts to adjacent reefs. Biological assessment of the area should encompass entire nearby reef out to a depth of 25ft (the outer edge of the nearshore reef).

- Proper independent surveys should be done by the USACE, U.S., Fish & Wildlife Service, EPA, Florida Wildlife Conservation Commission and the FDEP. These agencies have an obligation to protect the magnificent marine resources in Broward County.
- We ask that Segment II be removed from the project because of the magnitude of the resources at stake.
- We ask that any work done in Segment III have proper monitoring established to ensure that there are no impacts to surviving coral reefs.
- We ask that adequate daily monitoring and proper buffer zones be established around the borrow sites and weekly monitoring be conducted on adjacent reefs.
- Sand By Pass must be implemented at port Everglades as part of this project.
- Dunes and Vegetation must be established where beach fill is added to help sustain these beaches

Sincerely,

Dan Clark

Dan Clark, President Cry of the Water

DETAILED COMMENTS:

We will be addressing the documents associated with the Public Notice: Draft Environmental Impact Statement (DEIS), Biological Assessment (BA) Mitigation Plan (MP) and ArcView 3.2 GIS Database CD's

Following examination of these documents we collated the majority of our comment.

Biological Monitoring pre-construction:

EIS page 186, Turbidity monitoring, hardbottom surveys, and sedimentation monitoring protocols will be mandated in the project permits to assure protection of hardbottom resources within and adjacent to the borrow and fill areas.

- At this time no base line data has been collected on general health of the coral communities adjacent to the fill or borrow areas. Cry of the Water has repeatedly asked over the last 3 years that Broward County add bleaching and diseases to there protocol of Biological Monitoring, asking again, when NOVA Southeastern University took over the monitoring sites and signed contract. No Biological Monitoring can be complete without health and diseases being included. How can they even pretend to know how much additional stress the reefs can handle from silt sediment and Turbidity. (Page 176-177) Due to there lowered stress thresholds, diseased corals are less able to resist the usually sublethal effects of sedimentation and eutrophication, and are more susceptible to damage from bioeroders and storm activity.
- Now Florida DEP has said in a May 3. 2002 RAI that the staff recommends a pre-construction baseline survey and implementation of a post-construction monitoring program to determine changes in the biological community on the nearshore hardbottom that are attributable to the beach fill. This must also be done in the Borrow areas since no baseline studies on health have been collected there either.
- Sedimentation rate (page 177) suggests that the natural sedimentation rates observed in Broward County are chronically high, may contribute to the low stony coral abundance and epifaunal species richness observed on Broward County reefs as compared to reef communities located further south (Dodge et al.,1991). This may be true in parts of the county such as there monitoring sites, but is not characteristic of much of the nearshore hardbottom that has high coral cover, over 45% and high coral diversity. Dr. James Porter of the EPA monitoring team stated that the nearshore reefs he dived in Ft. Lauderdale was higher in coral cover and coral diversity then most if not all of his monitoring sites in the Keys. See video "Broward Reefs Threaten by Dredging. This statement once again proves that the County is not looking at our best resources.
- Broward county continues to operate under the false premise that there will be no impacts more then a couple of hundred feet around borrow sites or 150 ft past the equilibrium tow of fill. This simply is not true. We as divers have seen turbidity from past project effect large portions of the county. Therefor the best resources on reefs adjacent to the work areas must be evaluated and monitored. We have seen nearshore reefs destroyed adjacent to areas Broward County had monitored during past projects where there data has showed No Negative Impacts. It said repeatedly throughout the DEIS that there have been no negative impacts from past project, this simply is not true. What Broward DNRP should be saying is that they have failed to record any negative impacts. This is because they were not monitoring the best corals, there average site was only 1.43% hard coral cover and they were not recording bleaching or diseases. See page 178 for coral poor monitoring sites.
- The Ft. Lauderdale Segment II has many ancient coral heads just off the beach, some over 500 years old. See video tape enclosed Broward Reefs Threatened by Dredging and Report by Cry of the Water and The Global Coral Reef Alliance Silt and sedimentation from beach fill continues to be re-suspended and migrates out on to the near shore reef for years after the fill is placed. Many of the large corals adjacent to previous fill areas in Pompano Beach, Dania and Hollywood are now just large mounds covered with algae in some cases a ring of live coral tissue still exists around the bottom of these once magnificent coral colonies.

♦ We do not wish to see the nearshore corals in Ft. Lauderdale meet such a fate. This is why a larger area needs to be survived and monitored, including coral reef health assessment (bleaching and diseases).

♦ Entire first reef should be include in this assessment, since migrating sand and sediment from past projects has continued to migrate offshore. This can be seen if you look at the LADS, most prominent in the south part of the county where nearshore features have been buried. This can also be seen just north of Lauderdale-by-the-Sea pier where the sand has migrated off shore and buried the features beyond the pier.

♦ A proper biological assessment in the weeks just prior to work starting should be done to insure that there have been no changes in the health of the reefs from the last monitoring survey. The high water temperature over the winter, the predicted hot summer temperatures by the National Weather Service out of Miami, the water already being 80 degrees and the algae growing at alarming rates, many of the reefs in the county are already stressed and must be evaluated just prior to the start of the project.

♦ Page 172 Statement that the data dose not suggest that the Broward County nearshore hardbottom communities adjacent to the never nourished beaches are higher in epibentihic species richness and stony coral coverage then communities adjacent to previously nourished areas. This is not true. Our observations show the best coral cover and coral diversity is on the first nearshore hard bottom where there has never been renourishment. If the county wishes to dispute this we repeat the challenge we first made in 2000 to show us any first nearshore hardbottom adjacent previously renourished beaches that have the coral cover or diversity of the reefs in the video we have provided you (up to 44% coral cover)

♦ ***Acropora cervicornis***

Page 244 An extensive area of live staghorn coral has been identified on the seaward edge of the first reef offshore of Ft. Lauderdale (vicinity of R-66). This area of hermatypic coral coverage is located approximately 1,500 from shore, and is approximately 700 feet seaward the equilibrium toe of fill.

The location of one of the most concentrated stands of *cervicornis* that we provided to Broward County, should in no way suggest that there are not hundreds if not thousands of smaller colonies closer to the beach. These colonies are scattered all the way up and down Segment II, many of them very near the inside edge of the nearshore hardbottom. Some can even be seen in the ArcView 3.2 Database Application CD's. There are also many ancient mound corals throughout Segment II that are much closer then the 1500 ft to the beach.

♦ We feel that if a proper pre-construction assessment was done, the Army Corp would realize that Ft. Lauderdale Segment II first nearshore reef holds a irreplaceable wealth of marine resources. Ancient corals many over 500 years old, fields of Staghorn coral, *Acropora cervicornis,* enormous Gorgonians reefs, ledges with over 44% hard coral cover, endangered pillar coral, *Dendrogyra cylindrus,* essential juvenile fish habitat, endangered green sea turtle grazing ground (State of the Reef Broward Nearshore Hardbottom, 2001). These things form an intricate network of growing parallel nearshore brake waters, which is the best shore protection that you can get. We should be doing everything in our power to protect these areas. We believe that if the Army Corps properly evaluated these areas you would remove Segment II R-51hrought R-71 from the Broward Beach Project.

<u>Biological Monitoring Construction:</u>

♦ During the construction of Segment III the best areas adjacent to the fill areas must be monitored, more then the 150 ft past the County's estimated ETOF. Some of the larger corals that have survived past project should be monitored for any impacts. Local Beach divers are telling us that there are a number of large corals toward the outside of the first reef. It is the agencies obligation to properly map the best resource of the entire first reef.

♦ page 138 If excessive sedimentation and siltation is observed in the fill area, corrective action would be taken to reduce the amount and extent of sedimentation plume. What other action does the county deemed necessary to alleviate the excessive turbidities generated by the discharge? This would be discovered during weekly measurements?. We feel that since the FDEP staff has recommends additional monitoring be

conducted on a daily basis at the active borrow site to record excessive sedimentation and damage, the nearshore reef should also be monitored daily.

- As in the RAI dated May 3, 2002 the proposed plan for monitoring the bottom community in the vicinity of borrow areas included weekly surveys of the sedimentation before during and after the dredging operation. Cry of the Water and the FDEP staff recommends additional monitoring be conducted on a daily basis at the active borrow sites. To properly monitor daily sedimentation rates you must monitor daily.
- Monitoring of coral reef health including bleaching and diseases should be part of the County's protocol. Diver observations and photo or video documentation should be included. The use of tissue analyses of the coral that will be conducted by NOVA/NCRI are new and controversial methods and should not be a substitute for the above practices.

Mitigation

- The placement of 74,000 tons of boulders, in 14 different locations, by use of a barge with an anticipated 600 ton capacity and a loaded draft of approximately 7 ft that is working in shallow waters in and around fragile coral reefs has the potential to cause massive destruction. This barge would require approximately 10 tons of dead weight in the form of approximately 6 different concrete anchors to hold it in place. This barge would have to be repositioned multiple times at most if not all of the sites. With only a 50 ft. buffer between these nearshore hardbottoms and delicate coral reefs and the footprint of the placement of the materials, there is a great potential for damage to be done by the mooring of the barge even with a detailed construction plan. The Mitigation plan does not contain a detailed construction plan therefore we believe that the potential devastation from this project is greatly increased.
- We have been told by Steve Higgins and Michael Sole that the mitigation would take up to 3 years to construct and they wanted to have some mitigation in place before renourishment was started. The reason for this was to mitigate for the loss of nearshore hardbottoms, however, their schedule for artificial reef work was to start in the northern end of section 2 (Lauderdale-by-the-Sea) and the beach renourishment work was to start in the southern part of the county 10 to 15 miles away.
- The ephemeral hardbottom where mitigation is proposed to be placed in Segment II are the same habitats that we have repeatedly seen endangered green sea turtles grazing on algae. Covering these habitats with boulders will only increase the acreage of natural habitat lost.
- The proposed mitigation of limestone boulders may provide shelter for fish but will most likely attract a different age and species of the fish that have been displaces. It will may work to attract larger more mature fish, this may be popular with fisherman and spearfisherman increasing takes for the first year, which will in the long term furture deplete fish stocks.
- The limestone boulders may not be stable in a storm, they may become dislodged in a hurricane and may roll or become projectiles that damage the reef.

- **Essential Fish Habitat**

The nearshore hardbottoms inside the first reef comprise unique essential fish habitat. Much of the natural juvenile fish habitat such as mangroves and seagrass beds no longer exist, it is these nearshore hardbottoms that a currently filling this niche. Therefore there loss will have a cumulate effect on local marine fisheries and ultimately the local economy. See Executive Summary of Socioeconomic Study of the Reefs in Southeast Florida also attached.

- Page 105-106 of the Draft EIS repeatedly states that impacts will effect species which are not of local commercial value and sites USACE 1998. This is not true. These areas are habitat to a number of commercially valuable species Grouper, Snapper, Stone Crab, Lobster, and well as endangered species such as Conch and Green Sea Turtles. In the case of the Red Grouper who may use this very nearshore habitat for p to the first 3 years of there life, before moving out. On almost every dive we are seeing multiple Red

Grouper in these very nearshore habitats and breeding populations of Queen Conchs. Why don't there fish studies show this. See enclosed video.

- Page 180 Although juvenile grunts are not unique to the nearshore reef, they are more abundant there then on the other reef tracts. Though grunts are not a species of commercial value they are a food source for many predator species that are of commercial value. Any disruption in the food chain may have a cumulative impact on local fisheries. These habitats are part of a working ecosystem, and the loss of any one of them, may have an impact on the entire system.

Socioeconomic Study of the Reef

Page after page in the General Reevaluation Report Appendices A through G the County used the economic value of the beach to enforce there justification for the beach project. The fact that the County left out the Socioeconomic Study of the Reef that was conducted by the four Southeast Counties, NOAA, Florida Fish and Wildlife Conservation Commission, Florida State University with the Principle investigators being Dr. Johns, Dr. Leeworthy of NOAA, Dr. Bell and Dr. Bonn should be an indication of the manipulation of valuable data. The Reef study found that reef-related expenditures generated $2.1 billion in sales and 36,000 jobs in Broward County from a 12 month period from June 2000 to May 2001. This amount is more that Palm Beach, Miami-Dade or Monroe County. How much of the $ 2.1 billion value of the reef should be taken away from the value of the beaches in hotel stays and sales? The immeasurable value of these nearshore reefs is their function as natural barriers that absorb the energy of the waves and help to protect the beach. Ft. Lauderdale which has the best nearshore reef has the lowest erosion rates in the County, the areas that have been renourished multiple times, where the nearshore reef has been buried have the highest erosion rates. Making it obvious that past practices do not work.

Alternatives

We must look at alternatives to current practices that clearly do not work. . Sand By-passing must be implemented at Port Everglades to allow the natural drift of sand along the coast. This should be a part of any project that will be done in Segment III, we can not just look this as a possible furture course of action. We must also use dunes and vegetation must be established to help sustain our beaches.

It is time we take a common sense approach to marine resource management in Broward County. We need sustainable beaches, reefs and fisheries. We have already lost nearshore reefs and essential fish habitats to past dredge projects, please do not let them destroy the remaining third of the nearshore coals reefs that have not been impacted.

We ask that you submit the items below along with our. letter and comments to the official record of the Broward County Shore Protection Draft EIS Permit # 199905545
Executive Summary from Socioeconomic Study of the Reefs in Southeast Florida
Florida Nearshore Coral Reef Threatened by Dredging by Cry of the Water and The Global Coral Reef Alliance 8/13/01 Report, photos and video
State of the Reef Broward Nearshore Hardbottoms, Video, Cry of the Water 10/1/00

CITY OF
FORT LAUDERDALE
FLORIDA

Venice of America

May 17, 2002

Ms. Yvonne Haberer
Planning Division – Environmental Branch
Department of the Army
Jacksonville District Corps of Engineers
P O Box 4870
Jacksonville, FL 32232-0019

RE: Broward County Shore Protection Program
Draft (EIS) Environmental Impact Report

Dear Ms. Haberer:

The Fort Lauderdale City Commission has continually supported Broward County's program for beach re-nourishment, including the renourishment of beaches within the City's jurisdiction. We are reliant on Broward County's commitment to require and monitor environmentally sensitive construction practices that assure maximum protection to the coral reefs adjacent to Fort Lauderdale's shore line.

It is my understanding that the current period to comment on the draft Environmental Impact Statement has been extended to June 4, 2002. Our City Commission is scheduled to adopt a resolution of support at it's meeting of June 4, 2002, after which a copy will be sent for your records.

Sincerely,

Chuck Adams

Chuck Adams, Manager
Redevelopment Services and Marine Facilities

CA/pls

cc: Floyd T. Johnson, City Manager
Pete Witschen, Assistant City Manager
Greg Kisela, Assistant City Manager
Hector Castro, City Engineer
Phil Thornburg, Parks Superintendent
Steve Higgins, Broward County Beach Erosion Administrator

REDEVELOPMENT SERVICES AND MARINE FACILITIES
COMMUNITY AND ECONOMIC DEVELOPMENT DEPARTMENT
101 N. E. THIRD AVENUE, SUITE 300 FORT LAUDERDALE, FLORIDA 33301
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CS#126839

EQUAL OPPORTUNITY EMPLOYER

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CITY OF
FORT LAUDERDALE
FLORIDA

The Venice of America
JIM NAUGLE
MAYOR

100 NORTH ANDREWS AVENUE • 33301
(954) 828-5003
(954) 828-5667 FAX

May 17, 2002

Yvonne Haberer
U.S. Army Corps of Engineers
Jacksonville District
P.O. Box 4970
Jacksonville, FL 32232-0019

RE: Broward County Shore Protection Project

Dear Yvonne:

This letter refers to the public meeting held at the Hollywood Beach Community Center on 4/30/02. The purpose of the meeting was to discuss the Draft Environmental Impact Statement (DEIS) for the Broward County Shore Project, Segments II and III, Broward County, Florida. As the Mayor of the City of Fort Lauderdale, I wholeheartedly support the continuation and completion of this project in its present form.

I believe that the Army Corps of Engineers has taken prudent steps to preserve the environment in the DEIS. The coral reefs and the sea turtles were well represented in the statement and at the hearing. I do not agree however, with political interests that want to save the reefs but not our beaches. The beaches in Fort Lauderdale are the economic, social, and spiritual heart of our community. It would be irresponsible to allow these unique assets to disappear while there exists a scientifically effective, environmentally sound solution to mollify beach erosion.

Additionally, I do not agree with those interests that proposed the deletion or modification of the Fort Lauderdale component of the project. The success of the entire project is based upon its implementation as a whole from an engineering standpoint. Delaying or deleting vital sections of our shoreline from the renourishment project would severely subvert its prognosis to achieve its objective. I urge you therefore, to proceed with this important project.

Sincerely,

Jim Naugle
Mayor

Cc: Bob Rozema

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Cry of the Water

P.O. Box 8143
Coral Spirngs, FL 33075

Phone (954) 753-9737
www.cryofthewater.org
Email reefteam2@yahoo.com

May 20, 2002

Department of the Army
Jacksonville District Corps of Engineers
P.O. Box 4970
Jacksonville, Fl 32232-0019

Broward Shore Protection Project Draft EIS
Permit # 199905545

Dear Sir,

Please find enclosed petitions on the Broward Beach Project.
The undersigned have asked that:

1) Ft. Lauderdale Segment II, be removed from the Project.
2) Fill areas have proper daily monitoring.
3) Sand By-Passing be implemented at Port Everglades.
4) Daily monitoring and proper buffer zones be established around borrow sites.
5) Dunes and Vegetation be established wherever beach fill is added to help sustain these beaches.

Please include this petitions and the over 500 names collected between May 17, 2002 and May 19, 2002 to the official record of comment to the Draft EIS.

Sincerely,

Stephanie Clark

Stephanie Clark

RECEIVED

MAY 28 2002

JACKSONVILLE DISTRICT
USACE

Public Employees for Environmental Responsibility

PEER *Protecting Employees Who Protect The Environment*

May 20, 2002

James G. May, Colonel (U.S.A.)
Commanding Officer, Jacksonville District
U.S.Army Corps of Engineers
P.O. Box 4970
400 West Bay Street
Jacksonville, Florida. 32232-0019

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
OFFICE PHONE 904-232-2113
FAX NUMBER 904-232-1213

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.
>
> * * * *
>
> The living coral coasts of the world are confined to waters in which the temperature seldom falls below 70° 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.
>
> 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.
>
> "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.
>
> 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 long 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 — <u>must also be analyzed in the EIS</u>.

(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."
>
> [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,

Dan Meyer

Dan Meyer, General Counsel, PEER
Washington, D.C.

Chuck Sultzman, PEER Senior Scientist & Marine Diver
Vero Beach, Florida

Steven C. Hamrick, PEER Environmental Law Clerk 2002
George Washington University Law School, 2L

Cited references:

Carson, Rachel, *The Edge of the Sea* (Houghton Mifflin Co. 1955).

David Helvarg, *Blue Frontier: Saving America's Living Seas* (Freeman 2001).

Lindeman, K.C. 1997, *Development of grunts and snappers of southeast Florida: Cross-shelf distributions and effects of beach management alternatives.* Ph.D. dissertation, University of Miami, Coral Gables, Florida.

Lindeman, K.C. and D.B. Snyder. 1999. *Nearshore hardbottom fishes of southeast Florida and the effects of habitat burial caused by dredging.* Fisheries Bulletin 97:508-525.

Pilkey, Orrin. 1996. *The Corps and the Shore.* Island Press. Washington, D.C. at 246.

CITY of HOLLYWOOD, FLORIDA

MARA GIULIANTI
Mayor

May 20, 2002

Department of the Army
Jacksonville District Corps of Engineers
Planning Division
Environmental Branch
Attn: Broward County Shore Protection Project
P.O. Box 4670
Jacksonville, FL 32232

To Whom It May Concern:

Please accept this letter on behalf of the City of Hollywood in response to the recently released Draft Environmental Impact Statement (DEIS) for the Broward County Shore Protection Project.

As you are aware, the City of Hollywood has taken a leadership position in seeking additional funding for restoration and preservation throughout the State of Florida. The City recognizes that Florida's beaches are critical to the travel and tourism industry, job creation and tax revenue growth. The beaches also play a vital role in protecting coastal property against wind and storm damage. The Department of Environmental Protection estimates that more than one-third of Florida's 787 miles of beaches are in a state of critical erosion.

The City of Hollywood was informed several years ago about the intention of Broward County to embark on a large-scale coastal community beach nourishment project. Since that time, during the planning, design and permitting process, the City of Hollywood has watched as yards and yards of our coastline erode, damaging infrastructure and private property. On several occasions, the City of Hollywood has enacted emergency measures to protect property and minimize damage from wave action. The erosion depleting Hollywood beach has been so intense, that our beach was featured on national television last year as Hurricane Michele further devastated our beachfront. As a result of the condition of our coastline, the Broward County Shore Protection Project is a top priority of the City of Hollywood, the City Commission and Administration. It is imperative that the project continue on the timeline as currently slated, which is to begin this August. Any additional delays would be disastrous for the jurisdictions south of Port Everglades.

As prepared, the DEIS addresses issues of reef protection and environmental concerns within Segment III (the portion impacting the City of Hollywood). The pre-submission and preparation efforts of Broward County to mitigate these issues have been effective and, as a result, the concern is minimal.

2600 Hollywood Boulevard • P.O. Box 229045 • Hollywood, FL 33022-9045
Mayor & Commissioners: (954) 921-3321 FAX (954) 921-3386 • Citizens' Assistance: (954) 921-3041 FAX (954) 921-3268

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Concern does exist, however, with the current Corps of Engineers' policy prohibiting wave deterring structures either near-shore or on the coastline. The DEIS indicates that two structures will be allowed to be constructed immediately south of the Port Everglades South Jetty to resolve issues of excess turbidity and erosion. This application is appropriate and can be expanded to locations along the southern County where erosional "hot spots" continue to plague and reverse nourishment efforts. It is requested, that as the project is reviewed, these hot spot locations be specifically addressed and resolved with long-term solutions.

The final comment provided regarding the DEIS for the Broward County Shore Protection Project relates to the public comment received during the April 30, 2002 meeting at the Hollywood Beach Culture and Community Center. It was apparent that certain aspects of the DEIS are facing a higher degree of public environmental concern. These aspects can be reevaluated, if necessary, but should not delay the nourishment efforts on our critically eroded beaches. It is requested that the southern segment be permitted and allowed to continue unhindered and unobstructed. Officials with Broward County have indicated that this will be possible without interfering with the overall integrity of the project.

The loss of the beach could be devastating to both residents and businesses. The City of Hollywood appreciates the opportunity to comment and express our support for the DEIS of the Broward County Shore Protection Project.

Should you have any questions or require additional information for the City, please contact Suzanne Utnik, Assistant to the City Manager, at (954) 921-3930.

Sincerely,

Mara Giulianti

Mara Giulianti
Mayor

c: Hollywood City Commission
Broward County Commission
Roger Desjarlais, County Administrator
Cameron D. Benson, Interim City Manager
Suzanne Utnik, Assistant to the City Manager

Broward Soil and Water Conservation District
6191 Orange Drive Suite 6181-P
Phone (954) 584-1306 Fax: (954) 792-3996
BrowardSWCD@aol.com

May 20, 2002

To: United States of Army Corps of Engineers

Attention: Ms. Yvonne Haberer

From: Broward Soil and Water Conservation District

Re: Environmental Impact Statement for Broward County, Florida-Shore Protection Project Segments II and III.

The Broward Soil and Water Conservation District (BSWCD) is a unit of local government, a political sub-division of the State of Florida.

The BSWCD held public meetings over the past several years and subsequently adopted a plan to revegetate the entire coastline of Broward County. This plan was passed without objection and further would implement the Comprehensive Coastline Management Plans of the Coastal Communities that were included as part of the adoption process.

The BSWCD strongly opposes the issuance of any permits and that no funds be approved for beach renourishment without a beach stabilization component consisting primarily of sea oats, or other vegetative erosion control plants.

The following is some of the rational for this recommendation:

<u>Sand Dunes and Vegetation need to be part of this project because:</u>

1. **Prevent and/or reduce erosion**
2. **Slow down lost of sand, giving a longer life to beach**

3. **Storm Surge Protection (The following are from Page A-20 from the report of this project)**

   a. **A-50: Storm surge is defined as the rise of the ocean surface above its astronomical tide level due to storm forces. The increased elevation is attributable to a variety of factors, which include waves, wind shear stress, and atmospheric pressure. An estimate of these water level changes is essential to the design of the berm elevation of a beach fill area. Higher water elevations will increase the potential for recession, long-term erosion, and over wash due to severe waves.**

   b. **A-51: The major threats to the shoreline of Broward County are surge and waves caused by extra-tropical and tropical storms. Since 1960, major storms that have affected Broward County include Hurricane Donna (1960), Hurricane Cleo (1964), Hurricane Isbell (1964), Hurricane Betsy (1965), Hurricane David (1979), Hurricane Andrew (1992), Tropical Storm Gordon (1994), Tropical Storm Josephine (1996), Tropical Storm Mitch (1998), and Hurricane Irene (1999). Four notable northeaster storms that have influenced the Broward County shoreline in March 1962, November 1982, October 1991 and October 1992. It is possible to classify and predict storm surge elevations for various storms through the use of historical information and theoretical models.**

   c. **A-52: The Federal Emergency Management Agency (FEMA) has performed investigations to determine 10 to 100 year return period storm surge elevations for Broward County (USACE, 1995). The methodology used in**

this study was developed by the National Academy of Sciences. Assumptions made in the analysis include: 1) breaking wave heights are limited to 0.78 of the local still water depth 2) the wave crest constitutes 70% of the wave height, and 3) waves are dissipated by features such as sand dunes, dikes and seawalls, buildings, and vegetation. Regeneration of wave heights over areas of large fetch was also considered. For the 100-year return interval, the maximum predicted crest elevation is 7.5 feet.

4. Wildlife Habitats are restored
5. Reduces Pollution to upland properties
6. Reduce Street Maintenance costs of cleanup and deterioration
7. Builds the Beach by keeping sand on the beach
8. Creates a Natural Community
9. Does not hurt Sea Turtles

We would not build highways, canals, or buildings without erosion control methods applied, such as the placement of vegetation. Why would we build a beach without erosion control methods applied?

Therefore, we strongly oppose the issuance of any permits or funds being approved without an erosion control element, such as vegetation to stabilize the sand.

In the event you need any further information, please do not hesitate to contact Russell M. Setti – District Administrator, at (954) 792-1984.

Save Our Shoreline, Inc.

MEMORANDUM

TO: Ms. Yvonne Haberer, Planning Division
Environmental Branch, Department of the Army
Jacksonville District Corps of Engineers

FROM: Brenda Lee Chalifour, Esq.
President

DATE: May 20, 2002

RE: Comments to the Draft Environmental Impact Statement (DEIS) for the Broward County Shore Protection Project, Broward County, Florida

Attached you will find our comments to the above-captioned DEIS.

We appreciate the opportunity to provide comment. We look forward to working with you, Broward County and all the others associated with this project to ensure the best possible product for all.

Please feel free to contact us if you have any questions or require any further clarification.

PO Box 0126, Hollywood, FL 33020
Phone: 954-925-0300; Fax: 954-925-0840
email: saveourshoreline@aol.com

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Comments to the Draft Environmental Impact Statement (DEIS) for the Broward County Shore Protection Project, Broward County, Florida

Submitted by Save Our Shoreline, Inc.

I. GENERAL COMMENTS

We have been on record for years in support of this project provided, however, it is accomplished in the most environmentally sensitive, efficient and effective manner possible.

Unfortunately, we do not believe that this project, represented by this DEIS, meets these standards. We concur with the U.S. Department of Interior, Fish & Wildlife Service initial assessment of May 26, 2000 that this project may affect aquatic resources of national importance.[1] In fact, we believe this project, without modification, will cause irreversible and irreparable harm to aquatic resources of national importance.

We are hopeful that the improvements we recommend to this project will be adopted so that we can continue to wholeheartedly and actively support further authorization and funding.

Without the recommended modifications, we will be compelled to challenge the EIS as non-responsive to the requirements of the National Environmental Policy Act (NEPA), the Endangered Species Act (ESA) and other rules, regulations, policies and laws. We trust we won't need to move in this direction as the changes we suggest clearly and convincingly only serve to improve the project and better meet the requirements of NEPA.

Overall, we are interested in protecting the resources reported to us by many who currently dive in this area. For example, a diver recently wrote to us:

> "I have shore dove every square inch from the Dania Beach pier to Hallandale Beach Boulevard (4 miles+). I am an expert on what's out there and can tell you what I see. Basically there is a reef about 1/4 mile out from shore that runs from the Dania Pier south. The best diving is from the Dania Beach Pier to about six (6) blocks south of Michigan Ave. I have swam up to 1/2+ mile from shore. I do about 30+ shore dives a year with an average

bottom time of one and one-half hours per dive. I have shot about 40 hogfish, 2 groupers, 5 snappers, from June 2001 to December 2001. I caught about 40 lobsters from August 2001 to December 2001. I have seen 5+ species of groupers, many snappers, octopus, stone crabs, yellow/black crabs, parrot fish, tarpon, sea turtles, sting rays, manta rays, flounder, trigger fish, nurse sharks, barracuda, yellow tail, dozens of small aquarium style reef fish like angelfish and clownfish, moray eels up to 7 feet, other eels, conchs, other mussels/snails, sea annenameas, sea cucumbers, jacks, kingfish, mackerel, blue runners, porgies, drums, stonefish, squirrelfish and lots more."

These resources must be preserved and protected. We do not believe it is appropriate to put them at any risk. We believe we need to AVOID any harm, or even risk of harm. These resources, and one's ability to record them like above, are priceless and need to be provided the utmost protection.

II. SPECIFIC ITEMS OF CONCERN

The following is provided to document the concerns we have about the proposed project, and our recommended modifications.

1. Protect Turtles and their habitat

We strongly recommend that the time frame for this project be changed to occur outside the turtle nesting season (i.e., that the project begin no sooner than November 30).

The DEIS indicates that one objective of this project is "maintaining suitable beach habitat for nesting sea turtles."[2] We note, however, that the U.S. Fish and Wildlife Service Biological Opinion indicates "placement of sand on a beach in and of itself may not provide suitable nesting habitat for sea turtles. Although beach renourishment may increase the potential nesting area, significant negative impacts to sea turtles may result if protective measures are not incorporated during the project construction."

We believe the best approach for this project and the preservation and protection of the endangered and threatened sea turtles is to (a) provide sea turtles and their habitat the greatest protection during construction; and (b) provide the best habitat possible beyond project completion.[3]

Unfortunately, we believe much of what is proposed is contrary to the stated desire to protect turtles and their habitat.

(a) Protect turtles and their habitat during construction

We recommend the utmost protection for the turtles and their habitat **(conservation)**. We recommend the project be constructed outside of the turtle nesting season. We do not think it is appropriate to put these threatened and endangered species at any risk of harm. -- **Conserve, Do Not Take**

The U.S. Fish and Wildlife Service Biological Opinion speaks volumes about the risks associated with construction during the turtle nesting season. For example, "(n)ourishment and groin construction during the nesting season, particularly on or near high density nesting beaches, can cause increased loss of eggs and hatchlings and, along with other mortality sources, may significantly impact the long-term survival of the species. For instance, projects conducted during the nesting and hatching season could result in the loss of sea turtles through disruption of adult nesting activity and by burial or crushing of nests or hatchlings. While a nest monitoring and egg relocation program or a nest mark and avoidance program would reduce these impacts, nests may be inadvertently missed (when crawls are obscured by rainfall, wind, and/or tides) or misidentified as false crawls during daily protocols. In addition, nests may be destroyed by operations at night prior to beach patrols being performed. Even under the best of conditions, about 7% of the nests can be misidentified as false crawls by experienced sea turtle nest surveyors (Schroeder 1994)."[4]

Additionally, "(p)otential adverse impacts during the project construction phase include disturbance of existing nests, which may have been missed, disturbance of females attempting to nest, and disorientation of emerging hatchlings. Heavy equipment will be required to install the groins, and this equipment will have to traverse the sandy beach to the project site, which could result in harm to nesting females, nests and emerging hatchlings."[5]

"Three permanent groins are proposed to be constructed on the south side of Port Everglades south jetty. Two T-groins and one spur are proposed. Following construction, the presence of groins has the potential to impact sea turtles in several ways. They may interfere with nesting turtle access to the beach, result in a change in beach profile and width (downdrift erosion), loss of sandy berms, and escarpment formation), trap hatchlings, and concentrate predators."[6]

The U.S. Fish and Wildlife Service Biological Opinion discusses the direct negative impacts associated with construction during the turtle nesting season in greater detail in sections entitled (1) nest relocation; (2) equipment; (3) artificial lighting; (4) entrapment/physical obstruction; and (5) predator concentration.

Additionally, the Biological Opinion also discusses indirect negative effects noting that "many of the direct effects of beach nourishment and groin construction may persist over time and become indirect impacts. These indirect effects include increased susceptibility of relocated nests to catastrophic events, the consequences of potential increased beachfront development, changes in the physical characteristics of the beach, the formation of escarpments, future sand migration, accelerated downdrift erosion, and the impacts of debris on the beach from groin breakdown."[7]

The U.S. Fish and Wildlife Services concludes that it "anticipates 11.8 miles of nesting beach habitat could be affected as a result of the proposed beach nourishment and 0.1 mile of nesting habitat could be affected as a result of proposed groin construction."[8]

The Biological Opinion continues "INCIDENTAL TAKE STATEMENT -- Section 9 of the Act and Federal regulation pursuant to section 4(d) of the Act prohibit the take of endangered or threatened species, respectively without special exception. Take is defined as to harass, harm, pursue, hunt, shoot, wound, kill, trap, capture or collect, or to attempt to engage in any such conduct. Harm is further defined by the Service to include significant habitat modification or degradation that results in death or injury to listed species by significantly impairing essential behavioral patterns, including, breeding, feeding, or sheltering. Harass is defined by the Service as intentional or negligent actions that create the likelihood of injury to listed species to such an extent as to significantly disrupt normal behavior patterns which include, but are not limited to, breeding, feeding or sheltering. Incidental take is defined as take that is incidental to, and not the purpose of, carrying out an otherwise lawful activity. Under the terms of section 7(b)(4) and section 7(o)(2),

taking that is incidental to and not intended as part of the agency action is not considered to be prohibited under the Act provided that such taking is in compliance with the terms and conditions of this incidental take statement."[9]

"AMOUNT OR EXTENT OF TAKE -- The Service anticipates 11.8 miles of nesting beach habitat could be taken as a result of the proposed beach nourishment and 0.1 mile of nesting habitat could be taken as a result of the proposed groin construction. The proposed beach nourishment includes approximately 6.0 miles scheduled for placement during the "normally closed" March 1 through October 31 summer nesting season, with the remainder of the nourishment scheduled for construction outside the closure period. The new groin construction and the derelict groin removals are also expected to occur during the nesting season."[10]

"The take for the 6.0 miles scheduled for placement during the 'normally closed' March 1 through October 31 summer nesting season and the take for the groin construction and removal is expected to be in the form of: (1) destruction of all nests that may be constructed and eggs that may be deposited and missed by a nest survey and egg relocation program within the boundaries of the proposed project; (2) destruction of all nests deposited during the period when a nest survey and egg relocation program is not required to be in place within the boundaries of the proposed project; (3) reduced hatching success due to egg mortality during relocation and adverse conditions at the relocation site; (4) harassment in the form of disturbing or interfering with female turtles attempting to nest within the construction area on or adjacent beaches as a result of construction activities; (5) behavior modification of nesting females or hatchlings due to the presence of groins, which may act as barriers to movement; (6) behavior modification of nesting females if they dig into shallowly buried groins, resulting in false crawls or situations where they choose marginal or unsuitable nesting areas to deposit eggs; (7) misdirection of hatchling turtles on beaches adjacent to the construction area as they emerge from the nest and crawl to the water as a result of project lighting; (8) behavior modification of nesting females due to escarpment formation within the project area during a nesting season, resulting in false crawls or situations where they choose marginal or unsuitable nesting areas to deposit eggs; and (9) destruction of nests from escarpment leveling within a nesting season when such leveling has been approved by the Fish and Wildlife Service."[11]

While we understand the Fish and Wildlife has provided what they consider to be reasonable and prudent measures to be followed to minimize the take of the loggerhead turtle, the leatherback turtle, and the green sea turtle, we believe the most reasonable and prudent measure is to **not construct during the turtle nesting season at all -- to <u>conserve</u>**.

The following excerpt is from the Broward County Sea Turtle **<u>Conservation</u>** *(emphasis added)* Program Technical Report for 2001:

> "Since 1978, the Broward County Department of Planning and Environmental Protection (DPEP) has provided for the **<u>conservation</u>** *(emphasis added)* of endangered and threatened sea turtle species within its area of responsibility. Broward County is within the normal nesting areas of three species of sea turtles: the loggerhead sea turtle *(Caretta caretta)*, the green sea turtle *(Chelonia mydas)* and the leatherback sea turtle *(Dermochelyscoriacea)*. The loggerhead is listed as a threatened species, while the green and leatherback are listed as endangered under the U.S. Endangered Species Act, 1973, and Chapter 370, F.S. "
>
> "Since these statutes strictly forbid any disturbance of sea turtles and their nests, **<u>conservation</u>** *(emphasis added)* activities involving the relocation of nests from hazardous locations (especially necessary along heavily developed coasts) require permitting by the U.S. Fish and Wildlife Service (USFWS)...."[12]

The following excerpt is from the Biological Opinion, U.S. Department of Interior, Fish and Wildlife Service:

> "**<u>Conservation</u>** *(emphasis added)* Recommendations. Section 7(a)(1) of the Act *(Endangered Species Act)* directs Federal agencies to utilize their authorities to further the purposes of the Act by carrying out **<u>conservation</u>** *(emphasis added)* programs for the benefit of endangered and threatened species. **<u>Conservation</u>** recommendations are discretionary agency activities to minimize or avoid adverse effects of a proposed action on listed species or critical habitat, to help implement recovery plans, or to develop information.
>
> 1. Construction activities for this project and similar future projects should be planned, to take place, outside the sea turtle nesting and hatching season."[13]

These excerpts (and the material at the beginning of this section) indicate that the preferred action should be **conservation**. According to the Fish and Wildlife Service (the lead agency charged with the protection of threatened and endangered species), **conservation** is construction outside the sea turtle nesting and hatching season. According to Broward County they are all about **conservation**. Why, then, does Broward County wish to construct during turtle nesting and hatching season? Especially since it is very clear from the Fish and Wildlife Service that to do so will result in a take?

Additionally, we note that the justification for requesting an exception to construct during the turtle nesting season is the lower number of nests in the southern portion of Broward County. The Broward County Sea Turtle **Conservation** *(emphasis added)* Program Technical Report (DPEP 01-11) indicates that there are less loggerheads (which are a threatened species) in Hollywood than in other areas in the County, but they are present nonetheless even though we have all but destroyed their habitat with past beach dredge and fill projects and have done nothing to improve their habitat.

However, there are more endangered green turtles and endangered leatherback turtles in Hollywood than there are in other areas in the County. There are more endangered green turtles in Hollywood than there are in Pompano and only half as many in Hollywood as there are in Ft. Lauderdale. There are more endangered leatherback turtles in Hollywood than in John U Lloyd State Park and Ft. Lauderdale and the same number in Pompano and about half that of Hillsboro.

In 2001 there were only 26 green turtle nests in all of Broward County, 3 of them were in Hollywood. There were only 39 leatherback turtle nests in all of Broward County, 8 of them were in Hollywood.

We contend that all of the nests in Broward County should receive the same level of protection and that should be to **conserve** turtles and their habitat. We do not think it is appropriate to sacrifice mama turtles and their offspring in the southern portion of this project.

We respectfully request the project be modified so that no construction occurs during the sea turtle nesting season. There is no way to mitigate for the loss of threatened and endangered species, and there is no overriding need to justifying construction of this project during the turtle nesting season.

(b) provide the best turtle habitat possible beyond project completion

We recommend the following be added as a condition of the permit for this project: all upland properties which are the beneficiaries of the project must, prior to any construction, adopt a turtle lighting program to be completed immediately but no later than one year after project completion. Failure to comply with this permit condition will result in elimination from future renourishment activities, and total reimbursement of all public monies (Federal, State and County) contributed to this project.

It is common knowledge that lighting has a dramatic effect on the quality of turtle habitat. In fact, the Fish and Wildlife Service Biological Opinion goes to great extremes to discuss the negative impacts of artificial lighting on turtle habitat. "Visual cues are the primary sea-finding mechanism for hatchling sea turtles...When artificial lighting is present on or near the beach, it can misdirect hatchlings once they emerge from their nests and prevent them from reaching the ocean....In addition, a significant reduction in sea turtle nesting activity has been documented on beaches illuminated with artificial lights...Therefore, construction lights along a project beach and on the dredging vessel may deter females from coming ashore to nest, misdirect females trying to return to the surf after a nesting event, and misdirect emergent hatchlings from adjacent non-project beaches. Any source of bright lighting can profoundly affect the orientation of hatchlings, both during the crawl from the beach to the ocean and once they begin swimming offshore. Hatchlings attracted to light sources on dredging barges may not only suffer from interference in migration, but may also experience higher probabilities of predation to predatory fishes that are also attracted to the barge lights."[14]

The Fish and Wildlife Service Biological Opinion goes even further in requiring the following terms and conditions for the proposed project: "7. During groin construction and removal, no temporary lighting of the construction area is authorized at any time during the sea turtle nesting season from April 1 through November 30 with the following exception. Lighting will be allowed if safety lighting is required at any excavated trenches that must remain on the beach at night. This lighting must be limited to the immediate construction area only and must be the minimal lighting necessary to comply with safety requirements."[15]

"8. During sand placement, from March 1 through November 30, direct lighting of the beach and near shore waters must be limited to the immediate

construction area and must comply with safety requirements. Lighting of offshore or onshore equipment must be minimized through reduction, shielding, lowering, and appropriate placement to avoid excessive illumination of the waters surface and nesting beach while meeting all Coast Guard, EM 385-1-1, and OSHA requirements. Light intensity of lighting plants must be reduced to the minimum standard required by OSHA for General Construction areas, in order not to misdirect sea turtles. Shields must be affixed to the light housing and be large enough to block light from all lamps from being transmitted outside the construction area (Figure 3)."[16]

"9. No permanent exterior lighting will be installed in association with this construction project."[17]

It is well settled that lighting has a substantial and negative impact on turtle habitat. This is why the agencies try to take such great care during these projects. It is also why communities have adopted turtle lighting ordinances. Thankfully, Broward County has adopted such an ordinance requiring all municipalities within the County to do the same.

Unfortunately, at least two jurisdictions in Broward County within the proposed project area, have "refused" to adopt turtle lighting ordinances despite the fact that they are currently in violation of our State Comprehensive Plan statute; specifically, Ft. Lauderdale in Segment II and Hollywood in Segment III. (Please see Attachment 1 which is an Article from our local paper). We have also provided Attachment 2 which is a partial transcript of a meeting between these two cities at which they discuss the turtle lighting issue and the fact that they are in violation of their Comprehensive Plans.

First, we ask that the Federal, State and County governments clearly communicate as soon as possible to both Cities that they will not pay for any renourishment until this violation of their Comprehensive Plan is corrected.

Second, we respectfully request that this project not be implemented without the following permit condition: all upland properties which are the beneficiaries of the project must, prior to any construction, adopt a turtle lighting program to be completed immediately but no later than one year after project completion. Failure to comply with this permit condition will result in elimination from future renourishment activities and total reimbursement of all public monies (Federal, State and County) contributed to this project.

2. Make Bypass from North of the Port Everglades Inlet to South of the Inlet a Project Feature

We strongly recommend the Corps of Engineers fast track this project and make it a prominent feature of this total project.

Sand bypassing is discussed in the EIS as the most logical solution. However, it was not included as a project feature. It would be wasteful to proceed with the proposed project without a firm commitment to follow as quickly as possible with the bypass.

The EIS indicates "(c)onstruction of a sand bypassing infrastructure at Port Everglades Inlet would provide an alternative sand source for future maintenance of the Segment III shoreline. Sand bypassing at Port Everglades would provide both physical and economic benefits tot he shoreline south of the port and be consistent with current efforts to implement regional sediment at the inlet. The physical benefits include access to a reliable future sand source that is compatible with the native sediments of the Segment III shoreline and reduced sand shoaling within the Port Everglades navigation project. The economic benefits would include reduced maintenance of navigation projects and an overall reduction in the cost to maintain the Segment III project."[18]

The Federal government began maintenance of the Port Everglades inlet as far back as 1930. Since that time the "river of sand" which would normally and naturally flow south and replenish the beaches has been interrupted by the inlet. The channel was widened and realigned in 1979. According to the EIS "(o)ne of the principal causes of erosion in Segment III is the littoral barrier caused by the Port Everglades jetties which caused erosion rates of -5 ft/year prior to the 1976/1977 restoration (USACE, 1963)."[19]

"John U. Lloyd State Park is located in Segment III, just south of the south jetty. The Florida Department of Environmental Protection estimated that 80,000 cubic yards should be bypassing the inlet channel from north to south to maintain the beaches in John U. Lloyd State Park (Dean, 1987). **The inlet is a complete littoral barrier, with all sand moving south being accreted on beaches north of the north jetty, or moving into the channel."**[20] *(emphasis added)*

It is well settled that the erosion to the South of the Port Everglades inlet is a direct and proximate result of the existence of the inlet. That is, the "river of sand" has been interrupted. We respectfully request the Corps of Engineers fast track a bypass feature for this project. In fact, bypass should occur before anything else is done which may negate the need for the other project elements which are unnecessarily putting our precious natural resources at risk (e.g., threatened and endangered sea turtles and their habitat, nearshore hardbottom reefs, etc.).

Lastly, we believe consideration should be given to providing 100% federal funding for this project feature. The U.S. Army Corps of Engineers is simply correcting a problem created by their Port inlet project. It does not seem necessary or fair to have those not responsible for the need for this corrective measure contribute to the cost of construction and/or maintenance.

3. Provide a More Complete Assessment of the Total Cumulative Impacts

We refer you to Attachment 3 which is a letter from seventy (70) Ph.D. scientists urging higher environmental standards in beach dredge and fill projects some of which is quoted below. We highly recommend that the Corps either provide an assessment of the cumulative impacts; or do as these scientists recommend -- adopt the "risk-averse" and "ecosystem-based" management approaches in assessments of environmental effects, particularly cumulative impacts.

More specifically the letter from the seventy (70) Ph.D. scientists indicates, "(t)he potential cumulative effects of repeated dredge excavations and habitat burials have never been detailed in environmental impact statements. In both past and recent EISs, a total of one paragraph is typically devoted to cumulative impacts. This is puzzling, given the above numbers and the many scenarios in which cumulative effects can develop. The impact statements for these open-shelf dredge projects have chronically assumed that areas affected are low-value habitats or that impacts are only short term. In time, such assumptions have evolved into administrative dogma that are not substantiated by the independent literature. This has occurred despite well-documented examples of negative cumulative effects in nearby systems (e.g., unanticipated cascade disturbance events impacting Florida Bay). In addition, all habitats impacted by these projects are now identified as Essential Fish Habitat -- Habitat Areas of Particular Concern by the South Atlantic Fishery Management Council and should receive additional agency oversight." (please see Attachment 3)

In connection with an evaluation of the cumulative impacts we note that there is a proposed substantial project being planned for Port Everglades which includes the widening and deepening of the inlet, channel and Intracoastal waterway for Port Everglades. We think NEPA requires a discussion of this project and the impact it will have on the project being proposed.

Additionally, we are aware that at least two companies have filed applications with the Federal Energy Regulatory Commission (FERC) proposing to lay natural gas pipelines in the project area. We think NEPA requires a discussion of the impact this will have on the project being proposed.

Further, we believe there are also other cable laying operations that have proposals which will have an impact on the project area as well and these should be discussed as part of the cumulative impacts as well.

4. Require Beach Stabilizing Dunes and Vegetation

We strongly recommend that stabilization of our beaches and dunes by vegetation become a feature of this project. This project feature is desperately needed and was clearly requested during the scoping process. The United States Department of Agriculture, Soil and Water Conservation Division has been quite vocal about the urgent need for stabilization of our beaches. A condition to receive the benefits of this project must be the stabilization of our beaches, even if this requires the construction of dunes where none currently exist.

If any upland property owner is not willing to implement this desperately needed component of beach restoration, they should not benefit from the proposed project.

This alternative seems to have been summarily dismissed from the project with little or no detailed evaluation or analysis as required by NEPA.

As indicated in the EIS "(t)his alternative provides for planting of beach grasses and construction of sand fences to provide stability to the dune area, **at the loss of some recreational beach area** *(emphasis added)*. There are no natural dunes in the study area."[21]

This is a sad commentary on the condition of our beaches. The agencies involved in this process are very aware of the long-term benefits to be derived from requiring the stabilization of our beaches and we respectfully request it become a project feature.

5. AVOID Destruction of Nearshore Hardbottom Reef in Segment III, Ancient Coral in Segment II, and Costly Mitigation

We are not willing to put our natural resources at further risk than they have already been in the past. We strongly recommend that this project completely AVOID the associated probable hardbottom impacts expected in Segment III which includes 6.5 acres of nearshore hardbottom and 1.1 acres of hardbottom habitat (0.1 acre of solid wormrock reef and 1.0 acre of unattached wormrock which is scheduled to be **directly buried at the time of construction in Hollywood/Hallandale**.)[22]

Additionally, we strongly recommend that this project completely AVOID destruction of ancient corals in Segment II. We are aware of information provided by several groups including Cry of the Water indicating that there are ancient coral in Segment II. We support their contention that this area be provided the utmost protection by removing it from the project. We believe the current project will cause irreversible and irreparable harm if this area is not removed from the project.

Segment II has ancient coral, many over 500 years old, and large stands of staghorn coral reef just off the beach in the Ft. Lauderdale area. Apparently, this area has not been dredged and filled and still has many nearshore coral reefs, hardbottom and essential fish habitats that comprise a functioning ecosystem. This area seems to also have the lowest erosion rates in Broward County because the reefs are natural barriers that help protect the beaches (please refer to the report and pictures provided by the Global Coral Reef Alliance and Cry of the Water at www.cryofthewater.org).

We know of some of the costly mitigation that is being proposed includes the placement of limestone boulders ($300K per acre). As we indicated above, we are in favor of AVOIDANCE, not mitigation. Additionally, we note that the presentation given at the meeting held in Broward County on April 30, 2002, it was

unclear that we really know the extent of the mitigation that will be required. One of the slides we were shown indicated:

Avoidance and Minimization:
Innovative & Comprehensive Solutions
--Complete investigation of borrow area interiors
--Expansion of reef monitoring station network
--Detailed studies of reefs adjacent to borrow sites
--Thorough examinations of nearshore hardbottom areas
--Field routing of submerged pipelines
--Liaison with local diving groups to locate areas of special concern
--Analytical database using GIS

We look forward to providing comment on the final results of this work outlined above and an updated, more complete and comprehensive assessment of the total cumulative impacts requiring mitigation.

We note that this DEIS initiates the Essential Fish Habitat (EFH) assessment and coordination with the National Marine Fisheries Service (NMFS). The proposed project will temporarily and permanently impact EFH and will effect approximately 13.6 acres of coastal habitat identified as EFH, including the complete burial of wormrock in Hollywood. We await the results of this consultation and look forward to providing public comment once it is completed.

Additionally, the DEIS (page 130) indicates that none of the mitigation for the 13.6 acres destroyed will be in Segment III. As indicated above, we favor AVOIDANCE in any case; however, if there is mitigation to allowed, it should occur at or very near the destroyed site or at a minimum within the same Segment. We highly recommend that if for some unbelievable reason the Corps insists on destroying over 6.5 acres of nearshore hardbottom including the complete burial of wormrock, mitigation must occur in this Segment of the project, not elsewhere.

Lastly, the DEIS (page 118) notes "(t)he primary impacts to hardbottom areas seaward of the equilibrium toe of fill will be mechanical damage from the pipeline used to transfer material from the dredge to the beach fill areas. The proposed pipeline corridor will be investigated by qualified professionals to identify the least impactive routes feasible. Methods for minimizing impacts to live hardbottom include collaring or suspending the pipeline with tires or "H" supports which reduce the footprint of the pipe on the bottom." First, we reiterate the need to have this

impact data before proceeding with the project. The cumulative impacts must be adequately and accurately reflected. Second, we have seen first-hand the inability of these "tires" to support the pipeline and believe they actually increase not lessen the footprint of the damage (e.g., Sunny Isles monitoring video).

6. Require the Removal of All Drainage (Outfall) Pipes Now, Prior to the Project

We are aware of many outfall pipes from beach side properties that drain directly into the sand (or the ocean) on the oceanfront. We believe these outfalls have contributed to our beach erosion problem.

We recommend that a condition of the project include the removal of all these drainage (outfall) pipes prior to any construction. Failure to comply with this condition will result in removal from the proposed shore protection project.

7. Provide More Monitoring, Assurances and/or Consequences

We believe there are a couple of areas where it is appropriate to institute special monitoring of work, assurances that the work will be performed in a specific manner, and consequences in the event things do not proceed exactly as planned.

We are particularly concerned about (a) the proposed tapers and the impact they may have on the beaches adjacent to them (i.e., Dania Beach and, at the south end of the project, Golden Beach); (b) weather related and operational related incidents (e.g., delays, accidents, diversions from permit, etc.); (c) pipeline mishaps; and (d) water quality issues.

(a) The proposed tapers and the impact they may have on the beaches adjacent to them (i.e., Dania Beach and at the sound end of this project, Golden Beach)

The project syllabus (page 26) indicates that the southern terminus will taper to the natural beach grade at the Broward/Dade County Line (at Golden Beach). The DEIS indicates that there will be a taper abutting Dania Beach as well.

We have first-hand experience dealing with the negative impacts of tapers to non-project beaches adjacent to beach dredge and fill projects (e.g., the Sunny Isles project taper as it impacted the beach at the Town of Golden Beach).

We think it is imperative that an Interlocal agreement be prepared between Broward County and individually Dania Beach and Golden Beach to address these concerns. The Interlocal Agreement between Miami-Dade County and Golden Beach for the Sunny Isles project provides a good example of the type of issues to be addressed in the Interlocal agreement.

Additionally, we would like to receive information about the consultation with the U.S. Fish and Wildlife Service as it relates to the two parcels near Dania Beach that are listed as undeveloped Coastal Barrier Units as defined by the Coastal Barriers Resources Act.

(b) weather related and operational related incidents (e.g., delays, accidents, diversions from permit, etc)

We are curious what assurance can be made that once this project begins, it proceeds on time and does not languish for months. We are also wondering what happens if an unanticipated event occurs (e.g., barge breaks loose, anchors placed incorrectly) and damage ensues. What mitigation will be forthcoming? How quickly?

We have first-hand experience with the Sunny Isles project which seemed to continue on forever with one problem after another, particularly with the use of a barge to install the submerged breakwater. Noise and lighting from the barge sometimes 24 hours a day and on the weekends was very disruptive to landowners adjacent to the shoreline. It is hoped that this project in Broward will not cause such disruption.

(c) pipeline mishaps

What, if any, mitigation will be forthcoming, and when, in the event there is a problem with any of the pipelines?

(d) water quality issues

Recently the United States Environmental Protection Agency issued a comprehensive report on the condition of the nation's coastal waters and estuaries. We strongly urge the Corps of Engineers and all other agencies to work very closely with EPA to use this report as a benchmark of the seven signs of health by which to measure the continued health of the waters impacted by this project -- especially since tourism, fishing industry and even property values are tied to healthy coastal waters.

The DEIS (page 138) indicates "(n)earshore turbidity monitoring will be performed during construction"... Recent projects in Miami-Dade County produced turbidities, sedimentation, and siltation levels that stressed stony and soft corals to levels where excessive amounts of mucous and polyp extension were observed during the weekly reef surveys...Corresponding NTUs were well below the 29 NTU State threshold...To assess the potential for sedimentation and turbidity damage to hardbottom communities adjacent to the equilibrium toe of fill impact area, the U.S. Fish and Wildlife Service proposes the establishment of monitoring stations that are no more than 200 yards offshore of the proposed equilibrium toe of fill. The stations would be surveyed weekly during fill placement to assess the amount of siltation and sedimentation placed on the adjacent nearshore reefs. If excessive sedimentation and siltation is observed, corrective actions would be taken to reduce the amount and extent of the sedimentation plume. Corrective actions identified include the construction of parallel berms on the beach onto which fill material is pumped, cessation of sand pumping until the discharge plume dissipates, or other actions as deemed necessary to alleviate the excessive turbidities generated by the discharge. These monitoring and corrective measures should minimize potential secondary impacts of sedimentation and siltation upon adjacent hardbottom communities."

We strongly recommend that the measures proposed above by the U.S. Fish and Wildlife Service be adopted as standard operating procedures for this project.

We watched the Miami-Dade project closely and believe the monitoring of the project to be a huge benefit for preventing more destruction of nearshore hardbottom areas. We would like to see the project documentation include the consequences that will be borne by the County and Corps in the event additional damage is caused due to excessive turbidity and sedimentation. What mitigation

will be performed, where and when? It is one thing to document the occurrence of such destruction; and it is yet another to mitigate for it.

We also note that the DEIS indicates "(t)he long-term monitoring is a continuation of the County's current countywide sea turtle and reef monitoring program."[23]

We have a couple of concerns regarding this long-term monitoring. First, Broward County has only 23 permanent reef monitoring sites for 23 miles of oceanfront – which is not many especially when you realize that 8 of these monitoring sites are for the first reef; 7 are for the second reef; and 8 are for the third reef – one monitoring site for approximately every 2.8 miles of ocean. We think this completely inadequate. Additionally, we are not sure where these monitoring sites are located (couldn't find this information by R marker) so we don't know if they are strategically placed to monitor the more precious and known coral (e.g., R-119 area with the significantly high amount of stony coral).

Additionally, language should be included in the project documentation indicating that when damage is discovered, it will be mitigated with specificity indicating how, where and when mitigation will be implemented.

In sum, we do not think it is appropriate to risk such damage to this resource. Preventive and corrective measures are not enough. We want you to AVOID harm completely. However, if the agencies persist, assurances and consequences must be provided.

8. Find a More Appropriate Source of Sand than "Borrow" Sites in Northern Broward County

We suggest:

(a) do not "borrow" (take) from Deerfield, Hillsboro and Pompano or any other Broward County location; and

(b) do not risk destruction of resources within and near these borrow sites (1) seagrass beds, (2) coral reefs, (3) rubble zones.

At a public meeting we were told there is still a need to complete investigation of the borrow areas and to do a detailed study of reefs adjacent to borrow sites. We await the results of these studies and wish to comment further once the studies are available.

Additionally, the DEIS (p. 49) indicates that the peak growing season for seagrasses is during the summer months. However, the reconnaissance towed-diver video survey of the proposed "borrow" areas was performed in the spring (from April to July). We strongly suggest the seagrass assessments including ground-truthing SCUBA dives occur during the summer instead of the spring. Given the time at which the studies were completed, we question the accuracy of the conclusion that "(t)he remaining five borrow areas do not contain significant areas of seagrass coverage."

9. <u>Provide a Complete Analysis of the Total Economic Impacts</u>

We wonder, just as Cry of the Water has, why the "Socio-economic Study of the Reefs in Southeast Florida" was not considered in this EIS. They point out that this study found that reef-related expenditures generated $2.1 billion (**billion**) in sales in Broward County from a 12 month period from June 2000 to May 2001. This amount is more than Palm Beach, Miami-Dade or Monroe County. Broward County did add the economic value of the beaches. We wonder how much of the $2.1 billion value of the reef should be taken away from the value of the beaches in hotel stays and sales. The immeasurable value of these nearshore reefs are the fact that they function as natural barriers that absorb the energy of the waves and help to protect the beach. Ft. Lauderdale which has the best nearshore reef has the lowest erosion rates in Broward County. The areas which have been renourished multiple times and the nearshore reef has been buried, alternatively have the highest erosion rates.

Clearly, past practices are not working well and certainly cannot be tagged economically prudent. Why isn't the report Cry of the Water refers to included in the economic analysis?

Additionally, we wonder why it is that some municipalities have opted to pay 100% of the cost of renourishment for private properties. We think maybe there should be some type of protection for the taxpayers at large that all of the upland property owners who benefit from the project (public and private) pay their fair share of the costs associated with the benefits.

10. Rezone Beach Areas as a Condition of the Project

We note that the Alternative entitled "rezoning of beach area" was summarily dismissed. It should be given further consideration as it does provide a viable alternative for reducing storm damages. While a construction setback would not effect existing construction it would be effective as buildings are destroyed by storms and replaced and/or redeveloped.

11. Adopt "Best Management Practices" for Beach Maintenance Now

There is no more sand in Broward County to "pump." We need to do the best we can to maintain our beaches in a manner that does not increase the erosion process.

There has been a problem in the past that some local jurisdictions in Broward County were not well informed about the latest science, staff training, and/or beach maintenance techniques. The result was an increase in erosion activity, not a specific scientific, managed attempt to maintain the shoreline and manage this resource.

A few years ago one municipality was even fined $10,000 for scraping their beach and directed by the State Department of Environmental Protection to prepare a beach maintenance/management plan. To the best of our knowledge, this municipality has not paid the fine nor prepared the plan.

We recommend that each local "management" jurisdiction be informed, trained, and monitored in best beach management practices. It would seem appropriate that this be a State of Florida mandate and that the State staff do the training and frequent onsite monitoring with appropriate penalties for non-compliance.

Additionally, a best beach management practices program should be a condition precedent to receiving a permit for beach dredge and fill projects.

III. REQUEST FOR INFORMATION

With this submittal we are requesting to be kept apprised of all activities related to this project including the development of General Re-evaluation Report (GRR) and the Project Cooperation Agreement (PCA), and any and all additional requests for public comment on this project.

IV. CONCLUSION

We hope the information we have provided is helpful to you in your deliberations. As indicated, our intent is to ensure we have the best product for all. If we can be of any assistance to you, please feel free to contact us.

Endnotes

[1] Biological Opinion, United States Department of Interior, Fish and Wildlife Service, dated March 11, 2002 (Service Log No. 4-1-99-I-506) (Application No. 99905545 IP-DSG), page 2
[2] Draft Environmental Impact Statement, March 2002, Broward County Shore Protection Project, Segments II and III, Broward County Florida, page ii
[3] Biological Opinion, United States Department of Interior, Fish and Wildlife Service, dated March 11, 2002 (Service Log No. 4-1-99-I-506) (Application No. 99905545 IP-DSG), page 14
[4] Biological Opinion, United States Department of Interior, Fish and Wildlife Service, dated March 11, 2002 (Service Log No. 4-1-99-I-506) (Application No. 99905545 IP-DSG), page 14
[5] Biological Opinion, United States Department of Interior, Fish and Wildlife Service, dated March 11, 2002 (Service Log No. 4-1-99-I-506) (Application No. 99905545 IP-DSG), page 14
[6] Biological Opinion, United States Department of Interior, Fish and Wildlife Service, dated March 11, 2002 (Service Log No. 4-1-99-I-506) (Application No. 99905545 IP-DSG), page 14
[7] Biological Opinion, United States Department of Interior, Fish and Wildlife Service, dated March 11, 2002 (Service Log No. 4-1-99-I-506) (Application No. 99905545 IP-DSG), page 16-18
[8] Biological Opinion, United States Department of Interior, Fish and Wildlife Service, dated March 11, 2002 (Service Log No. 4-1-99-I-506) (Application No. 99905545 IP-DSG), page 20
[9] Biological Opinion, United States Department of Interior, Fish and Wildlife Service, dated March 11, 2002 (Service Log No. 4-1-99-I-506) (Application No. 99905545 IP-DSG), page 21
[10] Biological Opinion, United States Department of Interior, Fish and Wildlife Service, dated March 11, 2002 (Service Log No. 4-1-99-I-506) (Application No. 99905545 IP-DSG), page 21
[11] Biological Opinion, United States Department of Interior, Fish and Wildlife Service, dated March 11, 2002 (Service Log No. 4-1-99-I-506) (Application No. 99905545 IP-DSG), page 22
[12] Technical Report DPEP 01-11, Sea Turtle **Conservation** *(emphasis added)* Program, Broward County, Florida, 2001 Report, page 1
[13] Biological Opinion, United States Department of Interior, Fish and Wildlife Service, dated March 11, 2002 (Service Log No. 4-1-99-I-506) (Application No. 99905545 IP-DSG), page 33
[14] Biological Opinion, United States Department of Interior, Fish and Wildlife Service, dated March 11, 2002 (Service Log No. 4-1-99-I-506) (Application No. 99905545 IP-DSG), page 15
[15] Biological Opinion, United States Department of Interior, Fish and Wildlife Service, dated March 11, 2002 (Service Log No. 4-1-99-I-506) (Application No. 99905545 IP-DSG), page 30
[16] Biological Opinion, United States Department of Interior, Fish and Wildlife Service, dated March 11, 2002 (Service Log No. 4-1-99-I-506) (Application No. 99905545 IP-DSG), page 31
[17] Biological Opinion, United States Department of Interior, Fish and Wildlife Service, dated March 11, 2002 (Service Log No. 4-1-99-I-506) (Application No. 99905545 IP-DSG), page 31
[18] Draft Environmental Impact Statement, March 2002, Broward County Shore Protection Project, Segments II and III, Broward County, Florida, page 11
[19] Draft Environmental Impact Statement, March 2002, Broward County Shore Protection Project, Segments II and III, Broward County, Florida, page 5
[20] Draft Environmental Impact Statement, March 2002, Broward County Shore Protection Project, Segments II and III, Broward County, Florida, page 5
[21] Draft Environmental Impact Statement, March 2002, Broward County Shore Protection Project, Segments II and III, Broward County, Florida, page 16
[22] Draft Environmental Impact Statement, March 2002, Broward County Shore Protection Project, Segments II and III, Broward County, Florida, page 16
[23] Biological Opinion, United States Department of Interior, Fish and Wildlife Service, dated March 11, 2002 (Service Log No. 4-1-99-I-506) (Application No. 99905545 IP-DSG), page 5

Attachment 1
Page 1 of 2

SAVE TURTLE HABITAT, REEFS, BEACHES...

Three Broward cities won't dim lights to protect sea turtles

By David Fleshler, Staff Writer
Sun-Sentinel, http://www.sunsentinel.com

March 12, 2002

Warning to sea turtles: Stay out of Fort Lauderdale, Hillsboro Beach and Hollywood.

These cities have failed to comply with a Broward County mandate to pass turtle-protection laws by Feb. 16, just before the beginning of nesting season. An amendment to the county's land-use plan required all coastal cities to adopt ordinances restricting lights at the beach, because lights disorient hatchlings trying to crawl to the ocean.

"The cost would be staggering," said Hollywood Mayor Mara Giulianti. "It would put a burden on our apartments and condos and small businesses. And most people tell me they want the Broadwalk well-lighted. These would be onerous burdens that don't make sense for the community."

Turtle experts say the mayor exaggerates the expense and impact of the necessary lighting changes, which have been implemented by many coastal cities in Florida. But such disputes have become common as environmentalists try to protect an ancient biological phenomenon that has been threatened by the transformation of beaches into strips of hotels, restaurants and condominiums.

For thousands of years, female sea turtles have emerged from the sea to dig holes in the sand and lay their eggs. When the hatchlings leave the nests, they are drawn toward the brightest light, an instinct that served them well when that was the moonlight on the ocean. But now, the hatchlings often crawl inland toward the lights of hotels and other buildings, ending up in parking lots, where they die of dehydration or become prey for birds and other predators.

Nests of hatchlings went the wrong way about 50 times in Broward County during last year's nesting season, said Lou Fisher, a marine biologist for the county.

Sixteen Florida counties and 43 municipalities have passed laws restricting lighting from March 1 to Oct. 31, when turtles nest and hatch. Broward County passed its law in 2000, giving cities until this year to comply.

Hillsboro Beach Mayor Chuck Sussman thinks the county's requirement is absurd. His city's shore is so dark that the county relocates nests there from Fort Lauderdale and other cities. Dimming or eliminating lights in parking lots and other places would place his citizens in danger, he said.

"It's patently foolish," he said. "If I had an elderly mother here, I would be very angry about this. If we've got to change parking lighting, they can't see to get from their cars to their houses."

Fort Lauderdale is less vehement. Mayor Jim Naugle said the city will simply have to find a way to balance public safety and turtle protection. Sheryl Stolzenberg, a city planner, said a committee is being set up to

figure out what to do. The city's staff has been extremely busy and was simply unable to get to the turtle issue in time, she said.

Despite the concerns from the cities, biologists say it's not that difficult to make a beach turtle-friendly. Among the steps that can be taken: placing inexpensive aluminum shields on lights, replacing bright lights with ones that shine toward the ground rather than the sky or replacing them with ground-level lights.

"I think a lot of people think we're talking lights-out," said Sandy MacPherson, national sea turtle coordinator for the U.S. Fish and Wildlife Service. "We're not. We're talking lights management."

Pompano Beach was the first city in Broward County to require turtle-friendly lighting. Paul Livingway, president of the Sea Pointe condominium, said it cost about $3,500 to make his 30-unit building turtle-safe. That amounted to about $117 per unit, paid from the building's operating funds.

The condo installed blinds in the recreation room and low-level lights that were invisible from the beach. At the stairs and walkway to the beach, it installed red-neon lights, which turtles can't see. Livingway, who had pushed for the city to pass a lighting ordinance, said the changes cost little and did nothing to make the building unsafe.

All sea turtles are protected by law. Loggerheads, the most common in Florida, are listed by the federal government as a threatened species. Green and leatherback turtles are listed as endangered.

Cities that fail to comply with the county's comprehensive plan could lose their authority to make land-use decisions, with the county taking over, said Henry Sniezek, planning director for the Broward County Planning Council. But he said that's an extreme measure that hasn't been invoked during his time at the council.

The County Commission has the authority to take action, but Deputy County Attorney Sharon Cruz said disputes always are resolved through negotiations.

The U.S. Fish and Wildlife Service has sharper teeth, but only against individual violators. As the chief protector of endangered species, the agency has levied fines against businesses that have repeatedly refused to take steps to protect turtles. A condominium in Brevard County was fined $15,000 for lighting violations. A motel in Ormond Beach was fined $450.

Now that three cities have missed the deadline, Fisher, the county's biologist, will write a letter to the County Commission explaining what's happened.

County Commissioner Kristin Jacobs, who had proposed the county's sea turtle law, said the county should show these cities that implementing the restrictions won't be expensive or dangerous, rather than trying to sanction them for not passing the required laws.

"We need to show them that it won't cost them what they think it will, and it's not going to compromise safety on the beach," she said.

* * *

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Comments made at Joint Meeting between the City of Hollywood and City of Ft. Lauderdale held Wednesday, February 27th -- **topic is turtle lighting program**

Mara Giulianti, Mayor, City of Hollywood -- I was glad to see that on the turtle issue Ft. Lauderdale said that you were probably going to need to study it for a year. I am beside myself that we are expected to spend what will probably be multi-millions of dollars both on public as well as private property for turtle lighting and I'm sure Suzanne (Utnik, Assistant to the City Manager) is going to address that. But, I asked the experts how many nests were on Hollywood Beach, didn't ask about North Beach so there may be a few more, we already have things that occur there, but I said central and south beach, our really biggest areas, how many nests are there? At the most, 60 to 70 a year; as opposed to I think they said, is it Brevard that has 34 to 36,000? So I suddenly realized it will probably cost us well more than a million a nest. It would be cheaper for us to set up turtle farming like they do in the grand caymans and we could all kick into that than to spend that kind of money. And Suzanne were you going to add anything to that?

Cameron Benson, Assistant City Manager, City of Hollywood: I think the problem with the turtles for Hollywood is that, we actually found out after the meeting, that a lot of the nests that are on Hollywood Beach are actually removed by the County so we really don't have that many nests on the beach itself. The main issue is that we have to deal with issues dealing with our private owners having to spend in excess of a number of money in order to provide the proper lighting for those turtles. The other thing that the Manager had asked us to do is to look into, the young lady that came to the meeting, had mentioned something about grant money, and looking into that grant funding and maybe using that grant funding as some sort of assistance to those private property owners who may have to eventually do something regarding turtle nesting.

Mara Giulianti, Mayor, City of Hollywood: My position is that the County shouldn't require us to do it. It's an unfunded mandate that the County wouldn't like if the State did it to them and I think the City can't afford it. If it were important for the environment. That would be different. If somebody came to us and said you've got 34,000 turtles nests, 36,000, I think it was. But for 60 or 70 for the entire I don't know how many mile stretch, and even then when I asked the woman, I said, you're telling me that on our central beach, now you know, I'm not saying anything against our tourists but, I cannot imagine us just putting a little fence around it and telling them keep off. I think we'd have children petting the eggs. I think we would have kids falling after playing frisbee. I mean, we just, on central beach in particular we just have a very active beachfront. We have french canadiens would be fascinated by it and I said they're not going to stay in tact. So, I would love to join together with Ft. Lauderdale in trying to have a, I believe the county should do a cost benefit analysis or at least a cost analysis about how much it would cost. Were you told how many nests you folks have on your beaches?

Jim Naugle, Mayor, City of Ft. Lauderdale: We haven't really been informed of this, this subject, other than when you brought it up

Mara Giulianti, Mayor, City of Hollywood: Well, I know, apparently somebody on your staff said that they would need a good year to look into it because

Commissioner Tim Smith, Ft. Lauderdale: I think we have been able to stall it. I remember a couple of occassions where it has come to the commission and we've been able to basically stall the issue but sooner or later its going to catch up to us.

Mara Giulianti, Mayor, City of Hollywood: We're supposed to have had an ordinance passed by now.

Cameron Benson, Assistant City Manager, City of Hollywood: February 2002 an ordinance. My concern is this for both cities is that if we do not pass an ordinance, even if we plan to delay a year or two or out, I think Commissioner Smith is right, sooner or later we have to do something. My concern is that within that time frame or even after that time frame, if we do not pass an ordinance will we be in violation of our comp plans with the county and eventually with the state and I don't and Commissioner Rodstrom I'm not trying to put you on the spot but I don't know if that's something we need to consider; if we don't pass something, are we going to be violating our own comp plan? That's something we need to think about.

Mara Giulianti, Mayor, City of Hollywood: that's because the county put it in their comp plan and then forces us to do it because it is environmental

Cameron Benson, Assistant City Manager, City of Hollywood: that's correct

Commissioner Tim Smith, Ft. Lauderdale: Why don't we ask for one of those county commissioner reactions at this point?

Fran Russo, Vice Mayor, City of Hollywood: I think you got the reaction right there

Mara Giulianti, Mayor, City of Hollywood: I mean the lighting is really a major problem. Not only that but our people who walk our Broadwalk, we have to tell them that from March 1st, we've got plenty of people in March through October, that they have to, we have to lower the lights, we have to make complete, huge changes, and all of our, you know we have shops and restaurants, unlike Ft. Lauderdale that's across the street, we have it even harder, because, they, if it could cast a light that could look at all like it's going to cast, even the moon or whatever, that has to be changed. And then we've got all these condominiums that are going to have to retrofit or go dark and they're going to blame us for doing it.

John Rodstrom, Commissioner, Broward County Board of County Commissioners: what I will say is that this has been on the books for a long, long time, it was done by previous commissions. You know if you could give us the data that would show us clearly that the numbers really weren't there to justify the expense and we, then it's time to revisit this issue. This was from a Commission back, I would guess, knowing what I know, it's probably go back to the mid to early '80's under a much different county commission.

June 27, 2000

Colonel Joe R. Miller, District Engineer
Jacksonville District, Army Corps of Engineers,
400 West Bay St., Jacksonville, FL 32202

RE: 70 Ph.D. Scientists Urge Higher Environmental Standards in Beach Dredge and Fill Projects

Dear Colonel Miller,

The existing paradigm for managing beach systems of the southeast United States using frequent and massive dredge and fill projects ("renourishments") may have significant cumulative effects upon coastal habitat quality and fisheries production. Despite mounting evidence of both direct and indirect environmental effects on fishes, invertebrates, and turtles in several marine communities across the shelf, over 100 acres of nearshore reefs are now proposed for burial by four beach dredging projects in east Florida. Given the available scientific information and the increased agency oversight of habitat quality mandated by the Essential Fish Habitat component of the Sustainable Fisheries Act, and the Presidential Coral Reef Initiative, we offer the following comments.

The biological impacts of large and frequent dredge and fill operations across the east Florida shelf are of particular concern due to the region's very high biodiversity. Several studies have documented over 325 invertebrate and algal species in association with nearshore reefs on the east coast of mainland Florida. These nearshore reefs also support high densities of juvenile fishes in areas otherwise devoid of any substantial three-dimensional structural habitats. Collectively, over 500 species have now been documented from these reefs. These habitats are important recruitment and nursery areas for a diverse marine fauna and flora, that includes rare taxa and important fishery species. For example, in the U.S., the striped croaker (Bairdiella sanctaeluciae) is limited only to nearshore reef formations of east Florida. Important new data also suggest nearshore reefs provide important feeding and shelter areas for endangered green sea turtles.

Several numbers suggest the scale of potential impacts:

At least 50 large-scale offshore dredge and nearshore fill projects have

occurred in southeast Florida since 1960, dumping over 50,000,000 cubic yards of offshore sediments into nearshore systems.
Over 90 additional large-scale dredge projects are conservatively planned to occur between 2000 and 2046. At least 80,000,000 additional cubic yards of offshore sediments could be dumped within the same corridor of subtropical southeast Florida during this period.
Dozens of large dredge craters have been dug among mid-shelf reef habitats of southeast Florida since 1960 with dozens more planned. The dumping of millions of cubic yards of fill directly into 3-5 m depths to build nearshore berms, a new activity in southeast Florida, is now in planning for over 10 sites.
At least 100 acres of nearshore reefs and 35 acres of seagrass beds have been directly buried since 1970 (historical data on reef impacts is very limited). Hundreds of acres of shallow reefs will be buried in the next 50 years at the current rates.
Despite the number of projects, few field studies of short-term dredge-and-fill effects have been published in the peer-review literature. In addition, no studies of long-term effects are available. For example, no long-term water quality data have been examined to assess the potential for increased turbidity at either inshore fill sites or offshore dredge pits resulting from wind- or wave-induced resuspension of sediments. It is logical to hypothesize that chronically elevated turbidity may impact both primary and secondary production in substantial manners that will, however, be difficult to separate from confounding impacts such as overfishing.

The potential cumulative effects of repeated dredge excavations and habitat burials have never been detailed in environmental impact statements. In both past and recent EISs, a total of one paragraph is typically devoted to cumulative impacts. This is puzzling, given the above numbers and the many scenarios in which cumulative effects can develop. The impact statements for these open-shelf dredge projects have chronically assumed that areas effected are low-value habitats or that impacts are only short term. In time, such assumptions have evolved into administrative dogma that are not substantiated by the independent literature. This has occurred despite well-documented examples of negative cumulative effects in nearby systems (e.g., unanticipated cascade disturbance events impacting Florida Bay). In addition, all habitats impacted by these projects are now identified as Essential Fish Habitat - Habitat Areas of Particular Concern by the South Atlantic Fishery Management Council and should receive additional agency oversight.

Based on the available information, the administrative paradigm that repetitive, large-scale dredging and filling of coastal habitats of has no long-term environmental impacts is potentially false and, at best, premature. The above factors suggest that the "risk-averse" and "ecosystem-based" management approaches adopted by some federal and state agencies be functionally employed by the United States Army Corps of Engineers in its assessments of environmental effects, particularly cumulative impacts.

These points reflect the professional judgement of the undersigned researchers. They are not intended to represent the positions of their institutions. Thank you for your consideration of these comments.

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Related Literature

Army Corps of Engineers. 1996. Coast of Florida erosion and storm effects study: Region III with final environmental impact statement. USACOE Tech. Rept., Jacksonville District. Three volumes and appendices.

Butler IV, M. J., J. H. Hunt, W. F. Herrnkind, M. J. Childress, R. Bertelsen, W. Sharp, T. Matthews, J. M. Field, and H. G. Marshall. 1995. Cascading disturbances in Florida Bay, U.S.A.: cyanobacteria blooms, sponge mortality, and implications for juvenile spiny lobsters Panulirus argus. Mar. Ecol. Prog. Ser. 129:119-125.

Dodge, R. E., R. C. Aller and J. Thomson. 1974. Coral growth related to resuspension of bottom sediments. Nature 247: 574-576.

Gilmore, R. G., Jr. 1977. Fishes of the Indian River Lagoon and adjacent waters, Florida. Bull. Fl. St. Mus. Bio. Sci. 22(3), 147 p.

Gilmore, R. G., Jr. 1992. Striped croaker, Bairdiella sanctaeluciae. pp. 218-222. In C. R. Gilbert, ed. Rare and endangered biota of Florida. II. Fishes. Univ. Press of Florida, Gainesville, FL, 242 p.

Gilmore, R. G., Jr. 1995. Environmental and biogeographic factors influencing ichthyofaunal diversity: Indian River Lagoon. Bull. Mar. Sci. 57(1):153-170.

Kirtley, D. W. and W. F. Tanner. 1968. Sabellariid worms: builders of a major reef type. J. Sed. Petrol. 38(1):73-78.

Lindeman, K. C. 1997. Comparative management of beach systems of Florida and the Antilles: applications using ecological assessment and decision support procedures. pp.134-164. In: G. Cambers, ed. Managing beach resources in the

smaller Caribbean islands. UNESCO Coastal Region & Small Island Papers # 1, 269 p.

Lindeman, K.C. and D.B. Snyder. 1999. Nearshore hardbottom fishes of southeast Florida and effects of habitat burial caused by dredging. Fish. Bull. 97(3):508-525.

Nelson, W. G. 1989. Beach nourishment and hard bottom habitats: the case for caution. pp. 109-116. In: S. Tait, ed. Proc. 1989 National Conf. Beach Preserv. Technol. Fl. Shore and Beach Preserv. Assoc., Tallahassee, FL, 236 p.

Nelson, W. G. and L. Demetriades. 1992. Peracariids associated with sabellariid worm rock (Phragmatopoma lapidosa Kinberg) at Sebastian Inlet, Florida, U.S.A. J. Crust. Bio. 12(4):647-654.

Odum, W. E. 1982. Environmental degradation and the tyranny of small decisions. BioScience 32(9):728-29.

Pandolfi, J., D. R. Robertson, and D. R. Kirtley. 1998. Sabellariid worms: builders of a major reef type. Coral Reefs 17:120.

Sedberry, G. R. and R. F. Van Dolah. 1984. Demersal fish assemblages associated with hard-bottom habitat in the South Atlantic Bight of the U. S. A. Environ. Biol. Fishes 11(4):241-258.

Telesnicki, G.J. and W.M. Goldberg. 1995. Effects of turbidity on the photosynthesis and respiration of two South Florida reef coral species. Bull. Mar. Sci. 57(2):527-539.

Wilber, P. and M. Stern. 1992. A re-examination of infaunal studies that accompany beach nourishment projects. Proc. 1992 Natl. Conf. Beach Preserv. Tech. pp: 242-256.

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