



United States Department of the Interior National Park Service



Biscayne National Park
9700 SW 328 Street
Homestead, FL 33033

Everglades and Dry Tortugas National Parks
40001 State Road 9336
Homestead, FL 33034

In Reply Refer to: N-16

Gary J. Hardie
Florida Department of Environmental Protection
Bureau of Mine Reclamation
2051 East Dirac Drive
Tallahassee, Florida 32310-3760

Dear Mr. Hardie:

This letter is written in response to a notice, dated March 25, 2008, of an environmental resource permit application for mining activities at the Florida City Quarry, by Cemex Construction Materials, LP, located in Florida City, Florida (File # 282417-002).

It is the policy of the National Park Service to encourage compatible adjacent land uses and offer our services and support in establishing a broader cooperative effort to advance the goal of creating a seamless network of parks (City, County, State, and National) and establish corridors that link together open spaces to create a greater array of educational and appropriate recreational opportunities within a park network for the enjoyment the public. In this context, we ask that you consider the concerns and recommendations identified below in your evaluation of this permit application.

The permit application is a request to renew state authorization for proposed mining activities for the excavation of over 10 million cubic yards in wetland habitat over an estimated 200 acres, with a total volume of rock excavation of over 26 million cubic yards for the entire mine site. The project also includes construction of an access haul road off Card Sound Road, requiring the filling of an additional 2.7 acres of wetlands. We understand that a federal permit application for a previously issued (now expired) Department of the Army Permit is under review by the Army Corps of Engineers for this project.

We write this letter to express our concern for continued impacts to a wetland system that provides an important buffer function to both Everglades and Biscayne National Parks. This coastal wetland system represents the last remaining historic southeastern Everglades, and land use decisions affecting this region will determine the fate of recovery efforts for Florida and Biscayne Bays. The Southern Glades and Model Lands region also includes the footprints of two Comprehensive Everglades Restoration Plan (CERP) projects – the C-111 Spreader Canal Project and the Biscayne Bay Coastal Wetlands Project.

The lowering of regional water levels through drainage features and other land use changes has altered landscape patterns within this ecosystem resulting in the encroachment of mangrove



vegetation, the conversion of native plant communities, and invasion of exotic plants within this historic coastal marsh prairie. However, the northern sections within this region still provide an important water supply function (both surface and groundwater recharge) to areas “downstream,” which is important to ensure salinity patterns that sustain the natural resources of Biscayne Bay. Looking to the future, this water supply will be important in mitigating the effects of saltwater intrusion resulting from projected sea level rise due to climate change.

Rock mining and its associated construction elements represents a particularly invasive activity on the fragile South Florida landscape. The construction of additional rock pits in this region and associated construction of roads and work pad areas will shorten already altered hydroperiods and disrupt sheet flow, causing a further shift in vegetative cover and species diversity in this region as well as contribute to the successful establishment of invasive and exotic plant species. Mining activities create large areas of deep water habitats that normally do not occur in the South Florida landscape, providing questionable environmental benefits to native fauna. Mining lakes may also provide an open conduit for the transfer of pollutants into the Biscayne Aquifer as a result of mining activities, adjacent roads, air emissions, and other related activities. The routing of these constituents through the mining lakes essentially short-circuits natural filtering processes, thus traveling directly through the groundwater to Biscayne and Florida Bays.

The large proposed quarry is likely to fundamentally change groundwater characteristics in this wetland system through its interaction with the Biscayne Aquifer and exacerbate saltwater intrusion effects already documented in South Miami-Dade County.

As a result of excavation of the rock substrate, rock pits become filled with groundwater from the subsurface aquifer, lowering the water table within the surrounding wetland community. Unless the pit is lined or otherwise mitigated, this effect will continue after the mine is completed and abandoned. The exposed open water of the pit results in high evaporative losses and will continue to draw groundwater to the pit to replace those losses. These artificial losses can have significant implications for an area that has been identified as experiencing groundwater level reductions and targeted for ecological restoration as a result of this impact. As such, we recommend that a monitoring system be placed at the current Singletary mine site (to the southwest of the proposed project) to identify dry season evaporative rates and quantify those losses relative to water levels in the underlying aquifer and surrounding wetlands for the open pits at that location. In order to develop a water budget around these current rock pits to quantify evaporative losses for the proposed project, seepage meters in the lakes, stage recorders, and a series of monitoring wells at various depths outward from the lakes will likely be required. This information can then be used to determine the vertical gradient caused by the seepage into the lakes, particularly in the dry season.

Miami-Dade County has contracted with the U.S. Geological Survey to update the estimated landward extent of seawater line in the Biscayne Aquifer and locate new salinity monitoring wells within the Southern Glades/Model Lands region. We recommend that this effort be coordinated with groundwater monitoring wells currently or expected to be required as part of the permit condition for this project or other mining activities in South Miami-Dade. This information, in conjunction with a cumulative drawdown analysis, should be evaluated relative to the existing wellfields (e.g., Newton, Florida City, Florida Keys Aqueduct Authority) prior to permitting full excavation activities.

Finally, we evaluated the proposed success criteria for the identified mitigation sites, which are proposed as compensation for the proposed excavation impacts. We believe that percent cover does not represent an adequate assessment of wetland function (see, for example, evaluation by Cole, 2002¹) nor do we believe that existing hydrology in the mitigation areas is “adequate to support wetland vegetation” as noted in the permit application. We recommend that other structural indicators such as hydroperiod/hydropatterns, especially seasonal characteristics such as drydown patterns, be used to assess wetland functionality for the mitigation sites, relative to established reference sites. Growth form and percent cover of certain species may also provide a better measure than percent cover alone. Monitoring for these recommended indicators should also be included in the mitigation requirements.

We understand that your agency is reviewing this permit application for its consistency with Florida’s Coastal Management Program, authorized and approved by the Federal Coastal Zone Management Act. This framework provides you with the responsibility to review federally permitted activities that affect coastal water quality, fish and wildlife habitat, and wetlands for consistency with state coastal management policies. Given that the South Miami-Dade watershed has been recognized as one of the most critical watersheds in Florida, due in part to its location between two nationally-recognized treasures, Everglades National Park and Biscayne National Park (*South Miami-Dade Watershed Study and Plan, 2007*), we ask that you carefully balance the unique values provided by this coastal wetland ecosystem during your evaluation of the proposed mining activity.

If you have questions regarding this letter or wish to discuss our concerns, please contact Betty Grizzle, Adjacent Lands Coordinator (305-224-4245) or either of us.

Sincerely,



Mark Lewis, Superintendent
Biscayne National Park



Dan B. Kimball, Superintendent
Everglades and Dry Tortugas National Parks

cc:

Megan Clouser, U.S. Army Corps of Engineers
Carlos Espinosa, Miami-Dade County Department of Environmental Resources Management
Matt Davis, Miami-Dade County Department of Environmental Resources Management
James Golden, South Florida Water Management District
Paul Anderson, Acting Regional Director, National Park Service
Rock Salt, U.S. Department of the Interior
Paul Souza, U.S. Fish & Wildlife Service, South Florida Ecological Services Office

¹ C.A. Cole, The assessment of herbaceous plant cover in wetlands as an indicator of function, *Ecological Indicators*, Vol. 2, pp. 287-293.