



*South Florida Ecosystem Restoration
Task Force / Working Group*

Science Coordination Team

June 12, 2001

Colonel James G. May
District Commander
Jacksonville District
U.S. Army Corps of Engineers
P.O. Box 4970
Jacksonville, FL 32232-0019

Dear Colonel May:

The Science Coordination Team (SCT) of the South Florida Ecosystem Restoration Working Group, through a consensus recommendation, urges the Corps of Engineers to consider the overwhelming scientific opinion that full ecological restoration of the Everglades will not occur unless unrestricted flow is reestablished across the entire 10.7-mile span of Tamiami Trail between S-333 and S-334. In particular, Alternative 5 – an elevated roadway (bridge) for the entire span – currently under consideration in the General Reevaluation Report and Supplemental Environmental Impact Statement (GRR/SEIS) for the Tamiami Trail Component of the Modified Water Deliveries Project, appears to be the alternative most closely aligned with this scientific opinion. We recognize that this letter precedes the release of the GRR/SEIS, but believe it is important to express our concerns and opinions as early in the process as possible.

The importance of reestablishing the natural ecological connectivity that was severed by the construction of the Trail cannot be overemphasized. Even though a series of smaller bridges and/or culverts can provide the required volumes of water to portions of Northeast Shark River Slough, true restoration requires recreation of the historical distribution of all aspects of flow, including water flow, physical and chemical transport mechanisms, and biological connectivity. This level of restoration would remain unrealized without a continuous elevated structure allowing for unobstructed flows and transport of water, dissolved and particulate material, and biota.

Despite the paucity of research addressing the importance of flow distribution at this scale in the Everglades, the scientific community in south Florida has stressed the importance of removing barriers to sheet flow where feasible. Three decades of aquatic ecology research in the US and other countries clearly demonstrate the importance of moving water to the maintenance of essential ecosystem processes, such as the cycling of nutrients, the transport of organic matter, maintenance of dissolved oxygen, and other necessary functions. The SCT is developing a white paper summarizing the science addressing the importance of flow and flow distribution for use by the Corps of Engineers in evaluating Tamiami Trail alternatives, and identifying specific research needs to improve our knowledge of this important topic. Toward this end, the SCT is drawing



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heavily on the outcome of a flow workshop at the Greater Everglades Ecosystem Restoration (GEER) Science Conference held in December 2000.

The Everglades landscape itself provides evidence of the need for unobstructed water and particulate flows if the current landscape is contrasted with the pre-drainage one. Historical analyses indicate a strong, highly directional pattern of distinct sawgrass ridges and open water sloughs. Pre-drainage ridge and slough directionality was aligned with the downstream flow direction, parallel to the tree island alignment still visible today. In contrast, spatial analysis of the current landscape shows a very different pattern. Large portions of the conservation areas and Everglades National Park have completely or partially lost the original ridge and slough pattern. Where water and particulate flow has been disrupted, the original vegetative and microtopographic pattern has shifted from strongly directional to non-directional, or has disappeared altogether. Flow disruptions have even created new, artificial patterns. Patches of shrubby vegetation immediately downstream from each of the Tamiami Trail culverts reflect increased peat elevations, apparently from the deposition of sediments. All available information suggests that restoration of the ridge and slough landscape in Water Conservation Area 3B and in Northeast Shark Slough can only occur with unobstructed flow through each of the 40-odd sloughs, 500-1000 feet wide, that originally crossed this portion of Tamiami Trail.

We believe that full restoration of the flow and flow distribution across the Trail is supported strongly by the collective professional judgment of the scientific community in numerous agencies, tribes, academia, NGOs, and the general public. This is a case where, although specific research projects regarding flow in the Everglades are in their early stages, professional opinion is consistent and forms a sufficient basis for preliminary decision-making. There are other critical junctures in Everglades restoration where, in the absence of definitive scientific data, collective professional judgment formed the foundation for well-justified and timely decisions. One example is the selection of massive and expensive Stormwater Treatment Areas (STAs) as one of the means to achieve interim phosphorus reduction goals, despite the lack of specific research addressing their constructability and absolute effectiveness. It is now well known that STAs can achieve phosphorus reduction results far better than initially projected.

The Tamiami Trail restoration project is the first major Everglades action toward restoration of the ecological and hydrological integrity of the central and southern Everglades. The project is highly visible and has generated considerable public interest. As such, the public perception of this project will set the precedent for future restoration activities in south Florida. If the Corps of Engineers seeks the full restoration opportunities afforded by flow restoration, the public support and enthusiasm which all of us have worked so hard to gain will be enhanced. It would be unfortunate to lose the momentum that has been gained.

Finally, we cannot overstate the importance that this GRR/SEIS to the Comprehensive Everglades Restoration Plan Decompartamentalization (CERP) Project (Phase I). It is our understanding that the GRR/SEIS alternatives presently favored by the Corps of Engineers involve adding thousands of cubic yards of fill material to raise the



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entire 10.7-mile Tamiami Trail roadbed. This type of alternative is absolutely counter to the restoration of Everglades sheet flow, and will necessitate the expensive retrofitting of the Tamiami Trail during the Decompartmentalization (Phase I) Project in an effort to provide full connectivity to Shark River Slough and Everglades National Park. In effect, an alternative of this nature is a "throw-away" project that unnecessarily wastes precious restoration dollars -- and public confidence in government.

We recognize the limitations imposed by funding for this project under the current Modified Water Deliveries and CERP authorities, but hope that this lack of funding will not serve as the basis for selecting an imperfect and undesirable alternative. We urge the Corps to pursue all mechanisms available to assure implementation of Alternative 5, including any increased funding that might be necessary. We would be happy to provide any assistance or support that you may need in seeking funding, and in implementing the full restoration of flow across this portion of Tamiami Trail.

Thank you very much for considering this SCT consensus recommendation. You have our

Best Wishes,

G. Ronnie Best, Ph.D., PWS
Science Coordination Team Co-chair

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cc (electronic): SFER Working Group Members