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Mr. Scott Burns, Director
Water Use Regulation Dept., SFWMD
PO Box 24680
West Palm Beach, FL 33416-4680

Dear Scott:

The following are my comments in regard to Minimum Flows & Levels, Chapter 40E-8. In addition to speaking for myself I am representing the Responsible Growth Management Coalition, Environmental Confederation of Southwest Florida and Save The Manatee Club. I apologize for being somewhat blunt in my oral comments at our recent meeting; however, I see first hand the problems in not only Lake Okeechobee, but our estuarine systems including the Caloosahatchee. I believe this situation deserves a great deal more attention than we have given it so far. Remember, I am a Florida native and my perspective includes seeing how tremendously productive our coastal and inland waters were thirty, forty and even fifty years ago. Today these marine resources are merely shadows of their former selves in terms of ecological diversity and productivity.

Comments on Minimum Flows and Levels, Surface Waters:

The South Florida Water Management District (District) has proposed important changes to its regulation on minimum flows and levels. However, the rule as currently proposed contains serious flaws that threaten to jeopardize the significant progress that could be made through the proposed rule. It is critical that the situation that occurred this year, with the District withholding freshwater releases for one month and then flooding the Caloosahatchee with torrential water flows, resulting in serious adverse effect on both freshwater and saltwater grasses on which endangered manatees depend, not occur again.

Definition of "Significant Harm" and "Harm"

The proposed rule contains definitions for "harm" and "significant harm" that are too broad and undefined to be useful, and are set at an unacceptable level that will allow substantial harm to occur before falling within the District's definitions. For the definition of "significant harm", the District's statement that this level of harm will be deemed to occur only after "the loss of water resource functions that take multiple years to recover", needs to be strengthened and more clearly defined. The term "water resource functions" must be specifically defined so as to include wild-

life and plant life in the ecosystems affected by water releases. The term “multiple years” must be specifically defined so as to be meaningful and enforceable. As it stands now, the proposed definition would allow substantial harm to occur before “significant harm” could be said to occur, and it would be unclear what amount of harm would need to occur before the vague “multiple years” would apply —2 years? 10 years? An appropriate definition would be “the loss of water resource functions that would take more than one year of average rainfall conditions to recover...”. Likewise, the definition of “harm” should also be more protective of water resources. An appropriate definition would be “the loss of water resource functions that would take a period of one 1 year or less of average rainfall conditions to recover...”.

Minimum Flows and Levels, Caloosahatchee River

Concerning minimum flows and levels for the Caloosahatchee River, the proposed rule provides that:

Water flows shall not be reduced to a point where high salinity causes “die back of freshwater grass” *Vallisneria* for three consecutive years. “Die back of freshwater grass” is considered to occur when less than 20 shoots per square meter is measured at a monitoring station located 30 kilometers upstream of Shell Point during the months of February through April.

This proposed rule has serious problems such that, if implemented, it would likely subject the District to suit for a “taking” of manatees through destruction of manatee habitat in violation of the federal Endangered Species Act (ESA), 16 U.S.C. – 1531 to 1544.

The first serious problem with the proposed rule is setting minimum water flow levels at a point that allows “die back” of sea grasses for anything short of “three consecutive years.” Allowing freshwater grasses to suffer two consecutive years of die back will cause serious harm to endangered manatees which depend on these grasses for feeding, breeding and sheltering. The proposed rule is particularly flawed, because it would allow for four out of five years of die back without triggering any changes to water flows. For example, the rule allows two years of die back, followed by one year of growth or stability, followed by two additional years of die back. Such unnatural manipulation and destruction of sea grasses would be disastrous not only for manatees, but for the entire Caloosahatchee ecosystem.

The rule’s allowance of repeated destruction of freshwater sea grasses constitutes a clear violation of the Endangered Species Act. The ESA makes it unlawful for anyone to “take” an endangered species such as the manatee. 16 U.S.C. – 1538(a). The term “take” is defined broadly to include “harass, harm, pursue, shoot, wound, kill, trap, capture, or collect,” and the term “harm” is further defined by the Fish and Wildlife Service’s implementing regulations to include “significant habitat modification or degradation where it actually kills or injures wildlife by significantly impairing essential behavioral patterns, including breeding, feeding or sheltering.” 50 C.F.R. – 17.3. The significant habitat modification and degradation allowed by the rule would be an unlawful “take” under ESA, because manatees depend on freshwater sea grasses for essential behavioral patterns of breeding, feeding, and sheltering, and the District’s actions would lead directly to the destruction of this vital habitat and the consequent injury of manatees. See, e. g.,

Palila v. Hawaii Dept. of Land and Nat. Resources, 852 F. 2d 1106 (9th Cir. 1988) (state agency's allowance of habitat-destroying activity constituted unlawful "taking" of endangered species in violation of ESA).

The fatal flaw in the proposed rule can be corrected by setting the standard for water flows at a level that will not cause harm to the Caloosahatchee ecosystem or endangered manatees. This level should be set and based on the best available scientific evidence and after further opportunity for public review and comment on a specific proposed standard with supporting evidence made available to the public. Anything short of this level of protection for the Caloosahatchee ecosystem threatens to undermine the District's efforts to preserve the entire Okeechobee watershed, harm the endangered manatee, and subject the District to possible prosecution for violation of the ESA. Such an unfortunate outcome can be averted at this early stage by carefully defining a standard for Caloosahatchee minimum water flows and levels that accounts for these important considerations, and ensures that the mistakes of this year are not repeated.

A second problem with the proposed rule is basing the determination of freshwater grass die back on readings from only one monitoring station and monitoring for only a few months out the year. Multiple monitoring stations at key locations in the river are vital to ensuring that the entire ecosystem is not unduly disturbed and that endangered manatees are not harmed. Again, the locations and times at which this monitoring will occur, and the level of the die back that would trigger District action, must be based on the best available scientific evidence, and after the public has had an opportunity to comment on this evidence.

A third problem with the proposed rule is its failure to set a standard for flow rates out of Lake Okeechobee. This year the District allowed water flows out of Okeechobee at what it stated would be about 3,100 cubic feet per second. However, it later announced that this was only an average level, and that flow rates could actually be much higher. Indeed, flow rates substantially exceeded this level and caused significant damage to the Caloosahatchee ecosystem. The rule should set flow rates at a level that will not harm the Caloosahatchee ecosystem, again based on the best available scientific evidence and after opportunity for public comment.

Comments on Minimum Levels: Groundwater:

(1) The definition of salt-water intrusion as an acceptable condition, unless it occurs at the withdrawal point, is totally unacceptable. Once salt-water intrusion has occurred, it is very difficult and usually impossible to reverse in the short term, say 5 years. To allow a withdrawal rate that potentially causes the permanent loss of a viable aquifer is sheer folly to say the least.

(2) Lower West Coast Aquifers. To allow the potentiometric surface to reach the physical top of the aquifer as an acceptable condition utterly fails to take into consideration historic conditions within the various portions of each aquifer or between *aquifers*. For example when the potentiometric surface formerly stood at 40 feet above the physical top of the aquifer and we define as acceptable a potentiometric surface at the top of the aquifer, we have allowed a major change in the subsurface hydrology. Such changes do not always have easily predictable results.

When the pressure in one aquifer, say a fresh water aquifer overlying a salt-water aquifer, is substantially reduced, as spelled out above, the differential between the two becomes much greater. If a weakness exists in the aquiclude between the two, it is entirely possible that the aquiclude could rupture, thereby releasing a very high quantity of salt water into what had been a freshwater aquifer thus destroying its utility to man over a large area. Once such a situation occurs, the damage is usually permanent.

Henry LaRose, a retired groundwater hydrologist formerly employed by the US Geological Survey who is extremely knowledgeable of Southwest Florida, has also publicly expressed the concern that I am relating to you, in very strong terms. This section badly needs to be revised so that the rule recognizes and takes into consideration the processes and conditions, both historical and modern, in our Lower West Coast aquifers, protects them, and insures their sustained productivity.

Thank you for your consideration of our comments.

Sincerely,

Fran Stallings, Ph. D.

CC: Becky Ayeach, President, Environmental Confederation of Southwest Florida
Judith Vallee, Executive Director, Save The Manatee Club
Dan Vice, P.A., Meyer & Glitzenstein