E. Allen Stewart III P.E.

24149 Jolly Roger Blvd.

Punta Gorda, Florida 33955

astewart24149@comcast.net

352 615 7188

April 9, 2019

**Noah Valenstein, Secretary**

Florida Department of Environmental Protection

3900 Commonwealth Blvd.

M.S. 49

Tallahassee, Florida 32399

**Robert A. Spottswood, Chairman**

Florida Fish and Wildlife Conservation Commission

Farris Bryant Building

620 S. Meridian St.

Tallahassee, Florida 32339-1600

**Chauncey Goss, Chairman**

South Florida Water Management District

Governing Board 3210

P.O. Box 24680

West Palm Beach, Florida 33416-4680

Gentlemen

As you are aware, a growing controversy has emerged over the past few years associated with the use of herbicides to destroy heavy growths of aquatic vegetation in Florida’s surface waters. While it is clear that overgrowth of certain aquatic plants, such as water hyacinth and hydrilla, can impede flow; interfere with navigation; and in extreme cases degrade water quality, it is also clear that the use of purposeful toxins within complex aquatic ecosystems can be deleterious to these systems. Understandably then, herbicide toxicity has become a serious issue to a growing coalition of fishermen, hunters and other outdoor enthusiasts; healthcare professionals; and a diverse group of involved citizens.

In response to this concern, it has been suggested that mechanical removal of aquatic plants would not only substantially reduce herbicide associated toxicity but would also result in removal of nitrogen and phosphorus from the water column. Herbicide application obviously does not do this, but rather exacerbates the problems associated with eutrophication by returning nutrients back into the water column. These returned nutrients can become accessible to phytoplankton, including potentially toxic Cyanobacteria.

As nutrient reduction/removal (largely nitrogen and phosphorus) is a requirement of Total Maximum Daily Load (TMDL) allocations for many Florida lakes, it seems reasonable that any mechanical harvesting program which includes documented removal and recovery of nutrients be designated as a contributing component of applicable TMDL’s Basin Management Action Plan (BMAP). Accordingly, those involved in such removal and recovery should be considered eligible for compensation for environmental services, just as consideration is now given to private landowners who participate in the South Florida Water Management District’s Dispersed Water Management Program (DWM) including the Northern Everglades Payment for Environmental Services (NE-PES). Such fees could improve the overall cost effectiveness of FWC’s mechanical harvesting programs, while also reducing the District’s cost for nutrient removal, especially considering the 50-year present worth cost the District presently pays for phosphorus removal which ranges from $35 to $611 per pound of phosphorus removed[[1]](#footnote-1), [[2]](#footnote-2). This same rationale would also apply to the Comprehensive Everglades Restoration Plan (CERP) and related programs.

It might be argued that removal of nutrients directly from a lake such as Okeechobee, does not carry the same relevance as nutrients removed before their release to the lake. The counter-argument would be that each pound of phosphorus removed from the lake is a pound rendered unavailable to Cyanobacteria, and a pound that can not find its way to the Caloosahatchee or St. Lucie Rivers.

In February 2019 I sent a letter to the Florida Fish and Wildlife Conservation Commission (FWC) detailing this concept of recognizing mechanical removal of aquatic plants not only for the benefits of managing aquatic plant growth within surface waters, but also for the value of the environmental services associated with nutrient removal and recovery. This letter was later summarized in person to the FWC in Gainesville and the Lake Okeechobee Aquatic Plant Interagency Task Force in Okeechobee. A copy of this letter is attached as part of this transmittal.

My hope is that the Florida Department of Environmental Protection and Florida’s Water Management Districts, along with other involved entities will recognize the importance of nutrient removal services associated with mechanical removal of aquatic plants and would coordinate with FWC and others in establishing a compensation plan for these services.

I offer these thoughts and ideas as a native Floridian; an avid fisherman and outdoorsman; a biologist; and a professional engineer with over 40 years of in-state experience in water quality management. It is also important to note that I do not seek, nor will I accept, any offer for personal financial gain related to this subject. Rather, my motivation comes solely from a concern for Florida’s environmental and economic stability. Thank you for the interest and consideration given this matter.

Sincerely,

E. Allen Stewart III P.E.

cc: The Honorable Ron DeSantis, Governor

The Honorable Brian Mast, Congressman 18th District

The Honorable Francis Rooney, Congressman 19th District

South Florida Water Management District’s Governing Board Members

Commissioners, Florida Fish and Wildlife Conservation Commission

Eric Sutton, Executive Director Florida Fish and Wildlife Conservation Commission

Drew Bartlett, Executive Director, South Florida Water Management District

Thomas Frick, Director, Florida Department of Environmental Protection Division of Environmental Assessment and Restoration

Jason Ferrell, Director and Professor, Institute of Food and Agricultural Sciences, Center for Aquatic and Invasive Plants

Matt Phillips, FWC Invasive Plant Section

1. Sano, Daisuke; A. Hodges and R. Degner 2005 “Economic Analysis of Water Treatments for Phosphorus Removal in Florida” Document FE576, Department of Food and Resource Economics, UF/IFAS Extension Gainesville, FL. [↑](#footnote-ref-1)
2. The wide variation in costs relates to the initial phosphorus concentration. The lower the initial concentration, the higher the cost per unit removal. [↑](#footnote-ref-2)