Committee on Resources
Subcommittee on National Parks & Public Lands

Witness Statement

Testimony
Committee on Resources
Subcommittee on National Parks and Public Lands
United States House of Representatives
Concerning H.R. 3033
by
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Miami, Florida 33199
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Washington, D.C.

My name is Ronald Jones and I am the Director of the Southeast Environmental Research Center and a full Professor of Biology at Florida International University. In addition, I am currently on an IPA from the State of Florida as a Senior Scientist to the United States Army Corps of Engineers, Jacksonville District. I have a Ph.D. in microbiology from Oregon State University and have spent 15 years working in Biscayne Bay, the adjacent marine waters, and the Florida Everglades.

My education, experience, and research qualify me as a water quality expert and ecologist. I have been trained in oceanography and specialize in the analysis of nutrients in seawater. I serve on the Technical Advisory Committee for the Water Quality Protection Program for the Florida Keys National Marine Sanctuary and we conduct all of the water quality analysis for the Sanctuary. In addition to monitoring water quality in the Florida Keys National Marine Sanctuary, we designed and continue to monitor water quality networks from Charlotte Harbor on the west coast of Florida to Dry Tortugas National Park to northern Biscayne Bay. In all this network consists of over 350 stations and encompasses greater than 3,200 square nautical miles (figure 2). At each of these stations, we measure 17 chemical, biological, and physical water quality parameters. This massive effort provides us the unique opportunity to explore the spatial effects of water quality and the effects of human activity on the marine and estuarine resources of south Florida.

Of more relevance to this hearing is our water quality monitoring effort in Biscayne Bay. Our comprehensive water quality monitoring of Biscayne Bay started in September 1993 and after conducting a spatial analysis of the data in May 1996 was modified to include 10 stations in north Biscayne Bay. During all of this period and continuing to date, we have collected data along the northern boundary of Biscayne

National Park, including Stiltsville, and Biscayne Channel, and in the broader area known as the Safety Valve.

Of all of the water quality parameters we measure Chlorophyll-a and turbidity are the most sensitive indicators of water quality degradation.

Chlorophyll-a is the plant pigment that makes plants appear green and is responsible for photosynthesis. Chlorophyll-a is an excellent indicator of how much algae there is in the water, and these algae respond in the same way your lawn does when fertilizer is applied. As you know when you put down lawn fertilizer, the grass gets greener and grows faster. Chlorophyll-a is just the chemical way of measuring how green the water is due to the presence of plants. Therefore, if there were a nutrient problem in the vicinity of Stiltsville it would be evidenced by an increase in the concentration of Chlorophyll-a in the water. Instead of an increase in Chlorophyll-a, we instead observe consistently the lowest or second lowest concentration of Chlorophyll-a in Biscayne Bay, around 400 parts per trillion or less. At this point, I would like to direct your attention to figure 1, which shows the Chlorophyll-a concentrations in Biscayne Bay over the last seven years. As you can see, there is no increase in the concentration of Chlorophyll-a surrounding the area where Stiltsville is located. For reference, look at figure 2 which shows the remainder of the water quality monitoring network. It is easily seen where the nutrients are in the system. I would also like to point out that to even see the concentration of Chlorophyll-a near Stiltsville on these figures we had to stop the scale at 3,000 parts per trillion. In actuality, the Chlorophyll-a concentration in parts of the system are over 40,000 parts per trillion. Therefore, it is easily concluded that Stiltsville has no effect on water quality as indicated by the most sensitive analysis we perform.

Turbidity is the measure of how much fine suspended material there is in the water. In simple terms, how cloudy the water is. It is not only an indicator of the algae and other microscopic organisms but also an indicator of the bottom of the bay being stirred up by wind, boats, and other activities. Although I did not bring any figures showing turbidity in the area, what they show is that the Stiltsville area does not have any significantly higher turbidity than other shallow areas in the Bay and Park. In fact, once again turbidity values indicate that the area is well flushed by the tides and that the real human induced turbidity increases are associated with the navigational channels. Once again, it is concluded that Stiltsville has no negative impacts on the Bay's water quality as indicated by turbidity.

I could go through the remaining 15 parameters we measure, but I hope it is sufficient to say that none of these parameters indicate any water quality degradation associated with the presence of Stiltsville. If you are interested or require further information I could provide the Committee with our annual reports and publications or you could visit our internet site at http://serc.fiu.edu and look at all of the water quality maps for the area.

In addition to the monitoring data, I once again visited Stiltsville last week to ensure that there were no visible biological changes or visibly evident water quality problems associated with the area that may have gone unnoticed by our network. This visit proved to me once again that not only are there no water quality problems associated with the 8 remaining structures, it is inconceivable that there could be any considering the insignificant area and zero discharge systems associated with Stiltsville. This area of the Bay is so well flushed and the houses so well dispersed with so little area in consideration that there is virtually no way they could have a significant impact. In fact, it is highly likely that the physical structures actually enhance the ecology of the Bay by providing habitat and shelter for marine organisms.

In conclusion, it is my expert opinion that the presence of Stiltsville in no way negatively affects the water

quality or ecology of Biscayne National Park or Biscayne Bay in general. Removal of the structures would do more harm than good and therefore Stiltsville should be allowed to remain as is.

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