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Mr. Stuart Turille  
Town Manager  
Town of North Topsail Beach, NC  
2998 Loggerhead Ct.  
North Topsail Beach, NC 28460

Dear Mr. Turille:

I understand from discussions with Mayor Daniel Tuman that you are Town Manager and the Acting Director of Public Information; and, therefore, I write to you this brief letter concerning references that the US Fish & Wildlife Agency have made regarding the opinion's of Dr. Orrin Pilkey and Dr. Rob Young which are used as additional justification for the USFW classification of North Topsail Beach as a high risk coastal barrier that belongs in CBRS and consequently should be excluded from NFIP (National Flood Insurance Program).

I would like to take this opportunity to express my thoughts regarding some of the comments and points raised by Dr. Orrin Pilkey and Dr. Rob Young. During the past forty years my research at UNCW's Center for Marine Science has focused on the NC barrier islands, tidal inlets and the inner-continental shelf in the coastal sector between Cape Lookout and Little River, SC. In addition to my academic research, I have been a geological consultant for a number of homeowners, coastal towns, the NC DCM, the USACE (Wilmington District) and a number of NC and FL engineering firms. The NC Beach and Inlet Management Plan's geological and inlet-related sections are my contributions.

Much of the USACE's initial sand resource exploration efforts in the area offshore Topsail Island were based on my inner-continental research during the previous decade and a half. My research involving sand resources indicated that there was a sufficient volume of compatible sand offshore to adequately nourish the NTB shoreline for a period of 30 years. These findings are in direct contrast to those of Dr. Orrin Pilkey. I am an original member of the NC CRC's Science Panel that was convened in 1997 and I continue to serve the Commission. During my tenure, the Panel has dealt with a variety of coastal management issues that confront the coastal communities.

Based on the aforementioned, I believe that I have the expertise to provide another viewpoint on nature of Topsail Island and in particular the shoreline along the Town of North Topsail Beach. Much of what Dr. Pilkey mentioned in his 2009 article can be said of many barriers that are located between New River

Inlet in Onslow County and Tubbs Inlet in Brunswick County at one time or another in its history. As an example, it is misleading to single out NTB as a barrier segment that is impacted by high wave energy and high erosion rates. The average significant wave heights, periods and directions of approach are about the same for all the beaches in Pender and New Hanover Counties to the south. Furthermore the erosion rates for North Topsail Beach southward of the inlet's influence actually are quite low and range from 0 ft/yr (stable) to -2.3 ft/yr. These erosion rates that characterize the North Topsail Beach shoreline, despite being impacted by the storms of the 1990s, are lower than other beaches to the south.

A fact that I believe is germane to this issue is that Wrightsville Beach was in relatively poor shape prior to construction of the weir-jetty at Masonboro Inlet and the associated Storm Damage Reduction nourishment project in 1965-67. The Wrightsville Beach shoreline in the early part of the 20th C until the early 1950s was characterized by numerous timber-groins that lined the length of the shoreline as well as bulkheads/seawalls along the northern segment of the original Island. Beach nourishment activities since 1965 have ultimately resulted in the development of a major tourist destination.

It is my opinion, that if the initial mapping efforts by the USFW had been done correctly the Town would have in time had the impetus to adequately restore the beach. Given the fact, that currently the Town of North Topsail Beach has already completed Phase I of a Multi-Phase Inlet Management, Beach Restoration and Maintenance Plan, it is obvious to knowledgeable individuals that Dr. Pilkey's and Dr. Young's comments are well on the way to being out-dated. The 2013 realignment of New River Inlet's ebb channel has been a successful project and has performed as intended. The channel realignment has led to a reconfiguration of the ebb-tidal delta which in time will facilitate accretion along the shoreline downdrift (south) of the inlet and at the same time afford a breakwater-effect along the aforementioned shoreline reach. The sand derived from the inlet component of Phase I was utilized to construct a wide 7,000 ft long beach south of the inlet.

My observations, assertions and comments mentioned above are derived from ongoing research and can be substantiated with data and illustrations that deal with a variety of points pertinent to the issue at hand.

William J. Cleary Ph.D

