



**Great Lakes  
Research Center**  
Michigan Technological University

28 February

2022

Ms. Kristin Baranski  
ZBA secretary  
Hayes Township Zoning Board of Appeals

Ms. Baranski:

At the request of Ms. LuAnne Kozma, I was request to review and comment on the Corps of Engineers' "view of ordinary high water mark."

I agree totally with the USACE definition of the OHWM and its movement across the beach and shoreline. After the 1986 previous record setting high water in Lake Michigan we (the University of Michigan - Ocean Engineering Lab at that time) established 31 permanent survey sites along the shoreline. We surveyed most of these lines from the top of the bluff to a water depth of 30 offshore, annually for approximately 20 years. After my move from UM to Michigan Tech in 2012, we have been maintaining those survey lines through the present. I have attached a slide from survey line 1, located in southern Lake Michigan (our most surveyed line due to litigation by the State of Michigan against the property owner) that may help to demonstrate just how much the OHWM translates across the beach though various water level regimes.

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1400 Townsend Drive – Houghton, MI 49931

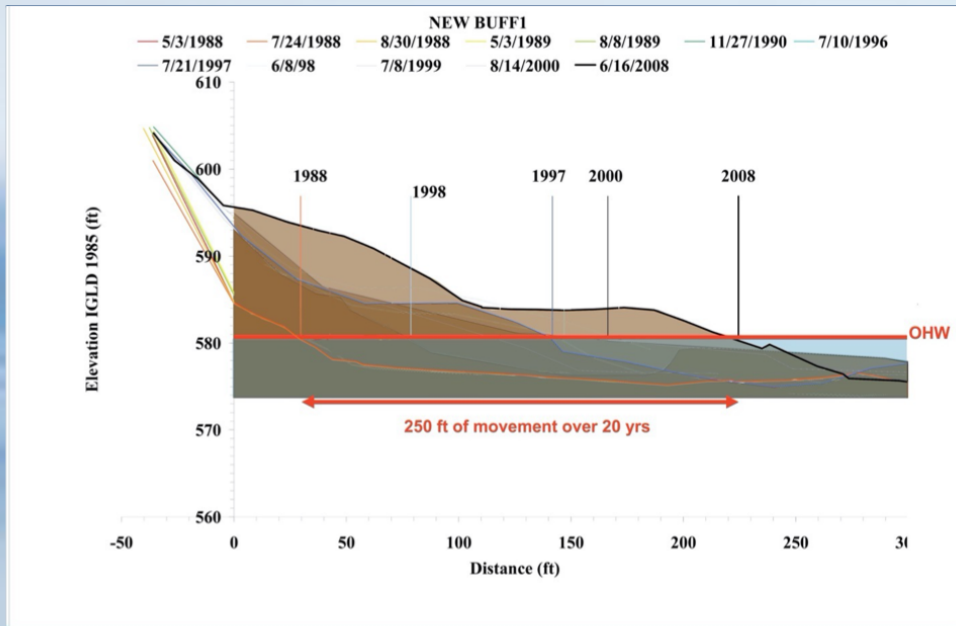
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## New Buffalo, Michigan – Historical Beach Profile



In this example the OHWM moved latterly across the beach, approximately 250 feet as water level fell from the previous high water of 1986 to the near record setting low water of the 2008.

I hope this data is of some use in your deliberations

Sincerely,

Guy A. Meadows, PhD.  
Robbins Professor of Sustainable Marine Engineering  
Director, Marine Engineering Laboratory  
Founding Director, Great Lakes Research Center  
Michigan Technological University  
Professor Emeritus, College of Engineering, University of Michigan

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