

Mr. Chair and Committee Members:

Here are a few key points to consider for your Hearing on HB 4138 this Wednesday afternoon. HB 4138 is needed to address an important policy gap, regarding assigning responsibility for shoreline erosion to the State Marine Board. The Marine Board along with ODSL, ODF&W, ODEQ, etc. all point elsewhere when asked which State Agency has jurisdiction for dealing with man-made shoreline erosion.

1. The 'opposition' has repeatedly referred to a Study sponsored by the WSIA done by an MIT specialist, Clifford Gaudy (or Gowdy) quoting that "Wake beyond 150' does not carry energy".
a. We have made repeated requests to get a copy of this Study and have been flatly turned down.
b. We are deeply puzzled by this oft quoted conclusion: If wakes don't carry energy beyond 150', please explain how tsunamis travel the entire Pacific Ocean from seismic events in Japan, for example. The law of 'Conservation of Energy' shows us that the energy in a wave only dissipates when it 'hits' bottom or objects in its path – other boats, docks and shoreline.

2. In stark contrast there is a very informative website <http://boatwakes.homestead.com/>, where we can learn a great deal about the erosive nature of wakes:

a. **Boat Wake Erosion Is Expensive.** It washes away thousands of dollars worth of land. It buries and kills fish eggs, plants, and invertebrates and disturbs waterfowl nests. Dredging downstream docks & channels also costs money. If you stand on shore when a speedboat goes by, you can see sediment lifted away by each wake.

b. Wakes erode **8 Square Feet per Gallon** of Gas, or **50 Square Feet per Hour**

(1) **Erosion per Hour.** Each speedboat trip peels a few thousandths of an inch off shorelines. This is a lot of land, because boats travel and erode for several miles each hour. Some boats go straight; some go back and forth, eroding the same spot. Either way, boating for an hour at 20 mph erodes 20 miles times 3 thousandths of an inch times two sides of a river = 50 square feet.

(2) These figures are illustrative. Boats often erode more than .003 inches off the shore. They erode less only if they go very slowly. Wakes have been peeling land away in places like the Chesapeake Bay, Intracoastal Waterway and Norfolk Broads for decades, and you can read the studies. <http://boatwakes.homestead.com/files/wakesb.htm>

(3) **Erosion per Gallon of Fuel.** Most boats travel **2 - 4 miles per gallon**, compared to cars which travel 20-40 miles per gallon. Boats' huge fuel use goes into pushing water down and sideways, causing wakes. The wakes release their energy on shorelines, causing erosion. When a boat travels 3 miles on a gallon of gas, it peels off the shore 3 thousandths of an inch times 3 miles times two sides of a river = 8 square feet per gallon.

(4) The cost of boating includes losing your own and others' land. Losing 8 square feet per gallon, for land worth \$2 per square foot, is a land cost of \$16/gallon. (Land values of \$2/square foot = \$90,000/acre. Some riverfront areas are worth much more, some less.) Some boats go farther on a gallon, like the 16-foot Maryland boat in the table, which goes over 6 miles per gallon, so it erodes 17 square feet/gallon = for a land cost of \$34/gallon. Canoes and sailboats erode much less, because they make tiny wakes.

3. Finally, *"the Willamette River was created primarily by plate tectonics and volcanism and was altered by erosion and sedimentation, including some related to enormous glacial floods as recent as 13,000 years ago. The initial trough-like configuration was created about 35 million years ago as a forearc basin while the Pacific Plate subducted beneath the North American Plate."*

a. I only raise this because periodic flooding, seasonal patterns of rain, etc. have been going on for millennia. Run off and river currents go in parallel to the path of the river.

b. Wakes, even for the short boating season, are powerful tangential forces that are having an immediate and real impact on our shoreline, fish habitats and personal property.

c. These effects are not universal along the river because of variables such as soil composition, bends in the river, vegetation, and structures.

d. However, these forces do exist and are having an adverse effect that cannot be ignored.

**Thanks again for listening. Please pass HB 4138.
Stan**

Imagine what it's like when these high-energy wakes slam into docks, other boats, swimmers and our sensitive shoreline.

Stan Halle, ORSPA Director
Oregon River Safety & Preservation Alliance
stan.h@orspa.org
www.ORSPA.org
LHNA Director and Past Co-President
(o) 503-625-1265
(c) 503-319-3011