

Joseph Kelley
Orono
LD 488

Committee on Environment & Natural Resources February 26, 2025
Legislative Information Office
100 State House Station
Augusta, ME 04333

Re: LD 488 and LD 228

My name is Dr. Joseph T. Kelley and I am a retired coastal geology professor from the University of Maine. I am a native of southern Maine and spent 17 years as the Maine Geological Survey's Marine Geologist and, working with many others, established Maine's original "Sand Dune Law" and its evolution into the Natural Resource Protection Act. My motivation in this was to educate Maine citizens on the danger of rising sea level and building structures too close to the sea.

I write to express my opposition to LD 228 and LD 488. Each of these Legislative Documents flies in the face of all we have learned about how beaches work and how to accommodate geological processes. Our undeveloped beaches are generally moving landward with rising sea level (Figure 1). Beaches that have seawalls commonly see their sand scoured away by waves reflected off the wall (Figure 2), especially after replenishment events. Beaches with long-established seawalls are small or non-existent and the sand dunes behind them (with and without houses) are in greater jeopardy.

The landward movement of our shoreline will not stop in the near future. This compels us to plan to move away from the sea and not to add height to the seawalls that have so harmed our beaches and offer little protection from big storms. If storm water (and associated sand) cannot move landward, and the one of the proposed bills attempts to prevent that, there will be little sand left for recreation as wave energy works around existing walls. Consider the sorry state of our developed beaches (Figure 3). The only immediate actions that will help is to put buildings up on posts and let the storm sand wash under and build up the beach. Replenishing some of our beaches with new sand is another way to obtain longer-term protection, but adding a mere 500 cubic yards is too little to help property.

Adding new sand to the beach would be a benefit, but topping it off with rip-rap is nonsense. The armor will drive away the sand that the beach and property needs to survive.

The time is coming for shorefront homeowners to recognize that their real estate is in a precarious position. They need to build the houses up on posts, add more sand to the system or move the buildings away. These bills ignore all that geologists have learned about how beaches work.

These are my personal and professional opinions and do not represent the opinion of the University of Maine.

Thank you,

Dr. Joseph T. Kelley
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Figure 1. The landward movement of an undeveloped segment of a beach in southern Maine.

Figure 2. Biddeford Pool with salt marsh peat and no sand left on its former beach. The peat formed behind the original beach and was formerly covered by a protective sand layer. Making the seawall 2 feet higher will neither save the property or the beach.

Figure 3. At high tide, there is no sand beach in front of the seawalls, only on the undeveloped beach. Adding 2 feet to the wall will do nothing to help this beach or the properties at risk.