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Hawaii News

Waikiki sea wall failing, state says



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The concrete wall, or groin, between the Royal Hawaiian hotel and the Sheraton Waikiki at Waikiki Beach is reinforced with sandbags.

A central piece of a Hawaii vacation landmark is in danger of disappearing along with \$2 billion in visitor spending. And all that's keeping both things in place are some old, loose concrete blocks.

That's the assessment of a new state report that proposes replacing a crumbling 89-

year-old wall that juts out into the ocean from Waikiki Beach and has been keeping a prime section of Hawaii's most visited beach from being swept away.

The sand fronting three hotels could wash away in a matter of months if the wall fails, Dolan Eversole, a coastal hazards expert with the University of Hawaii Sea Grant Program, said this week.

"It is literally holding together Waikiki Beach," he said.

The state Department of Land and Natural Resources is concerned that the beach erosion barrier, or groin, could fail at any time. Now after some study, the agency is considering six possible ways to fix the wall that fronts the Royal Hawaiian hotel and has been keeping 1,730 linear feet of beach from being swept into the ocean toward Fort DeRussy.

DLNR's contemplated fixes would cost \$880,000 to \$1.7 million based on rough estimates, and aren't expected to have negative impacts on surf breaks, currents or water quality, according to the draft environmental assessment produced by DLNR and published Saturday by the state Office of Environmental Quality Control.

Additionally, the proposed work could produce an extra benefit: more beach. Depending on which option is selected, the depth of the beach is expected to grow in front of the Royal Hawaiian. It could also create a beach where none exists, fronting the Sheraton Waikiki sea wall. That would require the addition of sand, which isn't part of the wall replacement plan.

DLNR has not yet selected a preferred option, but will make a recommendation based on input from Waikiki stakeholders and the general public at planned meetings before asking the Board of Land and Natural Resources to make a decision on how to proceed.

To proceed, DLNR will need several permits including one from the U.S. Army Corps of Engineers. The agency estimates that it could obtain approvals and start work in early 2017.

Construction is projected to take 60 to 90 days and result in only short-term disruptions to beach use and enjoyment, including noise and restricted access to part of the beach during the work, though some beach users fear there could be long-term negative impacts to surf breaks and the reef.

The project got an endorsement Monday from the board of the Waikiki Beach Special Improvement District Association, a group made up largely of Waikiki landowners, who unanimously agreed to pay for half the cost of the project up to \$750,000.

Not doing anything, the report says, risks a catastrophe for one of the biggest attractions supporting Hawaii's main economic engine.

If Waikiki Beach were eroded away, 58 percent of westbound visitors would not consider staying in Waikiki, according to a 2008 study by Hospitality Advisors LLC for the Waikiki Improvement Association cited in DLNR's report.

The Hospitality Advisors study estimated that the loss of Waikiki Beach could trigger losses of \$2 billion in annual visitor spending, \$150 million in tax revenue and 6,350 hotel industry jobs.

The structure holding together much of Waikiki Beach is on state land and was built in 1927. In 1930 the wall was extended to 370 feet from 170 feet. Later it was also heightened.

Scott Sullivan, a coastal engineer and vice president of Sea Engineering Inc. working as a consultant to DLNR, said this week that the concrete block wall known as the Royal Hawaiian Groin was one of eight groins built in the 1920s and the only one of those still standing.

The groins were built as part of creating Waikiki Beach, which is man-made and thus particularly susceptible to being eroded by exceptionally large swells and tides.

Much of the Royal Hawaiian Groin itself has been dislodged. About 205 feet of the 370-foot wall is submerged due to failure, with concrete blocks scattered about, according to DLNR's report.

Sullivan said there is no record of the wall ever being maintained, and the original builder is not known.

"It's amazing that it survived all this time," he said. "It could fail at any time."

In 2012 the erosion of grout between the wall's blocks that hold back the most sand above the shoreline created sinkholes. That came after a restoration project for much of Waikiki Beach replaced sand that had been drawn out to sea by waves and currents.

DLNR attempted to shore up the groin after the sinkhole problem by stacking about 45 sandbags, each weighing 3,000 pounds, on the Ewa side of the wall's shoreward end to help prevent the wall, which is 8 feet high at its shoreward base, from toppling over. However, wave and current forces have displaced the top row of sandbags.

Most of the new groin designs call for a 160- to 280-foot-long T- or L-shaped concrete wall armored with boulders sloping down both sides.

As part of the report, DLNR retained local waterman and ocean recreation expert John Clark to assess potential impacts of the groin replacement plan on ocean conditions and ocean recreation activities.

Clark's report surveyed about two dozen Waikiki Beach users including surfers, catamaran operators and lifeguards. Clark reported that most respondents said replacing the groin is a good idea, though some object to new groin designs.

City lifeguards raised a concern about a wider groin made of boulders as a potential hazard for tourists who might walk on and jump from the structure. Lifeguards also said waves during high surf could wash people off the new groin.

"It will introduce a new risk to Waikiki that will create additional injuries and rescues," Clark's report said.

Stuart Coleman, Hawaiian Islands manager for the Surfrider Foundation, said this week in an email that something needs to be done to address the deteriorating groin, and he supports replacement after consulting with UH Sea Grant and other groups.

"We feel that this replacement is necessary and reasonable, especially because the old (wall) is literally falling down," he said.