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Hawaii News

Summit finds ways to protect Waikiki, Ala Wai in disasters

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Matthew Gonser from the University of Hawaii at Manoa Sea Grant College Program, led a group tour of the Ala Wai Canal at an IUCN conservation campus workshop for disaster mitigation on Sept. 1.

If a Category 4 hurricane hit Oahu, some estimates put the potential damage cost to Waikiki alone at \$30 billion, in part because of the high vulnerability of the Ala Wai watershed.

A 100-year flood in the watershed, which encompasses the Ala Wai Canal and the state's top tourism district, could cost an estimated \$318 million, affecting about 1,358 acres and more than 3,000 properties. Even heavy rains can cause major sewage spills that pollute the Ala Wai and temporarily shut down Waikiki beaches, as happened in 2006 and again in 2015, contributing to the canal's reputation as one of the nation's most heavily polluted water bodies.

IDEAS FOR IMPROVEMENT

The three top proposals for improving the ecological viability of the Ala Wai watershed and Waikiki:

>> "The Kalo Solution" — An idea that focused on education, awareness and empowerment.

>> "Pay it Backward, Pay it Forward" — A solution that concentrated on the use and reuse of water in the watershed.

>> "Restoring the Ala Wai from Ridge 2 Reef" — A solution that emphasized aesthetic restoration for water quality and flood management.

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Source: Ala Wai Watershed Hybrid Hacks

Hawaii has spent years trying to shore up the Ala Wai Watershed, a 19-square-mile area that joins water bodies from the ridge of the Koolau Mountains to Malama Bay's near-shore waters. An Army Corps of Engineers Ala Wai Canal flood mitigation project has been designed to reduce 100-year flood risks at the man-made waterway, which was constructed during the 1920s to drain extensive coastal wetlands to develop Waikiki.

During the last state Legislature, lawmakers passed a resolution in support of an Ala Wai Watershed Partnership, a group of governmental and nongovernmental leaders, focused on finding broader solutions and forging public-private partnerships. The resolution noted the severe economic damage estimates from a major hurricane and 100-year flood.

Added to the effort this month were some of the best minds from the World Conservation Congress, which ended its 10-day Honolulu run on Saturday, with more than 9,100 participants from 190 countries. As part of its global summit, the International Union for Conservation of Nature created a Waikiki "conservation campus" to help its host city with pressing environmental problems and concerns.

About 45 participants took part in the Waikiki campus, starting with a half-day walking tour on Sept. 1 that included stops to assess erosion at Waikiki's mostly man-made beaches and the Ala Wai Canal's potential for pollution and flooding. The tour was

followed by two days of “hybrid hacks,” or intensive computer-driven work, seeking possible solutions.

The participants came up with nine proposals, which were narrowed to three following a vote by summit participants and local stakeholders, said Stewart Sarkozy-Banoczy, who represents hack partners Global Island Partnership and Precorecovery Labs.

“We heard many of the participants talk about the threat of the hurricanes and that made the circumstances of that potential shock very real. Meanwhile, the ongoing stresses of pollution, invasive species, sewer and water revitalization, stream-bed enhancement, overbuilding, etc., all came into play,” said Sarkozy-Banoczy, who is also an Ala Wai Watershed Partnership member.

Suggestions from the three selected proposals for improving the viability of the Ala Wai watershed and Waikiki included:

>> Build a wastewater treatment plant that would treat all Waikiki water to a level that could be reused.

>> Convert the Ala Wai golf course into a wetland park, with a nature-based recreational center for tourism activities.

>> Deploy hydraulic floor walls on the makai side of the canal for flood mitigation.

>> Create rain or ocean gardens.

>> Conduct upstream bank restoration with native vegetation.

>> Implement water trash wheel/reuse and recycle waste reduction.

>> Divert runoff to constructed wetlands, rain gardens, infiltration basins.

>> Install storm water recapture devices (cisterns).

>> Expand tourist taxes for funding.

>> Increase educational efforts to empower stakeholders.

Short and long-term proposals will be forwarded to the Ala Wai Watershed Partnership, Hawai'i Green Growth, the University of Hawaii and the city of Honolulu, Sarkozy-Banoczy said.

Celeste Connors, co-chairwoman of the WCC's Legacy Committee, said this local effort will help Hawaii leverage the conference so its effects last long after participants leave.

“It's important to invest in nature-based solutions to help drive economic growth and shore up our resiliency against catastrophic natural disaster. That message has been made even more clear against the backdrop of hurricanes Madeline and Lester,” she

said, referring to the two tropical cyclones that threatened the islands as the conference kicked off earlier this month.

Matthew Gonser, an extension agent for the UH Sea Grant College Program who led the Ala Wai Canal tour, said disaster risk reduction was a theme of the site tour.

"That's very important in a place like Waikiki, which comprises 8 percent of the GDP (gross domestic product) for the state, 7 percent of the state's employment, and 9 percent of the tax revenues for the state," Gonser said.

The campus was equally important to IUCN as proposals may prove helpful to places with similar concerns, said Radhika Murti, Switzerland-based IUCN senior program coordinator.

People can use nature to shield themselves from the impacts of climate change and natural disasters, Murti said. Richer nations can use engineered solutions, she said. Other locations have successfully used healthy mangroves, forests and wetlands to form physical barriers against extreme weather and regulate floods, Murti said.

"With climate change and the increasing frequency of natural disasters, conservation's role is becoming self-evident," she said. "We are moving from a threat-based to a solution-based approach. We've been threatening for years and it doesn't work."

Connors said it takes a shared process to address the challenges faced by Hawaii and other island communities.

"There aren't enough government resources. We need more public-private partnerships. We need the engineers, but we need the investment bankers and the lawyers and the conservationists," Connors said. "We need everyone to create a pipeline of risk-adjusted and return-oriented projects."

An international design competition, called "Make the Ala Wai Awesome," launched by UH on Labor Day, will build on the IUCN-related restoration recommendations, said Matthew Lynch, UH sustainability coordinator, who joined the Waikiki tour.

The continued work of the Waikiki Beach Special Improvement District also will have a role to play, said Dolan Eversole, who serves as Waikiki Beach management coordinator through the UH Sea Grant College Program.

"The question that I'm asking the community is what do we want Waikiki Beach to look like? There's no plan in place. That's something that we are working on," Eversole said, as he pointed to a biodegradable coconut fiber sandbag stairway, the organization's latest attempt to deal with erosion at Gray's Beach near the Sheraton Waikiki.

"Waikiki is a really important area. Nothing gets done without controversy," he said. "But everyone agrees, we need a beach."