

Coalitions forming to help save watersheds

Forest protection vital to resource

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O'ahu is using two-thirds of its available water and its use could be approaching 100 percent in as little as 20 years.

And without the preservation of the state's threatened watersheds, Honolulu could run out before then.

Concerned landowners and government officials are launching an unprecedented group of public-private partnerships aimed at the saving and enhancing of the upland forests that are the source of much of Hawaii's water.

"We must take care of our native forests to ensure that we protect the sources of the water that our communities, farmers and businesses rely upon," said Allen Doane, president of Alexander & Baldwin, a founding member of the state's first watershed partnership in East Maui in 1991.

"A healthy environment is necessary for a healthy economy," he said.

A group of watershed partners will meet with Gov. Linda Lingle today to sign an agreement for an alliance of partnerships on five islands. One reason for the collaboration is the hope of combining resources to address water-

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shed issues in a time when government financing for forestry has been declining.

The issue is similar to that of a century ago, when the first forest reserves were established in the Islands, joining together private landowners and government to try to respond to deforestation and imperiled water supplies.

"Current watershed partnerships mimic the ones a century ago," said Sam Gon III, director of science for The Nature Conservancy of Hawaii. They are desperately needed, said his boss, conservancy director Suzanne Case.

Ernest Lau, deputy director of the state Commission on Water Resources Management, said the commission estimates O'ahu water use now at 292 million gallons a day, and the island's total sustainable yield at 446 million gallons a day. Sustainable yield is how much wa-

ter hydrologists estimate can be withdrawn without damaging resources.

Lau said that within 20 years, water use could be 436 million gallons a day—within 10 million gallons of the sustainable yield. "If we lose some of our existing forest, our water supply picture could change dramatically," he said.

Forest creates watershed in several ways.

State forester Michael Buck said that tall trees in the forest capture water from clouds through a process called fog drip. Without the trees, the clouds would blow on by, but the foliage intercepts the moist air and causes the water to condense on them. The water eventually runs to the ground, where some of it seeps in.

Buck said studies have shown that fog drip can account for up to 50 percent of the replenishment of underground water sources. Tree roots create a pathway for water to enter deep

in the ground, where it is unlikely to be evaporated by sun and wind. A tree's dense root mass and leaf litter mat keep rainwater from running off quickly into the ocean. Instead, the water is released slowly, as if from a sponge.

"That way, you get the water when you need it, when it's not raining," said University of Hawaii's geography professor Thomas Giambelluca.

Giambelluca said trees cost the forest water, too, since they suck water out of the soil and release it through their leaves in a process called evapotranspiration.

"(Forests) promote infiltration of water into the soil. They reduce direct runoff during heavy rains. They capture sediment and clean the water, and they produce habitat for all native species," he said.

In South Maui from Kihui to Kaupō, coastal springs once were common, but when the forests

disappeared, the springs were lost.

"There are reports of all sorts of springs in South Maui, and now they're gone. That's probably one of the most beat-up watersheds we have," Buck said.

State officials, nonprofits and landowners are celebrating 2003 as the "Year of the Hawaiian Forest" and are planning events throughout the year. New watershed partnerships are being formed — the most recent was the Kaua'i Watershed Alliance launched this month — to bring the power of collaboration to the process of preserving and restoring forests.

The Nature Conservancy of Hawaii has produced a report, "Last Stand: The Vanishing Hawaiian Forest." For a copy, call the Conservancy on O'ahu at 537-4508.

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