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Salt in Maui wells a reason for controls plea

By Edwin Tanji
Advertiser Maui County Bureau

WAILUKU — Dry weather and heavy pumping in the 1970s resulted in salt water being pumped from one of the main wells providing water for Central Maui, state and county water officials have revealed.

The level of salt is low, and still is below what is considered a health hazard. But if Maui's water supply isn't carefully monitored and controlled, the island is heading for trouble, said a state water official at a hearing last week.

The salinity in Maui County's Mokuhau well system is one reason for trying to set up a state "ground water control area" in Wailuku, said Manabu Tagomori, chief engineer of the state's division of water and land development.

Designation of a ground water control area would mean any new wells into the Wailuku aquifer would need a permit from the state Board of Land and Natural Resources. It also would limit the amount of water each well could draw.

Tagomori said his division estimates there is a "safe yield" of 20 million gallons a day from the aquifer that underlies an area from Waikapu to Waihee. Maui County draws an average of 12 million gallons a day, but he noted that existing pumps and wells could draw 34 million gallons a day if all were put into use.

Since 1950, when data were first collected, the level of the aquifer has dropped from a high of 21 feet to 15 feet, he added. It appears to be stabilized at 15 feet, but Tagomori's figures also showed there was a drop to less than 10 feet in the late 1970s, apparently because of dry weather in the early part of the decade.

That also was the period when chlorides or salts began to appear in the Mokuhau wells.

State geologist Dan Lum said there were two main factors. One was low rainfall beginning in 1973 that reduced the amount of water percolating into the aquifer. The other was heavy pumping. According to his figures, the Mokuhau wells were drawing 8 million gallons a day in 1975 and 1976, while at the same time, Wailuku Agribusiness was pulling out more than 10 million gallons a day from its Wailuku shaft.

The level of chlorides in water from the Mokuhau wells rose to 110 parts per million. It was below the maximum of 160 parts per million allowed by health standards. But it is a clear indication that the wells are drawing from the salty layers of water underlying the aquifer.

Maui County was able to ease back on pumping from Mokuhau in 1979, when the first of two new wells was completed at Waihee as part of the Central Maui water agreement. The wells are on land owned by C. Brewer's Wailuku Agribusiness, with costs shared by Alexander & Baldwin and Seibu.

The Waihee wells, each capable of producing 5 million gallons a day, allowed a slowdown in pumping from Mokuhau. Salinity levels dropped, but still remain relatively high at about 80 parts per million.

Tagomori said the Wailuku aquifer seems to be stable with 12 million gallons a day being pumped out. Estimates also indicate the existing wells or new wells could draw another 8 million gallons a day before there would be problems.

He said he foresees problems. In addition to the salinity at Mokuhau and the drop in the level of the aquifer, Tagomori said he sees "threatened deterioration due to proposed water developments." Those are all factors considered in designating a ground water control area.

The main "threat" is the Central Maui water agreement that led to the drilling of the two Waihee wells. Under the agreement, Seibu, A&B and Brewer drill new wells and turn them over to the county to operate. Seibu, A&B and the county also helped build the Central Maui transmission line that takes water 13 miles across Maui's isthmus to Kihei and Makena.

The county in turn has assured the three developers they will have rights to 19 million gallons a day from the sources that they develop. The water will support developments planned by the three such as A&B's 1,000-acre Maui Lani project and Wailea Resort, Brewer's industrial parks and 500-acre Wailuku subdivision, and Seibu's Makena Resort.

All of the water users apparently agree with Tagomori that there is a maximum of 20 million gallons a day available from the Wailuku aquifer. Thus they are looking beyond to the Kahakuloa area. Tagomori estimated another 12 million gallons of water a day could be developed from the Kahakuloa aquifer, which extends from the Kanoa ridge north of Waihee Valley to Poelua gulch.

He said he will recommend that the entire Wailuku district, including a third sub-area around Maalaea, be under a ground water control program.

"One last word on 'safe yields.' It's not a fixed number forever," he said.

"Once pumping starts, there's no way of cutting back without hurting the overall community," he said.

Water systems in W. Maui, Kauai also being reviewed

WAILUKU — The Wailuku district is only one of several regions in the state being considered for ground water controls, state water development chief Manabu Tagomori said last week.

He said his staff also is reviewing the situation at Kahuku, West Maui and areas of Kauai. He said he expected to recommend ground water controls on Kahuku and West Maui within the next two years, after data are developed on the amount of water already being taken from the aquifers.

Tagomori said he proposed controls in Wailuku first because it already is "a delicate situation." Existing wells could draw up to 34 million gallons a day from the Wailuku sub-area, which has an estimated capacity of only 20 million gallons a day.

Ground water control areas already have been established throughout the Central Oahu area. Under the system, existing uses are certified as drawing a specific amount of water, and any new water sources must get a permit from the state Board of Land & Natural Resources.

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