

Water Commission Amends Flows for Six of 19 East Maui Streams

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Leaving a few East Maui streams largely intact when Central Maui is wet, but robbing them of all but thin, sometimes disconnected, ribbons of water when it's dry does not, in commissioner Lawrence Miike's eyes, meet the state Commission on Water Resource Management's legal responsibility to protect streams.

And so when the commission voted May 25 to restore a mere 450,000 gallons of water a day to East Wailuaiki, West Wailuaiki, and Waiohue streams in dry times and about 8.7 million gallons of water a day to those streams plus Waikamoi during the wet season, Miike dissented. He also opposed the commission's decision not to return any water to 13 other East Maui streams that area residents have sought to restore since 2001. (Miike did, however, agree with the commission's interim instream flow standard, or IIFS, amendments to Makapipi and Hanawi streams, which would restore 0.66 mgd.) The rest of the commissioners, however, apparently felt they had struck the right balance between instream and offstream uses. The East Maui Irrigation system supplies water to some 30,000 acres of sugarcane in Central Maui and serves more than 9,000 Upcountry residents and farmers. It also leaves dry many of the 110 East Maui streams that it diverts, thereby degrading streams and limiting downstream farming opportunities. In a press release issued after the decision, the commission wrote, "This new seasonal approach balances the needs of the resources and the demands of offstream users where all interests share the bounty during the wet seasons and share the limits in the dry seasons."

In addition to amending the IIFS of six streams, the commission directed Hawaiian Commercial & Sugar, the largest user of East Maui water, to determine its reservoir leakage. It also ordered Maui County to start fixing its leaking Waikamoi Flume within three years and urged it to wean itself off of surface water, which currently supplies 85 percent of its Upcountry domestic and agricultural needs.

While HC&S manager Chris Benjamin wasn't thrilled with the decision, he stated in media reports that he felt it at least gave the struggling company a fighting chance. Native Hawaiian Legal Corporation attorney Alan Murakami, however, was bitterly disappointed and requested a contested case hearing on behalf of his clients, native Hawaiian taro farmers Beatrice Kekahuna and Marjorie Wallett, and a group of East Maui residents known as Na Moku `Aupuni O Ko`olau Hui.

NHLC's clients had petitioned the commission to amend the standards for 27 streams where diversions by the East Maui Irrigation Co., an A&B subsidiary, left little or no water for taro growing or for the exercise of traditional or customary native Hawaiian practices. From Murakami's standpoint, the commission's decision has done little to improve his clients' situation.

“What East Maui residents were asking for was clearly reasonable. It’s amazing [the commission] so blindly adopted HC&S’s statements on what water they do need. It’s pretty appalling,” he said.

As of press time, the commission had not yet decided whether to grant the contested case hearing sought by Murakami.

A Winding Road

In the summer of 2001, Kekahuna, Walleth, Elizabeth Lapenia (no longer a party to the case), and Na Moku `Aupuni O Ko`olau Hui requested a contested case hearing with the state Board of Land and Natural Resources after Alexander & Baldwin, parent of HC&S and EMI, requested a long-term lease for the continued diversion of some 165 million gallons of water a day from East Maui to Central Maui. The non-profit Maui Tomorrow Foundation also contested the lease request. Shortly thereafter, the East Maui residents, represented by NHLC, filed petitions with the Water Commission to amend the IIFS of 27 streams.

After conducting hearings in 2002 and 2003, the Land Board decided in 2003 to issue a lease to A&B/EMI, but the decision was later overturned in state court. In 2007, the board ordered an interim release of 6 mgd into one of the 27 streams — Waiokamilo — to meet Na Moku’s needs, but postponed further action until the Water Commission decided on the IIFS petitions.

By 2006, the U.S. Geological Survey had created a model that could correlate various levels of habitat improvement with various stream flows. Relying heavily on this tool and on stream data collected by the state Department of Land and Natural Resources’ Division of Aquatic Resources, Water Commission staff proposed in the fall of 2008 instream flow standards that would restore several millions of gallons of water a day to six streams and no water to two streams.

In September 2008, the commission approved its staff’s recommendations, and over the following year, staff worked largely on its own to develop recommendations for the remaining 19 streams. In that same period, the agency lost its survey branch, its geologist, and other key positions, nor did it work as closely with the DAR as it had on the first eight streams. As a result, the branch recommended last December that only one of the 19 streams, Makapipi, receive any more water. And even that one, it suggested, should receive only a temporary release of 0.32 mgd. The IIFS for the rest should remain at the status quo because flows were adequate to meet instream needs, CWRM staff stated in its report to the commission.

NHLC and its clients strongly disagreed with the recommendations, as did DAR. According to the division’s then-administrator Dan Polhemus, DAR had not been asked to comment on CWRM staff’s recommendations until a few days before the commission’s December meeting. DAR felt that allowing all of those streams to continue to be diverted at current levels was unacceptable and recommended that at least eight of them — those that had the best restoration potential — receive more water and that the diversion system be modified to allow amphidromous animals to complete their life cycle.

When the commission asked Polhemus how much water was necessary to restore ecological functions, he said he did not have those numbers, but that his staff could come up with some. When commission chair Laura Thielen asked him whether seasonal releases, with minimal restoration in dry times, would improve the stream habitat, Polhemus said that “complete connectivity is not required to still have some biological viability,” because animals can hang out in still flow or pools until the wet season.

Based in part on DAR's testimony, the commission deferred acting on those streams and directed its staff to work on a recommendation for a seasonal IIFS.

Stream Recommendations

Following the commission's December meeting, CWRM staff met with DAR staff, the Maui Department of Water Supply, NHLC, and HC&S to determine seasonal IIFS. A May 17 memo to CWRM deputy director Ken Kawahara from DAR's Robert Nishimoto suggests that the division supported a seasonal approach, but not because it was best for stream organisms. Rather, it felt the need to "share the pain" of limited water in dry times with offstream users.

DAR had determined that, at a minimum, flows providing for 90 percent of natural habitat availability (H90) were necessary for reproduction, recruitment, and growth. The memo points out that the DLNR administration asked DAR to calculate flows needed to meet 50 and 70 percent of habitat requirements (H50 and H70, respectively), but "DAR staff had already determined that these flow rates for these habitat levels would not support all aspects of the native species life history requirements."

"While DAR has the ability to calculate flows for any habitat level based on the [USGS model], DAR does not believe that H50 or H70 reflect viable flow rates for the protection of native aquatic biota.... These flows are considered by DAR to be too low to expect suitable long-term growth and reproduction of native stream animals," Nishimoto wrote.

Even so, the pressure to come up with some kind of seasonal approach led DAR to recommend dry season flows that would establish minimum mauka-makai connectivity. That level of flow, 20 percent of a stream's median base flow, would allow adult stream animals (fish, shrimp, and snails) to move among habitats and allow recruiting animals to move upstream. But, like H50 and H70 flows, the minimum connectivity flows, or Cmin, aren't enough to allow for growth and reproduction, Nishimoto wrote.

On May 25, CWRM staff returned to the commission with its recommendations for the 19 streams: Restore 0.6 mgd to Makapipi to meet the needs to taro growers and gatherers in the Nahiku community; restore 0.06 mgd to Hanawi because it was a small amount that would have significant biological benefit; implement seasonal IIFS for East Wailuaiki, West Wailuaiki, Waikamoi, and Waiohue streams; and maintain the status quo for the remaining 13 streams.

DAR also offered its own recommendations for streams it felt would benefit the most from restoration: East Wailuaiki, West Wailuaiki, Puohokamoa, Waikamoi, Waiohue, Kopiliula, Hanawi, Puaka`a, and Haipuaena.

CWRM staff based its recommendations on DAR's premise that 64 percent of median base flow was necessary to reach H90 levels during the wet season.

Of those streams the CWRM and DAR had both recommended restoring, the proposed H90 and Cmin flows for each stream differed slightly because they based their calculations on data gathered from different parts of the streams (DAR used data from middle and lower reaches; CWRM used upper reaches).

CWRM recommended against restoring Puohokamoa, Haipuaena, and Kopiliula streams because EMI used them to convey ditch water and "any modification to the existing diversion infrastructure on these streams could result in more water being released than naturally occurs," the staff report stated.

With regard to Puaka`a Stream, CWRM staff determined that because the amount of habitat gain in that stream would be only 300 meters, “the cost and effort to modify the diversion to allow for connectivity is better spent in Hanawi Stream.”

As for the remaining nine streams covered by the NHLC’s petitions, CWRM staff recommended against restoration because it felt the biological resources would not significantly benefit from additional flow.

Water Needs

At the commission’s May meeting at the Paia Community Center, CWRM staffer Dean Uyeno briefly addressed system losses. The EMI system includes 50 miles of tunnel and 25 miles of open ditch, a portion of which is lined. HC&S, which uses the bulk of the water, had no estimate of water losses from the irrigation system, but did provide a decades-old estimate of losses from its 36 reservoirs, 31 of which are unlined. Studies done in the 1960s estimated that 23 to 31 million gallons a day were lost due to seepage. HC&S estimated that it would cost about \$45 million to line its unlined reservoirs.

Staff stated that HC&S’s groundwater sources in the area were fully tapped. Pumping of the Paia and Kahului aquifers regularly exceeded maximum sustainable yields. Staff also pronounced that HC&S could not increase pumping of its 16 brackish wells, which provide an average of 72 mgd.

The Maui Department of Water Supply, which uses a few million gallons of diverted water a day to supply domestic and agricultural needs in Upcountry, reported system losses of 14 percent. It also claimed that it would cost \$117 million over 25 years to develop alternative groundwater sources.

Maui Mayor Charmaine Tavares testified that the county needs 8 mgd from Waikamoi. She added that of the more than 9,000 Upcountry water meters served by Waikamoi, 752 of them are for agriculture.

Jeffrey Eng, head of the county’s DWS, said he worried about emergency restrictions during dry periods if the IIFS were set too high. “That would mean stream restoration is more important than domestic needs. Nobody wants to see that....Take a conservative approach to habitat restoration,” he said. He then suggested that the commission set IIFS to meet 50 percent of natural conditions.

With regard to the streams’ needs, the commissioners questioned DAR and CWRM staff about their recommendations. In response to a question from Miike on the quality of ecosystem functions under a seasonal approach, Nishimoto stated that in the dry season, the water that remains in streams is warmer and animals are stranded in “tight spots.” Reproduction stops and low flow in isolated pools can lead to parasite infections, he said.

Upon further questioning, DAR’s Glen Higashi revealed that its dry season recommendations might still leave sections of the streams dry.

When it came time for Murakami to testify, he reminded the commission of its legal obligations to his clients, who have superior rights to the diverters. He pointed out that A’s and HC&S’s arguments have always centered on economics, not the law, which he said was “on the side of my clients.” He added that the commission still does not know what the reasonable, beneficial uses of HC&S’s diversions are. (State law requires the commission to ensure that any diversions have such uses.)

Regarding CWRM staff's decision not to restore flows in the DAR-recommended streams that EMI uses to convey water, Murakami said there was no scientific evidence that a pipe could not be used to bypass the diversions.

"We are asking for a percentage of a percentage of a percentage" of flows to be restored, Murakami said.

Finally, with regard to the dry season recommendations, Murakami said he thought the "wettered rocks" approach should be abandoned.

HC&S's Chris Benjamin and Rick Volner supported the restoration of Makapipi Stream, as well as the wet season releases CWRM staff had proposed, but opposed any restoration during Central Maui's dry season and any restoration of West Wailuaiki Stream because it is "a highly productive stream for us," Benjamin said.

Benjamin complained that the restoration that the commission ordered in September 2008 has already cost his plantation 10 mgd. (NHLC and CWRM staff, however, dispute that figure, saying that at most, only 4.5 mgd has been restored under that action.)

When questioned by Miike about the effects of incremental water losses, Benjamin said that it takes roughly one million gallons of water to produce four tons of sugar.

Contrary to HC&S's claims that it needs all of the water A&B/EMI diverts, Miike argued that based on his understanding of HC&S's farming methods and its failure to account for rainfall, the company overestimated its water needs by about 20 percent.

"I know you're going to dispute that, but I had to put it on the record," he said.

Both Miike and commissioner Neal Fujiwara asked Benjamin what the "magic number" of acres was for HC&S to survive. Benjamin said that that was an ongoing question. In general, he said, more crops means more revenue, although the cost-effectiveness of farming rocky and/or distant lands is constantly being re-evaluated. Regarding Miike's claims that HC&S was overstating its water needs, he said, "Why would we do that [pump wells to capacity] if we had excess water?"

Deliberation

After hours of public testimony, the commissioners attempted to address the petitions one at a time. But as they began debating seasonal versus annual IIFS, CWRM's versus DAR's recommendations, and the various other restoration permutations offered by the parties, Miike interjected: "We are piece-mealing our way to the total number and I want to make a comment on the total number before piecemeal our way to it."

He noted that EMI was diverting about 165 mgd from East Maui streams "and we are quibbling between 10.3 versus 3.7 to restore to the streams. And I find that kind of funny. That's not a balancing act to me. What it's saying is that we want to so minimally harm the offstream users that we are willing to harm the stream. Not harm the stream, but we're willing to so minimally restore the streams and that, to me, it's not a balancing act." His comments were met with applause from many members of the public.

He then argued for annual interim instream flow standards, stating that he believed the commission was legally required to ensure that those standards met the minimum habitat requirements identified by DAR.

His motion, which he knew the commission would reject, was to set an IIFS of H90 for all 19 streams. No one seconded his motion.

When commissioner William Balfour suggested dropping West Wailuaiki, as HC&S had requested, Miike noted that the streams recommended for restoration had been identified as having the best potential for significant ecological improvement.

“DAR gave their assessment of which were the most promising; CWRM gave their assessment and we narrowed it down. I don’t understand why we need to narrow it any further,” he said and was again met with applause.

After the majority of commissioners expressed their preference for seasonal IIFS at H90 levels, the commission voted to adopt DAR’s dry season restoration recommendations for East Wailuaiki (0.13 mgd), West Wailuaiki (2.6 mgd), Waiohue (.06 mgd), and Waikamoi (zero). In total, 0.45 mgd would be restored to those streams during dry season. (Generally, with regard to the streams that CWRM staff and DAR agreed to restore, CWRM’s recommendations restored slightly more water than DAR’s did. Also, the commission chose to focus on the amount of water to be restored to the stream, rather than on the total IIFS amount, which would include existing flows.)

For the wet season, the commission was a bit more generous and went with CWRM’s recommendations for East Wailuaiki (2.39 mgd), West Wailuaiki (2.46 mgd), and Waiohue (2.07 mgd). Because Waikamoi has problems with a leaky flume and the county had requested minimal diversion there, the commission went with DAR’s numbers for that stream (1.68 mgd). In total, the commission restored about 8.54 mgd in the wet season.

A Compromise?

Before the commission’s vote, the issue of whether DAR had truly supported the concept of minimum connectivity surfaced briefly. Thielen had started praising HC and DAR for their efforts to resolve the dispute over East Maui water. HC&S had agreed last December to a seasonal restoration, and DAR had considered human needs as well as resource needs in its recommendations, she said.

“Traditionally, IIFS are set at some level, and the IIFS stays at that level and as the water in the stream lowers, until it reaches that level, the only people hurt are the offstream users,” she said, adding that DAR was willing to share the pain and determined the “bare minimum needs so resources would not perish, recognizing the commission has difficult decisions to make,” she said.

To this, Miike said, “My understanding of DAR, what you call the ‘DAR compromise,’ is they said that annual H90 is the minimum restoration, but they were also told to provide alternatives for H90 and for dry weather, so it’s not that they volunteered it. They were told. I don’t think it’s quite accurate to characterize their production of those numbers as a compromise on their part.”

Thielen countered that when the commission met in December and HC&S “stepped forward and offered a seasonal restoration... we called Dan Polhemus and asked if seasonal restoration would have a benefit

to the resources and he said yes and the commission at that point directed DAR to go back and do further research on seasonal restoration.”

“All I heard them say is H90 is the minimum restoration....We characterize it differently. That’s my characterization,” Miike said.

Earlier in the hearing, DAR’s Nishimoto had tried to explain things, but even his explanation sounded conflicted.

He said that DAR would prefer to have streams restored to the H90 level, but followed with, “again, we share the pain, we understand that.”

He continued, “In defense of my position, it seems like I’m giving everything away, but I’m not. We recommended nine streams. We got four or five. We’ve been giving away, we’ve been backing out a lot and I think we’d like to say we stand for the animals, but we understand the plea of the offstream users and so this is why we took that [approach]. What I want to say is that, philosophically, we want to be part of the solution.”

Reaction

After the commission’s decision, NHLC’s Murakami requested a contested case hearing. Regarding the commission’s discussion about DAR’s dry season recommendations, Murakami said, Thielen misconstrued what DAR had said in December “and Larry Miike corrected her.” He added that he also believed DAR was forced to make certain statements.

Whatever the outcome of his contested case hearing request, Murakami told *Environment Hawai`i*, the Land Board must still make its own assessment of what is required to protect public trust resources. When 1st Circuit Judge Eden Hifo overturned the Land Board’s decision to issue a lease to A&B, “she basically said you can’t rubber-stamp whatever the commission does,” Murakami said. And in this case, the commission accommodated a private, commercial user “in the face of the fact that the diverter was wasting more water than we wanted restored,” he said.

In an email to *Environment Hawai`i*, Murakami added, “Note that action on the 19 streams under the DAR and NHLC proposals would amount to 10.4 mgd, leaving HC&S with 80 percent of the total water allocated.... Significantly, that amount pales in comparison with: (a) 23-41 mgd of losses from HC&S’s unlined reservoir seepage (not including evaporation); and (b) 16.6 – 25 mgd of losses from HC&S’s system seepage from 25 miles of unlined ditches. And the CWRM required no conservation from HC&S!

“You can see why HC&S refuses to pay for conservation measures – it’s cheaper to avoid it, given what they pay for the water from the state – ¼ of a penny per 1,000 gallons.”

A&B/EMI is currently diverting the water at the same rate set by the Land Board in its last revocable permit, but does not have a current lease, license, or revocable permit. Right now, the diversions continue under a “holdover” status. Because “holdovers” do not exist in either statutes or rules, Murakami added, his clients may also need to address the legality of that.

In an email to *Environment Hawai`i*, Benjamin disputed the view that “system leakage means water waste.”

“Leakage and irrigation provide considerable aquifer recharge, and to the very aquifers the commission is requiring us to use more heavily to compensate for water returned to the streams. We hope these future studies will help us all understand more about the relationship between system “losses” and recharge,” he wrote. Given the possibility of rising water costs, Benjamin states, “As we transition to growing biofuels—using either a ‘less thirsty’ sugar crop or anything else—water will continue to be a major component in our mix of costs. We’ll have to conserve every way we can”

For Further Reading

Environment Hawai`i has given extensive coverage to East Maui water issues over the years. For more background, see the following:

- “Water Commission Amends Standards for Six Diverted East Maui Streams,” and “Land Board Resumes Discussion of Diversion of East Maui Water,” November 2008;
- “Land Board Orders EMI to Release Water to Meet Needs of East Maui Taro Farmers,” May 2007;
- “Commission Gains Funds, New Tools to Pin Down Water Use, Stream Needs,” September 2006;
- “Ex-Judge Says East Maui Farmers Don’t Need More Water for Taro,” August 2006;
- “Water Commission is Urged to Look at Lessons from Mono Lake Dispute,” August 2005;
- “Board Talk: Land Board Favors EMI Water Diversion,” March 2003;
- “Board Talk: East Maui Water Dispute Heats Up with Hearing Officer’s Recommendation,” January 2003;
- “Board Talk: Contested Case on Renewal of EMI Water Permits,” July 2001;
- “Battle Looms Over Waters Diverted from East Maui Streams” and “Complex Legal Issues Surround A&B’s Taking of East Maui Water,” August 1997.