

## **Water Security on Kauai**

A preliminary discussion on the vulnerability of our most important resource

1/29/09

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The Garden Island, known for its ample rainfall and verdant tropical landscape, is home to the wettest spot on earth. Why then, would we possibly ask our community to focus on our water supply when there are so many other critical energy issues to be addressed? Volatile electricity costs, a crippled economy, health care, food security, the list goes on. Simply put, in most Island homes, our water supply is completely oil dependent. Without petroleum to generate electricity, we simply cannot deliver water to a majority of Island residents on Kauai. And we're not talking about a few small generators and some extension cords here. To deliver water to Kauai's residents every year, the County Department of Water spends millions of dollars on electricity. And although our State leaders and the energy industry are moving vigorously to mitigate the real potential for oil supply disruptions and continued strain of oil price volatility on our economy, few have asked: What about our water?

In response to this, Apollo Kauai, in conjunction with Malama Kauai and several other community organizations, is initiating a campaign to bring focus to the vulnerability of Kauai's water supply. What happens to our water supply if there is a sudden and prolonged petroleum shortage on Island? What happens to the cost of our water if oil (and with it, electricity) again shoots to new high prices on the global market? Such events are certainly possible and clearly beyond our control. Should we simply do nothing and hope for the best?

Further study of this critical issue reveals what is so often the case: Where there is a problem, there is also an opportunity. Numerous strategies exist that can safely and dramatically reduce our water use and protect our access to Kauai's ample rainfall. It is time for us to come together and take action to ensure the stability of this vital resource. A possible beginning; the County might consider appointing a *Water Security Coordinator* to build a water security task force comprised of interested, knowledgeable community and governmental leaders. This and other suggestions for addressing this issue are what follow.

It is our desire to bring together individuals, community groups, and State and County agencies that play a role in water use and wastewater management. Groups we see as important to this discussion include watershed groups, County Wastewater, State Department of Health, Civil Defense representatives, small farmers and food security advocates, and the many other individuals and organizations that see this as a critical issue for our community. Our initial objective is to gather data and share thoughts on various aspects of this problem.

As we see the problem: Reliable, affordable water on Kauai is completely dependent on reliable, affordable electricity. Reliable electricity is completely dependent on a reliable affordable petroleum supply. Petroleum can no longer be considered reliable, and it's price will continue to be highly volatile. Given this reality, the possibility of municipal water supply disruption on Kauai is real and we currently have no control over it. So what can we do? Given the political will, there is much that can be done to mitigate this problem, and with it significant community benefit including economic savings on energy costs, environmental benefits through more sound water and waste management, and more.

Possible Solutions: Some mitigation strategies that have the potential to greatly reduce our water demands, and/or secure our supply include:

1. Promote water catchment and the use of roofing on homes and buildings that allows future occupants to consider water catchment.
2. Promote gray water reuse/waterless sanitation and other ecological sanitation options.
3. Promote low energy water delivery within the water department, including an emphasis toward gravity fed systems with more, larger storage tanks and less pumping stations. Additional study may go into the potential for increasing storage volumes to allow for the capacity to pump water directly using intermittent renewable sources such as wind and solar.
4. Promote energy recovery through the use of in-line hydropower units instead of pressure reducing valves.

Several of the above strategies are well established in other areas and have successful histories of application. Further, most are allowed under current laws and regulations. However, locally, significant barriers exist for those who are willing to attempt to implement these solutions. Health codes and other regulations, which evolved during times of cheap, stable petroleum supplies, do not take into account the adverse impacts of today's energy outlook on water use.

One brief local example; a consultant to the County Wastewater Department recently suggested that the County consider shutting off a home's water supply if the homeowner is delinquent on their sewer bill. This clearly problematic suggestion was made for the legitimate purpose of fiscal responsibility regarding revenues at the County Wastewater Division. Thankfully the suggestion was quickly dismissed by the County. However, the fact that such an option was even put on the table points to the 'new problem set' associated with our changing energy paradigm. Should such essential services as water and sewer service only be made available to those who can afford them? Imagine the implications, both social and from a public health standpoint, of shutting off clean water to someone's home? In these hard economic times, if such defaults were to become widespread, how would we mitigate the risks? Clearly, this example makes the case that it is time for system change.

Some strategies suggested above, like waterless toilets and other less traditional ecological sanitation options, will require significant educational campaigns to foster greater public acceptance. However, the first task is to rework current policies to actively promote such practices on a wholesale level, and to implement examples of their successful use. As the cost of water and wastewater management rise, people will then have established affordable, viable alternatives to turn to.

This discussion is an attempt to engage a broader group on what we see as a very important issue for our community on Kauai. We hope to join together with the many people on Island already engaged in these critical issues of water supply and water security. We acknowledge the complexities of this challenge, but nonetheless feel compelled to proceed to engage in this effort to support the all-important mission put forward by our County Water Department;

*"Together, we provide safe, affordable, sufficient drinking water through wise management of our resources and excellent customer service for the people of Kauai."*

*Apollo Kauai hosted a meeting on Water Security on Thursday, February 19<sup>th</sup> at 7:00 PM at the Lihue Neighborhood Center. It was an open meeting attended by over 50 community members.*

*Malama Kauai hosted two workshops on Rainwater Catchment on Friday, February 6<sup>th</sup> at 5:30pm at the Moikeha Room in Lihu`e AND Thursday, Febuary 5<sup>th</sup> at 5:30pm at Common Ground (the old Guava Kai Plantation). The president of American Rainwater Catchment Systems Association shared his valuable mana`o with nearly 75 community members between the two events. Please visit the Events Calendar at [www.malamakauai.org](http://www.malamakauai.org) for more information.*