

WAI Committee

From: Lucienne de naie <laluzmaui@gmail.com>
Sent: Monday, August 19, 2019 11:04 AM
To: WAI Committee
Subject: Sierra Club comments on WAI-37 Draft Water Use and development plan
Attachments: WUDP Testimony WAI com 2019.doc

Aloha Kakou

please find Sierra Club Maui initial comments on the WAI-37 : Draft Water use and Development Plan .

Also, I believe the Council should compare our vague descriptions of managing Water Demand to what Honolulu does. They are actually actively restoring streams, reusing R-1 water and reducing per capita demand for fresh water, saving money and adapting to changing weather patterns.

Here is a simple chart to show decline in per capita (per person) water use over 30 year period in O'ahu.

7.2.2 Historical Per Capita Demand

As BWS supply system improvements and water conservation programs were implemented, per capita water demand decreased over the past 30 years. Table 7-2 presents the historical demand by land use district in gallons per person (also known as per capita) per day (gpcd). The per capita estimates are based on total production (residential, agricultural, commercial, industrial, system losses) by area or land use district, divided by the BWS served population in those corresponding areas. The importance of these metrics is that the per capita use has varied significantly between planning areas. Understanding these trends and differences is a key element in the estimation of future water demands.

Table 7-2 BWS Historical Per Capita Demand by Land Use District

Land Use District	1980 (gpcd)	1990 (gpcd)	2000 (gpcd)	2010 (gpcd)
Primary Urban Center	177	190	171	151
'Ewa	317	281	224	185
Central O'ahu	149	142	156	126
Wai'anae	235	239	224	196
North Shore	195	217	195	202
Ko'olauloa	192	254	141	149
Ko'olaupoko	149	151	173	146
East Honolulu	145	190	221	194
Total	176	188	180	155

The BWS average per capita demand declined from 176 gpcd in 1980 to 155 gpcd in 2010, a 12 percent decrease. As shown in Figure 7-2, while there is variation in the trends for per capita demand between 1980 and 2000, all but two land use districts experienced decreasing per capita demand from 2000 to 2010. The two remaining land use districts, North Shore and Ko'olauloa, experienced increased per capita demand of 4 and 6 percent, respectively, from 2000 to 2010. These increases in per capita demands are likely due to decreasing population served with corresponding smaller decreases, or slight increases, in total demand, primarily from agricultural

From Honolulu's most recent Water Use Plan:

Here is an example of the specific strategies put forth to manage future water use:

DEMAND:

7.2 Historical Demands

Over the past three decades from 1980 to 2010, the BWS-served population on O‘ahu increased by about 24 percent, from 737,000 to 922,000. However, the BWS water systems saw only an 11 percent water supply production increase during that same period due to increased water conservation measures, more efficient fixtures, system improvements, increasing water and sewer rates, and changing land use.

Although projections in the early 1990s predicted demand growth, Island-wide demand has **decreased by 11 mgd in the last 25 years due to per capita demand decreasing by 31 gallons per capita per day (gpcd) freeing up existing capacity.** Reduction in per capita demand was due to BWS conservation initiatives, changing land use that increased population density and reduced irrigation, and economic incentives from higher water and sewer rates. With additional conservation programs and further reductions in potable water irrigation, additional per capita demand reductions are possible. The BWS should continue investment in conservation with a goal of reducing per capita demand from 155 gpcd to 145 gpcd by 2040. These continued water conservation programs and declining per capita consumption are anticipated to moderate future system demand growth.

Hopefully there is food for thought in this approach.

Lucienne de Naie
laluzmaui@gmail.com
808 214-0147

Testimony from Sierra Club Maui Group
PO Box 791180 Paia, HI 96708

To: Maui County Council Water and Infrastructure Committee

Re: WAI- 37 March 2019 Draft: Water Use and Development Plan

Aloha Committee Chair Lee and Committee members and staff

Mahalo for this opportunity to comment on the WAI Committee review of the Draft Maui WUDP. Sierra Club respects the excellent work that has gone into this report and supports the continuing effort of the Board of Water Supply, Council and DWS staff who have dedicated their time to this complex subject. We have offered comments in the past on different sectors of the WUDP. We offer these more general comments on the overall Plan and process as a beginning and will follow up with more specifics.

- **WUDP should make clear how much of existing and future demand is expected to be met by private, rather than publicly managed water sources and systems.**

COMMENT: This is especially true when estimating usage in West Maui (Lahaina Sector) where thousands of acres of land within Urban Growth Boundaries is owned by several large landowners who operate their own private systems. It also applies to the Ko'olau sector and the Central Sector and the Upcountry Water meter list where an undetermined number of properties are on the list, but have since built private groundwater well systems.

- **The WUDP needs to move to a “ONE WATER” view of water resource management. Under the topic of “Values”: the draft WUDP states-**

“Wai’ as a vital cultural and sustaining resource: Native Hawaiians and the Hawaiian culture value “wai” as a fundamental and necessary sacred element, and they continue to advocate for the rights to continuous flowing streams supported by healthy watersheds and nearshore environments.”

COMMENT: Many Hawaiian organizations have made it clear that from a Hawaiian perspective, all water is ONE WATER- ground water, surface water, storm waters. Honolulu uses this ONE WATER planning approach has actually DECREASED the overall demand on its public water supply by 11 mgd , while its population grew between 1980 and 2010 by 200,000 people. The WUDP needs to make it clear that “Wai” includes our aquifers, groundwaters and stormwaters and the role each will play in future water security.

COMMENT: various sections of the WUDP identify very meaningful goals for water conservation, respect for Hawaiian water rights etc, but the water planning goals do not reflect strategies to actually make these noble aspirations possible. There are no target goals to significantly increase use of reclaimed water use in South Maui, for example, to relieve pressure on huge use of potable water by resorts. . There are no target goals to put Water hungry areas like South Maui on a “water budget” to reduce need to exploit Ko’olau (Haiku aquifer) groundwater for South Maui growth.

- **Management of watersheds- mauka to makai, needs to be clearly defined and supported in WUDP plans. Section 12 of the WUDP “Strategies” gives lip service to this goal, but provides no reference to specific goals, timeline or funding.**

COMMENT: we are not managing the watersheds we depend upon mauka to makai. Our management is only of higher elevations of East Maui and West Maui watersheds, even if the lower elevations are shown “as part of the plan”. High rainfall areas and diversion demands are often located BELOW any management area. How can the WUDP meaningfully address the transition that needs to take place to achieve mauka-makai management?

COMMENT: degradation of water quality by ag chemicals and practices is a major issue facing Maui’s water supply. It is mentioned in Sect 12 of WUDP but no strategy is given to reduce present or future contamination.

- **Sustainable Yield (SY) figures used in the report need to be realistic.**

COMMENT The WUDP is using the 2008 State Water Resources Protection Plan Map (WRPP) of Sustainable Yields for Maui which sets SY at 427 mgd. The 2018-2019 Water Resources Protection Plan (WRPP) SY map shows a decrease to 357 mgd (70 mgd decrease) for Maui aquifers. The WUDP Hana sector discussions refers to the “pending update” of the WRPP reducing estimates of the Hana Aquifer SY. The same reductions are found in many other aquifers. **Both WRPP SY maps (2008 and 2018) should be included in the report.**

- The WUDP makes a statement about available groundwater that is not consistent with a One Water, Mauka-Makai management perspective. We need to plan for natural discharges of clean water into the ocean environment :

“Groundwater is replenished by rainfall recharge. The amount of groundwater that can be developed is limited by the amount of natural recharge. Because some aquifer outflow or leakage must be maintained to prevent seawater intrusion or some perennial streamflow, the sustainable yield of an aquifer normally

represents a percentage of the natural recharge. Sustainable yield is the legal limit for withdrawals from any individual aquifer as established by CWRM. Maximum available groundwater in each region is established sustainable yield, limited by any restrictions in groundwater management areas.”

COMMENT: Native Hawaiian traditional knowledge views the need for natural groundwater discharges into the ocean as essential to fisheries and marine ecosystems. This is “leakage” or “wasted water” as has so often been stated. Western science usually has very little basis to determine what amounts of freshwater flows from aquifers and streams into the oceans are truly beneficial, but much more information is needed to have true Mauka-Makai management.

- **The WUDP does not accurately describe the current status of Interim Instream Flow Standards (IIFS) on Maui’s surface (stream) waters.**

The WUDP states:

SURFACE WATERS:

The amount available to divert from a stream is legally limited by established Instream Inflow Standards: “a quantity or flow of water or depth of water which is required to be present at a specific location in a stream system at certain specified times of the year to protect fishery, wildlife, recreational, aesthetic, scenic, and other beneficial instream uses.” Of the total 90 streams on Maui, Interim Instream Flow Standards (IIFS) have been established for 25 streams in Ko`olau Aquifer Sector as of August 2018. Surface water diversions are also limited in designated Surface Water Management Areas, which includes four streams in Nā Wai `Ehā (Wailuku Aquifer Sector).

COMMENT: all streams on Maui have IIFS. They were set at “status quo” in 1989. About 17 East Maui streams had their IIFS AMENDED in 2018 Water Commission decision. The rest remained at 1989 Status quo. Around half a dozen west Maui streams (Na Wai Eha and Lahaina side) also now have amended IIFS.

Mahalo for this opportunity to offer the first stage of our comment

Lucienne de Naie

Sierra Club Maui Conservation Chair