

**Kauai Water Use & Development Plan Update
 October 2015 Public Information Meetings
 Summary of Meeting Notes**

A series of five (5) public meetings were conducted to create an understanding of the purpose and intent of the *Kauai Water Use & Development Plan* Update and the context within which it is being developed. The meetings were held to present the information that will be covered in the update, the sources for this information, how it will be presented, as well as any information that is available regarding the status of the resource on the Island. This series provided the community an opportunity to express any concerns or voice any questions they may have about the process to be used to create the update.

The *Hawaii Water Plan* consists of 5 components, each of which is prepared by a different agency. The *Kauai Water Use and Development Plan*, prepared by the Kauai Department of Water, is one of the 5 components and coordinates and integrates information from the other components at the county level. Please refer to the meeting handout for additional information on the *Hawaii Water Plan* components. The following table summarizes the questions and comments received from the series of public meetings, and is organized by the related *Hawaii Water Plan* component which addresses the issue raised. The questions and comments will be shared with the appropriate agencies.

Minutes Summarized by *Hawaii Water Plan* Component

Question/Comment	Response, If Applicable
<i>KAUAI WATER USE AND DEVELOPMENT PLAN(KWUDP) - Kauai Department of Water (KDOW)</i>	
When was the last KWUDP?	The KWUDP was first adopted in 1990. It was updated in 1992, but that update was not adopted by the Commission on Water Resource Management (CWRM).
What was discussed at the stakeholder meeting? How often do they meet?	The stakeholders have met once so far. They were given a similar presentation, and we discussed the update process/methodology as well as obtained their input on water resource issues.
How long has the stakeholder group been in existence?	Approximately one year.
How were the stakeholders chosen?	The stakeholder group is a cross-section of the community; there are representatives for farmers, developers, and Native Hawaiians.
An attendee expressed approval that the KWUDP Update will be taking a comprehensive look at the island’s water needs and availability.	
An attendee expressed enthusiasm that this update is happening and that the update is being coordinated to the extent possible with the General Plan Update which is also currently underway.	

Question/Comment	Response, If Applicable
<p>Why are there only two rounds of public meetings? There is a lot of information that will be gathered and analyzed between the two rounds. There should be interim meetings so the amount of data presented at each meeting is not overwhelming.</p>	<p>Two rounds of public meetings [and two advisory group meetings] are planned.</p>
<p>It was suggested that, if frequent interim meetings are not feasible, a website be used to publish new information as it becomes available for the public to see.</p>	
<p>The KWUDP is supposedly a living document, but are we anticipating it will take 10-20 years before it is updated again? When you update the plan, how much does it cost to update the plan? Why are we continuing to use outdated data? It is important to get it right <u>now</u>. The margin of error is too large to be acceptable.</p>	<ul style="list-style-type: none"> • Risk and risk tolerance needs to be considered. Things are always going to change. The County has to make decisions on where and how to grow. The County needs to look at all resources and water is one of them. Each island is different. Kauai’s problem is trying to get the water out of the ground. We are looking at the worst case scenario in terms of demand. Even with the uncertainty of the sustainable yield values, if these conservatively derived (high) demand numbers are way below the Sustainable Yield (SY), wouldn’t that provide some comfort that the land planning policies are sustainable? • Ultimately, we want the County to have the best information available to make decisions. [This KWUDP Update will provide the County with information on demand that will help them make land use decisions].
<p>It was proposed that the scope for the KWUDP Update be reduced to just the inventory portion instead of moving forward with the analyses based on outdated SY numbers and assumptions.</p>	
<p>It was proposed that the efforts for the KWUDP Update be focused on collecting and developing all the necessary information instead of depending on other agencies, such as CWRM and Department of Agriculture (DOA).</p>	
<p>Will both public and private water systems be looked at?</p>	<p>Yes.</p>
<p>More detail should be provided.</p>	<p>When we come back, we will have a breakdown of meter data.</p>
<p>Data on all water sources should be gathered. There are some sources that you do not have data for.</p>	

Question/Comment	Response, If Applicable
How did we start down the road of taking surface water?	<ul style="list-style-type: none"> • If there is an expansion of a diversion, an amendment is needed. This triggers CWRM to look at the existing diversion and its impacts. • [Many factors contributed to the decision to use surface water to serve the Lihue area. The water table in the Lihue area has decreased over time, therefore, some of the existing wells have been taken offline. The closing of the plantation and cessation of related irrigation practices may have affected ground water recharge and contributed to the lowering of the water table. In addition, it has been difficult to develop high yielding wells in the Puhī/Hanamāulu area due to the geology and lava formation in the area. Economics and the availability of surface water are additional reasons KDOW started to use surface water to meet the needs of the community.]
Are water catchment systems legal?	Yes, but they are not regulated by the Department of Health.
How does this process propose to integrate Federal water use?	Federal water use would be included in County [meter] data if the water come from the County water system. If the water use is served by surface water, such as is the case for U.S. Fish & Wildlife Service’s Hanalei National Wildlife Refuge, then that use should be accounted for in the Instream Flow Standards and diversion data, which are the responsibility of CWRM. [If the use is served by a well, that information should be reported to the CWRM.]
Is there an inventory for existing water uses? How much water is the military taking?	Existing water use is being inventoried. The gathered information will be presented at the second series of public meetings next year.
For the 20-year demand projections, are resorts, industrial uses, etc. included in the calculation?	Yes, they are included. As population increases, not only will residential demands increase, these other demands will also increase.
In the past, population projections have been inaccurate. How are you addressing this?	The population projections from a technical study for the Planning Department’s General Plan Update are being used. The growth rate is approximately 1-2%, which is reasonable compared to historical growth rates.

Question/Comment	Response, If Applicable
Water should guide land use, not the other way around. We should develop where there is available groundwater.	This KWUDP update process helps the County do that.
Concerns were expressed that the General Plan was developed a long time ago.	The General Plan was adopted in 2000 and is currently being updated. Zoning hasn't changed; some places are just more developed than before.
What is the difference between General Plan and Zoning?	The General Plan and Zoning full build-out analyses are completely separate island-wide assessments. General Plan is conceptual and is the County's vision for land use and Zoning is what is legally developable.
Why were Condominium Property Regimes (CPR) not included in the past General Plan?	[CPRs are a means of dividing ownership]. The County Comprehensive Zoning Ordinance (CZO) is what regulates the development of lots and the allowable density. Dwelling units on agricultural land, as allowed by the CZO, were accounted for in the full build-out calculations.
Form-based code was mentioned.	Information from the recent community plans [for South Kauai and Lihue] has been obtained and will be analyzed.
When the General Plan and/or Zoning are approaching SY, what is the definition of approaching? Is it a percent?	As of now, there is no definition (%) set, but it is generally based on a relative scale when compared with conditions of other areas islandwide; this must be discussed further. ["Sensitive" areas are those areas where the General Plan full build-out demand or Zoning full build-out demand exceed SY. This is a very conservative approach as SY and full build-out concept are both conservative.]
For Full Build-out, is it built out to the maximum capacity? Are there any areas of concern that are close to SY?	The full build-out concept assumes that all land area is built out to the theoretical maximum extent. Based on the 2008 Water Resource Protection Plan (WRPP) SY, there are no areas that are close to SY.
An attendee had thought water was a limiting factor for development. Based on the presentation, it doesn't seem like it.	Infrastructure, getting the water from the aquifer to the faucet, is the limiting factor. Maintaining irrigation systems is also difficult/costly.
The SY numbers are from the 2008 WRPP. Will the updated numbers be used in the KWUDP?	Yes, when they become available.

Question/Comment	Response, If Applicable
How can you move forward without SY and Agriculture Water Use and Development Plan (AWUDP) numbers?	SY is available from the CWRM WRPP. In the absence of AWUDP numbers, assumptions need to be made until the AWUDP becomes available.
What happens if the new SY numbers are exactly the same as or lower than the General Plan & Zoning full build-out numbers?	These areas would be considered sensitive and should be looked at more closely. [Also, it is anticipated and will be verified that under existing conditions water consumption is within the SY, and there is time to make corrections in the implementation of the land use policies to stay within sustainable limits of the resources.]
People take water for granted and need to understand the cost of getting the water to them and should be willing to pay more for this service. An attendee encouraged KDOW to charge more for water so they have money to maintain and build more infrastructure.	
Is there any discussion for new reservoirs (for potable water)?	No.
It appears there are a lot of water resources but we're missing the infrastructure, which is already old.	Water Plan 2020 is addressing the aging infrastructure.
A concern was expressed about Eleele relying on Hanapepe for its water and the existing transmission main.	Presently, the KDOW has two wells in Hanapepe Valley and one well located above Hanapepe Heights. Water is provided to the Eleele service zone by two booster pumps located in Hanapepe Valley which pump water through a transmission main that traverses the cliff to KDOW's storage tanks. KDOW is in the process of installing a transmission main from Hanapepe town to the Eleele water system [near the intersection of Kaumualii Highway and Waialo Road adjacent to Eleele Shopping Center].
We need to reuse wastewater. People should not be squeamish about reusing treated wastewater.	
We should encourage water catchment and gray water use.	
Watershed protection is important.	
Concern regarding water being diverted to Grove Farm and Kauai Island Utility Cooperative was raised.	
Please take Native Hawaiian water rights into consideration when writing the KWUDP.	

Question/Comment	Response, If Applicable
The waterfall at the end of Wailua River was mentioned.	There is a very small pump there. However, the reason the water was not flowing was because there was no rain.
Moloa'a needs to be looked at.	
U.S. Fish and Wildlife Service altered the course of Hanalei River with a stream bank restoration project. The project restricts the stream from its natural evolution and meandering.	
<i>WATER RESOURCE PROTECTION PLAN (WRPP) - Commission On Water Resource Management (CWRM)</i>	
Are all the wells metered?	Data for all wells is required to be reported to CWRM. However, not all [private] well owners report to CWRM. All KDOW wells are metered and report to CWRM.
How confident are you that the reported pumpage numbers are accurate? Is reporting required?	Reporting is required. Although we are aware that not all well owners report pumpage to CWRM (< 100%), it is currently the best available information. It should be noted however that CWRM generally pursues most of the larger well owners to report.
Are private water systems/wells not required to report their pumpage?	They are required to report their pumpage to CWRM but if private entities don't disclose their information, we cannot get the information.
There are a lot of wells that are pumping and not reporting. How is this being addressed?	CWRM is the only entity that has legal authority to collect the data. Regulating wells and diversions are CWRM's responsibility. CWRM recently updated their policy. Private individual domestic users are now required to report. CWRM is currently going after the larger users first. They are also working with the DOA.
Is there an enforcement mechanism for wells that are not reporting?	Yes, CWRM can pursue reporting.
Is there a possibility of salt water intrusion and the water lens being pierced? Who monitors this?	Everyone must be careful. Public and private well owners are supposed to report chlorides to CWRM. KDOW monitors their own wells and reports to CWRM.
There needs to be a balance. More water being used for irrigation may mean more recharge. However, more water left in the stream will promote the health of the stream as well as the health of the ocean.	

Question/Comment	Response, If Applicable
Will we ever get a clear picture of where stream diversions are (ex. Waimea is a problem area)?	CWRM is responsible to inventory the stream diversions, and they are working on this.
Even if a diversion is grandfathered in, the water <u>must</u> be returned in the same condition. Who regulates that?	<ul style="list-style-type: none"> • CWRM understands that grandfathered diversions are not necessarily right. CWRM is working to address diversions. • Regarding wells, it was mentioned that there are well construction standards, pumping tests, and studies of drawdown before a well is allowed.
Springs need to be identified.	This is CWRM's responsibility. [Spring discharge would be accounted for in Instream Flow Standards.]
Do we have a policy for allocating water? Who gets the water if we end up using more than the Sustainable Yield (SY)?	No one owns the water. Uses that have equal priority were identified by the Hawaii Supreme Court. There are 4 Public Trust Purposes: Maintenance of water in its natural state; Domestic Use; Traditional and Customary Rights; Department of Hawaiian Home Lands reservations. Also, CWRM has a process for designating Water Management Areas. [Upon designation, applicants for water use permits in designated Water Management Areas are required to show that they meet the 7 statutory conditions for obtaining a water use permit under HRS 174C-49(a).]
Is there a priority for water? Who protects existing users?	Water belongs to the public. The Public Trust Doctrine prioritizes certain uses. [Upon designation of a water management area, the shared use doctrine is replaced by a water use permitting system, and all existing users must apply for a permit to continue their existing use. The Water Code gives some priority to existing users.]
An attendee gave testimony at a CWRM meeting on Kauai. He has all the data that supposedly doesn't exist. This is in violation of the Public Trust Doctrine and Federal Water Law. Groundwater should be reserved for potable drinking water as it is high quality water.	
Is there a time when we have to worry about agricultural companies using groundwater for irrigation?	Well permits can be requested for agricultural uses. [If there is competition or threats to water resources, CWRM may designate a water management area and institute a water use permitting system.]

Question/Comment	Response, If Applicable
The SY line should decrease over time, given that we are getting less rainfall, i.e. climate change.	
How often is the SY document updated? Is climate change accounted for in this document?	The current sustainable yield numbers are from the 2008 WRPP. The SY is currently being updated by CWRM. [Climate change is accounted for in that the SY numbers are conservative. CWRM is working with climatology scientists to better understand climate change, but until more information becomes available, CWRM is taking a precautionary approach and uses the most conservative estimate.]
It seems that there is more than enough water to meet the demands. Is that true? Has global warming been taken into account? For example, it used to rain a lot here but it doesn't any more.	Climate change does need to be considered and monitored.
Is there technology that shows the rate at which aquifers are being recharged? Has the aquifer capacity diminished or stayed the same? Is there historical data for the aquifers?	CWRM is responsible for studying the aquifers and analyzing/updating recharge rates. There are observation wells that are used to study the aquifers.
The SY numbers are wrong. They are based on a 25 year old model that is obsolete.	CWRM is working on updating the SY numbers.
The SY numbers are not sustainable at all because there is so much groundwater pumping that streams and rivers are drying up. The SY numbers are based on an inappropriate model. You have the accepted model [USGS model]; why won't you use the best information available?	We can look at other models, but ultimately, we need to use the numbers that are established and approved by CWRM. Determining the SY numbers is CWRM's responsibility. [CWRM generally relies on the USGS for recharge studies, which are the basis of the SY estimates.]

Question/Comment	Response, If Applicable
<p>Based on the SY & Pumping graph in the presentation, Wailua is currently pumping 0.5 MGD and the SY is 43 MGD. If there is so much groundwater available, why would you build a treatment plant for surface water? The law states to only use surface water if you cannot use groundwater. All natural resources, including fish and fauna, should be protected. We are in current violation of the State Code and Public Trust Doctrine.</p>	<ul style="list-style-type: none"> • [The Hawaii Supreme Court has identified four Public Trust purposes applicable to water resources that equally have priority: maintenance of water in its natural state; domestic use; traditional and customary rights; and Department of Hawaiian Home Lands reservations. Therefore, using surface water for domestic use, including for drinking water, is lawful.] • [Many factors contributed to the decision to use surface water to serve the Lihue area. The water table in the Lihue area has decreased over time, therefore, some of the existing wells have been taken offline. The closing of the plantation and cessation of related irrigation practices may have affected ground water recharge and contributed to the lowering of the water table. In addition, it has been difficult to develop high yielding wells in the Puhi/Hanamaulu area due to the geology and lava formation in the area. Economics and the availability of surface water are additional reasons KDOW started to use surface water to meet the needs of the community.]
<p>Regarding the SY & Pumping graph: is the blue part in the Hanamaulu graph the current pumpage? Is that what is being delivered? How much surface water are we using? Have we determined that this surface water is not in violation of the Public Trust? Based on the Kauai Springs case, every government entity has the duty to show that the Public Trust Doctrine is not being violated. You as individuals are liable.</p>	<ul style="list-style-type: none"> • The blue bars in the Hanamaulu graph represents groundwater pumpage. • Approximately 2 MGD of surface water goes into the County water system. • There is currently a lack of data. Setting instream flow standards is extremely complex. This is an issue state-wide. CWRM is now looking back at diversions that had been grandfathered to see if they violate the Public Trust Doctrine.
<p>It was recommended that USGS data be used instead of CWRM data, when possible.</p>	
<p>Should the Island of Kaua'i be divided up by ahupua'a instead of by aquifer systems? For example, the Kapa'a watershed and Anahola watershed are characteristically different but are grouped together in the same aquifer system.</p>	<p>CWRM requires that the WUDP update be based on the hydrologic units established by the CWRM. Therefore, all data for each of the Hawaii Water Plan components are compiled and summarized using the aquifer or hydrographic systems as basic study area units.</p>

Question/Comment	Response, If Applicable
A memorandum of understanding is needed between the Department of Aquatic Resources and CWRM.	
A discussion on the process for designating Water Management Areas would be helpful.	
Hearings on Kauai for other components of the Hawaii Water Plan, including AWUDP, should be well-publicized.	
<i>WATER QUALITY PLAN (WQP) - Department of Health (DOH)</i>	
Is the water quality monitored for the wells?	Water from wells used for drinking water must meet the Safe Drinking Water Standards.
<i>AGRICULTURAL WATER USE AND DEVELOPMENT PLAN (AWUDP) - Department of Agriculture (DOA)</i>	
Surface water is abundant on the North Shore, but there is not enough storage available.	
Will information on reservoirs and dams be included?	Yes, but the main source of information will come from the AWUDP.
Agricultural water use projection of 3,400 gpad seems low.	
Concern was raised over the Kalihiwai Reservoir. Residents want it to look full and beautiful, while users want to use the water when needed. In addition, maintenance is difficult due to the costs and number of owners/users.	
What is the water in the reservoirs used for?	Primarily for agricultural use.
Concern was expressed about using Important Agricultural Lands (IAL) and the County's IAL Study for analysis of agricultural water demand. An attendee was part of the Technical Advisory Committee for the IAL Study and expressed frustration with the document.	
We need to think about how to maintain the irrigation systems.	
Sometimes surface water cannot be used because of the amount of nitrates.	
The sugar irrigation systems are what dried our streams.	

Summary of public comment sheets received

Question/Comment	Response, If Applicable
<p>Water diversion on Kauai was authorized years ago for SUGAR CANE PRODUCTION. Sugar cane is no longer grown, so the waterways should be restored. Many rivers have lost much of their water. This should be investigated by the CWRM, and restored. How much non-potable water is being used, by whom, and for what use? GMO companies are allowed to use carcinogenic chemicals. This endangers humans, as wells as land and sea life forms. Please stop this. The proposed Koloa area being farmed threatens the health of everyone in the area, plus the entire Poipu tourist industry. Water drainage will be full of cow feces, possibly cause an epidemic. This should be stopped before it starts, which would be too late.</p>	<p>CWRM understands that grandfathered diversions are not necessarily right and is working to address diversions. Existing water use is being inventoried. Water quality concerns can also be directed to the Department of Health, Clean Water Branch.</p>
<p>Irrigation of agriculture is a way to recharge ground water.</p>	
<ol style="list-style-type: none"> 1. I am distressed that your boss, the State of Hawaii, does not recognize ancient ahupua‘a boundaries. Not only is an insult to ancient Hawaiian wisdom and practices, but also you are ignoring modern science, by linking two different watersheds, Anahola (drier) and Kapa‘a (wetter). Nearshore Kapa‘a, sea has relatively low salinity (about 33) illustrating the presence of freshwater runoff. 2. I am concerned your graph showing availability of water over time depicts a rather flat line, not a downward curve. I understand that our as tradewinds and rainfall lessen, we will face a decline in available water. Please adjust the effects of global warming, changes in winds, etc on sustainability. 3. Please consider wastewater treatment improvement, such as “ENVIROCYCLE” instead of failing cesspool/septic?? <p>Thank you for inviting the public.</p>	<p>CWRM requires that the WUDP update be based on the hydrologic units established by CWRM. Therefore, all data for each of the Hawaii Water Plan components are compiled and summarized using the aquifer or hydrologic systems as basic study area units. CWRM has established both ground water hydrologic units and surface water hydrologic units. Please see the Map of Registered Diversions which shows both the ground water hydrologic units and surface water hydrologic units. Since the surface water hydrologic units and ground water hydrologic units are well-correlated, surface water data and analyses are proposed to be presented based on the ground water hydrologic units.</p>