Hawaii Commission on Water Resource Management

Nā Wai ‘Ehā Contested Case Executive Summary

Water holds the key to invigorating the life of our land; catalyzing the transition of fallow plantation acreage to a vibrant new era of sustainable agriculture; and enabling traditional practices that allow our host culture to evolve and perpetuate.

Introduction

The Nā Wai ‘Ehā case, encompassing the Four Great Waters of Waihe‘e, Waiehu, Wailuku and Waikapū in West Maui, is the most comprehensive application of Hawai‘i's Water Code to date. For many, Nā Wai ‘Ehā's waters have been in conflict since plantation diversions emptied streams scores of years ago. With the ‘Īao Aquifer System designation as a Water Management Area in 2003, Nā Wai ‘Ehā became a priority for the Commission. It has taken nearly two decades to fully adjudicate these complex matters and this extended dispute has strained relationships within this community and beyond.

This Executive Summary does not replace the formal and lengthy Decision and Order (D&O), which documents the legal record, analysis, and the over 1000 determinations that resulted in 116 recognized appurtenant rights and 176 permits granted. Its purpose is to summarize the Hawai‘i Commission on Water Resource Management's (Commission) deliberations and offer insights and context relative to our decision-making process.

Under ancestral Hawaiian water management, the profusion of fresh-flowing water in the streams of Nā Wai ‘Ehā gave life to an extensive area of wetland taro (kalo) cultivation. This abundance supported one of the largest populations on the island of Maui. Cultural experts and community witnesses provided uncontroverted testimony of the system’s decline in productivity over time. Native Hawaiians’ ability to exercise traditional and customary rights and

practices in the four ahupua'a of Nā Wai 'Ehā were compromised by the lack of freshwater flowing in the streams and into the nearshore marine waters.

The Commission and its staff are deeply appreciative of all the stakeholders of Nā Wai 'Ehā communities for their dedication, passion, and patience. This includes those who remain engaged, as well as those who regrettably passed while awaiting resolution. We are also grateful to Hearings Officer Dr. Lawrence Miike for his extensive knowledge of Hawai'i's water law and ability to synthesize voluminous evidence in a multi-faceted proceeding.

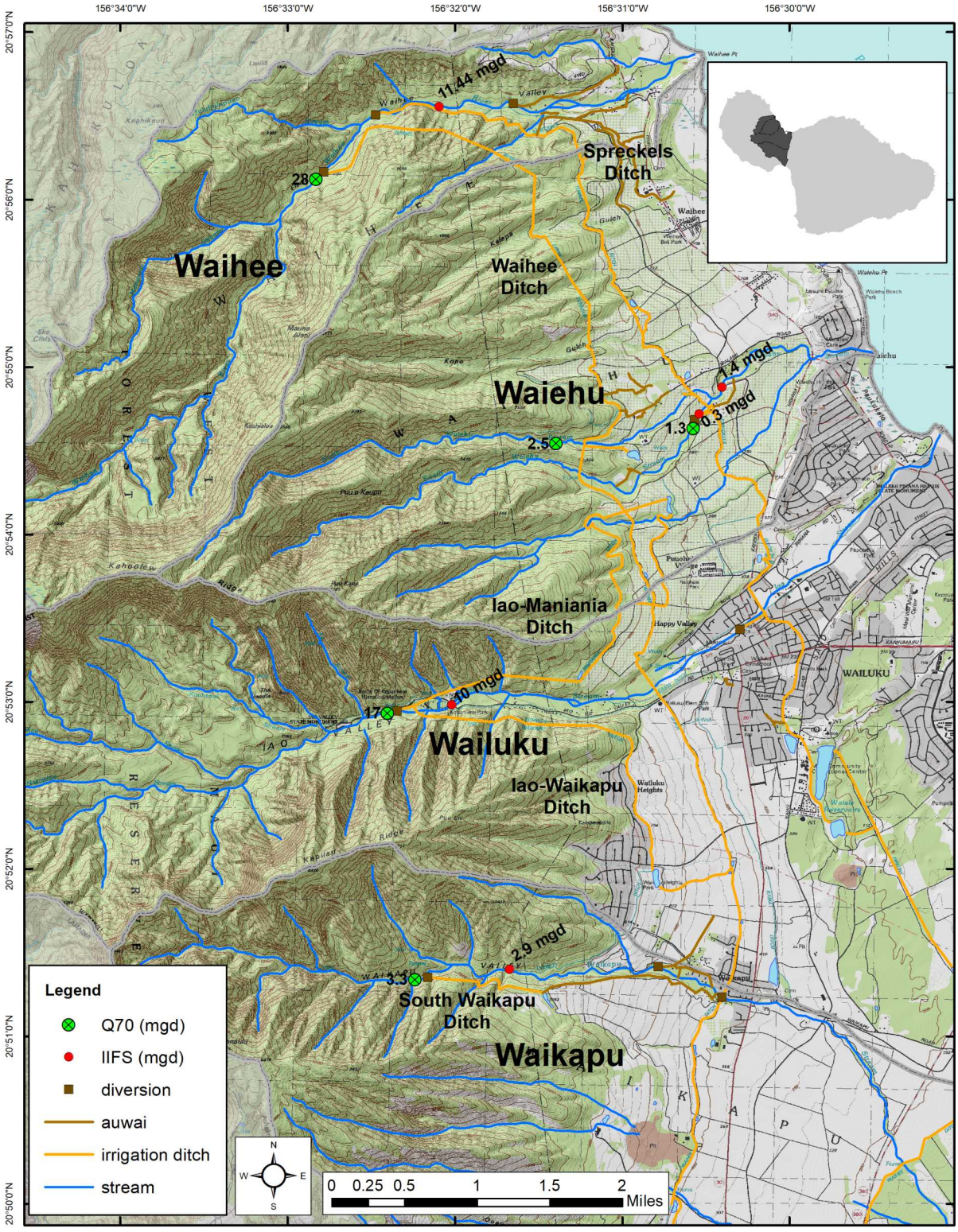
We are fully cognizant that Maui's future is at stake. Our deliberations were lengthy and comprehensive. Our goal was to strike a balance that honors our public trust obligations, meets current needs, and can be adapted to changing future conditions.

Hawai`i's Forests and Streams

"Hahai no ka ua i ka ululā'au" – Rains always follows the forest

Healthy streams are dependent on vibrant forests. Nā Wai 'Ehā's watershed encompasses over 34,000 acres of predominately native forests on the slopes of the West Maui Mountains. Forest reserves on both public and private lands were established over 100 years ago to steward resources that provide for offstream water use to meet consumptive needs and enable economic opportunities. These forests are currently managed by the West Maui Watershed partnership, a voluntary coalition of public agencies, non-profit entities, and private landowners. Dedicated funding for their conservation efforts is critical to assuring our ability to sustain offstream allocations.

The four great waters of Nā Wai `Ehā, refers to the Waihe`e River, Waiehu Stream, Wailuku River and Waikapū Stream. The Waihe`e River is the northern-most of the four waters and the largest source of water. Waiehu Stream is formed by the confluence of the North and South Waiehu tributaries. Wailuku River (formerly known as 'Īao Stream) is the second largest waterway of Nā Wai `Ehā, draining a large amphitheater-headed valley. A significant portion of its lower reaches were channelized, and the stream bed and banks hardened with concrete by the United States Army Corps of Engineers for flood control and drainage. Waikapū Stream is the southern-most and longest of the four stream systems.



Nā Wai `Ehā Map

The D&O has an extensive explanation of the varied geologic and hydrologic features in the watershed which impact the flows of the four streams in this contested case. The evidence led to several salient findings that the Commision factored into our D&O.

- Enhanced stream flows in Nā Wai 'Ehā tend to increase ground water recharge and the amount of water available in springs and harvested through down-gradiant development tunnels and wells.
- Watershed catchment size and underlying geology also influence the gaining or recharging characteristics of streams.
- Periodic droughts will reduce both stream flow and ground water recharge.
- Opportunities exist for optimizing offstream uses through storage of intermittent episodes of heavy rainfall.

Natural stream flow varies considerably over time. This is especially true in Hawai'i with our wet and dry seasons, irregular rain patterns, steep watersheds, and diverse underlying geologic characteristics. Our decision strives to ensure stream connectivity while providing a level of certainty for instream needs and offstream permittees. There is universal agreement that more water and better connectivity in streams fosters native habitat restoration. Hawai'i's streams are home to a unique variety of native fish, shrimp, mollusks, and insects, most found nowhere else in the world. Their origin and link to the ocean are evident in their mainly diadromous life cycle, which means "two runs," one to the ocean as newly hatched larvae and the other subsequent return from the ocean to freshwater as juveniles. This completes their life cycle and underscores the importance of maintaining "mauka to makai" connection.

Nā Wai `Ehā Water Delivery System

For over 100 years, the West Maui Mountain forests have provided water diverted from the streams through ditches and from the ground through development tunnels and wells. Twelve tunnels were known to be excavated in Nā Wai `Ehā between 1900 and 1926. Eight of those tunnels harvest dike-impounded ground water. The other four tunnels were excavated beneath

Wailuku River and Waiehu Stream to harvest water from the valley-floor alluvium. The County of Maui and Wailuku Water Company (WWC) built the `Īao Tunnel in 1937. Harvested water is first directed to the Maui County water treatment plant and the remainder enters the ditch at WWC's `Īao Stream diversion.

This large supply of water resources motivated the development of elaborate infrastructure to meet the irrigation demands of myriad users. Even a simplified schematic (Figure 1) reveals the system‘s complexity. WWC currently operates the primary network of gravity-fed ditches through seven active stream diversions. In addition, Mahi Pono LLC (successor to Hawaiian Commercial & Sugar Company) harvests water from two diversion intakes to support its agricultural operations.

The water delivery system includes 17 reservoirs, although only 10 are currently in use. Suboptimal maintenance and decommissioning of some of the ditches and reservoirs have impacted water availability for certain users, especially during periods of low flow. These conditions made it necessary for the Commission to confirm that the total amount of water allocated for reasonable offstream uses could be delivered from available sources to specific properties.

Some permittees are dependent on a single stream for their water, while others use water from multiple streams when water is diverted into the ditch system. Many permittees exercising their traditional and customary (T&C) water rights are currently not able to access water directly from streams and must rely on the ditch system instead.

There are also *kuleana* ditches/pipes that draw water directly from a stream or receive water from WWC or the Maui County water treatment plant. WWC's current practice is to maintain its ditches to the point of delivery of water into the *kuleana* ditch or pipe system. Maintenance of the *kuleana* ditches and pipes by the users, as well as the ancestral water management practice of *ho‘i* (return flow) of water to streams/ditches, will foster prudent resource use.

South Waikapu Ditch
3.3 mgd (Q_{70})
2.9 mgd
When available water is below Q_{70}, only 0.13 mgd may be diverted at South Waikapū Ditch and IIFS is reduced to 2.27 mgd
1
2205 Waikapu Prop.
2356/2297 Waikapu Prop.
3471 Waikapu Prop.
3472 Waikapu Prop.
2155 Suzuki
2156 Makimoto
2336/2337 Kailipono (Santiago)
2260/2261 Miyashiro Trust
2217/2218 J. M. Brown Trust
2366 Higa
2368 Kamasaki
2163 Niehaus
2276 Shimizu
2268 K. Riyu
2338 M. Riyu
2277 Soong
2332/2333 Pelegrino
2237 K. Harders
2271 Rogers
2211 D. T. Bell
2238 T&Z Harders Family
2224 Dodd
2230 Federcell
2239 T. Harders
2235 Gushi
2213/2214 Birnie
2212 D. Bell
2259 Miyamoto
2315 Kihm
2311 T. Harders
2240/3467 T&Z Harders Family
2186 MMK Maui
97
9
92
90
2203 Maui Trpcl. Plantation
2151 Pohakulepo Recycling
2272 Nobriga's Ranch
Waikapū Stream
Reservoir 6 Intake (Abandoned)
6
2354 Fong Const. Co.
2180 Hawaiian Cement
2352 U.S. Fish & Wildlife Svc.
2191 Dando
2154 ROJAC Trucking
Waiale Reservoir
73
2206 Mahi Pono[3]
3665 Ota
3671 Sloan
4442 Lau Hee
4443 Kitagawa
4444 Takitani
4445 Victorino
2207/2208 Makani Olu Prtnr.
2204 McLean
2440 Spencer Homes
2339 Yamaoka
2303 Pinto
2188 L. Vida Jr.
2292 L. Vida Sr.
2293 L. Vida Sr.
2350/2546 Towne Realty
2546 Wailuku Kuakahi LLC
2345 RCFC Kehalani
2349/2495 Endurance Ii Wai Hui
2164 Waiolani Mauka CA
2200 Emmanuel Lutheran C&S
2183 Kihei Grdn. Lndscpng.
Hopoi Chute
2209/2210 Bal
2241/2242 Higa
2247/2248 Ince/Kinzer
2245/2246 Ibara
Wailuku Town
Kuleana Ditch
2181 Kaanapali Kai
Waiale Ditch
10
Iao-Waikapu Ditch
17 mgd (Q_{70})
2304 Div. State Parks
2178/2179 Maui DWS
10 mgd (GS 16605500)
70% of flow when Wailuku River < 15 mgd for 3 consecutive days (GS 16604500)
Wailuku River
Only when water is in excess of 10 mgd (GS 16604500) may water in excess of 10 mgd be diverted at Spreckels Ditch intake.
Piihana-Mill Pipe
2273/2274 Santiago[3]
2043 DeMello[3]
2287 Haller
2223 Cockett
2192 Dando
2275 Sevilla
3623 Almeida
Iao-Maniania Ditch
45
2243/2244 Hoouluiahui
2370 Ornellas
2360 Manoukian
2189/2190 Wailuku Cntry Est.
2196 Wailuku Cntry Est
Puuohala Kuleana Pipe
2215/2216 Brito
2236 Haleakala
2256/2257 Mendoza
2351 Wahi Hoomalu LP
Piihana-Field 49 Kuleana Pipe
2371 Lozano
37
2142 Hale Mua Properties
2307/2308 F. Cerizo
2343 T. Cerizo
1.3 mgd (Q_{70})
Spreckels Ditch
0.3 mgd
Unless flow at 280 ft. is less, then IIFS will be corresponding amount.
South Waiehu Stream
2.3 mgd (Q_{70})
2266/2267 Rivera
2219/2220 Cabacungan
2369 J. Smith
South Waiehu Auwai
2258 Miyahira
2171 Molina
3465 Curry
1.37 mgd (Q_{70})
Waiehu Stream
North Waiehu Stream
2.5 mgd (Q_{70})
North Waiehu Ditch (Abandoned)
Natural flow from mauka to makai
North Waiehu Intake (Proposed)
Waihee Ditch
29
27
13T
2298/2299 Varel
8
North Waiehu Auwai
2340 Fernandez
2305/2306 Myers (Buttaro)
2355 Coffey
2290/3905 M. Smith
2288/2289 Singer
2330/2331 Lee (Aloha Poi)
2326/2327 Ciacci (Aloha Poi)
2328/2329 Nakama (Aloha Poi)
2363 Suehiro
2342 Higashino
2144 Living Waters
2153 Hanusa
2348 Bailie
2182 Jung
WWC Line
25
14
4
2185 Na Mala o Waihee
2593 Koolau Cattle Co.
Field 4 Auwai
2353 Hiolani Ranch
2250/2251 Kailiehu
2318/2319 Ideoka (Aloha Poi)
2278/2279 N. Texeira
2294 Sarasin
2361 DeHart
2231/2232 Goo
2706 Hawn. Isld. Land Trust
2221/2222 Chang
2313/2314 Kana
2280/2281 T. Texeira
2262/2263 Paleka
2334/2335 Sakata/ Fritz
2264/2265 Piko Ao
2316/2317 Apo (Aloha Poi)
2187 Puliatch
2225/2226 Doherty
2249 Kahalekai
2312 Kahalekai
2320/2321 Anakalea (Aloha Poi)
2406 Brown
Waihe'e River
28 mgd (Q_{70})
2157 Wailuku Water Co.[2]
Drop Ditch
11.44 mgd
If streamflow is less than 19 mgd for 3 days, then IIFS is 11.15 mgd.
2365 Goo
2233/2234 Goo
2227 Emoto
2228/2229 Faustino
2269/2270 Rodrigues
2309/2310 Ayers (Freitas)
2283 Pang
2362 Alueta
3617 Chavez
3470 Emmanuel Lutheran
2254/2255 Lengkeek
2322/2323 Barrett (Aloha Poi)
2252/2253 C. Koki
2367 L. Koki
2324/2325 Laa (Aloha Poi)
2364 Freitas

LEGEND
- Interim Instream Flow Standard
- Existing Water Use Permit Application
- Existing / New Water Use Permit Applications
- New Water Use Permit Application
- Stream Diversion
- Proposed Stream Diversion
- Ditch/Auwai Diversion
- Reservoir
- Closed Reservoir
- Spring
- Stream
- Main WWC/HC&S[1] System
- Ditches, Auwai, Pipes off Main System

FIGURE 1: WWC Irrigation System and Location of SWUPAs

SIMPLIFIED SCHEMATIC DIAGRAM

Nā Wai ʻEhā Hydrologic Units of
Waiheʻe (6022), Waiehu (6023), ʻĪao (6024), and Waikapū (6001)
Surface Water Use Permit Applications
For Existing and New Uses
June 25, 2021

The accuracy of this simplified schematic diagram is not guaranteed. The Commission on Water Resource Management staff has compiled this diagram based on information presented in the contested case hearing proceedings, permit applications, field investigations, and various other sources. Please assist the Commission in improving the accuracy of this information by submitting any changes to the Commission's Stream Protection and Management Branch.

[1]WWC is Wailuku Water Company; [2]The WWC permit application filed is for system losses; [3]Santiago and El Ranchitos De Mello filed permit applications for the same parcels.

NOTE: *THIS DIAGRAM IS NOT TO SCALE*

Process, Framework and Impact

The State Commission on Water Resource Management must not relegate itself to the role of a mere umpire passively calling balls and strikes for adversaries appearing before it, but instead must take the initiative in considering, protecting, and advancing public rights in the resource at every stage of the planning and decision process.

Hawai'i Supreme Court

(In re Water Use Permit Application, 94 Hawai'I 97, 9P.3d 409 (2000)

Decision-making Process – Under Hawai'i law, water resources are recognized to be part of the public trust. Commissioners serve as trustees with a mandate to consider four major public trust purposes which are equally protected, but not prioritized, under the law:

- Maintenance of waters in their natural state;
- The use of water in the exercise of Native Hawaiian traditional and customary (T&C) rights;
- Domestic water use of the general public, in particular protecting an adequate supply of drinking water; and
- Reservation of water for the Department of Hawaiian Home Lands.

Our decision process started with a determination of the total stream flow mauka or upstream of any diversion and a review of amounts that should remain in the stream below diversions to ensure protection of instream values. This is expressed as Interim Instream Flow Standards (IIFS). We then considered amounts needed to fulfill our trust mandates, followed by consideration of other reasonable and beneficial uses. This included the economic impact of our decision upon offstream uses and factors (such as system losses or storage) that contribute to the operational capacity of the existing water delivery system. The quantity of water available for downstream and offstream uses was calculated by subtracting the IIFS from total stream flow.

We used a decision matrix that enabled analysis of different allocation rates, acreage limits, and other parameters for each category of use. After testing a range of options, we ultimately agreed upon the following scenarios for all permits:

- 150,000 gallons per acre per day (gad) for kalo;
- a maximum of 2,500 gallons per acre per day for diversified agriculture; and
- 600 gallons per day for domestic use (limited to approximately 1 acre).

These rates were applied to all Surface Water Use Permit Applications (SWUPA) to calculate total offstream demand. That enabled us to ascertain whether the IIFS we set to protect stream health allowed for the diversion of sufficient water to meet the aggregate demand of public trust uses and other reasonable and beneficial uses. Once satisfied that we had achieved a judicious balance, we determined whether the existing water delivery system could actually deliver the allocated water to the permittees, as some users are only able to receive their allocation from a single source, while others have access to water from multiple streams through the ditch system.

Framework – The Commission's ruling is set forth in three sections: *Findings of Fact; Conclusions of Law;* and *Decision and Order*. The *Findings of Fact* provide insights on pertinent information that the Commission relied upon in reaching its decisions. This includes: a chronology of the contested case; critical stream characteristics; quantification of existing withdrawals and diversions; factual background for claimed Appurtenant Rights; a discussion of recognized instream uses; impacts of the 2010 and 2014 amendments to IIFS; and an extensive listing of noninstream uses organized on a stream-by-stream basis reflecting the Commission's findings relative to each SWUPA.

The *Conclusions of Law* shed light on relevant concepts of the State Constitution, Public Trust Doctrine and State Water Code that the Commission relied upon in reachings this decision. This includes discussions of: burden of proof; Native Hawaiian Traditional and Customary rights (T&C); appurtenant rights; water duty for diversified agriculture; practicable alternative source analysis; IIFS; and various SWUPA considerations.

The *Decision and Order* section sets forth the Commission's determinations on the following matters: IIFS; appurtenant rights; water allocated by permits; conditions applicable to SWUPA; considerations for implementation; reporting of unmetered uses; management of kuleana systems; and reclaimed wastewater.

Finally, the D&O includes *appendices* with information to facilitate understanding of the system and communication of the decision, especially to the many parties participating in this contested case. *Figure 1* is a map of the WCC Irrigation System and SWUPAs. *Appendix 1* indicates how the Commission's Findings of Fact and Conclusions of Law apply to each SWUPA. *Appendices 2 and 3* provide information concerning the appurtenant rights and water allocations for Wailuku Country Estates Irrigation Company.

Impact - The D&O establishes IIFS and SWUPA allocations that optimize our public trust responsibilities. The Commission was able to address all permits requested but took a conservative approach in this initial allocation as we did not want to foreclose our ability to meet the requirements of potential public trust use applicants who did not participate in this initial permit process. Aggregate water uses authorized in this D&O (summarized in Figure 2) allocate:

- More than one-half of the available stream flow (i.e., the IIFS and unallocated water) for instream habitat and related benefits.
- Approximately 13 percent of the water for kalo production.
- About a third of the water for beneficial offstream uses, such as municipal water supply and diversified agriculture.

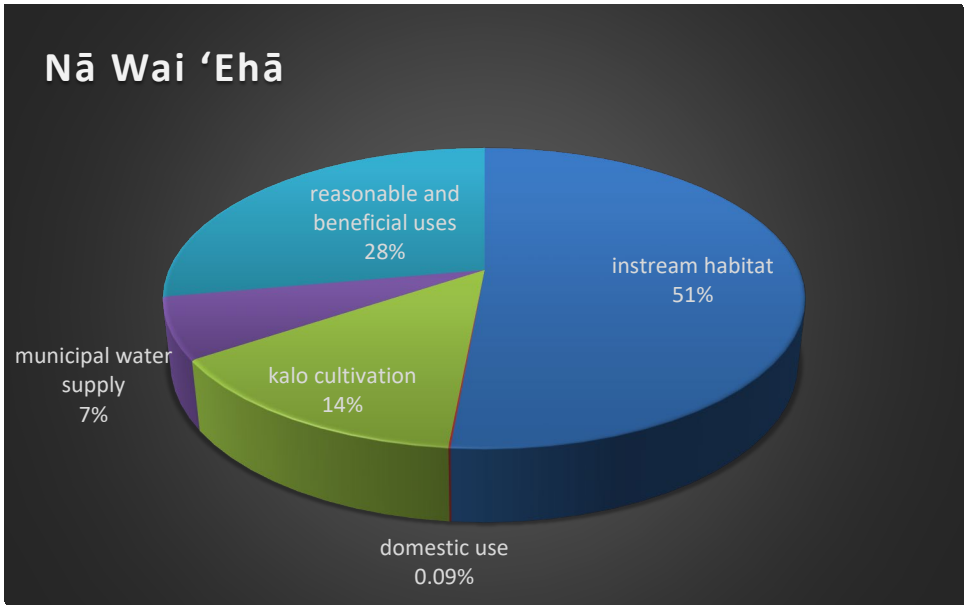


Figure 2 - Nā Wai Ehā Water Allocations

While retaining over half of the flow to remain in the stream for instream habitat and related benefits, the Commission is permitting over 23 million gallons a day for other uses (Figure 3).

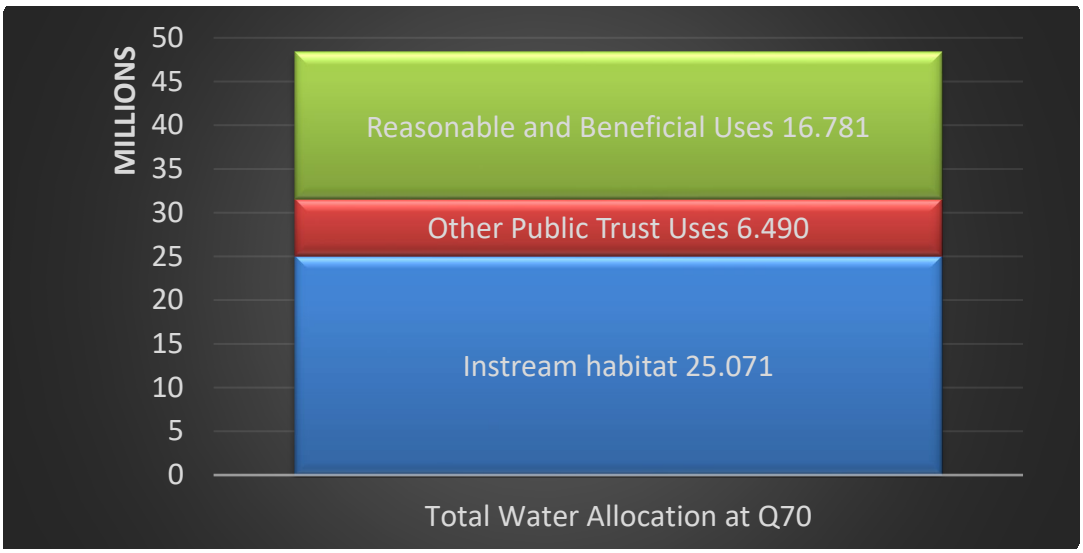


Figure 3 – Total quantities allocated in Nā Wai Ehā
(note: some public trust uses are derived from instream flows and some from irrigation ditches.)

Key Issues

Interim Instream Flow Standards (IIFS) – Simply stated, the IIFS is an amount of water that must remain in the stream, normally measured just below any stream diversion. The IIFS is also a major factor of stream ecosystem health. The IIFS for Nā Wai Ehā streams were increased in both the 2010 and 2014 mediated settlements. Area residents testified to a significant revival of instream values as a result, even during drier summer months.

The Commission maintained the existing IIFS for Waihe`e and Waikapū streams and Wailuku River. It increased the IIFS for North Waiehu Stream, which is no longer accessed by an operational ditch and slightly decreased the IIFS in the South Waiehu Stream.

Past IIFS were based on a Q_{50} flow condition, or the flow equal to or exceeded 50% of the time. To improve the consistency of water available for both instream values and off stream uses, the Commission adopted the Q_{70} flow as the basis for

setting the IIFS and issuance of water permits. This flow rate was identified as the median *base flow* for Nā Wai Ehā waters, or the amount of flow that can be expected to be found at least 70% of the time. *Base flow* is a smaller component of the stream's *total flow,* which includes water input from normal rainfall and storm events**.** Interim IFS established in the Waihe'e, Waiehu, and Waikapu streams are estimated to protect 80% of the available habitat. In the case of the Wailuku River, a higher level of habitat protection of 88% was left in place.

Appurtenant Rights – As determined in *Reppun v. Board of Water Supply*, *"appurtenant rights are rights to the use of water utilized by parcels of land at the time of their original conversion into fee simple."* These rights appertain or attach to parcels of land that were, for the most part, cultivated in kalo at the time of the Māhele in 1848. The Commission respects the public purpose served by this legal principle, but is also cognizant of how land use changes to the original subject parcels over the past 170 years have severely complicated efforts to protect these rights. The Hearing Officer proposed a well-intended pathway to address this matter that would revive appurtenant rights previously determined to have been extinguished. However, the Commission is concerned that deviation from existing case law could lead to legal challenges that would further protract these proceedings and deny Nā Wai 'Ehā stakeholders and the larger community the opportunity to arrive at a reasonable resolution and move forward.

Therefore, the Commission decided to align our position on appurtenant rights with the established case law of *Reppun*, while concurrently recognizing protections of Traditional and Customary Practices as explained below. For those whose appurtenant rights remain intact, the submission of documentation to verify appurtenant rights will be required prior to issuance of a water permit.

Traditional and Customary Practices (T&C) - The Commission amended the Hearing Officer's recommendation to limit T&C rights to individuals *"who can personally trace their practices in the subject area to a period prior to November 25, 1892."* The Commission believes that the origin of traditional and customary practices lies in traditional Hawaiian land tenure which allowed for *kanaka* to be able to move from place to place and still exercise their kuleana rights as they relocated. The Commission holds that T&C rights relate to both the practice and the person. Inasmuch as it is clear that the traditional and customary practice of

kalo cultivation was established in the ahupua'a comprising Nā Wai 'Ehā prior to November 25, 1892, the Commission has recognized applicants who attest that they are exercising T&C rights as a present day ahupua'a tenant and person of Native Hawaiian descent.

The Commission realizes that there are many variables (e.g., temperature, flow rate, fallowing practices, seasonal demands, ho'i, etc.) to consider in determining the water needs for kalo production. Also, instream benefits and increased resource availability occur when water from kalo production is returned to the streams (*ho'i*), although that is not the case for many T&C permittees who can only access their water from ditches. Upon weighing these circumstances, the Commission capped all kalo allocation permits, regardless of the request, at 150,000 gallons per acre per day.

Domestic Use - The Commission permitted 600 gallons per day for domestic users, which include uses such as landscaping and home gardens. A maximum lot size of approximately one acre was adopted. Total municipal water allocations under this D&O will consume 6% of water available for offstream use.

Diversified Agriculture - The Commission recognizes diversified agriculture on Maui's central plains as a reasonable and beneficial use and noted an agreement to that effect between key stakeholders. For all such use, the Commission is permitting water at a maximum level of 2,500 gallons per acre per day. If the permittee requested less, they were awarded what they applied for. The Commission's intent in this decision is to ensure that enough offstream water is available to support the cultivation of diversified agricultural crops on the lands designated as Important Agricultural Lands in central Maui. The same allocation has been granted to existing golf courses with limited alternative source options in an effort to minimize economic disruption.

Water Storage and Delivery - An efficient water storage and delivery system is in everyone's interest. This is especially vital for a watershed that is approaching its limits in satisfying the demands of multiple beneficial users and is recharged by rainfall that occurs unevenly throughout the year. Benefits of a modernized system would accrue to protected public trust customary practices, drinking water, increased food production, and new diversified agricultural economic opportunities.

Public and private investments are needed in Nā Wai 'Ehā's water storage and delivery system. It starts with contributions to watershed stewardship, as all stakeholders have a shared interest in ensuring that the source of this water is protected now and in the future.

Agribusiness investors should not expect to build a new industry on the back of century-old infrastructure and at the expense of stream health. It is imperative that they are adequately capitalized and committed to upgrading existing systems to minimize leakage and waste, optimize use of non-potable water, modernize stream diversions, and maximize catchment and storage of heavy rainfall. An enhanced stream diversion and reservoir system would be "actively" operated, with intakes that can be opened in real time to divert and capture more water during storm events and closed to limit water diverted when flows are lower for extended durations.

The Commission recognizes the critical role of the overall delivery system manager, Wailuku Water Company (WWC), in achieving the intentions of this D&O. We also realize that WWC will be subject to oversight by the Public Utilities Commission. This D&O should provide insights that may be relevant in Public Utilities Commission proceedings about the contribution WWC makes toward protecting and enabling public trust uses.

The Commission recognizes that both major divertors, WWC and Mahi Pono, will inevitably have a certain amount of water loss when transporting water from instream to offstream uses. The record shows that WWC investments in improving their delivery system have reduced water losses to about 5% of the total amount of water diverted. We have recognized this amount by issuing a permit for water delivery and storage, but urge WWC and Mahi Pono, as well as potential successors of their interests, to offset their system losses by recommissioning reservoirs to capture water available during protracted storm events. High rainfall events could fill an enhanced reservoir system many times during the year. The Commission will consider permits in the future to allow diversions of water into reservoirs during high rainfall periods to increase water storage for subsequent use.

Implementation

The Commission realizes that the intended outcomes of the D&O will rely upon a heightened commitment to collaboration. The Commission's D&O for Nā Wai 'Ehā apportions how much water will be used for traditional kalo cultivation and also adds amounts for domestic and diversified agricultural users who are interspersed among the kalo-growing parcels. In other words, permittees with rights to different quantities of water will be served by the same delivery system. While upholding our ultimate authority to regulate and enforce, we acknowlege that these circumstances will require cooperation and communication among the Commission, water diverters and permittees, especially during times of low rainfall, when water availability is insufficient for meeting permit allocations.

Monitoring and Reporting – The Commission calls for the establishment of protocols to ensure timely and accurate reporting and monitoring of water system maintenance, day-to-day management issues, user relationships, etc. These protocols will be specifically identified in individual permits. Larger water users and diverters will have additional reporting responsibilities to enable the Commission to monitor water use, IIFS, and potential enforcement issues. This will entail funding, installing, reporting, and maintaining gages at stream diversion points identified by the Commission.

Landowners will be required to allow access (upon reasonable notification) to all diversion sites for Commission staff and their authorized representatives. The Commission will also develop a simplified reporting system for community permittees that minimizes administrative and cost burdens and includes periodic communications, inspections, and technical assistance with measuring *'auwai* flows.

Enforcement – Every permit will have specific requirements for reporting and water use. Any violation of permit requirements may be subject to penalties that the Commission may impose, ranging from the levy of fines to mitigation of losses to rescision of the permit. The Commission will strive to provide full transparency

of ditch diversions and end uses to ensure accountability by the diverters, mutual trust and cooperation among users, and public confidence in the administration of the IIFS and water use permits.

With enhanced stream gaging technology and access, the Commission will have an increased capacity to monitor diversions and stream flow to assure the IIFS is met below every major diversion that feeds into main *‘auwai* and ditch offtakes. This provision is essential if the Commission is to enforce and arbitrate water use among multiple users sharing common *‘auwai* flowing through multiple properties. Permittees will be responsible for maintaining *‘auwai* infrastructure to optimize transmission system efficiency and reliability, not only for themselves, but also for neighboring users.

Community Cooperation – The challenging conditions pertaining to governance and maintenance of *‘auwai* create both need and opportunities for community building. The Commission encourages a "*hui*" style of management, that not only honors the rights of downstream users, but induces prudent resource use through the adoption of farming practices that allow water to flow across one‘s land, then return to a stream or *‘auwai* via a *ho‘i*.

All benefit when there is more kalo and other locally produced foods available for public consumption. In addition, there is heightened understanding of the many benefits of community-based resource management models. The Commission encourages other agencies and community groups on Maui to assist in this matter. We also anticipate opportunities to support permittees who strive to gain access directly from the streams rather than ditches, in order to improve source reliability and to responsibly return water to the stream.

Water Shortage - The Commission had lengthy deliberations concerning implementation issues that will arise in times of low rainfall. The development of water shortage plans will be required to enable adaptation and inform our priorities in times of scarcity. Because there are multiple variables that cannot be predicted, implementation flexibility, that honors the IIFS, as well as communication and cooperation among users, will be critical.

The D&O contains tables for each stream that identify water availability and a range of reduced allocations among different users during drought conditions (*Tables 1-3*). These tables provide valuable guidance for the Commission and transparency for all permittees. As a working framework, public trust water allocations will have priority over other reasonable and beneficial uses. If public trust uses must be reduced, reductions will be allocated proportionally. The Commission retains emergency rule-making authority when needed to deal with extreme droughts.

Closing Comments

The Commission's goal is to render a decision that upholds our duties as trustees and can be understood, implemented, and monitored by stakeholders. We strived to: 1) honor past mediated settlements and Supreme Court rulings; b) establish stream flows required to offer a higher degree of habitat protection; and c) provide sufficient divertible flow to meet public trust and other reasonable uses.

We believe the water permit allocations in the D&O to be true to the record and reasonable accommodations to current conditions; yet we are committed to on-going monitoring to identify the need for modification as circumstances inevitably change.

This is a new era of water use and management. Behavior shaped in times when values were not in balance must give way to more sustainable and just policies and practices. This includes, optimizing resource storage and efficient delivery, implementing more efficient irrigation and farming techniques, as well as aligning our priorities with the collective good rather than self-interests.

Finally, our hope is that this ruling creates sufficient clarity and balance to allow this community to shift from a state of divergence to a spirit of convergence in the care, sharing, and prudent use of this strategic, life-giving resource.

"Ola i ka wai" – "In water there is life"