

BOARD OF LAND AND NATURAL RESOURCES

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In the Matter of the Contested) DLNR File No. 01-05-MA
Case Hearing Regarding Water)
Licenses at Honomanu, Keanae,) FINDINGS OF FACT, CONCLUSIONS
Nahiku and Huelo, Maui,) OF LAW, AND DECISION AND ORDER
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FINDINGS OF FACT, CONCLUSIONS OF LAW,
AND DECISION AND ORDER

The subject of this contested case is a long term lease of water from the State for the areas of Honomanu, Keanae, Nahiku and Huelo in East Maui. The purpose of this hearing was to determine whether current diversions should be decreased to provide interim relief in the form of increased water in the streams for the protection of the constitutional or legally protected rights of the parties. This decision is not intended to be a foreshadowing of this Board's final decision in this case. Any relief granted hereunder is intended for interim relief only and is based solely on the evidence introduced in this hearing.

PROCEDURAL BACKGROUND

In a Prehearing Order Regarding Petitioners' Motions For Summary Relief (Filed Mar. 18, 2005) ("Summary Relief Order"), the Hearings Officer denied Petitioners' motions for summary relief to the extent they sought a declaratory ruling that the

decision of the Board of Land and Natural Resources ("Board") to put the interim disposition of water in the ditch system of Applicant East Maui Irrigation Company, Limited ("EMI") in "holdover" status pending the outcome of this contested case (the "Holdover Decision") was *per se* invalid. See Summary Relief Order at §§ A.2-3, C.7. The Summary Relief Order stated that "the BLNR, as trustee of the public trust, has authority to make an interim disposition of public trust resources pending a long-term disposition of such resources if doing so is in the interest of the public[,]" and "the Holdover Decision was procedurally essential to the Board's proper discharge of its public trust responsibilities." Id. Given that the Holdover Decision was determined not *per se* illegal, the Hearings Officer ruled that an interim evidentiary hearing would be held upon the request of any party to determine if there was any factual or legal basis to support Petitioners' claims that interim releases of water were required in order for the Board to fulfill its public trust duties to protect "constitutionally or legally protected rights" pending the completion of an environmental assessment ("EA") and determination of amendments to interim instream flow standards ("IIFS"). See id. at §§ A.4, G. All parties now concede that an EA (and potentially an environmental impact statement ("EIS")) must be prepared, amended IIFS must be determined and that this process is likely to take years.

On March 14, 2005, Petitioner Na Moku Aupuni O Ko'olau Hui ("Na Moku") requested that the Hearings Officer set a conference to schedule an evidentiary hearing on its request for interim reductions in EMI's stream diversions. On March 15, 2005, Na Moku withdrew its March 14, 2005 request to schedule an evidentiary hearing on its request for interim relief. However, by letter of June 22, 2005, Na Moku renewed its request to schedule an evidentiary hearing on its request for interim relief. In accordance with Na Moku's letter of June 22, 2005, the Hearings Officer scheduled an evidentiary hearing concerning interim relief to determine the issue of "whether and to what extent current stream diversions should be reduced pending a final disposition of this proceeding in order to protect the constitutional or legally protected rights of the parties to interim relief." Minute Order No. 10 at 1.

In preparation for the evidentiary hearing, the Hearings Officer received submissions of written testimony and exhibits from Applicants Alexander and Baldwin, Inc. ("A&B") and EMI (collectively, "EMI"); Petitioners Na Moku, Beatrice Kekahuna ("Kekahuna"), and Maui Tomorrow ("MT") (collectively, "Petitioners"); and Intervenors Maui Pineapple Company, Limited ("MLP"), Maui County Department of Water Supply ("DWS" or "Maui County"), and Hawaii Farm Bureau Federation ("HFB"). The evidentiary hearing was held before the Hearings Officer on Maui

on October 10-12 and November 14-15, 2005 (the "Evidentiary Hearing"). The Evidentiary Hearing included a site visit on October 10, 2005, to the properties of Kekahuna, Shupp, and Caveny, and EMI diversions on Honopou Stream, Puolua Stream, and Hanehoi Stream; and a site visit on October 12, 2005, to locations relating to Na Moku's claims, including the Lākini lo'i, the lookout on Hana Highway overlooking Wailuanui valley, Dams 1, 2, and 3, on Waiokamilo Stream, and Wailuanui valley. At the Evidentiary Hearing, EMI appeared by counsel David Schulmeister, Esq. and Elijah Yip, Esq.; Na Moku and Kekahuna appeared by counsel Alan Murakami and Moses K. N. Haia, III, Esq.; MT appeared by counsel Isaac D. Hall, Esq.; Maui County appeared by counsel Jane E. Lovell, Esq.; MLP appeared by counsel David Merchant, Esq.; and HFB appeared by counsel Sat Freedman, Esq.

Based upon the evidence, exhibits, oral testimony, and written submissions presented by the parties, the arguments and representations of counsel, and the entire record of this proceeding, the Board hereby makes and enters the following Findings of Fact and Conclusions of Law.

FINDINGS OF FACT

A. Procedural Matters

1. At an early pre-hearing conference the parties agreed the streams in issue in the Evidentiary Hearing concerning

interim relief are Honopou, Puolua, and Hanehoi Streams in the Huelo license area, and Wailuanui, Waiokamilo, and Palauhulu Streams in Ke'anae. Minute Order No. 10 at 1.

2. On August 3, 2005, Na Moku submitted to EMI requests for production of documents relating to statements in the written testimonies of Garret Hew, G. Stephen Holaday, and Lee Jakeway filed in the Board as part of the Evidentiary Hearing. Letter from Alan Murakami to David Schulmeister and Randall K. Ishikawa dated 8/3/05.

3. In a letter dated August 8, 2005, EMI responded to Na Moku's discovery request by stating that EMI was not necessarily opposed to an agreed scope of discovery provided that it was reasonable and reciprocal. EMI proposed a meeting to discuss discovery. EMI attached to its August 8 letter interrogatories and requests for production of documents to Na Moku requesting specific information regarding which of its members are lacking in water, the locations that are lacking in water, the stream that each such member claims an entitlement to water from, and the locations of the 'auwai that each such member expects to use to transport any released water, among other matters. Letter from David Schulmeister to Alan T. Murakami and Moses K.N. Haia, III dated 8/8/05.

4. Na Moku objected to answering the interrogatories and request for production of documents submitted to it by EMI.

5. Na Moku filed Petitioners' Motion For Discovery on August 31, 2005. The Motion sought an order from the Hearings Officer that EMI provide the discovery requested by Na Moku in its August 8, 2005, letter.

6. On September 15, 2005, a pre-hearing conference was held before the Hearings Officer regarding, *inter alia*, Na Moku's Motion for Discovery. An agreement between EMI and Na Moku as to the latter's discovery requests rendered the motion moot. As to EMI's discovery requests, however, Na Moku objected to them at the pre-hearing conference. The Hearings Officer ordered Na Moku to provide responses to, *inter alia*, EMI's interrogatories.

7. At the September 15, 2005 pre-hearing conference, the Hearings Officer set the order in which the parties would present evidence at the Evidentiary Hearing. EMI offered to be the first to present evidence. However, Petitioners requested that they be allowed to present evidence first. The Hearings Officer granted Petitioners' request.

8. Na Moku responded to EMI's interrogatories by objecting that the requested information is irrelevant and that it is not Na Moku's burden to prove those matters. Exhibit A-41.

9. The preparation of an EA for EMI's application for a long-term lease from the Board has not been completed. The record contains no evidence that it has begun.

10. Some 27 applications for the determination of IIFS for the streams at issue in the Evidentiary Hearing are currently pending before the Commission on Water Resource Management ("CWRM").

11. No Petitioner asserted a claim of insufficient water for taro growing purposes from Wailuanui and Palauhulu Streams.

12. Any finding of fact improperly designated as a conclusion of law should be deemed or construed as a conclusion of law.

B. The EMI Ditch System

13. EMI, a subsidiary of A&B, operates a system of diversions, intakes, ditches and tunnels that collect and transport water from the Huelo, Honomanu, Ke'anae, and Nahiku license areas in East Maui to sugarcane fields in Central Maui owned by Hawaiian Commercial and Sugar Company ("HC&S"), as well as to MLP for the irrigation of pineapple and Maui County for the domestic water needs of upcountry Maui and the irrigation needs of small farms in Kula. Declaration of Garret Hew dated July 29, 2005 ("Hew Decl.") at ¶¶ 1, 3; Exhibit A-1.

14. The Lowrie Ditch in the EMI system was completed in 1900. Exhibit MT-13 at 115.

15. The Koolau Ditch was completed in 1904. Exhibit MT-13 at 116.

16. The New Haiku Ditch was completed in 1914. Transcript of Evidentiary Hearing ("Tr.") 11/14/05 at 77:19-20.

17. The Kauhikoa Ditch was completed in 1915. Tr. 11/14/05 at 77:21.

18. The Wailoa Ditch was completed in 1923. Tr. 11/14/05 at 77:21-23.

19. Since completion of Wailoa Ditch in 1923, the EMI system has been operated in essentially the same way, and there have been no major changes to the system. Tr. 11/14/05 at 78:25-79:6.

20. The Huelo license area is 8,752.690 acres and is covered by Revocable Permit No. S-7264. Hew Decl. at ¶ 4; Exhibit A-2.

21. The Honomanu license area is 3,381 acres and is covered by Revocable Permit No. S-7263. Hew Decl. at ¶ 5; Exhibit A-3.

22. The Ke'anae license area is 10,768 acres and is covered by Revocable Permit No. S-7265. Hew Decl. at ¶ 6; Exhibit A-4.

23. The Nahiku license area is 10,111.220 acres and is covered by Revocable Permit No. S-7266. Hew Decl. at ¶ 7; Exhibit A-5.

24. In the aggregate, on an annual basis, the water collected and transported by EMI arising on the land covered by these four licenses averages 70 % of the total water collected and transported by EMI, although this percentage can vary considerably during the course of any given year. Hew Decl. at ¶ 8; Tr. 11/15/05 at 97:23-98:7.

25. The delivery capacity of the EMI system is 450 million gallons per day ("mgd") and its average delivery is 165 mgd. Hew Decl. at ¶ 10.

C. Water Needs of EMI and HC&S

26. HC&S is the larger of Hawaii's two remaining sugar plantations, growing 77% of the state's 2004 raw cane sugar crop, generating gross revenues in the State of Hawaii of \$112,000,000 and an operating profit of \$4,800,000. HC&S generally employs approximately 800 full-time workers on Maui, and EMI employs another 17 workers. Declaration of G. Stephen Holaday ("Holaday Decl.") at ¶¶ 3, 6.

27. HC&S' plantation consists of approximately 43,300 acres of land. HC&S cultivates sugar on approximately 37,000 acres. Of these 37,000 acres, approximately 30,000 acres are irrigated by EMI delivered water. Of these, approximately 5,000 acres are irrigated solely by EMI water and approximately 25,000 acres are irrigated with a combination of EMI water and groundwater pumped by HC&S when EMI ditch flows are inadequate

to meet the irrigation needs of the fields. Hew Decl. at ¶ 13; Holaday Decl. at ¶ 3; Declaration of Lee Jakeway ("Jakeway Decl.") at ¶ 3.

28. Most of the water delivered to HC&S by EMI is used for irrigation of the approximately 30,000 acres of sugar fields that can receive EMI water but some is used for factory purposes. The average aggregate amount of EMI water that is used for factory purposes ranges from 3 to 8 mgd. Jakeway Decl. at ¶¶ 4-5.

29. The irrigation needs of the approximately 30,000 acres of HC&S' sugar fields that receive EMI water is determined by the daily evapotranspiration rate, which is defined as the loss of water from the soil both by evaporation and by transpiration from the plants growing thereon, and varies during the year depending upon climatic conditions, solar insolation, temperatures, humidity, and wind speed. In order to maintain sugar yields, the sum of available rainfall plus irrigation water applied to the fields must approach this figure as much of the time as possible. Jakeway Decl. at ¶ 6.

30. The amount of irrigation water that is needed for the approximately 30,000 acres that receive EMI water varies with the weather but averages from a low of 134 mgd during the winter months to a high of 268 mgd during the peak usage months from May to October. For operating years 2002-2004, the average

breakdown was 71% surface water and 29% pump water. Jakeway Decl. at ¶ 9.

31. HC&S conserves water by using a "drip" irrigation system that distributes water to the roots through small holes in plastic tubes. All but a small area of the cultivated cane land farmed by HC&S is drip irrigated. Holaday Decl. at ¶ 4; Jakeway Decl. at ¶ 11.

32. Because HC&S does not have the capacity to irrigate all of its fields simultaneously, the irrigation water that is available is applied in "rounds" to different fields in accordance with priorities that are assigned to them by the farm managers. Jakeway Decl. at ¶ 12.

33. HC&S meets its power needs principally by burning bagasse from its sugar cane grinding operations and with hydro power generated from turbines that run on EMI delivered water. HC&S is also under contract with Maui Electric Company ("MECO") to supply, at specified rates, 12 megawatts (MW) of power from 7:00 a.m. to 9:00 p.m. daily except Sunday and 8 MW at all other times, subject to events of force majeure. The contract provides for monetary penalties in the event these requirements are not met. The 30 MW total capacity of HC&S' steam-powered system combined with HC&S' internal power consumption and obligations to supply power to MECO is a limiting condition on HC&S' ability to pump groundwater during dry periods when the

hydro units may not be operating. Holaday Decl. at ¶ 6; Jakeway Decl. at ¶ 15.

34. During periods of heavy rainfall, water overflows EMI's stream diversions and remains in the streams. In addition, EMI operates gates that control the maximum amount of flow that is diverted to prevent the system from exceeding its capacity or delivering water in excess of what the HC&S system of ditches and reservoirs needs and can handle. Substantially all of the water that is taken into its system and transported by EMI is delivered to Maui County, MPC or HC&S. All the water delivered to HC&S is used by HC&S for irrigation and factory operations. EMI and HC&S does not discharge water, once taken into the system, into the ocean. Hew Decl. at ¶ 14.

35. The HC&S irrigation system is designed to operate to the maximum extent possible on the gravity flow of water from higher to lower elevations. This minimizes pumping, which consumes electric power. To accomplish this, HC&S attempts to divert the maximum possible amount of water is taken into the HC&S system at the Wailoa ditch, which has a capacity of 195 mgd. Taking in the maximum amount of water at this point maximizes HC&S' flexibility to distribute water by gravity flow to the fields with the highest irrigation priority at any given time, as well as to maximize the use of HC&S' hydro power generation capacity. Hew Decl. at ¶ 15.

36. Surface water flows from East Maui can fluctuate from day to day and at times cannot be relied upon at times to meet what HC&S asserts are its irrigation requirements. Hew Decl. at ¶ 16.

37. If the water currently collected by EMI from State lands were to become wholly unavailable to EMI, it would not be economic for HC&S to continue to cultivate on Maui. In turn, it would be uneconomic to operate EMI in the manner in which it has historically been operated inasmuch as the economic value to A&B of operating EMI is derived from its contribution to the profitability of HC&S' sugar cultivation. It would also be uneconomic to renew HC&S' contracts with MECO because the prime economic justification for those contracts is the cost effective generation of power from renewable energy made possible by the bagasse and hydro power that are byproducts of HC&S' sugar operation. Holaday Decl. at ¶ 7. It is obvious, given the fact that most of the diverted water goes to the irrigation of sugar, that relatively small reductions in sugar acreage could make available considerable water for downstream users. The parties have offered no evidence of the effects of relatively small reductions in sugar cultivation.

D. Maui County's Water System and Water Needs

38. The County of Maui Department of Water Supply ("DWS") consists of five separate water systems. Written Testimony of

County of Maui Department of Water Supply ("DWS Written Testimony") at ¶¶ 1-2.

a. The largest surface water treatment facility ("WTF") on Maui is the Kamole Weir WTF in Haliimaile, which relies on flows from the Wailoa Ditch. Treated water from that facility goes to 6,440 water service connections and can supply water to almost the entire Upcountry region (9,523 water service connections) if necessary. Kamole Weir WTF supplements the water supplied to this area by the Haiku and Kuapakalua wells and is the primary source in the event of pump failure. The Kamole Weir WTF is also the primary source of water for nearly all of Upcountry Maui during times of drought. Kamole Weir WTF's average daily production is 2.5 mgd. The facility can process approximately 8 mgd at maximum capacity. DWS plans to add 2.3 mgd capacity to the Kamole WTF in 2015. DWS Written Testimony at ¶ 3.

b. Upcountry Maui, the second largest water system in Maui, relies on water from East Maui streams and ditches for its public water supply. The Upcountry system includes the communities of Kula, Pukalani, Makawao, and Haiku. The population served by this system consists of approximately 30,891 people. The Upcountry system serves Kamehameha Schools Maui campus, Hawaiian Homelands at Waiohuli/Keokea, as well as many businesses, churches, health care and government

facilities. Treated surface water is the primary source of water for Upcountry Maui. For places in Upcountry Maui that are primarily served by well water, the surface water system is the backup in the event the well should go out of service. DWS Written Testimony at ¶ 2.

c. The water source for the Piiholo WTF is the Waikamoi Forest, delivered through EMI's Piiholo intake system. This WTF, located in the Makawao Forest Reserve adjacent to and east of the 50 million gallon Piiholo Reservoir, serves the Lower Kula Service Area. Piiholo WTF's average daily production is 3.0 mgd. DWS Written Testimony at ¶ 4.

d. The Olinda/Upper Kula WTF also relies on water from the Waikamoi Forest, delivered through the Waikamoi Flume intake system. Water treated in this facility is stored in the 30 million gallon Waikamoi Reservoirs and the 100 million gallon Kahakapao Reservoirs. The area served by this treatment facility is Upper Kula, Ulupalakua, and Kanaio. These reservoirs will also supply the non-potable agricultural line that will provide untreated surface water to farmers in Upper Kula, which is currently under construction. The average daily production at the Olinda/Upper Kula WTF is presently 1.3 mgd. This treatment plant is slated to add 0.7 mgd capacity in 2006. DWS Written Testimony at ¶ 5.

39. EMI supplies an average of about 8.2 mgd to the DWS (including water supplied directly to the Kula Agricultural Park). Hew Decl. at ¶ 10.

40. Maui County's access points to the EMI system for water that it takes, treats and delivers as potable water to its customers in Makawao, Kula and Nahiku are at the Waikamoi upper flume (near the Olinda WTF), the Waikamoi lower flume (near the Piiholo WTF) and the western end of the Wailoa Ditch (near the Kamole WTF). In addition, non-potable water is taken by DWS from HC&S' Hamakua Ditch for delivery to the Kula Agricultural Park. Hew Decl. at ¶ 12; Tr. 11/15/05 at 103:12-23, 106:23-107:3.

41. EMI, Maui County, and HC&S entered into an agreement dated December 31, 1973 (the "1973 Agreement") whereby EMI agreed to collect and deliver water to Maui County. The term of the 1973 Agreement was 20 years. Exhibit F-1.

a. The 1973 Agreement provided that EMI would collect and deliver up to 6,000 gallons per day ("gpd") to serve the community of Nahiku and collect and deliver water to the Waikamoi area. Water collected by EMI within the Waikamoi area would be discharged into the Waikamoi, Olinda and Piiholo Reservoirs. DWS Written Testimony at ¶ 6; Exhibit F-1.

b. Under the 1973 Agreement, EMI agreed to make available to Maui County up to 12 million gallons of water it

collected from the Wailoa Ditch per 24-hour period. Maui County had the option of receiving an additional 4 million gallons of water from this source after giving one year's written notice to EMI. DWS Written Testimony at ¶ 7; Exhibit F-1.

42. The 1973 Agreement expired in 1993, but was extended on several occasions. The last extension expired on April 30, 2000. Since that time, EMI has been delivering water to the County pursuant to a document entitled "Memorandum of Understanding Concerning Settlement of Water and Related Issues" ("MOU") executed on April 13, 2000. Hew Decl. at ¶ 11; DWS Written Testimony at ¶ 9; Exhibits F-2 to F-9.

43. That MOU provides that Maui County may receive 12 mgd from the Wailoa Ditch, with an option of an additional 4 mgd, as in the 1973 agreement. However, it provides that during periods of low flow, Maui County will have a minimum allotment of 8.2 mgd. The MOU also provides that HC&S will have a minimum flow of 8.2 mgd, or 9.4 mgd if fire flow should be required. If these minimum amounts cannot be delivered, then Maui County and HC&S are to receive prorated shares. DWS Written Testimony at ¶ 9; Exhibit F-9.

44. Maui County depends heavily on water received through EMI's ditch system. Upcountry Maui has a high demand for water. If Upcountry Maui's main source of water supply were curtailed, the deficit could not be made up by other portions of DWS's

water system because the Upcountry system is separate and distinct from the water systems serving other regions of Maui. Cutting off Upcountry Maui's main public water supply completely would result in a public health crisis and economic catastrophe. Even relatively small cutbacks in the amount of water delivered to the County for use in Upcountry Maui would severely impact homes, businesses, schools, churches, farms, health care facilities, and others who rely on this water supply for their basic needs. DWS Written Testimony at ¶ 10.

45. The community of Nahiku is also dependent on EMI ditch water for its public water supply. EMI collects and delivers up to 20,000 gallons of water per 24-hour period to serve the Nahiku community. DWS Written Testimony at ¶ 11.

E. MLP's Water Needs

46. MLP is America's largest grower, processor and shipper of Hawaiian pineapple. MLP currently cultivates approximately 6,000 acres of pineapple on Maui, over 2,800 of which are in East Maui in proximity to the EMI system. MLP has entered into negotiations for long-term leases of approximately 400 additional acres of agricultural lands in the Haliimaile, East Maui area, which will be converted to use for pineapple cultivation. Hew Decl. at ¶ 12; Nohara Testimony at ¶¶ 4, 5.

47. Taking into consideration the water needs of pineapple, the number of MLP's pineapple fields that lie fallow

at any given time, MLP's conservation practices, and rainfall, MLP currently requires approximately 3.5 mgd of irrigation water from the EMI system for its East Maui fields. From 2004 through 2009, MLP estimates that it will require 4.5 mgd of water in East Maui. From 2009 to 2016, MLP estimates that it will require approximately 4.4 mgd of water in East Maui. Nohara Testimony at ¶¶ 8-13.

48. Under the License and Water Transmission Agreement effective January 1, 1990 and a series of modifications and extensions to that agreement (collectively, "MLP/EMI Agreement"), EMI transports and MLP withdraws two "classes" of water from the EMI system. Nohara Testimony at ¶ 16; Exhibits E-2 to E-6.

a. The first class is water pumped into the EMI system by MLP from water sources outside of the watersheds of Huelo/Ke'anae Stream ("MLP Base Water"). This water represents the majority of MLP's usage. Nohara Testimony at ¶¶ 17, 19-23; Exhibit E-7.

b. The second class is water that MLP is contractually permitted to withdraw, for a fee, when flow in the EMI system exceeds 100 mgd ("MLP High-Flow Water"). MLP High-Flow water is collected by EMI from the license areas in question in this contested case. Because of the fee structure for transporting such water, MLP's use of MLP High-Flow Water

has been limited exclusively to periods when the flow in the EMI system exceeds 200 mgd, which generally correlates to periods of wet weather when EMI's diversions likely are not as problematic to other users of the diverted streams. Nohara Testimony at ¶¶ 17, 24-26.

49. A reduction in the amount of water that EMI may divert from the Huelo/Ke'anae Streams would negatively impact MLP's pineapple business by: (a) lowering overall EMI system flow, which would reduce the instances when EMI system flows are above 200 mgd, thereby increasing the cost of transporting MLP Base Water; (b) threatening the economic viability of the EMI system, which, if abandoned by EMI, would cease the delivery of MLP Base Water and/or MLP High-Flow Water to MLP, and thus deprive MLP of the only feasible source of water for its East Maui pineapple fields. Nohara Testimony at ¶¶ 27-32.

F. HFB's Water Needs

50. HFB is a statewide organization of approximately 2,200 member families, in ten bureaus in every county of the state, including the island of Maui. Maui County Farm Bureau's members include the sugarcane and pineapple plantations along with farmers and ranchers on the island. Among HFB's purposes is to advocate for the adoption of State and County governmental policies that will give farmers manageable water rate price structures and assure them of reliable water sources and

adequate supply for their farms. Direct Testimony of Warren Watanabe ("Watanabe Testimony") at ¶¶ 2, 4.

51. The Farms are dependent on water from East Maui. Water is critical to the success of competitive and diverse agriculture. Watanabe Testimony at ¶¶ 7-9, 13; Tr. 11/14/05 139:19-25.

52. Presently, farmers in Upcountry Maui are billed for their water usage through Maui County. Watanabe Testimony at ¶ 15.

G. Water Requirements For Taro Cultivation

53. Taro has been successfully grown with the application of a gross amount of water ranging from 15,000-40,000 gad. Exhibit A-8 (Leslie J. Watson, The Legal Importance of the Water Requirements of Taro *Colocasia Esculenta* in Hawaii, Proceedings of the Second International Symposium on Tropical Root and Tuber Crops at 150 (1970)).

54. A&B/EMI presented evidence of controlled and published studies that suggest that water flow of 50,000 gad is adequate to supply a taro farmer with optimal yield for taro plus flexibility to manage the irrigation of his or her taro fields based on controlled and published studies done by Dr. de la Pena. Tr. 10/12/05 at 87:15-88:13.

55. The consumptive use of water is defined as the amount of water that is evaporated and transpired by the plant, and is

measured by calculating the difference between the inflow and outflow of water. Tr. 10/12/05 at 42:3-14, 45:10-13.

56. In his study, De la Pena did not, in fact, measure water outflow. Tr. 10/12/05, 36:2 to 36:24. De la Pena, in his study, assumed the consumptive water use of taro to be 5,000 to 10,000 gad to arrive at the further assumption of an outflow rate of 20,000 to 25,000 gallons and has no evidence to confirm this outflow rate. Tr. 10/12/05, 37:5 to 37:22.

57. Apart from the gross amount of water required to cultivate taro, water temperature is important because of pythium rot that can damage the taro. Pythium rot can be controlled, however, provided that an adequate amount of water is flowed through a lo'i to keep the soil temperature below 85°F because flowing water insulates the soil from heat, delivers oxygen to the taro plant, and prevents pythium rot from forming. de la Peña Decl. ¶ 6; Tr. 10/12/05 at 20:18-21:25, 22:10-23:8, 52:14-53:20, 66:7-68:7.

58. In the De la Pena and Melchor study, there is no discussion of water temperature and no collection of data of either the initial starting temperature of the incoming water and the temperature of the outflow. Tr. 10/12/05, 51:16 to 52:13.

59. The Board does not find the evidence presented by Dr. De la Pena to be dispositive on the issue of water necessary to grow healthy wetland taro.

60. Mr. Paul Reppun testified that in his expert opinion he believed 100,000 to 300,000 gad is the amount of water needed to grow wetland taro. Direct Testimony of Paul Reppun; Tr. 10/11/05, 131 to 180.

61. Extremely high flow requirements are from taro patches lower in the valley, where most of the water used by farmers would already have been used higher up in the valley. Direct Testimony of Paul Reppun; Tr. 10/11/05, 131 to 180.

62. No evidence was presented regarding significant use of the water for farming prior to its use by the Na Moku members in Wailuanui Valley or by Beatrice Kekahuna.

63. The Board finds that insufficient evidence was presented upon which it can determine the water requirements of the taro farmers and that it must on more informal evidence to determine the amount of water required by the taro farmers.

H. Water Needs of Beatrice Pualani Kepani Kekahuna ("Kekahuna")

64. Petitioner Kekahuna's lo'i are located on TMK No. (2) 2-9-01-14 and -16. Petitioners' Direct Testimony of Beatrice Pualani Kepani Kekahuna ("Kekahuna Direct Testimony") at 2;

Declaration of Garret Hew dated 8/22/05 ("Hew Rebuttal Decl.") at ¶ 5.

65. The 'auwai on Kekahuna's property takes water from Honopou Stream. Kekahuna Direct Testimony at 2.

66. At the time of the site visit, Kekahuna did not have any taro planted but efforts were under way to clear an area of approximately 1 acre to be planted. Hew Rebuttal Decl. at ¶ 9; Exhibit A-10; Exhibit B-9.

67. On March 9, 2004, EMI installed a 4" pipe in addition to two already existing 4" pipes bypassing Haiku Ditch on Honopou Stream above Kekahuna's 'auwai. Hew Rebuttal Decl. at ¶ 12; Exhibit A-30 (attached email of 2/26/04 at 4).

68. The three 4" pipes bypassing Haiku Ditch on Honopou Stream, including the additional 4" pipe installed on March 9, 2004, allow water to flow over the Haiku Ditch even during times of low flow. Tr. 11/14/05 at 84:5-23.

69. On March 11, 2004, the flow rate of water coming through the three 4" pipes at Haiku Ditch on Honopou Stream was measured at 361,224 gpd; the amount of water flowing through the additional 4" pipe was measured at approximately 112,000 gpd. Hew Rebuttal Decl. at ¶ 13; Exhibits A-11 and A-12.

70. Between March 15, 2004 and May 20, 2005, the flow rate at Kekahuna's 'auwai was measured at least on a weekly basis by EMI, and it invariably exceeded 235,000 gpd with the exception

of September 10, 2004, when the flow rate was measured at 219,000 gpd. The flow rate measurements exceeded 235,000 gpd even during times of low rainfall. The temperature of the water measured over the 14-month period never rose above 25° C (77° F), and has been as low as 18° C (64.4° F). Hew Rebuttal Decl. at ¶¶ 15, 18; Exhibit A-13.

71. The flow rate of 235,000 gpd at Kekahuna's 'auwai can supply Kekahuna's one acre of lo'i with 235,000 gad. The amount of available water thus exceeds the amount Kekahuna needs to irrigate all of the lo'i she presently has plans to cultivate based on the water requirement of 50,000 gad.

72. A gate is installed at the entrance to Kekahuna's 'auwai to enable control of the amount of flow entering the 'auwai. The gate normally is left partially closed. If 235,000 gpd or more were allowed to enter Kekahuna's 'auwai unrestricted by the gate, the 'auwai would not have the capacity to carry such flow, and water would overrun the banks of the 'auwai and flood portions of Kekahuna's property. Hew Rebuttal Decl. at ¶ 16; Vaught Rebuttal Decl. at ¶ 3.

I. Water Needs of Na Moku's Members

73. Na Moku is a Hawaii non-profit corporation. Exhibit B-1.

74. Na Moku's membership includes individual taro farmers in Wailuanui valley who seek interim relief from the Board in the instant proceeding.

75. Native Hawaiian Legal Corporation ("NHLC") represents Na Moku.

76. Na Moku claims to be authorized to request interim relief on behalf of its members and proffered documents purportedly executed by a number of its members for *in camera* review. After the Hearings Officer determined that copies would have to be made available for review and cross examination by the other parties prior to being received in evidence, Na Moku declined to offer them into evidence. They were accordingly not received into evidence in this proceeding, but were marked and filed under seal. The documents are identical Special Limited Powers of Attorney executed by various landowners in Wailuanui, East Maui. They give the Native Hawaiian Legal Corporation power to act on behalf of the signatories in this proceeding but contain no other relevant information.

77. The only person actually cultivating taro in Wailuanui valley who testified was Na Moku's president, Edward Wendt ("Wendt"). Wendt does not own any land in Wailuanui valley, but testified that he has permission to cultivate taro in a portion of the Lakini taro patches which are located above the Hana Highway, and on the lots identified by Wendt on Exhibit A-45-1

that are highlighted in yellow (TMK Nos. (2) 1-1-4:24, 31, 44). Tr. 10/12/05 at 176:20-177:25. Wendt did not claim that the Lakini taro patches need more water, but testified that there was insufficient water in Waiokamilo Stream to reopen and plant more areas below the highway that historically were cultivated by Na Moku members and their ancestors.

78. A system of irrigation diversion structures and ditches located in and around Waiokamilo, Kualani and Wailuanui Streams supplies irrigation water to the Ke'anae-Wailuanui area. The system is located completely below EMI's ditch system and is not controlled by EMI. Hew Rebuttal Decl. at ¶ 27; Exhibit A-25.

79. Much of the water used to irrigate taro in the Ke'anae-Wailuanui area originates in Akeke Spring located below EMI's lowest diversion on Waiokamilo Stream and above Dam 3, the uppermost diversion structure in the taro irrigation system. Dam 3 directs the flow of Waiokamilo Stream to the east around a porous pool that would otherwise receive the bulk of the stream flow and would reduce downstream flow. Below Dam 3 is Dam 2, which diverts a portion of the stream flow via an 'auwai to Kualani Stream, from where it ultimately flows to Dam 1, into the 'auwai supplying the Lakini and Wailuanui taro lo'i. Hew Rebuttal Decl. at ¶¶ 28, 29; Tr. 11/14/05 at 99:2-100:19; Exhibits A-25 and A-29.

80. The vast majority of the lo'i in Wailuanui valley take water from Waiokamilo Stream either directly or indirectly, after it has been diverted by Dam 2 to Kualani Stream. Tr. 10/12/05 at 192:1-4; 139:8-140:19.

81. EMI does not divert Kualani Stream. Tr. 11/14/05 at 101:9-12.

82. The Wailuanui lo'i that, according to Wendt, Na Moku desires to open are serviced by water diverted from Kualani Stream that flows through the Lakini patches and then under the Hana Highway into a concrete diversion box that diverts the water into an 'auwai that carries the water to the central portion of Wailuanui valley. These lo'i are not served by the uppermost 'auwai, which also branches out from the concrete diversion box below the highway, but is currently overgrown with vegetation and closed. Tr. 10/12/05 at 186:18-24, 187:14-188:9; Tr. 11/15/05 at 69:7-70:2.

83. On July 26, 2005, EMI measured the flow rate of Waiokamilo Stream at between 3,570,000 and 3,850,000 gpd at the gauging station immediately mauka of Dam 2. The flow rates of Waiokamilo Stream recorded on July 26, 2005 are comparable to the flow rates recorded by EMI in 1986. A conservative estimate of the water available year round in Waiokamilo Stream above Dam 2, including during times of low rainfall, is 3,000,000 gpd. Hew Rebuttal Decl. at ¶ 39; Exhibit A-37.

84. According to evidence proffered by EMI, there are approximately 17 acres of lo'i in Wailuanui valley, including the Lakini taro patches above the Hana Highway, currently in taro cultivation that utilize water from Waiokamilo Stream. Tr. 11/15/05 at 59:19-60:21, 61:17-62:15, 64:8-19; Exhibits A-52, A-53, A-54. Na Moku did not challenge this evidence or offer any evidence of its own on this issue. Accordingly, EMI's proffered evidence of the area currently in cultivation is accepted for purposes of this hearing.

85. Even after the Koolau Ditch was completed in 1904 and well into the 1930's, there was much more taro cultivation in the Wailuanui-Ke'anae area than there is today. Petitioners' Direct Expert Testimony of Davianna Pomaikai McGregor, Ph.D. ("McGregor Direct Testimony") at 9; Tr. 10/11/05 at 112:23-113:8, 118:20-119:9; Exhibit B-123 at Figure 16.

86. Approximately 30 to 50 acres of lo'i were also cultivated in the 'ili of Kupa'u up until the 1950's. The 'ili of Kupa'u is above Lakini and below Akeke Springs and shares the same stream source as Wailuanui valley, which is Waiokamilo Stream. Exhibit B-123 at 64.

87. Accordingly, Waiokamilo Stream apparently provided sufficient water to sustain 50-100 acres of taro in Wailuanui-Ke'anae for many years after EMI began diverting Waiokamilo

Stream in 1904. McGregor Direct Testimony at 9; Tr. 10/11/05 at 112:23-113:8, 118:20-119:9; Exhibit B-123 at 64 and Figure 16.

88. Beginning in the 1880's and continuing through the 1920's, many taro patches in Wailuanui below the Hana Highway were converted into rice paddies. By 1895, there was a sizable area in Wailuanui devoted to rice cultivation. The conversion of taro lands into rice preceded the completion of the Koolau Ditch, which diverts Waiokamilo Stream, in 1904, and thus does not appear to have been caused by the diversion of water into the Koolau Ditch. Tr. 10/11/05 at 77:20-78:10, 99:5-100:4, 102:21-104:3; Exhibit B-123 at 112 and Figure 9.

89. The conversion of taro lands into rice is also attributable to socioeconomic factors such as the extraction of young men from the Ke'anae-Wailuanui area due to World War II; the decline in available labor; the progressive effect of taking taro fields that are configured in an interlinking fashion out of service; and a decline in the market for taro. Tr. 10/11/05 at 105:18-106:7, 121:15-122:20; Exhibit B-123 at 112-13.

90. Contrary to the position advanced by Na Moku, the historical evidence indicates that the decline in taro production in Wailuanui valley over the last century is not attributable to any shortage of water caused by the diversion of water by EMI. Tr. 10/11/05 at 124:2-4.

91. Through the testimony of NHLC paralegal Teri Gomes ("Gomes"), Na Moku sought to establish that there are a number of property owners in Wailuanui valley that have appurtenant rights to water based upon taro cultivation at the time of the Mahele. However, none of these owners came forward to testify.

92. Based on title research and inferences that she drew, Gomes estimated that approximately 51 acres of Wailuanui valley were in taro cultivation at the time of the Mahele. Gomes Direct Testimony at 5. No credible evidence was offered, however, to the effect that there is a present desire on the part of the owners of these parcels or their tenants or licensees to resume taro cultivation on all 51 of these acres.

93. Gomes did not identify which of these 51 acres historically took water from Waiokamilo Stream, rather than Wailuanui Stream.

94. Even if it were to be assumed that all 51 acres identified by Gomes had appurtenant rights to water from Waiokamilo Stream, at the 50,000 gpd water requirement for taro, this would require 2,550,000 gpd to be available in Waiokamilo Stream.

95. The minimum flow rate in Waiokamilo Stream, notwithstanding EMI's diversions of surface water into the Koolau Ditch, is 3,000,000 gpd.

96. There should be sufficient water available in Waiokamilo Stream below EMI's diversions to support the 17 acres of lo'i in Wailuanui currently in cultivation that depend on water from Waiokamilo Stream.

97. The observed result is that the flow through of water from Waiokamilo Stream through Lakini is not sufficient to regularly and dependably irrigate all the fields that Na Moku members and their ancestors were able to irrigate below the Hana Highway prior to the A&B/EMI diversions which dried up the Hamau/Kulani water sources. Tr. 11/15/05, 194:2 to 195:9. This diminished water supply can only provide a portion of the lo'i with irrigation water from the two points of overflow below Lakini that currently flow under the Hana Highway, forcing farmers to sacrifice some lo'i so others can obtain sufficient irrigation water flow to grow their taro. Id. at 192:17-20.

J. Water Needs of Ernest Shupp ("Shupp")

98. Petitioner Shupp is a tenant on property owned by George Keala, Mary Keala, and Elizabeth Lapenia, designated as TMK No. (2) 2-9-08:14 (the "Shupp Property"). The parcel is approximately one acre in size. Shupp has from time to time cultivated taro on the Shupp Property pursuant to a caretaker agreement with the landowners. Intervenor's Direct Written Testimony of Ernest Shupp ("Shupp Direct Testimony") at 1-2; Exhibit MT-20.

99. Shupp alleges that he has grown, or intends to grow, taro on the Shupp Property. Shupp Direct Testimony at 2-4.

100. On the date of the Site Visit to the Shupp Property, no taro was planted and the diversion structure at the entrance to his 'auwai was in disrepair.

101. Shupp has not actively cultivated taro since 2003. Tr. 10/10/05 at 56:18-20.

102. The 'auwai on the Shupp Property takes water from Puolua Stream. Shupp Direct Testimony at 3.

103. The entrance to the 'auwai on the Shupp Property from Puolua Stream is approximately 60 feet from two pipes that pass water over Haiku Ditch at Puolua Stream. Tr. 10/10/05 at 43:18-43:1.

104. Further upstream, at the Lowrie Ditch diversion of Puolua Stream, there are two approximately 4.5" pipes connected by a "Y" junction to an 8" pipe that pass water over the diversion and into the stream. Tr. 10/10/05 at 15:1-6; Tr. 11/15/05 at 122:12-21; Exhibit A-30 (attached email of 2/26/04 at 2).

105. On March 26, 2004, EMI replaced the 8" pipe at the "Y" junction at the Lowrie Ditch diversion of Puolua Stream to allow water to pass over the Lowrie Ditch and into the stream. The repair allows approximately 100,000 gpd to flow past the diversions so as to be available to flow into Shupp's 'auwai.

Declaration of Garret Hew dated 12/9/04 at ¶ 3 (submitted in support of Alexander & Baldwin, Inc.'s and East Maui Irrigation Company, Ltd.'s Memorandum in Opposition to Maui Tomorrow's Motions For Summary Relief Filed on November 17, 2004, AND Na Moku Aupuni O Ko'olau Hui, Beatrice Kekahuna and Marjorie Wallett's Various Motions For Declaratory Order Filed on November 17, 2004) ("Hew Decl. of 12/9/04"); Tr. 11/15/05 at 122:12-21; Exhibit A-30 (attached email of 2/26/04 at 2).

106. Regular clearing of debris from the pipe passing water over the Lowrie Ditch at Puolua Stream is important to maintaining regular flow in the stream. If the pipe is not periodically cleaned out, it can become blocked with debris and prevent water from crossing over the Lowrie Ditch and into Puolua Stream. Tr. 11/14/05 at 86:24-14, 87:15-18.

107. The flow rate of Puolua Stream just below the Haiku Ditch was measured at 262,000 gpd during a site visit to Shupp's property conducted on March 11, 2004. Hew Rebuttal Decl. at ¶ 51; Exhibit A-12.

108. The flow rate of 262,000 gpd at Puolua Stream can supply Shupp with 262,000 gad for Shupp's lo'i. The amount of available water thus exceeds the amount Shupp needs to irrigate all of his lo'i based on the water requirement of 50,000 gad.

109. Inasmuch as Shupp has neither reconstructed the diversion structure at the entrance to his 'auwai nor attempted

to cultivate taro in his lo'i following EMI's March 26, 2004 repair of the pipe that passes water over the Lowrie Ditch at Puolua Stream, his testimony that there is presently insufficient water in Puolua Stream to irrigate his lo'i is not credible.

K. Water Needs of Neola Caveny ("Caveny")

110. Petitioner Caveny is the owner of Lot 1 of TMK No. (2) 2-9-11:14 (the "Caveny Property"). Intervenor's Direct Written Testimony of Neola Caveny ("Caveny Written Testimony") at 1; Exhibit MT-14.

111. Caveny acquired the Caveny Property in April or May of 2001 after having previously become familiar with the area, and having observed that Hanehoi Stream where it abuts the property was generally dry except when it rains. Tr. 10/11/05 at 22-25.

112. Caveny testified that she installed a water catchment system after she acquired the property. Caveny Written Testimony at 4-5. She submitted no evidence that she has ever used water from Hanehoi stream.

113. Caveny operates a commercial farm raising flowers on her property. Caveny Written Testimony at 5; Tr. 10/11/05 at 10:12-14; Exhibit MT-18.

114. Caveny requests that a minimum flow of 750,000 gpd be restored to Hanehoi Stream near her property. Tr. 10/11/05 at 18:11-23.

115. Caveny admits that she does not need 750,000 gpd for farming purposes. The objective of her request is to restore what she contends to be the natural flow of Hanehoi Stream. Tr. 10/11/05 at 50:3-13.

II. DISCUSSION

The Circuit Court has stated that a determination of how much water is in "excess" of what is needed for instream and legally protected offstream uses before the State can lease the excess water. Under the court's determination, the Board may not enter into a long term lease, and indeed this proceeding may not go forward on the merits, until the interim instream flow standard ("IIFS") have been amended for streams in East Maui, an environmental assessment (and potentially an environmental impact statement) has been prepared, there has been full compliance with HRS Section 171-58, and the public and private interests have been determined. Only then would it be appropriate for the Board to balance all interests pursuant to its public trust obligations and make a decision regarding any long term lease of water.

The Na Moku's parties' frustration with the CWRM's failure to act on its 27 petitions to amend IIFS may be understandable. The Circuit Court's October 10, 2003 Order in this proceeding, although acknowledging that the Board is not required to conduct a parallel investigation to that of the

CWRM, holds that if there is no CWRM determination then the Board must proceed on its own or, if it lacks the requisite expertise, wait on CWRM or make its own application to the CWRM. There is no certainty, however, that an application by the Board will necessarily result in the required determination of IIFS.

The parties apparently recognize that obtaining the information necessary for the Board to make any decision on the long term disposition of the water requires the participation of various agencies and experts, the collection and analysis of data, and considerable time. It is in this context, that the Hearing Officer issued Minute Order No. 10 in order to give the parties an interim opportunity to address the issue of whether "current stream diversions should be reduced pending a final disposition of this proceeding." In short, the parties were afforded an opportunity to address what, if any, specific flow changes should be made in order to afford the parties interim relief, if necessary, pending a final determination of the public interest and the various parties' rights.

Na Moku and MT complain that the requirement (for purposes of this interim hearing only), that they identify their interest and with some reasonable specificity the amount of water claimed "stands the burden of proof on its head." They argue that their rights are superior, that they have no burden to prove anything and that the remaining parties have no legally

protected interest. The Board disagrees. This argument's only logical conclusion would be the complete elimination of the diversions in question. That would unquestionably violate the public trust. Apparently recognizing this, the Na Moku and MT parties have not asked that the natural flow of the streams be returned. Rather, they ask for "releases sufficient to meet the taro cultivation and gathering requirements of these parties" (Na Moku Proposed Findings of Fact and Conclusions of Law at p. 24).

MT is somewhat more definitive. Its counsel, for example, asks for the immediate release of five million gad presently diverted from Wailuanui and Waiokamilo Streams, that sufficient releases be made with regard to Honopou Stream to "meet the irrigation water needs of the Honopou taro lo'i of Mrs. Kekahuna and her family without requiring Mrs. Kekahuna and her family to divert more than half of Honopou Stream flow at that point." A similar request is made on behalf of Ms. Caveny notwithstanding her testimony that she desires the return of the natural flow of the stream. In the latter case the amount is somehow quantified by Ms. Caveny's counsel at 750,000 gallons per day. (MT's Proposed Findings of Fact, Conclusions of Law and Order at pp. 45-47) These requests for increased stream flows for the most part were not supported by evidence introduced during the hearing.

Factually, the credible evidence establishes that current streams flows should be sufficient to meet the existing needs of Kekahuna and MT parties for the irrigation and successful farming of wetland taro. The Board wishes to emphasize that the findings made herein that Kekahuna and MT parties presently generally enjoy sufficient stream flow to meet their current needs with respect to taro cultivation are valid only to the extent EMI's flow measurements are accurate. Such findings were necessary because no other evidence quantifying streamflows was offered. The evidence presented by Na Moku suggests that Na Moku's members do not have sufficient flows for successful farming of wetland taro.

In making this decision, the Board is not making a determination regarding the amount of water necessary to successfully cultivate taro. That the amount of water currently in the streams is generally sufficient for the cultivation of taro for Kekahuna and MT parties or that the amount of water in the streams is insufficient for Na Moku's members may or may not be the case when the merits of this matter are finally reached. For this reason, the Board accepts and recommends Na Moku's suggestion that a monitor be appointed by the Board to oversee and verify all future flow measurements. In addition, based on the allegations that there is insufficient water flowing from Waiokamilo Stream through Lakini into Wailuanui, the current

diversion will be decreased in order to provide more water to the lo'i in lower Wailuanui valley, subject to adjustment based on further monitoring.

The Board also wishes to emphasize that regardless of whether current flows meet wetland taro requirements, they should also be sufficient to protect the gathering rights of Native Hawaiians. This latter issue could not be determined on this record because of a lack of quantitative evidence.

III. CONCLUSIONS OF LAW

A. The Parties' Burdens

1. For purposes of this interim proceeding, each party who claims an interest in the water resources at issue bears the burden of coming forward to make a prima facie showing identifying the claimed interest and, with reasonable specificity, the quantity of water required to satisfy that interest. Any party who wishes to rebut the showing of any other party will then have the opportunity to do so. The Board then has the duty, based on its factual findings and consideration of the public interest, to ensure that any disposition of the State water resources at issue herein duly protects any water needs and interests that fall within a purpose of the public trust. Minute Order No. 10 at 1. The ultimate burden of persuasion, however, rests on the State and

A&B/EMI to show that the continued diversion will not harm previously established rights.

B. Public Trust Duties and Purposes

2. As a trustee of the public trust in water, the State must balance public and private water uses on a case-by-case basis. In re Water Use Permit Applications, 94 Hawaii 97, 142, 9 P.3d 409, 454 (2000) ("Waiāhole").

3. The State has a public trust duty to "duly consider the significant public interest in continuing reasonable and beneficial existing offstream uses." Waiāhole, at 150, 9 P.3d at 462.

4. Water served to the public for domestic uses is not only consistent with, but is the highest and best use of public resources. Waiāhole, 94 Haw. at 137, 9 P.3d at 449.

5. The use of water for private commercial gain is not a purpose of the public trust in water. Waiāhole, 94 Haw. at 138, 9 P.3d at 450.

6. Public trust principles require that adequate provision be made for the protection of traditional and customary Hawaiian rights, the protection and procreation of fish and wildlife, the maintenance of proper ecological balance and scenic beauty, and the preservation and enhancement of waters of the State for municipal uses, public recreation,

public water supply, agriculture, and navigation. Waiāhole, 94 Haw. at 145, 9 P.3d at 457.

7. The precautionary principle provides that the lack of full scientific certainty does not extinguish the presumption in favor of public trust purposes or vitiate the State's duty to protect such purposes wherever feasible. Waiāhole, 94 Haw. at 155, 9 P.3d at 467.

C. Immediate Cessation of Diversions

8. The immediate cessation of EMI's diversions would be contrary to the public interest inasmuch as:

a. It would greatly diminish or cut off Maui County DWS's water service to the Upcountry Maui and Nahiku communities, thereby resulting in public health and economic crises.

b. It would render MLP's East Maui pineapple business economically unviable because MLP would lose its only feasible source of water for its East Maui pineapple fields.

c. It would render HC&S and EMI economically unviable because HC&S depends on water delivered by EMI's ditch system, and EMI's economic value is derived from its contribution to the profitability of HC&S' sugar cultivation. Rendering HC&S and EMI economically unviable would result in the loss of over 800 jobs in Maui and the termination of the larger of the two remaining sugar companies in the State of Hawaii.

d. It would reduce Maui Electric Company's ("MECO") ability to provide electricity service to its customers, as HC&S is contractually obligated to supply to MECO on a daily basis a portion of the electricity it generates by burning bagasse and with hydro power generated from the turbines that run on EMI delivered water.

D. Kekahuna

9. Since the evidence presented at the Evidentiary Hearing establishes that Kekahuna has adequate water available to her in Honopou Stream for her taro growing needs, the public trust does not require an interim release of more water into Honopou Stream to satisfy Kekahuna's current taro growing needs.

10. Kekahuna would like to open more taro lo'i in the future and may require additional water for these additional fields.

E. Na Moku

11. In accordance with the burden of each party to come forward to make a prima facie showing identifying the party's claimed interest and, with reasonable specificity, the quantity of water required to satisfy that interest, Na Moku was required, at minimum, to identify who among its membership is requesting an interim release of water and the amount of land in Wailuanui currently or imminently used for taro cultivation by such members. Minute Order No. 10 at 1.

12. Na Moku has consistently maintained that neither it nor its members have the burden of proving anything in this contested case. Even if this were assumed, *arguendo*, to be correct, this did not justify Na Moku's refusal to divulge, in response to discovery requested by EMI, facts concerning its request for interim relief within its knowledge and control or the knowledge and control of its members.

13. What evidence was presented at the Evidentiary Hearing suggests that taro farmers in the lower Wailuanui valley have inadequate water in the lower valley that is available to them for their present taro growing needs. The precautionary principle requires an interim release of water into Waiokamilo Stream, subject to adjustment based on further monitoring.

F. Shupp

14. Since the evidence presented at the Evidentiary Hearing establishes that Shupp has adequate water available to him in Puolua Stream for his taro growing needs, the public trust does not require an interim release of more water into Puolua Stream to satisfy Shupp's taro growing needs.

G. Caveny

15. Under Hawaii law, a riparian owner is not assured the natural flow of the stream abutting his or her property without substantial diminution and in its natural shape and size. Instead, under the "reasonable use" theory of riparian rights

adopted by the Hawaii Supreme Court, a riparian owner may maintain an action for a diversion which diminishes the quantity or flow of a natural watercourse by demonstrating actual harm to his or her reasonable use of those waters. Reppun v. Board of Water Supply, 65 Haw. 531, 553, 656 P.2d 57, 72.

16. Caveny did not establish a "reasonable use" of water from Hanehoi Stream with any degree of specificity.

17. To the extent Caveny seeks the restoration of natural streamflow in Hanehoi Stream, she has not established any basis for interim releases in advance of the completion of the pending EA and IIFS determinations.

H. Miscellaneous

18. Petitioners had the opportunity to but did not request an interim release of water into Wailuanui and Palauhulu Streams. Therefore, no basis has been established for concluding that it would be a breach of the Board's public trust duties not to order an interim release of more water into those streams.

19. Any conclusion of law improperly designated as a finding of fact should be deemed or construed as a finding of fact.

IV. ORDER

The Board will take the following actions to move this matter toward a conclusion. These recommendations are:

1. That the Board determine the status of pending petitions at the CWRM and if necessary file an appropriate petition with the CWRM for determination of the petitions for amendment of the IIFS for the diverted streams which are the subject of this action.

2. That if necessary the Board direct the Department of Land and Natural Resources to itself take all administrative steps necessary to assist the CWRM in the amendment of the IIFS, prepare an EA in accordance with HRS Chapter 343, and discharge its public trust and HRS Chapter 171 responsibilities.

3. That A&B/EMI be immediately ordered to:

a. Establish monthly inspections of all its diversions for the purpose of ensuring that by-pass facilities are clear of debris and otherwise are in good working order.

b. Establish a program to promptly effect any repairs to such by-pass facilities which may appear necessary.

c. In recognition of the precautionary principle and the need to take proactive measures to protect public trust purposes, A&B/EMI shall decrease current diversions on Waiokamilo Stream such that the water flow can be measured below Dam #3 at the rate of 6,000,000 gpd based on a monthly moving average on an annual basis. The DLNR monitor will make appropriate investigations to determine that this amount will meet the needs of the Na Moku members while not exceeding

current or foreseeable requirements of the Na Moku members. A&B/EMI may request through the DLNR monitor to adjust this amount if it can show that it cannot meet the required amount of flow below Dam #3 without A&B/EMI having to increase diversions from alternate sources.

d. In the event Kekahuna increases the amount of acreage that she has in cultivation as taro lo'i, A&B/EMI may be required to decrease diversions to allow Kekahuna sufficient water to irrigate her additional taro lo'i. The amount of water to be left in the stream for use by Kekahuna will be set either by the parties with or without the assistance of the DLNR monitor or by the Board if no agreement can be reached.

4. All parties shall be responsible for keeping in good condition and repair its own system used to transport water from its stream diversion to its end use. Measurements to determine the sufficiency of water shall be made at the point of stream diversion and not at the point of end use.

5. That the Board direct the Department to immediately establish a program to monitor stream flows upstream and downstream of each diversion.

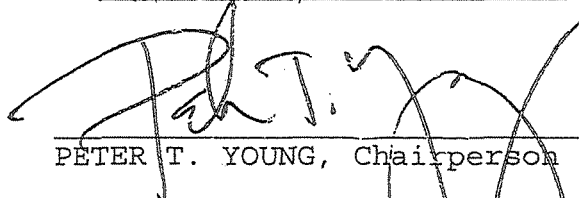
6. That the Board direct the Department to appoint an appropriate monitor, presumably but not necessarily an official of the Department, to ensure compliance with its order and to investigate and resolve if possible all complaints regarding


stream flows by any of the parties to this proceeding. In this regard it is recommended that the monitor appointed pursuant to this sub paragraph be available in the field upon written notice to all affected parties. The monitor will make recommendations to the Board for action by the Board for disputes which cannot be resolved by the monitor.


7. The monitor will also be responsible for verifying if the Board's understanding of the facts in this case, as set forth above, are correct.

8. That the monitor appointed pursuant to subparagraph (d) above periodically record the temperature of the streams in question and make recommendations for further decreases of diversions should it appear such action is necessary to control pythium rot.

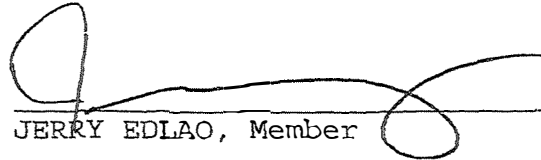
DATED: Honolulu, Hawaii, March 23, 2007.


PETER T. YOUNG, Chairperson

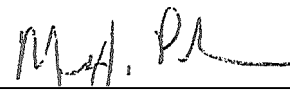

TIMOTHY JOHNS, Member


RON AGOR, Member


TARYN R. SCHUMAN, Member


JERRY EDLAO, Member

SAM M. GON, III, Member


ROBERT PICHESCO, Member

In the Matter of the Contested Case Hearing Regarding Water
Licenses at Honomanu, Keanae, Nahiku and Huelo, Maui, DLNR File
No. 01-05-MA, FINDINGS OF FACT, CONCLUSIONS OF LAW, AND DECISION
AND ORDER

BOARD OF LAND AND NATURAL RESOURCES

STATE OF HAWAII

In the Matter of a Contested)	DLNR File No. MA-01-05
Case Regarding Water Licenses)	
At Honomanu, Keanae, Nahiku)	
And Huelo, Maui)	
_____)	

CERTIFICATE OF SERVICE

The undersigned hereby certifies that copies of the FINDINGS OF FACT, CONCLUSIONS OF LAW, AND DECISION AND ORDER were duly served on the following parties, via first class U.S. mail, postage prepaid on this 23rd day of March 2007:

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